Low voltage

# Acti 9

## the efficiency you deserve

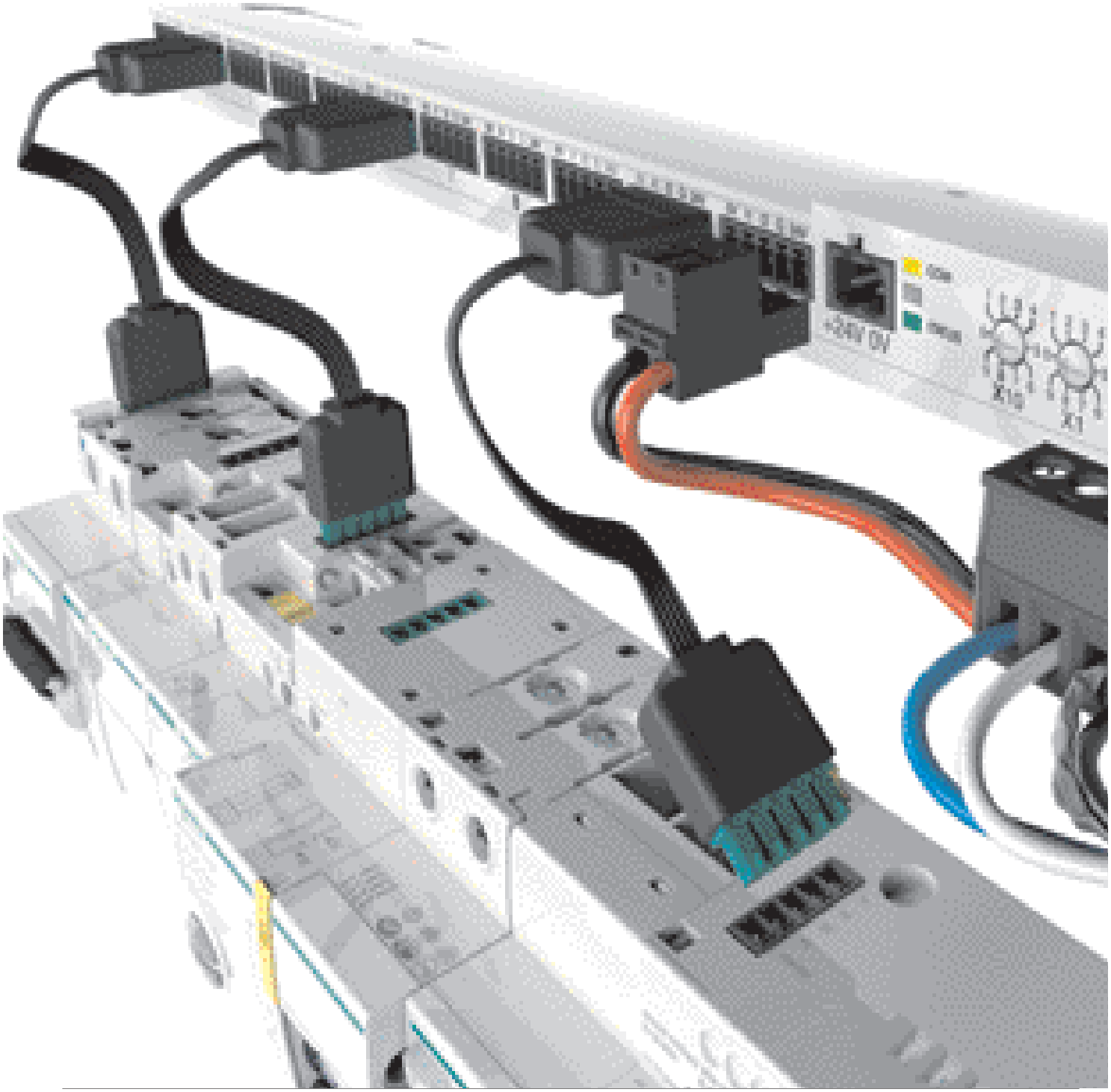
Gulf Catalogue

2012 / 2013

Schneider Electric

# 5 generations

of industry experience and 21 new patents make Acti 9 the new reference in low-voltage modular systems



# Content



A

B

C

D

# Content

# Principle of catalogue numbers

## iID, iC60, Vigi iC60, Reflex iC60, switches


| Range | Family | Code |
|---|---|---|
| Acti 9 (A9) | **iID** | **R** |
| | Vigi iC60 | **V** |
| | iC60 | **F** |
| | iK60 | **K** |
| | Auxiliaries and accessories | **A** |
| | Switches | **S** |
| | Reflex iC60 | **C** |
| | iC60 RCBO | **D** |

| Internal code |
|---|

| Poles | Code |
|---|---|
| 0 | **0** |
| 1P | **1** |
| **2P** | **2** |
| 3P | **3** |
| 4P | **4** |
| 1N | **5** |
| 1P+N | **6** |
| 3P+N | **7** |

| Rating (A) | Code |
|---|---|
| 0 | **00** |
| 0.5 | **70** |
| 0.75 | **71** |
| 1 | **01** |
| 1.6 | **72** |
| 2 | **02** |
| 2.5 | **73** |
| 3 | **03** |
| 4 | **04** |
| 6 | **06** |
| 6.3 | **76** |
| 8 | **08** |
| 10 | **10** |
| 12.5 | **82** |
| 13 | **13** |
| 16 | **16** |
| 20 | **20** |
| 25 | **25** |
| 32 | **32** |
| 40 | **40** |
| 50 | **50** |
| **63** | **63** |
| 80 | **80** |
| 100 | **91** |
| 125 | **92** |

## Comb busbar and comb busbar accessories


| Range | Family | Code |
|---|---|---|
| Acti 9 (A9) | **Comb busbar** | **X** |

| Type | | Type of installation | |
|---|---|---|---|
| **Comb busbar** | | | |
| Fork | **F** | Horizontal | **H** |
| Tooth | **P** | | |
| Auxiliarisable | **A** | | |
| **Accessories** | | | |
| End-piece | **E** | Double terminals | **D** |
| Tooth cover | **T** | Single terminal | **M** |
| Connector | **C** | | |

| Number of poles | |
|---|---|
| 1P | **1** |
| 2P | **2** |
| 3P | **3** |
| 4P | **4** |
| 4P balanced, with neutral | **5** |
| 3P balanced for single-poles | **6** |

| Dimensioning | |
|---|---|
| Comb busbar | **Number of 18 mm modules (approximately)** |
| Accessories | **Number of pieces per cat. no.** |

# Choice of circuit protective devices

■ Circuit breakers can:
□ guard against fires that might be caused by a faulty electric circuit (short-circuit, overload, insulation fault),
□ protect people against electric shock in the event of indirect contact.
■ The choice of circuit breakers must be optimised to provide absolute protection while ensuring continuity of service.
■ Although circuit breakers are sometimes used as control units, it is recommended to install separate control devices which are more suitable for frequent switching operations (switch, contactor, impulse relay).

DB123788


Protection of electrical connections against magnetic short circuits and thermal overloads

DB123789

Protection of loads against overloads

DB123790

Protection of control devices

DB123792

Protection for people against indirect contacts in IT and TN earthing systems

## Choice of protective circuit breakers

This depends on several criteria:
■ breaking capacity
■ max. voltage rating
■ planned amperage for the circuit to be protected
■ nature and cross section of cables
■ ambient temperature (possible derating)
■ the loads, which determine the number of poles of the protective circuit breaker installed on their power supply circuit and the tripping curve.

### Choice of breaking capacity

■ The breaking capacity must be greater than or equal to the prospective short-circuit current (Isc) upstream of the circuit-breaker (Isc depends on the length and cross section of the cable and the power of the source).
■ However, in the event of use in combination with an upstream circuit-breaker limiting the current, this breaking capacity can possibly be reduced.

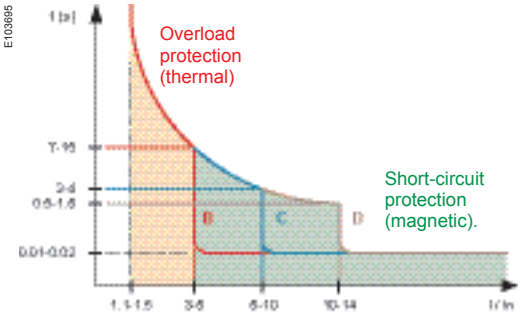
### Choice of rating

■ The rating (In) is chosen above all to protect the electrical connections:
□ for cables: it is chosen according to the cross section,
□ for Canalis prefabricated busbar trunking: it must be simply less than or equal to the rating of the busbar trunking.
■ Generally, the rating should be greater than the nominal current of the circuits.
■ The rating of the upstream circuit breaker must always be less than or equal to the sum of the ratings of the downstream circuit breakers.

### Choice of tripping curve

The tripping curve makes the protection more or less sensitive to:
■ the inrush current at power up
■ the overload current.

E103695




| Tripping thresholds (x In) | | |
|---|---|---|
| **Curves** | **EN 60898** | **IEC 60947-2** |
| B | Between 3 In and 5 In | Between 3.2 In and 4.8 In |
| C | Between 5 In and 10 In | Between 7 In and 10 In |
| D or K | - | Between 10 In and 14 In |
| MA | - | 12 In |
| Z | - | Between 2.4 In and 3.6 In |

■ To prevent nuisance tripping, it may be advisable to choose a less sensitive curve, e.g. change from B to C.

# Choice of circuit protective devices (cont.)

## Continuity of service

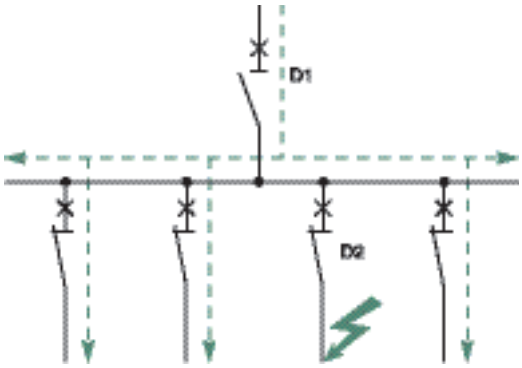
■ Nuisance tripping can be generated by:
□ the inrush current at circuit closure,
□ the overload current, and sometimes the harmonic current flowing through the neutral of three-phase circuits (1).

### Solutions

■ **Choose a circuit breaker with a less sensitive curve:** change from B curve to C curve or from C curve to D curve (2).
■ **Reduce the number of loads per circuit.**
■ **Energize the circuits in succession**, using time delay auxiliaries on the control devices.
■ **Under no circumstances may the circuit breaker rating be increased, as the electrical connections would then no longer be protected.**
■ **Ensure discrimination of the protective devices**

Discrimination is the coordination of automatic breaking devices in such a way that a fault occurring at any point on the network is eliminated by the circuit breaker located immediately upstream of the fault, and by it alone.

DB120589




**Total discrimination**
For all values of the fault, from overload to non-resistive short circuit, distribution is fully discriminating if D2 opens and if D1 remains closed.

**Partial discrimination**
Discrimination is partial if the above condition is not complied with up to full short-circuit current, but only up to a lower value. This value is called the discrimination limit.
In the event of a fault exceeding this value, circuit breakers D1 and D2 open.

*(1) In the specific case of three-phase circuits supplying discharge lamps with electronic ballasts, harmonic currents of the third order and multiples of three are generated. The neutral cable must be sized to prevent it from overheating. However, the current flowing through the neutral conductor may become greater than the current of each phase and cause nuisance tripping.*
*(2) In the case of installations with very long cables in a TN or IT system, it may be necessary to add an earth leakage protection device to protect human life..*

## Disconnection

DB123787

Circuit isolation

The purpose of disconnection is to separate and isolate a circuit or a device from the rest of the electrical installation in order to ensure the safety of personnel having to work on the electrical installation for maintenance or repair.
■ The circuit breaking must be omnipolar, i.e. the live conductors, including neutral (1), must be cut off.
■ It must be lockable or padlockable in "open" position in order to prevent any unintentional reclosing, at least in industrial environments.
■ It must be in compliance with a standard ensuring its suitability for isolation.

*(1) With the exception of the PEN conductor which should never be cut off.*

## Motor protection

DB123791

Motor protection

Protection of motors against risks of overheating due, for example, to an extended overload, rotor blocking or single-phase operation. Given the specific characteristics of motors:
■ overload detection is entrusted to a thermal relay specially designed for their protection. This relay may possibly provide overload protection for busbar trunking
■ in this case short-circuit protection is provided by a circuit breaker without a thermal release (MA type).

# Circuit breaker panorama

## Selection guide

### Circuit breakers

| Type | | | iDPN | iDPN N |
|---|---|---|---|---|
| | | |  |   |
| Standard | | | IEC/EN 60898-1 | IEC/EN 60898-1 |
| Number of poles | | | 1P+N | 1P+N, 3P, 3P+N |
| Add-on residual current devices (Vigi) | | | ■ | ■ |
| Auxiliaries for remote tripping and indication | | | ■ | ■ |
| **Electrical characteristics** | | | | |
| Curves | | | B, C | C, D |
| Ratings (A) | In | | 1 to 40 | 1 to 40 |
| Maximum operational voltage (V) | Ue max | AC (50/60 Hz) | 230 | 230/400 |
| | | DC | – | – |
| Minimum operational voltage (V) | Ue min | AC (50/60 Hz) | – | – |
| | | DC | – | – |
| Insulation voltage (V AC) | Ui | | 440 | 440 |
| Rated impulse withstand voltage (kV) | Uimp | | 4 | 4 |
| Limitation class up to 40 A (EN 60898) | | | 3 | 3 |
| **Breaking capacity** | | | | |
| **AC-Breaking capacity** | | **Ue (50/60 Hz)** | | |
| **IEC 60947-2 (kA)** | Icu | 12...60 V | – | – |
| | | 12...133 V | – | – |
| | | 100...133 V | – | – |
| | | 220...240 V | 6 | 10 |
| | | 380...415 V | 2 (1) | 2 (1) |
| | | 440 V | – | – |
| | Ics | | – | – |
| **IEC/EN 60898 (A)** | Icn | 240/415 V - 230/400 V | 4500 | 6000 |
| **DC-Breaking capacity** | | **Ue DC** | | |
| **IEC 60947-2 (kA)** | Icu | 12...48 V (1P) | – | – |
| | | 72 V (1P) | – | – |
| | | 100...133 V (2P) | – | – |
| | | 100...133 V (3P) | – | – |
| | | 220...250 V (4P) | – | – |
| | Ics | | – | – |
| **Other characteristics** | | | | |
| Suitable for industrial isolation according to IEC/EN 60947-2 | | | – | – |
| Reference temperature IEC/EN 60947-2 | | | – | – |
| Fault tripping indication | | | – | – |
| Positive contact indication | | | ■ | ■ |
| Fast closing | | | ■ | ■ |
| Degree of protection | IP | Device only | IP20 | IP20 |
| | | Device in modular enclosure | IP40<br>Insulation class II | IP40<br>Insulation class II |
| **For more detail, see page** | | | **A-2** | **A-3** |
| **Accessories** | | | **E-29** | **E-29** |
| **Auxiliaries** | | | **E-31** | **E-31** |
| **Add-on residual current devices (Vigi)** | | | **B-33** | **B-33** |

*(1) Breaking capacity under 1 pole with IT isolated neutral system (case of double fault).*

# Circuit breaker panorama (cont.)

| | iK60N | | iC60N | | iC60H | | iC60L | |
|---|---|---|---|---|---|---|---|---|
| |  | |  | |  | |  | |
| | IEC/EN 60898-1 | | IEC/EN 60947-2, 60898-1 | | IEC/EN 60947-2, 60898-1 | | IEC/EN 60947-2, 60898-1 | |
| | 1P, 1P+N | 2, 3, 4P | 1P, 1P+N | 2, 3, 4P | 1P, 1P+N | 2, 3, 4P | 1P | 2, 3, 4P |
| | – | | ■ | | ■ | | ■ | |
| | – | | ■ | | ■ | | ■ | |
| | | | | | | | | |
| | B, C | | B, C, D | | B, C, D | | B, C, K, Z | |
| | 1 to 63 | | 0.5 to 63 (1 to 63 in DC) | | 0.5 to 63 (1 to 63 in DC) | | 0.5 to 63 (1 to 63 in DC) | |
| | 230/400 | | 240/415, 440 | | 240/415, 440 | | 240/415, 440 | |
| | – | | 250 | | 250 | | 250 | |
| | – | | 12 | | 12 | | 12 | |
| | – | | 12 | | 12 | | 12 | |
| | 400 | | 500 | | 500 | | 500 | |
| | 4 | | 6 | | 6 | | 6 | |
| | 3 | | – | | – | | – | |
| | | | | | | | | |
| | **Ph / N** | **Ph / Ph** | **Ph / N** | **Ph / Ph** | **Ph / N** | **Ph / Ph** | **Ph / N** | **Ph / Ph** |
| | – | – | **50** (0.5 to 4 A)<br>**36** (6 to 63 A) | – | **70** (0.5 to 4 A)<br>**42** (6 to 63 A) | – | **100** (0.5 to 4 A)<br>**70** (6 to 63 A) | **100** (0.5 to 4 A)<br>**80** (6 to 63 A) |
| | – | – | – | **50** (0.5 to 4 A)<br>**36** (6 to 63 A) | – | **70** (0.5 to 4 A)<br>**42** (6 to 63 A) | – | – |
| | – | – | **50** (0.5 to 4 A)<br>**20** (6 to 63 A) | – | **70** (0.5 to 4 A)<br>**30** (6 to 63 A) | – | **100** (0.5 to 4 A)<br>**50** (6 to 25 A)<br>**36** (32/40 A)<br>**30** (50/63 A) | **100** (0.5 to 4 A)<br>**70** (6 to 63 A) |
| | – | – | **50** (0.5 to 4 A)<br>**10** (6 to 63 A) | **50** (0.5 to 4 A)<br>**20** (6 to 63 A) | **70** (0.5 to 4 A)<br>**15** (6 to 63 A) | **70** (0.5 to 4 A)<br>**30** (6 to 63 A) | **100** (0.5 to 4 A)<br>**25** (6 to 25 A)<br>**20** (32/40 A)<br>**15** (50/63 A) | **100** (0.5 to 4 A)<br>**50** (6 to 25 A)<br>**36** (32/40 A)<br>**30** (50/63 A) |
| | – | – | – | **50** (0.5 to 4 A)<br>**10** (6 to 63 A) | – | **70** (0.5 to 4 A)<br>**15** (6 to 63 A) | – | **100** (0.5 to 4 A)<br>**25** (6 to 25 A)<br>**20** (32/40 A)<br>**15** (50/63 A) |
| | – | – | – | **25** (0.5 to 4 A)<br>**6** (6 to 63 A) | – | **50** (0.5 to 4 A)<br>**10** (6 to 63 A) | – | **70** (0.5 to 4 A)<br>**20** (6 to 25 A)<br>**15** (32/40 A)<br>**10** (50/63 A) |
| | – | | 100 % of Icu (0.5 to 4 A)<br>75 % of Icu (6 to 63 A) | | 100 % of Icu (0.5 to 4 A)<br>50 % of Icu (6 to 63 A) | | 100 % of Icu (0.5 to 4 A)<br>50 % of Icu (6 to 63 A) (1) | |
| | 6000 | 6000 | 6000 | 6000 | 10000 | 10000 | 15000 | 15000 |
| | | | | | | | | |
| | – | – | **15** | – | **20** | – | **25** | – |
| | – | – | **6** | – | **10** | – | **15** | – |
| | – | – | – | **6** | – | **10** | – | **15** |
| | – | – | – | **15** | – | **20** | – | **25** |
| | – | – | – | **6** | – | **10** | – | **15** |
| | – | – | 100 % of Icu | | 100 % of Icu | | 100 % of Icu | |
| | | | | | | | | |
| | – | | ■ | | ■ | | ■ | |
| | – | | 50°C | | 50°C | | 50°C | |
| | – | | Visi-trip window | | Visi-trip window | | Visi-trip window | |
| | – | | ■ | | ■ | | ■ | |
| | – | | ■ | | ■ | | ■ | |
| | IP20 | | IP20 | | IP20 | | IP20 | |
| | IP40<br>Insulation class II | | IP40<br>Insulation class II | | IP40<br>Insulation class II | | IP40<br>Insulation class II | |
| | **A-4** | | **A-9** | | **A-12** | | **A-16** | |
| | **–** | | **E-2 and E-10** | | **E-2 and E-10** | | **E-2 and E-10** | |
| | **–** | | **E-2 and F-2** | | **E-2 and F-2** | | **E-2 and F-2** | |
| | **–** | | **B-17** | | **B-17** | | **B-17** | |

*(1) 100 % of Icu for ratings 6 to 25 A under Ue 100 to 133 V AC Ph/Ph and Ue 12 to 60 V AC Ph/N.*

# Circuit breaker panorama (cont.)

## Selection guide (cont.)

| Circuit breakers | | | | | | |
|---|---|---|---|---|---|---|
| **Type** | | | **C120N** | | **C120H** | |
| | | |  | |  | |
| Standard | | | IEC/EN 60898-1 | | IEC/EN 60898-1 | |
| Number of poles | | | 1P | 2, 3, 4P | 1P | 2, 3, 4P |
| Add-on residual current devices (Vigi) | | | ■ | | ■ | |
| Auxiliaries for remote tripping and indication | | | ■ | | ■ | |
| **Electrical characteristics** | | | | | | |
| Curves | | | B, C | | B, C | |
| Ratings (A) | In | | 10 to 125 | | 63, 80, 100, 125 | |
| Maximum operational voltage (V) | Ue max | AC (50/60 Hz) | 240/415, 440 | | 240/415, 440 | |
| | | DC | 125 per pole | | 125 per pole | |
| Minimum operational voltage (V) | Ue min | AC (50/60 Hz) | 12 | | 12 | |
| | | DC | 12 | | 12 | |
| Insulation voltage (V AC) | Ui | | 500 | | 500 | |
| Rated impulse withstand voltage (kV) | Uimp | | 6 | | 6 | |
| **Breaking capacity** | | | | | | |
| **AC-Breaking capacity** | | **Ue (50/60 Hz)** | **Ph / N** | **Ph / Ph** | **Ph / N** | **Ph / Ph** |
| **IEC 60947-2 (kA)** | Icu | 110...130 V | – | – | – | – |
| | | 130 V | **20** | – | **30** | – |
| | | 220...240 V | **10** | **20** | **15** | **30** |
| | | 380...415 V | **3** (1) | **10** | **4.5** (1) | **15** |
| | | 440 V | – | **6** | – | **10** |
| | | 500 V | – | – | – | – |
| | Ics | | 75 % of Icu | | 50 % of Icu | |
| **IEC/EN 60898 (A)** | Icn | 230/400 V | 10000 | 10000 | 15000 | 15000 |
| **DC-Breaking capacity** | | **Ue DC** | | | | |
| **IEC 60947-2 (kA)** | Icu | 60 V (1P) | **10** | – | **15** | – |
| | | 125 V (1P) | **10** | – | **15** | – |
| | | 250 V (2P) | – | **10** | – | **15** |
| | | 500 V (4P) | – | – | – | – |
| | Ics | | 100 % of Icu | | 100 % of Icu | |
| **Other characteristics** | | | | | | |
| Suitable for industrial isolation according to IEC/EN 60947-2 | | | ■ | | ■ | |
| Reference temperature IEC/EN 60947-2 | | | 50°C | | 50°C | |
| Fault tripping indication | | | – | | – | |
| Positive contact indication | | | ■ | | ■ | |
| Fast closing | | | ■ | | ■ | |
| Dismounting with comb busbar in place | | | Special comb busbar | | Special comb busbar | |
| Degree of protection | IP | Device only | IP20 | | IP20 | |
| | | Device in modular enclosure | IP40 | | IP40 | |
| **For more detail, see page** | | | **A-20** | | **A-23** | |
| **Accessories** | | | **E-7, E-15 and E-28** | | **E-7, E-15 and E-28** | |
| **Auxiliaries** | | | **E-7 and F-9** | | **E-7 and F-9** | |
| **Earth leakage see page (Vigi)** | | | **B-22** | | **B-22** | |

*(1) Breaking capacity under 1 pole with IT isolated neutral system (case of double fault).*

# Circuit breaker panorama (cont.)

| | NG125a | NG125N | | NG125H | | NG125L | |
|---|---|---|---|---|---|---|---|
| |  |  | |  | |  | |
| | IEC/EN 60947-2 | IEC/EN 60947-2 | | IEC/EN 60947-2 | | IEC/EN 60947-2 | |
| | 3, 4P | 1P | 2, 3, 4P | 1P | 2, 3, 4P | 1P | 2, 3, 4P |
| | ■ | ■ | | ■ | | ■ | |
| | ■ | ■ | | ■ | | ■ | |
| | | | | | | | |
| | C | B, C, D | | C | | B, C, D | |
| | 80 to 125 | 10 to 125 | | 10 to 80 | | 10 to 80 | |
| | 240/415, 500 | 240/415, 500 | | 240/415, 500 | | 240/415, 500 | |
| | – | 125 per pole | | 125 per pole | | 125 per pole | |
| | 12 | 12 | | 12 | | 12 | |
| | – | 12 | | 12 | | 12 | |
| | 690 | 690 | | 690 | | 690 | |
| | 8 | 8 | | 8 | | 8 | |
| | | | | | | | |
| | **Ph / Ph** | **Ph / N** | **Ph / Ph** | **Ph / N** | **Ph / Ph** | **Ph / N** | **Ph / Ph** |
| | – | **50** | – | **70** | – | **100** | – |
| | – | – | – | – | – | – | – |
| | – | **25** | **50** | **36** | **70** | **50** | **100** |
| | **16** | **6** | **25** | **9** (1) | **36** | **12.5** (1) | **50** |
| | – | – | **20** | – | **30** | – | **40** |
| | **6** | – | **10** | – | **12** | – | **15** |
| | 75 % of Icu | 75 % of Icu | | 75 % of Icu | | 75 % of Icu | |
| | – | – | – | – | – | – | – |
| | | | | | | | |
| | – | **25** | – | **36** | – | **50** | – |
| | – | **25** | – | **36** | – | **50** | – |
| | – | – | **25** | – | **36** | – | **50** |
| | **20** | – | **25** | – | **36** | – | **50** |
| | 100 % of Icu | 100 % of Icu | | 100 % of Icu | | 100 % of Icu | |
| | | | | | | | |
| | ■ | ■ | | ■ | | ■ | |
| | 40°C | 40°C | | 40°C | | 40°C | |
| | ■ Toggle position<br>■ Red mechanical indicator | ■ Toggle position<br>■ Red mechanical indicator | | ■ Toggle position<br>■ Red mechanical indicator | | ■ Toggle position<br>■ Red mechanical indicator | |
| | ■ | ■ | | ■ | | ■ | |
| | ■ | ■ | | ■ | | ■ | |
| | – | – | | – | | – | |
| | IP20 | IP20 | | IP20 | | IP20 | |
| | IP40 | IP40 | | IP40 | | IP40 | |
| | **A-27** | **A-29** | | **A-31** | | **A-33** | |
| | **E-26** | **E-26** | | **E-26** | | **E-26** | |
| | **F-14** | **F-14** | | **F-14** | | **F-14** | |
| | **B-27** | **B-27** | | **B-27** | | **B-27** | |

*(1) Breaking capacity under 1 pole with IT isolated neutral system (case of double fault).*

# Circuit breaker panorama (cont.)

## Selection guide (cont.)

| Instantaneous circuit breakers (ICB) | | | | |
|---|---|---|---|---|
| **Type** | | | **iC60LMA** | **NG125LMA** |
| | | |  |  |
| Standard | | | IEC/EN 60947-2 | IEC/EN 60947-2 |
| Quality label | | | Country approval pictogram | Country approval pictogram |
| Number of poles | | | 2, 3P | 2, 3P |
| Add-on residual current devices (Vigi) | | | ■ | ■ |
| Auxiliaries for remote tripping and indication | | | ■ | ■ |
| **Electrical characteristics** | | | | |
| Curves | | | MA (Ii = 12 In) | MA (Ii = 12 In) |
| Ratings (A) | In | | 1.6 to 40 | 4 to 80 |
| Maximum operational voltage (V) | Ue max | AC (50/60 Hz) | 440 | 500 |
| | | DC | 250 | – |
| Minimum operational voltage (V) | Ue min | AC (50/60 Hz) | 12 | 12 |
| | | DC | 12 | – |
| Insulation voltage (V AC) | Ui | | 500 | 690 |
| Rated impulse withstand voltage (kV) | Uimp | | 6 | 8 |
| **Breaking capacity** | | | | |
| **AC-Breaking capacity** | | **Ue (50/60 Hz)** | | |
| **IEC 60947-2 (kA)** | Icu | 12...60 V | – | – |
| | | 12...133 V | – | – |
| | | 100...133 V | – | – |
| | | 110...130 V | – | – |
| | | 130 V | – | – |
| | | 220...240 V | **40** (1.6 to 16 A)<br>**30** (25 to 40 A) | **100** |
| | | 230/400 V | – | – |
| | | 380...415 V | **20** (1.6 to 16 A)<br>**15** (25 to 40 A) | **50** |
| | | 400/415 V | – | – |
| | | 440 V | **15** (1.6 to 16 A)<br>**10** (25 to 40 A) | **40** |
| | | 500 V | – | **15** |
| | Ics | | 50 % of Icu (1.6 to 40 A) | 75 % of Icu |
| **IEC/EN 60898 (A)** | Icn | 230/400 V | – | – |
| **Other characteristics** | | | | |
| Suitable for industrial isolation according to IEC/EN 60947-2 | | | ■ | ■ |
| Reference temperature IEC/EN 60947-2 | | | 50°C | 40°C |
| Fault tripping indication | | | Visi-trip window | ■ Toggle position<br>■ Red mechanical indicator |
| Positive contact indication | | | ■ | ■ |
| Fast closing | | | ■ | ■ |
| Dismounting with comb busbar in place | | | Upstream connection | – |
| Degree of protection | IP | Device only | IP20 | IP20 |
| | | Device in modular enclosure | IP40<br>Insulation class II | IP40 |
| **For more detail, see page** | | | **A-38** | **A-41** |
| **Accessories** | | | **E-2 and E-10** | **E-26** |
| **Auxiliaries** | | | **E-2 and F-2** | **F-14** |
| **Add-on residual current devices (Vigi)** | | | **B-17** | **B-27** |

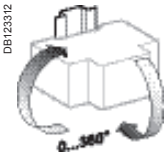
# Circuit Protection

# *i* DPN circuit breakers

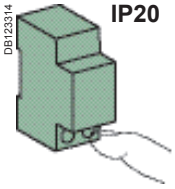
The protection of property and people against direct or indirect contacts, insulation faults and fire hazards is implemented by residual current devices obtained by the combination of a circuit breaker and an earth leakage module.

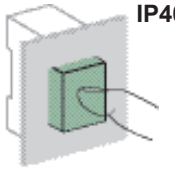


*Clip on DIN rail 35 mm.*




*Indifferent position of installation.*

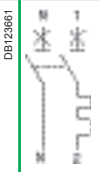
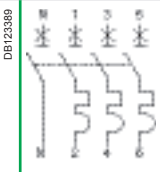



## EN 60898

The circuit breakers are designed for protection against short-circuit and overload currents, for the control and disconnection of final distribution circuits in service sector, agricultural and industrial applications, in TT earthing system or with multiple earthed neutral (TN-S) requiring neutral cutoff without its protective device.

## Catalogue numbers

| ***i* DPN circuit breakers** | | | | |
|---|---|---|---|---|
| | **4500** | | | |
| **Type** | **1P+N** | | **3P+N** | |
| |  | |  | |
| **Auxiliaries** | **See page F-9** | | **See page F-9** | |
| **Vigi** | **Module B-33** | | **Module B-33** | |
| **Rating (In)** | **B curve** | **C curve** | **B curve** | **C curve** |
| 1 A | - | **A9N21542** | - | - |
| 2 A | - | **A9N21543** | - | - |
| 3 A | - | **A9N21544** | - | - |
| 6 A | **A9N21535** | **A9N21545** | - | - |
| 10 A | **A9N21536** | **A9N21546** | - | - |
| 13 A | **A9N21723** | **A9N21724** | **A9N21731** | **A9N21732** |
| 16 A | **A9N21537** | **A9N21547** | - | - |
| 20 A | **A9N21538** | **A9N21548** | - | - |
| 25 A | **A9N21539** | **A9N21549** | - | - |
| 32 A | **A9N21540** | **A9N21550** | - | - |
| 40 A | **A9N21541** | **A9N21551** | - | - |
| Width in 9-mm modules | 2 | | 6 | |
| **Accessories** | **See page E-29 and E-31** | | | |

## Technical data

| **Main characteristics** | | | ***i* DPN** | ***i* DPN F** | ***i* DPN N** |
|---|---|---|---|---|---|
| Insulation voltage (Ui) | Phase-to-phase | | 440 V AC | - | 440 V AC |
| Voltage rating (Ue) | Phase-to-neutral | | 230 V AC | 230 V AC | 230 V AC |
| | Phase-to-phase | | 400 V AC | - | 400 V AC |
| Magnetic tripping | B curve | 3 to 5 In | - | - | ■ |
| | C curve | 5 to 10 In | - | ■ | ■ |
| | D curve | 10 to 14 In | - | - | ■ |
| **According to EN 60898-1** | | | | | |
| Limitation class | | | 3 | 3 | 3 |
| Rated breaking capacity (Icn) | | | 4500 A | 6000 A | 6000 A |
| Service breaking capacity (Ics) | | | 100 % Icn | 100 % Icn | 100 % Icn |
| Rated breaking and making capacity on a single pole (Icn1) | | | Icn1 = Icn | Icn1 = Icn | Icn1 = Icn |
| **According to IEC 60947-2** | | | | | **C curve only** |
| Rated impulse withstand voltage (Uimp) | | | - | 4 kV | 4 kV |
| Breaking capacity (Icu) | | | - | 6 kA | 10 kA |
| Pollution degree | | | - | 3 as per IEC 60947-1 (for installation in industrial environment) | - |
| **Additional characteristics** | | | | | |
| Degree of protection (IEC 60529) | Device only | | IP20 | | |
| | Device in modular enclosure | | IP40<br>Insulation class II | | |
| Endurance (O-C) | Electrical | ≤ 20 A | 20000 cycles | 20000 cycles | 20000 cycles |
| | | ≥ 25 A | 10000 cycles | 10000 cycles | 10000 cycles |
| | Mechanical | | 20000 cycles | 20000 cycles | 20000 cycles |
| Operating temperature | | | -25°C to +70°C | -25°C to +70°C | -25°C to +70°C |
| Storage temperature | | | -40°C to +70°C | -40°C to +70°C | -40°C to +70°C |
| Tropicalization (IEC 60068-1) | | | Treatment 2 (relative humidity of 95 % at 55°C) | | |
| Neutral opening and closing shifted relative to phases | | | No surge upon operation of the device | | |

# *i* DPN N circuit breakers




PB107140-32

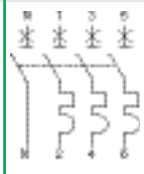

PB107141-32


PB107142-32

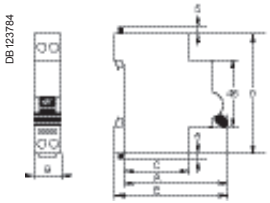

PB107143-32

## Catalogue numbers

| *i* DPN F circuit breakers | 6000 |
|---|---|
| **Type** | **1P+N** |
| |  DB123389 |
| **Auxiliaries** | **See pages F-9 and E-31** |
| **Vigi** | **See page B-33** |
| **Rating (In)** | **C curve** |
| 1 A | **A9N21638** |
| 2 A | **A9N21641** |
| 3 A | **A9N21642** |
| 6 A | **A9N21643** |
| 10 A | **A9N21644** |
| 16 A | **A9N21645** |
| 20 A | **A9N21646** |
| 25 A | **A9N21647** |
| 32 A | **A9N21648** |
| 40 A | **A9N21649** |
| Width in 9-mm modules | 2 |
| **Accessories** | **See page E-29 and E-31** |

| *i* DPN N circuit breakers | 6000 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Type** | **1P+N** | | | **3P** | | **3P+N** | | |
| |  DB123389 | | |  DB123864 | |  DB123661 | | |
| **Auxiliaries** | **See pages F-9 and E-31** | | | **See pages F-9 and E-31** | | **See pages F-9 and E-31** | | |
| **Vigi** | **See page B-33** | | | **See page B-33** | | **See page B-33** | | |
| **Rating (In)** | **B curve** | **C curve** | **D curve** | **C curve** | **D curve** | **B curve** | **C curve** | **D curve** |
| 1 A | - | **A9N21552** | - | - | - | - | - | - |
| 2 A | - | **A9N21553** | - | - | - | - | - | - |
| 3 A | - | **A9N21554** | - | - | - | - | - | - |
| 4 A | **A9N17515** | **A9N21722** | - | - | - | - | - | - |
| 6 A | **A9N17516** | **A9N21555** | **A9N21565** | **A9N21575** | **A9N21585** | - | **A9N21595** | **A9N21605** |
| 10 A | **A9N17517** | **A9N21556** | **A9N21566** | **A9N21576** | **A9N21586** | - | **A9N21596** | **A9N21606** |
| 13 A | **A9N17518** | **A9N21725** | **A9N21726** | **A9N21727** | **A9N21728** | **A9N17581** | **A9N21729** | **A9N21730** |
| 16 A | **A9N17519** | **A9N21557** | **A9N21567** | **A9N21577** | **A9N21587** | - | **A9N21597** | **A9N21607** |
| 20 A | **A9N17520** | **A9N21558** | **A9N21568** | **A9N21578** | **A9N21588** | - | **A9N21598** | **A9N21608** |
| 25 A | **A9N17521** | **A9N21559** | **A9N21569** | **A9N21579** | **A9N21589** | - | **A9N21599** | **A9N21609** |
| 32 A | **A9N17522** | **A9N21560** | **A9N21570** | **A9N21580** | **A9N21590** | - | **A9N21600** | **A9N21610** |
| 40 A | **A9N17523** | **A9N21561** | **A9N21571** | **A9N21581** | **A9N21591** | - | **A9N21601** | **A9N21611** |
| Width in 9-mm modules | 2 | | | 6 | | 6 | | |
| **Accessories** | **See page E-29 and E-31** | | | | | | | |

## Dimensions (mm)


DB123784

## Weight (g)

| Circuit breakers | |
|---|---|
| **Type** | ***i* DPN, *i* DPN F, *i* DPN N** |
| 1P+N | 115 |
| 3P | 310 |
| 3P+N | 322 |

| Circuit breakers | | | | | | |
|---|---|---|---|---|---|---|
| **Type** | **Number of poles** | **A** | **B** | **C** | **D** | **E** |
| *i* DPN, *i* DPN F, *i* DPN N | 1P+N | 70 | 18 | 44 | 80 | 76 |
| | 3P | 70 | 54 | 44 | 80 | 76 |
| | 3P+N | 70 | 54 | 44 | 80 | 76 |

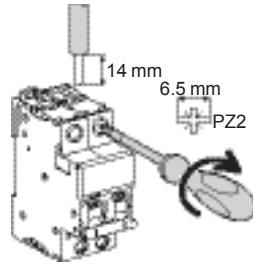
# iK60N circuit breakers (curve B)

PB104434-40


■ Top or bottom electrical feeding.

## Connection

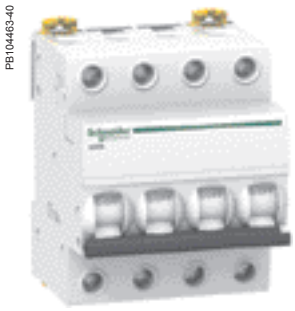
DB123060




| Type | Rating | Tightening torque | Without accessory | |
|---|---|---|---|---|
| | | | Copper cables | |
| | | | Rigid | Flexible or ferrule |
| | | DB122945 | DB122946 | |
| B curve | 1 to 25 A | 2 N.m | 1 to 25 mm² | 1 to 16 mm² |
| | 32 to 63 A | 3.5 N.m | 1 to 35 mm² | 1 to 25 mm² |

# iK60N circuit breakers (curve B) (cont.)


## IEC/EN 60898-1


- iK60N circuit breakers are circuit breakers which combine the following functions:
  - circuit protection against short-circuit currents,
  - circuit protection against overload currents,
  - disconnection, opening and closing.

| iK60N circuit breaker 50/60 Hz | | |
|---|---|---|
| **Breaking capacity in short circuit (Icn) as per IEC/EN 60898-1** | | **Service breaking capacity (Ics)** |
| **Ph/Ph** | **400 V** | 100 % of Icn |
| **Ph/N** | **230 V** | |
| **Rating (In)** 1 to 63 A | 6000 A | |

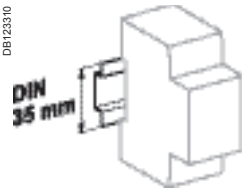
## Catalogue numbers

**iK60N circuit breaker**

| Type | 1P | 1P+N | 2P | 3P | 4P |
|---|---|---|---|---|---|
| |  |  |  |  |  |
| **Auxiliaries** | **Without auxiliaries** | **Without auxiliaries** | **Without auxiliaries** | **Without auxiliaries** | **Without auxiliaries** |
| **Vigi iC60** | **Without Vigi iC60** | **Without Vigi iC60** | **Without Vigi iC60** | **Without Vigi iC60** | **Without Vigi iC60** |
| **Rating (In)** | **Curve B** | **Curve B** | **Curve B** | **Curve B** | **Curve B** |
| 1 A | **A9K23101** | **A9K23601** | **A9K23201** | - | - |
| 2 A | **A9K23102** | **A9K23602** | **A9K23202** | - | - |
| 3 A | **A9K23103** | **A9K23603** | **A9K23203** | - | - |
| 4 A | **A9K23104** | **A9K23604** | **A9K23204** | - | - |
| 6 A | **A9K23106** | **A9K23606** | **A9K23206** | **A9K23306** | **A9K23406** |
| 10 A | **A9K23110** | **A9K23610** | **A9K23210** | **A9K23310** | **A9K23410** |
| 16 A | **A9K23116** | **A9K23616** | **A9K23216** | **A9K23316** | **A9K23416** |
| 20 A | **A9K23120** | **A9K23620** | **A9K23220** | **A9K23320** | **A9K23420** |
| 25 A | **A9K23125** | **A9K23625** | **A9K23225** | **A9K23325** | **A9K23425** |
| 32 A | **A9K23132** | **A9K23632** | **A9K23232** | **A9K23332** | **A9K23432** |
| 40 A | **A9K23140** | **A9K23640** | **A9K23240** | **A9K23340** | **A9K23440** |
| 50 A | **A9K23150** | **A9K23650** | **A9K23250** | **A9K23350** | **A9K23450** |
| 63 A | **A9K23163** | **A9K23663** | **A9K23263** | **A9K23363** | **A9K23463** |
| Operating frequency | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz |
| Width in 9-mm modules | 2 | 4 | 4 | 6 | 8 |

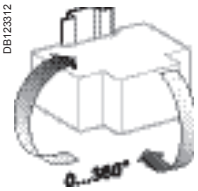
# iK60N circuit breakers (curve B) (cont.)

DB123310



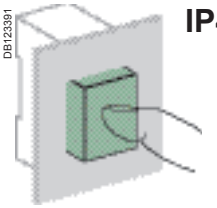

*Clip on DIN rail 35 mm.*

DB123312




*Indifferent position of installation.*

DB123391



**IP40**

## Technical data

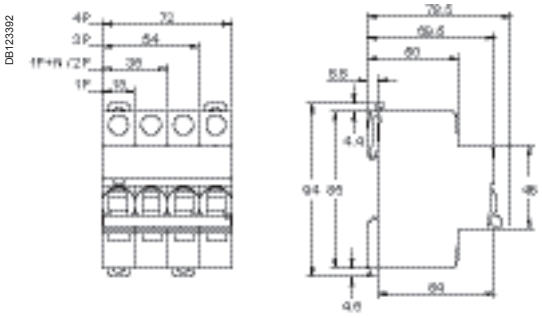
| Main characteristics | | |
|---|---|---|
| **According to IEC/EN 60898-1** | | |
| Insulation voltage (Ui) | | 440 V AC |
| Pollution degree | | 2 |
| Rated impulse withstand voltage (Uimp) | | 4 kV |
| Thermal tripping | Reference temperature | 30°C |
| | Temperature derating | See the Technical Guide |
| Magnetic tripping | B curve | 3 to 5 In |
| Limitation class | | 3 |
| Rated making and breaking capacity of an individual pole (Icn1) | | Icn1 = Icn |
| **Additional characteristics** | | |
| Degree of protection (IEC 60529) | Device in modular enclosure | IP40<br>Insulation classe II |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Overvoltage category (IEC 60364) | | III |
| Operating temperature | | -25°C to +60°C |
| Storage temperature | | -40°C to +85°C |

## Weight (g)

| Circuit-breaker | |
|---|---|
| **Type** | **iK60N** |
| 1P | 100 |
| 2P | 200 |
| 3P | 300 |
| 4P | 400 |

## Dimensions (mm)

DB123392



# iK60N circuit breakers (curve C)


## IEC/EN 60898-1





- iK60N circuit breakers are circuit breakers which combine the following functions:
  - circuit protection against short-circuit currents,
  - circuit protection against overload currents,
  - disconnection, opening and closing.

| iK60N circuit breaker 50/60 Hz | | |
|---|---|---|
| **Breaking capacity in short circuit (Icn) as per IEC/EN 60898-1** | | **Service breaking capacity (Ics)** |
| **Ph/Ph** | **400 V** | 100 % of Icn |
| **Ph/N** | **230 V** | |
| **Rating (In)** 1 to 63 A | 6000 A | |

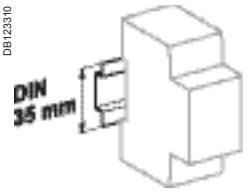
## Catalogue numbers

**iK60N circuit breakers**

| Type | 1P | 1P+N | 2P | 3P | 4P |
|---|---|---|---|---|---|
| |  |  |  |  |  |
| **Auxiliaries** | **Without auxiliaries** | **Without auxiliaries** | **Without auxiliaries** | **Without auxiliaries** | **Without auxiliaries** |
| **Vigi iC60** | **Without Vigi iC60** | **Without Vigi iC60** | **Without Vigi iC60** | **Without Vigi iC60** | **Without Vigi iC60** |
| **Rating (In)** | **Curve C** | **Curve C** | **Curve C** | **Curve C** | **Curve C** |
| 1 A | **A9K24101** | **A9K24601** | **A9K24201** | - | - |
| 2 A | **A9K24102** | **A9K24602** | **A9K24202** | - | - |
| 3 A | **A9K24103** | **A9K24603** | **A9K24203** | - | - |
| 4 A | **A9K24104** | **A9K24604** | **A9K24204** | - | - |
| 6 A | **A9K24106** | **A9K24606** | **A9K24206** | **A9K24306** | **A9K24406** |
| 10 A | **A9K24110** | **A9K24610** | **A9K24210** | **A9K24310** | **A9K24410** |
| 16 A | **A9K24116** | **A9K24616** | **A9K24216** | **A9K24316** | **A9K24416** |
| 20 A | **A9K24120** | **A9K24620** | **A9K24220** | **A9K24320** | **A9K24420** |
| 25 A | **A9K24125** | **A9K24625** | **A9K24225** | **A9K24325** | **A9K24425** |
| 32 A | **A9K24132** | **A9K24632** | **A9K24232** | **A9K24332** | **A9K24432** |
| 40 A | **A9K24140** | **A9K24640** | **A9K24240** | **A9K24340** | **A9K24440** |
| 50 A | **A9K24150** | **A9K24650** | **A9K24250** | **A9K24350** | **A9K24450** |
| 63 A | **A9K24163** | **A9K24663** | **A9K24263** | **A9K24363** | **A9K24463** |
| Operating frequency | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz |
| Width in 9-mm modules | 2 | 4 | 4 | 6 | 8 |

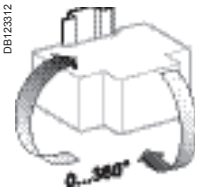
# iK60N circuit breakers (curve C) (cont.)

DB123310



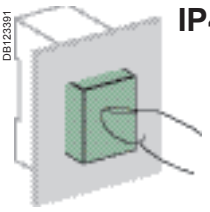

*Clip on DIN rail 35 mm.*

DB123312




*Position d'installation indifférente.*

DB123391



**IP40**

## Technical data

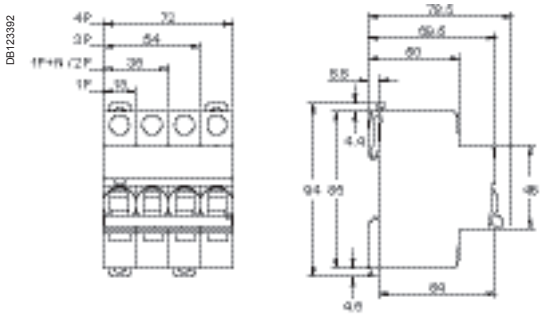
| Main characteristics | | |
|---|---|---|
| **According to IEC/EN 60898-1** | | |
| Insulation voltage (Ui) | | 440 V AC |
| Pollution degree | | 2 |
| Rated impulse withstand voltage (Uimp) | | 4 kV |
| Thermal tripping | Reference temperature | 30°C |
| | Temperature derating | See the Technical Guide |
| Magnetic tripping | C curve | 5 to 10 In |
| Limitation class | | 3 |
| Rated making and breaking capacity of an individual pole (Icn1) | | Icn1 = Icn |
| **Additional characteristics** | | |
| Degree of protection (IEC 60529) | Device in modular enclosure | IP40<br>Insulation classe II |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Overvoltage category (IEC 60364) | | III |
| Operating temperature | | -25°C to +60°C |
| Storage temperature | | -40°C to +85°C |

## Weight (g)

| Circuit-breaker | |
|---|---|
| **Type** | **iK60N** |
| 1P | 100 |
| 2P | 200 |
| 3P | 300 |
| 4P | 400 |

## Dimensions (mm)

DB123392



# iC60N circuit breakers (curve B, C, D)


## CEI/EN 60947-2
## BS/EN 60898-1

■ Disbo iC60N circuit breakers are multi-standard circuit breakers which combine the following functions:
- □ circuit protection against short-circuit currents,
- □ circuit protection against overload currents,
- □ suitable for industrial isolation according to IEC/EN 60947-2, standard.
- □ fault tripping indication by a red mechanical indicator in circuit breaker front face.



**Alternating current (AC) 50/60 Hz**

| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | | Service breaking capacity (Ics) |
|---|---|---|---|---|---|---|
| | | Voltage (Ue) | | | | |
| Ph/Ph (2P, 3P, 4P) | | 12 to 133 V | 220 to 240 V | 380 to 415 V | 440 V | |
| Ph/N (1P, 1P+N) | | 12 to 60 V | 100 to 133 V | 220 to 240 V | - | |
| Rating (In) | 0.5 to 4 A | 50 kA | 50 kA | 50 kA | 25 kA | 100 % of Icu |
| | 6 to 63 A | 36 kA | 20 kA | 10 kA | 6 kA | 75 % of Icu |

| Breaking capacity (Icn) according to IEC/EN 60898-1 | | |
|---|---|---|
| | | Voltage (Ue) |
| Ph/Ph | | 400 V |
| Ph/N | | 230 V |
| Rating (In) | 0.5 to 63 A | 6000 A |

**Direct current (DC)**

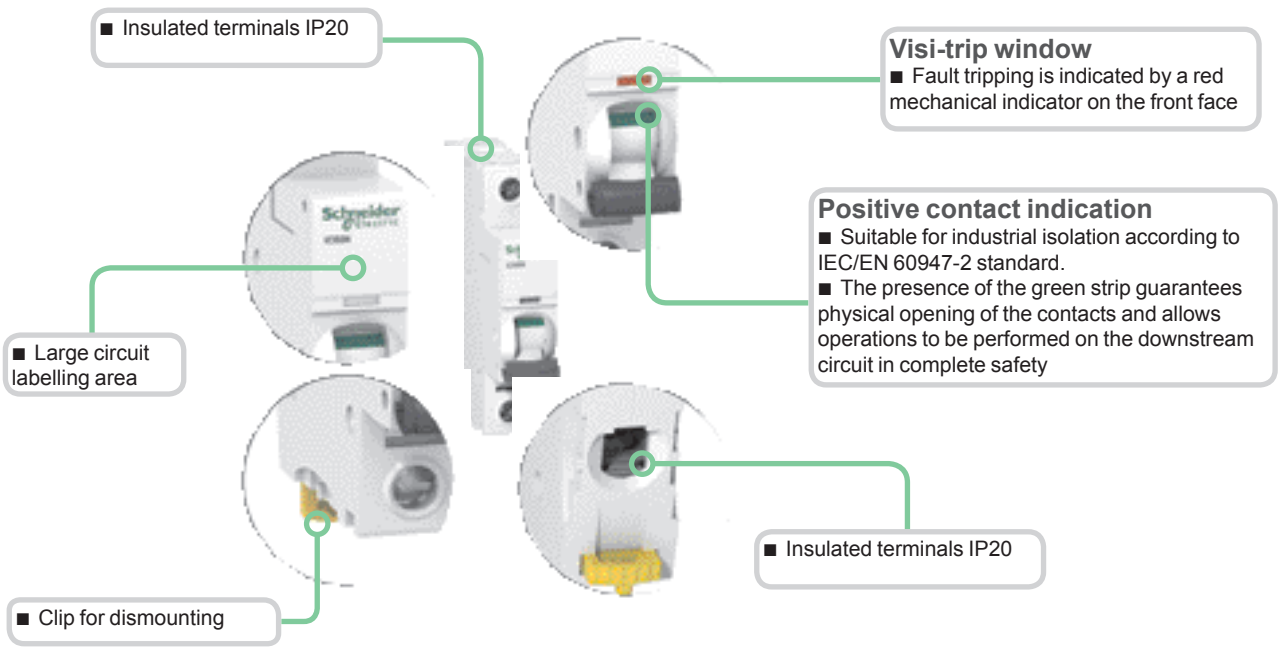
| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | | Service breaking capacity (Ics) |
|---|---|---|---|---|---|---|
| | | Voltage (Ue) | | | | |
| Between +/- | | 12 to 48 V | 72 V | 100 to 133 V | 220 to 250 V | |
| Number of poles | | 1P | | 2P (in series) | 3P (in series) | 4P (in series) | |
| Rating (In) | 1 to 63 A | 15 kA | 6 kA | 6 kA | 15 kA | 6 kA | 100 % of Icu |

## Catalogue numbers

**Disbo iC60N circuit breaker**

| Type | 1P | | | 2P | | |
|---|---|---|---|---|---|---|
| |  | | |  | | |
| Auxiliaries | See page E-2 and F-22 | | | See page E-2 and F-22 | | |
| Rating (In) | Curve | | | Curve | | |
| | B | C | D | B | C | D |
| 0.5 A | A9F43170 | A9F44170 | A9F45170 | A9F43270 | A9F44270 | A9F45270 |
| 1 A | A9F43101 | A9F44101 | A9F45101 | A9F43201 | A9F44201 | A9F45201 |
| 2 A | A9F43102 | A9F44102 | A9F45102 | A9F43202 | A9F44202 | A9F45202 |
| 3 A | A9F43103 | A9F44103 | A9F45103 | A9F43203 | A9F44203 | A9F45203 |
| 4 A | A9F43104 | A9F44104 | A9F45104 | A9F43204 | A9F44204 | A9F45204 |
| 6 A | A9F43106 | A9F44106 | A9F45106 | A9F43206 | A9F44206 | A9F45206 |
| 10 A | A9F43110 | A9F44110 | A9F45110 | A9F43210 | A9F44210 | A9F45210 |
| 16 A | A9F43116 | A9F44116 | A9F45116 | A9F43216 | A9F44216 | A9F45216 |
| 20 A | A9F43120 | A9F44120 | A9F45120 | A9F43220 | A9F44220 | A9F45220 |
| 25 A | A9F43125 | A9F44125 | A9F45125 | A9F43225 | A9F44225 | A9F45225 |
| 32 A | A9F43132 | A9F44132 | A9F45132 | A9F43232 | A9F44232 | A9F45232 |
| 40 A | A9F43140 | A9F44140 | A9F45140 | A9F43240 | A9F44240 | A9F45240 |
| 50 A | A9F43150 | A9F44150 | A9F45150 | A9F43250 | A9F44250 | A9F45250 |
| 63 A | A9F43163 | A9F44163 | A9F45163 | A9F43263 | A9F44263 | A9F45263 |
| Width in 9-mm modules | 2 | | | 4 | | |
| Accessories | See page E-2 and E-10 | | | See page E-2 and E-10 | | |

# iC60N circuit breakers (curve B, C, D) (cont.)



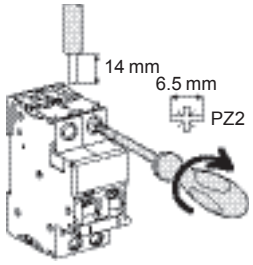

■ Increased product service life thanks to:
□ overvoltage resistance by high level of industrial performances conception (pollution degree, rated impulse withstand voltage and insulation voltage),
□ high performance limitation (see limitation curves),
□ fast closing independent of the speed of actuation of the toggle.
■ Remote indication, open/closed/tripped, by optional auxiliary contacts.
■ Top or bottom electrical feeding.

| 3P | | | 4P | | |
|---|---|---|---|---|---|
| E45095  | | | E45097  | | |
| See page E-2 and F-22 | | | See page E-2 and F-22 | | |
| Curve | | | Curve | | |
| B | C | D | B | C | D |
| A9F43370 | A9F44370 | A9F45370 | A9F43470 | A9F44470 | A9F45470 |
| A9F43301 | A9F44301 | A9F45301 | A9F43401 | A9F44401 | A9F45401 |
| A9F43302 | A9F44302 | A9F45302 | A9F43402 | A9F44402 | A9F45402 |
| A9F43303 | A9F44303 | A9F45303 | A9F43403 | A9F44403 | A9F45403 |
| A9F43304 | A9F44304 | A9F45304 | A9F43404 | A9F44404 | A9F45404 |
| A9F43306 | A9F44306 | A9F45306 | A9F43406 | A9F44406 | A9F45406 |
| A9F43310 | A9F44310 | A9F45310 | A9F43410 | A9F44410 | A9F45410 |
| A9F43216 | A9F44316 | A9F45316 | A9F43416 | A9F44416 | A9F45416 |
| A9F43220 | A9F44320 | A9F45320 | A9F43420 | A9F44420 | A9F45420 |
| A9F43225 | A9F44325 | A9F45325 | A9F43425 | A9F44425 | A9F45425 |
| A9F43232 | A9F44332 | A9F45332 | A9F43432 | A9F44432 | A9F45432 |
| A9F43240 | A9F44340 | A9F45340 | A9F43440 | A9F44440 | A9F45440 |
| A9F43250 | A9F44350 | A9F45350 | A9F43450 | A9F44450 | A9F45450 |
| A9F43263 | A9F44363 | A9F45363 | A9F43463 | A9F44463 | A9F45463 |
| 6 | | | 8 | | |
| See page E-2 and E-10 | | | See page E-2 and E-10 | | |

# iC60N circuit breakers (curve B, C, D) (cont.)

## Connection

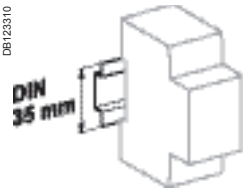
DB405585




| Rating | Tightening torque | Without accessory: Copper cables – Rigid | Without accessory: Copper cables – Flexible or ferrule | With accessories: 50 mm² Al terminal | With accessories: Screw-on connection for ring terminal | With accessories: Multi-cables terminal – Rigid cables | With accessories: Multi-cables terminal – Flexible cables |
|---|---|---|---|---|---|---|---|
| | | DB122945 / DB122946 | DB122935 | DB118789 | DB118787 | | |
| 0.5 to 25 A | 2 N.m | 1 to 25 mm² | 1 to 16 mm² | - | Ø 5 mm | - | - |
| 32 to 63 A | 3.5 N.m | 1 to 35 mm² | 1 to 25 mm² | 50 mm² | | 3 x 16 mm² | 3 x 10 mm² |

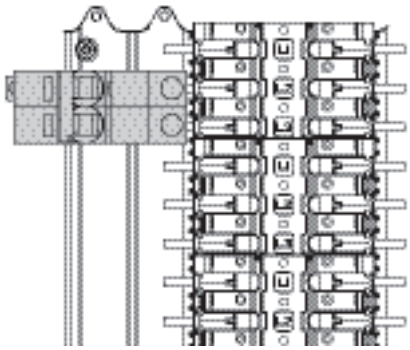
A

DB123310



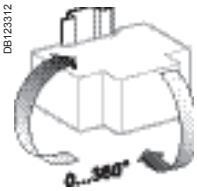

*Clip on DIN rail 35 mm.*

DB405583



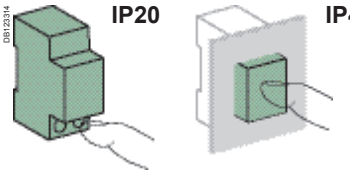
*Installation on Fishbone.*

DB123312




*Indifferent position of installation.*

DB123314

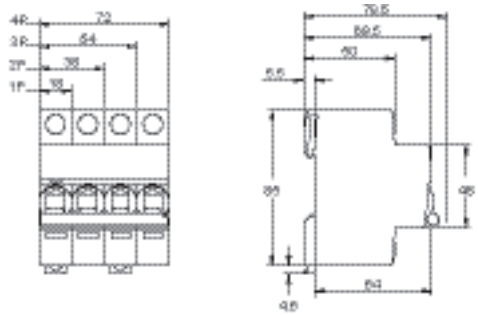



## Technical data

| Main characteristics | | |
|---|---|---|
| **According to IEC/EN 60947-2** | | |
| Insulation voltage (Ui) | | 500 V AC |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (Uimp) | | 6 kV |
| Thermal tripping | Reference temperature | 50 °C |
| | Temperature derating | See the Technical Guide |
| Magnetic tripping | B curve | 4 In ± 20 % |
| | C curve | 8 In ± 20 % |
| | D curve | 12 In ± 20 % |
| Utilization category | | A |
| **According to IEC/EN 60898-1** | | |
| Limitation class | | 3 |
| Rated making and breaking capacity of an individual pole (Icn1) | | Icn1 = Icn |
| **Additional characteristics** | | |
| Breaking capacity under 1 pole with IT 380-415 V isolated neutral system (case of double fault) | 40 A | 4 kA |
| | 50/63 A | 3 kA |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40<br>Insulation classe II |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Overvoltage category (IEC 60364) | | IV |
| Operating temperature | | -35°C to +70°C |
| Storage temperature | | -40°C to +85°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity 95 % to 55°C) |

## Dimensions (mm)

DB405584




## Weight (g)

| Circuit-breaker | |
|---|---|
| **Type** | **Disbo iC60N** |
| 1P | 125 |
| 2P | 250 |
| 3P | 375 |
| 4P | 500 |

# iC60H circuit breakers (curve B, C, D)




## CEI/EN 60947-2
## BS/EN 60898-1

■ Disbo iC60H circuit breakers are multi-standard circuit breakers which combine the following functions:
□ circuit protection against short-circuit currents,
□ circuit protection against overload currents,
□ suitable for industrial isolation according to IEC/EN 60947-2, standard.
□ fault tripping indication by a red mechanical indicator in circuit breaker front face.

### Alternating current (AC) 50/60 Hz

| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | | Service breaking capacity (Ics) |
|---|---|---|---|---|---|---|
| | | Voltage (Ue) | | | | |
| Ph/Ph (2P, 3P, 4P) | | 12 to 133 V | 220 to 240 V | 380 to 415 V | 440 V | |
| Ph/N (1P, 1P+N) | | 12 to 60 V | 100 to 133 V | 220 to 240 V | - | |
| Rating (In) | 1 to 4 A | 70 kA | 70 kA | 70 kA | 50 kA | 100 % of Icu |
| | 6 to 40 A | 42 kA | 30 kA | 15 kA | 10 kA | 50 % of Icu |
| | 50/63 A | 42 kA | - | 15 kA | 10 kA | 50 % of Icu |

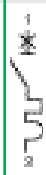
| Breaking capacity (Icn) according to IEC/EN 60898-1 | | |
|---|---|---|
| | | Voltage (Ue) |
| Ph/Ph | | 400 V |
| Ph/N | | 230 V |
| Rating (In) | 1 to 63 A | 10000 A |

### Direct current (DC)

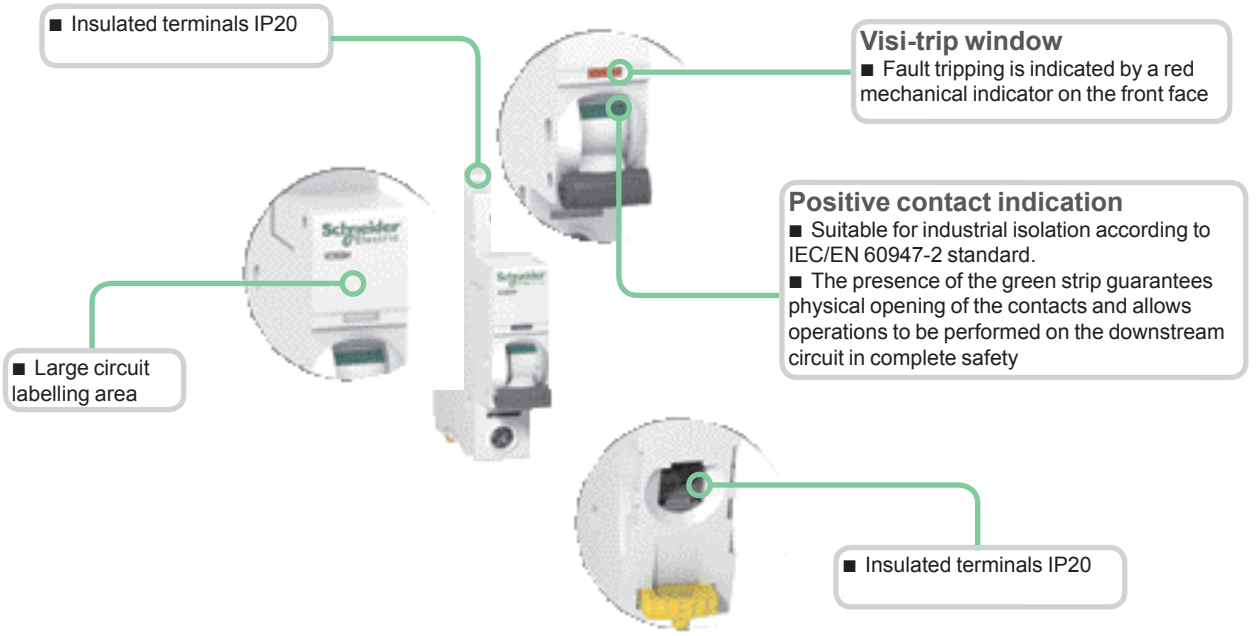
| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | | | Service breaking capacity (Ics) |
|---|---|---|---|---|---|---|---|
| | | Voltage (Ue) | | | | | |
| Between +/- | | 12 to 48 V | 72 V | 100 to 133 V | | 220 to 250 V | |
| Number of poles | | 1P | | 2P (in series) | 3P (in series) | 4P (in series) | |
| Rating (In) | 1 to 63 A | 20 kA | 10 kA | 10 kA | 20 kA | 10 kA | 100 % of Icu |

## Catalogue numbers

### Disbo iC60H circuit breaker

| Type | 1P | | | 2P | | |
|---|---|---|---|---|---|---|
| |   | | |   | | |
| Auxiliaries | See page E-2 and F-2 | | | See page E-2 and F-2 | | |
| Rating (In) | Curve | | | Curve | | |
| | B | C | D | B | C | D |
| 1 A | A9F53101 | A9F54101 | A9F55101 | A9F53201 | A9F54201 | A9F55201 |
| 2 A | A9F53102 | A9F54102 | A9F55102 | A9F53202 | A9F54202 | A9F55202 |
| 3 A | A9F53103 | - | - | - | - | - |
| 4 A | A9F53104 | A9F54104 | A9F55104 | A9F53204 | A9F54204 | A9F55204 |
| 6 A | A9F53106 | A9F54106 | A9F55106 | A9F53206 | A9F54206 | A9F55206 |
| 10 A | A9F53110 | A9F54110 | A9F55110 | A9F53210 | A9F54210 | A9F55210 |
| 16 A | A9F53116 | A9F54116 | A9F55116 | A9F53216 | A9F54216 | A9F55216 |
| 20 A | A9F53120 | A9F54120 | A9F55120 | A9F53220 | A9F54220 | A9F55220 |
| 25 A | A9F53125 | A9F54125 | A9F55125 | A9F53225 | A9F54225 | A9F55225 |
| 32 A | A9F53132 | A9F54132 | A9F55132 | A9F53232 | A9F54232 | A9F55232 |
| 40 A | A9F53140 | A9F54140 | A9F55140 | A9F53240 | A9F54240 | A9F55240 |
| 50 A | A9F53150 | A9F54150 | A9F55150 | A9F53250 | A9F54250 | A9F55250 |
| 63 A | A9F53163 | A9F54163 | A9F55163 | A9F53263 | A9F54263 | A9F55263 |
| Width in 9-mm modules | 2 | | | 4 | | |
| Accessories | See page E-2 and E-10 | | | See page E-2 and E-10 | | |

# iC60H circuit breakers (curve B, C, D) (cont.)



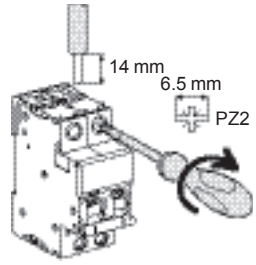

■ Increased product service life thanks to:
□ overvoltage resistance by high level of industrial performances conception (pollution degree, rated impulse withstand voltage and insulation voltage),
□ high performance limitation (see limitation curves),
□ fast closing independent of the speed of actuation of the toggle.
■ Remote indication, open/closed/tripped, by optional auxiliary contacts.
■ Top or bottom electrical feeding.

| | 3P | | | 4P | | |
|---|---|---|---|---|---|---|
| | E45095  | | | E45097  | | |
| | See page E-2 and F-2 | | | See page E-2 and F-2 | | |
| | Curve | | | Curve | | |
| | B | C | D | B | C | D |
| | A9F53301 | A9F54301 | A9F55301 | A9F53401 | A9F54401 | A9F55401 |
| | A9F53302 | A9F54302 | A9F55302 | A9F53402 | A9F54402 | A9F55402 |
| | - | - | - | - | - | - |
| | A9F53304 | A9F54304 | A9F55304 | A9F53404 | A9F54404 | A9F55404 |
| | A9F53306 | A9F54306 | A9F55306 | A9F53406 | A9F54406 | A9F55406 |
| | A9F53310 | A9F54310 | A9F55310 | A9F53410 | A9F54410 | A9F55410 |
| | A9F53316 | A9F54316 | A9F55316 | A9F53416 | A9F54416 | A9F55416 |
| | A9F53320 | A9F54320 | A9F55320 | A9F53420 | A9F54420 | A9F55420 |
| | A9F53325 | A9F54325 | A9F55325 | A9F53425 | A9F54425 | A9F55425 |
| | A9F53332 | A9F54332 | A9F55332 | A9F53432 | A9F54432 | A9F55432 |
| | A9F53340 | A9F54340 | A9F55340 | A9F53440 | A9F54440 | A9F55440 |
| | A9F53350 | A9F54350 | A9F55350 | A9F53450 | A9F54450 | A9F55450 |
| | A9F53363 | A9F54363 | A9F55363 | A9F53463 | A9F54463 | A9F55463 |
| | 6 | | | 8 | | |
| | See page E-2 and E-10 | | | See page E-2 and E-10 | | |

# iC60H circuit breakers (curve B, C, D) (cont.)

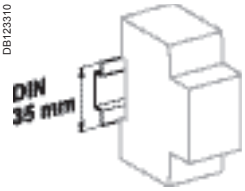
## Connection

DB405585



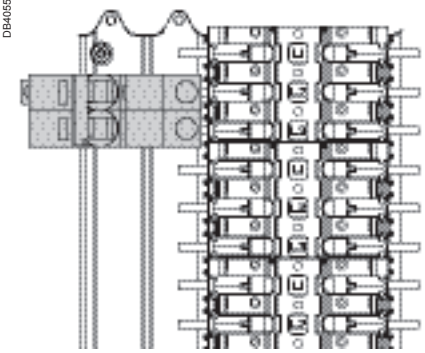

| | | Without accessory | | With accessories | | | |
|---|---|---|---|---|---|---|---|
| Rating | Tightening torque | Copper cables | | 50 mm² Al terminal | Screw-on connection for ring terminal | Multi-cables terminal | |
| | | Rigid | Flexible or ferrule | | | Rigid cables | Flexible cables |
| | | DB122945 / DB122946 | DB122935 | DB118789 | DB118787 | | |
| 1 to 25 A | 2 N.m | 1 to 25 mm² | 1 to 16 mm² | - | Ø 5 mm | - | - |
| 32 to 63 A | 3.5 N.m | 1 to 35 mm² | 1 to 25 mm² | 50 mm² | | 3 x 16 mm² | 3 x 10 mm² |

DB123310



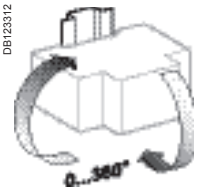

*Clip on DIN rail 35 mm.*

DB405583



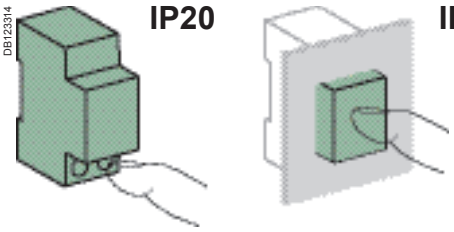
*Installation on Fishbone.*

DB123312




*Indifferent position of installation.*

DB123314




## Technical data

| Main characteristics | | |
|---|---|---|
| **According to IEC/EN 60947-2** | | |
| Insulation voltage (Ui) | | 500 V AC |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (Uimp) | | 6 kV |
| Thermal tripping | Reference temperature | 50 °C |
| | Temperature derating | See the Technical Guide |
| Magnetic tripping | B curve | 4 In ± 20 % |
| | C curve | 8 In ± 20 % |
| | D curve | 12 In ± 20 % |
| Utilization category | | A |
| **According to IEC/EN 60898-1** | | |
| Limitation class | | 3 |
| Rated making and breaking capacity of an individual pole (Icn1) | | Icn1 = Icn |
| **Additional characteristics** | | |
| Breaking capacity under 1 pole with IT 380-415 V isolated neutral system (case of double fault) | 40 A | 4 kA |
| | 50/63 A | 3 kA |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40<br>Insulation classe II |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Overvoltage category (IEC 60364) | | IV |
| Operating temperature | | -35°C to +70°C |
| Storage temperature | | -40°C to +85°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity 95 % to 55°C) |

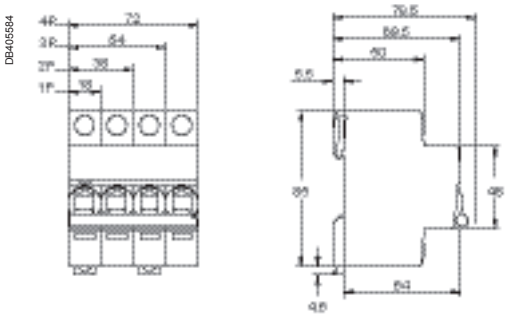
# iC60H circuit breakers (curve B, C, D) (cont.)



## Weight (g)

| Circuit-breaker | |
|---|---|
| **Type** | **Disbo iC60H** |
| 1P | 125 |
| 2P | 250 |
| 3P | 375 |
| 4P | 500 |

## Dimensions (mm)



# iC60L circuit breakers (curve B, C, K, Z)

DB116619


PB104442-40


PB104452-40

## IEC/EN 60947-2
## IEC/EN 60898-1 up to 40 A

■ iC60L circuit breakers are multi-standard circuit breakers which combine the following functions:
- □ circuit protection against short-circuit currents,
- □ circuit protection against overload currents,
- □ suitable for industrial isolation according to IEC/EN 60947-2, standard.
- □ fault tripping indication by a red mechanical indicator in circuit breaker front face.

| Alternating current (AC) 50/60 Hz | | | | | | |
|---|---|---|---|---|---|---|
| **Breaking capacity (Icu) according to IEC/EN 60947-2** | | | | | | **Service breaking capacity (Ics)** |
| | | **Voltage (Ue)** | | | | |
| **Ph/Ph (2P, 3P, 4P)** | | **12 to 133 V** | **220 to 240 V** | **380 to 415 V** | **440 V** | |
| **Ph/N (1P)** | | **12 to 60 V** | **100 to 133 V** | **220 to 240 V** | **-** | |
| **Rating (In)** | 0.5 to 4 A | 100 kA | 100 kA | 100 kA | 70 kA | 100 % of Icu |
| | 6 to 25 A | 70 kA | - | 25 kA | 20 kA | 50 % of Icu (1) |
| | 32 / 40 A | 70 kA | - | 20 kA | 15 kA | 50 % of Icu |
| | 50 / 63 A | 70 kA | - | 15 kA | 10 kA | 50 % of Icu |
| **Breaking capacity (Icn) according to IEC/EN 60898-1** | | | | | | |
| | | **Voltage (Ue)** | | | | |
| **Ph/Ph** | | **400 V** | | | | |
| **Ph/N** | | **230 V** | | | | |
| **Rating (In)** | 0.5 to 40 A | 15000 A | | | | |

| Direct current (DC) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Breaking capacity (Icu) according to IEC/EN 60947-2** | | | | | | | **Service breaking capacity (Ics)** |
| | | **Voltage (Ue)** | | | | | |
| **Between +/-** | | **12 to 48 V** | **72 V** | **100 to 144 V** | | **220 to 250 V** | |
| **Number of poles** | | **1P** | | **2P (in series)** | **3P (in series)** | **4P (in series)** | |
| **Rating (In)** | 1 to 63 A | 25 kA | 15 kA | 15 kA | 25 kA | 15 kA | 100 % of Icu |

## Catalogue numbers

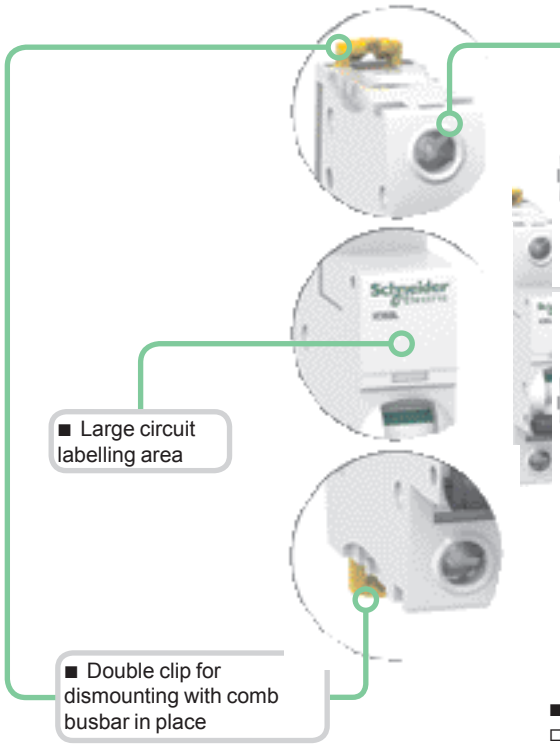
| iC60L circuit breaker | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Type** | | **1P** | | | | **2P** | | | |
| | |  | | | |  | | | |
| **Auxiliaries** | | **See pages E-2 and F-2** | | | | **See pages E-2 and F-2** | | | |
| **Vigi iC60** | | **See page B-17** | | | | **See page B-17** | | | |
| **Rating (In)** | **Quality label** (2) | **Curve** | | | | **Curve** | | | |
| | | **B** | **C** | **K** | **Z** | **B** | **C** | **K** | **Z** |
| 0.5 A | | **A9F93170** | **A9F94170** | **A9F95170** | **A9F92170** | **A9F93270** | **A9F94270** | **A9F95270** | **A9F92270** |
| 1 A | | **A9F93101** | **A9F94101** | **A9F95101** | **A9F92101** | **A9F93201** | **A9F94201** | **A9F95201** | **A9F92201** |
| 1.6 A | | - | - | **A9F95172** | **A9F92172** | - | - | **A9F95272** | **A9F92272** |
| 2 A | | **A9F93102** | **A9F94102** | **A9F95102** | **A9F92102** | **A9F93202** | **A9F94202** | **A9F95202** | **A9F92202** |
| 3 A | | **A9F93103** | **A9F94103** | **A9F95103** | **A9F92103** | **A9F93203** | **A9F94203** | **A9F95203** | **A9F92203** |
| 4 A | | **A9F93104** | **A9F94104** | **A9F95104** | **A9F92104** | **A9F93204** | **A9F94204** | **A9F95204** | **A9F92204** |
| 6 A | | **A9F93106** | **A9F94106** | **A9F95106** | **A9F92106** | **A9F93206** | **A9F94206** | **A9F95206** | **A9F92206** |
| 10 A | | **A9F93110** | **A9F94110** | **A9F95110** | **A9F92110** | **A9F93210** | **A9F94210** | **A9F95210** | **A9F92210** |
| 16 A | | **A9F93116** | **A9F94116** | **A9F95116** | **A9F92116** | **A9F93216** | **A9F94216** | **A9F95216** | **A9F92216** |
| 20 A | | **A9F93120** | **A9F94120** | **A9F95120** | **A9F92120** | **A9F93220** | **A9F94220** | **A9F95220** | **A9F92220** |
| 25 A | | **A9F93125** | **A9F94125** | **A9F95125** | **A9F92125** | **A9F93225** | **A9F94225** | **A9F95225** | **A9F92225** |
| 32 A | | **A9F93132** | **A9F94132** | **A9F95132** | **A9F92132** | **A9F93232** | **A9F94232** | **A9F95232** | **A9F92232** |
| 40 A | | **A9F93140** | **A9F94140** | **A9F95140** | **A9F92140** | **A9F93240** | **A9F94240** | **A9F95240** | **A9F92240** |
| 50 A | | **A9F93150** | **A9F94150** | **A9F95150**(3) | **A9F92150** | **A9F93250** | **A9F94250** | **A9F95250** | **A9F92250** |
| 63 A | | **A9F93163** | **A9F94163** | **A9F95163**(3) | **A9F92163** | **A9F93263** | **A9F94263** | **A9F95263** | **A9F92263** |
| Width in 9-mm modules | | 2 | | | | 4 | | | |
| **Accessories** | | **See pages E-2 and E-10** | | | | **See pages E-2 and E-10** | | | |

*(1) 100 % of Icu for ratings 6 to 25 A under Ue 100 to 133 V AC Ph/Ph and Ue 12 to 60 V AC Ph/N.*
*(2) Information to be provided by the country.*
*(3) Without approval.*

# iC60L circuit breakers (curve B, C, K, Z) (cont.)



PB104436-40



■ Insulated terminals IP20

**Visi-trip window**
■ Fault tripping is indicated by a red mechanical indicator on the front face

■ Large circuit labelling area

**Positive contact indication**
■ Suitable for industrial isolation according to IEC/EN 60947-2 standard.
■ The presence of the green strip guarantees physical opening of the contacts and allows operations to be performed on the downstream circuit in complete safety

■ Double clip for dismounting with comb busbar in place

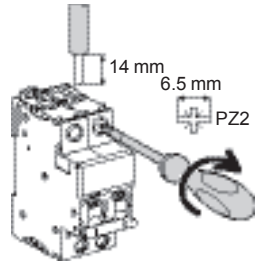
■ Increased product service life thanks to:
□ overvoltage resistance by high level of industrial performances conception (pollution degree, rated impulse withstand voltage and insulation voltage),
□ high performance limitation (see limitation curves),
□ fast closing independent of the speed of actuation of the toggle.
■ Remote indication, open/closed/tripped, by optional auxiliary contacts.
■ Top or bottom electrical feeding.

| | 3P | | | | 4P | | | |
|---|---|---|---|---|---|---|---|---|
| |  | | | |  | | | |
| | See pages E-2 and F-2 | | | | See pages E-2 and F-2 | | | |
| | See page B-17 | | | | See page B-17 | | | |
| | Curve | | | | Curve | | | |
| | B | C | K | Z | B | C | K | Z |
| | A9F93370 | A9F94370 | A9F95370 | A9F92370 | A9F93470 | A9F94470 | A9F95470 | A9F92470 |
| | A9F93301 | A9F94301 | A9F95301 | A9F92301 | A9F93401 | A9F94401 | A9F95401 | A9F92401 |
| | - | - | A9F95372 | A9F92372 | - | - | A9F95472 | A9F92472 |
| | A9F93302 | A9F94302 | A9F95302 | A9F92302 | A9F93402 | A9F94402 | A9F95402 | A9F92402 |
| | A9F93303 | A9F94303 | A9F95303 | A9F92303 | A9F93403 | A9F94403 | A9F95403 | A9F92403 |
| | A9F93304 | A9F94304 | A9F95304 | A9F92304 | A9F93404 | A9F94404 | A9F95404 | A9F92404 |
| | A9F93306 | A9F94306 | A9F95306 | A9F92306 | A9F93406 | A9F94406 | A9F95406 | A9F92406 |
| | A9F93310 | A9F94310 | A9F95310 | A9F92310 | A9F93410 | A9F94410 | A9F95410 | A9F92410 |
| | A9F93316 | A9F94316 | A9F95316 | A9F92316 | A9F93416 | A9F94416 | A9F95416 | A9F92416 |
| | A9F93320 | A9F94320 | A9F95320 | A9F92320 | A9F93420 | A9F94420 | A9F95420 | A9F92420 |
| | A9F93325 | A9F94325 | A9F95325 | A9F92325 | A9F93425 | A9F94425 | A9F95425 | A9F92425 |
| | A9F93332 | A9F94332 | A9F95332 | A9F92332 | A9F93432 | A9F94432 | A9F95432 | A9F92432 |
| | A9F93340 | A9F94340 | A9F95340 | A9F92340 | A9F93440 | A9F94440 | A9F95440 | A9F92440 |
| | A9F93350 | A9F94350 | A9F95350 | A9F92350 | A9F93450 | A9F94450 | A9F95450 | A9F92450 |
| | A9F93363 | A9F94363 | A9F95363 | A9F92363 | A9F93463 | A9F94463 | A9F95463 | A9F92463 |
| | 4 | | | | 6 | | | |
| | See pages E-2 and E-10 | | | | See pages E-2 and E-10 | | | |

# iC60L circuit breakers (curve B, C, K, Z) (cont.)

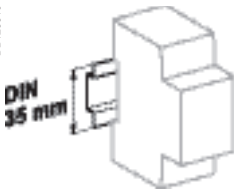
## Connection

DB123060



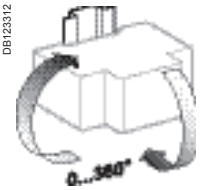

| Rating | Tightening torque | Without accessory: Copper cables – Rigid | Without accessory: Copper cables – Flexible or ferrule | With accessories: 50 mm² Al terminal | With accessories: Screw-on connection for ring terminal | With accessories: Multi-cables terminal – Rigid cables | With accessories: Multi-cables terminal – Flexible cables |
|---|---|---|---|---|---|---|---|
| | | DB122945 | DB122946 | DB122935 / DB118789 | DB118787 | | |
| 0.5 to 25 A | 2 N.m | 1 to 25 mm² | 1 to 16 mm² | - | Ø 5 mm | - | - |
| 32 to 63 A | 3.5 N.m | 1 to 35 mm² | 1 to 25 mm² | 50 mm² | | 3 x 16 mm² | 3 x 10 mm² |

DB123310



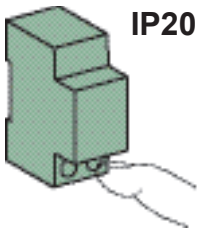

*Clip on DIN rail 35 mm.*

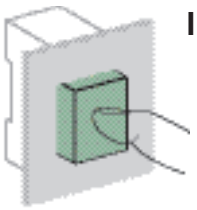
DB123312



*Indifferent position of installation.*

DB123314




## Technical data

| Main characteristics | | |
|---|---|---|
| **According to IEC/EN 60947-2** | | |
| Insulation voltage (Ui) | | 500 V AC |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (Uimp) | | 6 kV |
| Thermal tripping | Reference temperature | 50 °C |
| | Temperature derating | See the Technical Guide |
| Magnetic tripping | B curve | 4 In ± 20 % |
| | C curve | 8 In ± 20 % |
| | K curve | 12 In ± 20 % |
| | Z curve | 3 In ± 20 % |
| Utilization category | | A |
| **According to IEC/EN 60898-1** | | |
| Limitation class | | 3 |
| Rated making and breaking capacity of an individual pole (Icn1) | | Icn1 = Icn |
| **Additional characteristics** | | |
| Breaking capacity under 1 pole with IT 380-415 V isolated neutral system (case of double fault) | 40 A | 4 kA |
| | 50/63 A | 3 kA |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40<br>Insulation classe II |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Overvoltage category (IEC 60364) | | IV |
| Operating temperature | | -35°C to +70°C |
| Storage temperature | | -40°C to +85°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity 95 % to 55°C) |

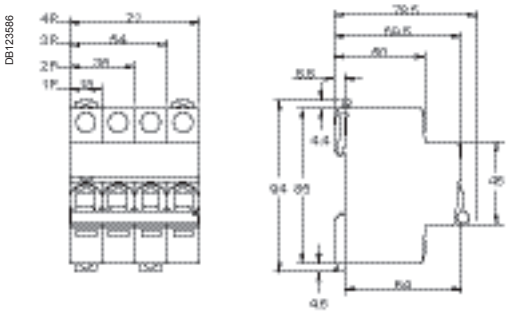
# iC60L circuit breakers (curve B, C, K, Z) (cont.)



## Weight (g)

| Circuit-breaker | |
|---|---|
| **Type** | **iC60L** |
| 1P | 125 |
| 2P | 250 |
| 3P | 375 |
| 4P | 500 |

## Dimensions (mm)



# C120N circuit breakers (curves B, C, D)


PB107904-30


PB107907-40


PB107910-30


PB107913-30

## IEC/EN 60898-1, IEC 60947-2

C120N circuit breakers are multistandard circuit breakers that combine the following functions:
- circuit protection against short-circuit currents,
- circuit protection against overload currents,
- suitability for isolation in the industrial sector to IEC/EN 60947-2,
- fault tripping and indication by adding auxiliaries.

| Alternating current (AC) 50/60 Hz | | | | | |
|---|---|---|---|---|---|
| **Breaking capacity (Icu) to IEC/EN 60947-2** | | | | | **Service breaking capacity (Ics)** |
| **Type** | **Voltage (V)** | | | | |
| **1P** | **130 V** | **220 to 240 V** | **380 to 415 V** | **440 V** | |
| **Rating (In)** 63 to 125 A | 20 kA | 10 kA | 3 kA (1) | - | 75 % Icu |
| **2P/3P/4P** | **130 V** | **220 to 240 V** | **380 to 415 V** | **440 V** | |
| 63 to 125 A | - | 20 kA | 10 kA | 6 kA | 75 % Icu |
| **Breaking capacity (Icn) to IEC/EN 60898-1** | | | | | |
| **Type** | **Voltage (V)** | | | | |
| **1P, 2P, 3P, 4P** | **230 to 400 V** | | | | |
| **Rating (In)** 63 to 125 A | 10000 A | | | | 75 % Icn |

*(1) One-pole breaking capacity in IT isolated neutral system (double fault).*

| Direct current (DC) | | | | |
|---|---|---|---|---|
| **Breaking capacity (Icu) to IEC/EN 60947-2** | | | | **Service breaking capacity (Ics)** |
| **Type** | **Voltage (V)** | | | |
| **1P** | **24/48 V** | **125 V** | **250 V** | |
| **Rating (In)** 63 to 125 A | 10 kA | 10 kA | - | 100 % Icu |
| **2P (in series)** | **24/48 V** | **125 V** | **250 V** | |
| 63 to 125 A | - | - | 10 kA | 100 % Icu |

## Catalogue numbers

**C120N circuit breaker**

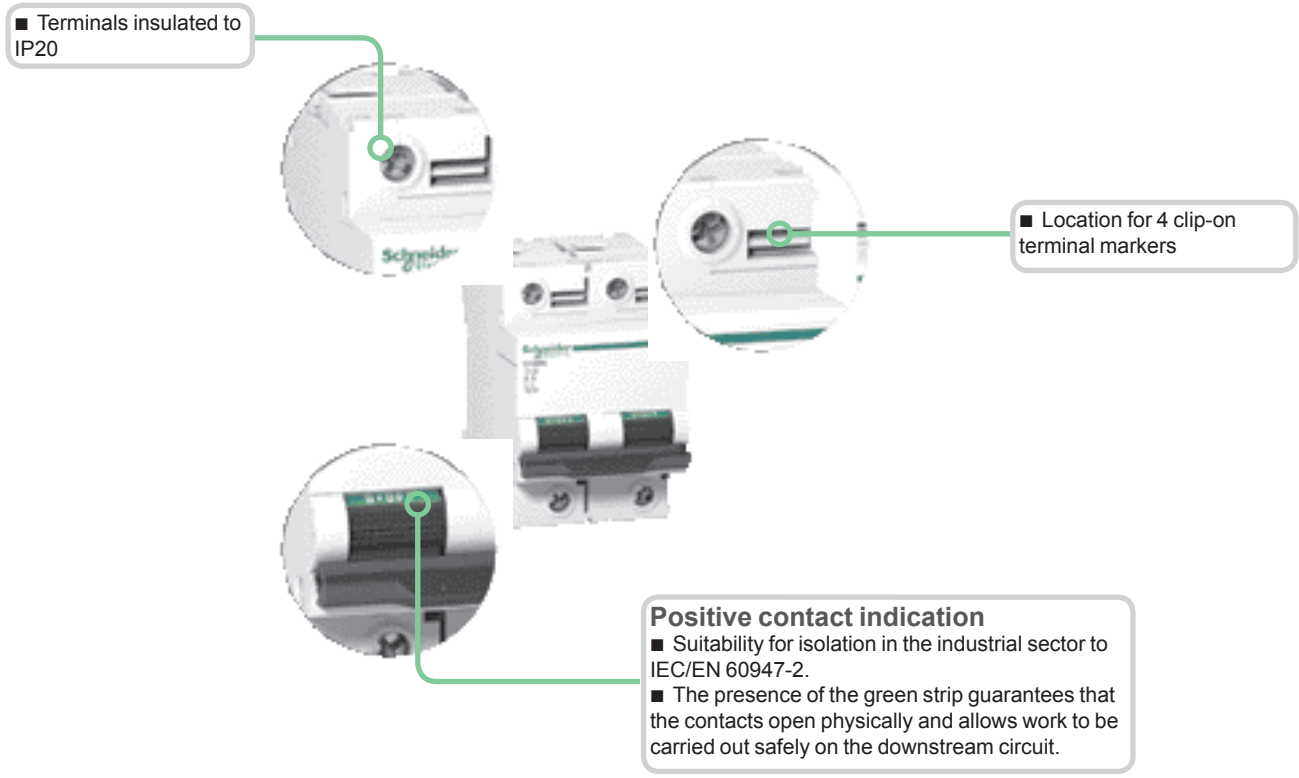
| **Type** | **1P** | | | **2P** | | |
|---|---|---|---|---|---|---|
| |  | | |  | | |
| **Auxiliaries** | **See pages E-7 and F-9** | | | **See pages E-7 and F-9** | | |
| **Vigi C120** | **See page B-22** | | | **See page B-22** | | |
| **Rating (In)** | **Curve** | | | **Curve** | | |
| | **B** | **C** | **D** | **B** | **C** | **D** |
| 63 A | **A9N18340** | **A9N18356** | **A9N18378** | **A9N18344** | **A9N18360** | **A9N18382** |
| 80 A | **A9N18341** | **A9N18357** | **A9N18379** | **A9N18345** | **A9N18361** | **A9N18383** |
| 100 A | **A9N18342** | **A9N18358** | **A9N18380** | **A9N18346** | **A9N18362** | **A9N18384** |
| 125 A | **A9N18343** | **A9N18359** | **A9N18381** | **A9N18347** | **A9N18363** | **A9N18385** |
| Width in 9-mm modules | 3 | | | 6 | | |
| **Accessories** | **See pages E-7 and E-15** | | | **See pages E-7 and E-15** | | |

*(1) Country France only*

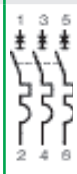
# C120N circuit breakers (curves B, C, D) (cont.)



PB107907-40



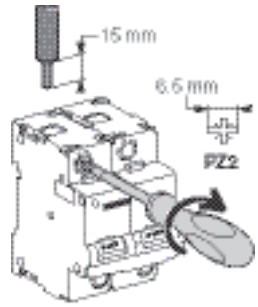

■ Longer product service life thanks to:
□ good overvoltage withstand capacity: products designed to offer a high industrial performance level (degree of pollution, rated impulse withstand voltage and insulation voltage).
□ high limitation performances (see limitation curves).
□ fast closure independent of toggle operating speed.
■ Remote indication of the open/closed/tripped state by auxiliary contacts (optional).
■ Power supply from above or below.

| | 3P | | | 4P | | |
|---|---|---|---|---|---|---|
| |  | | |  | | |
| | See pages E-7 and F-9 | | | See pages E-7 and F-9 | | |
| | See page B-22 | | | See page B-22 | | |
| | Curve | | | Curve | | |
| | B | C | D | B | C | D |
| | A9N18348 | A9N18364 | A9N18386 | A9N18352 | A9N18371 | A9N18390 |
| | A9N18349 | A9N18365 | A9N18387 | A9N18353 | A9N18372<br>A9N18373(1) | A9N18391 |
| | A9N18350 | A9N18367 | A9N18388 | A9N18354 | A9N18374<br>A9N18375(1) | A9N18392 |
| | A9N18351 | A9N18369 | A9N18389 | A9N18355 | A9N18376<br>A9N18377(1) | A9N18393 |
| | 9 | | | 12 | | |
| | See pages E-7 and E-15 | | | See pages E-7 and E-15 | | |

# C120N circuit breakers (curves B, C, D) (cont.)

## Connection

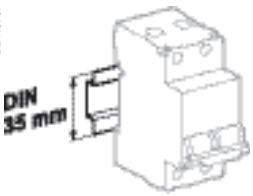
DB126143




| Rating | Tightening torque | Without access. Copper cables: Rigid/ semi-rigid | Without access. Copper cables: Flexible or with ferrule | With accessories: 50 mm² Al Terminal | With accessories: Screw-on connection for ring terminal(1) | With accessories: Multi-cable terminal: Rigid cables | With accessories: Multi-cable terminal: Flexible cables |
|---|---|---|---|---|---|---|---|
| | | DB122945 | DB122946 | Al DB122935 | DB118789 | DB118787 | |
| 63 to 125 A | 3.5 N.m | 1 to 50 mm² | 1.5 to 35 mm² | 16 to 50 mm² | Ø 5 mm | 3 x 16 mm² | 3 x 10 mm² |

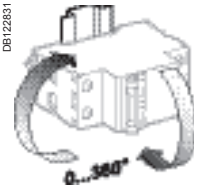
*(1) For lugs up to 63 A, front or rear access.*

DB118767



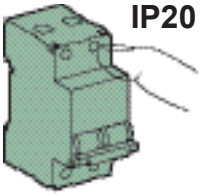

*Clips onto 35 mm DIN rail.*

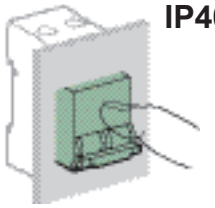
DB122831




*Any installation position.*

DB122932




## Technical data

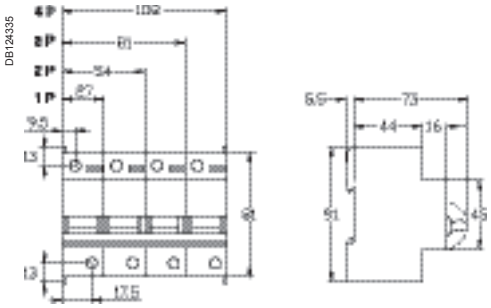
| Main characteristics | | | |
|---|---|---|---|
| **To IEC/EN 60947-2** | | | |
| Insulation voltage (Ui) | | | 500 V AC |
| Degree of pollution | | | 3 |
| Rated impulse withstand voltage (Uimp) | | | 6 kV |
| Thermal tripping | Reference temperature | | 50°C |
| **To IEC/EN 60898-1** | | | |
| Magnetic tripping | Curve B | | 3 and 5 In |
| | Curve C | | 5 and 10 In |
| | Curve D | | 10 and 14 In |
| Limitation class | | | 3 |
| **Additional characteristics** | | | |
| Degree of protection (IEC 60529) | Device only | | IP20 |
| | Device in a modular enclosure | | IP40 |
| Endurance (O-C) | Electrical | 63 A | 10000 cycles (O-C) |
| | | 80...125 A | 5000 cycles (O-C) |
| | Mechanical | | 20000 cycles |
| Operating temperature | | | -30°C to +70°C |
| Storage temperature | | | -40°C to +80°C |
| Tropicalisation (IEC 60068-1) | | | Treatment 2 (relative humidity 95 % at 55°C) |

## Weight (g)

| Circuit breaker | |
|---|---|
| **Type** | **C120N** |
| 1P | 205 |
| 2P | 410 |
| 3P | 615 |
| 4P | 820 |

## Dimensions (mm)

DB124335






Schneider Electric

# C120H circuit breakers (curves B, C, D)




PB107903-30


PB107906-30


PB107909-30


PB107912-30

## IEC/EN 60898-1, IEC 60947-2

C120H circuit breakers are multistandard circuit breakers that combine the following functions:
- circuit protection against short-circuit currents
- circuit protection against overload currents
- suitability for isolation in the industrial sector to IEC/EN 60947-2
- fault tripping and indication by adding auxiliaries.

| Alternating current (AC) 50/60 Hz | | | | | |
|---|---|---|---|---|---|
| **Breaking capacity (Icu) to IEC/EN 60947-2** | | | | | **Service breaking capacity (Ics)** |
| **Type** | **Voltage (V)** | | | | |
| **1P** | **130 V** | **220 to 240 V** | **380 to 415 V** | **440 V** | |
| **Rating (In)** 63 to 125 A | 30 kA | 15 kA | 4,5 kA (1) | - | 50 % Icu |
| **2P, 3P, 4P** | **130 V** | **220 to 240 V** | **380 to 415 V** | **440 V** | |
| 63 to 125 A | - | 30 kA | 15 kA | 10 kA | 50 % Icu |
| **Breaking capacity (Icn) to IEC/EN 60898-1** | | | | | |
| **Type** | **Voltage (V)** | | | | |
| **1P, 2P, 3P, 4P** | **230 to 400 V** | | | | |
| **Rating (In)** 63 to 125 A | 15000 A | | | | 50 % Icn |

*(1) One-pole breaking capacity in IT isolated neutral system (double fault).*

| Direct current (DC) | | | | |
|---|---|---|---|---|
| **Breaking capacity (Icu) to IEC/EN 60947-2** | | | | **Service breaking capacity (Ics)** |
| **Type** | **Voltage (V)** | | | |
| **1P** | **24/48 V** | **125 V** | **250 V** | |
| **Rating (In)** 63 to 125 A | 15 kA | 15 kA | - | 100 % Icu |
| **2P (in series)** | **24/48 V** | **125 V** | **250 V** | |
| 63 to 125 A | - | - | 15 kA | 100 % Icu |

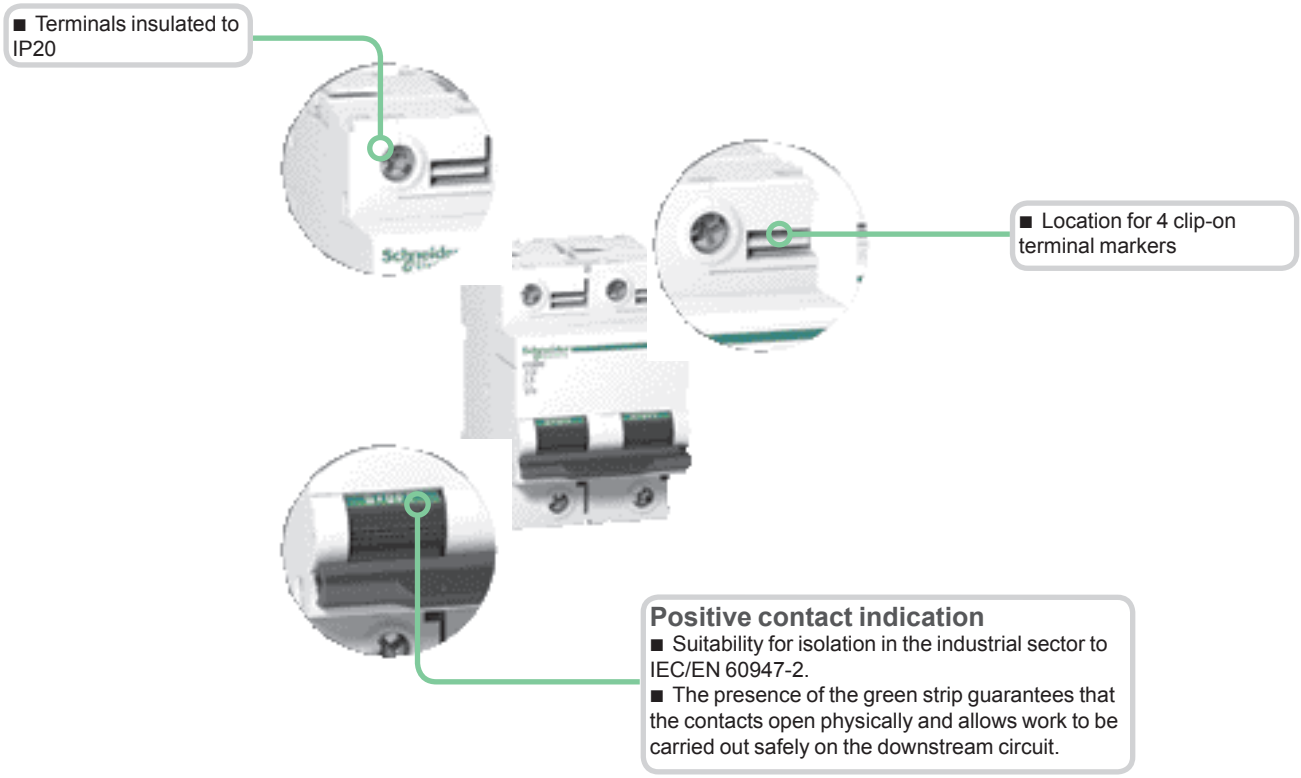
## Catalogue numbers

**C120H circuit breaker**

| **Type** | **1P** | | | **2P** | | |
|---|---|---|---|---|---|---|
| |  | | |  | | |
| **Auxiliaries** | **See pages E-7 and F-9** | | | **See pages E-7 and F-9** | | |
| **Vigi C120** | **See page B-22** | | | **See page B-22** | | |
| **Rating (In)** | **Curve** | | | **Curve** | | |
| | **B** | **C** | **D** | **B** | **C** | **D** |
| 63 A | **A9N18401** | **A9N18445** | **A9N18489** | **A9N18412** | **A9N18456** | **A9N18500** |
| 80 A | **A9N18402** | **A9N18446** | **A9N18490** | **A9N18413** | **A9N18457** | **A9N18501** |
| 100 A | **A9N18403** | **A9N18447** | **A9N18491** | **A9N18414** | **A9N18458** | **A9N18502** |
| 125 A | **A9N18404** | **A9N18448** | **A9N18492** | **A9N18415** | **A9N18459** | **A9N18503** |
| Width in 9 mm modules | 3 | | | 6 | | |
| **Accessories** | **See pages E-7 and E-15** | | | **See pages E-7 and E-15** | | |

# C120H circuit breakers (curves B, C, D) (cont.)

PB107906-40



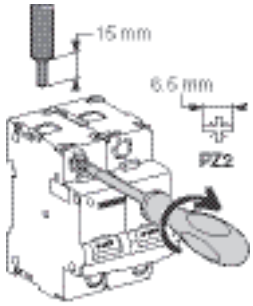

■ Longer product service life thanks to:
□ good overvoltage withstand capacity: products designed to provide a high industrial performance level (degree of pollution, rated impulse withstand voltage and insulation voltage).
□ high limitation performances (see limitation curves).
□ fast closure independent of toggle operating speed.
■ Remote indication of the open/closed/tripped state by auxiliary contacts (optional).
■ Power supply from above or below.

| 3P | | | 4P | | |
|---|---|---|---|---|---|
|  | | |  | | |
| See pages E-7 and F-9 | | | See pages E-7 and F-9 | | |
| See page B-22 | | | See page B-22 | | |
| Curve | | | Curve | | |
| B | C | D | B | C | D |
| A9N18423 | A9N18467 | A9N18511 | A9N18434 | A9N18478 | A9N18522 |
| A9N18424 | A9N18468 | A9N18512 | A9N18435 | A9N18479 | A9N18523 |
| A9N18425 | A9N18469 | A9N18513 | A9N18436 | A9N18480 | A9N18524 |
| A9N18426 | A9N18470 | A9N18514 | A9N18437 | A9N18481 | A9N18525 |
| 9 | | | 12 | | |
| See pages E-7 and E-15 | | | See pages E-7 and E-15 | | |

# C120H circuit breakers (curves B, C, D) (cont.)

## Connection

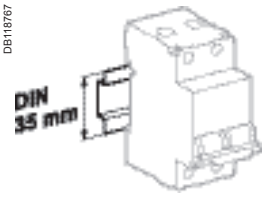
DB126143




| Rating | Tightening torque | Without access. Copper cables Rigid | Without access. Copper cables Flexible or with ferrule | With accessories 50 mm² Al term. | With accessories Screw-on connection for ring terminal (1) | With accessories Multi-cable terminal Rigid cables | With accessories Multi-cable terminal Flexible cables |
|---|---|---|---|---|---|---|---|
| | | DB122945 | DB122946 | Al DB122935 | DB118789 | DB118787 | |
| 63 to 125 A | 3.5 N.m | 1 to 50 mm² | 1.5 to 35 mm² | 16 to 50 mm² | Ø 5 mm | 3 x 16 mm² | 3 x 10 mm² |

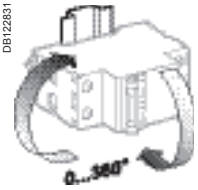
*(1) For lugs up to 63 A, front or rear accessories.*

DB118767



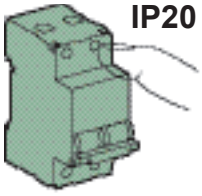

*Clips onto 35 mm DIN rail.*

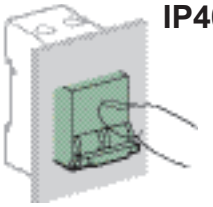
DB122831




*Any installation position.*

DB122932




## Technical data

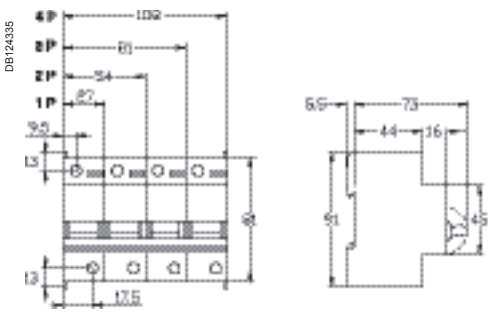
| Main characteristics | | | |
|---|---|---|---|
| **To IEC/EN 60947-2** | | | |
| Insulation voltage (Ui) | | | 500 V AC |
| Degree of pollution | | | 3 |
| Rated impulse withstand voltage (Uimp) | | | 6 kV |
| Thermal tripping | Reference temperature | | 50°C |
| **To IEC/EN 60898-1** | | | |
| Magnetic tripping | Curve B | | 3 and 5 In |
| | Curve C | | 5 and 10 In |
| | Curve D | | 10 and 14 In |
| Limitation class | | | 3 |
| **Additional characteristics** | | | |
| Degree of protection (IEC 60529) | Device only | | IP20 |
| | Device in a modular enclosure | | IP40 (IPXXD) |
| Endurance (O-C) | Electrical | 63 A | 10000 cycles (O-C) |
| | | 80...125 A | 5000 cycles (O-C) |
| | Mechanical | | 20000 cycles |
| Operating temperature | | | -30°C to +70°C |
| Storage temperature | | | -40°C to +80°C |
| Tropicalisation (IEC 60068-1) | | | Treatment 2 (relative humidity 95% at 55°C) |

## Weight (g)

| Circuit breaker | |
|---|---|
| **Type** | **C120H** |
| 1P | 205 |
| 2P | 410 |
| 3P | 615 |
| 4P | 820 |

## Dimensions (mm)

DB124335



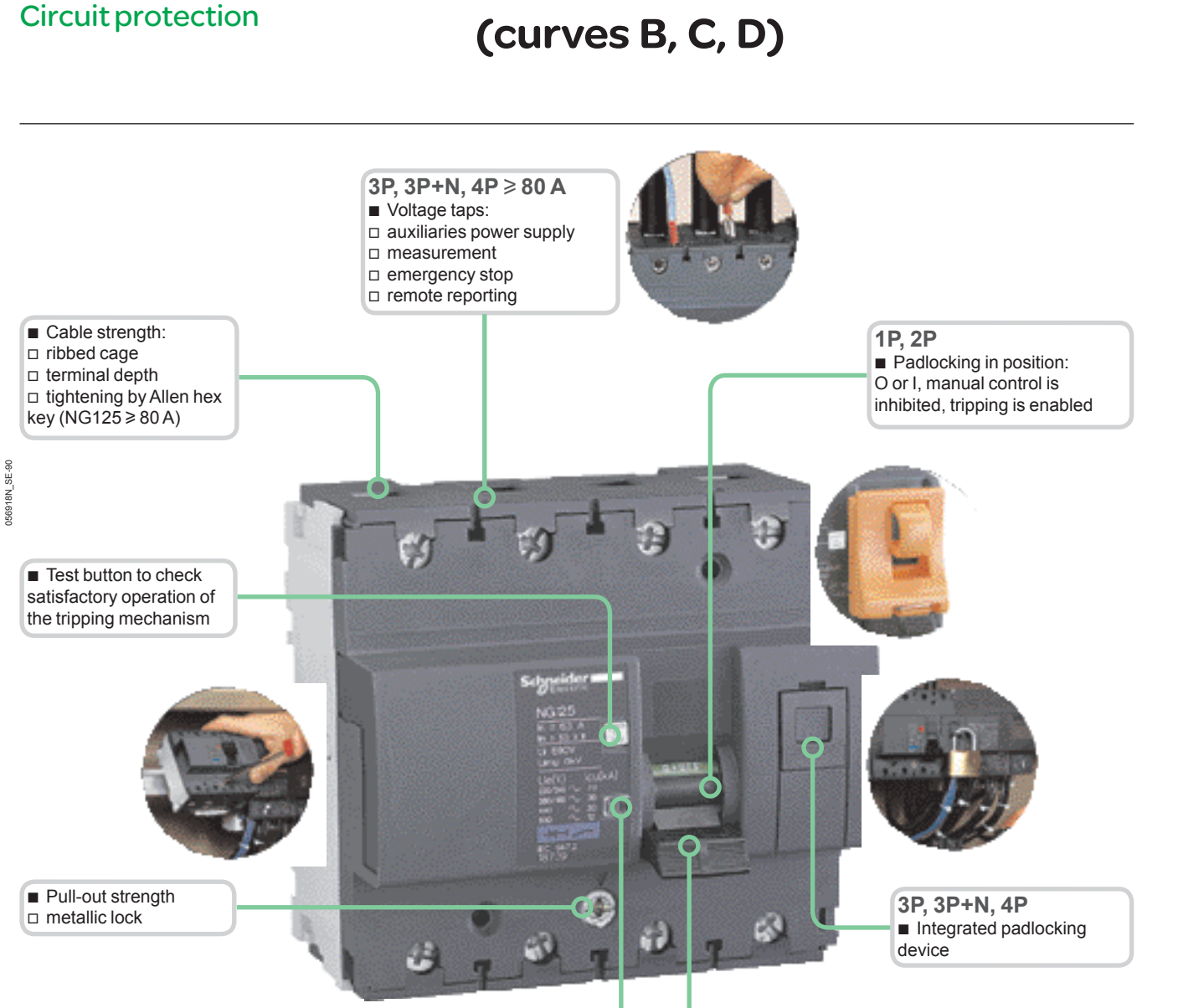
# NG125 circuit breakers (curves B, C, D)



**3P, 3P+N, 4P ⩾ 80 A**
■ Voltage taps:
□ auxiliaries power supply
□ measurement
□ emergency stop
□ remote reporting

■ Cable strength:
□ ribbed cage
□ terminal depth
□ tightening by Allen hex key (NG125 ⩾ 80 A)

**1P, 2P**
■ Padlocking in position: O or I, manual control is inhibited, tripping is enabled




■ Test button to check satisfactory operation of the tripping mechanism





■ Pull-out strength
□ metallic lock

**3P, 3P+N, 4P**
■ Integrated padlocking device

■ Central manual control, 3 positions:
□ ON
□ tripped on fault
□ open

■ Impact and vibration resistance:
□ high-strength enclosure
□ IK 05

■ Circuit breaker tripped indicator

■ Electric power supply through the top or bottom

■ Positive contact indication:
□ suitability for isolation in the industrial sector to IEC/EN 60947-2
□ the presence of the green strip guarantees that the contacts open physically and allows work to be carried out safely on the downstream circuit

■ Longer product service life due to:
□ good overvoltage withstand capacity,
□ high limitation performances,
□ fast closure independent of the speed of actuation of the toggle.

# NG125a circuit breakers (curve C)



DB116619

## IEC/EN 60947-2

■ NG125a circuit breakers are circuit breakers which combine the following functions:
□ circuit protection against short-circuit currents,
□ circuit protection against overload currents,
□ suitability for isolation in the industrial sector to IEC/EN 60947-2,
□ tripping upon fault is indicated by a red mechanical state indicator light on the front face of the circuit breaker.

056913N_SE-28

*NG125a 3P*

056914N_SE-28

*NG125a 4P*

| Alternating current (AC) 50/60 Hz | | | |
|---|---|---|---|
| Breaking capacity (Icu) to IEC/EN 60947-2 | Voltage (Ue) | | Service breaking capacity (Ics) |
| Ph/Ph (3P, 4P) | 380 to 415 V | 500 V | |
| Rating (In) 80 to 125 A | 16 kA | 8 kA | 75 % of Icu |

| Direct current (DC) | | | |
|---|---|---|---|
| Breaking capacity (Icu) to IEC/EN 60947-2 | Voltage (Ue) | | Service breaking capacity (Ics) |
| Ph/Ph | 375 V | 500 V | |
| Number of poles | 3P | 4P | |
| Rating (In) 80 to 125 A | 20 kA | 20 kA | 100 % of Icu |

## Catalogue numbers

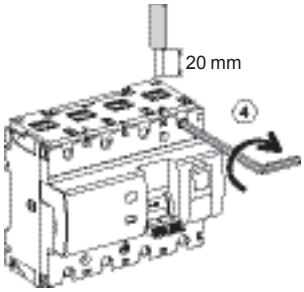
| NG125a circuit breaker | | | |
|---|---|---|---|
| Type | | 3P | 4P |
| | | E45095  | E45097  |
| Auxiliaries | | See page B-27 and F-14 | |
| Rating (In) | Quality label (1) | Curve C | Curve C |
| 80 A | | 18603 | 18607 |
| 100 A | | 18604 | 18608 |
| 125 A | | 18605 | 18609 |
| Width in 9 mm modules | | 9 | 12 |
| Accessories | | see page E-26 | |

*(1) Information to be supplied by the country concerned.*

# NG125a circuit breakers (curve C) (cont.)

## Connection

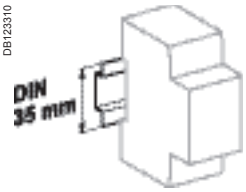
DB122589




| | | Without accessories | | With accessories | | | | |
|---|---|---|---|---|---|---|---|---|
| Rating | Tightening torque | Copper cables | | 70 mm² Al terminal | Screw-on connection for ring terminal | Small ring terminal | Multi-cable terminal | |
| | | Rigid | Flexible or with ferrule | | | | Rigid cables | Flexible cables |
| | DB122945 | DB122946 | DB123410 | DB123488 | DB118789 | DB118787 | | |
| 80 to 125 A | 6 N.m | 16 to 70 mm² | 10 to 50 mm² | 25 to 70 mm² | 2 x 35 mm² 1 x 50 mm² | 1 x 70 mm² | 3 x 16 mm² | 3 x 10 mm² |

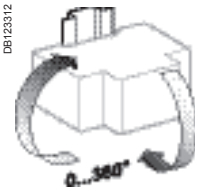
■ Upstream voltage taps for each pole, by 6.35 mm Fast-on terminal.

DB123310



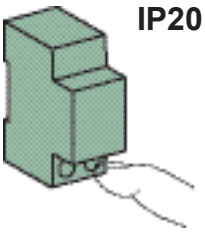

*Clips on to 35 mm DIN rail.*

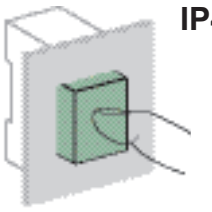
DB123312




*Any installation position.*

DB123314




## Technical data

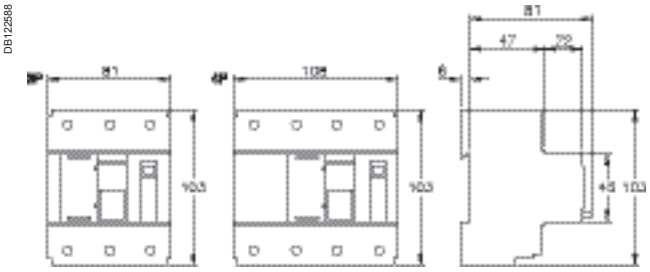
| Main characteristics | | |
|---|---|---|
| **According to IEC/EN 60947-2** | | |
| Insulation voltage (Ui) | | 690 V AC |
| Degree of pollution | | 3 |
| Rated impulse withstand voltage (Uimp) | | 8 kV |
| Thermal tripping | Reference temperature | 40°C |
| Magnetic tripping (Ii) | Curve C | 8 In ± 20 % |
| Utilization category | | A |
| **Additional characteristics** | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Endurance (O-C) | Electrical | 5000 cycles |
| | Mechanical | 20,000 cycles |
| Operating temperature | | -30°C to +70°C |
| Storage temperature | | -40°C to +70°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) |

## Weight (g)

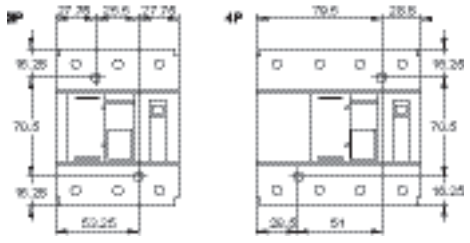
| Circuit breaker | |
|---|---|
| **Type** | **NG125a** |
| 3P | 720 |
| 4P | 960 |

## Dimensions (mm)

DB122588




DB123487




*Spacing for mounting on panel*

# NG125N circuit breakers (curves B, C, D) (cont.)


## IEC/EN 60947-2

■ NG125N circuit breakers are circuit breakers which combine the following functions:
□ circuit protection against short-circuit currents,
□ circuit protection against overload currents,
□ suitability for isolation in the industrial sector to IEC/EN 60947-2,
□ tripping upon fault is indicated by a red mechanical state indicator light on the front face of the circuit breaker.




NG125N 1P


NG125N 2P


NG125N 3P

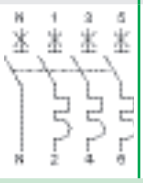

NG125N 4P

| Alternating current (AC) 50/60 Hz | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Breaking capacity (Icu) to IEC/EN 60947-2 | | | | | | | | Service breaking capacity (Ics) |
| | Voltage (Ue) | | | | | | | |
| Ph/Ph (2P, 3P, 3P+N, 4P) | - | - | 220 to 240 V | - | 380 to 415 V | 440 V | 500 V | |
| Ph/N (1P) | 110 to 130 V | 220 to 240 V | - | 380 to 415 V | - | - | - | |
| Rating (In) 10 to 125 A | 50 kA | 25 kA | 50 kA | 6 kA(2) | 25 kA | 20 kA | 10 kA | 75 % of Icu |

| Direct current (DC) | | | | | |
|---|---|---|---|---|---|
| Breaking capacity (Icu) to IEC/EN 60947-2 | | | | | Service breaking capacity (Ics) |
| | Voltage (Ue) | | | | |
| Ph/Ph (2P, 3P, 3P+N, 4P) | - | - | 250 V | 500 V | |
| Ph/N (1P) | 60 V | 125 V | - | - | |
| Number of poles | 1P | 1P | 2P | 4P | |
| Rating (In) 10 to 125 A | 25 kA | 25 kA | 25 kA | 25 kA | 100 % of Icu |

## Catalogue numbers

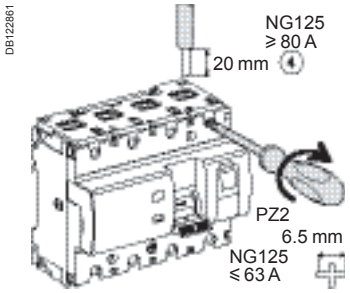
**NG125N circuit breaker**

| Type | | 1P | 2P | 3P | | | 3P+N | 4P | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | |   |   |   |   | |  |   | | |
| Auxiliaries | | See page F-14 – Vigi NG125 add-on residual current device, see page B-27 | | | | | | | | |
| Rating (In) | Quality label (1) | Curve C | Curve C | Curve B | Curve C | Curve D | Curve C | Curve B | Curve C | Curve D |
| 10 A | | 18610 | 18621 | - | 18632 | - | - | - | 18649 | - |
| 16 A | | 18611 | 18622 | - | 18633 | - | - | - | 18650 | - |
| 20 A | | 18612 | 18623 | - | 18634 | - | - | - | 18651 | - |
| 25 A | | 18613 | 18624 | - | 18635 | - | - | - | 18652 | - |
| 32 A | | 18614 | 18625 | - | 18636 | - | - | - | 18653 | - |
| 40 A | | 18615 | 18626 | - | 18637 | - | - | - | 18654 | - |
| 50 A | | 18616 | 18627 | - | 18638 | - | - | - | 18655 | - |
| 63 A | | 18617 | 18628 | - | 18639 | - | - | - | 18656 | - |
| 80 A | | 18618 | 18629 | 18663 | 18640 | 18669 | 18646 | 18666 | 18658 | 18672 |
| 100 A | | - | - | 18664 | 18642 | 18670 | 18647 | 18667 | 18660 | 18673 |
| 125 A | | - | - | 18665 | 18644 | 18671 | 18648 | 18668 | 18662 | 18674 |
| Width in 9 mm modules | | 3 | 6 | 9 | | | 12 | 12 | | |
| Accessories | | See page E-26 | | | | | | | | |

*(1) Information to be supplied by the country concerned.*
*(2) Breaking capacity under 1 pole in IT isolated neutral system (case of a double fault).*

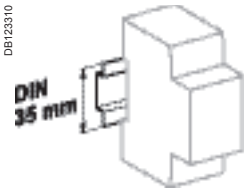
# NG125N circuit breakers (curves B, C, D) (cont.)

## Connection

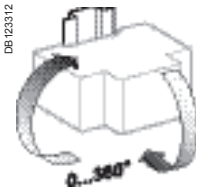



| Rating | Tightening torque | Without accessories: Copper cables | | With accessories: 70 mm² Al terminal | Screw-on connection for ring terminal | Small ring terminal | Multi-cable terminal | |
|---|---|---|---|---|---|---|---|---|
| | | Rigid | Flexible or with ferrule | | | | Rigid cables | Flexible cables |
| | DB122945 | DB122946 | DB123410 | DB123488 | DB118789 | DB118787 | | |
| **10 to 63 A** | 3.5 N.m | 1.5 to 50 mm² | 1 to 35 mm² | - | - | - | 3 x 16 mm² | 3 x 10 mm² |
| **80 to 125 A** | 6 N.m | 16 to 70 mm² | 10 to 50 mm² | 25 to 70 mm² | 2 x 35 mm² 1 x 50 mm² | 1 x 70 mm² | | |

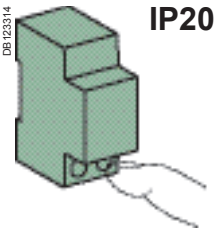
■ On 3P, 3P+N and 4P ≥ 80 A: upstream voltage taps for each pole, by 6.35 mm Fast-on terminal.



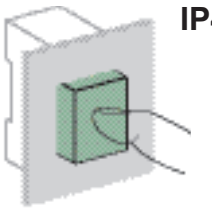

*Clips on to 35 mm DIN rail.*




*Any installation position.*




**IP20**

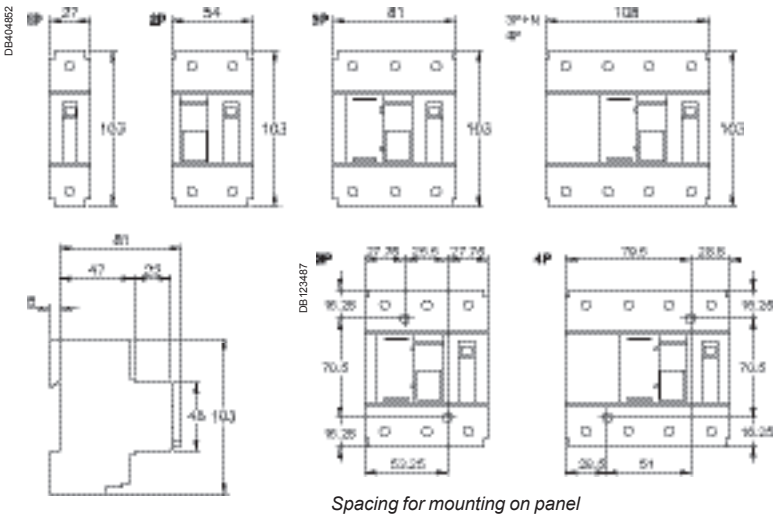


**IP40**

## Technical data

| Main characteristics | | |
|---|---|---|
| **According to IEC/EN 60947-2** | | |
| Insulation voltage (Ui) | | 690 V AC |
| Degree of pollution | | 3 |
| Rated impulse withstand voltage (Uimp) | | 8 kV |
| Thermal tripping | Reference temperature | 40°C |
| Magnetic tripping (Ii) | Curve B | 4 In ± 20 % |
| | Curve C | 8 In ± 20 % |
| | Curve D | 12 In ± 20 % |
| Utilization category | | A |
| **Additional characteristics** | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Endurance (O-C) | Electrical | ≤ 63 A: 10,000 cycles |
| | | ≥ 63 A: 5000 cycles |
| | Mechanical | 20,000 cycles |
| Operating temperature | | -30°C to +70°C |
| Storage temperature | | -40°C to +70°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) |

## Dimensions (mm)




*Spacing for mounting on panel*

## Weight (g)

| Circuit breaker | |
|---|---|
| **Type** | **NG125N** |
| 1P | 240 |
| 2P | 480 |
| 3P | 720 |
| 3P+N | 960 |
| 4P | 960 |

# NG125H circuit breakers (curve C)



DB116619

## IEC/EN 60947-2

■ NG125H circuit breakers are circuit breakers which combine the following functions:
□ circuit protection against short circuit currents,
□ circuit protection against overload currents,
□ suitability for isolation in the industrial sector to IEC/EN 60947-2,
□ tripping upon fault is indicated by a red mechanical state indicator light on the front face of the circuit breaker.

056915N_SE-28

*NG125H 1P*

056916N_SE-28

*NG125H 2P*

056917N_SE-28

*NG125H 3P*

056918N_SE-28

*NG125H 4P*

| Alternating current (AC) 50/60 Hz | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Breaking capacity (Icu) to IEC/EN 60947-2 | | | | | | | | Service breaking capacity (Ics) |
| | Voltage (Ue) | | | | | | | |
| Ph/Ph (2P, 3P, 4P) | - | - | 220 to 240 V | - | 380 to 415 V | 440 V | 500 V | |
| Ph/N (1P) | 110 to 130 V | 220 to 240 V | - | 380 to 415 V | - | - | - | |
| Rating (In) 10 to 80 A | 70 kA | 36 kA | 70 kA | 9 kA(2) | 36 kA | 30 kA | 12 kA | 75 % of Icu |

| Direct current (DC) | | | | | |
|---|---|---|---|---|---|
| Breaking capacity (Icu) to IEC/EN 60947-2 | | | | | Service breaking capacity (Ics) |
| | Voltage (Ue) | | | | |
| Ph/Ph (2P, 3P, 3P+N, 4P) | - | - | 250 V | 500 V | |
| Ph/N (1P) | 60 V | 125 V | - | - | |
| Number of poles | 1P | 1P | 2P | 4P | |
| Rating (In) 10 to 80 A | 36 kA | 36 kA | 36 kA | 36 kA | 100 % of Icu |

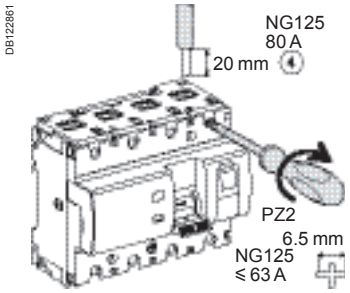
## Catalogue numbers

| NG125H circuit breaker | | | | | |
|---|---|---|---|---|---|
| Type | | 1P | 2P | 3P | 4P |
| | | E45092 E45094 | E45095 | E45097 | |
| Auxiliaries | | See page F-14 – Vigi NG125 add-on residual current device, see page B-27 | | | |
| Rating (In) | Quality label (1) | Curve C | Curve C | Curve C | Curve C |
| 10 A | | 18705 | 18714 | 18723 | 18732 |
| 16 A | | 18706 | 18715 | 18724 | 18733 |
| 20 A | | 18707 | 18716 | 18725 | 18734 |
| 25 A | | 18708 | 18717 | 18726 | 18735 |
| 32 A | | 18709 | 18718 | 18727 | 18736 |
| 40 A | | 18710 | 18719 | 18728 | 18737 |
| 50 A | | 18711 | 18720 | 18729 | 18738 |
| 63 A | | 18712 | 18721 | 18730 | 18739 |
| 80 A | | 18713 | 18722 | 18731 | 18740 |
| Width in 9 mm modules | | 3 | 6 | 9 | 12 |
| Accessories | | See page E-26 | | | |

*(1) Information to be supplied by the country concerned.*
*(2) Breaking capacity under 1 pole in IT isolated neutral system (case of a double fault).*

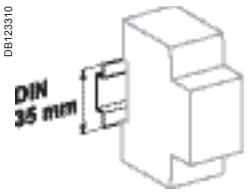
# NG125H circuit breakers (curve C) (cont.)

## Connection

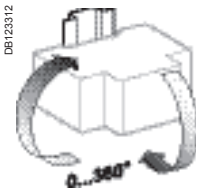



| Rating | Tightening torque | Without accessories: Copper cables | | With accessories: 70 mm² Al terminal | Screw-on connection for ring terminal | Small ring terminal | Multi-cable terminal | |
|---|---|---|---|---|---|---|---|---|
| | | Rigid | Flexible or with ferrule | | | | Rigid cables | Flexible cables |
| | DB122945 | DB122946 | DB123410 | DB123488 | DB118789 | DB118787 | | |
| **10 to 63 A** | 3.5 N.m | 1.5 to 50 mm² | 1 to 35 mm² | - | - | - | 3 x 16 mm² | 3 x 10 mm² |
| **80 A** | 6 N.m | 16 to 70 mm² | 10 to 50 mm² | 25 to 70 mm² | 2 x 35 mm² 1 x 50 mm² | 1 x 70 mm² | | |

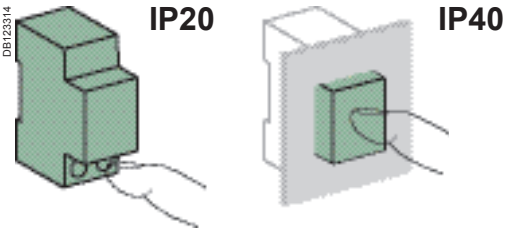
■ On 3P and 4P 80 A: upstream voltage taps for each pole, by 6.35 mm Fast-on terminal.




*Clips on to 35 mm DIN rail.*



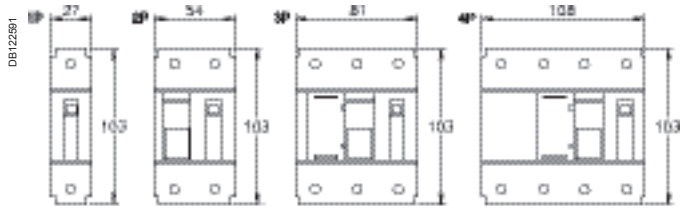

*Any installation position.*

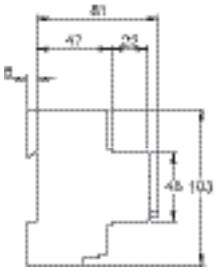


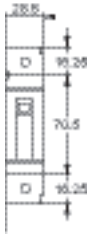

## Technical data

| Main characteristics | | |
|---|---|---|
| **According to IEC/EN 60947-2** | | |
| Insulation voltage (Ui) | | 690 V AC |
| Degree of pollution | | 3 |
| Rated impulse withstand voltage (Uimp) | | 8 kV |
| Thermal tripping | Reference temperature | 40°C |
| Magnetic tripping (Ii) | Curve C | 8 In ± 20 % |
| Utilization category | | A |
| **Additional characteristics** | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40<br>Insulation class II |
| Endurance (O-C) | Electrical | ≤ 63 A: 10,000 cycles |
| | | ≥ 63 A: 5000 cycles |
| | Mechanical | 20,000 cycles |
| Operating temperature | | -30°C to +70°C |
| Storage temperature | | -40°C to +70°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) |

## Dimensions (mm)




*Spacing for mounting on panel*

## Weight (g)

| Circuit breaker | |
|---|---|
| **Type** | **NG125H** |
| 1P | 240 |
| 2P | 480 |
| 3P | 720 |
| 4P | 960 |

# NG125L circuit breakers (curves B, C, D)



DB116619

## IEC/EN 60947-2

■ NG125L circuit breakers are circuit breakers which combine the following functions:
□ circuit protection against short-circuit currents;
□ circuit protection against overload currents;
□ suitability for isolation in the industrial sector to IEC/EN 60947-2;
□ tripping upon fault is indicated by a red mechanical state indicator light on the front face of the circuit breaker.

56337_SE-28

*NG125L 1P*

56338_SE-28

*NG125L 2P*

56339_SE-28

*NG125L 3P*

56340_SE-28

*NG125L 4P*

**Alternating current (AC) 50/60 Hz**

| Breaking capacity (Icu) to IEC/EN 60947-2 | | | | | | | | Service breaking capacity (Ics) |
|---|---|---|---|---|---|---|---|---|
| | Voltage (Ue) | | | | | | | |
| Ph/Ph (2P, 3P, 4P) | - | - | 220 to 240 V | - | 380 to 415 V | 440 V | 500 V | |
| Ph/N (1P) | 110 to 130 V | 220 to 240 V | - | 380 to 415 V | - | - | - | |
| Rating (In) 10 to 80 A | 100 kA | 50 kA | 100 kA | 12.5 kA(2) | 50 kA | 40 kA | 15 kA | 75 % of Icu |

**Direct current (DC)**

| Breaking capacity (Icu) to IEC/EN 60947-2 | | | | | Service breaking capacity (Ics) |
|---|---|---|---|---|---|
| | Voltage (Ue) | | | | |
| Ph/Ph (2P, 3P, 3P+N, 4P) | - | - | 250 V | 500 V | |
| Ph/N (1P) | 60 V | 125 V | - | - | |
| Number of poles | 1P | 1P | 2P | 4P | |
| Rating (In) 10 to 80 A | 50 kA | 50 kA | 50 kA | 50 kA | 100 % of Icu |

## Catalogue numbers

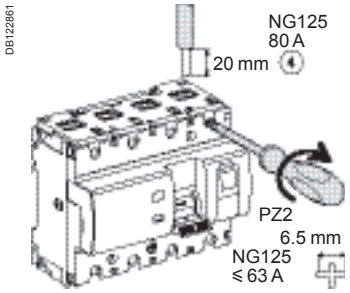
**NG125L circuit breaker**

| Type | | 1P | | | 2P | | | 3P | | | 4P | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | E45092  | | | E45094  | | | E45095  | | | E45097  | | |
| Auxiliaries | | See page F-14 – Vigi NG125 add-on residual current device, see page B-27 | | | | | | | | | | | |
| Rating (In) | Quality label (1) | Curve | | | Curve | | | Curve | | | Curve | | |
| | | B | C | D | B | C | D | B | C | D | B | C | D |
| 10 A | | 18741 | 18777 | 18830 | 18750 | 18788 | 18839 | 18759 | 18799 | 18848 | 18768 | 18821 | 18857 |
| 16 A | | 18742 | 18778 | 18831 | 18751 | 18789 | 18840 | 18760 | 18800 | 18849 | 18769 | 18822 | 18858 |
| 20 A | | 18743 | 18779 | 18832 | 18752 | 18790 | 18841 | 18761 | 18801 | 18850 | 18770 | 18823 | 18859 |
| 25 A | | 18744 | 18780 | 18833 | 18753 | 18791 | 18842 | 18762 | 18802 | 18851 | 18771 | 18824 | 18860 |
| 32 A | | 18745 | 18781 | 18834 | 18754 | 18792 | 18843 | 18763 | 18803 | 18852 | 18772 | 18825 | 18861 |
| 40 A | | 18746 | 18782 | 18835 | 18755 | 18793 | 18844 | 18764 | 18804 | 18853 | 18773 | 18826 | 18862 |
| 50 A | | 18747 | 18783 | 18836 | 18756 | 18794 | 18845 | 18765 | 18805 | 18854 | 18774 | 18827 | 18863 |
| 63 A | | 18748 | 18784 | 18837 | 18757 | 18795 | 18846 | 18766 | 18806 | 18855 | 18775 | 18828 | 18864 |
| 80 A | | 18749 | 18785 | 18838 | 18758 | 18796 | 18847 | 18767 | 18807 | 18856 | 18776 | 18829 | 18865 |
| Width in 9 mm modules | | 3 | | | 6 | | | 9 | | | 12 | | |
| Accessories | | See page E-26 | | | | | | | | | | | |

*(1) Information to be supplied by the country concerned.*
*(2) Breaking capacity under 1 pole in IT isolated neutral system (case of a double fault).*

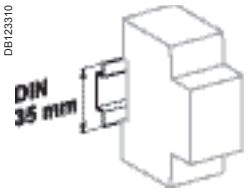
# NG125L circuit breakers (curves B, C, D) (cont.)

## Connection

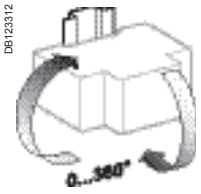



| Rating | Tightening torque | Without accessories: Copper cables | | With accessories: 70 mm² Al terminal | Screw-on connection for ring terminal | Small ring terminal | Multi-cable terminal | |
|---|---|---|---|---|---|---|---|---|
| | | Rigid | Flexible or with ferrule | | | | Rigid cables | Flexible cables |
| | DB122945 | DB122946 | DB123410 | DB123488 | DB118789 | DB118787 | | |
| **10 to 63 A** | 3.5 N.m | 1.5 to 50 mm² | 1 to 35 mm² | - | - | - | 3 x 16 mm² | 3 x 10 mm² |
| **80 A** | 6 N.m | 16 to 70 mm² | 10 to 50 mm² | 25 to 70 mm² | 2 x 35 mm² 1 x 50 mm² | 1 x 70 mm² | | |

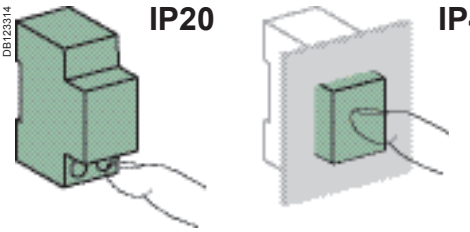
■ On 3P and 4P 80 A: upstream voltage taps for each pole, by 6.35 mm Fast-on terminal.




*Clips on to 35 mm DIN rail.*



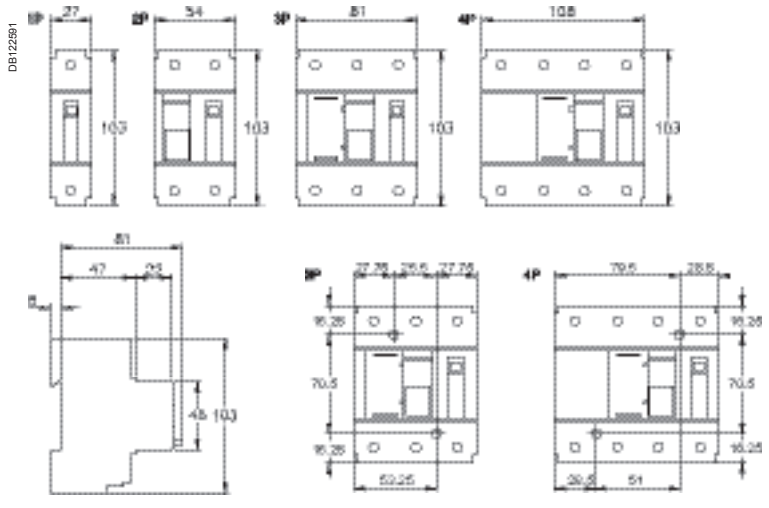

*Any installation position.*




## Technical data

| Main characteristics | | |
|---|---|---|
| **According to IEC/EN 60947-2** | | |
| Insulation voltage (Ui) | | 690 V AC |
| Degree of pollution | | 3 |
| Rated impulse withstand voltage (Uimp) | | 8 kV |
| Thermal tripping | Reference temperature | 40°C |
| Magnetic tripping (Ii) | Curve B | 4 In ± 20 % |
| | Curve C | 8 In ± 20 % |
| | Curve D | 12 In ± 20 % |
| Utilization category | | A |
| **Additional characteristics** | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Endurance (O-C) | Electrical | ≤ 63 A: 10,000 cycles |
| | | ≥ 63 A: 5000 cycles |
| | Mechanical | 20,000 cycles |
| Operating temperature | | -30°C to +70°C |
| Storage temperature | | -40°C to +70°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) |

## Dimensions (mm)




*Spacing for mounting on panel*

## Weight (g)

| Circuit breaker | |
|---|---|
| **Type** | **NG125L** |
| 1P | 240 |
| 2P | 480 |
| 3P | 720 |
| 4P | 960 |

# C60H-DC
## C curve




PB107193-34.eps


PB107194-34.eps

## IEC/EN 60947-2

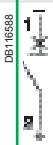
The C60H-DC supplementary protectors are used in direct current circuits (Industrial control and automations, transport, renewable energy...).
They combine the following functions of circuit protection against short-circuit and overload currents, control and isolation.

CE

| Direct current (DC) | | | | | | |
|---|---|---|---|---|---|---|
| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | | Rated service breaking capacity (Ics) |
| Type | | | | | | |
| 1P | 110 V | 220 V | 250 V | 440 V | 500 V | |
| Rating (In) 0.5 to 63 A | 20 kA | 10 kA | 6 kA | - | - | 75 % Icu |
| 2P (in series) | 110 V | 220 V | 250 V | 440 V | 500 V | |
| 0.5 to 63 A | - | 20 kA | 20 kA | 10 kA | 6 kA | 75 % Icu |

## Catalogue numbers

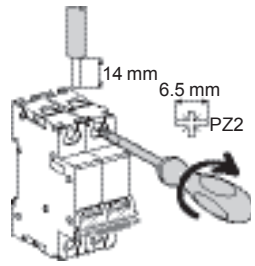
**C60H-DC**

| Type | 1P | 2P | |
|---|---|---|---|
| |  DB116588 |  DB124110 |  DB124111 |
| | Supply from above or below, observing the polarity | Supply from above | Supply from below |
| Auxiliaries | See page F-9 | | |
| Rating (In) | Courbe C | Courbe C | |
| 0.5 A | A9N61500 | A9N61520 | |
| 1 A | A9N61501 | A9N61521 | |
| 2 A | A9N61502 | A9N61522 | |
| 3 A | A9N61503 | A9N61523 | |
| 4 A | A9N61504 | A9N61524 | |
| 5 A | A9N61505 | A9N61525 | |
| 6 A | A9N61506 | A9N61526 | |
| 10 A | A9N61508 | A9N61528 | |
| 13 A | A9N61509 | A9N61529 | |
| 15 A | A9N61510 | A9N61530 | |
| 16 A | A9N61511 | A9N61531 | |
| 20 A | A9N61512 | A9N61532 | |
| 25 A | A9N61513 | A9N61533 | |
| 30 A | A9N61514 | A9N61534 | |
| 32 A | A9N61515 | A9N61535 | |
| 40 A | A9N61517 | A9N61537 | |
| 50 A | A9N61518 | A9N61538 | |
| 63 A | A9N61519 | A9N61539 | |
| Number of modules of 9 mm | 2 | 4 | |
| Accessories | See pagess E-8 and E-15 | | |

# C60H-DC (cont.)
## C curve

## Connection

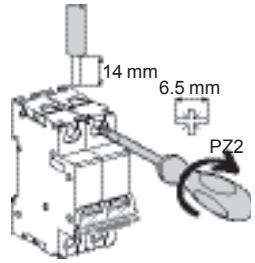
DB123537




| Rating | Tightening torque | Without accessory: Copper cables – Rigid / Stranded | Without accessory: Copper cables – Flexible or ferrule | With accessories: 50 mm² Al terminal | With accessories: Screw-on connection for ring terminal | With accessories: Multi-cables terminal – Rigid cables | With accessories: Multi-cables terminal – Flexible cables |
|---|---|---|---|---|---|---|---|
| | | DB122945 | DB122946 | DB122935 | DB118789 DB118787 | | |
| ≤ 25 A | 2.5 N.m | 1 to 25 mm² | 1 to 16 mm² | 50 mm² | Ø 5 mm | 3 x 16 mm² | 3 x 10 mm² |
| > 25 A | 3.5 N.m / | 1 to 35 mm² | 1 to 25 mm² | - | | | |

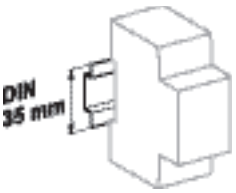
## Multi-cables connection

DB123537




| Rating | Tightening torque | Without accessory: 2 Copper cables – Rigid / Stranded | Without accessory: 2 Copper cables – Flexible or ferrule | 3 Multi-cables / Different wires: Flexible / Stranded | 3 Multi-cables / Different wires: Flexible / Stranded / Rigid |
|---|---|---|---|---|---|
| | | DB122945 | DB122946 DB118787 | | |
| ≤ 25 A | 2.5 N.m | 2 x 1 mm² to 2 x 10 mm² | | 3 x 1 mm² | 2 x 2.5 mm² + 1 x 1.5 mm² |
| > 25 A | 3.5 N.m | 2 x 1 mm² to 2 x 16 mm² | | 3 x 4 mm² | 2 x 10 mm² + 1 x 6 mm² |

DB123310

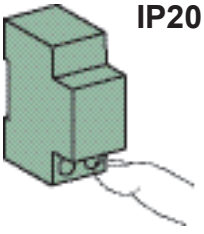


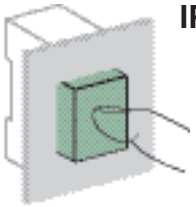

*Clip on DIN rail 35 mm.*

DB123312


*Indifferent position of installation.*

DB123314




PB124306.eps

## Technical data

- Tripping curves: C curve - Overcurrent protection for any type of application.
- Positive break indication - the green strip indicates that all the poles are open and allows work to be carried out on the downstream circuit in complete safety.
- Suitable for isolation as defined in IEC / EN 60947-2.
- Increase in the service life of the product: thanks to fast closure independent of the speed of action on the handle.
- Current limitation in the event of a fault: fast opening of the contacts prevents the loads from being destroyed in the event of a short-circuit.

| Main characteristics | | |
|---|---|---|
| **According to IEC/EN 60947-2** | | |
| Insulation voltage (Ui) | | 500 V DC |
| Rated voltage (Un) | 1P | 250 V DC |
| | 2P | 500 V DC |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (Uimp) under frame | | 6 kV |
| Magnetic tripping (Ii) | | 8.5 In (± 20 %) (compatible with curve C) |
| **Additional characteristics** | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Utilization category | | A (no delay in accordance with IEC/EN 60947-2 standards) |
| Endurance (O-C) | Electrical | 3,000 cycles (where L/R=2 ms) |
| | | 6,000 cycles where the circuit is resistive |
| | Mechanical | 20,000 cycles |
| Tropicalization (IEC 60068-2) | | Treatment 2 (relative humidity 95 % at 55°C |
| Operating temperature | | -25°C to 70°C |
| Storage temperature | | -40°C to 85°C |

**Failure to match polarity during connection may lead to a fire hazard and/or serious injury.**
- The connection polarity must be observed (marked on the front panel).
- Use only with direct current.

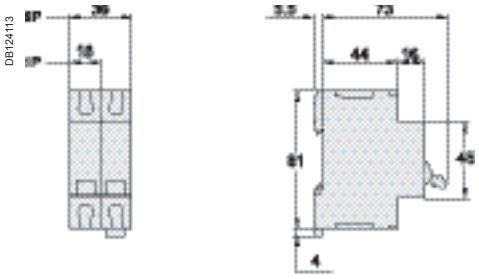
# C60H-DC (cont.)
## C curve



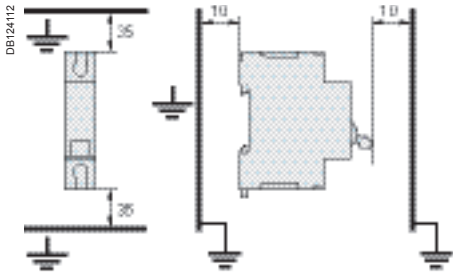
### Weight (g)

| Circuit-breaker | |
|---|---|
| **Type** | **C60H-DC** |
| 1P | 128 g |
| 2P | 256 g |

### Dimensions (mm)



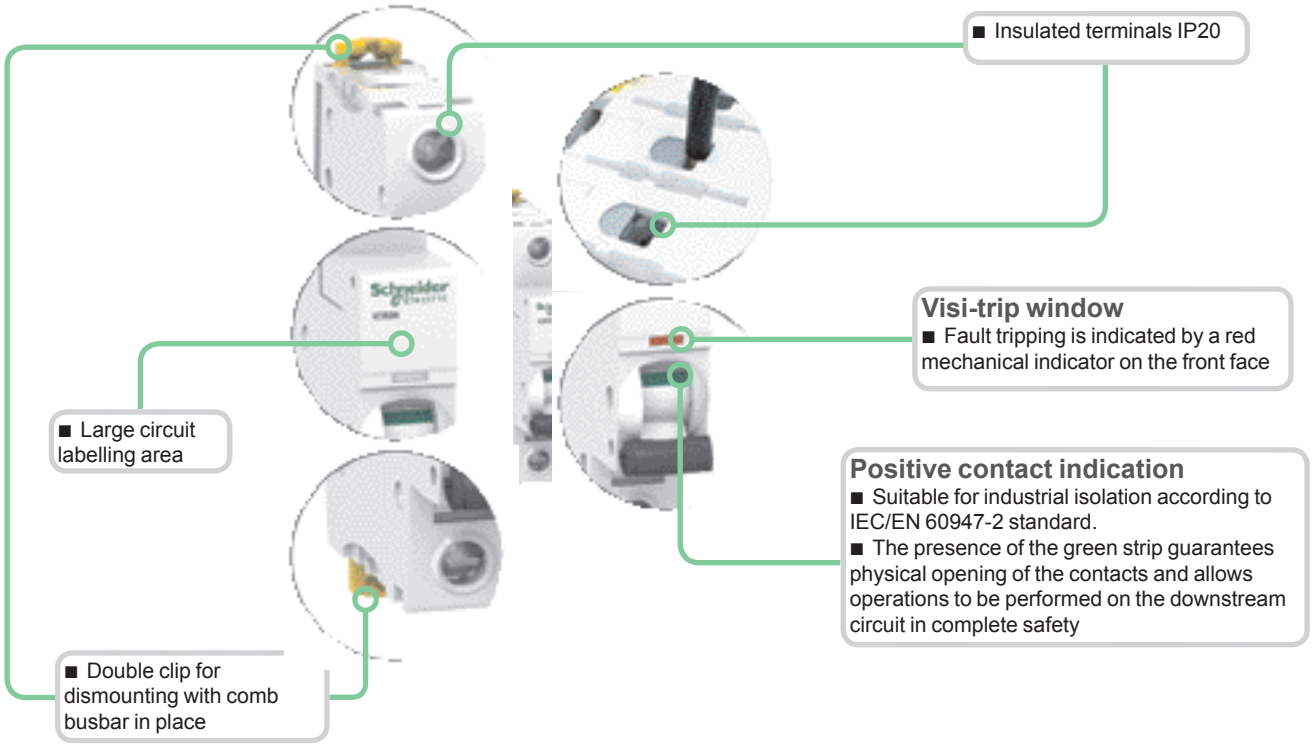

*C60H-DC*




Details of minimum distance between circuit-breaker and earthed metal parts for circuit-breaker intended for use without enclosure.

# iC60L circuit breakers instantaneous circuit breakers (ICB) (curve MA)

PB104434-40




■ Increased product service life thanks to:
□ overvoltage resistance by high level of industrial performances conception (pollution degree, rated impulse withstand voltage and insulation voltage),
□ high performance limitation (see limitation curves),
□ fast closing independent of the speed of actuation of the toggle.
■ Remote indication, open/closed/tripped, by optional auxiliary contacts.
■ Top or bottom electrical feeding.

*(1) Information to be provided by the country.*

# iC60L circuit breakers instantaneous circuit breakers (ICB) (curve MA) (cont.)



DB116619

## IEC/EN 60947-2

PB104443-40

PB104448-40

- iC60L curve MA circuit breakers combine the following functions:
- circuit protection against short-circuit currents,
- suitability for industrial isolation according to IEC/EN 60947-2, standard,
- fault tripping indication by a red mechanical indicator in circuit breaker front face,
- to be associated with overload protection for motor.

| Alternating current (AC) 50/60 Hz | | | | | |
|---|---|---|---|---|---|
| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | Service breaking capacity (Ics) |
| | | Voltage (Ue) | | | |
| Ph/Ph (2P, 3P) | | 220 to 240 V | 380 to 415 V | 440 V | |
| Rating (In) | 1.6 to 16 A | 40 kA | 20 kA | 15 kA | 50 % of Icu |
| | 25 à 40 A | 30 kA | 15 kA | 10 kA | 50 % of Icu |

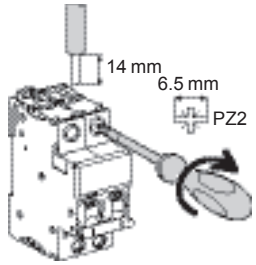
## Catalogue numbers

| iC60L instantaneous trip circuit breaker | | | |
|---|---|---|---|
| Type | | 2P | 3P |
| | |  |  |
| Auxiliaries | | see pages E-2 and F-2 | see pages E-2 and F-2 |
| Vigi iC60 | | see page B-17 | see page B-17 |
| Rating (In) | Quality label (1) | Curve MA | Curve MA |
| 1.6 A | | A9F90272 | A9F90372 |
| 2.5 A | | A9F90273 | A9F90373 |
| 4 A | | A9F90204 | A9F90304 |
| 6.3 A | | A9F90276 | A9F90376 |
| 10 A | | A9F90210 | A9F90310 |
| 12.5 A | | A9F90282 | A9F90382 |
| 16 A | | A9F90216 | A9F90316 |
| 25 A | | A9F90225 | A9F90325 |
| 40 A | | A9F90240 | A9F90340 |
| Width in 9-mm modules | | 4 | 6 |
| Accessories | | See pages E-2 and E-10 | See pages E-2 and E-10 |

# iC60L circuit breakers instantaneous circuit breakers (ICB) (curve MA) (cont.)

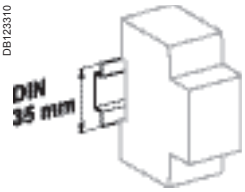
## Connection

DB123060



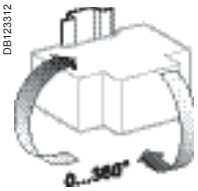

| Rating | Tightening torque | Without accessory: Copper cables – Rigid | Without accessory: Copper cables – Flexible or ferrule | With accessories: 50 mm² Al terminal | With accessories: Screw-on connection for ring terminal | With accessories: Multi-cables terminal – Rigid cables | With accessories: Multi-cables terminal – Flexible cables |
|---|---|---|---|---|---|---|---|
| | | DB122945  | DB122946  | DB122935   | DB118789  | DB118787  | |
| 1.6 to 16 A | 2 N.m | 1 to 25 mm² | 1 to 16 mm² | - | Ø 5 mm | - | - |
| 25 to 40 A | 3.5 N.m | 1 to 35 mm² | 1 to 25 mm² | 50 mm² | | 3 x 16 mm² | 3 x 10 mm² |

DB123310



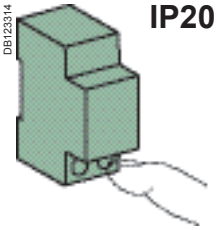

*Clip on DIN rail 35 mm.*

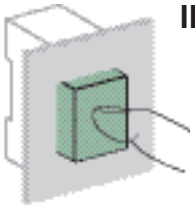
DB123312




*Indifferent position of installation.*

DB123314



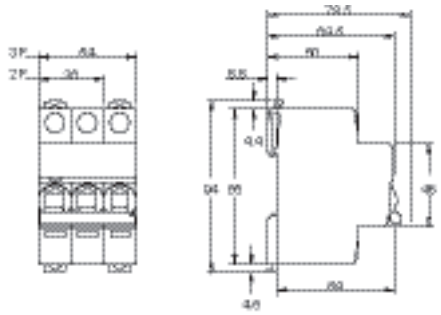




## Technical data

| Main characteristics | | |
|---|---|---|
| **According to IEC/EN 60947-2** | | |
| Insulation voltage (Ui) | | 500 V AC |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (Uimp) | | 6 kV |
| Thermal tripping | Reference temperature | 50 °C |
| | Temperature derating | See the Technical Guide |
| Magnetic tripping | MA curve | 12 In ± 20 % |
| Utilization category | | A |
| **Additional characteristics** | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40<br>Insulation classe II |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Overvoltage category (IEC 60364) | | IV |
| Operating temperature | | -35°C to +70°C |
| Storage temperature | | -40°C to +85°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity 95 % to 55°C) |

## Dimensions (mm)

DB124053



## Weight (g)

| Circuit-breaker | |
|---|---|
| **Type** | **iC60L** |
| 2P | 250 |
| 3P | 375 |

# NG125LMA circuit breakers (curve MA)



**3P 80 A**
■ Voltage taps:
□ auxiliaries power supply
□ measurement
□ emergency stop
□ remote reporting

■ Cable strength:
□ ribbed cage
□ terminal depth
□ tightening by Allen hex key (NG125 80 A)

■ Padlocking in position:
O or I, manual control is inhibited, tripping is enabled

056918N_SE-90

■ Test button to check satisfactory operation of the tripping mechanism

**3P**
■ Pull-out strength:
□ metallic lock

**3P**
■ Integrated padlocking device

■ Impact and vibration resistance:
□ high-strength enclosure
□ IK 05

■ Central manual control, 3 positions:
□ ON
□ tripped on fault
□ open

■ Circuit breaker tripped indicator

■ Electric power supply through the top or bottom

DB123493

■ Positive contact indication:
□ suitability for isolation in the industrial sector to IEC/EN 60947-2
□ the presence of the green strip guarantees that the contacts open physically and allows work to be carried out safely on the downstream circuit

■ Longer product service life due to:
□ good overvoltage withstand capacity,
□ high limitation performances,
□ fast closure independent of the speed of actuation of the toggle.

# NG125LMA circuit breakers (curve MA) (cont.)

DB116619

## IEC/EN 60947-2

■ NG125LMA circuit breakers are circuit breakers which combine the following functions:
□ circuit protection against short-circuit currents,
□ circuit protection against overload currents,
□ suitability for isolation in the industrial sector to IEC/EN 60947-2,
□ tripping upon fault is indicated by a red mechanical state indicator light on the front face of the circuit breaker.

056924_SE-28

*NG125LMA 2P*

056939_SE-28

*NG125LMA 3P*

| Alternating current (AC) 50/60 Hz | | | | | |
|---|---|---|---|---|---|
| Breaking capacity (Icu) to IEC/EN 60947-2 | | | | | Service breaking capacity (Ics) |
| | Voltage (Ue) | | | | |
| Ph/Ph (2P, 3P) | 220 to 240 V | 380 to 415 V | 440 V | 500 V | |
| Rating (In) 4 to 80 A (trip units) | 100 kA | 50 kA | 40 kA | 15 kA | 75 % of Icu |

## Catalogue numbers

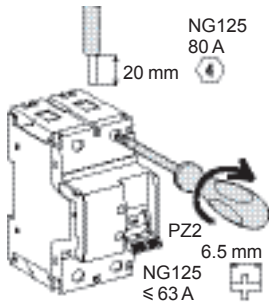
| NG125LMA circuit breaker | | | | |
|---|---|---|---|---|
| Type | | | 2P | 3P |
| | | | DB123810  | DB123811  |
| Auxiliaries | | | see page F-14 – Vigi NG125 add-on residual current device, see page B-27 | |
| Rating (In) | Quality label (1) | Magn. I (A) | Curve MA | Curve MA |
| 4 A | | 50 | **18868** | **18879** |
| 6.3 A | | 75 | **18869** | **18880** |
| 10 A | | 120 | **18870** | **18881** |
| 12.5 A | | 150 | **18871** | **18882** |
| 16 A | | 190 | **18872** | **18883** |
| 25 A | | 300 | **18873** | **18884** |
| 40 A | | 480 | **18874** | **18885** |
| 63 A | | 750 | **18875** | **18886** |
| 80 A | | 960 | **18876** | **18887** |
| Width in 9 mm modules | | | 6 | 9 |
| Accessories | | | See page E-26 | |

*(1) Information to be supplied by the country concerned.*

# NG125LMA circuit breakers (curve MA) (cont.)

## Connection

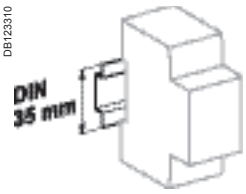
DB122863




| Rating | Tightening torque | Without accessories: Copper cables – Rigid | Without accessories: Copper cables – Flexible or with ferrule | With accessories: 70 mm² Al terminal | With accessories: Screw-on connection for ring terminal | With accessories: Small ring terminal | With accessories: Multi-cable terminal – Rigid cables | With accessories: Multi-cable terminal – Flexible cables |
|---|---|---|---|---|---|---|---|---|
| | | DB122945 | DB122946 / DB123410 | DB123488 | DB118789 | DB118787 (6 mm) | | |
| 4 to 63 A | 3.5 N.m | 1.5 to 50 mm² | 1 to 35 mm² | - | - | - | 3 x 16 mm² | 3 x 10 mm² |
| 80 A | 6 N.m | 16 to 70 mm² | 10 to 50 mm² | 25 to 70 mm² | 2 x 35 mm²<br>1 x 50 mm² | 1 x 70 mm² | | |

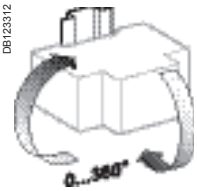
■ On 3P 80 A: upstream voltage taps for each pole, by 6.35 mm Fast-on terminal.

DB123310



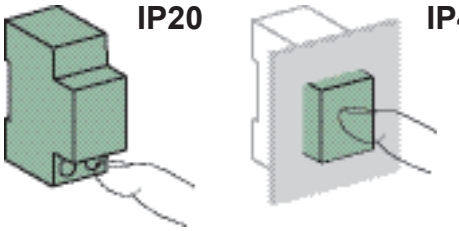

*Clips on to 35 mm DIN rail.*

DB123312




*Any installation position.*

DB123314




## Technical data

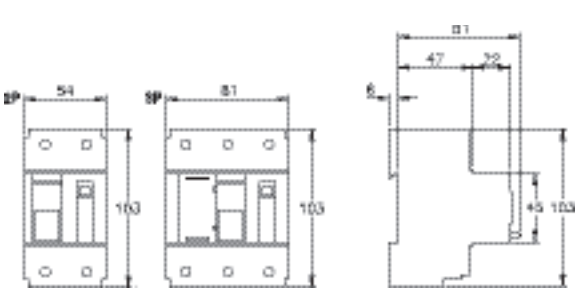
| Main characteristics | | |
|---|---|---|
| **According to IEC/EN 60947-2** | | |
| Insulation voltage (Ui) | | 690 V AC |
| Degree of pollution | | 3 |
| Rated impulse withstand voltage (Uimp) | | 8 kV |
| Thermal tripping | Reference temperature | 40°C |
| Magnetic tripping (Ii) | MA curve | 12 In ± 20 % |
| Utilization category | | A |
| **Additional characteristics** | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Operating temperature | | -30°C to +70°C |
| Storage temperature | | -40°C to +70°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) |

## Weight (g)

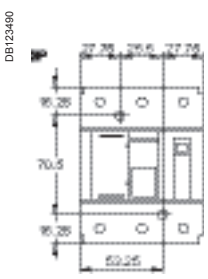
| Circuit breaker | |
|---|---|
| **Type** | **NG125LMA** |
| 2P | 480 |
| 3P | 720 |

## Dimensions (mm)

DB122862

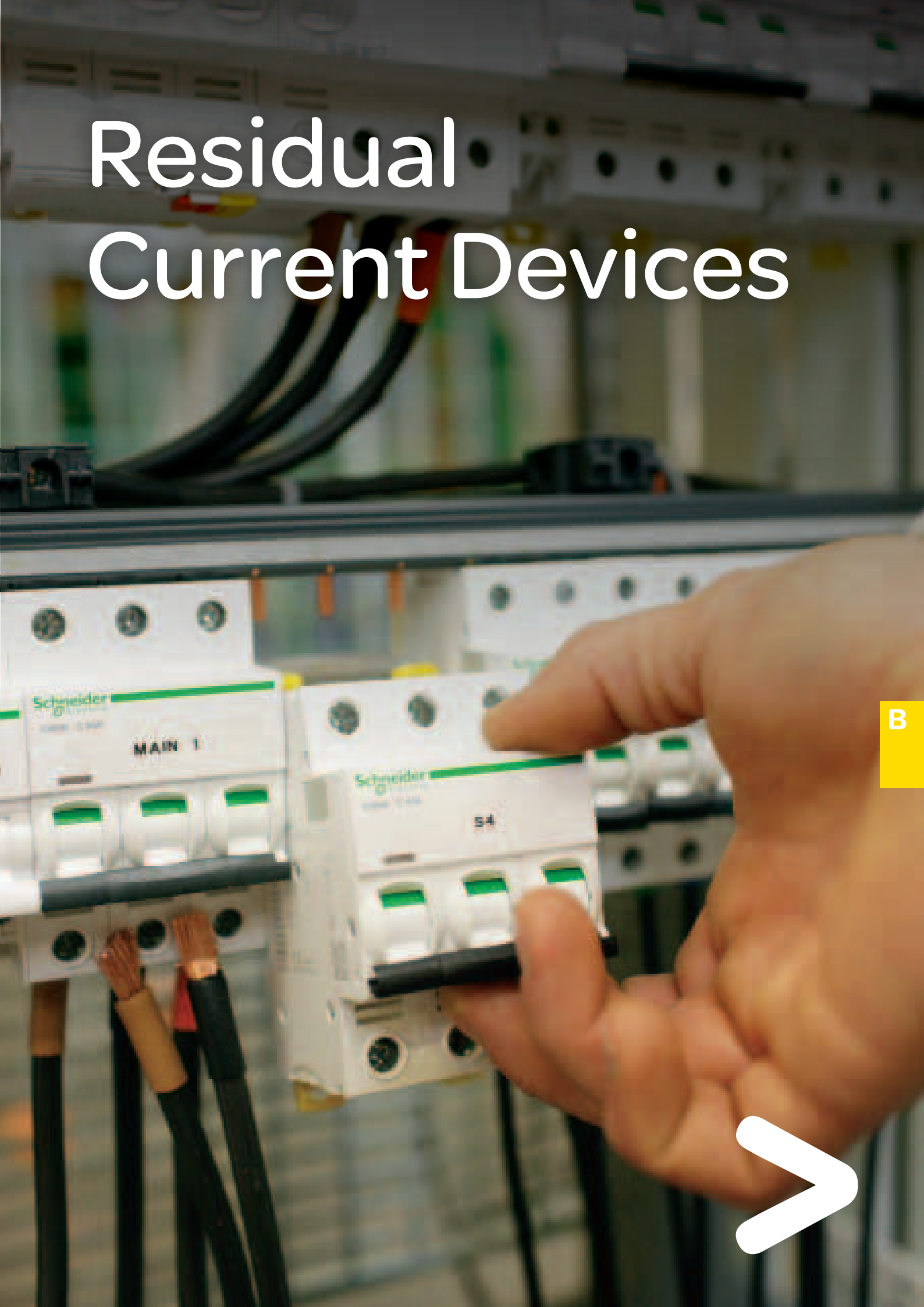



DB123490




*Spacing for mounting on panel*

# Residual Current Devices




B

# Choice of earth leakage protection devices

## Choice of sensitivity

The sensitivity of an earth leakage protection device depends mainly on the function it has to perform:
- Protection from electric shock by direct contact.
- Protection from electric shock by indirect contact.
- Protection from fire due to current leakage.

The following table gives a reminder of:
- The circuits that must be protected against these various risks (obligation or recommendation).
- The type of earth leakage protection device to be used in each case, its sensitivity, and its location in the distribution diagram.

| Type of protection | Obligations | Recommended by Schneider Electric | Sensitivity (IΔn) | | |
|---|---|---|---|---|---|
| | International standard IEC 60364 | | 30 mA (*) | 100 mA to 3000 mA (depending on the earthing system) | 300 mA (or 500 mA) |
| **Protection from electric shock by direct contact** | | | | | |
| DB123167  | Power supply for<br>■ General-purpose power sockets, up to 20 A<br>■ Appliances in the vicinity of a bathtub, shower, pond or swimming pool<br>■ Portable appliances for outdoor use, up to 32 A<br>■ Lighting for exhibition stands and shows<br>■ Outdoor lighting<br><br>*To be modified according to national obligations (above)* | ■ Lighting in the home | **Setup in final distribution switchboard**<br>■ Residual current device protecting a circuit<br>■ Residual current circuit breaker protecting a group of circuits | | |
| **Protection from electric shock by indirect contact** | | | | | |
| DB123168  | The entire power distribution system, except for devices:<br>■ With class II insulation<br>■ Operating at Safety Extra Low Voltage (class III)<br><br>*To be modified according to national obligations (above)* | – | | **Setup in final distribution switchboard**<br>■ Residual current circuit breaker or device, on incoming feeder<br><br>**Setup in subdistribution board or main switchboard**<br>■ Residual current device protecting a circuit<br>■ Residual current device or circuit breaker protecting a group of circuits<br>■ On incoming feeder: residual current circuit breaker or device | |
| **Protection from fire due to current leakage** | | | | | |
| DB123169  | ■ High-risk premises:<br>□ explosion (BE3)<br>□ fire (BE2)<br>■ Agricultural and horticultural buildings<br>■ Equipment for fairs, exhibitions and shows<br>■ Temporary outdoor recreational installations<br><br>*To be modified according to national obligations (above)* | ■ Dilapidated buildings or electrical installations<br>■ Humid atmospheres: agricultural buildings, public swimming pools<br>■ Presence of chemical agents | | | **Setup in final distribution switchboard**<br>■ Residual current circuit breaker or device, on incoming feeder<br><br>**Setup in subdistribution board or main switchboard**<br>■ Residual current device protecting each circuit to a high-risk zone<br>■ Residual current device or circuit breaker protecting a group of circuits<br>■ On incoming feeder: residual current circuit breaker or device |

*(*) The 10 mA sensitivity is useful for certain very specific applications, where there is a risk that someone could sustain a non-dangerous current (10 to 30 mA) without being able to get free. Example: healthcare equipment for hospital beds. Generally, devices with this very high sensitivity are liable to cause frequent tripping, due to the natural leakage currents of the installation.*

# Choice of earth leakage protection devices (cont.)

## Interference immunity

Schneider Electric provides various equipment technologies capable of overcoming the consequences of interference of all kinds.

| Operating conditions | | Examples | Types AC | A | SI | B |
|---|---|---|---|---|---|---|
| **Loads** | | | | | | |
| DB123165 With no special characteristics | | ■ General-purpose power sockets<br>■ Incandescent lighting<br>■ Household appliances: microwave oven, dishwasher, clothes dryer<br>■ Electric heating, water heater | ■ | ■ | ■ | ■ |
| Including a rectifier | Single phase | ■ Household appliances: induction cooking appliances, washing machines (variable speed)<br>■ Single-phase variable speed drives | – | ■ | ■ | – |
| | Three phase | ■ Three-phase variable speed industrial drives<br>■ Three-phase uninterruptible power supplies | – | – | – | ■ |
| Generating high-frequency interference (current peaks, harmonics) | | ■ Fluorescent lighting powered by extra low voltage transformer, by electronic ballast<br>■ Variable luminosity lighting<br>■ Powerful IT equipment<br>■ Single-phase variable speed industrial drives<br>■ Air conditioning<br>■ Telecommunications equipment<br>■ Capacitor banks | – | – | ■ | ■ |
| Including an anti-harmonic filter in the power supply | | ■ Microcomputer systems<br>■ Computer peripherals (printers, scanners, etc.) | – | – | ■ | ■ |
| **Electrical environment** | | | | | | |
| DB123166 Vicinity of equipment generating transient overvoltages | | ■ High-powered switching devices<br>■ Reactive energy compensation banks | – | – | ■ | ■ |
| Circuits powered by an uninterruptible power supply | | ■ Backed-up networks | – | – | ■ | ■ |
| "Isolated neutral" (IT) earthing system | | – | – | – | ■ | ■ |
| Major risk of lightning strokes | | ■ Buildings protected by a lightning protection system<br>■ Mountainous or humid regions<br>■ Regions with high keraunic level | – | – | ■ | ■ |
| **Atmosphere** | | | | | | |
| DB123164 Ambient temperature which could be less than -5°C | | – | – | ■ | ■ | ■ |
| Presence of corrosive agents (AF2 to AF4) or dust | | ■ Indoor swimming pools<br>■ Yacht harbours, marinas, camping grounds<br>■ Water treatment<br>■ Chemical industries, heavy industries, paper mills<br>■ Mines and cellars, road tunnels<br>■ Markets, stock raising, food processing industries | – | – | ■ (1) | – |

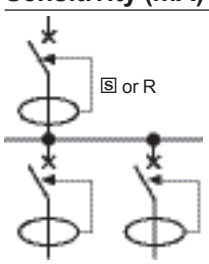
*(1) SiE for C120 and NG125 circuit-breakers*

B

## Discrimination

Residual current devices of average sensitivity (100 mA and more) are available in a selective (S) and delayed (R) version.
This option ensures that, in the event of an earth fault downstream of the installation, only the defective part is switched off.
The table below shows (in green) which upstream/downstream equipment combinations provide this discrimination.

DB123476




| Sensitivity (mA) - Downstream | | Sensitivity (mA) - Upstream: Instantaneous 30 | 100 | 300 | 500 | 1000 | 3000 | Selective S 100 | 300 | 500 | 1000 | 3000 | Delayed R 1000 | 3000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Instantaneous | 30 | - | - | - | - | - | - | | | | | | | |
| | 100 | - | - | - | - | - | - | - | | | | | | |
| | 300 | - | - | - | - | - | - | - | - | - | | | | |
| | 500 | - | - | - | - | - | - | - | - | - | - | | - | |
| | 1000 | - | - | - | - | - | - | - | - | - | - | | - | |
| | 3000 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Selective S | 100 | - | - | - | - | - | - | - | - | - | - | - | | |
| | 300 | - | - | - | - | - | - | - | - | - | - | - | - | |
| | 500 | - | - | - | - | - | - | - | - | - | - | - | - | |
| | 1000 | - | - | - | - | - | - | - | - | - | - | - | - | |
| | 3000 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Delayed R | 1000 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 3000 | - | - | - | - | - | - | - | - | - | - | - | - | - |

# Overview of the earth leakage protection product range

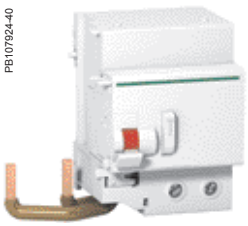
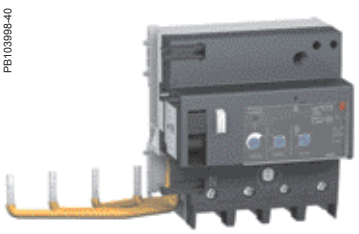
## Selection guide

| Type | | | Residual current circuit breakers | | | |
|---|---|---|---|---|---|---|
| | | | **iID K** | **iID** | **RCCB-ID 125 A** | **RCCB-ID type B** |
| | | | PB104497-35  | PB104472-35  | 62074_SE-35  | PB101616_SE-35  |
| **Standards** | | | IEC/EN 61008 | IEC/EN 61008 | IEC/EN 61008-1 and VDE 0664 | IEC/EN 61008 and VDE 0664 |
| **Number of poles** | | 1P+N | – | – | – | – |
| | | 2P | ■ | ■ | ■ | – |
| | | 3P | – | – | – | – |
| | | 4P | ■ | ■ | ■ | ■ |
| **Type** | | AC | ■ | ■ | ■ | – |
| | | A | – | ■ | ■ | – |
| | | ***SI*** | – | ■ | ■ | – |
| | | B | – | – | – | ■ |
| **Voltage (V)** | Ue | | 230/400 | 230/400 | 230/400 | 230/400 |
| **Impulse voltage (kV)** | Uimp | | 4 | 6 | 4 | 4 |
| **Insulation voltage (V)** | Ui | | 440 | 500 | 400 | 400 |
| **Current rating (A)** | In | | 25 - 40 - 63 | 16 to 100 | 125 | 25 to 125 |
| **Frequency (Hz)** | | | 50/60 | 50 | 50 | 50 |
| **Rated breaking capacity (A)** | Icn | | – | – | 10000 | – |
| **Rated conditional short-circuit current** | Inc | | 4500 | 10000 | 10000 | 10000 |
| **Rated residual breaking and making capacity (A)** | (IΔm) | | 10 In (500 A min.) | 1500 | 1250 | 10 In (500 A min.) |
| **Curve** | | | – | – | – | – |
| **Sensitivity (mA)** | (IΔn) | 10 | – | ■ | – | – |
| | | 30 | ■ | ■ | ■ | ■ |
| | | 100 | – | ■ | ■ | – |
| | | 300 | ■ | ■ | ■ | ■ |
| | | 500 | – | ■ | ■ | ■ |
| | | 1000 | – | – | – | – |
| | | 3000 | – | – | – | – |
| | | 300 Ⓢ | – | ■ | ■ | ■ |
| | | 500 Ⓢ | – | ■ | – | – |
| | | 1000 Ⓢ | – | – | – | – |
| | | 3000 Ⓢ | – | – | – | – |
| **Electrical characteristics** | | | | | | |
| **Curves** | | B | – | – | – | – |
| | | C | – | – | – | – |
| | | D | – | – | – | – |
| | | L | – | – | – | – |
| | | K | – | – | – | – |
| | | MA | – | – | – | – |
| **For more details, see page** | | | **B-11** | **B-6** | **B-13** | **B-15** |
| **Accessories** | | | **–** | **E-2, E-10** | **B-13** | **B-15** |
| **Auxiliaries** | | | **–** | **E-2, F-2** | **B-13** | **B-15** |

***Inc: rated conditional short-circuit current***
*Value of the alternating component of the prospective current that a residual current circuit breaker protected by an appropriate short-circuit protective device (SCPD) mounted in series can withstand in specified conditions of use.*

***IΔc: rated residual short-circuit current***
*Value of the alternating component of the prospective residual current that a residual current circuit breaker protected by an appropriate short-circuit protective device (SCPD) mounted in series can withstand in specified conditions of use.*

# Overview of the earth leakage protection product range (cont.)

| | Add-on residual current devices | | | | Residual current devices RCBO | |
|---|---|---|---|---|---|---|
| | Vigi iC60 | Vigi C120 | Vigi NG125 | Vigi iDPN | iDPNa Vigi | iDPN N/H Vigi |
| |  PB104466-40 |  PB107924-40 |  PB103998-40 |  PB107115-32 |  PB104341B-35 |  PB104341B-35 |
| | IEC/EN 61009 | IEC/EN 61009 | IEC/EN 61009 | IEC/EN 61009 | IEC/EN 61009 | IEC/EN 61009 |
| | – | – | – | ■ | ■ | ■ |
| | ■ | ■ | ■ | – | – | – |
| | ■ | ■ | ■ | ■ | – | – |
| | ■ | ■ | ■ | ■ | – | – |
| | ■ | ■ | ■ | ■ | ■ | ■ |
| | ■ | ■ | ■ | ■ | ■ | ■ |
| | ■ | ■ | ■ | ■ | – | ■ |
| | – | – | – | – | – | – |
| | 230/400 | 230/400 | 230/400 | 230/400 | 230 | 230 |
| | 6 | 6 | 8 | 6 | 4 | 4 |
| | 500 | 500 | 690 | 500 | 400 | 400 |
| | 25 - 40 - 63 | 10 - 125 | 63 - 125 | 25 - 63 | 6 to 40 | N= 4 to 40<br>H= 6 to 32 |
| | 50/60 | 50/60 | 50/60 | 50/60 | 50/60 | 50/60 |
| | – | – | – | – | 4500 | 6000/10000 |
| | – | – | – | – | – | – |
| | – | – | – | – | 4500 | 6000 |
| | – | – | – | – | B, C | B, C |
| | ■ | – | – | – | ■ | – |
| | ■ | ■ | ■ | ■ | ■ | ■ |
| | ■ | – | – | ■ | – | – |
| | ■ | ■ | ■ | ■ | ■ | ■ |
| | ■ | ■ | ■ | – | – | – |
| | – | – | ■ | – | – | – |
| | – | – | ■ | – | – | – |
| | ■ | ■ | ■ | – | – | – |
| | ■ | ■ | ■ | – | – | – |
| | – | – | ■ | – | – | – |
| | Depending on circuit breaker used | Depending on circuit breaker used | Depending on circuit breaker used | Depending on circuit breaker used | – | ■ |
| | | | | | ■ | ■ |
| | | | | | – | – |
| | | | | | – | – |
| | | | | | – | – |
| | | | | | – | – |
| | **B-17** | **B-22** | **B-27** | **B-33** | **B-35** | **B-36** |
| | **E-2** | **E-7 and E-15** | **E-26** | **E-29** | **E-6, E-10 & E-29** | **E-6, E-10 & E-29** |
| | **E-2** | **E-7 and F-9** | **F-14** | **E-31** | **F-2** | **F-2** |

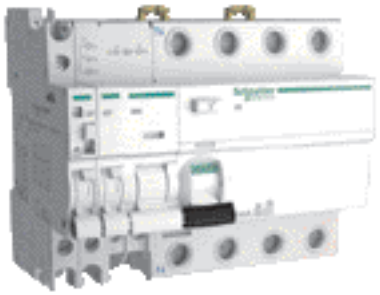
***Im: rated making and breaking capacity***
*Value of the alternating component of the prospective current that a residual current circuit breaker is capable of establishing or interrupting in specified conditions of use.*

***IΔm: rated making and breaking capacity***
*Value of the alternating component of the prospective residual current that a residual current circuit breaker is capable of establishing and withstanding during its opening time and interrupting in specified conditions of use and behaviour.*

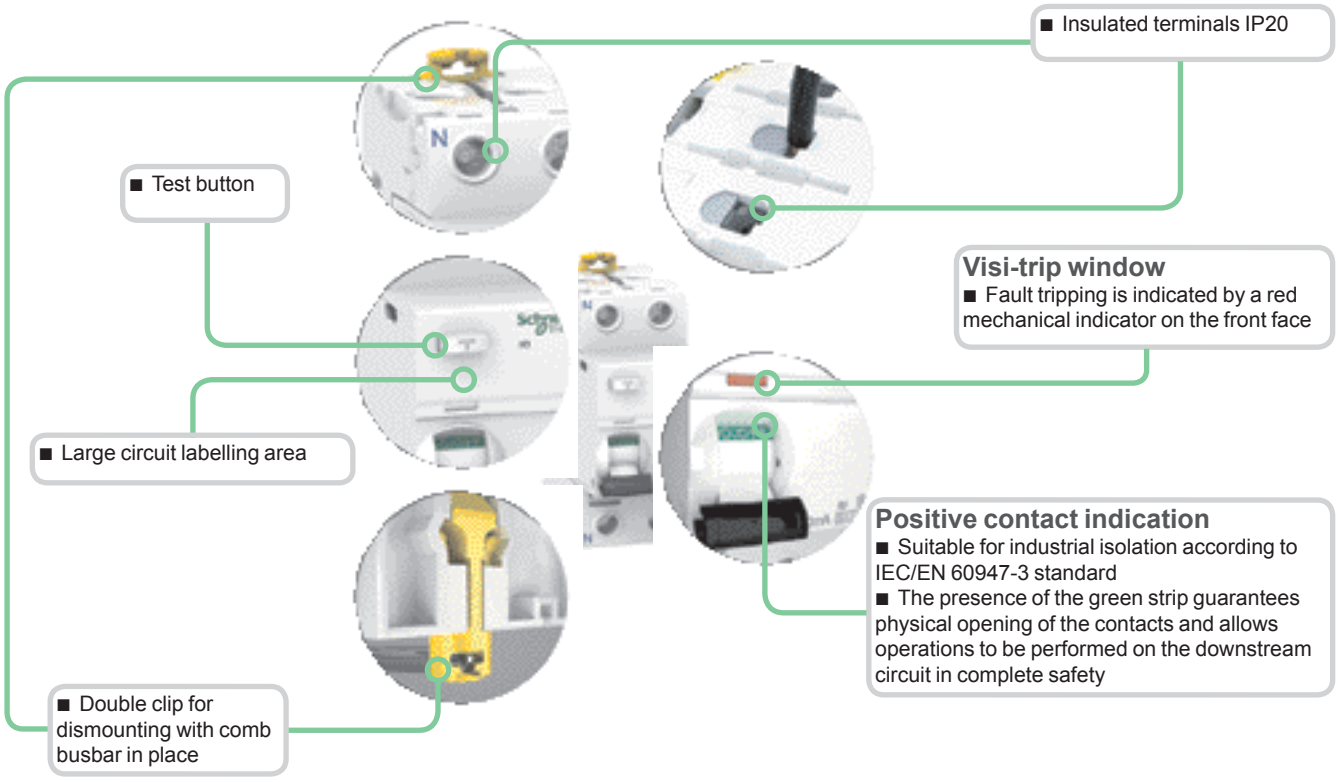
***SCPD***
*Short-circuit protective device (a fuse in the case of our markings): this is the max. fuse that can be used to resist the value Inc = IΔc.*

# iID residual current circuit breakers (AC, A, *SI* types) (cont.)

PB104548-40



PB104472-40




## *SI* type

The *SI* type provides increased immunity from electrical interference and polluted or corrosive environments.

# iID residual current circuit breakers (AC type)

DB116619

## IEC/EN 61008-1

PB104472-40

PB104473-40

- The iID residual current circuit breakers provide:
  - protection of persons against electric shock by direct contact (⩽ 30 mA),
  - protection of persons against electric shock by indirect contact (⩾ 100 mA),
  - protection of installations against the risk of fire (300 mA or 500 mA).

## Catalogue numbers

**iID residual current circuit breakers**

| Type | | | AC | | | | | | | Width in 9 mm module |
|---|---|---|---|---|---|---|---|---|---|---|
| Product | | | iID | | | | | | | |
| Auxiliaries | | | See page E-2 and F-2 | | | | | | | |
| 2P | | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA Ⓢ | 500 mA Ⓢ | |
| DB122476 | Rating | 16 A | A9R10216 | - | - | - | - | - | - | 4 |
| | | 25 A | A9R10225 | A9R71225 | - | A9R74225 | A9R16225 | - | - | |
| | | 40 A | - | A9R71240 | A9R12240 | A9R74240 | A9R16240 | - | - | |
| | | 63 A | - | A9R71263 | A9R12263 | A9R74263 | A9R16263 | A9R15263 | - | |
| | | 80 A | - | A9R11280 | A9R12280 | A9R14280 | - | A9R15280 | - | |
| | | 100 A | - | A9R11291 | A9R12291 | A9R14291 | - | A9R15291 | - | |
| 4P | | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA Ⓢ | 500 mA Ⓢ | |
| DB122477 | Rating | 25 A | - | A9R71425 | - | A9R74425 | A9R16425 | - | - | 8 |
| | | 40 A | - | A9R71440 | A9R12440 | A9R74440 | A9R16440 | A9R15440 | A9R17440 | |
| | | 63 A | - | A9R71463 | A9R12463 | A9R74463 | A9R16463 | A9R15463 | A9R17463 | |
| | | 80 A | - | A9R11480 | A9R12480 | A9R14480 | A9R16480 | A9R15480 | A9R17480 | |
| | | 100 A | - | A9R11491 | A9R12491 | A9R14491 | - | A9R15491 | - | |
| Voltage rating (Ue) | | 2P | 230 - 240 V | | | | | | | |
| | | 4P | 400 - 415 V | | | | | | | |
| Operating frequency | | | 50/60 Hz | | | | | | | |
| Accessories | | | See pages E-2 and E-10 | | | | | | | |

B

# iID residual current circuit breakers (A type)

DB116619

IEC/EN 61008-1

PB104472-40

PB104473-40

- The iID residual current circuit breakers provide:
  - protection of persons against electric shock by direct contact (≤ 30 mA),
  - protection of persons against electric shock by indirect contact (≥ 100 mA),
  - protection of installations against the risk of fire (300 mA or 500 mA).

## Catalogue numbers

**iID residual current circuit breakers**

| Type | | | A | | | | | | Width in 9 mm module |
|---|---|---|---|---|---|---|---|---|---|
| Product | | | iID | | | | | | |
| Auxiliaries | | | See page E-2 and F-2 | | | | | | |
| 2P | | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA S | |
| DB122476 | Rating | 16 A | A9R20216 | - | - | - | - | - | 4 |
| | | 25 A | A9R20225 | A9R51225 | - | A9R54225 | - | - | |
| | | 40 A | - | A9R51240 | - | A9R54240 | - | A9R25240 | |
| | | 63 A | - | A9R51263 | - | A9R54263 | - | A9R25263 | |
| | | 100 A | - | A9R21291 | - | A9R24291 | - | A9R25291 | |
| 4P | | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA S | |
| DB122477 | Rating | 25 A | - | A9R51425 | - | A9R54425 | - | - | 8 |
| | | 40 A | - | A9R51440 | A9R22440 | A9R54440 | A9R26440 | A9R25440 | |
| | | 63 A | - | A9R51463 | A9R22463 | A9R54463 | A9R26463 | A9R25463 | |
| | | 80 A | - | A9R21480 | - | A9R24480 | - | A9R25480 | |
| | | 100 A | - | A9R21491 | - | A9R24491 | A9R26491 | A9R25491 | |
| Voltage rating (Ue) | | 2P | 230 - 240 V | | | | | | |
| | | 4P | 400 - 415 V | | | | | | |
| Operating frequency | | | 50/60 Hz | | | | | | |
| Accessories | | | See pages E-2 and E-10 | | | | | | |

# iID residual current circuit breakers (*SI* type)

DB116619

IEC/EN 61008-1

PB104472-40

PB104473-40

■ The iID residual current circuit breakers provide:
□ protection of persons against electric shock by direct contact (⩽ 30 mA),
□ protection of persons against electric shock by indirect contact (⩾ 300 mA),
□ protection of installations against the risk of fire (300 mA or 500 mA).

The ***SI*** type provides increased immunity from electrical interference and polluted or corrosive environments.

## Catalogue numbers

**iID residual current circuit breakers**

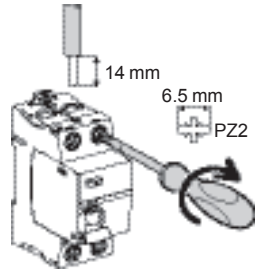
| **Type** | | | ***SI*** | | | | | **Width in 9 mm module** |
|---|---|---|---|---|---|---|---|---|
| **Product** | | | **iID** | | | | | |
| **Auxiliaries** | | | **See page E-2 and F-2** | | | | | |
| **2P** | | **Sensitivity** | **10 mA** | **30 mA** | **300 mA** | **300 mA S** | **500 mA S** | |
| DB122476 | Rating | 16 A | - | - | - | - | - | 4 |
| | | 25 A | **A9R30225** | **A9R91225** | - | - | - | |
| | | 40 A | - | **A9R91240** | - | **A9R35240** | - | |
| | | 63 A | - | **A9R91263** | - | **A9R35263** | - | |
| | | 100 A | - | - | - | **A9R35291** | - | |
| **4P** | | **Sensitivity** | **10 mA** | **30 mA** | **300 mA** | **300 mA S** | **500 mA S** | |
| DB122477 | Rating | 25 A | - | **A9R91425** | - | - | - | 8 |
| | | 40 A | - | **A9R91440** | - | **A9R35440** | **A9R37440** | |
| | | 63 A | - | **A9R91463** | **A9R34463** | **A9R35463** | **A9R37463** | |
| | | 80 A | - | **A9R31480** | - | **A9R35480** | **A9R37480** | |
| | | 100 A | - | **A9R31491** | **A9R34491** | **A9R35491** | - | |
| Voltage rating (Ue) | | 2P | 230 - 240 V | | | | | |
| | | 4P | 400 - 415 V | | | | | |
| Operating frequency | | | 50/60 Hz | | | | | |
| **Accessories** | | | **See pages E-2 and E-10** | | | | | |

B

# iID residual current circuit breakers (AC, A, *SI* types)

## Connection

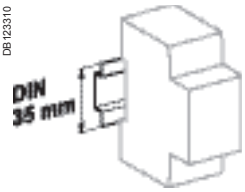
DB122947




| Type | Tightening torque | Without accessory: Copper cables – Rigid | Without accessory: Copper cables – Flexible or ferrule | With accessories*: 50 mm² Al terminal | With accessories*: Screw-on connection for ring terminal | With accessories*: Multi-cables terminal – Rigid cables | With accessories*: Multi-cables terminal – Flexible cables |
|---|---|---|---|---|---|---|---|
| | | DB122945 | DB122946 | DB122935 | DB118789 | DB118787 | |
| iID | 3.5 N.m | 1 to 35 mm² | 1 to 25 mm² | 50 mm² | Ø 5 mm | 3 x 16 mm² | 3 x 10 mm² |

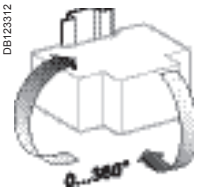
* See page E-2

DB123310



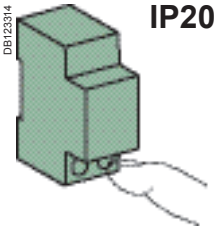

*Clip on DIN rail 35 mm.*

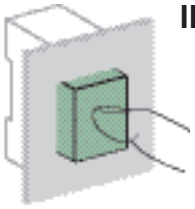
DB123312




*Indifferent position of installation.*

DB123314




## Technical data

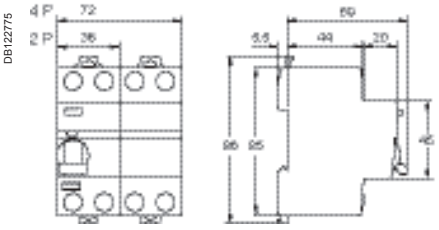
| Main characteristics | | |
|---|---|---|
| Insulation voltage (Ui) | | 500 V |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (Uimp) | | 6 kV |
| **According to IEC/EN 61008-1** | | |
| Making and breaking capacity (Im/IΔm) | | 1500 A |
| Surge current withstand (8/20 µs) without tripping | AC and A types (no selective Ⓢ) | 250 Â |
| | AC, A types (selective Ⓢ) | 3 kÂ |
| | ***SI*** type | 3 kÂ |
| Conditional rated short circuit current (Inc/IΔc) | With iC60N/H/L | Equal to breaking capacity of iC60 |
| | With fuse | 10,000 A |
| **Additional characteristics** | | |
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40<br>Insulation classe II |
| Endurance (O-C) | Electrical (AC1) 16 to 63 A | 15,000 cycles |
| | Electrical (AC1) 80 to 100 A | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Operating temperature | AC type | -5°C to +60°C |
| | A and ***SI*** types | -25°C to +60°C |
| Storage temperature | | -40°C to +85°C |

## Weight (g)

| Residual current circuit breakers | |
|---|---|
| **Type** | **iID** |
| 2P | 210 |
| 4P | 370 |

## Dimensions (mm)

DB122775



# iID K residual current circuit breakers

DB116619

## IEC/EN 61008-1

PB104497-40

PB104498-40

- The iID K residual current circuit breakers provide:
  - protection of persons against electric shock by direct contact (30 mA),
  - protection of persons against electric shock by indirect contact (300 mA)
  - protection of installations against the risk of fire (300 mA).

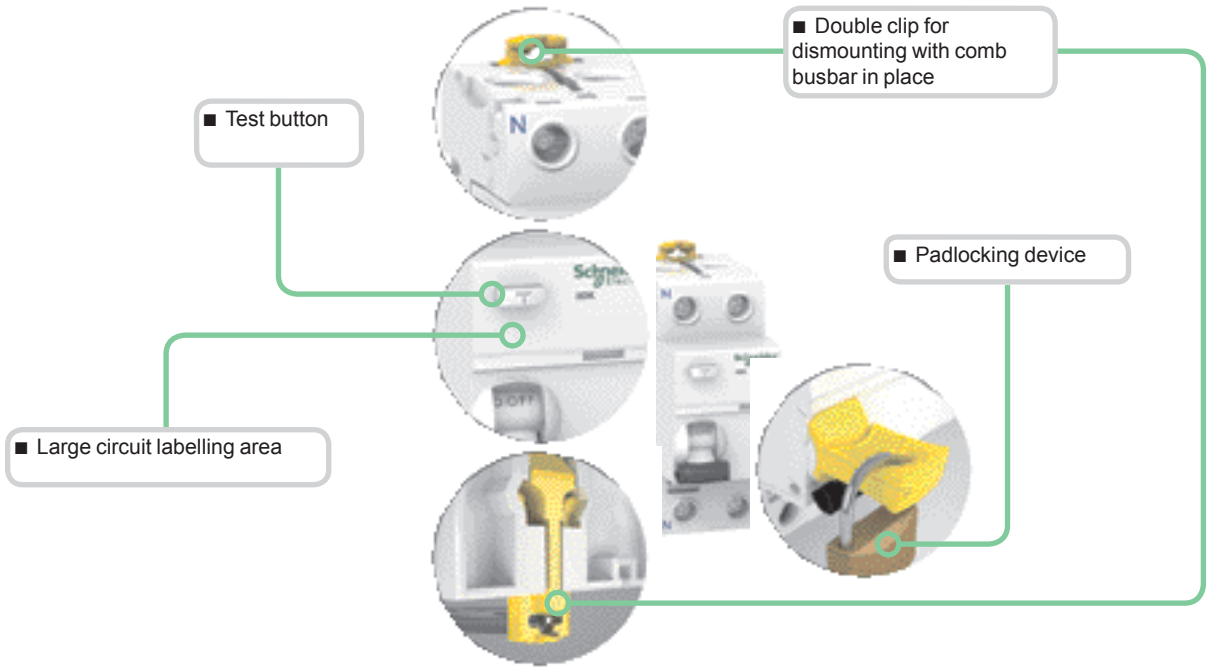
## Catalogue numbers

**iID K residual current circuit breakers**

| Type | | | AC | | Width in 9-mm modules |
|---|---|---|---|---|---|
| Product | | | iID K | | |
| Auxiliaries | | | Without auxiliaries | | |
| 2P | | Sensitivity | 30 mA | 300 mA | |
| DB122476 | Rating | 25 A | A9R50225 | A9R75225 | 4 |
| | | 40 A | A9R50240 | A9R75240 | |
| 4P | | Sensitivity | 30 mA | 300 mA | |
| DB122477 | Rating | 25 A | A9R50425 | A9R75425 | 8 |
| | | 40 A | A9R50440 | A9R75440 | |
| | | 63 A | A9R70463 | A9R75463 | |
| Voltage rating (Ue) | | 2P | 230 - 240 V | | |
| | | 4P | 400 - 415 V | | |
| Operating frequency | | | 50/60 Hz | | |

B

PB104497-40

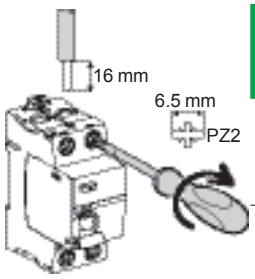


# iID K residual current circuit breakers (cont.)

## Connection

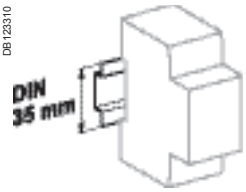
Without accessory

DB122947



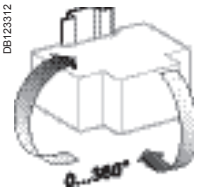

| Type | Tightening torque | Copper cables | |
|---|---|---|---|
| | | Rigid | Flexible or ferrule |
| | DB122945 | DB122946 | |
| iID K | 3.5 N.m | 1 to 35 mm² | 1 to 25 mm² |

DB123310



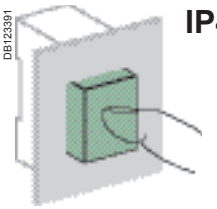

*Clip on DIN rail 35 mm.*

DB123312




*Indifferent position of installation.*

DB123391



**IP40**

## Technical data

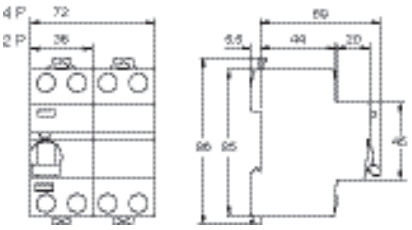
| Main characteristics | | |
|---|---|---|
| **According to IEC/EN 61008-1** | | |
| Insulation voltage (Ui) | | 440 V |
| Pollution degree | | 2 |
| Rated impulse withstand voltage (Uimp) | | 4 kV |
| Making and breaking capacity (Im/IΔm) | 25 to 40 A | 500 A |
| | 63 A | 630 A |
| Surge current withstand (8/20 µs) without tripping | | Up to 200 Â |
| Conditional rated short circuit current (Inc/IΔc) | With iC60N/H/L, iK60N | 6000 A |
| | With fuse | 4500 A |
| **Additional characteristics** | | |
| Degree of protection | Device in modular enclosure | IP40 |
| Endurance (O-C) | Electrical | 2000 cycles (AC1) |
| | Mechanical | 5000 cycles |
| Operating temperature | | -5°C to +60°C |
| Storage temperature | | -40°C to +85°C |

## Weight (g)

| Residual current circuit breakers | |
|---|---|
| **Type** | **iID K** |
| 2P | 210 |
| 4P | 370 |

## Dimensions (mm)

DB122775



# RCCB-ID 125 A residual current circuit breaker (AC, A, *SI* types)

## IEC/EN 61008-1, VDE 0664


16973


16921


16940


16938


16939

- The RCCB-ID 125 A residual current circuit breakers provide:
  - protection of persons against electric shock by direct contact (30 mA),
  - protection of persons against electric shock by indirect contact (≥ 100 mA),
  - protection of installations against the risk of fire (300 mA or 500 mA).

The ***SI*** type provides increased immunity from electrical interference and polluted or corrosive environments.

### OFsp auxiliary

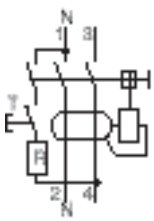
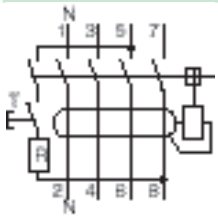
- Electrical indication: by OFsp auxiliary mounted to the left, it has a double changeover switch indicating the "open" or "closed" position of the RCCB-ID 125 A.

### Accessories

- 2P and 4P sealable screw shield.

## Catalogue numbers

### RCCB-ID 125 A residual current circuit breakers

| Type | | | AC | | | | A | | | | *SI* | | Width in 9 mm module |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2P** | | **Sensitivity** | **30 mA** | **100 mA** | **300 mA** | **500 mA** | **30 mA** | **300 mA** | **300 mA S** | **500 mA** | **30 mA** | **300 mA** | |
|  | Rating | 125 A | **16966** | - | **16967** | - | **16970** | **16971** | - | - | **16972** | **16973** | 4 |
| **4P** | | **Sensitivity** | **30 mA** | **100 mA** | **300 mA** | **500 mA** | **30 mA** | **300 mA** | **300 mA S** | **500 mA** | **30 mA** | **300 mA** | |
|  | Rating | 125 A | **16905** | **16906** | **16907** | **16908** | **16924** | **16926** | **16925** | **16927** | **16920** | **16921** | 8 |
| Voltage rating (Ue) | | 2P | 230 V | | | | | | | | | | |
| | | 4P | 400 V | | | | | | | | | | |
| Operating frequency | | | 50 Hz | | | | | | | | | | |

### Auxiliary

| Type | | | | Width in 9 mm module |
|---|---|---|---|---|
| **Contact OFsp** | **Contact** | **Voltage** | | |
|  | 1 A | 110 V DC | **16940** | 1 |
| | 6 A | 230 V AC (AC15) | | |

### Accessory

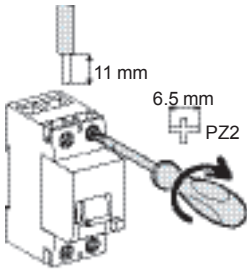
| Type | Number of pole | |
|---|---|---|
| Screw shield (set of 10) for upstream or downstream | 2P | **16938** |
| | 4P | **16939** |

# RCCB-ID 125 A residual current circuit breaker (AC, A, *SI* types) (cont.)

## Connection

■ By tunnel terminals for:

DB123737

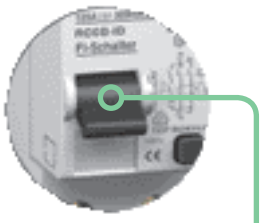



| Type | Tightening torque | Copper cables | |
|---|---|---|---|
| | | Rigid | Flexible or ferrule |
| | DB112804 | DB112805 | |
| RCCB-ID | 3 N.m | 1 x 1.5 to 50 mm² | 1 x 1.5 to 35 mm² |
| | | 2 x 1.5 to 16 mm² | 2 x 1.5 to 16 mm² |
| OFsp | 0.8 N.m | 1 to 1.5 mm² | 1 to 1.5 mm² |

**OFsp contact status, depending on the position of the residual current circuit breaker**

| Type | | | | |
|---|---|---|---|---|
| RCCB-ID 125 A | Closed | ■ | - | - |
| | Open | - | ■ | - |
| | Tripped on fault | - | - | ■ |
| Contact OFsp | 22/21 12/11 | Open | Closed | Closed |
| | 14/11 | Closed | Open | Open |

DB122835



**Indication of the status of the RCCB-ID via the 3-position toggle and front panel indicator**

- Closed (red indicator)
- Tripped on fault (green indicator)
- Open (green indicator)

## Technical data

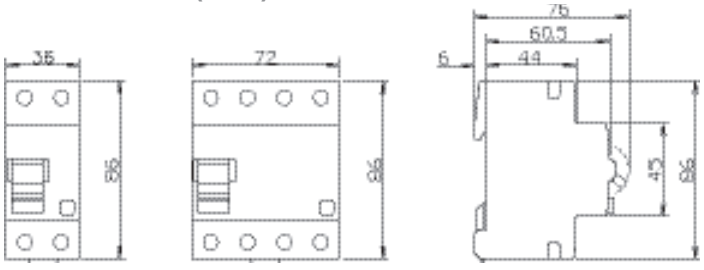
| Electrical characteristics | | |
|---|---|---|
| Insulation voltage (Ui) | | 400 V |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (Uimp) | | 4 kV |
| **According to IEC/EN 61008-1** | | |
| Making and breaking capacity (Im/IΔm) | | 1250 A |
| Surge current withstand (8/20 µs) without tripping | AC and A types (no selective Ⓢ) | 250 Â |
| | *SI* type (no selective Ⓢ) | 3 kÂ |
| | AC, A and *SI* types (selective Ⓢ) | 3 kÂ |
| Conditional rated short circuit current (Inc/IΔc) | With FU 125 A gG fuse | 10,000 A |
| **Additional characteristics** | | |
| Degree of protection | Device only | IP20<br>IP40 with screw shield |
| | Device in modular enclosure | IP40<br>Insulation classe II |
| Endurance (O-C) | Electrical | > 2 000 cycles |
| | Mechanical | > 5 000 cycles |
| Operating temperature | | -25°C to +40°C |
| Storage temperature | | -40°C to +85°C |

## Weight (g)

| Residual current circuit breakers and auxiliary | | |
|---|---|---|
| **Type** | **RCCB-ID 125 A** | **OFsp** |
| 2P | 230 | 40 |
| 4P | 420 | |

## Dimensions (mm)

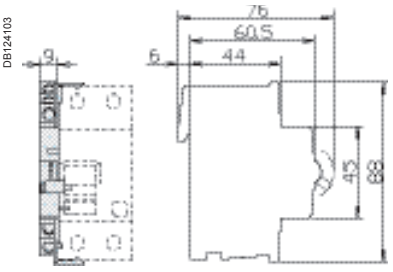
0140302_1




*2P*
*RCCB-ID 125 A*

*4P*

DB124103




*Contact OFsp*

# RCCB-ID B type

## IEC/EN 61008, VDE 0664

PB101616_SE-35

16766

PB107510-33

16940

PB100572-18

16939

■ The RCCB-ID 125 A residual current circuit breakers provide:
□ protection of persons against electric shock by direct contact (30 mA),
□ protection of persons against electric shock by indirect contact (≥ 300 mA),
□ protection of installations against the risk of fire (300 mA or 500 mA).

**B type**
The RCCB-ID B type residual current circuit breakers provide:
■ protection in the event of a continuous fault current on three-phase networks generated by:
□ controllers and variable speed drives,
□ battery chargers and inverters,
□ backed-up power supplies.

■ They include and also guarantee protection against fault currents:
□ sinusoidal AC residual currents (AC type),
□ pulsed DC residual currents (A type).

They can be adapted to all the application cases defined in standards IEC 60364 and EN 50178.
■ Schneider Electric guarantees that the type B RCCB-ID works correctly in combination with the variable speed drives manufactured by Schneider Electric.

### OFsp auxiliary

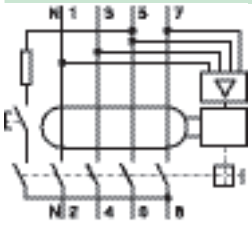
■ Electrical indication: by OFsp auxiliary mounted to the left.
It has a double changeover switch indicating the "open" or "closed" position of the RCCB-ID B type .

### Accessories

■ 4P sealable screw shield.

## Catalogue numbers

### RCCB-ID B type residual current circuit breakers

| Type | | | B | | | | Width in 9 mm module |
|---|---|---|---|---|---|---|---|
| 4P | | Sensitivity | 30 mA | 300 mA | 300 mA S | 500 mA | |
| DB123726  | Rating | 25 A | **16750** | **16751** | **-** | **-** | 8 |
| | | 40 A | **16752** | **16753** | **16754** | **16755** | |
| | | 63 A | **16756** | **16757** | **16758** | **16759** | |
| | | 80 A | **16760** | **16761** | **16762** | **-** | |
| | | 125 A | **16763** | **16764** | **16765** | **16766** | |
| Voltage rating (Ue) | | | 230/400 V | | | | |
| Operating frequency | | | 50 Hz | | | | |

### Auxiliary

| Type | | | | Width in 9 mm module |
|---|---|---|---|---|
| Contact OFsp | Contact | Voltage | | |
| E91415  | 1 A | 110 V DC | **16940** | 1 |
| | 6 A | 230 V AC (AC15) | | |

### Accessory

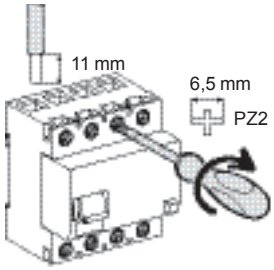
| Type | Number of pole | |
|---|---|---|
| Screw shield (set of 10) for upstream or downstream | 4P | **16939** |

# RCCB-ID B type (cont.)

## Connection

■ By tunnel terminals for:

DB123736




| Type | Tightening torque | Copper cables | |
|---|---|---|---|
| | | Rigid | Flexible or ferrule |
| | DB112804 | DB112805 | |
| RCCB-ID B type | 3 N.m | 1 x 1.5 to 50 mm² | 1 x 1.5 to 35 mm² |
| | | 2 x 1.5 to 16 mm² | 2 x 1.5 to 16 mm² |
| OFsp | 0.8 N.m | 1 to 1.5 mm² | 1 to 1.5 mm² |

**OFsp contact status, depending on the position of the residual current circuit breaker**

| Type | | | | |
|---|---|---|---|---|
| RCCB-ID B type | Closed | ■ | - | - |
| | Open | - | ■ | - |
| | Tripped on fault | - | - | ■ |
| Contact OFsp | 22/21 12/11 | Open | Closed | Closed |
| | 14/11 | Closed | Open | Open |

DB122842

**Indication of the status of the RCCB-ID B type via the 3-position toggle and front panel indicator**

- Closed (red indicator)
- Tripped on fault (green indicator)
- Open (green indicator)

## Technical data

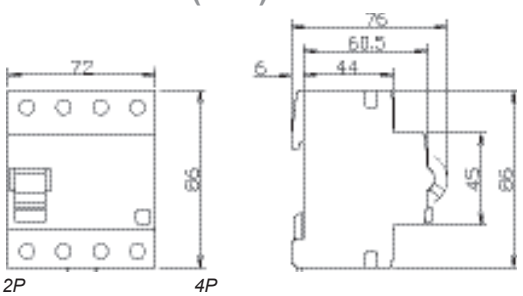
| Electrical characteristics | | |
|---|---|---|
| Insulation voltage (Ui) | | 400 V |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (Uimp) | | 4 kV |
| **According to IEC/EN 61008-1** | | |
| Making and breaking capacity (Im/IΔm) | 25/40 A | 500 A |
| | 63/80 A | 800 A |
| | 125 A | 1250 A |
| Surge current withstand (8/20 µs) without tripping | No selective Ⓢ | 250 Â |
| | Selective Ⓢ | 3 kÂ |
| Conditional rated short circuit current (Inc/IΔc) | 25/40 A with FU 80 A gG fuse | 10,000 A |
| | 63 A with FU 100 A gG fuse | 10,000 A |
| | 80/125 A with FU 125 A gG fuse | 10,000 A |
| **Additional characteristics** | | |
| Degree of protection | Device only | IP20<br>IP40 with screw shield |
| | Device in modular enclosure | IP40<br>Insulation classe II |
| Endurance (O-C) | Electrical | > 2 000 cycles |
| | Mechanical | > 5 000 cycles |
| Operating temperature | | -25°C to +40°C |
| Storage temperature | | -40°C to +85°C |

## Weight (g)

| Residual current circuit breakers and auxiliary | | |
|---|---|---|
| Type | RCCB-ID B type | OFsp |
| 4P | 450 | 40 |

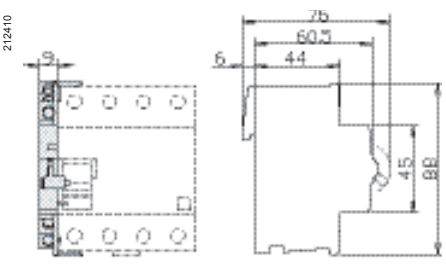
## Dimensions (mm)

DB122838




*2P* *4P*
*RCCB-ID B type*

212410



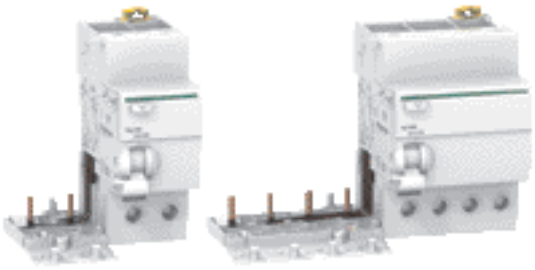

*Contact OFsp*

# Vigi iC60 add-on residual current devices (AC type)

DB116619

IEC/EN 61009-1

PB104466-35



- Combined with iC60 circuit breaker, the Vigi iC60 provide:
  - protection of persons against electric shock by direct contact (⩽ 30 mA),
  - protection of persons against electric shock by indirect contact (⩾ 100 mA),
  - protection of installations against the risk of fire (300 mA or 500 mA).

## Catalogue numbers

**Vigi iC60 add-on residual current devices**

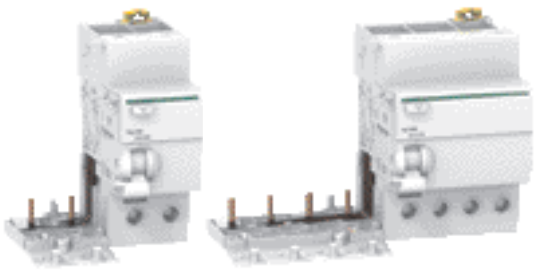
| Type | | | AC | | | | | | | Width in 9 mm modules |
|---|---|---|---|---|---|---|---|---|---|---|
| Product | | | Vigi iC60 | | | | | | | |
| Auxiliaries | | | Without auxiliaries | | | | | | | |
| 2P | | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA S | 1000 mA S | |
| DB122462 | Rating | 25 A | A9V10225 | A9V41225<br>*A9V01225** | A9V12225 | A9V44225<br>*A9V04225** | A9V16225 | - | - | 3 |
| | | 40 A | - | A9V41240<br>*A9V01240** | - | A9V44240<br>*A9V04240** | A9V16240 | - | - | 4 |
| | | 63 A | - | A9V41263<br>*A9V01263** | A9V12263 | A9V44263<br>*A9V04263** | A9V16263 | A9V15263 | A9V19263 | 4 |
| 3P | | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA S | 1000 mA S | |
| DB122463 | Rating | 25 A | - | A9V41325 | - | A9V44325 | A9V16325 | - | - | 6 |
| | | 40 A | - | A9V41340 | - | A9V44340 | A9V16340 | - | - | 7 |
| | | 63 A | - | A9V41363 | - | A9V44363 | A9V16363 | A9V15363 | A9V19363 | 7 |
| 4P | | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA S | 1000 mA S | |
| DB122464 | Rating | 25 A | - | A9V41425 | A9V12425 | A9V44425 | A9V16425 | - | - | 6 |
| | | 40 A | - | A9V41440 | - | A9V44440 | A9V16440 | - | - | 7 |
| | | 63 A | - | A9V41463 | A9V12463 | A9V44463 | A9V16463 | A9V15463 | A9V19463 | 7 |
| Voltage rating (Ue) | | | 230 - 240 V, 400 - 415 V<br>*Except * 130 V* | | | | | | | |
| Operating frequency | | | 50/60 Hz | | | | | | | |
| Accessories | | | See page E-2 | | | | | | | |

# Vigi iC60 add-on residual current devices (A type)

DB116619

IEC/EN 61009-1

PB104466-35



- Combined with iC60 circuit breaker, the Vigi iC60 provide:
  - protection of persons against electric shock by direct contact (30 mA),
  - protection of persons against electric shock by indirect contact (≥ 100 mA),
  - protection of installations against the risk of fire (300 mA or 500 mA).

## Catalogue numbers

**Vigi iC60 add-on residual current devices**

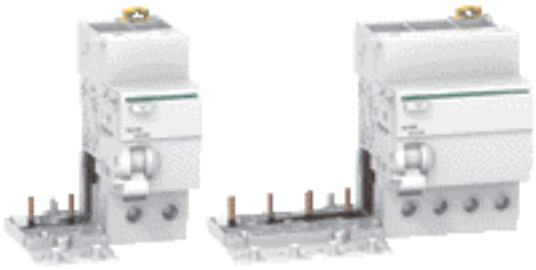
| Type | | | A | | | | | | Width in 9 mm modules |
|---|---|---|---|---|---|---|---|---|---|
| Product | | | Vigi iC60 | | | | | | |
| Auxiliaries | | | Without auxiliaries | | | | | | |
| 2P | | Sensitivity | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA S | 1000 mA S | |
| DB122462 | Rating | 25 A | A9V51225 | A9V22225 | A9V54225 | A9V26225 | - | - | 3 |
| | | 63 A | A9V51263 | A9V22263 | A9V54263 | A9V26263 | A9V25263 | A9V29263 | 4 |
| 3P | | Sensitivity | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA S | 1000 mA S | |
| DB122463 | Rating | 25 A | A9V51325 | A9V22325 | A9V54325 | A9V26325 | - | - | 6 |
| | | 63 A | A9V51363 | - | A9V54363 | A9V26363 | A9V25363 | A9V29363 | 7 |
| 4P | | Sensitivity | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA S | 1000 mA S | |
| DB122464 | Rating | 25 A | A9V51425 | A9V22425 | A9V54425 | A9V26425 | - | - | 6 |
| | | 63 A | A9V51463 | A9V22463 | A9V54463 | A9V26463 | A9V25463 | A9V29463 | 7 |
| Voltage rating (Ue) | | | 230 - 240 V, 400 - 415 V | | | | | | |
| Operating frequency | | | 50/60 Hz | | | | | | |
| Accessories | | | See page E-2 | | | | | | |

# Vigi iC60 add-on residual current devices (*SI* type)

DB116619

IEC/EN 61009-1

PB104466-35



- Combined with iC60 circuit breaker, the Vigi iC60 provide:
  - protection of persons against electric shock by direct contact (⩽ 30 mA),
  - protection of persons against electric shock by indirect contact (⩾ 300 mA),
  - protection of installations against the risk of fire (300 mA).

The *SI* type provides increased immunity from electrical interference and polluted or corrosive environments.

## Catalogue numbers

**Vigi iC60 add-on residual current devices**

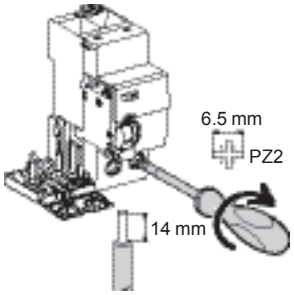
| Type | | | *SI* | | | | Width in 9 mm modules |
|---|---|---|---|---|---|---|---|
| Product | | | Vigi iC60 | | | | |
| Auxiliaries | | | Without auxiliaries | | | | |
| 2P | | Sensitivity | 10 mA | 30 mA | 300 mA Ⓢ | 1000 mA Ⓢ | |
| DB122462 | Rating | 25 A | A9V30225 | A9V61225 | - | - | 3 |
| | | 40 A | - | A9V61240 | - | - | 4 |
| | | 63 A | - | A9V61263 | A9V65263 | A9V39263 | 4 |
| 3P | | Sensitivity | 10 mA | 30 mA | 300 mA Ⓢ | 1000 mA Ⓢ | |
| DB122463 | Rating | 25 A | - | A9V61325 | - | - | 6 |
| | | 40 A | - | A9V61340 | - | - | 7 |
| | | 63 A | - | A9V61363 | A9V65363 | A9V39363 | 7 |
| 4P | | Sensitivity | 10 mA | 30 mA | 300 mA Ⓢ | 1000 mA Ⓢ | |
| DB122464 | Rating | 25 A | - | A9V61425 | - | - | 6 |
| | | 40 A | - | A9V61440 | - | - | 7 |
| | | 63 A | - | A9V61463 | A9V65463 | A9V39463 | 7 |
| Voltage rating (Ue) | | | 230 - 240 V, 400 - 415 V | | | | |
| Operating frequency | | | 50/60 Hz | | | | |
| Accessories | | | See page E-2 | | | | |

B

# Vigi iC60 add-on residual current devices (AC, A, *SI* types)

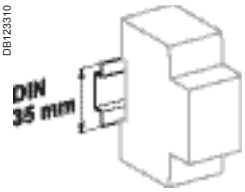
## Connection

DB122948



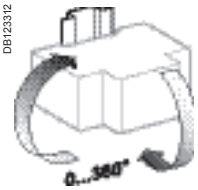

| Type | Rating | Tightening torque | Copper cables | |
|---|---|---|---|---|
| | | | Rigid | Flexible or ferrule |
| | | DB122945 | DB122946 | |
| Vigi iC60 | **25 A** | 2 N.m | 1 to 25 mm² | 1 to 16 mm² |
| | **40 to 63 A** | 3.5 N.m | 1 to 35 mm² | 1 to 25 mm² |

DB123310



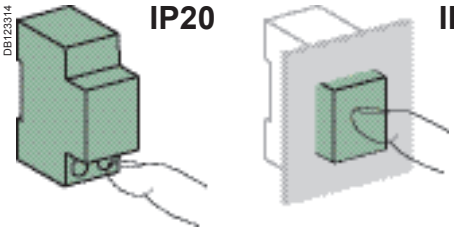

*Clip on DIN rail 35 mm.*

DB123312




*Indifferent position of installation.*

DB123314




## Technical data

| Main characteristics | | |
|---|---|---|
| Insulation voltage (Ui) | | 500 V |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (Uimp) | | 6 kV |
| **According to IEC/EN 61009-1** | | |
| Surge current withstand (8/20 µs) without tripping | AC and A types (no selective Ⓢ) | 250 Â |
| | AC, A types (selective Ⓢ) | 3 kÂ |
| | ***SI*** type | 3 kÂ |
| **Additional characteristics** | | |
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40<br>Insulation classe II |
| Operating temperature | AC type | -5°C to +60°C |
| | A and ***SI*** types | -25°C to +60°C |
| Storage temperature | | -40°C to +85°C |

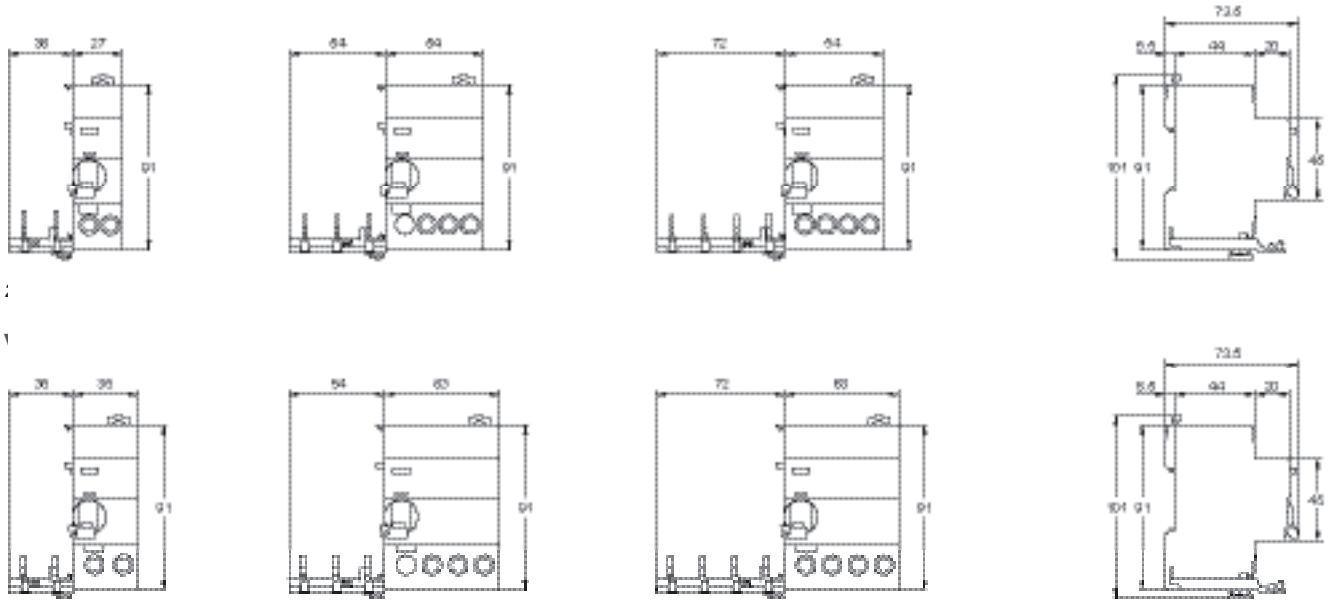
## Weight (g)

| Add-on residual current devices | |
|---|---|
| **Type** | **Vigi iC60** |
| 2P | 165 |
| 3P | 210 |
| 4P | 245 |

## Dimensions (mm)

### Vigi iC60 25 A

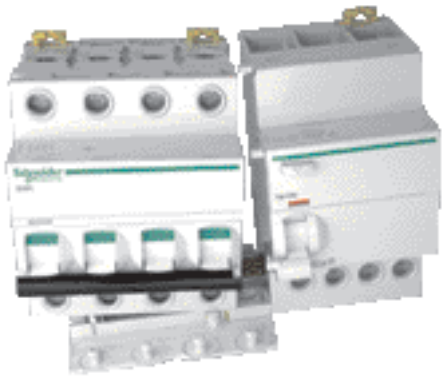
DB122766



*2P* *3P* *4P*

# Vigi iC60 add-on residual current devices (AC, A, *SI* types) (cont.)

PB104556-51



## Association iC60a, N, H, L + Vigi iC60

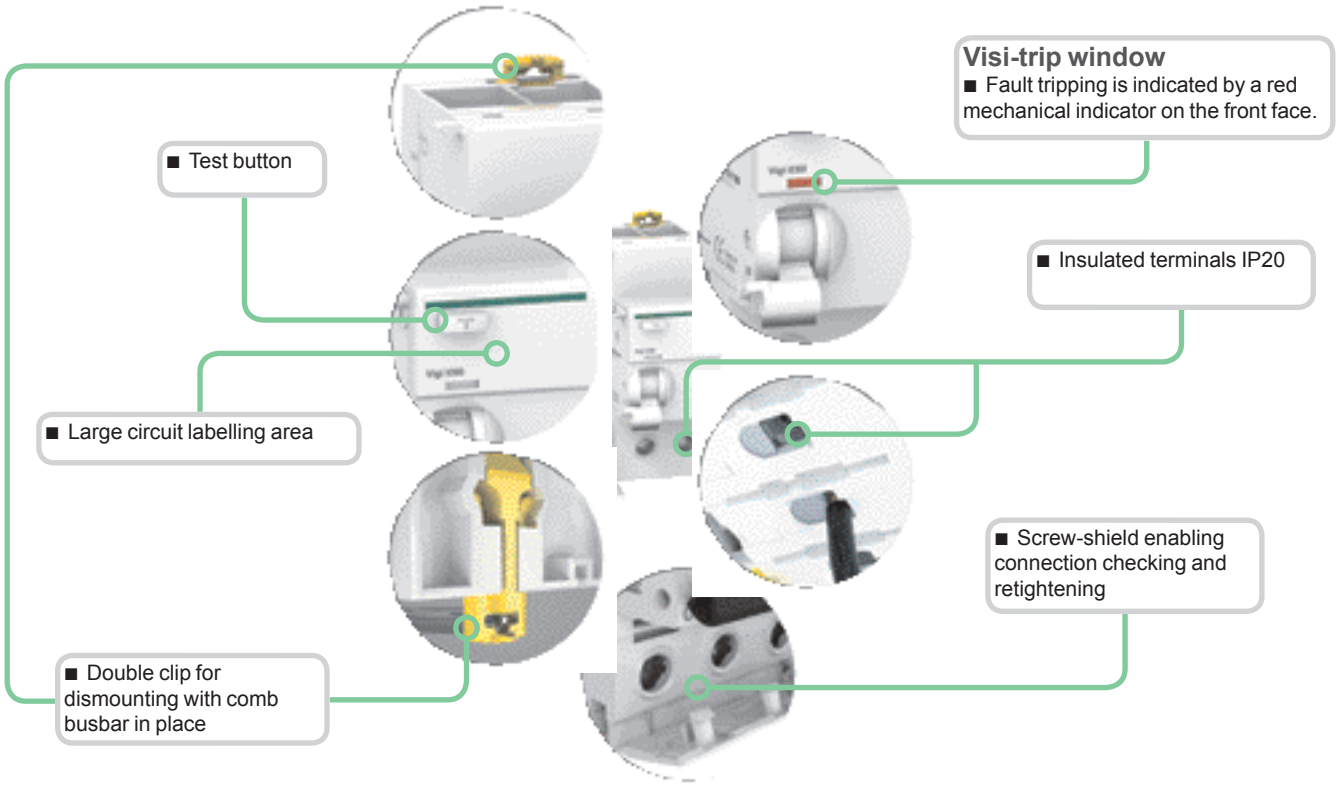
| iC60 | Vigi iC60 25 A | Vigi iC60 40 A | Vigi iC60 63 A |
|---|---|---|---|
| □□└┘↑⏚⎓√2└┘↑ | ■ | ■ | ■ |
| √3√2↑□┌┐□↑ | NO | ■ | ■ |
| └┘□↑□└┘√3↑ | NO | NO | ■ |

## Association iC60L-MA + Vigi iC60

| iC60 | Vigi iC60 25 A | Vigi iC60 40 A | Vigi iC60 63 A |
|---|---|---|---|
| ⎓□└┘↑⏚⎓⎓└┘↑ | ■ | ■ | ■ |
| √2└┘↑ | NO | ■ | ■ |
| ┌┐□↑ | NO | NO | ■ |

**Combining iC60 L-MA units with Vigi modules of higher rating.**

PB104466-40

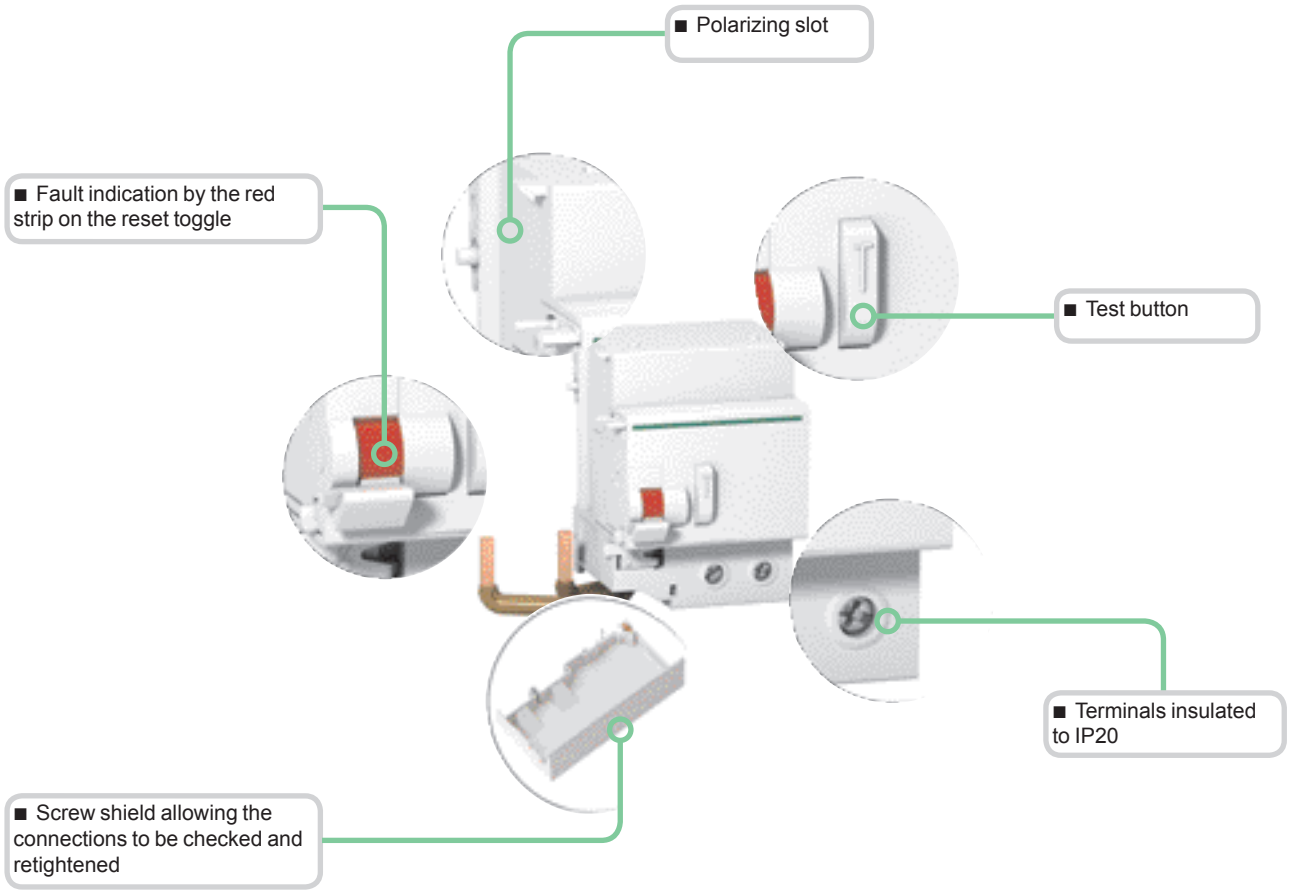



### *SI* type

The *SI* type provides increased immunity from electrical interference and polluted or corrosive environments.

B

# Vigi C120 add-on residual current devices (types AC, A and *SI*) (cont.)




## Type *SI*

The ***SI*** type provides increased immunity from electrical interference and polluted or corrosive environments.

# Vigi C120 add-on residual current devices (type AC)

PB107924-30

2P

PB107925-30

3P

PB107926-30

4P

## EN 61009

When a Vigi C120 device is combined with a C120 circuit breaker, it provides the following functions:

- protection of persons against electric shock by direct contact (30 mA),
- protection of persons against electric shock by indirect contact (≥ 300 mA),
- protection of installations against fire hazards (300 mA to 1000 mA).

B

## Catalogue numbers

**Vigi C120 add-on residual current devices**

| Type | AC | | | | | Width in 9 mm modules |
|---|---|---|---|---|---|---|
| Product | Vigi C120 | | | | | |
| Auxiliaries | Without auxiliary | | | | | |
| 2P Sensitivity | 30 mA | 300 mA | 500 mA | 300 mA Ⓢ | 1000 mA Ⓢ | |
| dess. 077 | A9N18563 | A9N18564 | A9N18565 | A9N18544 | A9N18545 | 7 |
| 3P Sensitivity | 30 mA | 300 mA | 500 mA | 300 mA Ⓢ | 1000 mA Ⓢ | |
| dess. 079 | A9N18566 | A9N18567 | A9N18568 | A9N18546 | A9N18547 | 10 |
| 4P Sensitivity | 30 mA | 300 mA | 500 mA | 300 mA Ⓢ | 1000 mA Ⓢ | |
| dess. 078B | A9N18569<br>A9N18542(1) | A9N18570<br>A9N18543(1) | A9N18571 | A9N18548 | A9N18549 | 10 |
| Operating voltage (Ue) | 230...415 V | | | | | |
| Operating frequency | 50/60 Hz | | | | | |
| Accessories | See page E-7 and E-15 | | | | | |

*(1) specific offer for France*

# Vigi C120 add-on residual current devices (type A)

PB107924-30

2P

PB107925-30

3P

PB107926-30

4P

## EN 61009

When a Vigi C120 device is combined with a C120 circuit breaker, it provides the following functions:

- protection of persons against electric shock by direct contact (30 mA),
- protection of persons against electric shock by indirect contact (≥ 300 mA),
- protection of installations against fire hazards (300 mA to 1000 mA).

## Catalogue numbers

**Vigi C120 add-on residual current devices**

| Type | A | | | | | | Width in 9 mm modules |
|---|---|---|---|---|---|---|---|
| Product | Vigi C120 | | | | | | |
| **Auxiliaries** | **Without auxiliary** | | | | | | |
| **2P** **Sensitivity** | **30 mA** | **300 mA** | **500 mA** | **300 mA S** | **500 mA S** | **1000 mA S** | |
| dess. 077 | **A9N18572** | **A9N18573** | **A9N18574** | - | - | - | 7 |
| **3P** **Sensitivity** | **30 mA** | **300 mA** | **500 mA** | **300 mA S** | **500 mA S** | **1000 mA S** | |
| dess. 079 | **A9N18575** | **A9N18576** | **A9N18577** | - | - | - | 10 |
| **4P** **Sensitivity** | **30 mA** | **300 mA** | **500 mA** | **300 mA S** | **500 mA S** | **1000 mA S** | |
| dess. 078B | **A9N18578** | **A9N18579** | **A9N18580** | **A9N18587** | **A9N18588** | **A9N18589** | 10 |
| Operating voltage (Ue) | 230...415 V | | | | | | |
| Operating frequency | 50/60 Hz | | | | | | |
| **Accessories** | **See page E-15 and E-7** | | | | | | |

# Vigi C120 add-on residual current devices (type *SI*)

## EN 61009

PB107924-30

2P

PB107925-30

3P

PB107926-30

4P

When a Vigi C120 device is combined with a C120 circuit breaker, it provides the following functions:
- protection of persons against electric shock by direct contact (30 mA),
- protection of persons against electric shock by indirect contact (≥ 300 mA),
- protection of installations against fire hazards (300 mA to 1000 mA).

**Special feature of type *SI* :**
They are appropriate for operating in environments with:
- high risk of nuisance tripping: frequent lightning strikes, IT system, presence of electronic ballasts, frequency converters, presence of switchgear incorporating lighting type interference filters, computer system, etc.
- blind sources:
  - presence of harmonics or high frequency rejections
  - presence of DC components: diodes, diode bridges, switch-mode power supplies, etc.
- protected against nuisance tripping caused by transient voltage surges (lightning strike, operation of switchgear on the network, etc.)

B

## Catalogue numbers

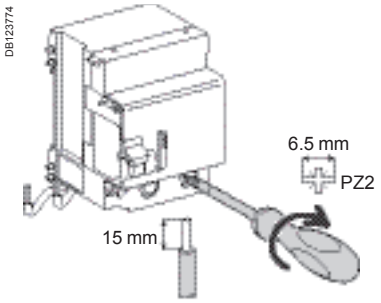
**Vigi C120 add-on residual current devices**

| Type | *SI* | | | | | Width in 9 mm modules |
|---|---|---|---|---|---|---|
| Product | Vigi C120 | | | | | |
| Auxiliaries | Without auxiliary | | | | | |
| 2P Sensitivity | 30 mA | 300 mA | 500 mA | 300 mA Ⓢ | 1000 mA Ⓢ | |
| dess. 077 | A9N18591 | A9N18592 | - | A9N18556 | A9N18557 | 7 |
| 3P Sensitivity | 30 mA | 300 mA | 500 mA | 300 mA Ⓢ | 1000 mA Ⓢ | |
| dess. 079 | A9N18594 | A9N18595 | - | A9N18558 | A9N18559 | 10 |
| 4P Sensitivity | 30 mA | 300 mA | 500 mA | 300 mA Ⓢ | 1000 mA Ⓢ | |
| dess. 078B | A9N18597<br>A9N18554(1) | A9N18598<br>A9N18555(1) | A9N18599 | A9N18560 | A9N18561 | 10 |
| Operating voltage (Ue) | 230...415 V | | | | | |
| Operating frequency | 50 Hz | | | | | |
| Accessories | See page E-7 and E-15 | | | | | |

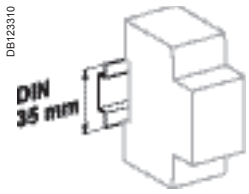
*(1) specific offer for France*

# Vigi C120 add-on residual current devices (types AC, A and *SI*)

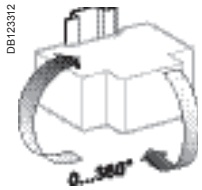
## Connection



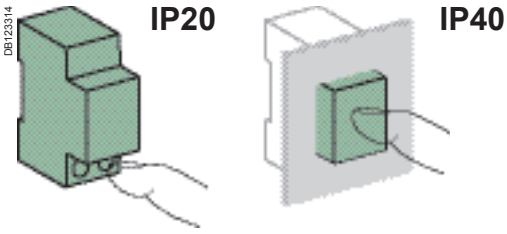

| Type | Sensitivity | Tightening torque | Copper cables | |
|---|---|---|---|---|
| | | | Rigid | Flexible or with ferrule |
| | | DB122945 | DB122946 | |
| Vigi C120 | **30...1000 mA** | 3.5 N.m | 1 to 50 mm² | 1 to 35 mm² |




*Clips onto 35 mm DIN rail.*




*Any installation position.*




## Technical data

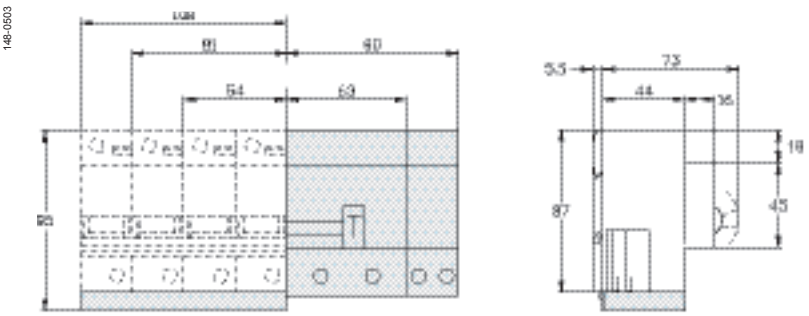
| Main characteristics | | |
|---|---|---|
| **To IEC 60947-2** | | |
| Insulation voltage (Ui) | | 500 V AC |
| Degree of pollution | | 3 |
| Rated impulse withstand voltage (Uimp) | | 6 kV |
| **To EN 61009** | | |
| Impulse current withstand (8/20 µs) without tripping | Types AC and A (non-selective Ⓢ) | 250 Â |
| | Types AC and A (selective Ⓢ) | 3 kÂ |
| | Types ***SI*** (non-selective Ⓢ) | 3 kÂ |
| | Types ***SI*** (selective Ⓢ) | 5 kÂ |
| **Additional characteristics** | | |
| Degree of protection | Device only | IP20 |
| | Device in a modular enclosure | IP40<br>Insulation class II |
| Operating temperature | Type AC | -5 °C to +60 °C |
| | Types A and ***SI*** | -25 °C to +60 °C |
| Storage temperature | | -40 °C to +85 °C |

## Weight (g)

| Add-on residual current devices | |
|---|---|
| **Type** | **Vigi C120** |
| 2P | 325 |
| 3P | 500 |
| 4P | 580 |

## Dimensions (mm)

### C120 + Vigi C120



# Vigi NG125 add-on residual current devices (AC, A, *SI* types)

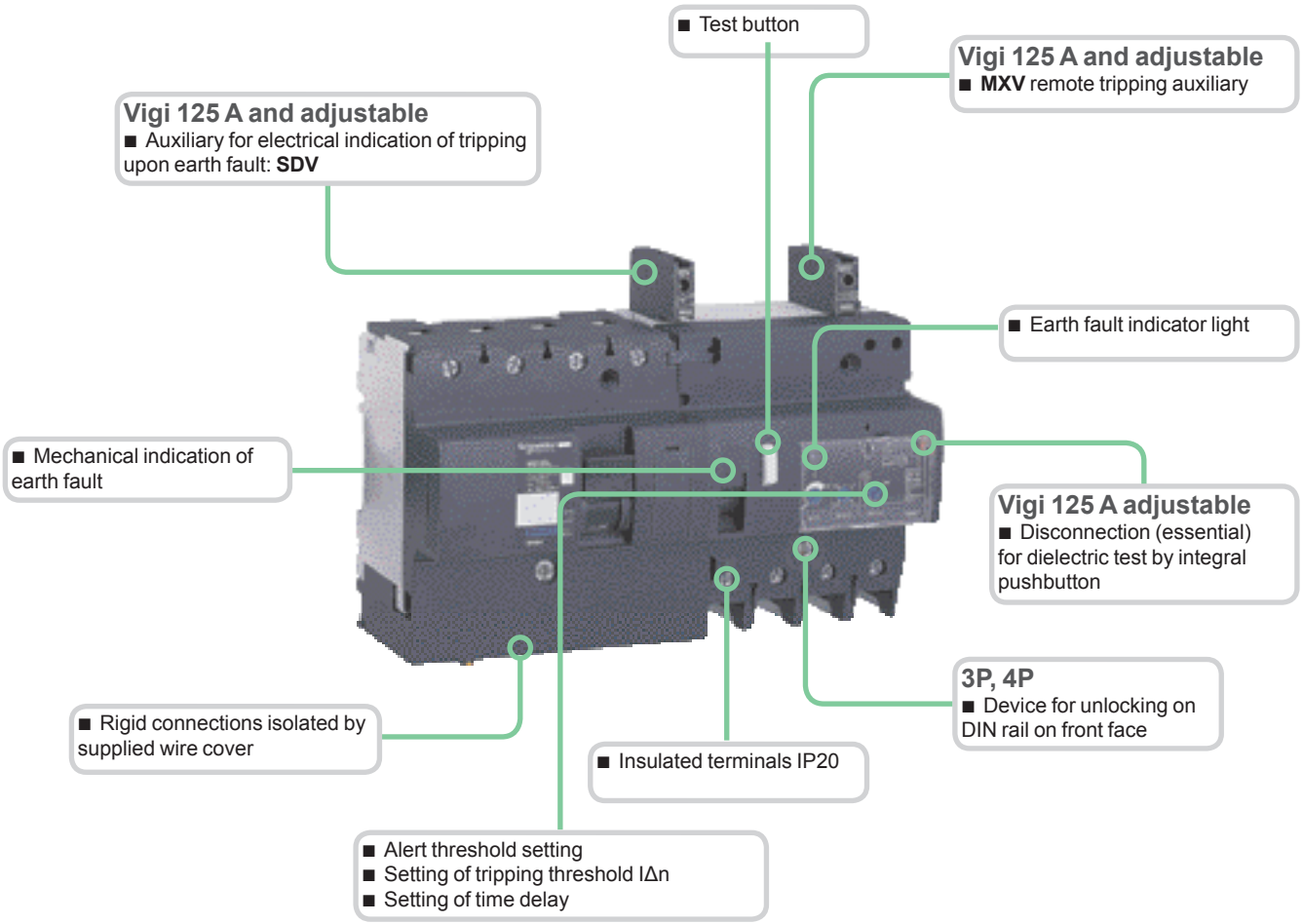
056341_SE-50

## Association NG125 + Vigi NG125

| | Vigi NG125 63 A | Vigi NG125 125 A |
|---|---|---|
| NG125 ⩽ 63 A | ■ | **NO** |
| NG125 80…125 A* | **NO** | ■ |

*(*) No Vigi add-on residual current device for 2P circuit breakers of rating 80 A.*

PB104466-40




B

### *SI* type

*SI* types are appropriate for operating in environments with:
■ High risk of nuisance tripping: frequent lightning strikes, IT system, presence of electronic ballasts, frequency converters, presence of switchgear incorporating lighting type interference filters, computer system, etc.
■ Blind sources
□ presence of harmonics or high frequency rejections,
□ presence of DC components: diodes, diode bridges, switch-mode power supplies, etc.
■ Protected against nuisance tripping caused by transient voltage surges (lightning strike, operation of switchgear on the network, etc.).

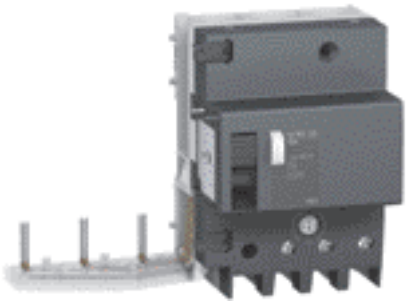
# Vigi NG125 add-on residual current devices (AC type)

DB116619

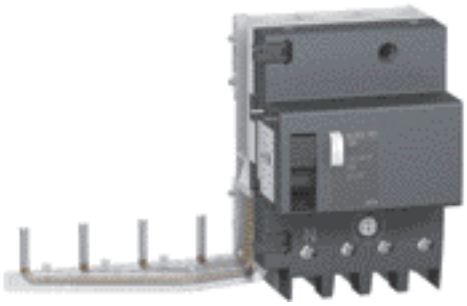
IEC/EN 60947-2

PB103984-40

PB103985-40

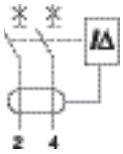
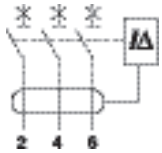
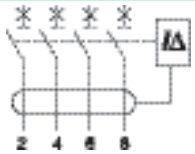


PB103986-40



■ When it is combined with an NG125 circuit breaker, the Vigi NG125 add-on residual current device offers the following functions:
□ protection of persons against electric shocks by direct contact (30 mA),
□ protection of persons against electric shocks by indirect contact (300 mA),
□ protection of installations against fire risks (300 mA).

## Catalogue numbers

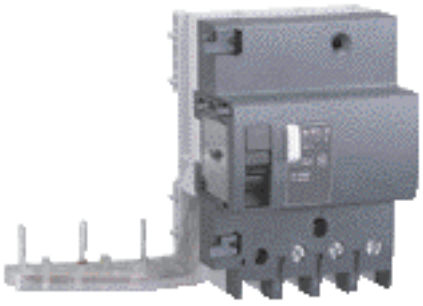
| Vigi NG125 add-on residual current devices | | | | | |
|---|---|---|---|---|---|
| Type | | | AC | | Width in 9 mm modules |
| Product | | | Vigi NG125 | | |
| Auxiliaries | | | Without auxiliaries | | |
| 2P | | Sensitivity | 30 mA | 300 mA | |
| DB122462  | Rating | 63 A | 19000 | 19001 | 5 |
| 3P | | Sensitivity | 30 mA | 300 mA | |
| DB122463  | Rating | 63 A | 19002 | 19003 | 9 |
| 4P | | Sensitivity | 30 mA | 300 mA | |
| DB122464  | Rating | 63 A | 19004 | 19005 | 9 |
| Voltage rating (Ue) | | | 230 - 240 V, 400 - 415 V | | |
| Operating frequency | | | 50/60 Hz | | |
| Accessories | | | See page E-26 | | |

# Vigi NG125 add-on residual current devices (A type)

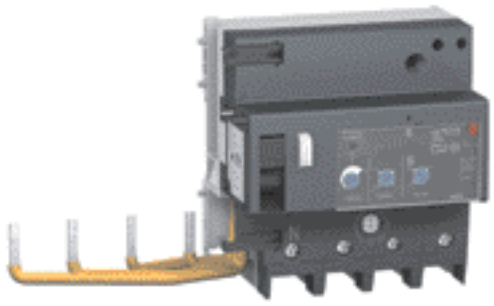
DB116619

IEC/EN 60947-2

054383M-40



PB103998-40



■ When it is combined with an NG125 circuit breaker, the Vigi NG125 add-on residual current device offers the following functions:
□ protection of persons against electric shocks by direct contact (30 mA),
□ protection of persons against electric shocks by indirect contact (≥ 300 mA),
□ protection of installations against fire risks (300 mA or 500 mA).

## Catalogue numbers

**Vigi NG125 add-on residual current devices**

| Type | | | A | | | | | | Width in 9 mm modules |
|---|---|---|---|---|---|---|---|---|---|
| Product | | | Vigi NG125 | | | | | | |
| Auxiliaries | | | See page F-14 | | | | | | |
| 2P | | Sensitivity | 30 mA | 300 mA | 300 mA S | 1000 mA S | 300…1000 I/S | 300…3000 I/S/R | |
| DB122462 | Rating | 63 A | **19010**<br>*19008 (1)* | **19012**<br>*19009 (1)* | **19030** | **19031** | - | - | 5 |
| 3P | | Sensitivity | 30 mA | 300 mA | 300 mA S | 1000 mA S | 300…1000 I/S | 300…3000 I/S/R | |
| DB122463 | Rating | 63 A | **19013** | **19014** | **19032** | **19033** | - | - | 9 |
| | | | - | - | - | - | - | **19036**<br>*19053 (2)* | 11 |
| | | 125 A | **19039** | - | - | - | **19044** | **19047**<br>*19055 (2)* | 11 |
| 4P | | Sensitivity | 30 mA | 300 mA | 300 mA S | 1000 mA S | 300…1000 I/S | 300…3000 I/S/R | |
| DB122464 | Rating | 63 A | **19015** | **19016** | **19034** | **19035** | - | - | 9 |
| | | | - | - | - | - | - | **19037**<br>*19054 (2)* | 11 |
| | | 125 A | **19041** | **19042** | - | - | **19046** | **19049**<br>*19056 (2)* | 11 |
| Voltage rating (Ue) | | | 230 - 240 V, 400 - 415 V<br>*Except: (1) 110…220 V and (2) 440…500 V* | | | | | | |
| Operating frequency | | | 50/60 Hz | | | | | | |
| Accessories | | | See page E-26 | | | | | | |

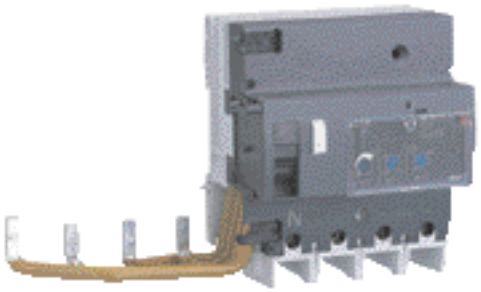
B

# Vigi NG125 add-on residual current devices (*SI* type)

DB116619

IEC/EN 60947-2

057484-40

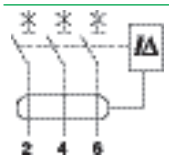
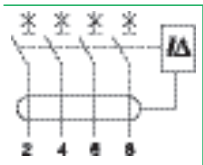


■ When it is combined with an NG125 circuit breaker, the Vigi NG125 add-on residual current device offers the following functions:
□ protection of persons against electric shocks by direct contact (30 mA),
□ protection of persons against electric shocks by indirect contact (≥ 300 mA),
□ protection of installations against fire risks (300 mA or 500 mA).

*SI* types are appropriate for operating in environments with:
■ High risk of nuisance tripping: frequent lightning strikes, IT system, presence of electronic ballasts, frequency converters, presence of switchgear incorporating lighting type interference filters, computer system, etc.
■ Blind sources
□ presence of harmonics or high frequency rejections,
□ presence of DC components: diodes, diode bridges, switch-mode power supplies, etc.
■ Protected against nuisance tripping caused by transient voltage surges (lightning strike, operation of switchgear on the network, etc.).

## Catalogue numbers

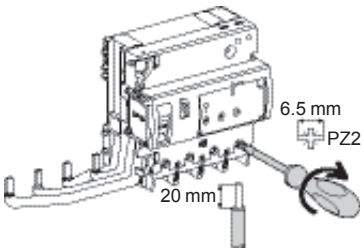
**Vigi NG125 add-on residual current devices**

| Type | | | *SI* | | Width in 9 mm modules |
|---|---|---|---|---|---|
| Product | | | Vigi NG125 | | |
| Auxiliaries | | | See page F-14 | | |
| 3P | | Sensitivity | 30 mA | 300…3000 I/S/R | |
| DB122463  | Rating | 125 A | **19100** | **19106** | 11 |
| 4P | | Sensitivity | 30 mA | 300…3000 I/S/R | |
| DB122464  | Rating | 125 A | **19101** | **19107** | 11 |
| Voltage rating (Ue) | | | 230 - 240 V, 400 - 415 V | | |
| Operating frequency | | | 50/60 Hz | | |
| Accessories | | | See page E-26 | | |

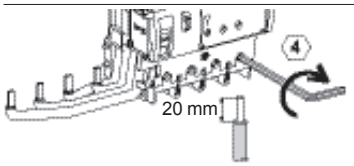
# Vigi NG125 add-on residual current devices (AC, A, *SI* types)

## Connection

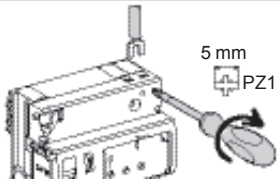
DB123404




DB123405

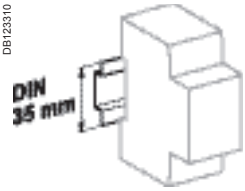



DB123408



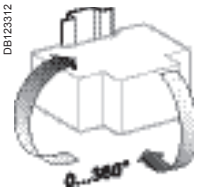

| Rating | Tightening torque | Without accessories: Copper cables: Rigid | Without accessories: Copper cables: Flexible or ferrule | Without accessories: Copper cables: Screw clamp terminal | With accessories: 70 mm² Al terminal | With accessories: Screw-on connection for ring terminal |
|---|---|---|---|---|---|---|
| | DB122945 | DB122946 | DB123409 | DB123410 | DB123488 | |
| **63 A** | 3.5 N.m | 1.5 to 50 mm² | 1 to 35 mm² | - | - | - |
| **125 A** | 6 N.m | 16 to 70 mm² | 10 to 50 mm² | - | 25 to 70 mm² | 2 x 35 mm²<br>1 x 50 mm² |
| **Pre-alarm** | 1 N.m | 2 x 2.5 mm² | 2 x 1.5 mm² | 2 x 1.5 mm² | - | - |

DB123310



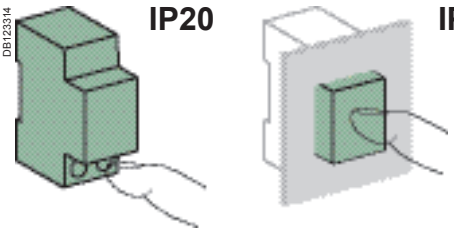

*Clip on DIN rail 35 mm.*

DB123312




*Indifferent position of installation.*

DB123314




## Technical data

| | | |
|---|---|---|
| **Main characteristics** | | |
| Insulation voltage (Ui) | | 690 V |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (Uimp) | | 8 kV |
| **According to IEC/EN 61009-1** | | |
| Surge current withstand (8/20 µs) without tripping | Selective Ⓢ or R | 5 kÂ |
| | Instantaneous | 3 kÂ |
| **Additional characteristics** | | |
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Operating temperature | AC type | -5°C to +60°C |
| | A and *SI* types | -25°C to +60°C |
| Storage temperature | | -40°C to +85°C |
| **Additional characteristics** | | |
| **Vigi 125 A and adjustable** | | |
| Plug-in auxiliaries | MXV | Remote tripping |
| | SDV | Indication of tripping upon earth fault |
| **Adjustable Vigi** | | |
| Sensitivity adjustable by notch (IΔn) | | 300, 500, 1000, 3000 mA |
| Tripping time | Instantaneous | |
| | Selective Ⓢ | 60 ms |
| | Time-delayed | 150 ms |
| Leakage current indication on 3P and 4P 300...3000 I/S/R (pre-alarm) | | On front face by LED |
| | | Remote, by potential-free normally-open contact 250 V - 1 A (low level) |
| | | Threshold setting by potentiometer from 10 % to 50 % of IΔn |
| Disconnection essential for dielectric test | | By integral pushbutton |

B

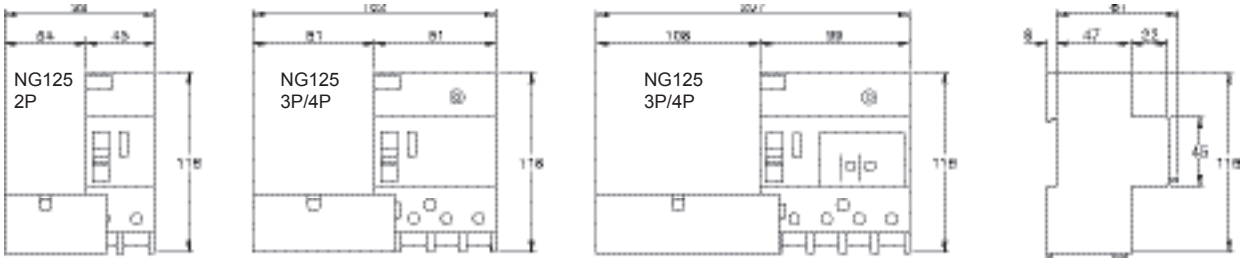
# Vigi NG125 add-on residual current devices (AC, A, *SI* types) (cont.)

## Weight (g)

| Add-on residual current devices | | | |
|---|---|---|---|
| **Number of 9 mm modules** | **2P** | **3P** | **4P** |
| 5 modules | 250 | - | - |
| 9 modules | - | 410 | 450 |
| 11 modules | - | 750 | 800 |

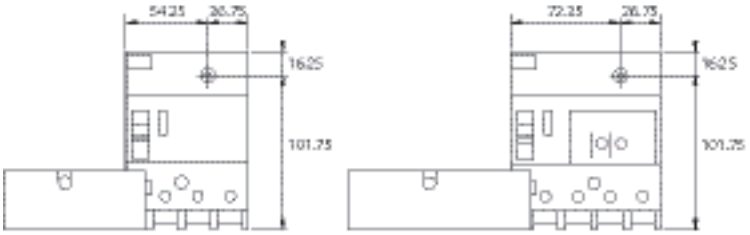
## Dimensions (mm)

DB122406




*2P (5 modules)* *63, 125 A (9 modules)* *63, 125 A (11 modules)*

DB123587




*Spacing for mounting on panel*

# Vigi modules and residual current devices *i* DPN

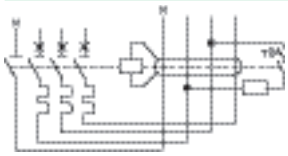
Earth leakage protection for "Group Feeders" is performed:
- either by a monobloc residual current device
- or by a circuit breaker combined with a Vigi module.

IEC/EN 61009-1 and 61009-2-1

PB107115-32

## Catalogue numbers

**i DPN Vigi residual current devices 4500 EN 61009 - C curve**

| Type | | | AC | | | Width in 9-mm modules |
|---|---|---|---|---|---|---|
| Auxiliaries | | | See page E-31 | | | |
| 3P+N | | Sensitivity | 30 mA | 300 mA | 300 mA S | |
| DB123673  | Rating | 25 A | A9N21771 | A9N21775 | A9N21772 | 12 |
| | | 40 A | A9N21773 | A9N21776 | A9N21774 | |

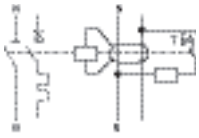
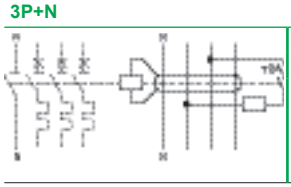
PB107113-32

PB107155-32

B

## Catalogue numbers

**"Group Feeder" i DPN Vigi modules**

| Type | | | AC | | | A | | SI | | | Width in 9-mm modules |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Auxiliaries | | | Without auxiliary | | | Without auxiliary | | Without auxiliary | | | |
| 1P+N | | Sensitivity | 30 mA | 300 mA | 300 mA S | 30 mA | 300 mA | 30 mA | 300 mA | 300 mA S | |
| DB123669  | Rating | 25 A | A9N21741 | A9N21742 | - | A9N21745 | A9N21746 | A9N21749 | A9N21750 | - | 2 |
| | | 40 A | A9N21743 | A9N21744 | - | A9N21747 | A9N21748 | A9N21751 | A9N21752 | A9N21753 | |
| 3P+N | | Sensitivity | 30 mA | 300 mA | 300 mA S | 30 mA | 300 mA | 30 mA | 300 mA | 300 mA S | |
| DB123671  | Rating | 25 A | A9N21755 | A9N21756 | - | A9N21759 | A9N21760 | A9N21763 | A9N21764 | - | 6 |
| | | 40 A | A9N21757 | A9N21758 | - | A9N21761 | A9N21762 | A9N21765 | A9N21766 | A9N21767 | |
| | | 63 A | A9N26846 | A9N26847 | A9N26848 | - | - | A9N26849 | - | - | |

# Vigi modules and residual current devices *i* DPN (cont.)

## IEC/EN 61009-1 and 61009-2-1

For the earth leakage protection of "outgoers", a residual current device is built by combining a circuit breaker and a Vigi module.
"Outgoer" residual current devices are also available in monobloc version.

PB107169-32

## Catalogue numbers

**i DPN Vigi residual current devices 4500 EN 61009 - C curve**

| Type | | | AC | | Width in 9-mm modules |
|---|---|---|---|---|---|
| Auxiliaries | | | Add-on auxiliaries: see modules F-9 and E-31 | | |
| 1P+N | | Sensitivity | 30 mA | 300 mA | |
| DB123672 | Rating | 6 A | A9N21614 | A9N21624 | 4 |
| | | 10 A | A9N21615 | A9N21625 | |
| | | 16 A | A9N21616 | A9N21626 | |
| | | 20 A | A9N21617 | A9N21627 | |
| | | 25 A | A9N21618 | A9N21628 | |
| | | 32 A | A9N21619 | A9N21629 | |
| | | 40 A | A9N21620 | A9N21630 | |

PB107111-32

PB107112-32

PB107114-32

## Catalogue numbers

**"Outgoer" i DPN Vigi modules**

| Type | | | AC | | | A | | SI | | Width in 9-mm modules |
|---|---|---|---|---|---|---|---|---|---|---|
| 1P+N | | Sensitivity | 30 mA | 100 mA | 300 mA | 30 mA | 300 mA | 30 mA | 300 mA | |
| DB123669 | Rating | 25 A | A9N21681<br>A9N21680 Type G | A9N21678<br>A9N21679 Type G | A9N21682 | A9N21685 | A9N21686 | A9N21689 | A9N21690 | 2 |
| | | 40 A | A9N21683 | - | A9N21684 | A9N21687 | A9N21688 | A9N21691 | A9N21692 | |
| 3P | | Sensitivity | 30 mA | 100 mA | 300 mA | 30 mA | 300 mA | 30 mA | 300 mA | |
| DB123670 | Rating | 25 A | A9N21695 | - | A9N26696 | A9N21699 | A9N21700 | A9N21703 | A9N21704 | 4 |
| | | 40 A | A9N21697 | - | A9N26698 | A9N21701 | A9N21702 | A9N21705 | A9N21706 | |
| 3P+N | | Sensitivity | 30 mA | 100 mA | 300 mA | 30 mA | 300 mA | 30 mA | 300 mA | |
| DB123671 | Rating | 25 A | A9N21709 | - | A9N21710 | A9N21713 | A9N21714 | A9N21717 | A9N21718 | 4 |
| | | 40 A | A9N21711 | - | A9N21712 | A9N21715 | A9N21716 | A9N21719 | A9N21720 | |

# Residual current devices
# iDPN Vigi

DB116619

## IEC/EN 61009

PB110000-40

*iDPNa Vigi*

PB110001-40

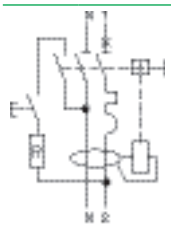
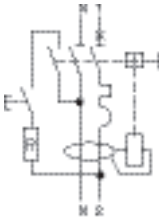
*iDPN H Vigi*

■ The iDPN Vigi residual current device provide complete protection for final circuits (against overcurrents and insulation faults):
- protection for users against electric shocks by direct contacts (≤ 30 mA),
- protection for users against electric shocks by indirect contacts (300 mA),
- protection of the installations against fire risks (300 mA).

■ The ***SI*** range has been designed to maintain a network with optimum safety and continuity of service in installations disturbed by:
- extreme atmospheric conditions,
- harmonic generating loads,
- transient operating currents.

## Catalogue numbers

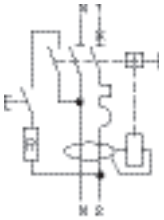
### iDPNa Vigi 4500

| Type | | | AC | | A | | Width in 9 mm modules |
|---|---|---|---|---|---|---|---|
| **Auxiliaries** | | | **Remote tripping and indication, see pages E-2 and F-2** | | | | |
| **1P+N Curve B** | | **Sensitivity** | **30 mA** | **300 mA** | **10 mA** | **30 mA** | |
| DB123871  | Rating (In) | 6 A | **A9D51606** | - | - | **A9D54606** | 4 |
| | | 10 A | **A9D51610** | - | - | **A9D54610** | |
| | | 13 A | - | - | - | **A9D54613** | |
| | | 16 A | **A9D51616** | - | - | **A9D54616** | |
| | | 20 A | **A9D51620** | - | - | **A9D54620** | |
| | | 25 A | **A9D51625** | - | - | **A9D54625** | |
| | | 32 A | **A9D51632** | - | - | **A9D54632** | |
| | | 40 A | **A9D51640** | - | - | **A9D54640** | |
| **1P+N Curve C** | | **Sensitivity** | **30 mA** | **300 mA** | **10 mA** | **30 mA** | |
| DB123871  | Rating (In) | 6 A | **A9D34606** | **A9D44606** | - | **A9D35606** | 4 |
| | | 10 A | **A9D34610** | **A9D44610** | **A9D05610** | **A9D35610** | |
| | | 13 A | - | - | - | **A9D35613** | |
| | | 16 A | **A9D34616** | **A9D44616** | **A9D05616** | **A9D35616** | |
| | | 20 A | **A9D34620** | **A9D44620** | - | **A9D35620** | |
| | | 25 A | **A9D34625** | **A9D44625** | - | **A9D35625** | |
| | | 32 A | **A9D34632** | **A9D44632** | - | **A9D35632** | |
| | | 40 A | **A9D34640** | **A9D44640** | - | **A9D35640** | |
| Voltage rating (Ue) | | | 230 V AC | | | | |
| Operating frequency | | | 50 Hz | | | | |
| **Accessories** | | | **See pages E-6 , E-10 and E-29** | | | | |

PB110002-40

*iDPN N Vigi*

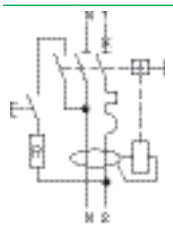
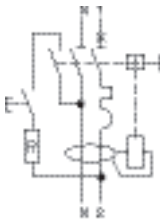
### iDPN N Vigi G Type 6000

| Type | | | AC | A | Width in 9 mm modules |
|---|---|---|---|---|---|
| **Auxiliaries** | | | **Remote tripping and indication, see pages E-2 and F-2** | | |
| **1P+N Curve C** | | **Sensitivity** | **30 mA** | **100 mA** | |
| DB123871  | Rating (In) | 6 A | **A9D62606** | **A9D72606** | 4 |
| | | 10 A | **A9D62610** | **A9D72610** | |
| | | 13 A | **A9D62613** | **A9D72613** | |
| | | 16 A | **A9D62616** | **A9D72616** | |
| Voltage rating (Ue) | | | 230 V AC | | |
| Operating frequency | | | 50 Hz | | |
| **Accessories** | | | **See pages E-6 , E-10 and E-29** | | |

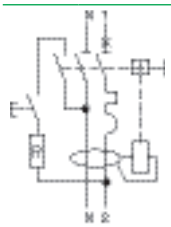
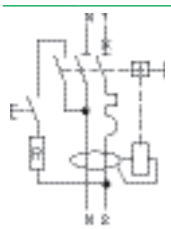
B

# Residual current devices iDPN Vigi (cont.)

## iDPN N Vigi 6000

| Type | | | AC | | A | | | SI | | | Width in 9 mm modules |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Auxiliaries | | | Remote tripping and indication, see pages E-2 and F-2 | | | | | | | | |
| 1P+N | Curve B | Sensitivity | 30 mA | 300 mA | 10 mA | 30 mA | 100 mA | 300 mA | 30 mA | 100 mA | 300 mA | |
|  DB123871 | Rating (In) 4 A | | A9D55604 | A9D68604 | - | A9D56604 | A9D60604 | A9D69604 | - | - | - | 4 |
| | 6 A | | A9D55606 | A9D68606 | - | A9D56606 | A9D60606 | A9D69606 | - | - | - | |
| | 10 A | | A9D55610 | A9D68610 | A9D08610 | A9D56610 | A9D60610 | A9D69610 | - | - | - | |
| | 13 A | | - | - | - | A9D56613 | A9D60613 | A9D69613 | - | - | - | |
| | 16 A | | A9D55616 | A9D68616 | A9D08616 | A9D56616 | A9D60616 | A9D69616 | - | - | - | |
| | 20 A | | A9D55620 | A9D68620 | - | A9D56620 | A9D60620 | A9D69620 | - | - | - | |
| | 25 A | | A9D55625 | A9D68625 | - | A9D56625 | A9D60625 | A9D69625 | - | - | - | |
| | 32 A | | A9D55632 | A9D68632 | - | A9D56632 | A9D60632 | A9D69632 | - | - | - | |
| | 40 A | | A9D55640 | A9D68640 | - | A9D56640 | A9D60640 | A9D69640 | - | - | - | |
| 1P+N | Curve C | Sensitivity | 30 mA | 300 mA | 10 mA | 30 mA | 100 mA | 300 mA | 30 mA | 100 mA | 300 mA | |
|  DB123871 | Rating (In) 6 A | | A9D31606 | A9D41606 | - | A9D32606 | A9D52606 | A9D42606 | A9D33606 | A9D53606 | A9D43606 | 4 |
| | 10 A | | A9D31610 | A9D41610 | A9D02610 | A9D32610 | A9D52610 | A9D42610 | A9D33610 | A9D53610 | A9D43610 | |
| | 13 A | | - | - | - | A9D32613 | A9D52613 | A9D42613 | A9D33613 | A9D53613 | A9D43613 | |
| | 16 A | | A9D31616 | A9D41616 | A9D02616 | A9D32616 | A9D52616 | A9D42616 | A9D33616 | A9D53616 | A9D43616 | |
| | 20 A | | A9D31620 | A9D41620 | - | A9D32620 | A9D52620 | A9D42620 | A9D33620 | A9D53620 | A9D43620 | |
| | 25 A | | A9D31625 | A9D41625 | - | A9D32625 | A9D52625 | A9D42625 | A9D33625 | A9D53625 | A9D43625 | |
| | 32 A | | A9D31632 | A9D41632 | - | A9D32632 | A9D52632 | A9D42632 | A9D33632 | A9D53632 | A9D43632 | |
| | 40 A | | A9D31640 | A9D41640 | - | A9D32640 | A9D52640 | A9D42640 | A9D33640 | A9D53640 | A9D43640 | |
| Voltage rating (Ue) | | | 230 V AC | | | | | | | | | |
| Operating frequency | | | 50 Hz | | | | | | | | | |
| Accessories | | | See pages E-6 , E-10 and E-29 | | | | | | | | | |

## iDPN H Vigi 10000

| Type | | | A | | SI | | Width in 9 mm modules |
|---|---|---|---|---|---|---|---|
| Auxiliaries | | | Remote tripping and indication, see pages E-2 and F-2 | | | | |
| 1P+N | Curve B | Sensitivity | 30 mA | 300 mA | 30 mA | 300 mA | |
|  DB123871 | Rating (In) 6 A | | A9D07606 | - | - | - | 4 |
| | 10 A | | A9D07610 | - | - | - | |
| | 16 A | | A9D07616 | - | - | - | |
| | 20 A | | A9D07620 | - | - | - | |
| | 25 A | | A9D07625 | - | - | - | |
| | 32 A | | A9D07632 | - | - | - | |
| 1P+N | Curve C | Sensitivity | 30 mA | 300 mA | 30 mA | 300 mA | |
|  DB123871 | Rating (In) 6 A | | A9D37606 | A9D47606 | A9D38606 | A9D48606 | 4 |
| | 10 A | | A9D37610 | A9D47610 | A9D38610 | A9D48610 | |
| | 16 A | | A9D37616 | A9D47616 | A9D38616 | A9D48616 | |
| | 20 A | | A9D37620 | A9D47620 | A9D38620 | A9D48620 | |
| | 25 A | | A9D37625 | A9D47625 | A9D38625 | A9D48625 | |
| | 32 A | | A9D37632 | A9D47632 | A9D38632 | A9D48632 | |
| Voltage rating (Ue) | | | 230 V AC | | | | |
| Operating frequency | | | 50 Hz | | | | |
| Accessories | | | See pages E-6 , E-10 and E-29 | | | | |

# Residual current devices iDPN Vigi (cont.)

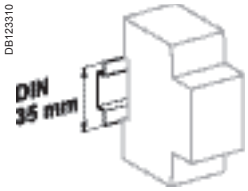
■ Fast contact closure

■ Insulated terminals IP20

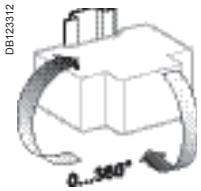

■ Test button

**Visi-trip double window**
■ Fault tripping circuit breaker is indicated by a red mechanical indicator on the front face.
■ Earth fault is indicated by a red mechanical indicator on the front face

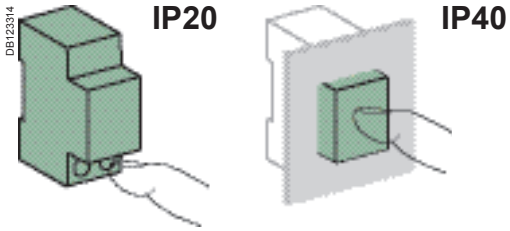
**Positive contact indication**
■ A green strip on the toggle guarantees opening of all the poles in safety conditions (padlocking possible) for work to be carried out on live parts



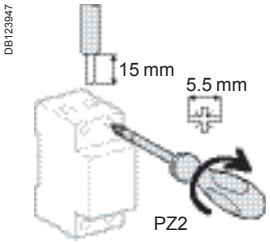

*Clip on DIN rail 35 mm.*




*Indifferent position of installation.*




## Connection




| Rating | Tightening torque | Copper cables | |
|---|---|---|---|
| | | Rigid | Flexible or ferrule |
| | | DB122945 | DB122946 |
| 4 to 40 A | 3.5 N.m | 1 to 16 mm² | 1 to 10 mm² |

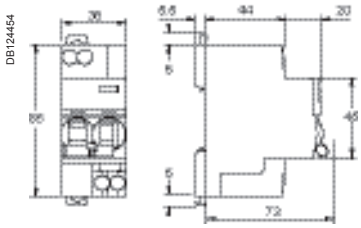
## Technical data

| Main characteristics | | | | | |
|---|---|---|---|---|---|
| **Type** | | | **iDPNa Vigi** | **iDPN N Vigi** | **iDPN H Vigi** |
| Insulation voltage (Ui) | | | 400 V AC | | |
| Pollution degree | | | 3 | | |
| Rated impulse withstand voltage (Uimp) | | | 4 kV | | |
| Setting temperature for ratings | | | 30°C | | |
| Magnetic tripping | Curve B | | Between 3 and 5 In | | |
| | Curve C | | Between 5 and 10 In | | |
| **According to EN 61009** | | | | | |
| Limitation class | | | 3 | | |
| Rated breaking capacity (Icn) | | | 4500 A | 6000 A | 10,000 A |
| Rated residual breaking and making capacity (IΔm) | | | 4500 A | 6000 A | 10,000 A |
| 8/20 µs impulse withstand | | Type AC | 250 Â | 250 Â | 250 Â |
| | | Type A | 250 Â | 250 Â | 250 Â |
| | | Type *SI* | - | 3 kÂ | 3 kÂ |
| **Additional characteristics** | | | | | |
| Earth leakage protection with instantaneous tripping | | | 10, 30, 300 mA | 10, 30, 100, 300 mA | 30, 300 mA |
| Degree of protection (IEC 60529) | Device only | | IP20 | | |
| | Device in modular enclosure | | IP40<br>Insulation classe II | | |
| Endurance (O-C) | Electrical | ≤ 20 A | 20,000 cycles | | |
| | | ≥ 25 A | 10,000 cycles | | |
| | Mechanical | | 20,000 cycles | | |
| Overvoltage category (IEC 60364) | | | III | | |
| Operating temperature | | Type AC | -5°C to +60°C | | |
| | | Type A, *SI* | -25°C to +60°C | | |
| Storage temperature | | | -40°C to +85°C | | |
| Tropicalization (IEC 60068-1) | | | Treatment 2 (relative humidity 95 % to 55°C) | | |

## Weight (g)

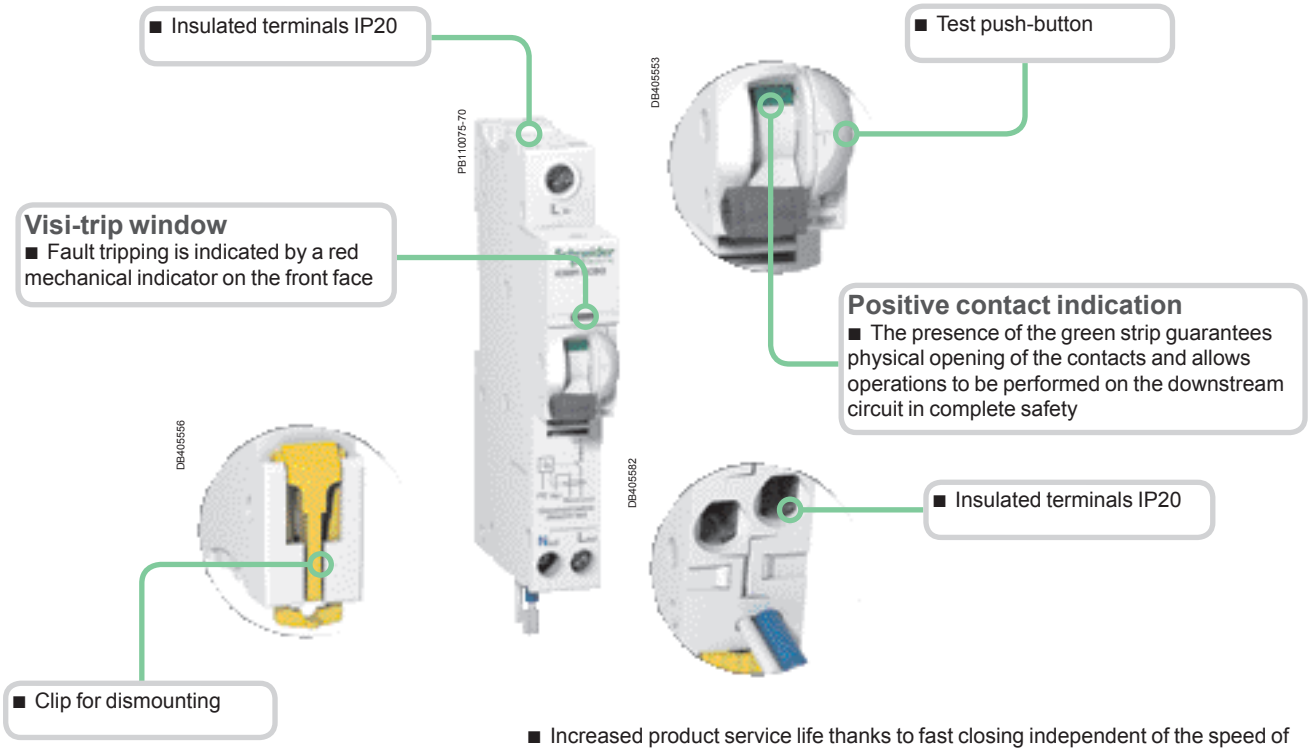
| Residual current device | |
|---|---|
| **Type** | **iDPN Vigi** |
| 1P+N | 125 |

## Dimensions (mm)



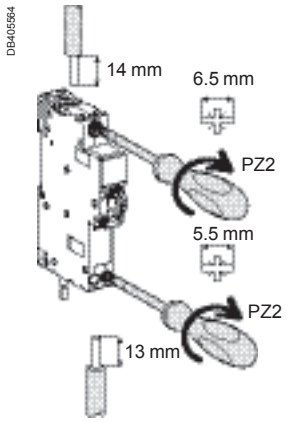

B

# iC60 RCBO
## 10, 30 and 100 mA




■ Increased product service life thanks to fast closing independent of the speed of actuation of the toggle.
■ Remote indication, open/closed/tripped, by optional auxiliary contacts.

## Connection




| Type | Rating | Tightening torque | Copper cables | |
|---|---|---|---|---|
| | | | Rigid | Flexible |
| | | | DB122945 | DB122946 |
| N in and L in | 6 to 45 A | 3.5 N.m | 1 to 25 mm² | 1 to 16 mm² |
| L out and N out | | 2 N.m | 1 to 16 mm² | 1 to 10 mm² |

# iC60N RCBO
## 30 mA

PB110083-70

## IEC 61009-1, IEC 61009-2-2

■ The single-phase iC60N RCBO's self-contained residual current device carries out complete protection of final circuits:
□ protection against short-circuits and cable overloads,
□ protection against electrocution by direct contact.
■ The neutral is not interrupted when the device is tripped. Hence iC60N RCBO can be used on most circuits, except for the ones operating under TT or IT earthing systems.

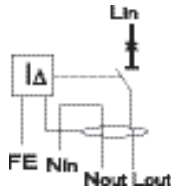
| Alternating current (AC) 50/60 Hz | | |
|---|---|---|
| **Breaking capacity (Icn) according to IEC 61009-1** | | |
| | | **Voltage (Ue)** |
| **Ph/N** | | **240 V** |
| **Rating (In)** | 6 to 45 A | 6000 A |

### Accessory

**Padlocking device**
■ Used to lock the toggle in the "open" or "closed" position by 4 mm diameter padlock (not supplied).

## Catalogue numbers

**iC60N RCBO 6000**

| 1P+N | | | | A | Width in 9-mm modules |
|---|---|---|---|---|---|
| **C curve** | **Voltage rating (V)** | | **Sensitivity (IΔn)** | **30 mA** | |
| DB405038  | 240 | Rating (In) | 6 A | **A9D64806** | 2 |
| | | | 10 A | **A9D64810** | |
| | | | 16 A | **A9D64816** | |
| | | | 20 A | **A9D64820** | |
| | | | 25 A | **A9D64825** | |
| | | | 32 A | **A9D64832** | |
| | | | 40 A | **A9D64840** | |
| | | | 45 A | **A9D64845** | |
| Operating frequency | | | | 50…60 Hz | |
| **Auxiliaries** | | | | **See pages E-2 and F-2** | |

| Accessory | |
|---|---|
| **Type** | |
| Padlocking device (bag of 10 pieces) | **A9A27049** |

# iC60H RCBO
## 30 and 100 mA

PB110075-70

## IEC 61009-1, IEC 61009-2-2

■ The single-phase iC60H RCBO's self-contained residual current device carries out complete protection of final circuits:
□ protection against short-circuits and cable overloads
□ protection of persons against electric shock by direct contact (30 mA sensitivities),
□ protection of persons against electric shock by indirect contact (100 mA sensitivity),
□ protection of equipment against fires set by leakage currents (100 mA sensitivity).
■ The neutral is not interrupted when the device is tripped. Hence iC60H RCBO can be used on most circuits, except for the ones operating under TT or IT earthing systems.

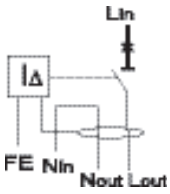
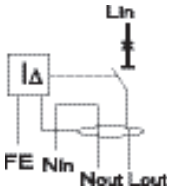
| Alternating current (AC) 50/60 Hz | | | |
|---|---|---|---|
| **Breaking capacity (Icn) according to IEC 61009-1** | | | |
| | | **Voltage (Ue)** | |
| **Ph/N** | | **110 V** | **240 V** |
| **Rating (In)** | 6 to 45 A | 10000 A | 10000 A |

### Accessory

**Padlocking device**
■ Used to lock the toggle in the "open" or "closed" position by 4 mm diameter padlock (not supplied).

## Catalogue numbers

**iC60H RCBO 10000**

| 1P+N | | | | A | | Width in 9-mm modules |
|---|---|---|---|---|---|---|
| **B curve** | **Voltage rating (V)** | | **Sensitivity (IΔn)** | **30 mA** | **100 mA** | |
| DB405038  | 240 | Rating (In) | 6 A | **A9D34806** | - | 2 |
| | | | 10 A | **A9D34810** | - | |
| | | | 16 A | **A9D34816** | - | |
| | | | 20 A | **A9D34820** | - | |
| | | | 25 A | **A9D34825** | - | |
| | | | 32 A | **A9D34832** | - | |
| | | | 40 A | **A9D34840** | - | |
| | | | 45 A | **A9D34845** | - | |
| **C curve** | **Voltage rating (V)** | | **Sensitivity (IΔn)** | | | |
| DB405038  | 240 | Rating (In) | 6 A | **A9D14806** | **A9D15806** | 2 |
| | | | 10 A | **A9D14810** | **A9D15810** | |
| | | | 16 A | **A9D14816** | **A9D15816** | |
| | | | 20 A | **A9D14820** | **A9D15820** | |
| | | | 25 A | **A9D14825** | **A9D15825** | |
| | | | 32 A | **A9D14832** | **A9D15832** | |
| | | | 40 A | **A9D14840** | **A9D15840** | |
| | | | 45 A | **A9D14845** | **A9D15845** | |
| Operating frequency | | | | 50…60 Hz | | |
| **Auxiliaries** | | | | **See pages E-2 and F-2** | | |

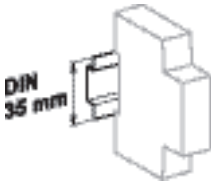
| Accessory | |
|---|---|
| **Type** | |
| Padlocking device (bag of 10 pieces) | **A9A27049** |

# iC60 RCBO
## 10, 30 and 100 mA

## Technical data

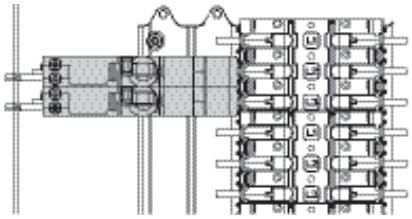
| Main characteristics | | iC60N RCBO | iC60H RCBO | iC60H2 RCBO |
|---|---|---|---|---|
| Insulation voltage (Ui) | | 400 V AC | | |
| Rated impulse withstand voltage (Uimp) | | 4 kV | | |
| Rated residual operating current (IΔn) | | 30 mA | 10, 30, 100 mA | 30 mA |
| Thermal tripping | Reference temperature | 50°C | | |
| Temperature derating | | See the Technical Guide | | |
| Limitation class | | 3 | | |
| Surge current withstand (8/20 µs) without tripping | | 250 Â | | |
| Rated nominal breaking capacity (Icn) | | 6,000 A | 10,000 A | 10,000 A |
| Phase/earth rated residual breaking and making capacity (IΔm) | | 6,000 A | 7,500 A | 7,500 A |
| **Additional characteristics** | | | | |
| Degree of protection | Device only | IP20 | | |
| | Device in modular enclosure | IP40 | | |
| Endurance (O-C) | Electrical | 5,000 cycles | | |
| | Mechanical | 20,000 cycles | | |
| Operating temperature | | -15°C to +60°C | | |
| Storage temperature | | -40°C to +85°C | | |
| Tropicalization | | Treatment 2 (relative humidity: 95 % at 55°C) | | |

DB123309



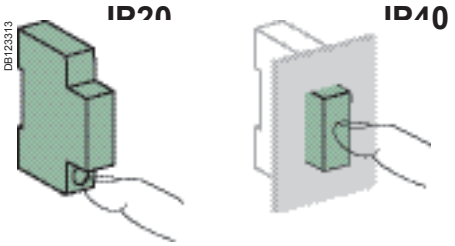

*Clip on DIN rail 35 mm.*

DB404953



*Installation on Fishbone.*

DB123313




DB123311

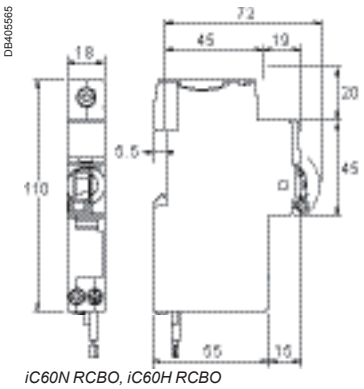

*Indifferent position of installation.*

## Weight (g)

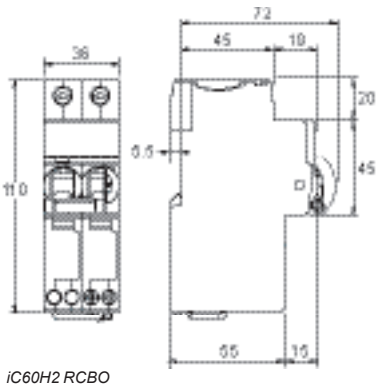
| iC60 RCBO | |
|---|---|
| iC60N RCBO | 205 |
| iC60H RCBO | 205 |
| iC60H2 RCBO | 332 |

## Dimensions (mm)

DB405565




*iC60N RCBO, iC60H RCBO*




*iC60H2 RCBO*

B

# Load Protection (Surge arrester)

C

# iPF surge arresters
## Type 2 or 3 LV surge arresters

The iPF multi-pole single-piece surge arrester range is adapted for earthing systems: TT, TN-S, TN-C.
Type 2 surge arresters are tested with a 8/20 µs current wave.
Type 3 surge arresters are tested with a 12/50 µs and 8/20 µs combined wave.

Each surge arrester in the range has a specific application:
■ **incoming protection (type 2):**
□ the iPF65(r) is recommended for a very high risk level (strongly exposed site)
□ the iPF40(r) is recommended for a high risk level
□ the iPF20 is recommended for a medium risk level
■ **secondary protection (type 2 or 3):**
□ the iPF8 ensures secondary protection of loads to be protected and is placed in cascade with the incoming surge arresters. This surge arrester is required when the loads to be protected are at a distance of more than 30 m from the incoming surge arrester.

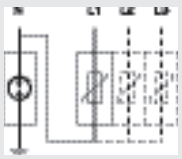
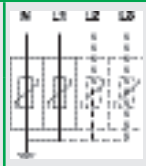
The iPF surge arresters with "r" indication have remote transfer of the information: "surge arrester to be replaced".

PB105278-35

*1P+N.*

PB105280-35

*3P+N.*

| Rated discharge current (Imax) / Nominal discharge current (In) | Type of protection | | Network | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | |  | |  | | | |
| | Incoming | Secondary (type 2 or 3) | 1P+N | 3P+N | 1P | 2P | 3P | 4P |
| **65 kA / 20 kA** | | | | | | | | |
| | iPF65 | | | | A9L15683 | | | |
| | | | A9L15684 | | | | | |
| | | | | | | A9L15584 | | |
| | | | | | | | A9L15581 | |
| | | | | A9L15685 | | | | |
| | | | | A9L15586 | | | | |
| | | | | | | | | A9L15585 |
| **40 kA / 15 kA** | | | | | | | | |
| High risk level | iPF40 | | | | A9L15686 | | | |
| | | | A9L15687 | | | | | |
| | | | | | | A9L15587 | | |
| | | | | | | | A9L15582 | |
| | | | | A9L15690 | | | | |
| | | | | A9L15688 | | | | |
| | | | | | | | | A9L15590 |
| | | | | | | | | A9L15588 |
| **20 kA / 5 kA** | | | | | | | | |
| Medium risk level | iPF20 | | | | A9L15691 | | | |
| | | | A9L15692 | | | | | |
| | | | | | | A9L15592 | | |
| | | | | | | | A9L15597 | |
| | | | | A9L15693 | | | | |
| | | | | | | | | A9L15593 |
| **8 kA / 2.5 kA** | | | | | | | | |
| Secondary protection: placed near the loads to be protected when they are at a distance of more than 30 m from the incoming surge arrester | | iPF8 | | | A9L15694 | | | |
| | | | A9L15695 | | | | | |
| | | | | | | A9L15595 | | |
| | | | | | | | A9L15598 | |
| | | | | A9L15696 | | | | |
| | | | | | | | | A9L15596 |

| Surge arrester/circuit breaker association | |
|---|---|
| **Type of surge arrester** | **Associated circuit breaker** |
| iPF65 | Curve C 50 A |
| iPF40 | Curve C 40 A |
| iPF20 | Curve C 25 A |
| iPF8 | Curve C 20 A |

# iPF surge arresters
## Type 2 or 3 LV surge arresters (cont.)

| | Earthing system | Transfer | Surge arrester name | Width in mod. of 9 mm | Up - (kV) Voltage protection level | | | Un - (V) Rated voltage network | Uc - (V) Maximum continuous operating voltage | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CM* | | DM* | | CM* | | DM* |
| | | | | | L/⏚ | N/⏚ | L/N | | L/⏚ | N/⏚ | L/N |
| | | | **iPF65** | | | | | | | | |
| | TT & TN | | iPF65 1P | 2 | ≤ 1.5 | - | - | 230 | 340 | - | - |
| | TT & TN-S | | iPF65 1P+N | 4 | - | ≤ 1.5 | ≤ 1.5 | | - | 260 | 340 |
| | TN-C | | iPF65 2P | | ≤ 1.5 | ≤ 1.5 | - | | 340 | 340 | - |
| | TN-C | | iPF65 3P | 8 | ≤ 1.5 | - | - | 230/400 | 340 | - | - |
| | TT & TN-S | ■ | iPF65r 3P+N | | - | ≤ 1.5 | ≤ 1.5 | | - | 260 | 340 |
| | TT & TN-S | | iPF65 3P+N | | - | ≤ 1.5 | ≤ 1.5 | | - | 260 | 340 |
| | TN-C | ■ | iPF65r 4P | | ≤ 1.5 | ≤ 1.5 | - | | 340 | 340 | - |
| | | | **iPF40** | | | | | | | | |
| | TT & TN | | iPF40 1P | 2 | ≤ 1.5 | - | - | 230 | 340 | - | - |
| | TT & TN-S | | iPF40 1P+N | 4 | - | ≤ 1.5 | ≤ 1.5 | | - | 260 | 340 |
| | TN-C | | iPF40 2P | | ≤ 1.5 | ≤ 1.5 | - | | 340 | 340 | - |
| | TN-C | | iPF40 3P | 8 | ≤ 1.5 | - | - | 230/400 | 340 | - | - |
| | TT & TN-S | ■ | iPF40r 3P+N | | - | ≤ 1.5 | ≤ 1.5 | | - | 260 | 340 |
| | TT & TN-S | | iPF40 3P+N | | - | ≤ 1.5 | ≤ 1.5 | | - | 260 | 340 |
| | TN-C | ■ | iPF40r 4P | | ≤ 1.5 | ≤ 1.5 | - | | 340 | 340 | - |
| | TN-C | | iPF40 4P | | ≤ 1.5 | ≤ 1.5 | - | | 340 | 340 | - |
| | | | **iPF20** | | | | | | | | |
| | TT & TN | | iPF20 1P | 2 | ≤ 1.1 | - | - | 230 | 340 | - | - |
| | TT & TN-S | | iPF20 1P+N | 4 | - | ≤ 1.5 | ≤ 1.1 | | - | 260 | 340 |
| | TN-C | | iPF20 2P | | ≤ 1.1 | ≤ 1.1 | - | | 340 | 340 | - |
| | TN-C | | iPF20 3P | 8 | ≤ 1.1 | - | - | 230/400 | 340 | - | - |
| | TT & TN-S | | iPF20 3P+N | | - | ≤ 1.5 | ≤ 1.1 | | - | 260 | 340 |
| | TN-C | | iPF20 4P | | ≤ 1.1 | ≤ 1.1 | - | | 340 | 340 | - |
| | | | **iPF8 (1)** | | **Type 2 / Type 3** | | | | | | |
| | TT & TN | | iPF8 1P | 2 | ≤ 1 / ≤ 1.1 | - | - | 230 | 340 | - | - |
| | TT & TN-S | | iPF8 1P+N | 4 | - | ≤ 1.5 / ≤ 1.2 | ≤ 1 / ≤ 1.1 | | - | 260 | 340 |
| | TN-C | | iPF8 2P | | ≤ 1 / ≤ 1.1 | ≤ 1 / ≤ 1.1 | - | | 340 | 340 | - |
| | TN-C | | iPF8 3P | 8 | ≤ 1 / ≤ 1.1 | - | - | 230/400 | 340 | - | - |
| | TT & TN-S | | iPF8 3P+N | | - | ≤ 1.5 / ≤ 1.2 | ≤ 1 / ≤ 1.1 | | - | 260 | 340 |
| | TN-C | | iPF8 4P | | ≤ 1 / ≤ 1.1 | ≤ 1 / ≤ 1.1 | - | | 340 | 340 | - |

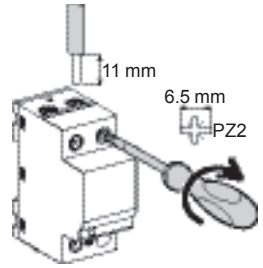
** **CM**: common mode (phase to earth and neutral to earth). * **DM**: differential mode (phase to neutral). **(1) Uoc**: combinated waveform voltage: 10 kV.*

C

# iPF surge arresters
## Type 2 or 3 LV surge arresters (cont.)

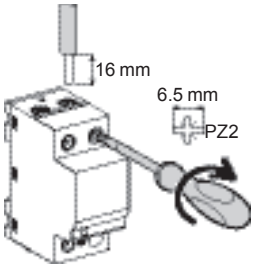
## Connection

DB123129




| Type | | Tightening torque | Copper cables | |
|---|---|---|---|---|
| | | | Rigid | Flexible or ferrule |
| | | DB122945 | DB122946 | |
| iPF8 / 20 | Ph / N | 1.2 N.m | 16 mm² max. | 10 mm² max. |
| | ⏚ | 2 N.m | 25 mm² max. | 16 mm² max. |
| iPF40 / 65 | Ph / N | 2 N.m | 25 mm² max. | 16 mm² max. |
| | ⏚ | 3.5 N.m | 50 mm² max. | 35 mm² max. |

DB123129




## Technical data

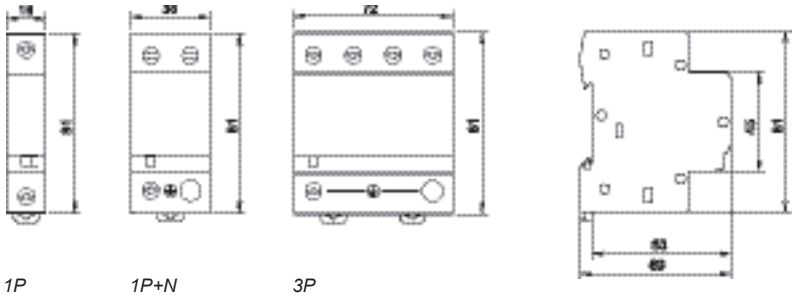
| Main characteristics | | |
|---|---|---|
| Operating frequency | | 50/60 Hz |
| Operating voltage (Ue) | | 230/400 V AC |
| Permanent operating current (Ic) | | < 1 mA |
| Response time | | < 25 ns |
| End of life indication: by green/red mechanical indicator | Green | In operation |
| | Red | At end of life |
| End of life remote indication | | By contact NO, NC 250 V / 0.25 A |
| **Additional characteristics** | | |
| Operating temperature | | -25°C to +60°C |
| Type of connection terminals | | Tunnel terminals, 2.5 to 35 mm² |
| Standards | | IEC 61643-1 T2 and EN 61643-11 Type 2 |

## Weight (g)

| Surge arrester | |
|---|---|
| **Type** | **iPF** |
| 1P | 125 |
| 2P | 210 |
| 3P | 335 |
| 4P | 420 |

## Dimensions (mm)

DB123595



*1P* *1P+N* *2P* *3P* *3P+N* *4P*

# iPRD surge arresters

## Type 2 or 3 LV withdrawable surge arresters

iPRD withdrawable surge arresters allow quick replacement of damaged cartridges.

PB105274-35

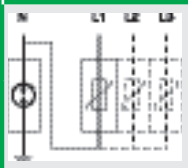
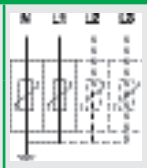
*1P+N*

PB105275-35

*3P*

PB105276-35

*3P+N*

| Rated discharge current (Imax) / Nominal discharge current (In) | Type of protection | | Network | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | |  | |  | | | |
| | Incoming | Secondary | 1P+N | 3P+N | 1P | 2P | 3P | 4P |
| **65 kA / 20 kA** | | | | | | | | |
| Very high risk level (strongly exposed site) | iPRD65 | | | | A9L16555 | | | |
| | | | | | A9L16556 | | | |
| | | | A9L16557 | | | | | |
| | | | | | | A9L16442 | | |
| | | | | | | | A9L16558 | |
| | | | | | | | A9L16443 | |
| | | | | A9L16559 | | | | |
| | | | | | | | | A9L16659 |
| **40 kA / 15 kA** | | | | | | | | |
| High risk level | iPRD40 | | | | A9L16561 | | | |
| | | | | | A9L16566 | | | |
| | | | A9L16562 | | | | | |
| | | | A9L16567 | | | | | |
| | | | | | | A9L16444 | | |
| | | | | | | A9L16667 | | |
| | | | | | | | A9L16445 | |
| | | | | | | | A9L16568 | |
| | | | | | | | A9L16563 | |
| | | | | A9L16564 | | | | |
| | | | | A9L16569 | | | | |
| | | | | | | | | A9L16597 |
| | | | | | | | | A9L16664 |
| | | | | | | | | A9L16669 |
| **20 kA / 5 kA** | | | | | | | | |
| Medium risk level | iPRD20 | | | | A9L16571 | | | |
| | | | A9L16672 | | | | | |
| | | | A9L16572 | | | | | |
| | | | | | | A9L16446 | | |
| | | | | | | | A9L16447 | |
| | | | | | | | A9L16573 | |
| | | | | A9L16674 | | | | |
| | | | | A9L16574 | | | | |
| | | | | | | | | A9L16599 |
| | | | | | | | | A9L16673 |
| **8 kA / 2.5 kA** | | | | | | | | |
| Secondary protection: placed near the loads to be protected when they are at a distance of more than 30 m from the incoming surge arrester | | iPRD8 | | | A9L16576 | | | |
| | | | A9L16677 | | | | | |
| | | | A9L16577 | | | | | |
| | | | | | | A9L16448 | | |
| | | | | | | | A9L16449 | |
| | | | | | | | A9L16578 | |
| | | | | A9L16679 | | | | |
| | | | | A9L16579 | | | | |
| | | | | | | | | A9L16678 |
| | | | | | | | | A9L16680 |

PB105272-35

*Cartridge*

### Spare cartridges

| Type | Spare cartridges for | Cat. no |
|---|---|---|
| C 65-460 | iPRD65r IT | **A9L16682** |
| C 65-340 | iPRD65r | **A9L16681** |
| C 40-460 | iPRD40r IT | **A9L16684** |
| C 40-340 | iPRD40, iPRD40r | **A9L16685** |
| C 20-460 | iPRD20r IT | **A9L16686** |
| C 20-340 | iPRD20, iPRD20r | **A9L16687** |
| C 8-460 | iPRD8r IT | **A9L16688** |
| C 8-340 | iPRD8, iPRD8r | **A9L16689** |
| C neutral | All products | **A9L16691** |

### Surge arrester/circuit breaker association

| Type of surge arrester | Associated circuit breaker |
|---|---|
| iPRD65 | Curve C 50 A |
| iPRD40 | Curve C 40 A |
| iPRD20 | Curve C 25 A |
| iPRD8 | Curve C 20 A |

C

# iPRD surge arresters

## Type 2 or 3 LV withdrawable surge arresters (cont.)

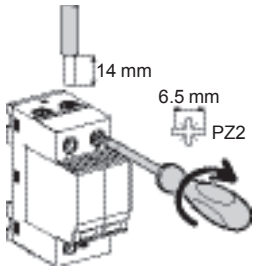
| Earthing system | Transfer | Surge arrester name | Width in mod. of 9 mm | Up - (kV) Voltage protection level | | | Un - (V) Rated voltage network | Uc - (V) Maximum continuous operating voltage | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CM* | | DM* | | CM* | | DM* |
| | | | | L/⏚ | N/⏚ | L/N | | L/⏚ | N/⏚ | L/N |
| | | **iPRD65** | | | | | | | | |
| IT | ■ | iPRD65r 1P IT | 2 | ≤ 2 | - | - | 230 | 460 | - | - |
| TT & TN | ■ | iPRD65r 1P | | ≤ 1.5 | - | - | - | 340 | - | - |
| TT & TN-S | ■ | iPRD65r 1P+N | 4 | - | ≤ 1.5 | ≤ 1.5 | - | - | 260 | 340 |
| TN-C | ■ | iPRD65r 2P | | ≤ 1.5 | ≤ 1.5 | - | - | 340 | 340 | - |
| IT | ■ | iPRD65r 3P IT | 6 | ≤ 2 | - | - | 230/400 | 460 | - | - |
| TN-C | ■ | iPRD65r 3P | | ≤ 1.5 | - | - | - | 340 | - | - |
| TT & TN-S | ■ | iPRD65r 3P+N | 8 | - | ≤ 1.5 | ≤ 1.5 | - | - | 260 | 340 |
| TN-C | ■ | iPRD65r 4P | | ≤ 1.5 | ≤ 1.5 | - | - | 340 | 340 | - |
| | | **iPRD40** | | | | | | | | |
| TT & TN | ■ | iPRD40r 1P | 2 | ≤ 1.4 | - | - | 230 | 340 | - | - |
| TT & TN | | iPRD40 1P | | ≤ 1.4 | - | - | - | 340 | - | - |
| TT & TN-S | ■ | iPRD40r 1P+N | 4 | - | ≤ 1.4 | ≤ 1.4 | - | - | 260 | 340 |
| TT & TN-S | | iPRD40 1P+N | | - | ≤ 1.4 | ≤ 1.4 | - | - | 260 | 340 |
| TN-C | ■ | iPRD40r 2P | | ≤ 1.4 | ≤ 1.4 | - | - | 340 | 340 | - |
| TN-C | | iPRD40 2P | | ≤ 1.4 | ≤ 1.4 | - | - | 340 | 340 | - |
| TN-C | ■ | iPRD40r 3P | 6 | ≤ 1.4 | - | - | 230/400 | 340 | - | - |
| TN-C | | iPRD40 3P | | ≤ 1.4 | - | - | - | 340 | - | - |
| IT | ■ | iPRD40r 3P IT | | ≤ 2 | - | - | - | 460 | - | - |
| TT & TN-S | ■ | iPRD40r 3P+N | 8 | - | ≤ 1.4 | ≤ 1.4 | - | - | 260 | 340 |
| TT & TN-S | | iPRD40 3P+N | | - | ≤ 1.4 | ≤ 1.4 | - | - | 260 | 340 |
| IT | ■ | iPRD40r 4P IT | | ≤ 2 | ≤ 2 | - | - | 460 | 460 | - |
| TN-C | ■ | iPRD40r 4P | | ≤ 1.4 | ≤ 1.4 | - | - | 340 | 340 | - |
| TN-C | | iPRD40 4P | | ≤ 1.4 | ≤ 1.4 | - | - | 340 | 340 | - |
| | | **iPRD20** | | | | | | | | |
| TT & TN | | iPRD20 1P | 2 | ≤ 1.1 | - | - | 230 | 340 | - | - |
| TT & TN-S | ■ | iPRD20r 1P+N | 4 | - | ≤ 1.4 | ≤ 1.1 | - | - | 260 | 340 |
| TT & TN-S | | iPRD20 1P+N | | - | ≤ 1.4 | ≤ 1.1 | - | - | 260 | 340 |
| TN-C | | iPRD20 2P | | ≤ 1.1 | ≤ 1.1 | - | - | 340 | 340 | - |
| TN-C | | iPRD20 3P | 6 | ≤ 1.1 | - | - | 230/400 | 340 | - | - |
| IT | ■ | iPRD20r 3P IT | | ≤ 1.6 | - | - | - | 460 | - | - |
| TT & TN-S | ■ | iPRD20r 3P+N | 8 | - | ≤ 1.4 | ≤ 1.1 | - | - | 260 | 340 |
| TT & TN-S | | iPRD20 3P+N | | - | ≤ 1.4 | ≤ 1.1 | - | - | 260 | 340 |
| IT | ■ | iPRD20r 4P IT | | ≤ 1.6 | ≤ 1.6 | - | - | 460 | 460 | - |
| TN-C | | iPRD20 4P | | ≤ 1.1 | ≤ 1.1 | - | - | 340 | 340 | - |
| | | **iPRD8 (1)** | | **Type 2 / Type 3** | | | | | | |
| TT & TN | | iPRD8 1P | 2 | ≤ 1 / ≤ 1 | - | - | 230 | 340 | - | - |
| TT & TN-S | ■ | iPRD8r 1P+N | 4 | - | ≤ 1.4 / ≤ 1 | ≤ 1 / ≤ 1.1 | - | - | 260 | 340 |
| TT & TN-S | | iPRD8 1P+N | | - | ≤ 1.4 / ≤ 1 | ≤ 1 / ≤ 1.1 | - | - | 260 | 340 |
| TN-C | | iPRD8 2P | | ≤ 1 / ≤ 1 | ≤ 1 / ≤ 1 | - | - | 340 | 340 | - |
| TN-C | | iPRD8 3P | 6 | ≤ 1 / ≤ 1 | - | - | 230/400 | 340 | - | - |
| IT | ■ | iPRD8r 3P IT | | ≤ 1.4 / ≤ 1.6 | - | - | - | 460 | - | - |
| TT & TN-S | ■ | iPRD8r 3P+N | 8 | - | ≤ 1.4 / ≤ 1 | ≤ 1 / ≤ 1.1 | - | - | 260 | 340 |
| TT & TN-S | | iPRD8 3P+N | | - | ≤ 1.4 / ≤ 1 | ≤ 1 / ≤ 1.1 | - | - | 260 | 340 |
| IT | ■ | iPRD8r 4P IT | | ≤ 1.4 / ≤ 1.6 | ≤ 1.4 / ≤ 1.6 | - | - | 460 | 460 | - |
| TN-C | | iPRD8 4P | | ≤ 1 / ≤ 1 | ≤ 1 / ≤ 1 | - | - | 340 | 340 | - |

** **CM**: common mode (phase to earth and neutral to earth). * **DM**: differential mode (phase to neutral). **(1) Uoc**: combinated waveform voltage: 10 kV.*

# iPRD surge arresters
## Type 2 or 3 LV withdrawable surge arresters (cont.)

## Connection

DB123130




| Type | Tightening torque | Copper cables | |
|---|---|---|---|
| | | Rigid | Flexible or ferrule |
| | DB122945 | DB122946 | |
| iPRD | 2 N.m | 2.5 to 25 mm² | 2.5 to 16 mm² |

## Technical data

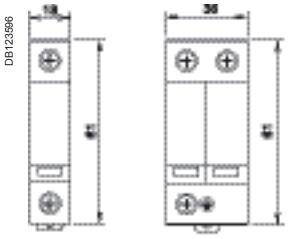
| Main characteristics | | |
|---|---|---|
| Operating frequency | | 50/60 Hz |
| Operating voltage (Ue) | | 230/400 V AC |
| Permanent operating current (Ic) | | < 1 mA |
| Response time | | < 25 ns |
| End of life indication: by mechanical indicator | White | In operation |
| | Red | At end of life |
| End of life remote indication | | By contact NO, NC 250 V / 0.25 A |
| **Additional characteristics** | | |
| Operating temperature | | -25°C to +60°C |
| Type of connection terminals | | Tunnel terminals, 2.5 to 35 mm² |
| Standards | | IEC 61643-1 T2 and EN 61643-11 Type 2 |

## Weight (g)

| Surge arrester | |
|---|---|
| **Type** | **iPRD** |
| 1P | 115 |
| 2P | 220 |
| 3P | 340 |
| 4P | 450 |

## Dimensions (mm)

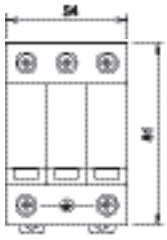
DB123596



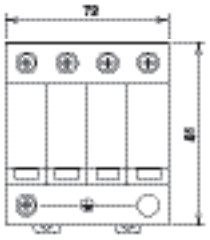
*1P*



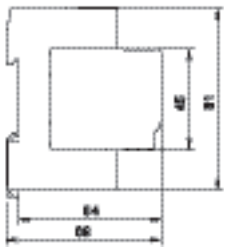
*1P+N*
*2P*



*3P*



*3P+N*
*4P*



C

# Withdrawable surge arrester iQuick PRD Type 2 or Type 3

Withdrawable surge arrester iQuick PRD allow damaged cartridges to be replaced quickly. They offer remote reporting of the "cartridge must be changed" message.

PB106430-29

PB106429-29

PB106428-29

## IEC 61643- 1 T2, EN 61643-11 Type 2

They protect electrical and electronic equipment against lightning-induced surges. Withdrawable surge arrester iQuick PRD surge arresters are prewired, incorporating their end-of-life disconnector.
Each surge arrester in the range has a specific use:

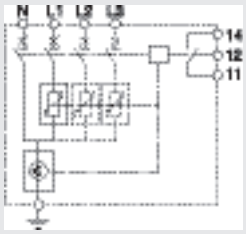
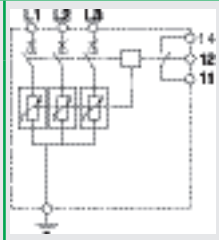
■ **incoming protection (type 2):**

□ iQuick PRD40r is recommended for a high risk level

□ iQuick PRD20r is recommended for a moderate risk level

■ **secondary protection (type 2 or 3):**

□ iQuick PRD8r provides secondary protection for the loads to be protected and is cascade-mounted with the incoming surge arresters. This surge arrester is required as close as possible to the loads to be protected when they are located more than 30 metres away from the incoming surge arrester.

| Maximum discharge current (Imax) / Nominal discharge current (In) | Type of protection | | Network | | |
|---|---|---|---|---|---|
| | | |  | |  |
| | Incoming protection | Secondary protection | 1P+N | 3P+N | 3P |
| **40 kA / 20 kA** | | | | | |
| High risk level | iQuick PRD40r | | **A9L16292** | | |
| | | | | | **A9L16293** |
| | | | | **A9L16294** | |
| **20 kA / 5 kA** | | | | | |
| Moderate risk level | iQuick PRD20r | | **A9L16295** | | |
| | | | | | **A9L16296** |
| | | | | **A9L16297** | |
| **8 kA / 2 kA** | | | | | |
| Secondary protection: placed near the loads to be protected when they are at a distance of more than 30 m from the incoming surge arrester | | iQuick PRD8r | **A9L16298** | | |
| | | | | | **A9L16299** |
| | | | | **A9L16300** | |

DB123837

*Replacement cartridges.*

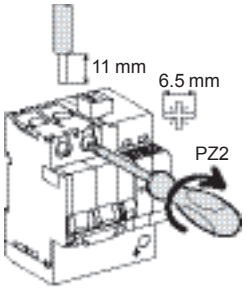
## Replacement cartridges

| Type | Replacement cartridges for | Cat. no. |
|---|---|---|
| C 40-350 | iQuick PRD40r | **A9L16310** |
| C 20-350 | iQuick PRD20r | **A9L16311** |
| C 8-350 | iQuick PRD8r | **A9L16312** |
| C neutral-350 | All products | **A9L16313** |

# Withdrawable surge arrester iQuick PRD Type 2 or Type 3

## Connection

DB123888




| Type | | Tightening torque | Copper cables | |
|---|---|---|---|---|
| | | | Rigid | Flexible or ferrule |
| | | DB122945 | DB122946 | |
| iQuick PRD | Ph / N 8r/20r | 2.5 N.m | 2.5 to 25 mm² | 2.5 to 25 mm² |
| | Ph / N 40r | | 2.5 to 35 mm² | 2.5 to 35 mm² |
| | ⏚ | | 25 mm² max. | 25 mm² max. |

| Earthing system | Transfert | Name of surge arrester | Width in 9 mm modules | Up – (kV) Voltage protection level | | | Un – (V) Nominal mains voltage | Uc – (V) Maximum continious operating voltage | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CM* | | DM* | | CM* | | DM* |
| | | | | L/⏚ | N/⏚ | L/N | | L/⏚ | N/⏚ | L/N |
| | | iQuick PRD40r | | | | | | | | |
| TT & TN-S | ■ | 1P+N | 8 | 1.5 | 1.5 | 2.5 | 230 | - | 264 | 350 |
| TN-C & IT 230 V | ■ | 3P | 13 | 2 | - | - | 230/400 | 350 | - | - |
| TT & TN-S | ■ | 3P+N | 15 | 1.5 | 1.5 | 2.5 | | - | 264 | 350 |
| | | iQuick PRD20r | | | | | | | | |
| TT & TN-S | ■ | 1P+N | 8 | 1.5 | 1.5 | 1.5 | 230 | - | 264 | 350 |
| TN-C & IT 230 V | ■ | 3P | 13 | 1.5 | - | - | 230/400 | 350 | - | - |
| TT & TN-S | ■ | 3P+N | 15 | 1.5 | 1.5 | 1.5 | | - | 264 | 350 |
| | | iQuick PRD8r (2) | | Type 2 / Type 3 | | | | | | |
| TT & TN-S | ■ | 1P+N | 8 | 1.5/1.4 | 1.5/1.5 | 1.2/1.4 | 230 | - | 264 | 350 |
| TN-C & IT 230 V | ■ | 3P | 13 | 1.2/1.4 | - | - | 230/400 | 350 | - | - |
| TT & TN-S | ■ | 3P+N | 15 | 1.5/1.4 | 1.5/1.5 | 1.2/1.4 | | - | 264 | 350 |

** **CM** common mode (between phase/earth and neutral/earth). * **DM**: differential mode (between phase and neutral).*
*(1) Up (MCB + SPD): total value measured between Modular Circuit Breaker (MCB) terminal block and PE surge arrester device terminal block (SPD).*
*(2) Uoc: open-circuit voltage in combined wave: 10 kV.*

DB123842

*Pragma: the earth terminal block needs 1 support kit and 1 terminal block kit.*

## Accessories

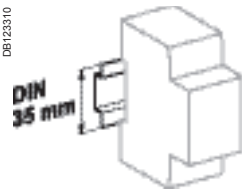
### Earth terminal block support

| Type | | |
|---|---|---|
| Support kit | L = 4 blocks | Batch of 1 |
| DB107889  | | |
| 25 mm² terminal block kit | L = 1 block | Batch of 5 |
| DB107884  | | |

C

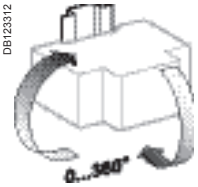
# Withdrawable surge arrester iQuick PRD Type 2 or Type 3 (cont.)

DB123310




*Clip on DIN rail 35 mm.*

DB123312

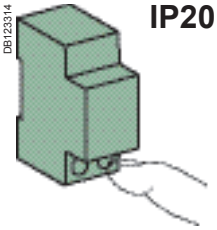



*Indifferent position of installation.*

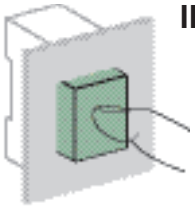
## Technical data

| Main characteristics | | | |
|---|---|---|---|
| Operating frequency | 50/60 Hz | | |
| Operating voltage (Ue) | 230/400 V AC | | |
| Disconnector short-circuit withstand (Isc) | 25 kA (50 Hz) | | |
| Permanent operating current (Ic) | <1 mA | | |
| Response time | <25 ns | | |
| Status indication | By the cartridges | White | Operational |
| | | Red | At end of life |
| | By white mechanical indicator/ handle ON | | Operational |
| | By red mechanical indicator/ handle OFF | | At end of life |
| Remote indication end of life | By the NO/NC remote indication contact 250 V AC / 2 A | | |
| **Additional characteristics** | | | |
| Degree of protection | Device only | | IP20, IK05 |
| | Device in modular enclosure | | IP40 |
| Operating temperature | -25°C to +70°C | | |
| Storage temperature | -40°C to +80°C | | |
| Certifications | NF,<br>KEMA KEUR (iQuick PRD 8r, 20r) | | |

DB123314



**IP20**



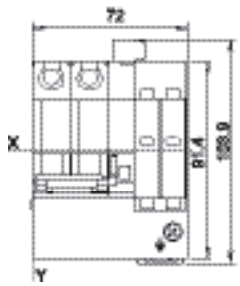
**IP40**

## Weight (g)

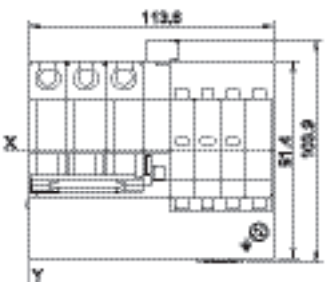
| Surge arresters | | |
|---|---|---|
| **Type** | **iQuick PRD8r/20r** | **iQuick PRD40r** |
| 1P+N | 435 | 445 |
| 3P | 665 | 700 |
| 3P+N | 810 | 850 |

## Dimensions (mm)

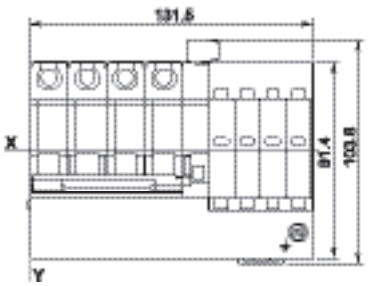
DB123595



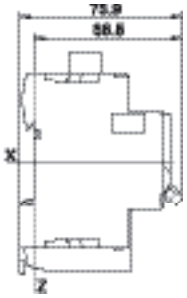

*1P+N*




*3P*




*3P+N*



# Surge arrester iQuick PF Type 2

The iQuick PF multi-pole single-piece surge arrester range is adapted for earthing systems: TT, TN-S.
Type 2 surge arresters are tested with a 8/20 µs current wave.

PB107103-35

PB107104-35

## EN 61643-11 Type 2, IEC 61643-1 T2, IEC 60364-4-443, IEC 60364-5-534

Protects electrical and electronic equipment against indirect overvoltage due to the lighting effect.
Coordination with selective version "si" and S types.

The iQuick PF is precabled. It incorporates its end of life safety disconnector and an earthing terminal block.

### Accessories supplied

- Terminal and 16 mm² cable for connection to the earth bar of the enclosure (supplied mounted)
- 1 lug to crimp for 16 mm² earthing cable
- iQuick PF 1P+N: 2 connection accessories for the electrical link between the surge arrester and the incoming residual current circuit breaker:
  - 1 mounted, centre distance between axes: 9 mm,
  - 1 supplied, centre distance between axes: 18 mm.

| Maximum discharge current (Imax) / Nominal discharge current (In) | Network | | Earthing system | Width in 9 mm modules | Up – (kV) Voltage protection level (*) | Un – (V) Nominal mains voltage | Uc – (V) Maximum continius operating voltage |
|---|---|---|---|---|---|---|---|
| | 1P+N | 3P+N | | | | | |
| **10 kA / 5 kA** | | | | | | | |
| iQuick PF | **A9L16617** | | TT & TN-S | 4 | 1.5 | 230 | 275 |
| | | **A9L16618** | TT & TN-S | 10 | 1.5 | 230/400 | 275 |

*(*) common mode of protection (between phase/earth and neutral/earth) and differential mode of protection (between phase and neutral).*

PB107105-40

### Remote auxiliary

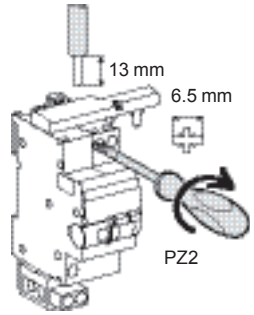
## IEC 60947-5-1

The remote auxiliary iSR allows to remote the iQuick PF operating status.

| Auxiliary | | | | |
|---|---|---|---|---|
| Type | | | | Width in mod. of 9 mm |
| iSR | Contact | Voltage (Ue) | | |
| DB122821  | 3 A | 415 V CA | **A9L16619** | 1 |

## Connection

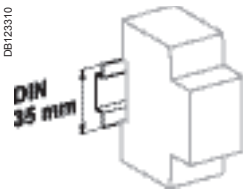
DB123129




| Type | | Tightening torque | Copper cables | |
|---|---|---|---|---|
| | | DB122945 | Rigid DB122946 | Flexible or ferrule |
| **iQuick PF** | Ph / N | 2 N.m | 1 to 16 mm² | 1 to 16 mm² |
| | ⏚ | | 10 to 25 mm² | 10 to 25 mm² |
| **iSR** | | 1.2 N.m | 16 mm² max. | 16 mm² max. |

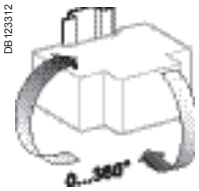
# Surge arrester iQuick PF Type 2 (cont.)

DB123310




*Clip on DIN rail 35 mm.*

DB123312

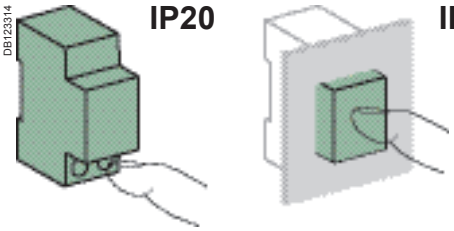



*Indifferent position of installation.*

## Technical data

| Main characteristics | | |
|---|---|---|
| Operating frequency | | 50 Hz |
| Operating voltage (Ue) | | 230/400 V AC |
| Integrated breaking capacity (Isc at 50 Hz) | | 6 kA |
| Status indication: | Mechanical indicator white/ handle ON | Operational |
| | Mechanical indicator red/ handle OFF | At end of life |
| Remote indication end of life | | By iSR auxiliary |
| **Additional characteristics** | | |
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Operating temperature | | -25°C to +70°C |
| Storage temperature | | -40°C to +80°C |

DB123314

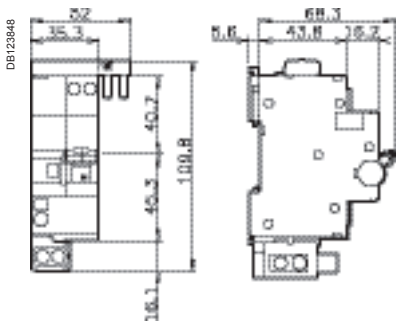



## Weight (g)

| Surge arresters | |
|---|---|
| **Type** | **iQuick PF** |
| 1P+N | 370 |
| 3P+N | 640 |

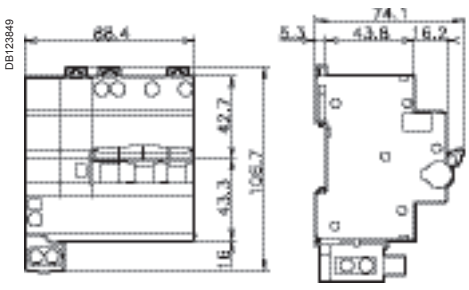
## Dimensions (mm)

DB123848



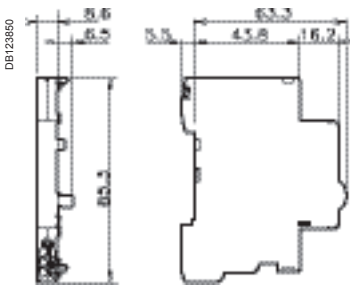
*1P+N*

DB123849



*3P+N*

DB123850



*iSR*

# iPRC, iPRI surge arresters

DB116619

Protection against overvoltages related to lightning strikes.

**Analogue telephone line protection**: the iPRC surge arrester wired in series to the private installation input protects the telephones, the PABX, the modems (including ADSL), etc.

**Protection for 2 low-current lines without common potential or 4 lines with common reference potential**: the iPRI protects the measuring instrument and PLC "sensor" inputs and the DC power supply inputs up to 53 V and AC power supply inputs up to 37 V.
The input current must not exceed 300 mA.

PB104269-35

**A9L16337**

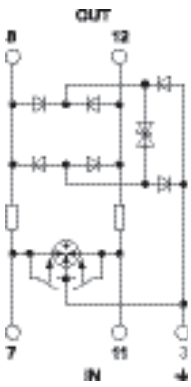
Db122624

xDSL

PB104270-35

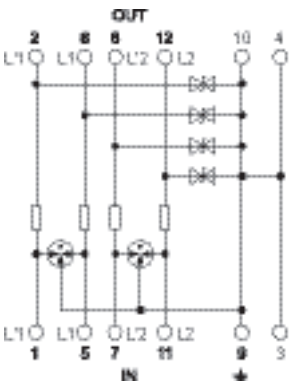
**A9L16339**

DB122585




| | |
|---|---|
| **Line L1** | Cables 7-8 |
| **Line L2** | Cables 11-12 |
| – | – |
| – | – |
| ⏚ | Cable 3 |
| **IN** | Ligne side |
| **OUT** | Protected side |

DB126523



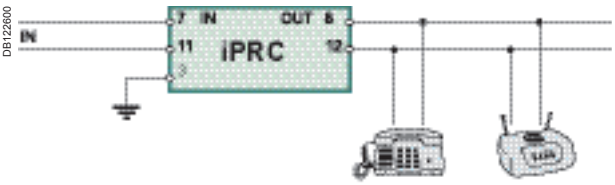

| | |
|---|---|
| **Line L1** | Cables 5-6 |
| **Line L2** | Cables 11-12 |
| **Line L'1** | Cables 1-2 |
| **Line L'2** | Cables 7-8 |
| ⏚ | Cables 3-4-9-10 |
| **IN** | Ligne side |
| **OUT** | Protected side |

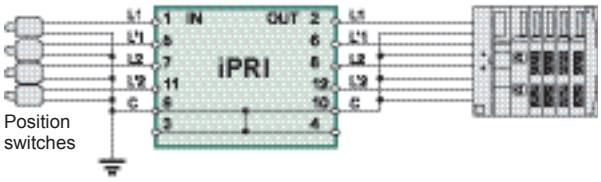
## Catalogue numbers

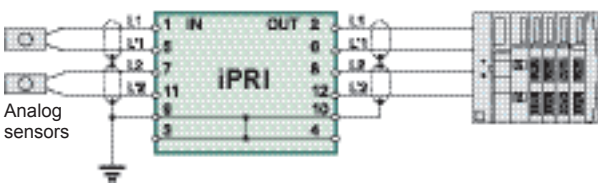
| **Surge arresters** | **iPRC** | **iPRI** |
|---|---|---|
| **Mains voltage (Un)** | **<130 V AC** | **48 V DC** |
| Analogue telephone system | ■ | – |
| Telephone transmitter | ■ | – |
| Digital telephone system | – | ■ |
| Automation network | – | ■ |
| VLV load power supply (12…48 V) | – | ■ |
| xDSL compatibility | ■ | – |
| **Cat. no..** | **A9L16337** | **A9L16339** |
| Width in 9 mm modules | 2 | 2 |

## Diagrams

DB122600



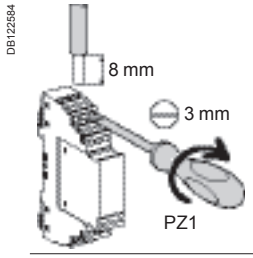



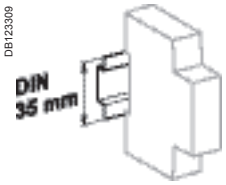

C

# iPRC, iPRI surge arresters (cont.)

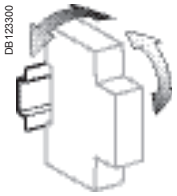
## Connection



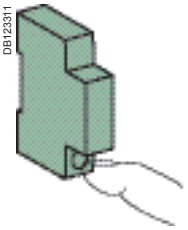

| Tightening torque | Copper cables | |
|---|---|---|
| | Rigid | Flexible or ferrule |
| |  |  |
| 0.8 N.m | 0.2 to 4 mm² | 0.2 to 2,5 mm² |

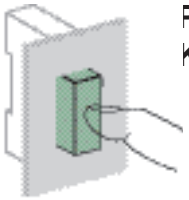



*Clip on DIN rail 35 mm.*




*± 30° vertical.*



IP40
IK05

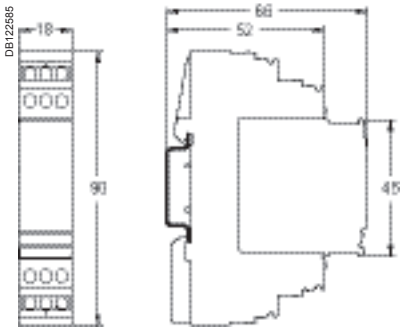
## Technical data

| Main characteristics | | | |
|---|---|---|---|
| | | iPRC | iPRI |
| Number of protected lines | | 2 | 2 |
| Test category | IEC/VDE | C1, C2, C3, D1, B2 | C1, C2, C3, D1, B2 |
| Maximum continuous voltage (Uc) | | 180 V DC, 130 V AC | 53 V DC, 37 V AC |
| Limitation voltage (Up) | | 300 V | 70 V |
| Rated discharge current (8/20) (In) | | 10 kA | 10 kA |
| Maximum discharge current (8/20) (Imax) | | 18 kA | 10 kA |
| Response time | | < 500 ns | ⩽ 1 ns |
| Nominal impulse current | | 100 A | 70 A |
| Rated current ($I_N$) | | 450 mA (up to 45°C) | 300 mA (up to 45°C) |
| Series resistor | | 2.2 Ω | 4.7 Ω |
| End-of-life information by | | Loss of dialling tone | Loss of transmission |
| **Additional characteristics** | | | |
| Degree of protection | Device only | IP20 | IP20 |
| | Device in modular enclosure | IP40 | IP40 |
| | IK | 05 | 05 |
| Operating temperature | | -25°C to +60°C | -25°C to +60°C |
| Storage temperature | | -40°C to +85°C | -40°C to +85°C |

## Weight (g)

| Surge arresters | | |
|---|---|---|
| Type | iPRC | iPRI |
| | 25 | 65 |

## Dimensions (mm)



# iPRD-DC surge arresters

## Withdrawable surge arresters type 2 for photovoltaic applications

IEC 61643-1 T2
EN 61643-11 Type 2
UTE C 61740-51 T2
prEN 50539-11 T2

PB107585-40

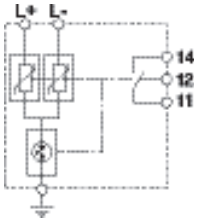
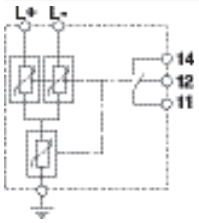
*iPRD-DC40r 600PV*

iPRD-DC direct current surge arresters are designed to protect against overvoltages due to a lightning strike: of the "DC" input to the inverter and of photovoltaic panels.

It should be installed in a switchboard inside the building. If the switchboard is located outside, it must be weatherproof.

Withdrawable iPRD-DC surge arresters allow damaged cartridges to be replaced quickly.
They offer remote reporting of the "cartridge must be changed" message.

## Catalogue numbers

| Internal diagram | Imax (kA) Maximum discharge current | In (kA) Nominal discharge current | Up (kV) Protection level | | | $U_{CPV}$ (V) (1) Maximum steady state voltage | | | Width in module of 9 mm | Cat. no. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L+/⏚ | L-/⏚ | L+/L- | L+/⏚ | L-/⏚ | L+/L- | | |
| **iPRD-DC40r 600PV** | | | | | | | | | | |
| DB124051  | 40 | 15 | 1.6 | 1.6 | 2.8 | 600 | 600 | 840 | 6 | **A9L16434** |
| **iPRD-DC40r 1000PV** | | | | | | | | | | |
| DB124052  | 40 | 15 | 3.9 | 3.9 | 3.9 | 1000 | 1000 | 1000 | 6 | **A9L16436** |

*(1) Ucpv ≥ 1.2 x Uoc stc (Uoc stc: maximum no-load voltage of the photovoltaic generator "photovoltaic module manufacturer's data")*

PB107586-30

PB107587-30

*Replacement cartridges*

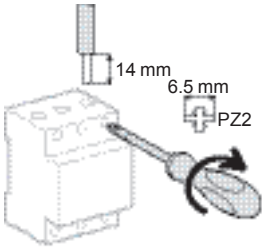
| Replacement cartridges | | |
|---|---|---|
| **Type** | **Replacement cartridges for** | **Cat. no.** |
| C 40-600PV | iPRD-DC40r 600PV | **A9L16683** |
| C 40-1000PV | iPRD-DC40r 1000PV | **A9L16692** |
| C neutral PV | iPRD-DC40r 600PV | **A9L16690** |

C

# iPRD-DC surge arresters
## Withdrawable surge arresters type 2 for photovoltaic applications (cont.)

## Connection

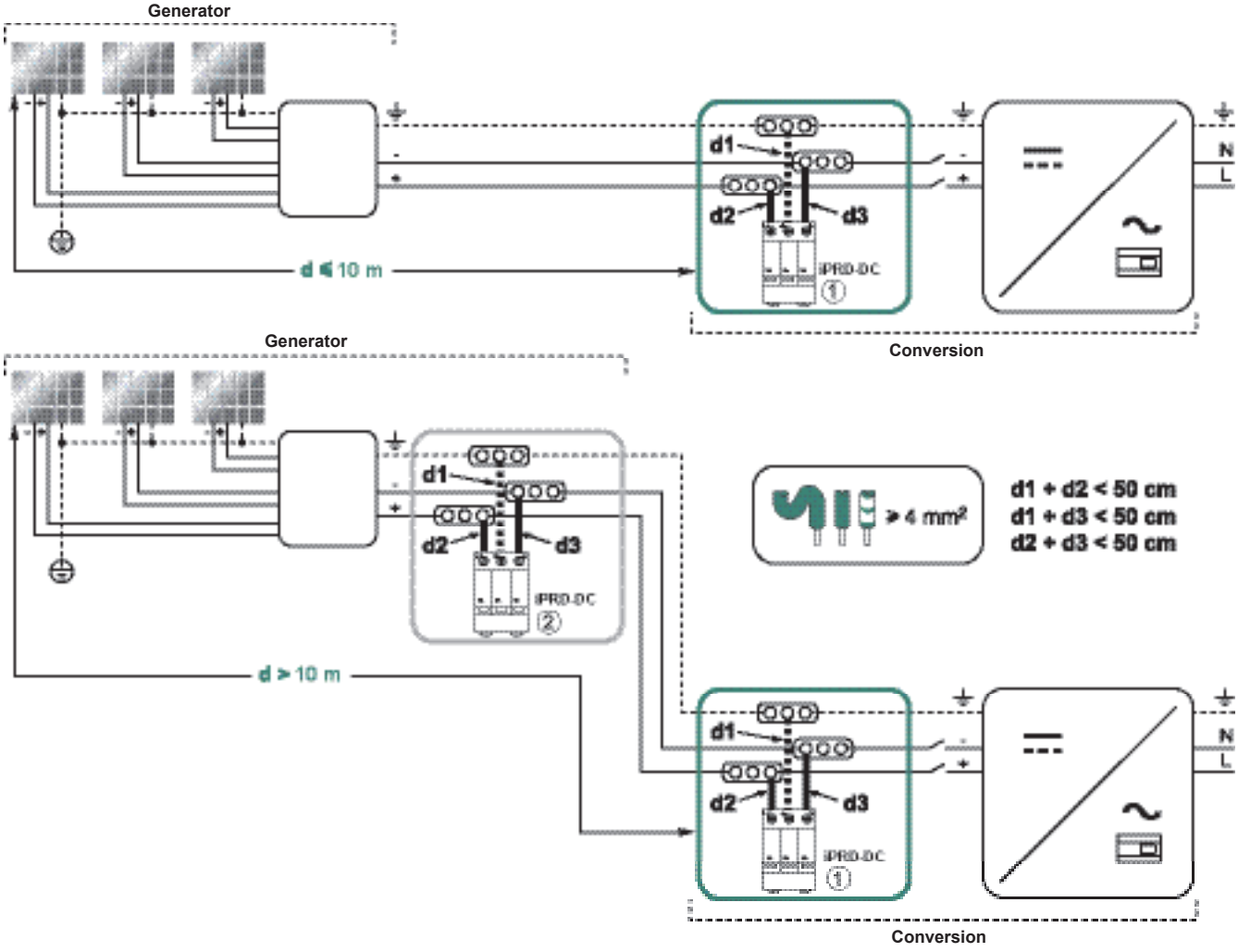
DB124057




| Type | Tightening torque | Copper cables | |
|---|---|---|---|
| | | Rigid | Flexible or ferrule |
| | DB122945 |  | DB122946  |
| iPRD-DC | 2 N.m | 2.5 to 25 mm² | 2.5 to 16 mm² |

Depending on the distance between the "generator" part and the "conversion" part, it may be necessary to install two surge arresters or more, to ensure protection of each of the two parts.

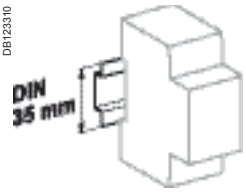
DB124049



# iPRD-DC surge arresters

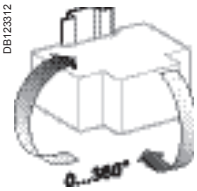
## Withdrawable surge arresters type 2 for photovoltaic applications (cont.)

DB123310



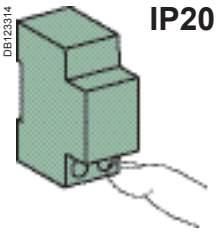

*Clip on DIN rail 35 mm.*

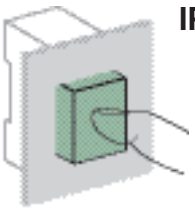
DB123312




*Indifferent position of installation.*

DB123314




## Technical data

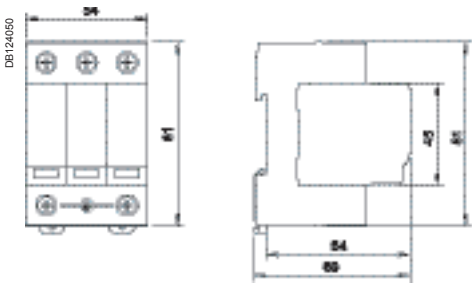
| Main characteristics | | | |
|---|---|---|---|
| Type of network | | Isolated direct current | |
| Temps de réponse | | < 25 ns | |
| Short circuit current ($I_{SCPV}$) | | 30 A | |
| Type of surge arresters | | Type 2 | |
| End-of-life indication mode | | Circuit opened by integrated thermal disconnector | |
| **Additional characteristics** | | | |
| Degree of protection (IEC 60529) | Device only | IP20 | |
| | Device in modular enclosure | IP40 | |
| | Chocs | IK03 | |
| End-of-life indication | By the cartridges | White | Operational |
| | | Red | At end of life |
| | By the NO/NC remote indication contact 250 V AC / 0.25 A | | |
| Operating temperature | | -25°C to +60°C | |
| Storage temperature | | -40°C to +85°C | |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) | |

## Weight (g)

| Surge arresters | |
|---|---|
| **Type** | |
| iPRD-DC40r 600PV | 400 |
| iPRD-DC40r 1000PV | 400 |

## Dimensions (mm)

DB124050

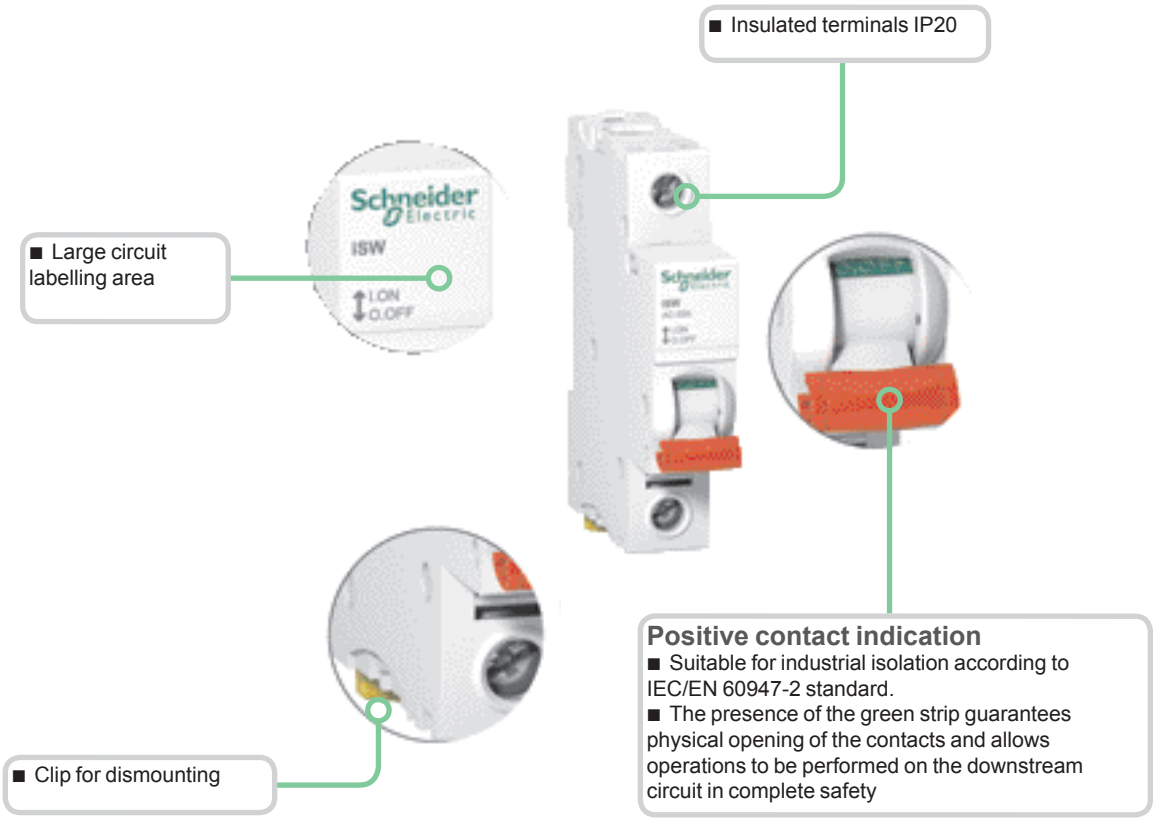



C

# Disconnection

D

# iSW switches

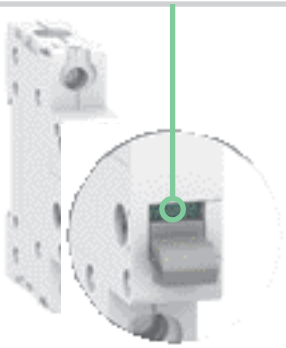


# iSW switches (cont.)

## Position contact indication

■ Suitable for industrial isolation according to IEC/EN 60947-3 standard.
■ The presence of the green strip guarantees physical opening of the contacts and allows operations to be performed on the downstream circuit in complete safety.

PB105266-40
DB122818



PB105264-40

PB105265-40

*Control switches*

## iSW control switches (20, 32 A)

### IEC/EN 60669-1, iSW switch with indicator light.
### IEC/EN 60669-2-4, iSW switch without indicator light.

These switches are used for:
■ Control (opening and closing of circuits under load).
The 1P and 2P switches are available with or without indicator light.
■ Disconnection, for switches without indicator light IEC/EN 60669-2-4.

## iSW switch-disconnectors (40 to 125 A)

### IEC 60947-3

The switch-disconnectors combine the following functions:
■ Control (opening and closing of circuits under load).

## OF iSW auxiliary

■ Mounted on the left, it indicates the "open" or "closed" position of the switch and has a normally open (NO) or normally closed (NC) contact.

## Catalogue numbers

**20, 32 A iSW control switches**

| Type | | | | Width in 9 mm modules |
|---|---|---|---|---|
| **1P** | **Rating** | **Voltage (Ue)** | | |
| DB116998 | 20 A | 250 V AC | **A9S60120** | 2 |
| | 32 A | 250 V AC | **A9S60132** | |
| **2P** | | | | |
| DB116999 | 20 A | 250 V AC | - | 2 |
| | | 415 V AC | **A9S60220** | |
| | 32 A | 250 V AC | - | |
| | | 415 V AC | **A9S60232** | |
| **3P** | | | | |
| DB119000 | 20 A | 415 V AC | **A9S60320** | 4 |
| | 32 A | 415 V AC | **A9S60332** | |
| **4P** | | | | |
| DB119001 | 20 A | 415 V AC | **A9S60420** | 4 |
| | 32 A | 415 V AC | **A9S60432** | |
| Operating frequency | | | 50/60 Hz | |
| **Accessories** | | | **See page E-15** | |

D

# iSW switches

PB105264-40

*Control switches with indicator light*

## Catalogue numbers (cont.)

| 20, 32 A iSW control switches with indicator light | | | |
|---|---|---|---|
| **Type** | | | **Width in 9 mm modules** |
| **1P** | **Rating** | **230 V indicator light** | |
| DB122819  | 20 A | **A9S61120** | 2 |
| | 32 A | **A9S61132** | |
| **2P** | | | |
| DB122820  | 20 A | **A9S61220** | 2 |
| | 32 A | **A9S61232** | |
| Operating frequency | | 50/60 Hz | |
| **Accessories** | | **See page E-15** | |

| Spare indicator lights for 20, 32 A iSW switches | | |
|---|---|---|
| **Type** | | |
| **Neon** | **Voltage (Ue)** | |
| Supplied with a red diffuser (Pack of 10) | 230 V AC | **15111** |
| **Incandescent bulb (P=1.2 W)** | | |
| Supplied with a red diffuser (Pack of 10) | 12 V DC/AC | **15112** |
| | 24 V DC/AC | **15113** |
| | 48 V DC/AC | **15114** |

PB105264-40

*OF iSW*

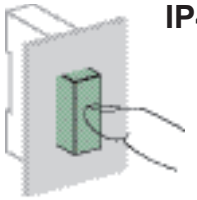
## Catalogue numbers (cont.)

| Auxiliary | | | | |
|---|---|---|---|---|
| **Type** | | | | **Width in 9 mm modules** |
| **OF iSW** | **Rating** | **Voltage (Ue)** | | |
| DB122821  | 3 A | 415 V AC | **A9A15096** | 2 |
| | 6 A | 250 V AC | | |

## Technical data

| Main characteristics | | 20, 32 A iSW | | 40 to 125 A iSW | |
|---|---|---|---|---|---|
| Insulation voltage (Ui) | | **Without indicator light** ■ 1P: 250 V AC ■ 2P, 3P, 4P: 500 V AC | **With indicator light** 250 V AC | 1P: 250 V AC 2P, 3P, 4P: 500 V AC | |
| Pollution degree | | 2 | | 3 | |
| **Power circuit** | | | | | |
| Rated impulse withstand voltage (Uimp) | | 4 kV | | 6 kV | |
| Operating category | | AC - 22 A | | AC - 22 A | |
| Permissible rated short-time withstand current (Icw) | | - | | 40 A, 63 A: 1260 A<br>100 A, 125 A: 2500 A | |
| Conditional rated short-circuit current (Inc) | | 3 kA to IEC/EN 60669-2-4 | | 6 kA to IEC 60947-3 | |
| Rated short-circuit closing current (Icm) | | - | | 40 A, 63 A: 4.2 kA<br>100 A, 125 A: 5 kA | |
| Using direct current | | 48 V (110 V with 2 poles in series) | | | |
| **Additional characteristics** | | | | | |
| Degree of protection | | IP40 on the front panel | | | |
| Endurance (O-C) | Mechanical | 300,000 cycles | | 50,000 cycles | |
| | Electrical | 30,000 cycles | | 40, 63 A iSW | 20,000 cycles |
| | | | | 100 A iSW | 10,000 cycles |
| | | | | 125 A iSW | 2 500 cycles |
| Operating temperature | | -20°C to +50°C | | | |
| Storage temperature | | -40°C to +70°C | | | |
| Tropicalization | | Treatment 2 (relative humidity 95% at 55°C) | | | |

DB123597



**IP40**

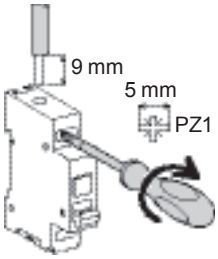


Schneider Electric

# iSW switches (cont.)

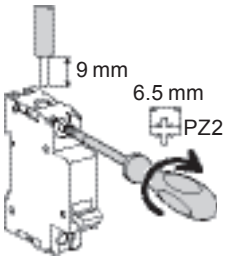
## Connection

DB123135




*20, 32 A iSW*

DB123136

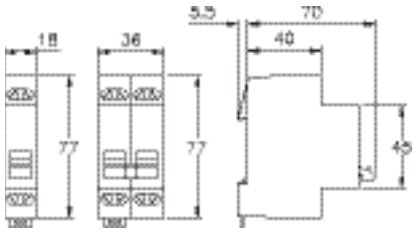



*40 to 125 A iSW*

| Type | Rating | Tightening torque | Copper cables | |
|---|---|---|---|---|
| | | DB122945 | Rigid DB122946 | Flexible or ferrule |
| iSW | 20, 32 A | 1.2 N.m | 10 mm² | 10 mm² |
| | 40 to 125 A | 3.5 N.m | ⩽ 50 mm² | ⩽ 35 mm² |
| OF iSW | - | 1.2 N.m | 10 mm² | 10 mm² |

## Dimensions (mm)

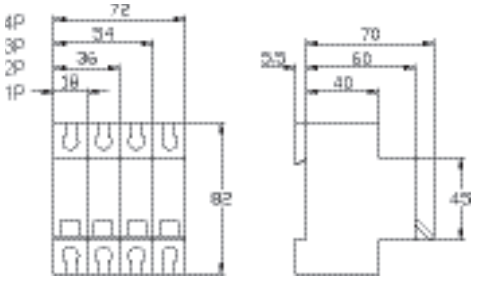
DB122822




*1P, 2P* *3P, 4P*

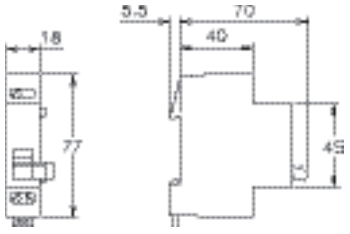
*20, 32 A iSW*

DB122823




*40 to 125 A iSW*

DB122824




*OF iSW*

D

# iSW switches

DB116619

## IEC/EN 60947-3
## BSEN 60947-3
## AS/NZS 60947-3

The switch-disconnectors combine the following functions:
■ Control (opening and closing of circuits under load).

### iOF auxiliary
■ Mounted on the left, it indicates the "open" or "closed" position of the switch and has a normally open (NO) or normally closed (NC) contact.

PB110909

1P

PB110910

2P

PB110911

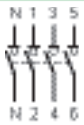
3P

PB110912

4P

## Catalogue numbers

**40 to 125 A iSW switch-disconnectors**

| Type | | | | Width in 9 mm modules |
|---|---|---|---|---|
| **1P** | **Rating** | **Voltage (Ue)** | | |
| DB118998  | 40 A | 240 V AC | **A9S66140** | 2 |
| | 63 A | 240 V AC | **A9S66163** | |
| | 100 A | 240 V AC | **A9S66191** | |
| | 125 A | 240 V AC | **A9S66192** | |
| **2P** | | | | |
| DB118999  | 40 A | 415 V AC | **A9S66240** | 4 |
| | 63 A | 415 V AC | **A9S66263** | |
| | 100 A | 415 V AC | **A9S66291** | |
| | 125 A | 415 V AC | **A9S66292** | |
| **3P** | | | | |
| DB119000  | 40 A | 415 V AC | **A9S66340** | 6 |
| | 63 A | 415 V AC | **A9S66363** | |
| | 100 A | 415 V AC | **A9S66391** | |
| | 125 A | 415 V AC | **A9S66392** | |
| **3P+N** | | | | |
| DB404563  | 125 A | 415 V AC | **A9S66792** | 8 |
| **4P** | | | | |
| DB119001  | 40 A | 415 V AC | **A9S66440** | 8 |
| | 63 A | 415 V AC | **A9S66463** | |
| | 100 A | 415 V AC | **A9S66491** | |
| | 125 A | 415 V AC | **A9S66492** | |
| Operating frequency | | 50/60 Hz | | |
| **Accessories** | | **See pages E-2 and E-10** | | |

PB104474-35


**Auxiliary**

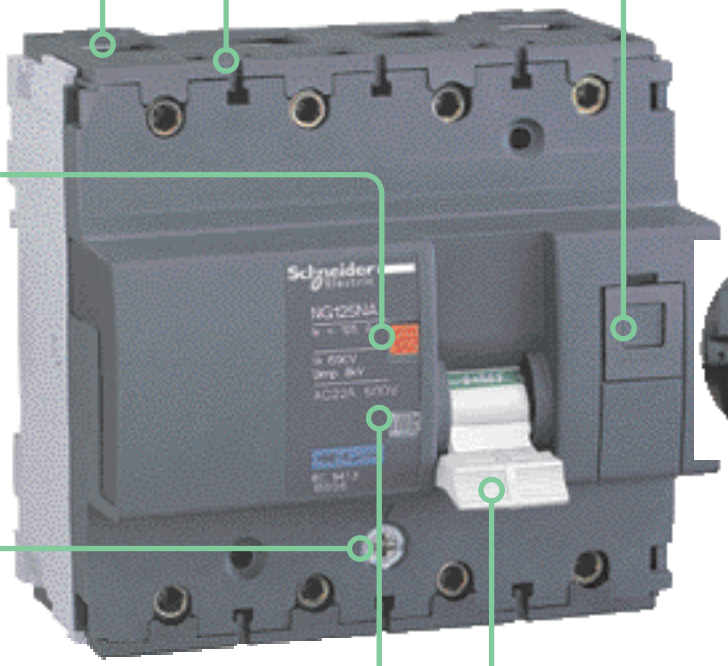
| Type | | | Width in 9 mm modules |
|---|---|---|---|
| **iOF** | **Voltage (Ue)** | | |
| DB118810  | 240...415 V AC | **A9A26924** | 1 |
| | 24...130 V DC | | |

# NG125NA switches

**For rating ≥ 80 A**
■ Voltage taps:
□ auxiliaries power supply
□ measurement
□ emergency stop
□ remote reporting

■ Cable strength:
□ ribbed cage
□ terminal depth
□ tightening by Allen hex key (NG125 ≥ 80 A)

■ Integrated padlocking device



■ Test button to check satisfactory operation of the tripping mechanism

■ Pull-out strength:
□ metallic lock

■ Central manual control, 3 positions:
□ ON
□ tripped on fault
□ open

■ Impact and vibration resistance:
□ high-strength enclosure
□ IK 05

■ Circuit breaker tripped indicator

■ Electric power supply through the top or bottom

■ Positive contact indication:
□ suitability for isolation in the industrial sector to IEC/EN 60947-3;
□ the presence of the green strip guarantees that the contacts open physically and allows work to be carried out safely on the downstream circuit.

■ Longer product service life due to:
□ good overvoltage withstand capacity;
□ high limitation performances;
□ fast closure independent of the speed of actuation of the toggle.

D

# NG125NA switches (cont.)

DB116619

## IEC/EN 60947-3

■ The NG125NA is a switch-disconnector with free tripping for making and breaking under load.
■ It is especially suitable for the modular enclosure incoming feeder with remote breaking (e.g. emergency cutoff).

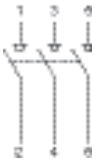
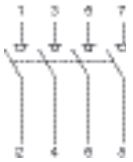
056908N_SE-1811-35

*NG125NA 3P*

056909N_SE-1811-35

*NG125NA 4P*

## Catalogue numbers

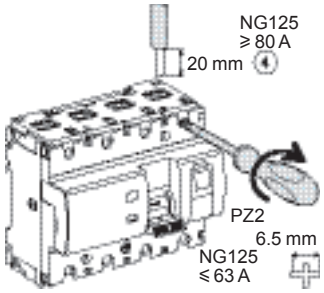
| NG125NA switch | | | |
|---|---|---|---|
| **Type** | | **3P** | **3P+N** |
| | |  |  |
| **Auxiliaries** | | **Remote indication and tripping, see page F-14** | |
| **Rating (In)** | **Quality label (1)** | | |
| 63 A | | **18889** | **18893** |
| 80 A | | **18890** | **18894** |
| 100 A | | **18891** | **18895** |
| 125 A | | **18892** | **18896** |
| Width in 9 mm modules | | 9 | 12 |
| **Accessories** | | **See page E-26** | |

*(1) Information to be supplied by the country concerned.*

# NG125NA switches (cont.)

## Connection

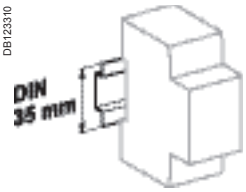
DB122861




| Rating | Tightening torque | Without accessories: Copper cables – Rigid | Without accessories: Copper cables – Flexible or with ferrule | With accessories: 70 mm² Al terminal | With accessories: Screw-on connection for ring terminal | With accessories: Small ring terminal | With accessories: Multi-cable terminal – Rigid cables | With accessories: Multi-cable terminal – Flexible cables |
|---|---|---|---|---|---|---|---|---|
| | DB122945 | DB122946 | DB123410 | DB123488 | DB118789 | DB118787 | | |
| | | | | | | 6 mm | | |
| 63 A | 3.5 N.m | 1.5 to 50 mm² | 1 to 35 mm² | - | - | - | 3 x 16 mm² | 3 x 10 mm² |
| 80 to 125 A | 6 N.m | 16 to 70 mm² | 10 to 50 mm² | 25 to 70 mm² | 2 x 35 mm² 1 x 50 mm² | 1 x 70 mm² | | |

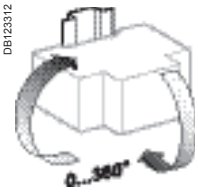
■ For rating ≥ 80 A: upstream voltage taps for each pole, by 6.35 mm Fast-on terminal.

DB123310



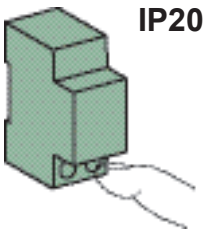

*Clips onto 35 mm DIN rail.*

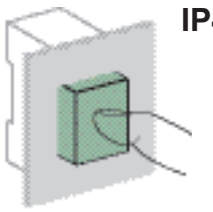
DB123312




*Any installation position.*

DB123314




## Technical data

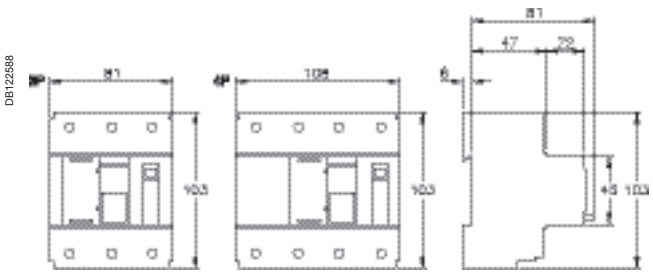
| Main characteristics | | | |
|---|---|---|---|
| **According to IEC/EN 60947-3** | | | |
| Max. voltage rating (Ue) | | | 500 V AC |
| Insulation voltage (Ui) | | | 690 V AC |
| Degree of pollution | | | 3 |
| Rated impulse withstand voltage (Uimp) | | | 8 kV |
| Short time withstand current (50 ms) Icw | | | 1.5 kA |
| Rated short-circuit closing current (Icm) | | | 2 kA |
| Utilization category | | | AC22A/B - AC23B |
| **Additional characteristics** | | | |
| Degree of protection (IEC 60529) | Device only | | IP20 |
| | Device in modular enclosure | | IP40 |
| **Endurance (O-C)** | | **Category A** | **Category B** |
| | Electrical (except AC20 and DC20) ≤ 100 A | 1500 cycles | 300 cycles |
| | 125 A | 1000 cycles | 200 cycles |
| | Mechanical | 20,000 cycles | |
| Operating temperature | | -30°C to +70°C | |
| Storage temperature | | -40°C to +70°C | |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95% at 55°C) | |

## Weight (g)

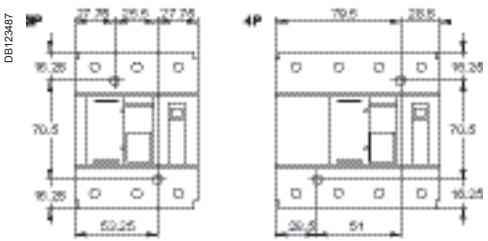
| Switch | |
|---|---|
| **Type** | **NG125NA** |
| 3P | 720 |
| 4P | 960 |

## Dimensions (mm)

DB122588




DB123487




*Spacing for mounting on panel*

D

# Install, Connection and Power Distribution

E

# Accessorisation / Auxiliarisation iC60, iID, Vigi iC60, iSW-NA

## Connection accessories

See page E-10

| | | | | |
|---|---|---|---|---|
| **8** | Splitter blocks | Multiclip | See page | **E-24** |
| | | Distribloc | See page | **E-22** |
| **9** | 50 mm² Al terminal | | | **27060** |
| **10** | Screw-on connection for ring terminal | | | **27053** |
| **11** | Multi-cables terminal | | 4 parts | **19091** |
| | | | 3 parts | **19096** |
| **12** | Comb busbar | | See page | **E-18** |

## Mounting accessories

See page E-10

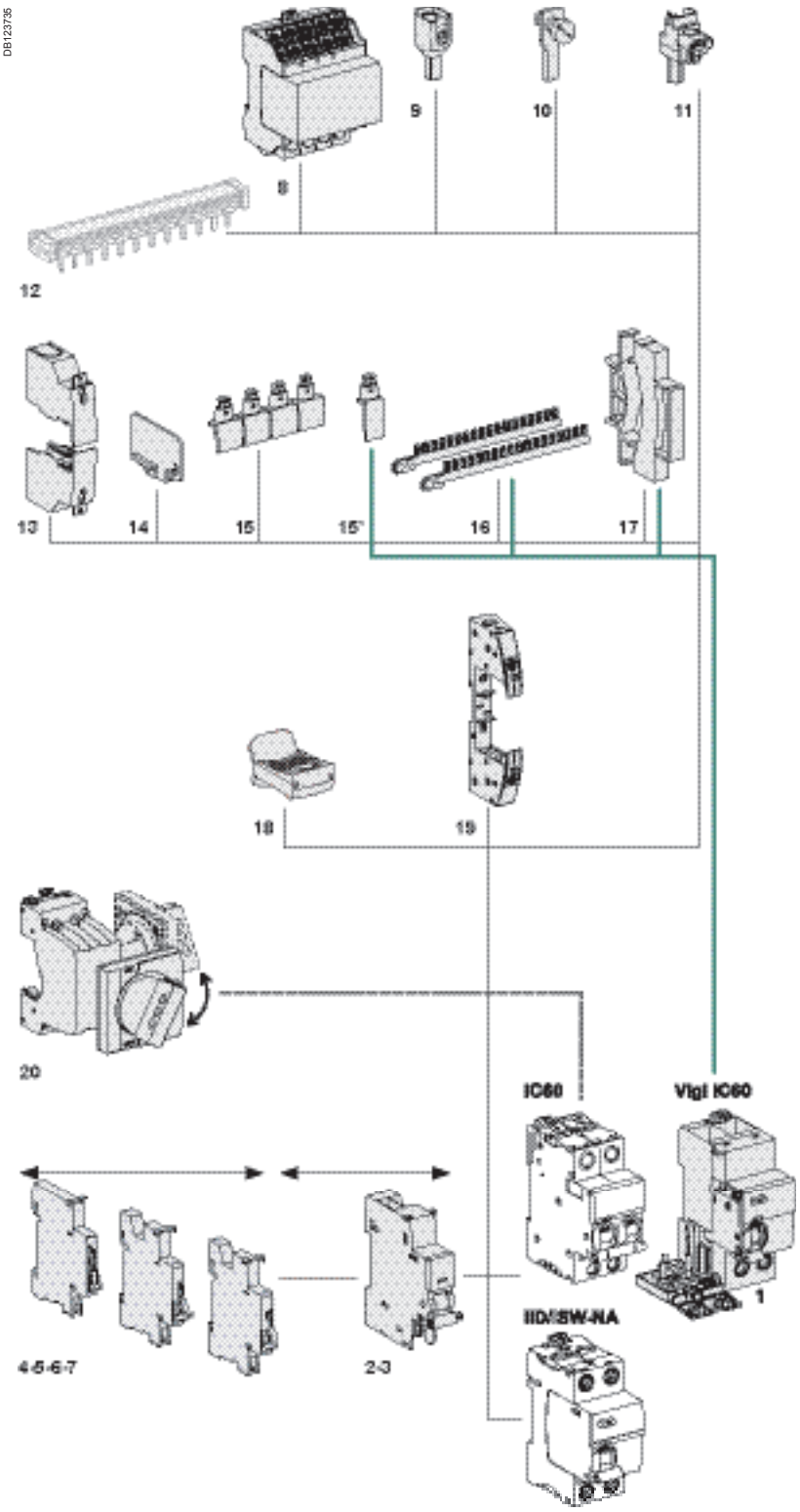
| | | | |
|---|---|---|---|
| **13** | Sealable terminal shields for top and bottom connection | 1P (set of 2) | **A9A26975** |
| | | 2P (set of 2) | **A9A26976** |
| | | 3P | **1P + 2P** |
| | | 4P | **2P + 2P** |
| **14** | Interpole barrier | (set of 10) | **A9A27001** |
| **15** | Screw shields | 4P (set of 20) | **A9A26981** |
| **15"** | Screw shields Vigi iC60 | (set of 12) | **A9A26982** |
| **16** | Clip-on terminal markers | See page | **E-10** |
| **17** | 9 mm spacer | | **A9A27062** |
| **18** | Padlocking device | (set of 10) | **A9A26970** |
| **19** | Plug-in base | | **A9A27003** |
| **20** | Rotary handle | | |
| | Black handle | | **A9A27005** |
| | Red handle | | **A9A27006** |
| | No handle | | **A9A27008** |

## Electrical auxiliaries

See page F-2

| | | |
|---|---|---|
| **Indication** | | |
| **4** | iOF/SD+OF auxiliary contact (OF+SD or OF+OF combination switch) | **A9A26929** |
| **5** | iSD fault indicating contact | **A9A26927** |
| **6** | iOF open/close auxiliary contact | **A9A26924** |
| **7** | iOF+SD24 auxiliary contact | **A9A26897** |

| | | | |
|---|---|---|---|
| **Tripping devices** | | | |
| **2** | iMN undervoltage release or iMNs undervoltage release delayed or iMNx undervoltage release with external feeding | See page | **F-2** |
| **3** | Shunt release iMX, iMX+OF overvoltage release iMSU | See page | **F-2** |




## Vigi iC60

See page F-9

| | | | |
|---|---|---|---|
| **1** | Vigi iC60 add-on residual current device | See page | **B-17** |

**Tripping devices must be mounted first.**
**Respect specified position for SD functions.**

# Accessorisation / Auxiliarisation
# Reflex iC60



## Connection accessories

See page E-10

| | | | | |
|---|---|---|---|---|
| 3 | Splitter blocks | Multiclip | See page | E-24 |
| | | Distribloc | See page | E-22 |
| 4 | 50 mm² Al terminal | | | 27060 |
| 5 | Screw-on connection for ring terminal | | | 27053 |
| 6 | Multi-cables terminal | | 4 parts | 19091 |
| | | | 3 parts | 19096 |
| 7 | Comb busbar | | See page | E-18 |

## Mounting accessories

See page E-10

| | | | |
|---|---|---|---|
| 8 | Sealable terminal shields for top and bottom connection | 1P (set of 2) | A9A26975 |
| | | 2P (set of 2) | A9A26976 |
| | | 3P | 1P + 2P |
| | | 4P | 2P + 2P |
| 9 | Interpole barrier | (set of 10) | A9A27001 |
| 10 | Screw shields | 4P (set of 20) | A9A26981 |
| 11 | Clip-on terminal markers | See page | E-10 |
| 12 | 9 mm spacer | | A9A27062 |
| 13 | Padlocking device | (set of 10) | A9A26970 |

## Electrical auxiliary

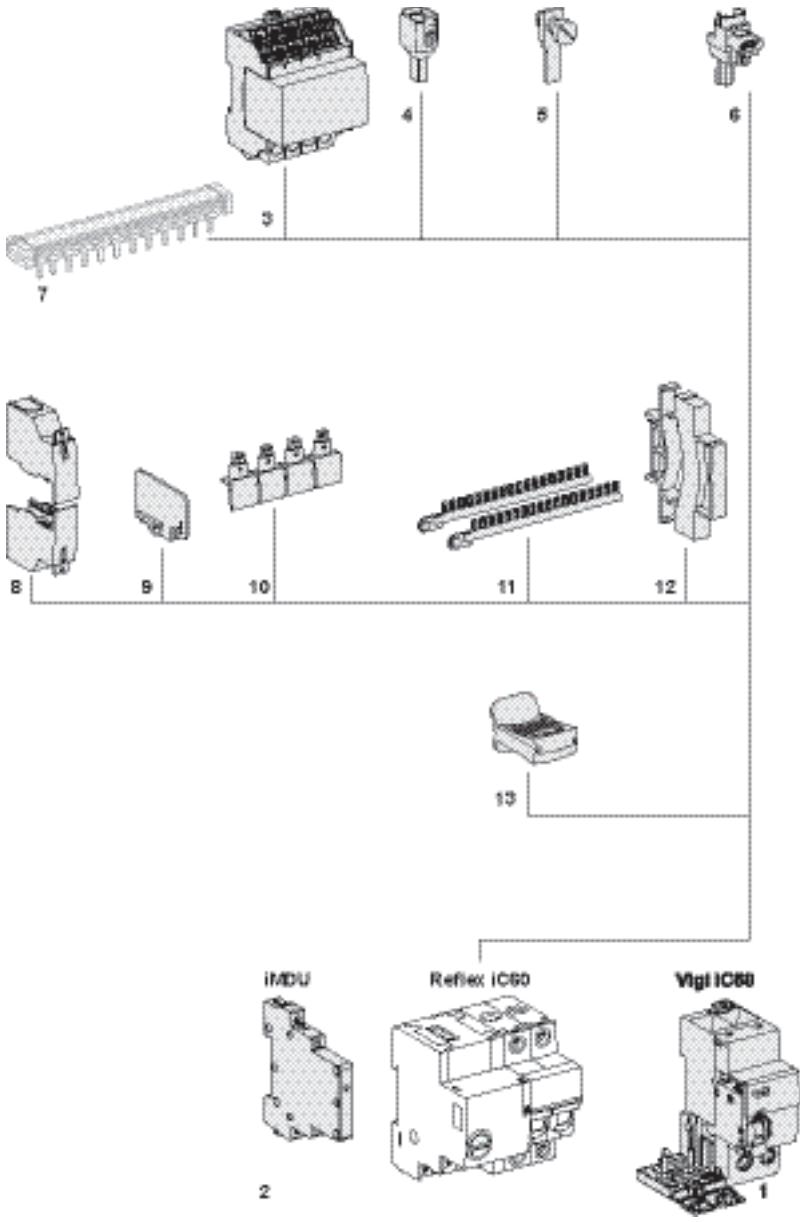
See page F-2

| Control | | |
|---|---|---|
| 2 | iMDU voltage matching auxiliary | A9C18195 |

## Vigi iC60

See page F-9

| | | | |
|---|---|---|---|
| 1 | Vigi iC60 add-on residual current device | See page | B-17 |



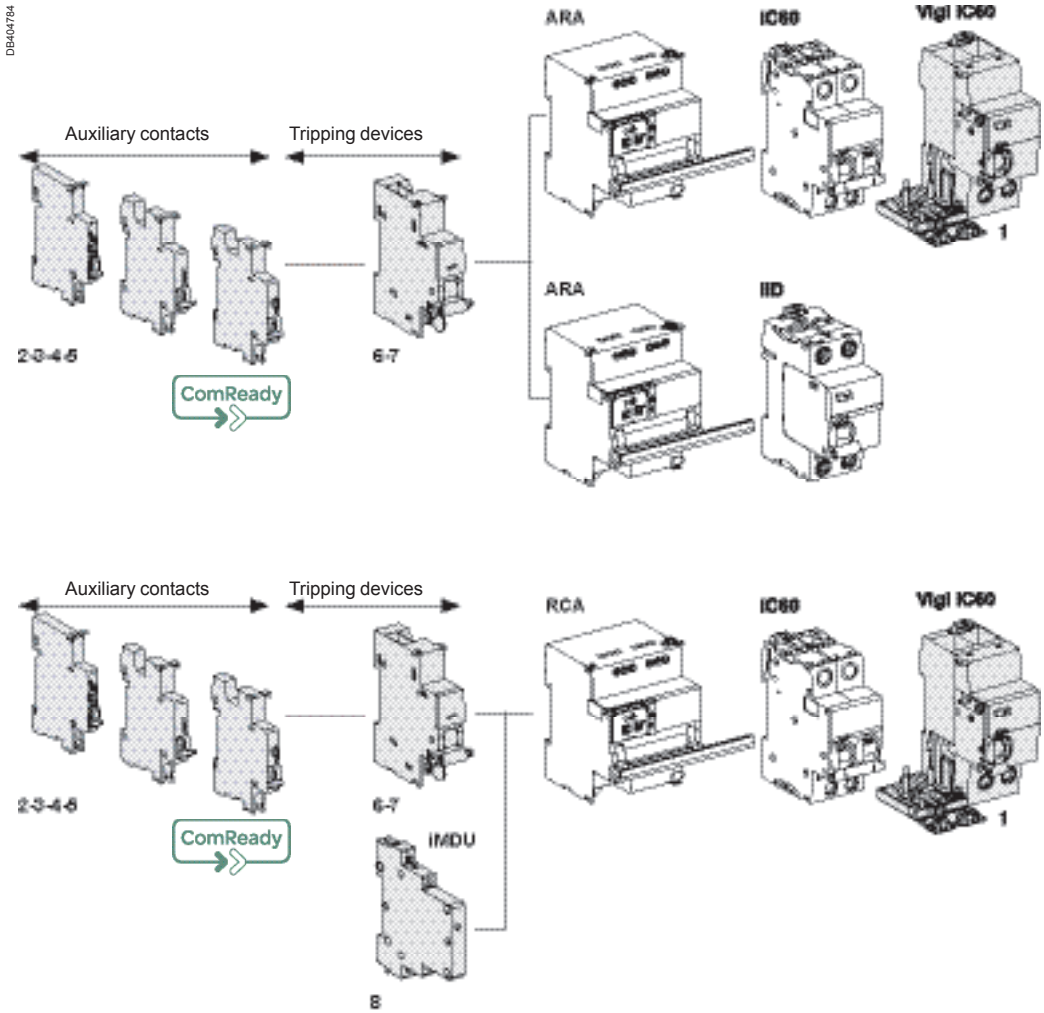
# Accessorisation / Auxiliarisation
# ARA and RCA

## Electrical auxiliaries

See page F-2

| Indication | | |
|---|---|---|
| **2** | iOF/SD+OF auxiliary contact (OF+SD or OF+OF combination switch) | **A9A26929** |
| **3** | iSD fault indicating contact | **A9A26927** |
| **4** | iOF open/close auxiliary contact | **A9A26924** |
| **5** | iOF+SD24 auxiliary contact | **A9A26897** |

| Tripping devices | | | |
|---|---|---|---|
| **6+** | iMN undervoltage release or iMNs undervoltage release delayed or iMNx undervoltage release with external feeding | See page | **F-2** |
| **7** | Shunt release iMX, iMX+OF overvoltage release iMSU | See page | **F-2** |
| **Control** | | | |
| **8** | iMDU voltage matching auxiliary | | **A9C18195** |




## Vigi iC60

See page F-9

| | | | |
|---|---|---|---|
| **1** | Vigi iC60 add-on residual current device | See page | **B-17** |

**Tripping devices must be mounted first.**
**Respect specified position for SD functions.**

# Accessorisation / Auxiliarisation iSW



## Connection accessories

See page E-10

| | | | | |
|---|---|---|---|---|
| **2** | Splitter blocks | Multiclip | See page | **E-24** |
| | | Distribloc | See page | **E-22** |
| **3** | 50 mm² Al terminal | | | **27060** |
| **4** | Screw-on connection for ring terminal | | | **27053** |
| **5** | Multi-cables terminal | | 4 parts | **19091** |
| | | | 3 parts | **19096** |
| **6** | Comb busbar | | See page | **E-18** |

## Mounting accessories

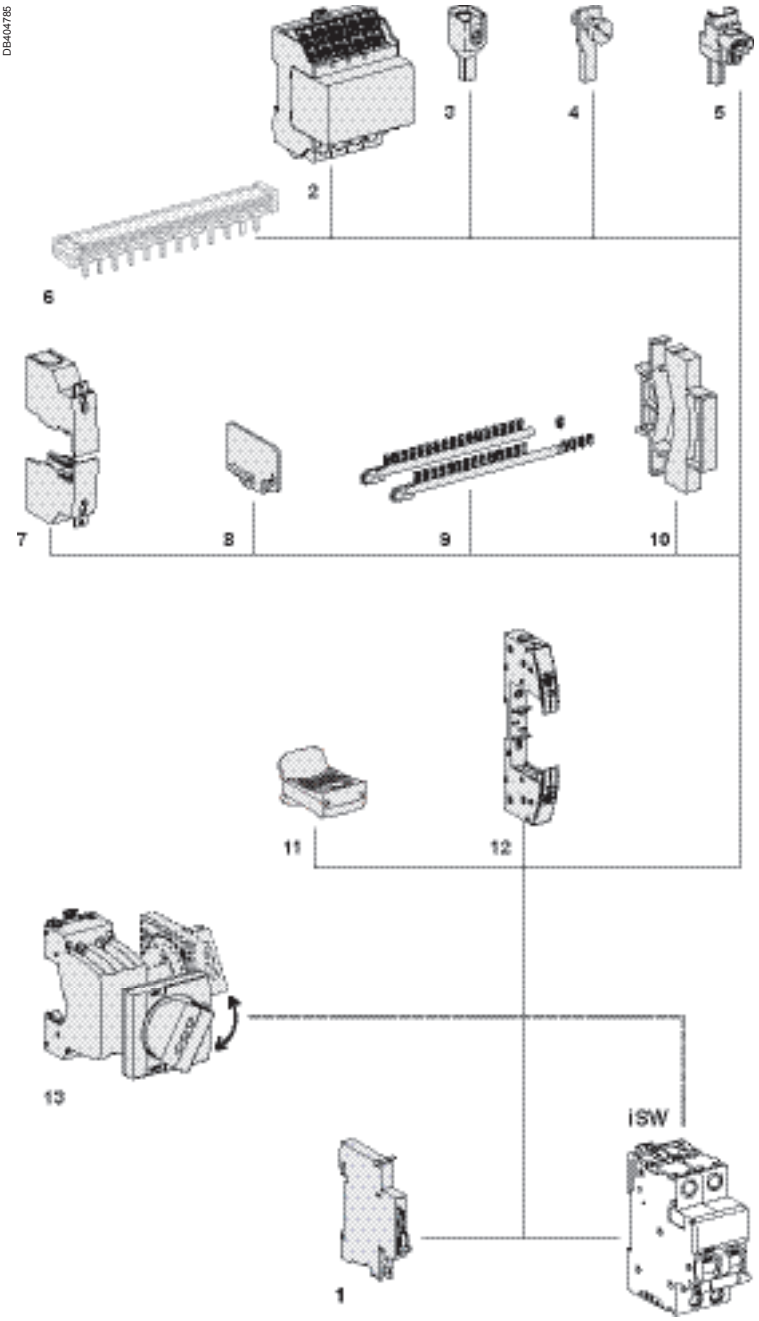
See page E-10

| | | | |
|---|---|---|---|
| **7** | Sealable terminal shields for top and bottom connection | 1P (set of 2) | **A9A26975** |
| | | 2P (set of 2) | **A9A26976** |
| | | 3P | **1P + 2P** |
| | | 4P | **2P + 2P** |
| **8** | Interpole barrier | (set of 10) | **A9A27001** |
| **9** | Clip-on terminal markers | See page | **E-10** |
| **10** | 9 mm spacer | | **A9A27062** |
| **11** | Padlocking device | (set of 10) | **A9A26970** |
| **12** | Plug-in base | | **A9A27003** |
| **13** | Rotary handle | | |
| | Black handle | | **A9A27005** |
| | Red handle | | **A9A27006** |
| | No handle | | **A9A27008** |

## Electrical auxiliaries

See page F-2

| | Indication | |
|---|---|---|
| **1** | iOF open/close auxiliary contact | **A9A26924** |



# Accessorisation / Auxiliarisation iDPN Vigi

## Connection accessories

**See page E-10**

| | | | |
|---|---|---|---|
| **6** | Screw-on connection for ring terminal | | **27053** |
| **7** | Comb busbar | See page | **E-29** |

## Mounting accessories

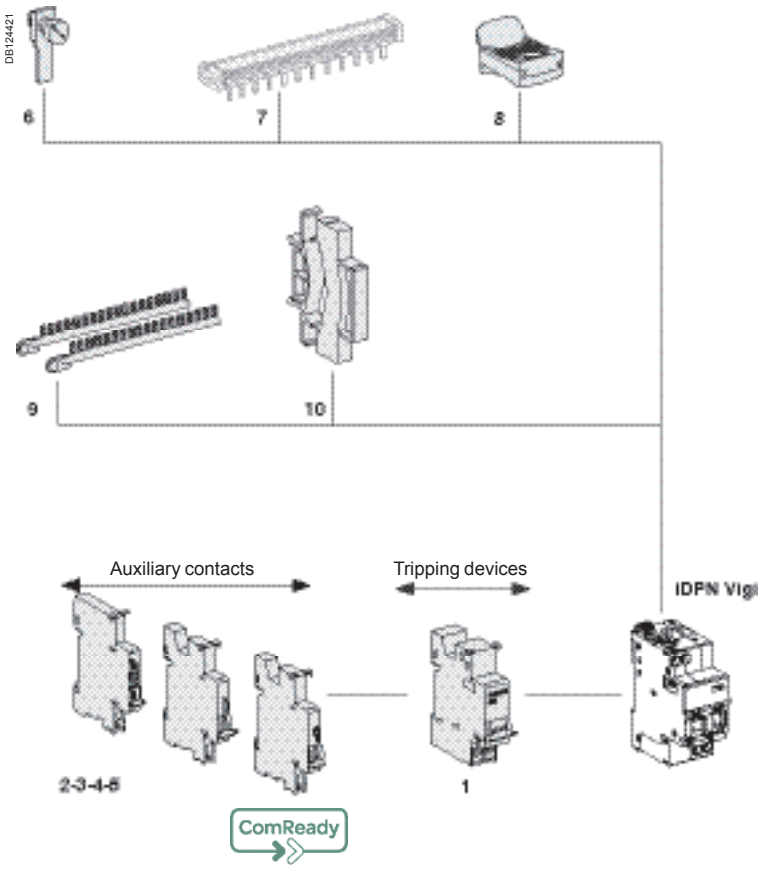
**See page E-10**

| | | | |
|---|---|---|---|
| **8** | Padlocking device | (set of 10) | **A9A26970** |
| **9** | Clip-on terminal markers | See page | **E-10** |
| **10** | 9 mm spacer | | **A9A27062** |

## Electrical auxiliaries

**See page F-2**

| | | | |
|---|---|---|---|
| **Indication** | | | |
| **2** | iOF/SD+OF auxiliary contact (OF+SD or OF+OF combination switch) | | **A9A26929** |
| **3** | iSD fault indicating contact | | **A9A26927** |
| **4** | iOF open/close auxiliary contact | | **A9A26924** |
| **5** | iOF+SD24 auxiliary contact | | **A9A26897** |
| **Tripping devices** | | | |
| **1** | iMN undervoltage release or iMNs undervoltage release delayed or iMNx undervoltage release with external feeding or shunt release iMX, iMX+OF overvoltage release iMSU | See page | **F-2** |




**Tripping devices must be mounted first.**
**Respect specified position for SD functions.**

# Accessories and Auxiliaries for C120 and Vigi C120 devices



## Connection accessories

See page E-15

| | | | |
|---|---|---|---|
| 7 | Multi-cable terminal | 4 parts | **19091** |
| | | 3 parts | **19096** |
| 8 | Screw-on connection for ring terminal | 8 parts | **27053** |
| 9 | Terminal for rear connector | | **18528** |
| 10 | 50 mm² Al terminal | | **27060** |
| 11 | Comb busbar | See page | **E-28** |

## Mounting accessories

See page E-15

| | | | |
|---|---|---|---|
| 12 | Sealable terminal shields for top and bottom connection | 1P (set of 2) | **18526** |
| 13 | Interpole barrier | (set of 10) | **27001** |
| 14 | Screw shields | 4P (set of 2) | **18527** |
| 15 | Clip-on terminal markers | See page | **E-15** |
| 16 | 9 mm spacer | | **A9N27062** |
| 17 | Padlocking device | | **27145** |
| 18 | Plug-in base (1) | | **26997** |
| 19 | Rotary handle | | |
| | Removable extended handle | | **27047** |
| | Fixed handle | | **27048** |
| | Operating sub-assembly (2) | | **27046** |

*(1) For 1P, centreline between two rows: 200 mm*
*(2) A complete rotary handle consists of a circuit-breaker operating sub-assembly, cat. no.* **27046**, *a handle cat. no.* **27047** *or a handle cat. no.* **27048**.

## Electrical auxiliaries

See page F-9

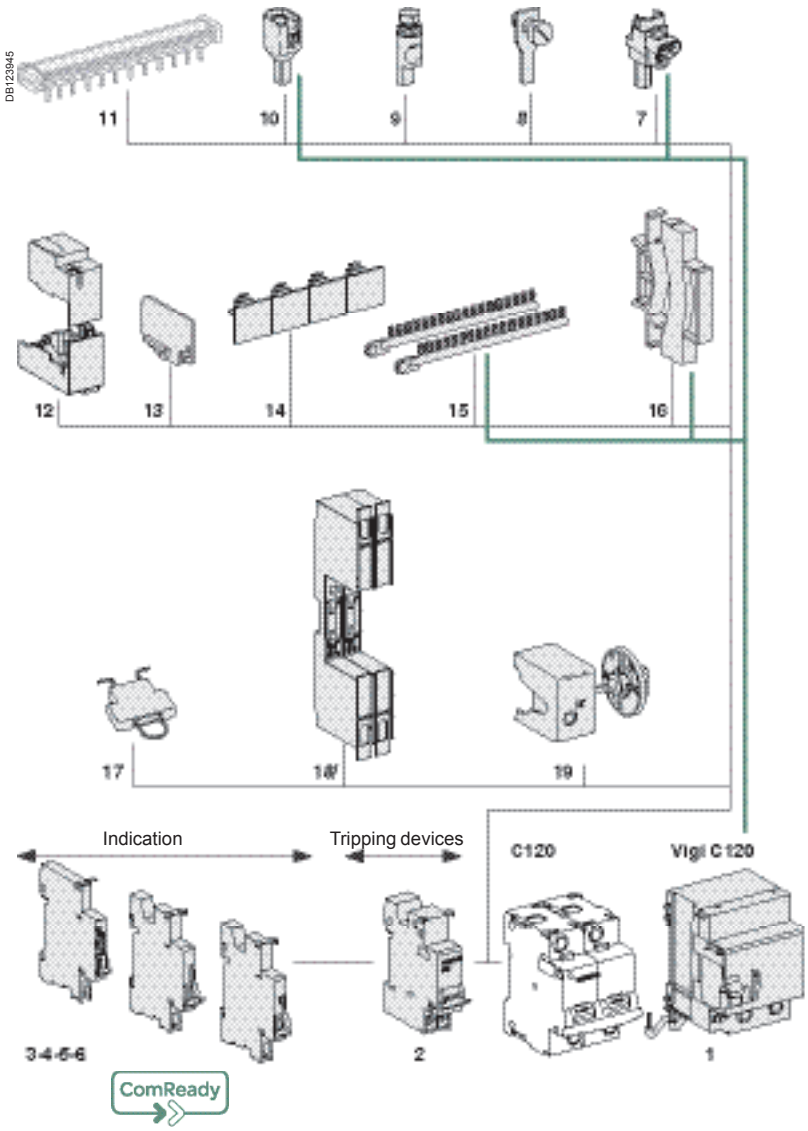
| Indication | | |
|---|---|---|
| 3 | SD fault indicating contact | **A9N26927** |
| 4 | OF+SD24 auxiliary contact | **A9N26899** |
| 5 | OF open/close auxiliary contact | **A9N26924** |
| 6 | OF/SD+OF auxiliary contact (OF+SD or OF+OF combination switch) | **A9N26929** |

| Tripping | | | |
|---|---|---|---|
| 2 | MN, MNx, MNS undervoltage release, MSU overvoltage release or MX, MX + OF shunt release | See page | **F-9** |

## Vigi C120

See page B-22

| | | | |
|---|---|---|---|
| 1 | Vigi C120 add-on residual current device | See page | **B-22** |




**Tripping devices must be mounted first.**

# Accessories and Auxiliaries for C60H-DC devices

## Connection accessories

**See page E-15**

| | | | |
|---|---|---|---|
| **7** | Insulated connector | See page | **E-15** |
| **8** | Comb busbar | See page | **E-18** |
| **9** | Terminal 50 mm² Al / Cu | | **27060** |
| **10** | Ring tongue terminal screw connection | | **27053** |
| **11** | Ring tongue terminal connections kit Ø 5 mm, (upstream/downstream) | | **17400** |
| **12** | Insulated distribution terminal | 4 pieces | **19091** |
| | | 3 pieces | **19096** |

## Mounting accessories

**See page E-15**

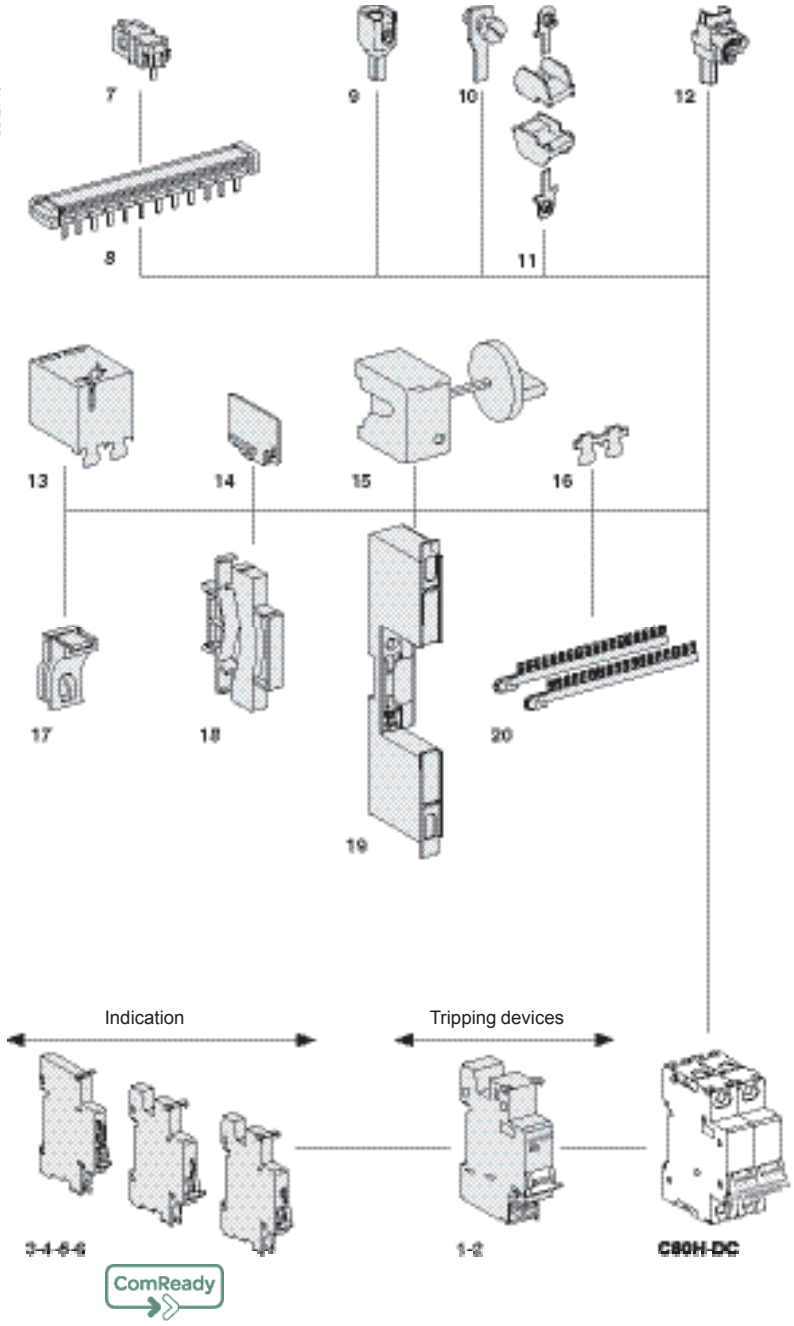
| | | | |
|---|---|---|---|
| **13** | Sealable terminal shield | See page | **E-15** |
| **14** | Inter-pole barrier | | **27001** |
| **15** | Rotary handle | | |
| | Switching sub-assembly | | **27046** |
| | Disconnectable handle | | **27047** |
| | Fixed handle | | **27048** |
| **16** | Screw shield | See page | **E-15** |
| **17** | Padlocking accessory (to be locked in the "open" position) | | **26970** |
| **18** | Spacer | | **A9N27062** |
| **19** | Dividable mounting plate | | **26996** |
| **20** | Marker strip | See page | **E-15** |

## Electrical auxiliaries

**See page F-9**

| **Indication** | | |
|---|---|---|
| **3** | SD fault indicating switch | **A9N26927** |
| **4** | OF+SD24 auxiliary contact | **A9N26899** |
| **5** | OF open/closed contact | **A9N26924** |
| **6** | OF/SD+OF auxiliary contact (OF+SD or OF+OF combination switch) | **A9N26929** |

| **Tripping** | | | |
|---|---|---|---|
| **1** | MN, MNx, MNS undervoltage release | See page | **F-9** |
| **2** | MX, MX + OF shunt release | See page | **F-9** |




■ **The electrical auxiliaries must be installed to the left of the circuit breaker.**
■ **If the auxiliary SD contacts are associated with the tripping auxiliaries (MN, MX, etc.), they must be installed to the left of these auxiliaries.**

# Accessories and Auxiliaries for iSW 40 to 125 A devices



## Connection accessories

**See page E-15**

| | | | |
|---|---|---|---|
| **1** | Insulated connector | See page | **E-15** |
| **2** | Comb busbar | See page | **E-18** |
| **3** | Terminal 50 mm² Al / Cu | | **27060** |
| **4** | Ring tongue terminal screw connection | | **27053** |
| **5** | Ring tongue terminal connections kit Ø 5 mm, (upstream/downstream) | | **17400** |
| **6** | Insulated distribution terminal | 4 pieces | **19091** |
| | | 3 pieces | **19096** |

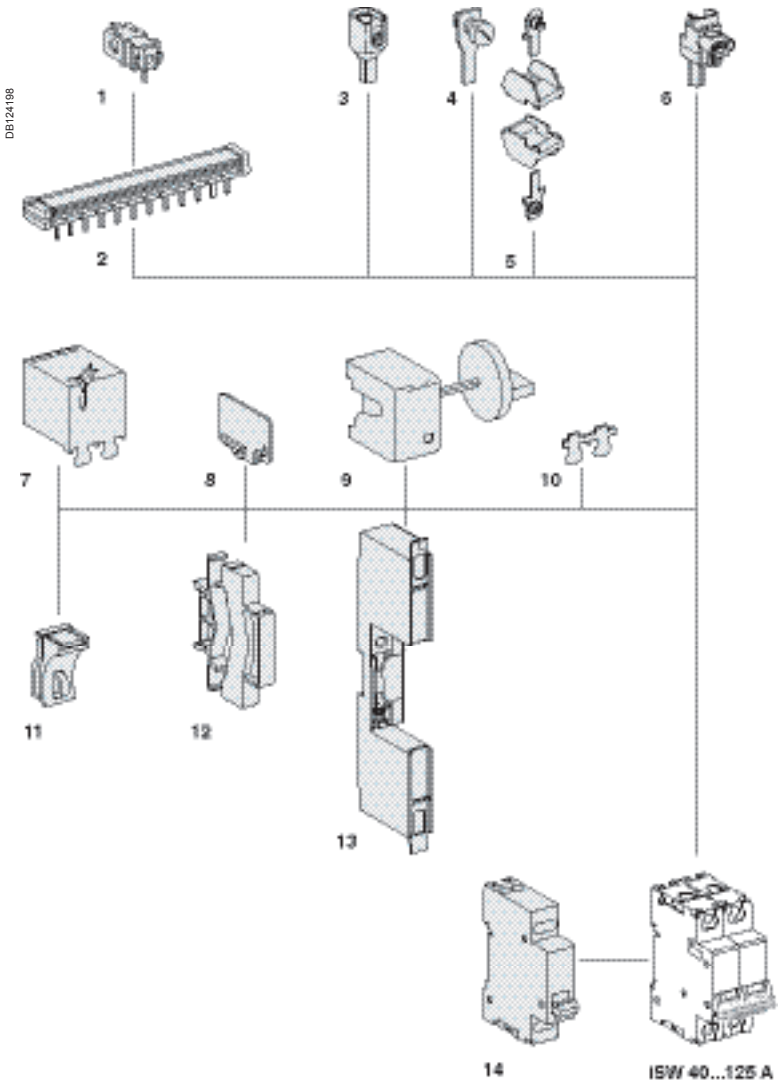
## Mounting accessories

**See page E-15**

| | | | |
|---|---|---|---|
| **7** | Sealable terminal shield | See page | **E-15** |
| **8** | Inter-pole barrier | | **27001** |
| **9** | Rotary handle | | |
| | Switching sub-assembly | | **27046** |
| | Disconnectable handle | | **27047** |
| | Fixed handle | | **27048** |
| **10** | Screw shield | See page | **E-15** |
| **11** | Padlocking accessory (to be locked in the "open" position) | | **26970** |
| **12** | Spacer | | **A9N27062** |
| **13** | Dividable mounting plate | | **26996** |

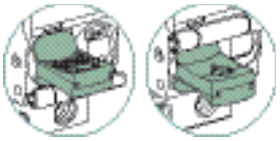
## Electrical auxiliaries

| | | |
|---|---|---|
| **Indication** | | |
| **14** | OF iSW open/closed contact | **A9A15096** |



# Accessories for iC60, iID , iDPN Vigi, iSW-NA, Reflex iC60, RCA, ARA, iSW

## Mounting

| Accessories | Rotary handle | | | | Plug-in base | Padlocking device |
|---|---|---|---|---|---|---|
| | PB104509-35  | PB106297_10  | | PB104508-35  | PB104492-15  DB123599  | |
| **Function** | | | | | | |
| | **Front or side-mounted control**<br>■ Degree of protection: IP55 rotary handle<br>■ Installation:<br>□ the control mechanism is mounted on the device<br>□ the rotary handle is fixed to the front or side of the enclosure<br>■ Front-mounted (on door or faceplate)<br>■ Prevents the door from opening when the device is in the ON position (can be deactivated)<br>■ Can be padlocked when the device is in the "open" position (can be padlocked with the device in the "closed" position subject to adaptation)<br>■ Can be locked by padlock of (dia. 5 to 8 mm), not supplied with the device<br>■ Pushbutton: iID test available in the front face of the rotary handle | | | ■ The Laser Square tool brings the accurency to align the circuit breaker and the rotary handle | **Allows a breaker to be removed or replaced quickly, without handling the connections**<br>■ Degree of protection: IP20<br>■ Consists of:<br>□ a base to be fastened on a rail (or panel)<br>□ 2 "blades" to be fastened in the device's terminals<br>■ Connection: tunnel terminals for cable up to 35 $mm^2$ rigid, 25 $mm^2$ flexible,<br>■ Installation:<br>□ in universal enclosure<br>□ on horizontal rail<br>■ Height: 178 mm<br>■ Not compatible with Vigi iC60 and auxiliaries<br>■ Can be locked by padlock of (dia. 6 mm), not supplied with the device | **Used to padlock breaker in open or closed position**<br>■ Padlock diameter: 3 to 6 mm<br>■ Sealable (max. diameter: 1.2 mm)<br>■ Locking in ON position does not prevent tripping of the breaker in the event of faults<br>■ Suitable for IEC/EN 60947-2 compliant disconnection |
| **Catalogue numbers** | **A9A27005** | **A9A27006** | **A9A27008** | **GVP01** | **A9A27003 (1 per pole)** | **A9A26970** |
| | Operating sub-assembly | | | | | |
| | + | + | | | | |
| | Black handle | Red handle | No handle | | | |
| **Set of** | **1** | **1** | **1** | **1** | **1** | **10** |
| **Suitability** | | | | | | |
| **iC60** | ■ 2P, 3P, 4P | | | | ■ | ■ |
| **iSW** | ■ 2P, 3P, 4P | | | | ■ | ■ |
| **iC60 + Vigi iC60** | ■ 2P, 3P, 4P | | | | – | ■ |
| **iID** | ■ | | | | ■ ⩽ 63 A | ■ |
| **iDPN Vigi** | – | | | | – | ■ |
| **Reflex iC60 or RCA+iC60 or ARA+iC60** | – | | | | – | ■ |
| **ARA+iID** | – | | | | – | ■ |
| **iSW-NA** | ■ | | | | ■ | ■ |

# Accessories for iC60, iID , iDPN Vigi, iSW-NA, Reflex iC60, RCA, ARA, iSW (cont.)



## Security

| Accessories | Screw shield | | Terminal shield | | Inter-pole barrier | Spacer |
|---|---|---|---|---|---|---|
| | PB104489-14 | PB104488-14 PB104502-35 | PB104503-35 | PB104484-30 | PB104483-35 | |
| **Function** | | | | | | |
| | **Prevents any contact with the connecting screws**<br>■ Upgrades degree of protection to IP20D<br>■ Sealable, max. diameter 1.2 mm | | **Prevents any contact with the terminals**<br>■ Upgrades degree of protection to IP20D<br>■ Sealable, max. diameter 1.2 mm<br>■ Set of two, for upstream and downstream terminals<br>■ For 3 poles: **A9A26975** + **A9A26976**<br>■ For 4 poles: 2 X **A9A26976** | | **Enhances insulation between connections: cables, terminals, lugs, etc** | ■ Used to:<br>□ complete rows<br>□ separate devices.<br>Width: 1 x 9 mm module<br>■ Allows cable routing from one row to another, (above and below), up to 6 mm² |
| **Catalogue numbers** | **A9A26982** | **A9A26981** | **A9A26975** | **A9A26976** | **A9A27001** | **A9A27062** |
| **Set of** | **12 x 1 pole** | **20 x 4 poles (splittable)** | **2 x 1 pole** | **2 x 2 poles** | **10** | **5** |
| **Suitability** | | | | | | |
| **iC60** | – | ■ | ■ | ■ | ■ | ■ |
| **iSW** | – | – | ■ | ■ | ■ | ■ |
| **Vigi iC60** | ■ | – | – | – | – | ■ |
| **iID** | – | ■ | – | ■ | ■ | ■ |
| **iDPN Vigi** | – | – | – | – | – | ■ |
| **Reflex iC60 or RCA+iC60 or ARA+iC60** | – | ■ | ■ | ■ | ■ | ■ |
| **ARA+iID** | – | ■ | – | ■ | ■ | ■ |
| **iSW-NA** | – | ■ | – | ■ | ■ | ■ |

# Accessories for iC60, iID , iDPN Vigi, iSW-NA, Reflex iC60, RCA, ARA, iSW (cont.)

## Connection

| Accessories | Multi-cable terminal | | 50 mm² terminal Al | Screw-on connection for ring terminal |
|---|---|---|---|---|
| |  | |  |  |
| **Function** | | | | |
| | **For 3 copper cables:**<br>■ Rigid up to 16 mm²<br>■ Flexible up to 10 mm² | | **For aluminium cables from 16 to 50 mm²** | **For lug tipped cables, front or rear mounting** |
| |  | |  |  |
| **Catalogue numbers** | **19091** | **19096** | **27060** | **27053** |
| **Set of** | **4** | **3** | **1** | **8** |
| **iC60 ⩽ 25 A Reflex iC60 ⩽ 25 A** | – | – | – | ■ |
| **iC60 >25 A Reflex iC60 40 A, iSW** | ■ | ■ | ■ | ■ |
| **Vigi iC60** | – | – | – | – |
| **iID** | ■ | ■ | ■ | ■ |
| **iDPN Vigi** | – | – | – | ■ |
| **iSW-NA** | ■ | ■ | ■ | ■ |
| **Tightening torque** | 2 N.m | | 10 N.m | 2 N.m |
| **Lenght stripping** | 11 mm | | 13 mm | – |
| **Tools to use** | Dia. 5 mm or PZ2 | | Hc 1/5" or 5 mm | Dia. 5mm |

## Marking

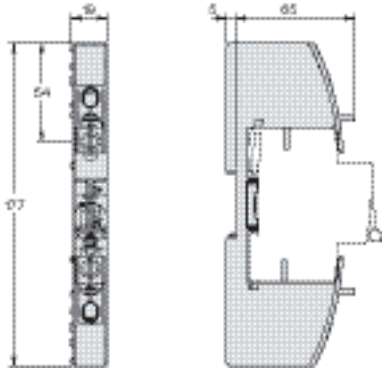
| Accessories | Marker strip | | | | | |
|---|---|---|---|---|---|---|
| |  | | | | | |
| | **Used for connection identification** | | | | | |
| **Catalogue numbers** | 0: **AB1-R0**<br>1: **AB1-R1**<br>2: **AB1-R2**<br>3: **AB1-R3**<br>4: **AB1-R4** | 5: **AB1-R5**<br>6: **AB1-R6**<br>7: **AB1-R7**<br>8: **AB1-R8**<br>9: **AB1-R9** | A: **AB1-GA**<br>B: **AB1-GB**<br>C: **AB1-GC**<br>D: **AB1-GD**<br>E: **AB1-GE**<br>F: **AB1-GF**<br>G: **AB1-GG**<br>H: **AB1-GH**<br>I: **AB1-GI** | J: **AB1-GJ**<br>K: **AB1-GK**<br>L: **AB1-GL**<br>M: **AB1-GM**<br>N: **AB1-GN**<br>O: **AB1-GO**<br>P: **AB1-GP**<br>Q: **AB1-GQ**<br>R: **AB1-GR** | S: **AB1-GS**<br>T: **AB1-GT**<br>U: **AB1-GU**<br>V: **AB1-GV**<br>W: **AB1-GW**<br>X: **AB1-GX**<br>Y: **AB1-GY**<br>Z: **AB1-GZ** | +: **AB1-R12**<br>-: **AB1-R13**<br>blank: **AB1-RV** |
| **Set of** | **250** | | | | | |
| **iC60, Reflex iC60, iSW** | ■ 4 markers max. per pole | | | | | |
| **Vigi iC60** | ■ 4 markers max. per device | | | | | |
| **iID** | ■ 4 markers max. per device | | | | | |
| **iDPN Vigi** | ■ 4 markers max. per device | | | | | |
| **iSW-NA** | ■ 4 markers max. per device | | | | | |

# Accessories for iC60, iID , iDPN Vigi, iSW-NA, Reflex iC60, RCA, ARA, iSW (cont.)



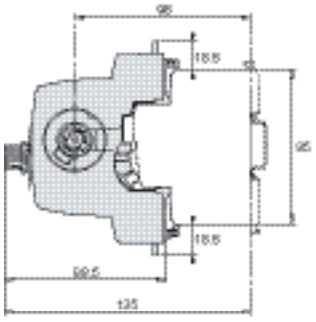
## Dimensions (mm)

DB124149

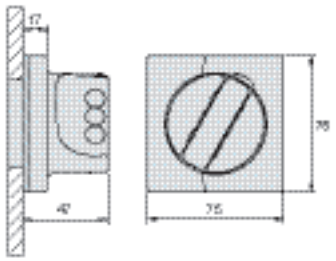


*Plug-in base*

DB124152



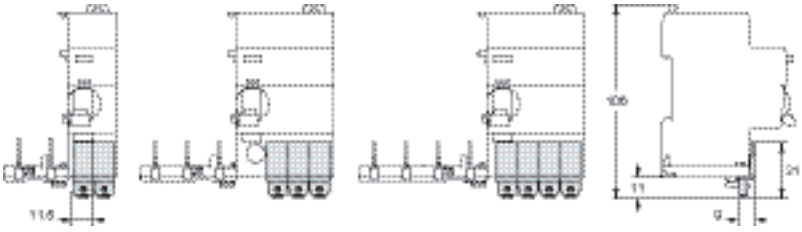
*Adapter mechanism*



*Handle*

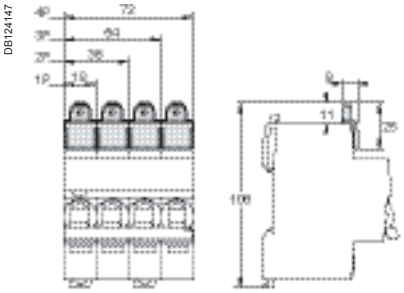
*Rotary handle*

DB124146



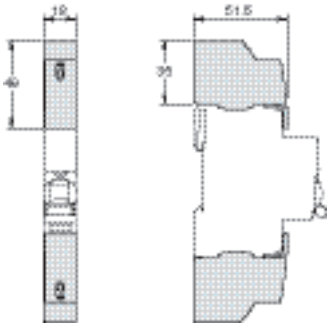
*Screw shield 1P (A9A26982)*

DB124147



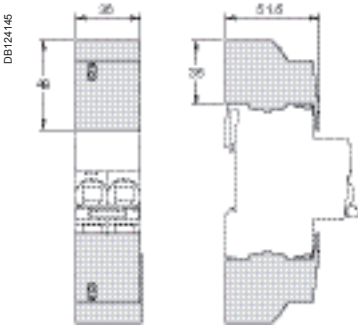
*Screw shield 4P (A9A26981)*

DB124144



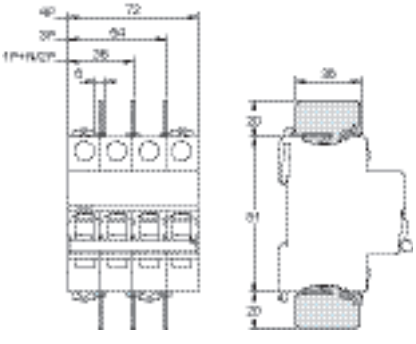
*Terminal shield 1P*

DB124145



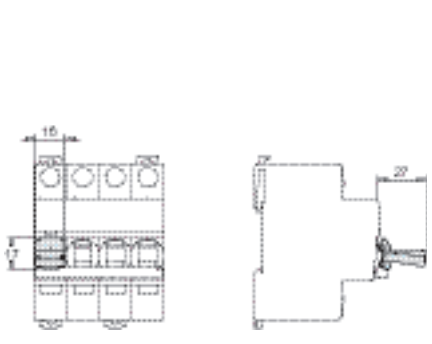
*Terminal shield 2P*

DB124148



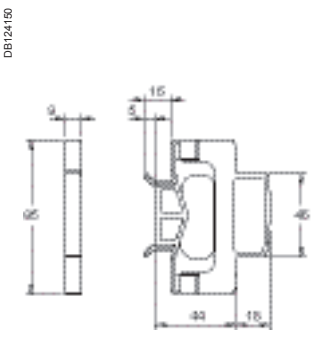
*Inter-pole barrier*

DB124143



*Padlocking device*

DB124150

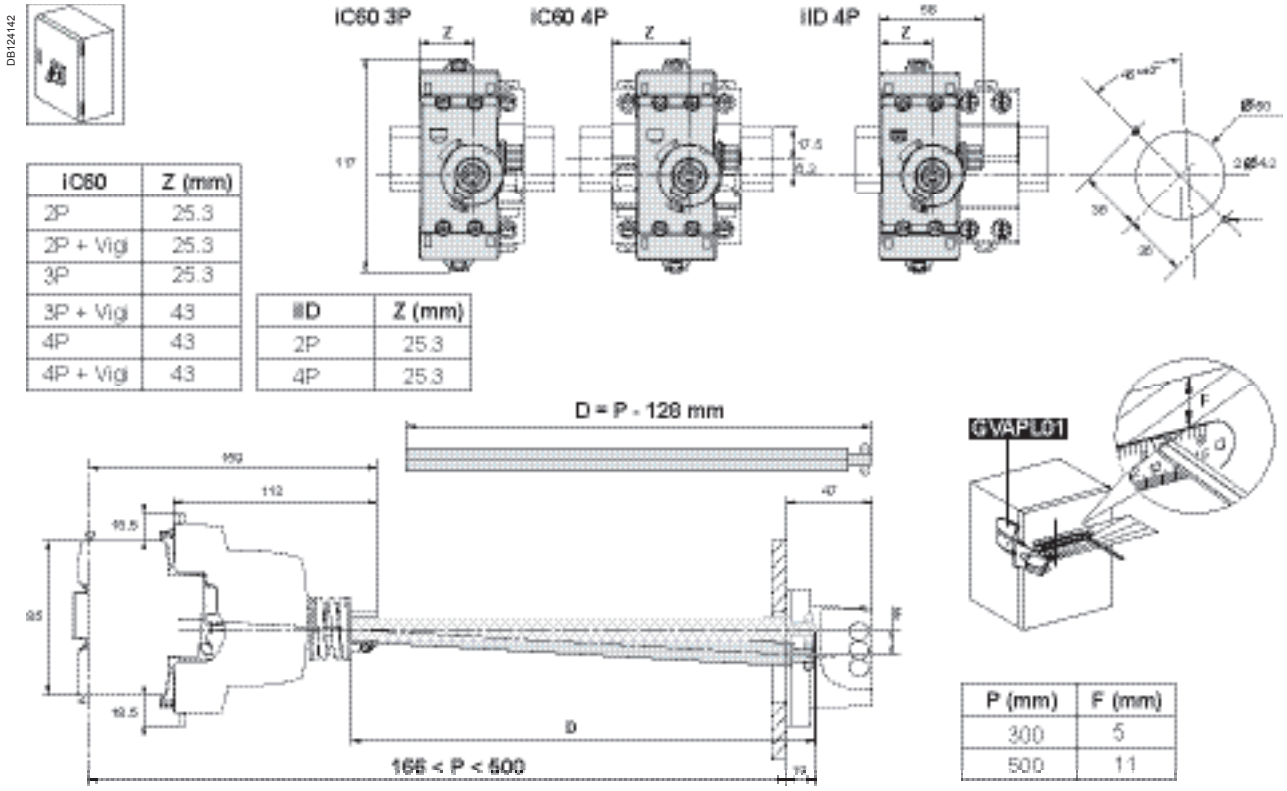


*Spacer*

# Accessories for iC60, iID , iDPN Vigi, iSW-NA, Reflex iC60, RCA, ARA, iSW (cont.)

## Rotary handle installation

### Dimensions (mm)

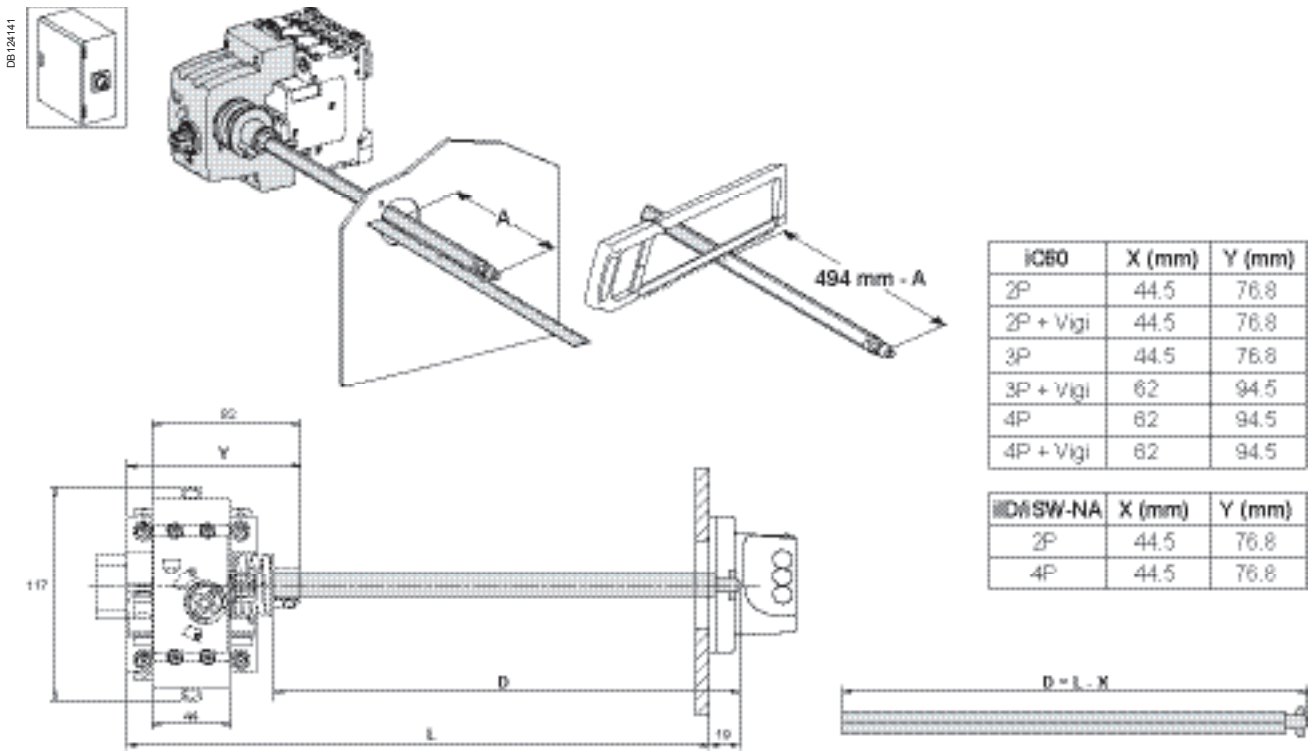



| iC60 | Z (mm) |
|---|---|
| 2P | 25.3 |
| 2P + Vigi | 25.3 |
| 3P | 25.3 |
| 3P + Vigi | 43 |
| 4P | 43 |
| 4P + Vigi | 43 |

| iID | Z (mm) |
|---|---|
| 2P | 25.3 |
| 4P | 25.3 |

| P (mm) | F (mm) |
|---|---|
| 300 | 5 |
| 500 | 11 |

*Rotary handle: front mounted control*




| iC60 | X (mm) | Y (mm) |
|---|---|---|
| 2P | 44.5 | 76.8 |
| 2P + Vigi | 44.5 | 76.8 |
| 3P | 44.5 | 76.8 |
| 3P + Vigi | 62 | 94.5 |
| 4P | 62 | 94.5 |
| 4P + Vigi | 62 | 94.5 |

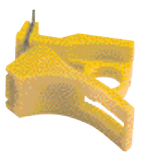
| iID/iSW-NA | X (mm) | Y (mm) |
|---|---|---|
| 2P | 44.5 | 76.8 |
| 4P | 44.5 | 76.8 |

*Rotary handle: side mounted control*

# Accessories for C120, iSW and C60H-DC devices



## Installation

| Accessories | Rotary handle | | | Plug-in base | | Padlocking device | |
|---|---|---|---|---|---|---|---|
| | PB100137_SE-22 PB100138_SE-22<br>  | | | 056856_SE<br>  | | 056886_SE<br>  | 057209J_SE-33<br>  |
| **Function** | | | | | | | |
| | **Front or side control of 2, 3 and 4-pole circuit breakers**<br>■ Degree of protection: IP40<br>■ A complete rotary handle consists of:<br>□ a circuit-breaker operating sub-assembly, cat. no. **27046**,<br>□ a handle cat. no. **27047** or a handle cat. no. **27048**<br>■ Installation:<br>□ the circuit-breaker operating sub-assembly cat. no. **27046** is fixed to the circuit breaker<br>□ the removable handle cat. no. **27047** is mounted on the removable front panel or on the enclosure door<br>□ the fixed handle cat. no. **27048** is fixed to the front or side panel of the enclosure | | | **Allows a circuit breaker to be quickly removed or replaced, without touching the connections**<br>■ Degree of protection: IP20<br>■ It consists of:<br>□ a base to be fixed to a rail (or panel)<br>□ 2 “blades” to be fixed in the device terminals<br>■ Connection: tunnel terminals for cables up to 50 mm² (rigid) or 35 mm² (flexible)<br>■ Installation:<br>□ on backplate<br>□ on a horizontal rail<br>■ Centreline between two rows: 200 mm<br>■ Only on the circuit breaker, without a Vigi device or auxiliary<br>■ Padlocking option (8 mm dia. padlock not supplied) | | **Used to padlock a circuit breaker in the "open" or "closed" position**<br>■ Diameter of the padlock: 8 mm max.<br>■ Locking in the ON position does not prevent the circuit breaker from tripping in the event of a fault<br>■ Isolation: in conformity with IEC/EN 60947-2. | |
| **Cat. numbers** | **27047**<br>Removable extended handle | **27048**<br>Fixed handle | **27046**<br>Operating sub-assembly | **26996**<br>(1 per pole) | **26997**<br>(1 per pole) | **27145** | **26970** |
| **Set of** | **1** | **1** | **1** | **1** | **1** | **4** | **2** |
| **Suitable for the following devices:** | | | | | | | |
| **C120** | ■ 2P, 3P, 4P | | | – | ■ | ■ | – |
| **C120 + Vigi C120** | ■ 2P, 3P, 4P | | | – | – | ■ | – |
| **DPN, DPN Vigi** | ■ 3P, 4P | | | – | – | – | ■ |
| **C60H-DC** | ■ 2P | | | ■ | – | – | ■ |
| **SW60-DC, C60NA-DC, C60PV-DC** | – | | | – | – | – | ■ |
| **iSW** | ■ iSW ≥ at 4 modules of 9 mm | | | ■ iSW 40 to 63 A | – | – | ■ |

# Accessories for C120, iSW, C60H-DC devices (cont.)

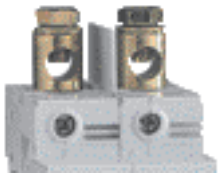
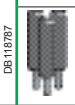
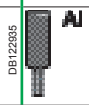
## Safety

| Accessories | Screw shield | | Terminal shield | | | Interpole barrier | Spacer |
|---|---|---|---|---|---|---|---|
| | 056870_SE-33 / PB124114 | | 058869_SE-33 / DB123898 | | | PB104483-35 | |
| |  |  |  | | |  |  |
| **Function** | | | | | | | |
| | **Prevents all contact with the fixing screws**<br>■ The degree of protection becomes IP40<br>■ Sealable, max. diameter 1.2 mm<br>■ Dividable | | **Prevents all contact with the terminals**<br>■ Degree of protection becomes IP40<br>■ Sealable, max. diameter 1.2 mm | | | **Improves the insulation between the connections: cables, terminals, lugs, etc.** | ■ Used to:<br>□ complete the rows<br>□ separate the devices<br>■ Width: 1 x 9 mm module<br>■ Allows that 2 cables are routed from one row to another (above and below), up to 6 mm² |
| | | | ■ 1P | ■ 1P | ■ 2P<br>■ 3P: 1 x 26975 + 1 x 26976<br>■ 4P: 2 x 26976 | | |
| **Cat. numbers** | **18527** | **26981** | **18526** | **26975** | **26976** | **27001** | **A9N27062** |
| **Set of** | **2 (4P dividable)** | | **2 (for upstream/downstream terminal)** | | | **10** | **1** |
| **Suitable for the following devices:** | | | | | | | |
| **C120** | ■ | – | ■ | – | – | ■ | ■ |
| **Vigi C120** | – | – | – | – | – | – | ■ |
| **DPN, DPN Vigi** | – | – | – | – | – | – | ■ |
| **C60H-DC** | – | ■ | – | ■ | ■ | ■ | ■ |
| **SW60-DC, C60NA-DC, C60PV-DC** | – | ■ | – | – | – | ■ | ■ |
| **iSW** | – | ■ iSW 40 to 125 A | – | ■ iSW 40 to 125 A | | ■ iSW 40 to 125 A | ■ |

# Accessories for C120, iSW, C60H-DC devices (cont.)



## Connection

| Accessories | Multi-cable terminal | | 50 mm² Al terminal | Screw-on connection for ring terminal | Connection kit for ring terminals | Terminal for rear connector |
|---|---|---|---|---|---|---|
| |  | |  |  |  |  |
| **Function** | | | | | | |
| | **For 3 copper cables:**<br>■ Rigid up to 16 mm²<br>■ Flexible up to 10 mm² | | **For 16 to 50 mm² aluminium cables** | **For lug tipped cables, front or rear mounting** | **For terminal up to 63 A, front or rear access (screw ⌀ 5 mm)**<br>■ It incorporates a "conductive" part and an "insulating" part which ensures the phase-to-phase clearance | **For cable up to 50 mm² or by terminal**<br>■ Supplied with a 1P terminal shield |
| |  | |   |  5 mm | | |
| **Cat. numbers** | **19091** | **19096** | **27060** | **27053** | **17400** | **18528** |
| **Set of** | **4** | **3** | **1** | **8** | **2** | **2** |
| **C120** | ■ | ■ | ■ | ■ | – | ■ |
| **Vigi C120** | ■ | ■ | ■ | – | – | – |
| **DPN, DPN Vigi** | – | – | – | ■ | – | – |
| **C60H-DC, iSW 40 to 125 A** | ■ | ■ | ■ | ■ | ■ | – |
| **SW60-DC, C60NA-DC** | ■ | ■ | ■ | ■ | – | – |
| **C60PV-DC** | – | – | ■ | ■ | – | – |
| **Tightening torque** | 2 N.m | | 10 N.m | 2 N.m | – | – |
| **Stripping length** | 11 mm | | 13 mm | – | – | – |
| **Tools to be used** | Diameter 5 mm or PZ2 | | Hc 1/5" or 5 mm | Diameter 5 mm | Diameter 5 mm | – |

## Identification

| Accessories | Clip-on terminal marker strip | | | |
|---|---|---|---|---|
| |  | | | |
| **Function** | **For connection identification** | | | |
| **Cat. numbers** | 0: **AB1-R0** | A: **AB1-GA** | K: **AB1-GK** | U: **AB1-GU** |
| | 1: **AB1-R1** | B: **AB1-GB** | L: **AB1-GL** | V: **AB1-GV** |
| | 2: **AB1-R2** | C: **AB1-GC** | M: **AB1-GM** | W: **AB1-GW** |
| | 3: **AB1-R3** | D: **AB1-GD** | N: **AB1-GN** | X: **AB1-GX** |
| | 4: **AB1-R4** | E: **AB1-GE** | O: **AB1-GO** | Y: **AB1-GY** |
| | 5: **AB1-R5** | F: **AB1-GF** | P: **AB1-GP** | Z: **AB1-GZ** |
| | 6: **AB1-R6** | G: **AB1-GG** | Q: **AB1-GQ** | +: **AB1-R12** |
| | 7: **AB1-R7** | H: **AB1-GH** | R: **AB1-GR** | -: **AB1-R13** |
| | 8: **AB1-R8** | I: **AB1-GI** | S: **AB1-GS** | Blank : **AB1-RV** |
| | 9: **AB1-R9** | J: **AB1-GJ** | T: **AB1-GT** | |
| **Set of** | **250** | | | |
| **C120** | ■ 4 markers max. per pole | | | |
| **Vigi C120** | ■ 4 markers max. per device | | | |
| **DPN, DPN Vigi** | ■ 4 markers max. per pole | | | |
| **C60H-DC, SW60-DC, C60NA-DC, C60PV-DC** | ■ 4 markers max. per pole | | | |

# Acti 9 comb busbars

## Comb busbars

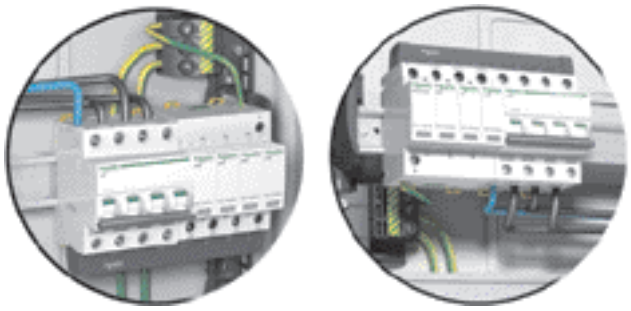
**Acti 9** | **Not cuttable**

PB110231-15

### Function

Comb busbars make it easier to implement Schneider Electric products
- The phases are identified by symbols on each side of the comb busbar
- The spare teeth can be insulated with tooth covers
- They must not be cut

PB110290-40 + PB110793-40



### Use

- Power supply by connector recommended

| | | | | | | |
|---|---|---|---|---|---|---|
| Number of poles | | 1P | 2P | 3P | 4P | 3 (N+P) |
| Type | | L1... | L1L2... | L1L2L3... | NL1L2L3... | NL1NL2NL3... |
| **Catalogue numbers** | 12 modules of 18 mm | **A9XPM112** | **A9XPM212** | **A9XPM312** | **A9XPM412** | **A9XPM512** |
| | Accessories | – | – | – | – | – |
| **Set of** | | **1** | **1** | **1** | **1** | **1** |

### Technical specifications

| | |
|---|---|
| Rated voltage (Ue) | 415 V |
| Insulation voltage (Ui) | 500 V |
| Permissible current at 40°C | 100 A |
| Short-circuit current withstand | Compatible with the breaking capacity of Schneider Electric modular circuit breakers |
| Fire resistance to IEC 695-2-1 | Self-extinguishing 960°C 30 s |
| Standards | IEC 60947-7-1, IEC 61439-2 |
| Colour | RAL 7016 (anthracite grey) |

# Acti 9 comb busbars (cont.)



## Accessories

| | Tooth covers | Connectors Monoconnect |
|---|---|---|
| | PB110257-10  | PB110259-15  |
| | ■ Insulate teeth that have been left free | ■ Comb busbar power supply |
| | PB108138-25 + PB108164-38 |  |
| | | ■ Horizontal incomer on each side<br>■ For 35 mm² cable<br>■ Tightening torque 4 N.m |
| | – | – |
| | | |
| | – | – |
| | **A9XPT920** | **A9XPCM04** |
| | **20** | **4** |

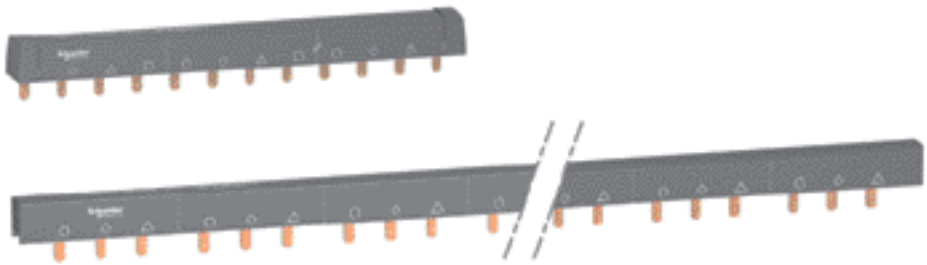
# Acti 9 comb busbars (cont.)

## Comb busbars

**Acti 9** | **Cuttable**

PB1110243-14

PB1110252-24

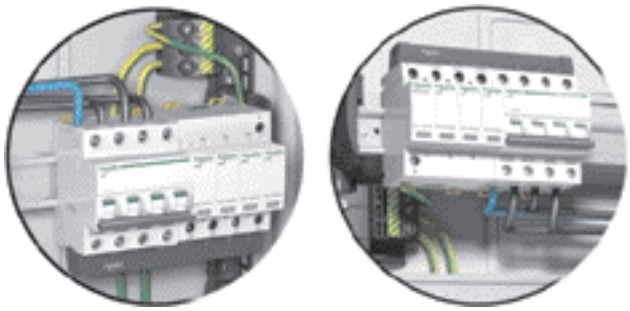


### Function

Comb busbars make it easier to implement Schneider Electric products
- Can be sawn and cut in a single pass, using busbar chocks
- Supplied with two IP20 lateral end-pieces except for 57 module references
- The end-pieces are compulsory during cutting
- The phases are identified by symbols on each side of the comb busbar
- Cutting marks on the insulating material
- The spare teeth can be insulated with tooth covers
- The special comb busbars for circuit breakers with 9 mm auxiliaries have a 9 mm gap for inserting iOF and iSD

Strengths: the marking is clear, whether the supply comes from above or below

PB1110290-40 + PB110793-40



### Use

- Power supply by connector recommended

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Number of poles | | 1P | 2P | 3P | 4P | 3 (N+P) | Aux+1P | Aux+2P | Aux+3P | Aux+4P |
| Type | | L1... | L1L2... | L1L2L3... | NL1L2L3... | NL1NL2NL3... | AuxL1... | AuxL1L2... | AuxL1L2L3... | AuxNL1L2L3 ... |
| **Catalogue numbers** | 6 modules of 18 mm | **A9XPH106** | – | – | – | – | – | – | – | – |
| | 12 modules of 18 mm | **A9XPH112** | **A9XPH212** | **A9XPH312** | **A9XPH412** | **A9XPH512** | – | – | – | – |
| | 18 modules of 18 mm | – | – | – | – | **A9XPH518** | – | – | – | – |
| | 24 modules of 18 mm | **A9XPH124** | **A9XPH224** | **A9XPH324** | **A9XPH424** | **A9XPH524** | – | – | – | – |
| | 57 modules of 18 mm (end-pieces to be ordered separately) | **A9XPH157** | **A9XPH257** | **A9XPH357** | **A9XPH457** | **A9XPH557** | **A9XAH157** | **A9XAH257** | **A9XAH357** | **A9XAH457** |
| | Accessories (optional) | – | – | – | – | – | – | – | – | – |
| **Set of** | | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |

### Technical specifications

| | |
|---|---|
| Rated voltage (Ue) | 415 V |
| Insulation voltage (Ui) | 500 V |
| Permissible current at 40°C | 100 A |
| Short-circuit current withstand | Compatible with the breaking capacity of Schneider Electric modular circuit breakers |
| Fire resistance to IEC 695-2-1 | Self-extinguishing 960°C 30 s |
| Standards | IEC 60947-7-1, IEC 61439-2 |
| Colour | RAL 7016 (anthracite grey) |

# Acti 9 comb busbars (cont.)



## Accessories

| | | | End-piece | | | | Tooth covers | Connectors Monoconnect |
|---|---|---|---|---|---|---|---|---|
| | | |  DB404806 | | | |  DB404806 |  PB110259-15 |
| | | | ■ Lateral end-pieces providing IP20 protection | | | | ■ Insulate teeth that have been left free | ■ Comb busbar power supply |
| | | | | | | | | ■ Horizontal incomer on each side<br>■ For 35 mm² cable<br>■ Tightening torque 4 N.m |
| | 3 (Aux+1P) | 3 (Aux+N+1P) | 1P | 2P | 3P | 4P | – | – |
| | AuxL1AuxL2AuxL3... | AuxNL1AuxNL2AuxNL3... | | | | | | |
| | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – |
| | **A9XAH657** | **A9XAH557** | – | – | – | – | – | – |
| | – | – | **A9XPE110** | **A9XPE210** | **A9XPE310** | **A9XPE410** | **A9XPT920** | **A9XPCM04** |
| | **1** | **1** | **10** | **10** | **10** | **10** | **20** | **4** |

# Distribloc 63 A splitter block

IEC/EN 60947-7-1.
IEC/EN 61439-2.

PB104409-40

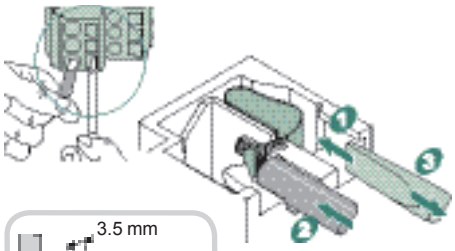
## Description

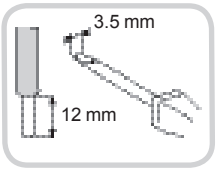
■ Distribloc 63 A is a four pole splitter block installable on a standard DIN rail.
■ Outgoing feeders are connected at the front, without screws, in spring terminals. The contact pressure of the cable is independent of the operator.
■ The spring contact pressure adapts automatically to the cross section of the conductor. It is independent of the operator.

## Advantages

■ Very fast connection.
■ Very simple phase rebalancing.
■ In the event of an extension to or modification of the switchboard, connection is very easy.
■ The appearance of its front panel (45 mm front tip) enables it to fit in on a row perfectly, alongside modular devices.

DB122626




## Technical data

| Main characteristics | | |
|---|---|---|
| Cat. no | Distribution through the top | 04040 |
| | Distribution through the bottom | 04041 |
| According to IEC/EN 60947-7-1 | | |
| Degree of protection | | IP20 |
| Rated insulation voltage (Ui) | | 500 V AC |
| Voltage rating (Ue) | | 440 V AC |
| Rated impulse withstand voltage (Uimp) | | 6 kV |
| Short-circuit current withstand | | Up to breaking capacity of Schneider Electric outgoing circuit breakers, even when reinforced by cascading implementation |
| Reference temperature | | 40°C |
| Rated current at 40°C (In) | | 63 A |
| Operating frequency | | 50/60 Hz |
| Width in 9-mm modules | | 8 |

PB104500-60

### Power supply

■ Four-pole tunnel terminals with screw clamping.
■ The tunnel terminals are located to facilitate the insertion of cables and clamping by screws.
■ A single cable per connection point:
□ flexible from 4 to 16 mm²
□ rigid from 6 to 25 mm².


### Installation

■ Clip-on mounting on modular rail.
■ Width occupied: 8x9-mm modules.

### Distribution

■ 3 outgoing feeders connected by flexible or rigid cables of cross section 1 to 6 mm².
■ 2 rows of terminals:
□ 12 connection points for phases (L1, L2, L3)
□ 12 connection points for neutral.
■ A single cable per connection point: flexible (without ferrule) or rigid from 1 to 6 mm².
■ Reliable, maintenance-free (tightness guaranteed over time).
■ Insensitive to vibrations and thermal variations.

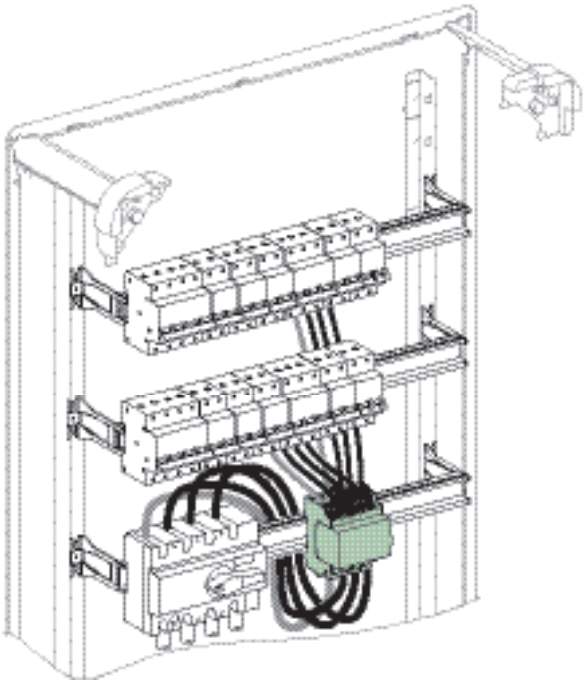
# Distribloc 63 A splitter block (cont.)



| Additional characteristics | |
|---|---|
| **According to IEC/EN 60947-7-1** | |
| Rated cross section | 16 mm² |
| Rated connecting capacity | 10-16-25 mm² |
| Pollution degree | 3 |
| Storage temperature | -40°C to +85°C |
| **According to IEC/EN 61439-2** | |
| Operating temperature | -25°C to +60°C |
| Colour | RAL 7016, RAL 9003 |

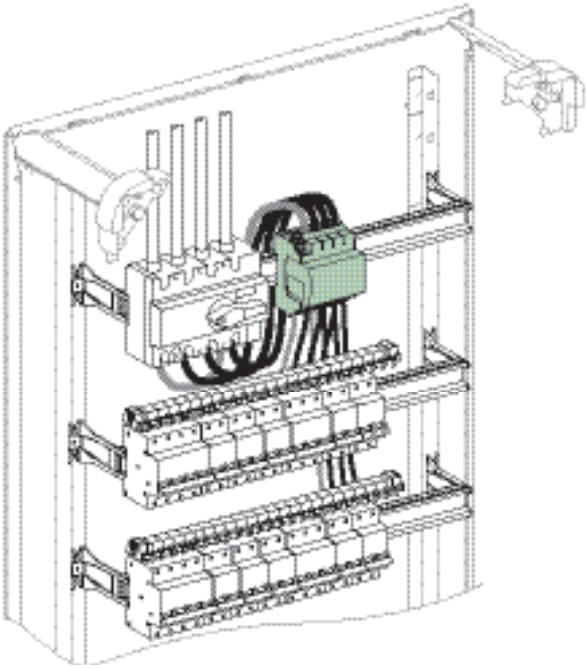
## Installation

DB122671



*Distribution through the bottom.*

DB122625



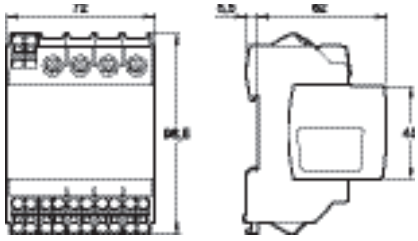
*Distribution through the top.*

## Weight (g)

| Splitter block | |
|---|---|
| **Type** | |
| Distribloc | 290 |

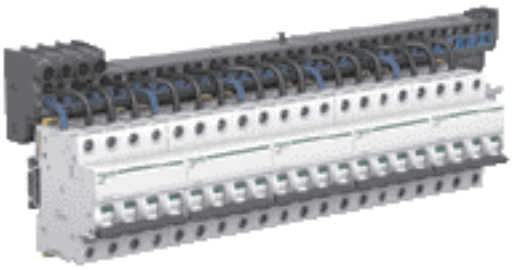
## Dimensions (mm)

DB122616



# Multiclip 80 A splitter block

PB104507-35

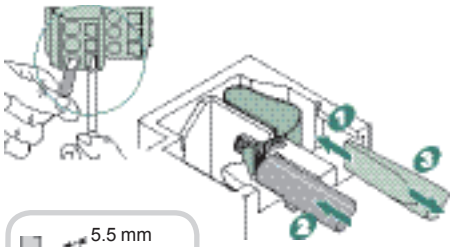


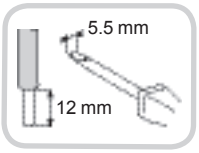
IEC/EN 60947-7-1.
IEC/EN 61439-2.

## Description

■ Multiclip 80 A is a four-pole splitter block 24 modules wide installable on a standard DIN rail.
■ Outgoing feeders are connected at the front, without screws, in spring terminals.
■ The spring contact pressure adapts automatically to the cross section of the conductor. It is independent of the operator.
■ Supplied with 12 black and 12 blue pre-stripped 6 mm² cables.

DB122626




## Advantages

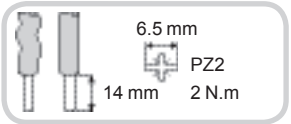
■ Very fast connection.
■ Very simple phase rebalancing.
■ In the event of an extension to or modification of the switchboard, connection is very easy.
■ Compatible with inter-rows of 150 mm.

## Technical data

| Main characteristics | |
|---|---|
| **Cat. no** | **04000** |
| **According to IEC/EN 60947-7-1** | |
| Rated current at 40°C (In) | 80 A |
| Maximum operated voltage (Ue) | 440 V AC |
| Operating frequency | 50/60 Hz |
| Rated insulation voltage (Ui) | 500 V AC |
| Pollution degree | 3 |
| Rated impulse withstand voltage (Uimp) | 6 kV |
| Degree of protection | IP20 |
| Short-circuit current withstand | Up to breaking capacity of Schneider Electric outgoing circuit breakers, even when reinforced by cascading implementation |
| Width in 9-mm modules | 48 |

### Power supply

■ Four-pole tunnel terminals with screw clamping.
■ The tunnel terminals are located to facilitate the insertion of cables and clamping by screws.
■ One cable per connection point:
□ flexible from 6 to 25 mm²
□ rigid from 10 to 35 mm².




PB104501-45

### Installation

■ Clip-on mounted Pragma and Prisma DIN rails.
■ Screwed on all other symetric rail.

### Distribution

■ Connection to spring terminals through the front.
■ 2 rows of terminals:
□ 18 connection points for phases (L1, L2, L3)
□ 18 connection points for neutral.
■ A single cable per connection point: flexible (without ferrule) or rigid from 1 to 6 mm².
■ Maintenance-free (tightness guaranteed over time). Insensitive to vibrations and thermal variations.

# Multiclip 80 A splitter block (cont.)

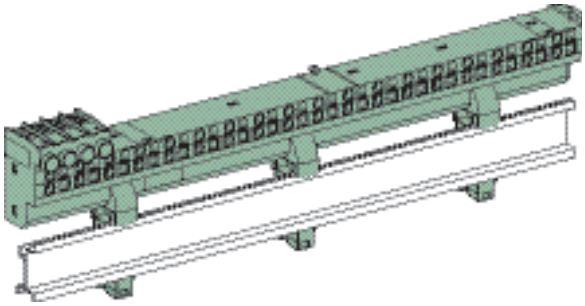


PB104505-50

| Additional characteristics | |
|---|---|
| **According to IEC/EN 61439-2** | |
| Operating temperature | -25°C to +60°C |
| Storage temperature | -40°C to +85°C |
| Colour | RAL 7016 |

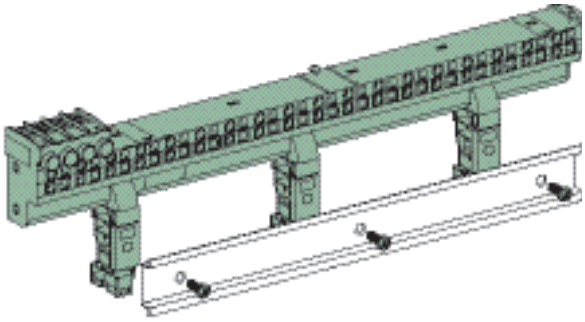
## Installation

DB123198



*On Pragma and Prisma rails*

DB123199



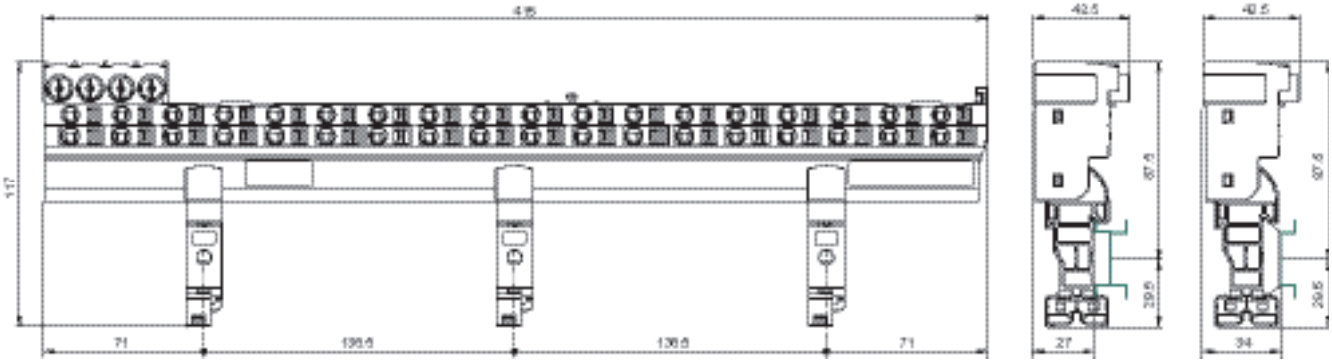
*On other symetric rails*

## Weight (g)

| Splitter block | |
|---|---|
| **Type** | |
| Multiclip | 640 |

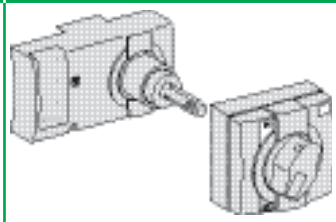
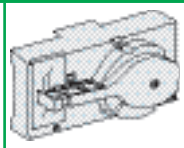
## Dimensions (mm)

DB123200

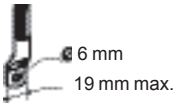


# Accessories for NG125 devices

## Mounting

| Accessories | Rotary handle | | | | Toggle | Padlocking device |
|---|---|---|---|---|---|---|
| | DB123603  | | DB123604  | | DB123498  | DB123605  |
| **Function** | | | | | | |
| | **Extended rotary handle**<br>■ Degree of protection: rotary button IP55<br>■ Front installation:<br>■ Prevents door opening when the circuit breaker is in position O<br>■ Keeps disconnection<br>■ Padlocking possible when the device is in position O<br>■ Padlock diameter: 3 to 6 mm | | **Direct rotary handle**<br>■ Front installation<br>■ Keeps disconnection<br>■ Padlocking possible when the device is in position O<br>■ Padlock diameter: 3 to 6 mm<br>■ Two versions:<br>□ standard black<br>□ red handle and yellow front plate for machine tool control | | **White toggle**<br>■ Allows visual distinction of a switchboard incoming device | **Allows padlocking:**<br>■ In position I or O of NG125 1P or 2P circuit breakers<br>■ In position I of NG125 3P or 4P circuit breakers or switches<br>■ Padlock: dia. 5 to 8 mm (not supplied)<br>*Note: NG125 3P/4P circuit breakers and switches are provided with padlocking in position O (disconnected) as original equipment.* |
| **Catalogue numbers** | **19088**<br>**Extended standard black** | **19089**<br>**Extended safety** | **19092**<br>**Direct standard black** | **19097**<br>**Direct safety red handle yellow background** | **19099**<br>**White toggle** | **19090** |
| **Pack of** | **1** | | **1** | **1** | **10** | **1** |
| **Suitable for the following devices:** | | | | | | |
| **NG125** | ■ 3P, 4P | | ■ | | ■ 3P, 4P | ■ |
| **Vigi NG125** | – | | – | | – | – |

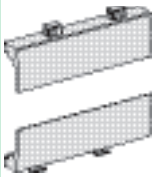
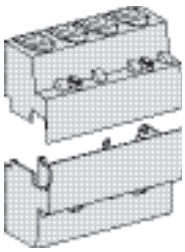
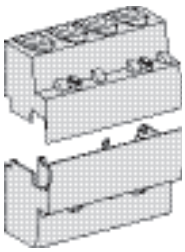
## Connection

| Accessories | Multi-cable terminal | | 70 mm² Al terminal | Screw-on connection for ring terminal | Small ring terminal |
|---|---|---|---|---|---|
| | DB118780  | | DB123426  | DB123427  | DB123428  |
| **Function** | | | | | |
| | **For 3 copper cables:**<br>■ Rigid up to 16 mm²<br>■ Flexible up to 10 mm² | | **For aluminium cables from** 25 to 70 mm² | **Installation:**<br>■ Upstream or downstream<br>■ Connection ratings 80 to 125 A:<br>□ copper terminal:<br>- flexible cable up to 35 mm²<br>- rigid cable up to 50 mm²<br>□ bars: 16 x 3 mm, 15 x 4 mm, 16 x 4 mm<br>□ small ring terminal<br>■ Phase-to-phase insulation voltage: Ui = 1000 V | **Connection ratings 80 to 125 A:**<br>■ Flexible copper cable: 50 mm²<br>■ Rigid copper cable: 70 mm² |
| | DB118787  | | DB122935   | DB118789   | DB123497   |
| **Cat. nos.** | **19091** | **19096** | **19095** | **19093** | **19094** |
| **Pack of** | **4** | **3** | **4** | **4** | **4** |
| **NG125** | ■ | ■ | ■ 80, 100, 125 A | ■ 80, 100, 125 A | ■ 80, 100, 125 A |
| **Vigi NG125** | – | – | ■ 125 A | ■ 125 A | ■ 125 A |
| **Tightening torque** | 2 N.m | | 6 N.m | 6 N.m | 6 N.m |
| **Stripping length** | 11 mm | | – | – | – |
| **Tools to be used** | Diameter 5 mm or PZ2 | | Hc 4 mm | Hc 4 mm | – |

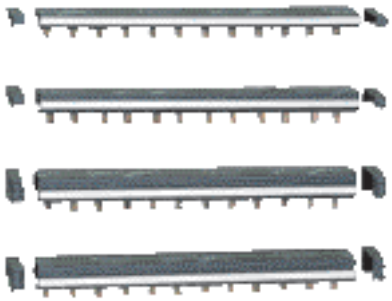
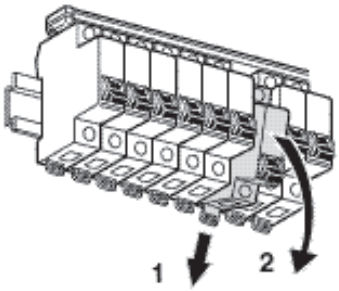
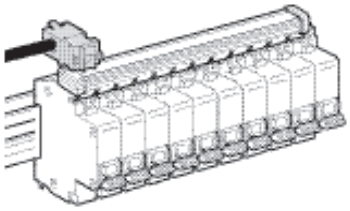
# Accessories for NG125 devices (cont.)



## Safety

| Accessories | Screw shield | | | | Circuit breaker terminal shield | | | | RCD terminal shield | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DB123606  | | | | DB123607  | | | | DB123607  | | | | | | |
| **Function** | | | | | | | | | | | | | | | |
| | ■ Prevents any contact with the connection screws<br>■ Protection against direct contact:<br>□ IP40: on front panel<br>□ IP20: at the connection level<br>■ Class II in steel or plastic enclosures<br>■ Sealing possible (max. diameter: 1.2 mm). | | | | ■ Prevents any contact with the terminals<br>■ Installation: mounted upstream and downstream of circuit breaker<br>■ Phase-to-phase insulation voltage Ui = 1000 V<br>■ Protection against direct contact IP40<br>■ Class II in steel or plastic enclosures (up to 440 V)<br>■ Sealing possible (max. diameter: 1.2 mm) | | | | ■ Installation: is mounted upstream of the circuit breaker and downstream of the Vigi device<br>■ Phase-to-phase insulation voltage Ui = 1000 V<br>■ Protection against direct contact: IP40<br>■ Class II in steel or plastic enclosures (up to 440 V)<br>■ Sealing possible (max. diameter: 1.2 mm) | | | | | |
| | | | | | | | | | **63 A** | | | | | **125 A** | |
| | 1P | 2P | 3P | 4P | 1P | 2P | 3P | 4P | 2P | 3P | 3P adjustable | 4P | 4P adjustable | 3P | 4P |
| **Catalogue numbers** | **19084** | **19085** | **19086** | **19087** | **19080** | **19081** | **19082** | **19083** | **19074** | **19075** | **19077** | **19076** | **19078** | **19077** | **19078** |
| **Pack of** | **10** | | | | **Set of 1 upstream / 1 downstream** | | | | **Set of 1 upstream / 1 downstream** | | | | | | |
| **Suitable for the following devices:** | | | | | | | | | | | | | | | |
| **NG125** | ■ | | | | ■ | | | | ■ | | | | | ■ | |
| **Vigi NG125** | – | | | | – | | | | ■ | | | | | ■ | |

# Connection comb busbars
## for C120 and NG125

| | Comb busbars | | | | Accessories |
|---|---|---|---|---|---|
| **Accessories** | **1P, 2P, 3P, 4P comb busbar** | | | | **Insulated connector** |
| | 030920d  030921d | | | |  |
| **Function** | | | | | |
| | The comb busbars make it easier to install Schneider Electric products.<br>■ Supplied with 2 side plates, IP 2<br>■ Outgoing feeders can be marked<br>■ Cutting markings on the copper bars and the insulating material<br>■ Self-extinguishing insulating material, colour RAL 7016<br>■ The teeth left on standby can be isolated by tooth cover end-pieces | | | | ■ Compatible with all Schneider Electric comb busbars<br>■ Clip onto the comb busbar's insulating material, which gives them very great stability<br>■ Receive clip-on markers allowing circuit identification |
| **Wiring diagram** | | | | | |
| | DB105977   DB105976  | | | | |
| **Use** | | | | | |
| | Direct power supply on the circuit-breaker terminal: maximum 50 mm² rigid | | | | ■ For 25 mm² semi-rigid cable |
| **Catalogue numbers** | **14811** | **14812** | **14813** | **14814** | **14885** |
| Number of 9 mm modules | L = 430 mm, 16 poles of 27 mm | L = 430 mm, 16 poles of 27 mm | L = 405 mm, 15 poles of 27 mm | L = 430 mm, 16 poles of 27 mm | |
| **Set of** | **1** | | | | **4** |
| **Suitable for the following devices:** | | | | | |
| C120 | ■ | ■ | ■ | ■ | – |
| NG125 ⩽ 63 A | ■ | ■ | ■ | ■ | – |
| **Technical specifications** | | | | | |
| Voltage rating (Ue) | 500 V | | | | |
| Acceptable current at 40°C | 125 A | | | | |
| Max. current per feeder | 63 A | | | | |
| Resistance to short-circuit currents | Compatible with the breaking capacity of modular circuit breakers | | | | |

# iDPN comb busbars



These comb busbars are a key part of the distribution system.

## IEC 60947-7 concerning cable strength.

**Combined with Schneider Electric distribution systems and switchgear, comb busbars allow the construction of switchboards tested in compliance with the IEC 60439-1 standard.**

Comb busbars are available in several lengths for two types of distribution:
- single-phase 1P+N distribution
- three-phase 3P+N distribution (3P+N and 1P+N outgoing feeders can be combined under the same comb busbar).

The comb busbars ensure:
- easy, reliable mounting of 1P+N and 3P+N, TL, CT, ID, V, BP and CM switchgear: tooth positioning opposite the devices' terminals is ensured by indexing of copper parts.

- C60/ID Group Feeder comb busbars contain two different parts:
  - connection of Group Feeder switchgear: C60 (3P+N) or ID (3P+N) circuit breaker in 18-mm modules, powered by cables, through the bottom, directly by the terminals,
  - connection of Clario, Prodis and Librio switchgear in 9-mm modules.

- The special comb busbars for circuit breakers have a gap of 9 mm for inserting OF, SD, OF+SD/OF auxiliaries.

21501

21505

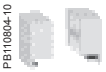
10545

21098

21094

21096

A9N21036



A9N21039

A9N21041

A9N21042

A9N21050

## Catalogue numbers

### Standard comb busbars

| Complete comb busbars (supplied with 4 side plates and 1 tooth cover) | | Number of 18-mm modules: Comb busbar | Tooth cover | |
|---|---|---|---|---|
| | 1P+N | 12 | 3 | **21501** |
| | | 18 | 3 | **19512** |
| | | 24 | 6 | **21503** |
| | 3P+N | 12 | 3 | **21505** |
| | | 18 | 3 | **19516** |
| | | 24 | 6 | **21507** |
| **Comb busbars alone** | | | | |
| | 1P+N | 48 | - | **21089** |
| | 3P+N | 48 | - | **21093** |
| **C60/ID Group Feeder comb busbars alone** | | **Number of 18-mm modules** | **Power supply** | |
| | 3P+N | 12 | Through left-side | **10545** |
| | | 48 | Through left-side | **10546** |
| | | 48 | Through right-side | **10547** |
| **Accessories** | | | | |
| Set of 40 side plates | | 1P+N | | **21094** |
| | | 3P+N | | **21095** |
| Set of 12 tooth covers (3 x 18-mm modules) | | | | **21096** |
| Set of 10 tooth cover end-pieces (1 x 18-mm module) | | | | **10405** |
| Set of 4 connectors (4 grey) | | | | **21098** |

### Comb busbars for circuit breaker with 9-mm auxiliaries

| Comb busbars alone | | Number of 18-mm modules | |
|---|---|---|---|
| Comb busbars | 1P+N | 56 | **A9N21035** |
| | 3P+N | 56 | **A9N21036** |
| Comb busbars DPN Vigi | 1P+N | 56 | **A9N21037** |
| | 3P+N | 56 | **A9N21038** |
| **Accessories** | | | |
| Set of 20 side plates | | 1P+N | **A9N21039** |
| | | 3P+N | **A9N21040** |
| Set of 10 phase connectors (grey) | | | **A9N21041** |
| Set of 10 neutral connectors (blue) | | | **A9N21042** |
| Set of 10 tooth cover (1 x 18-mm module) | | | **A9N21050** |

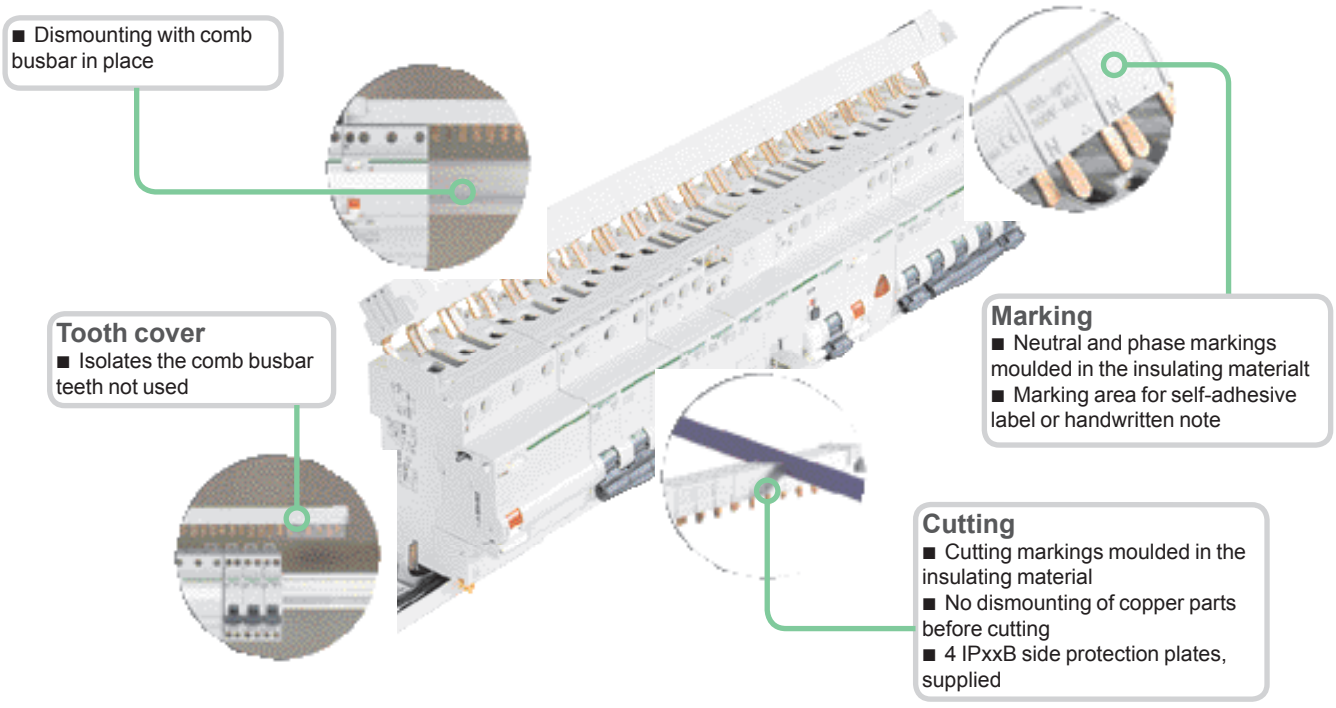
# iDPN comb busbars (cont.)

## Technical data

| Main characteristics | | | |
|---|---|---|---|
| **According to IEC 60439-1** | | **Peignes standards** | **Peignes pour auxiliaires** |
| Insulation voltage (Ui) | | 440 V AC | 500 V AC |
| Pollution degree | | 3 | 3 |
| Rated impulse withstand voltage (Uimp) | | 6 kV | 6 kV |
| Acceptable current at 40°C (Ie) | | 80 A | 63 A |
| Voltage rating (Ue) | Phase-to-neutral | 230 V AC | 230 V AC |
| | Phase-to-phase | 400 V AC | 400 V AC |
| **Additional characteristics** | | | |
| Degree of protection (IEC 60529) | | IP20 | |
| Fire resistance | | Self-extinguishability 960°C, 30 s/30 s | |
| Dielectric strength (preserved after cutting) | | 2500 V AC | |
| Colour | | RAL 7035 (the same color as device) | |
| Resistance to short-circuit currents | | Compatible with the breaking capacity of the circuit breakers in the range | |

### Power supply

- ■ Direct by Group Feeder earth leakage protection device.
- ■ In the devices' terminals with comb busbar in place:
  - □ 16 mm² semi-rigid cable,
  - □ 25 mm² flexible cable.
- ■ By insulated connector, horizontal inlet:
  - □ 25 mm² semi-rigid cable
  - □ 16 mm² flexible cable.



# Accessories and Auxiliaries
for iDPN



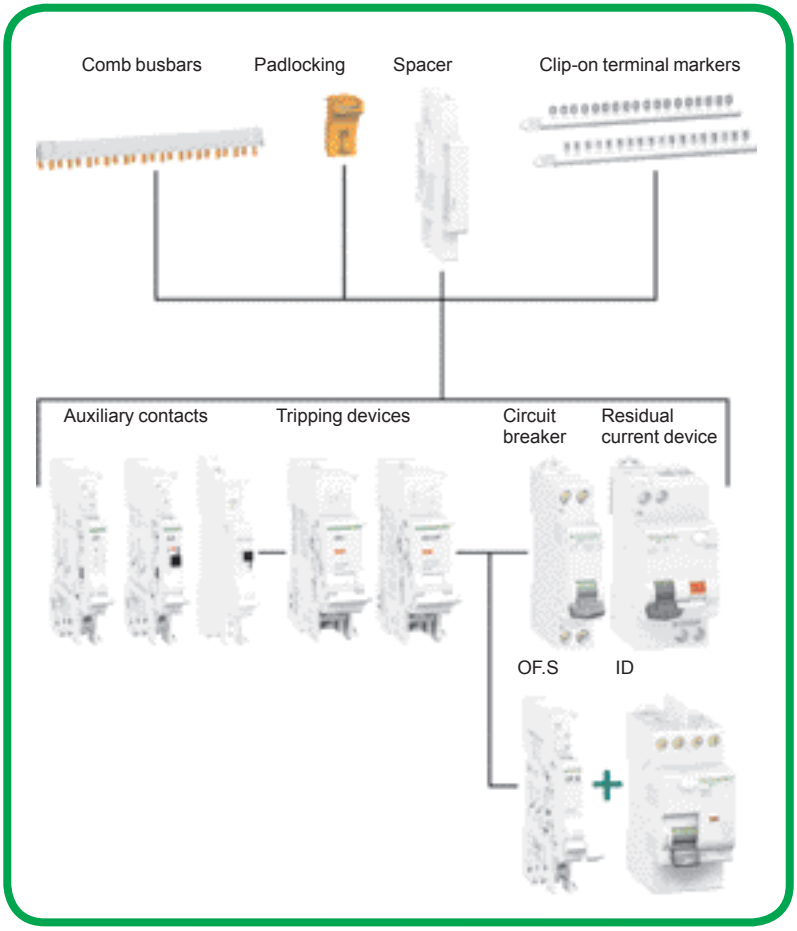
## Accessories and auxiliaries

### Mounting accessories

| | | |
|---|---|---|
| Comb busbars | See page | **E-29** |
| Padlocking | | **26970** |
| 9 mm spacer | | **A9N27062** |
| Clip-on terminal markers | | |

### Auxiliaries

| | | |
|---|---|---|
| **Auxiliary contacts** | | |
| Open/closed auxiliary contact OF.S for ID | | **A9N26923** |
| Open/closed auxiliary contact OF | | **A9N26924** |
| Fault indicating switch SD | | **A9N26927** |
| Auxiliary contact OF/SD+OF (OF+SD or OF+OF combination) | | **A9N26929** |
| **Tripping devices** | | |
| Undervoltage release MN or delayed undervoltage release MNs or undervoltage release with external power supply MNx | See page | **F-9** |
| Shunt release MX, MX+OF or voltage threshold release MSU | See page | **F-9** |

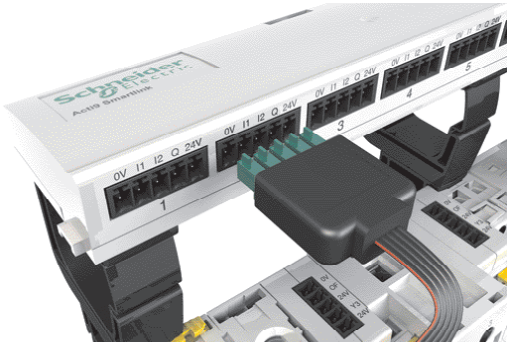


# Supervision and switchboard control

# Acti 9 Smartlink



PB107797-47



## IEC/EN 61131-2

The Acti 9 Smartlink transmits data from Acti 9 devices to a PLC or a supervision system via the Modbus serial line communication network.

## Functions

**Data transmission between the Modbus network and Acti 9 devices**

- ■ Circuit breakers, residual current circuit breakers, residual current devices:
  - □ open/closed state
  - □ tripped state
  - □ number of opening/closing cycles
  - □ number of tripping actions.
- ■ Contactors, impulse relays:
  - □ opening control
  - □ closing control
  - □ open/closed state
  - □ number of cycles
  - □ total period of operation of the load (device closed).
- ■ Remote controlled circuit breaker/Reflex iC60:
  - □ opening control
  - □ closing control
  - □ open/closed state
  - □ tripped state
  - □ number of cycles
  - □ total period of operation of the load.
- ■ Power meters:
  - □ number of pulses recorded
  - □ pulse value setting (e.g. kWh)
  - □ total consumption recorded
  - □ estimate of power consumption.

All the data are stored in memory: number of cycles, consumption, period of operation, even in the event of a power failure.

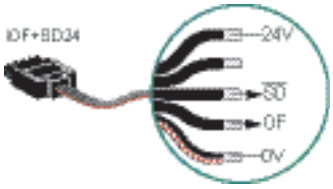
The Acti 9 Smartlink can also exchange data with any device having 24 V DC digital inputs/outputs.
No configuration of the connected products is required.

When the Acti 9 Smartlink is switched on, communication automatically adjusts to the Modbus Master (PLC, control station) communication parameters.

PB107753-68

*A9XMSB11*

DB404941




## Catalogue numbers

| Acti 9 Smartlink | | | |
|---|---|---|---|
| **Type** | | **Set of** | |
| Acti 9 Smartlink | | 1 | **A9XMSB11** |
| Supplied with | Modbus connector | 1 | |
| | 24 V DC power supply connector | 1 | |
| | Locking clips for mounting on Multiclip 80 | 2 | |
| **Accessories** | | | |
| Link USB / Modbus for Acti 9 Smartlink test | | 1 | **A9XCATM1** |
| Prefabricated cables | | | |
| With 2 connectors | Short: 100 mm | 6 | **A9XCAS06** |
| | Medium-sized: 160 mm | 6 | **A9XCAM06** |
| | Long: 870 mm | 6 | **A9XCAL06** |
| With 1 connector | Long: 870 mm | 6 | **A9XCAU06** |
| Connectors | 5-pin connectors (Ti24) | 12 | **A9XC2412** |
| Mounting kit | DIN rail (4 feet, 4 straps, 4 adapters) | 1 | **A9XMFA04** |
| | Multiclip 200 A (4 adapters) | 1 | **A9XM2B04** |
| Spare parts | Lock for Multiclip 80 A (2 clips) | 1 | **A9XMLA02** |

PB107754-12

PB107755-5

PB107756-7

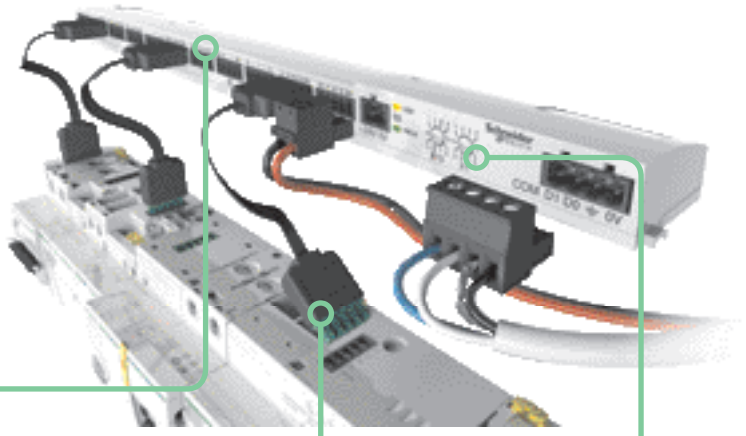
# Acti 9 Smartlink (cont.)

## The Acti 9 communication system

DB405140

**Acti 9 Smart Test software**
- Electrical continuity test
- Functional testing of the devices
- Report printing
- Printing of a simplified diagram
- Project archiving
- Compatible with Windows XP, Seven
- To be download on: Schneider Electric web sites:
  - schneider-electric.com or
  - schneider-electric country web site)

PB107805-80



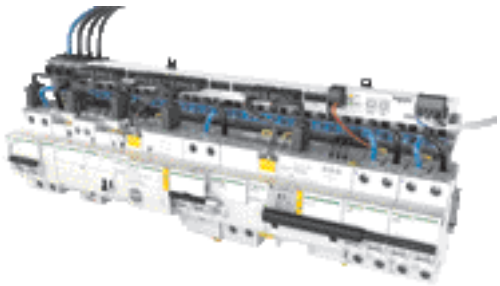
**11 input/output channels**
- Standard connectors
- In accordance with the IEC 61131-2 standard

**Prefabricated cables**
- Simplified cabling
- Fast and safe

**Modbus Communication**

- Communication adapts automatically to the communication parameters of the Modbus master (PLC, supervisor).
- Up to 32 slaves connected

PB107804-43



## Connectable devices

| With Ti24 interface | | |
|---|---|---|
| **Type** | **Reference** | **Description** |
| iACT24 | A9C15924 | Low-level control and indication auxiliary for iCT contactors |
| iATL24 | A9C15424 | Low-level control and indication auxiliary for iTL impulse relays |
| iOF+SD24 | A9A26897 | Low-level indication auxiliary for iC60, iID, ARA, RCA, iSW-NA |
| OF+SD24 | A9N26899 | Low-level indication auxiliary for C60, C120, DPN, RCCB/ID, C60H-DC |
| RCA | See page F-18 | Remote control with Ti24 interface |
| Reflex iC60 | See page G-3 | Reflex iC60 with Ti24 interface |

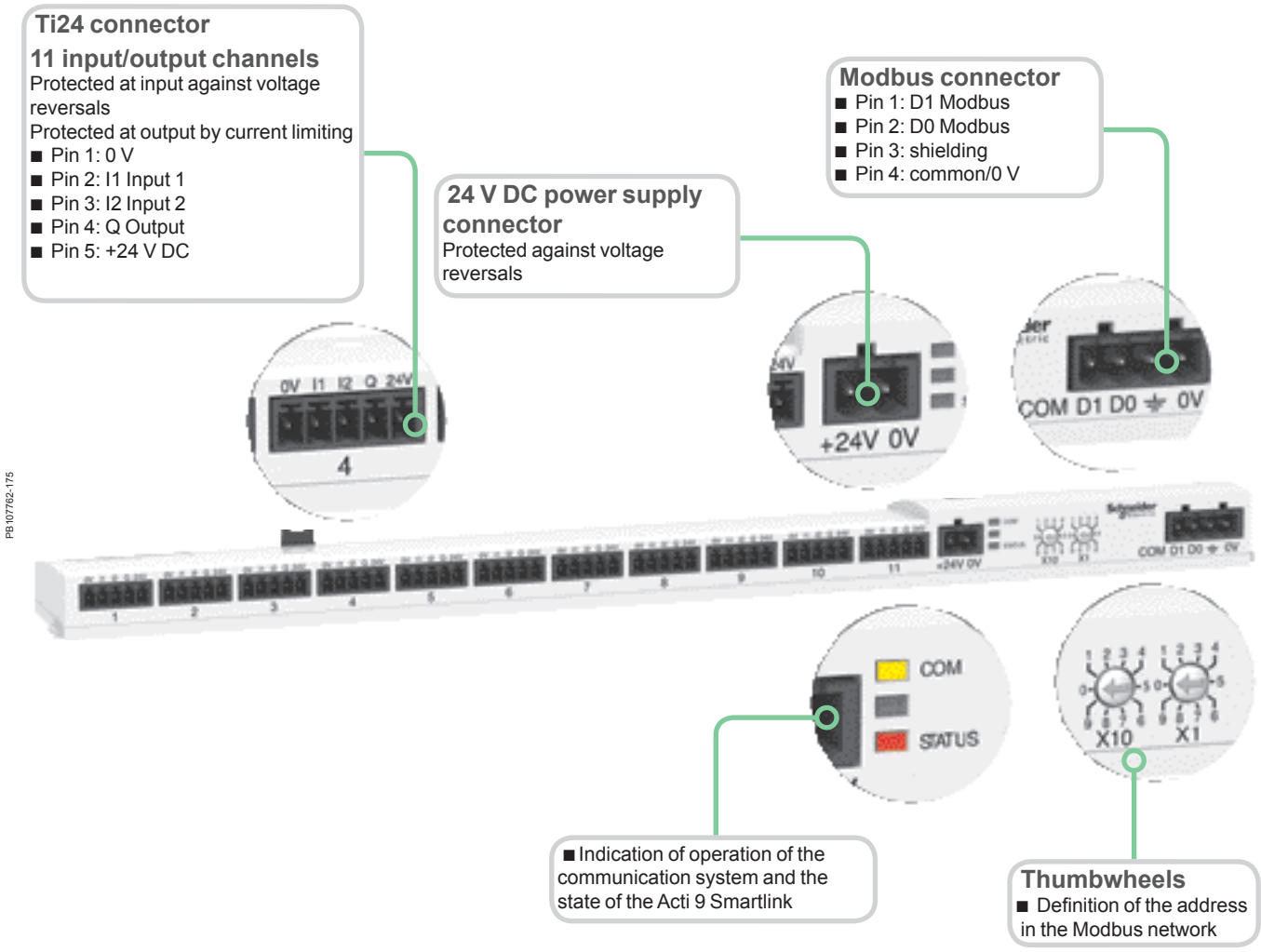
| Without Ti24 interface |
|---|
| Power meters with pulse output, e.g. IEM2000T |
| Meters complying with the IEC 62053-21 standard |
| 24 V DC indicator lamp, Harmony XVL range |
| All loads not exceeding 100 mA, 24 V DC |
| IC2000 light sensitive switches |
| Timers, thermostats, time switches, load shedding devices |
| All 24 V DC auxiliary contacts, IEC 61131-2 type 1 |

# Acti 9 Smartlink (cont.)



## Installation

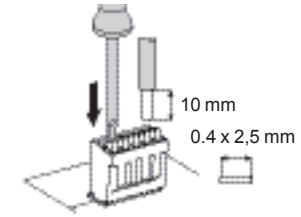
- Mounting in switchboards:
  - width 24 modules per row;
  - minimum spacing between rails 150 mm.



# Acti 9 Smartlink (cont.)

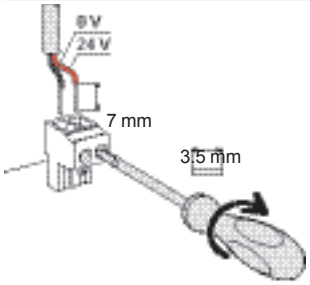
## Connection

DB123680

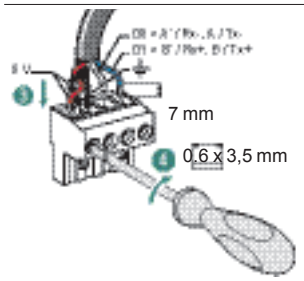



*Connector cat. no: A9XC2412*

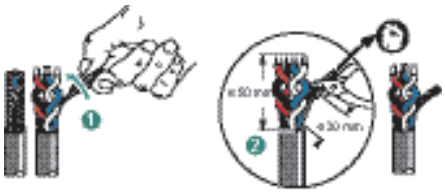
DB124331




DB405141




DB405142



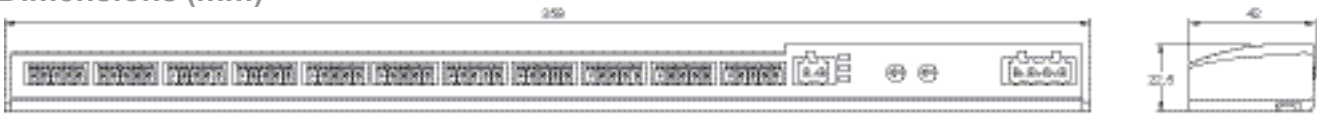
| Terminal | Tightening torque | Copper cables | | |
|---|---|---|---|---|
| | | Rigid | Flexible | Flexible with ferrule |
| | DB122945 | DB123553 | DB123554 | |
| **Ti24 interface** | Spring loaded terminal | 0.5 to 1.5 mm² | 0.5 to 1.5 mm² | - |
| **Power supply connector** | 0.8 N.m | 0.2 to 1.5 mm² | 0.2 to 1.5 mm² | 0.2 to 1.5 mm² |
| **Modbus connector** | 0.8 N.m | 0.25 mm² | 0.25 mm² | 0.25 mm² |

## Weight (g)

| Acti 9 Smartlink | |
|---|---|
| **Type** | |
| Acti 9 Smartlink | 195 |

## Dimensions (mm)

DB124330





Schneider Electric

## Technical characteristics

| | | | |
|---|---|---|---|
| **Characteristics of the Modbus link** | | | |
| Link | | | Modbus, RTU, RS485 serial connection |
| Transmission | | Transfer rate | 9600 baud ... 19200 baud, self-adaptable |
| | | Medium | Shielded cable, double twisted pair |
| Structure | | Type | Modbus.org |
| | | Method | Master/Slave |
| Type of device | | | Slave |
| Configuration | Modbus addressing range of the Acti 9 Smartlink | Maximum number of slaves for a Modbus master | 99 |
| | | Maximum length of the bus | 1000 m |
| Type of bus connector | | | 4-pin connector |
| **Power supply** | | | |
| Rated | | | 24 V DC ± 20 % |
| Maximum input current | | | 1.5 A |
| Maximum inrush current | | | 3 A |
| **Meter** | | | |
| Capacity | | | $2^{32}$ pulses per input |
| **Input characteristics** | | | |
| Type of input | | | Current collector **Type 1 IEC 61131-2** |
| Number of channels | | | 11 2-input channels |
| Maximum cable lengh | | | 20 m |
| Rated voltage | | | 24 V DC |
| Voltage limits | | | 24 V DC ± 20 % |
| Rated current | | | 2.5 mA |
| Maximum current | | | 5 mA |
| Filtering time | | In state 1 | 1 ms |
| | | In state 0 | 1 ms |
| Isolation | | | No isolation between ports |
| Negative sequence voltage protection | | | Yes |
| **Output characteristics** | | | |
| Number of output channels | | | 11 |
| Type of output | | | 24 V DC 0.1 A current source |
| Rated voltage | | Voltage | 24 V DC |
| | | Maximum current | 100 mA |
| Filtering time | | In state 1 | 1 ms |
| | | In state 0 | 1 ms |
| Voltage drop (voltage in state 1) | | | 1 V max |
| Maximum inrush current | | | 500 mA |
| Leakage current | | | 0.1 mA |
| Overvoltage protection | | | 33 V DC |
| **Environmental characteristics** | | | |
| Temperature | | Operating | -25°C ... +60°C if vertical mounting, limited to 50°C |
| | | Storage | -40°C…+80°C |
| Tropicalization | | | Treatment 2 (relative humidity of 93% at 40°C) |
| Resistance to voltage dips | | | 10 ms, class 3 as per IEC 61000-4-29 |
| Degree of protection | | | IP20 |
| Pollution degree | | | 3 |
| Altitude | | Operating | 0 … 2000 m |
| Vibration resistance | | As per IEC 60068.2.6 | 1 g / ± 3.5 mm - 5 Hz to 300 Hz - 10 cycles |
| Shock resistance | | As per IEC 60068.2.2 7 | 15 g / 11 ms |
| Immunity to electrostatic discharge | | As per IEC 61000-4-2 | Air: 8 kV<br>Contact: 4 kV |
| Immunity to radiated magnetic fields | | As per IEC 61000-4-3 | 10 V/m - 80 MHz to 3 GHz |
| Immunity to fast transients | | As per IEC 61000-4-4 | 1 kV for inputs/outputs and Modbus communication.<br>2 kV for 24 DC power supply - 5 kHz - 100 kHz |
| Immunity to conducted magnetic fields | | As per IEC 61000-4-6 | 10 V from 150 kHz to 80 MHz |
| Immunity to magnetic fields at mains frequency | | As per IEC 61000-4-8 | 30 A/m |
| Resistance to corrosive atmospheres | | As per IEC 60721-3-3 | Level 3C2 on $H_2S$ / $SO_2$ / $NO_2$ / $Cl_2$ |
| Fire resistance | | For live parts | At 960°C 30 s / 30 s as per IEC 60 695-2-10 and IEC 60 695-2-11 |
| | | For other parts | At 650°C 30 s / 30 s as per IEC 60 695-2-10 and IEC 60 695-2-11 |
| Salt spray test | | As per IEC 60068.2.52 | Severity 2 |
| Environment | | | In compliance with the RoHS directive |
| **Additional characteristics** | | | |
| Mean time between failure (MTBF) = MTTF at 70°C | | | 1,851,818 h |
| Duration of saving memory | | | 10 years |
| **Prefabricated cables characteristics** | | | |
| Dielectric resistance | | | 1 kV / 5 min |
| Minimum draw-out resistance | | | 20 N |

# Monitoring and control of protections

F

# Electrical auxiliaries for iC60, iID, iDPN Vigi, iSW-NA, RCA and ARA

- The electrical auxiliaries are combined with iC60 circuit breakers, iID residual current circuit breakers, remote tripping switch disconnector iSW-NA , RCA remote controls and ARA automatic reclosers; they enable tripping or remote indication of their position (open/closed/tripped) upon a fault.
- They are fastened by clips (without tools) to the left side of the breaker.
- The iOF/SD+OF auxiliary is a 2-in-1 product: via a mechanical selector switch, it provides two contacts, OF+SD or OF+OF.
- The iOF+SD24 auxiliary can report open/closed (OF) status information and intentional or fault tripping of the associated device (SD) to the Acti 9 Smartlink or a programmable logic controller via the TI24 interface (24 V DC).

## Tripping auxiliaries:

### IEC/EN 60947-1

- iMN: undervoltage release
- iMNs: delayed undervoltage release
- iMNx: undervoltage release, independant from supply voltage
- iMX: shunt release
- iMX+OF: shunt release with open/close contact.

### EN 50550

- iMSU: overvoltage release

## Indication auxiliaries:

### IEC/EN 60947-5-4

- iOF: open/close contact
- iSD: fault indicating contact
- iOF/SD+OF: open/close contact and switchable OF or SD contact.
- iOF+SD24: open/close contact OF and default indicating contact SD with Ti24 interface.

DB404939

# Electrical auxiliaries for iC60, iID, iDPN Vigi, iSW-NA, RCA and ARA (cont.)

## Combination table

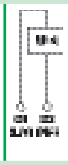
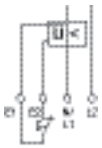
| Electrical auxiliaries | | | | | | Remote control | Devices | |
|---|---|---|---|---|---|---|---|---|
| Indication auxiliaries | | | | Tripping auxiliaries | | ARA automatic recloser or RCA remote control | iC60/iID/iDPN Vigi/iSW-NA* | Vigi |
| Position | | | | | | |  |  |
| Left | | Right | | Max quantity | | | iC60 | Vigi iC60 |
| 1 (iOF/SD+OF or iOF+SD24) | + | 1 iOF/SD+OF | + | 1 (iMN, iMNs, iMNx or iMX, iMX+OF) | | – | | |
| Or 1 iOF | + | 1 (iSD or iOF or iOF/SD+OF) | + | 2 (iMN, iMNs, iMNx or iMX, iMX+OF) | | | | |
| Or None | + | 1 iOF+SD24 | + | 2 (iMN, iMNs, iMNx or iMX, iMX+OF) | | | | |
| Or None | + | None | + | 3 x iMSU | | |  | – |
| | | | | | | | iID/iDPN Vigi/iSW-NA* | |
| None | + | 1 (iSD or iOF or iOF/SD+OF or iOF+SD24) | + | 1 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) | |  |  |  |
| Or 1 iOF | + | 1 (iSD or iOF or iOF/SD+OF) | + | None | | | iC60 | Vigi iC60 |
| | | | | | | |  | – |
| | | | | | | ARA | iID | |
| None | + | 1 (iSD or iOF or iOF/SD+OF or iOF+SD24) | + | 1 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) | |  |  |  |
| Or 1 iOF | + | 1 (iSD or iOF or iOF/SD+OF) | + | None | | | iC60 | Vigi iC60 |
| | | | | | | RCA | | |

*Other possible associations: see technical pages*

**Tripping devices must be mounted first. Comply with the position of the SD function.**
***iSW-NA : the iSD auxiliary contact must be associated with an auxiliary (iMN, iMX, iMX+OF); it indicates that the remote tripping switch disconnector has been tripped open.**

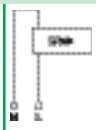
# Electrical auxiliaries for iC60, iID, iDPN Vigi, iSW-NA, RCA and ARA (cont.)

## Tripping

| Auxiliaries | iMN | | | iMNs | iMNx | |
|---|---|---|---|---|---|---|
| **Type** | **Undervoltage release** | | | | | |
| | Instantaneous | | | Delayed | Independent of the supply voltage | |
| | PB104477-35  | | | PB104478-35  | PB104480-35  | |
| **Function** | | | | | | |
| | ■ Trips the device with which it is combined when its input voltage decreases (between 70 % and 35 % Un). Prevents device closing again until its input voltage is restored | | | | ■ Tripping of the associated device by opening of the control circuit (e.g. push-button, dry contact) | |
| | | | | ■ Not tripping on transient voltage dip (up to 0.2 s) | ■ A drop in the supply voltage does not trip the associated device<br>■ A locking push-button control allows the circuit protected (e.g. machine control) to be placed in safety configuration | |
| **Wiring diagrams** | | | | | | |
| | DB118804  | | | | DB118805  | |
| **Use** | | | | | | |
| | ■ Emergency stoppage by normally closed push button<br>■ Ensures the safety of power supply circuits for several machines by preventing "uncontrolled" restarting | | | | ■ Emergency stoppage with fail-safe principle<br>■ Insensitive to control circuit voltage variation to increase service continuity<br>**Important: Before any servicing operation switch off the mains power supply (voltage presence at terminals E1/E2)** | |
| **Catalogue numbers** | **A9A26960** | **A9A26961** | **A9A26959** | **A9A26963** | **A9A26969** | **A9A26971** |
| iC60, iID, iDPN Vigi, iSW-NA, RCA et ARA | ■ | ■ | ■ | ■ | ■ | ■ |
| iC60, iID double terminals | ■ | ■ | ■ | ■ | ■ | ■ |
| **Technical specifications** | | | | | | |
| Rated voltage (Ue) V AC | 220…240 | 48 | 115 | 220…240 | 220…240 | 380…415 |
| Rated voltage (Ue) V DC | – | 48 | | – | – | |
| Standardised operating and non-response to voltage times (Ua)* | – | – | – | – | – | – |
| Maximum operating time | – | – | – | – | – | – |
| Minimum non-response time | – | – | – | – | – | – |
| Operating frequency Hz | 50/60 | | 400 | 50/60 | 50/60 | |
| Red mechanical indicator | On front face | | | On front face | On front face | |
| Test function | – | | | – | – | |
| Width in 9 mm modules | 2 | | | 2 | 2 | |
| Operating current | – | | | – | – | |
| Number of contacts | – | | | – | – | |
| Operating temperature °C | -35…+70 | | | -35…+70 | -35…+70 | |
| Storage temperature °C | -40…+85 | | | -40…+85 | -40…+85 | |

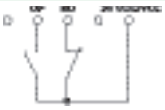
*(Ua)*
*Voltages measured between the phase and the neutral conductor, at which the iMSU device must control the associated protective device.*

# Electrical auxiliaries for iC60, iID, iDPN Vigi, iSW-NA, RCA and ARA (cont.)

| | iMSU | iMX | iMX+OF |
|---|---|---|---|
| | **Overvoltage release** | **Shunt release** | |
| | | | With Open/Close auxiliary contact |
| |  PB104479-35 |  PB104496-35 |  PB104481-35 |
| | ■ Switches off the power supply by opening the breaker with which it is combined, in the event that the phase/ neutral voltage is exceeded (loss of neutral). For a four-phase network, use three iMSU tripping auxiliaries | ■ Trips the breaker when powered | |
| | | | ■ Includes an open/close contact (OF) to indicate the "open" or "closed" position of the breaker |
| |  DB118806 |  DB123012 |  DB118808 |
| | ■ Protection of equipment against overvoltages on the electrical network (neutral conductor break)<br>■ Voltage monitoring between phase and neutral conductors | ■ Emergency stoppage by normally open push button | ■ Emergency stoppage by normally open push button<br>■ Remote indication of the position of the associated breaker |
| | **A9A26500** | **A9A26476** / **A9A26477** / **A9A26478** | **A9A26946** / **A9A26947** / **A9A26948** |
| | ■ | ■ / ■ / ■ | ■ / ■ / ■ |
| | ■ | ■ / ■ / ■ | ■ / ■ / ■ |
| | 230 | 100…415 / 48 / 12…24 | 100…415 / 48 / 12…24 |
| | – | 110…130 / 48 / 12…24 | 110…130 / 48 / 12…24 |
| | 255 V AC / 275 V AC / 300 V AC / 350 V AC / 400 V AC | – / – / – | – / – / – |
| | No tripping / 15 s / 5 s / 0.75 s / 0.20 s | – / – / – | – / – / – |
| | 3 s / 1 s / 0.25 s / 0.07 s | – / – / – | – / – / – |
| | 50/60 | 50/60 | 50/60 |
| | On front face | On front face | On front face |
| | – | – | – |
| | 2 | 2 | 2 |
| | – | – | ≤ 24 V DC 6 A<br>48 V DC 2 A<br>≤ 130 V DC 1 A<br>≤ 240 V AC 6 A<br>415 V AC 3 A |
| | – | – | 1 NO/NC |
| | -35…+70 | -35…+70 | -35…+70 |
| | -40…+85 | -40…+85 | -40…+85 |

# Electrical auxiliaries for iC60, iID, iDPN Vigi, iSW-NA, RCA and ARA (cont.)

## Indication

| Auxiliaries | iOF | iSD | iOF/SD+OF | iOF+SD24 |
|---|---|---|---|---|
| **Type** | **Open/close auxiliary contact** | **Fault indicating contact** | **Double open/close or fault indicating contact** | **Double open/close and fault indicating contact** |
| | PB104474-35  | PB104476-35  | PB104475-35  | PB107750-35   |
| **Function** | | | | |
| | ■ Changeover contact indicates "open" or "closed" position of the breaker | ■ Changeover contact indicates position of the breaker; upon:<br>□ electrical fault<br>□ action on tripping auxiliary<br>■ Same indication as VISI-TRIP | ■ The iOF/SD+OF auxiliary is a 2-in-1 product: via a mechanical selector switch, it provides two contacts, OF+SD or OF+OF | ■ Double changeover contact which can report the signalling information of the associated device to the Acti 9 Smartlink or a programmable logic controller:<br>□ electrical fault<br>□ actuation of the tripping auxiliary<br>□ "Open" or "Closed" position of the associated device |
| **Wiring diagrams** | | | | |
| | DB118810  | DB118811  | DB118812  OF position<br>DB118813  SD position | DB124318  |
| **Use** | | | | |
| | ■ Remote indication of the position of the associated breaker | ■ Remote indication of tripping upon a fault of the associated breaker | ■ Remote indication of position and/or tripping upon a fault of the associated breaker | ■ Remote indication of position and tripping upon a fault of the associated breaker |

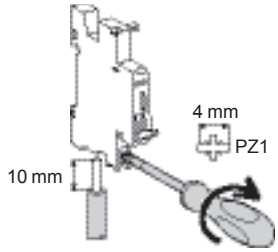
| **Catalogue numbers** | **A9A26924** | **A9A26869** | **A9A26927** | **A9A26855** | **A9A26929** | **A9A26897** |
|---|---|---|---|---|---|---|
| iC60, iID, iDPN Vigi, iSW-NA, RCA et ARA | ■ | – | ■ | – | ■ | ■ |
| iC60, iID double terminals | – | ■ | – | ■ | ■ | ■ |

| **Technical specifications** | | | | | | |
|---|---|---|---|---|---|---|
| Rated voltage (Ue) | V AC | 240…415 | | 240…415 | 240…415 | - |
| | V DC | 24…130 | | 24…130 | 24…130 | 24 |
| Operating frequency | Hz | 50/60 | | 50/60 | 50/60 | - |
| Red mechanical indicator | | – | | On front face | On front face | On front face |
| Test function | | On toggle | | On toggle | On toggle | On toggle |
| Width in 9 mm modules | | 1 | | 1 | 1 | 1 |
| Operating current | | 24 V DC | 6 A | | | 2 mA mini, 50 mA maxi |
| | | 48 V DC | 2 A | | | - |
| | | 60 V DC | 1.5 A | | | - |
| | | 130 V DC | 1 A | | | - |
| | | 240 V AC | 6 A | | | - |
| | | 415 V AC | 3 A | | | - |
| Number of contacts | | 1 NO/NC | | 1 NO/NC | 1 NO/NC + 1 NO/NC | 1 NO/NC |
| Operating temperature | °C | -35…+70 | | -35…+70 | -35…+70 | -25…+70 |
| Storage temperature | °C | -40…+85 | | -40…+85 | -40…+85 | -40…+85 |

# Electrical auxiliaries for iC60, iID, iDPN Vigi, iSW-NA, RCA and ARA (cont.)

## Connection

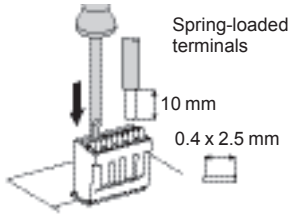
DB123061




| Type | Tightening torque | Copper cables | | Multi-cables terminal | |
|---|---|---|---|---|---|
| | | Rigid | Flexible | Rigid cables | Cables with ferrule |
| | DB122945 | DB123007 | DB123011 | DB123008 | |
| Indication auxiliaries | 1 N.m | 1 to 4 mm² | 0.5 to 2.5 mm² | 2 x 2.5 mm² | 2 x 1.5 mm² |
| Tripping auxiliaries | 1 N.m | 1 to 6 mm² | 0.5 to 4 mm² | 2 x 2.5 mm² | 2 x 2.5 mm² |

## Ti24 connector connection

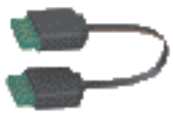
DB123580




| Type | Catalogue numbers | Copper cables | |
|---|---|---|---|
| | | Rigid | Flexible |
| | DB122945 | DB123553 | |
| Ti24 interface | **A9XC2412** | 2 x 1.5 mm² | 2 x 1.5 mm² |

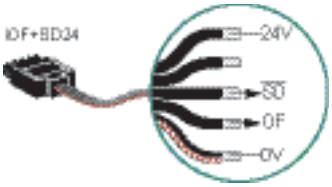
## Ti24 prefabricated cables connection

PB107754-10



PB107755-14

DB404941




| Type | Catalogue numbers | Length |
|---|---|---|
| **Connection for Acti 9 Smartlink** | | |
| 6 short prefabricated | **A9XCAS06** | 100 mm |
| 6 medium-sized prefabricated | **A9XCAM06** | 160 mm |
| 6 long prefabricated | **A9XCAL06** | 870 mm |
| **Connection for PLC type terminals** | | |
| 6 long prefabricated on a single side | **A9XCAU06** | 870 mm |

F

# Electrical auxiliaries for iC60, iID, iDPN Vigi, iSW-NA, RCA and ARA (cont.)

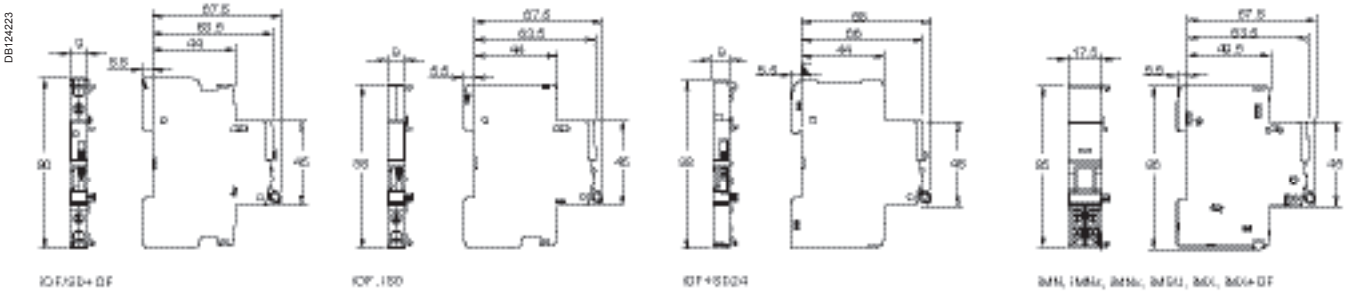
## Technical data

### Weight (g)

| Electrical auxiliaries | |
|---|---|
| **Type** | |
| iMN | 69 |
| iMNs | 72 |
| iMNx | 79 |
| iMSU | 68 |
| iMX | 64 |
| iMX+OF | 68 |
| iOF | 32 |
| iSD | 33 |
| iOF/SD+OF | 43 |
| iOF+SD24 | 25 |

### Dimensions (mm)

DB124223



# Electrical auxiliaries for C120, ID, C60H-DC devices

- The electrical auxiliaries provide the remote tripping or position (open/closed/tripped) indication functions of these devices in the event of a fault.
- They clip on (no tool required) to the left-hand side of the associated device.
- The OF+SD/OF auxiliary is a two-in-one product: a mechanical selector switch is used to select one of two contacts: OF+SD or OF+OF.
- The OF+SD24 auxiliary can report open/closed (OF) status information and intentional or fault tripping of the associated device (SD) to the Acti 9 Smartlink or a programmable logic controller via the TI24 interface (24 V DC).

⚠
- The electrical auxiliaries are not compatible with ID residual current circuit breakers of type B.

## Tripping auxiliaries:

### IEC/EN 60947-1

- MN: undervoltage release
- MNs: delayed undervoltage release
- MNx: undervoltage release, independent of the supply voltage
- MX: shunt release
- MX+OF: shunt release with open/closed contact.

### EN 50550

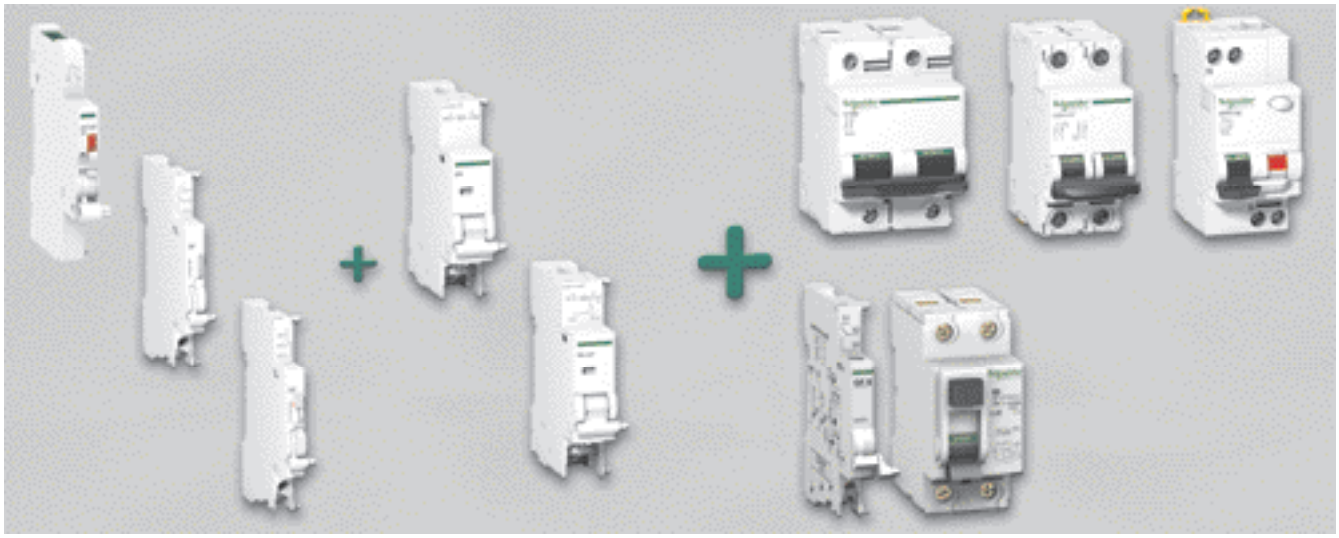
- MSU: overvoltage release

## Indication auxiliaries:

### IEC/EN 60947-5-4

- OF.S: open/closed contact for ID
- OF: open/closed contact
- SD: fault indicating contact
- OF+SD/OF: choice of open/closed contact and OF or SD contact via the selector switch
- OF/SD+OF: open/close contact and switchable OF or SD contact.
- OF+SD24: pen/close contact OF and cfault indicating contact SD with Ti24 interface.

DB124453



F

## Combination table

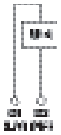
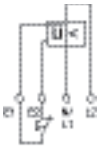
| Electrical auxiliaries | | | | | | Devices |
|---|---|---|---|---|---|---|
| Indication auxiliaries | | | | Tripping auxiliaries | | |
| Left | | Right | | | | |
| 1 max. | OF/SD+OF, OF+SD24 + | 1 max. | OF/SD+OF + | 1 max. | MN, MNx, MNs, MX, MX+OF, MSU(1) |  C60H-DC, SW60-DC, C60PV-DC, C60NA-DC DPN, DPN Vigi, C120 |
| | | | **Or** | | | |
| 1 max. | OF + | 1 max. | OF/SD+OF, SD, iOF + | 2 max. | MN, MNx, MNs, MX, MX+OF, MSU(1) | |
| | | | **Or** | | | |
| – | None | 1 max. | OF+SD24 | 2 max. | MN, MNx, MNs, MX, MX+OF, MSU(1) | |
| | | | **Or** | | | |
| – | None | – | None | 3 max. | MSU | DPN, DPN Vigi,C120 |
| – | None | 1 max. | OF/SD+OF, OF, OF+SD24 + | 2 max. | MN, MNx, MNs, MX, MX+OF, MSU |  OF.S +  ID |
| | | | **Or** | | | |
| 1 max. | OF + | 1 max. | OF + | 1 max. | MN, MNx, MNs, MX, MX+OF, MSU | |

**Tripping devices must be installed first.**
**If two tripping devices are used: the MN undervoltage release must be installed first**
**Indication auxiliaries: install the SD auxiliary first**

*(1) MSU is not used in direct current*

# Electrical auxiliaries for C120, ID, C60H-DC devices (cont.)

## Tripping

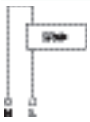
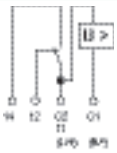
| Auxiliaries | MN | MNs | MNx |
|---|---|---|---|
| **Type** | **Undervoltage release** | | |
| | Instantaneous | Delayed | Independent of the supply voltage |
| | PB107151-30  | PB107152-30  | PB107149-30  |
| **Function** | | | |
| | ■ Causes the device with which it is associated to trip when its input voltage decreases (between 70 % and 35 % of Un). Prevents the device from closing until its input voltage has been restored | | ■ Tripping of the associated device by opening of the control circuit (e.g. push-button, dry contact) |
| | | ■ No tripping in the event of transient voltage dips (up to 0.2 s) | ■ A drop in the supply voltage does not trip the associated device<br>■ A locking push-button control allows the circuit protected (e.g. machine control) to be placed in safety configuration |
| **Wiring diagrams** | | | |
| | DB118804  | | DB118805  |
| **Utilization** | | | |
| | ■ Emergency stop via a normally-closed pushbutton<br>■ Ensures the safety of the power supply circuits of several machines by preventing accidental startups | | ■ Fail-safe emergency stop<br>■ Insensitive to the variation in the control circui voltage to improve continuity of service<br>**Important: Before any servicing operation switch off the mains power supply (voltage presence at terminals E1/E2)** |

| Catalogue numbers | A9N26960 | A9N26961 | A9N26959 | A9N26963 | A9N26969 | A9N26971 |
|---|---|---|---|---|---|---|
| C120, DPN, DPN Vigi, ID | ■ | ■ | ■ | ■ | ■ | ■ |
| C60H-DC, SW60-DC, C60PV-DC, C60NA-DC | ■ | ■ | ■ | ■ | ■ | ■ |

| Technical specifications | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rated voltage (Ue) | V AC | 220…240 | 48 | 115 | 220…240 | 230 | 400 |
| | V DC | – | 48 | – | – | – | |
| Standardised operating and non-response to voltage times (Ua)* | | – | – | – | – | – | – |
| Maximum operating time | | – | – | – | – | – | – |
| Minimum non-response time | | – | – | – | – | – | – |
| Operating frequency | Hz | 50/60 | | 400 | 50/60 | 50/60 | |
| Mechanical state indicator light, red | | On front face | | | On front face | On front face | |
| Test function | | – | | | – | – | |
| Width in 9 mm modules | | 2 | | | 2 | 2 | |
| Operating current | | – | | | – | – | |
| Number of contacts | | – | | | – | – | |
| Operating temperature | °C | -25…+50 | | | -25…+50 | -25…+50 | |
| Storage temperature | °C | -40…+85 | | | -40…+85 | -40…+85 | |
| **Standards** | | | | | | | |
| IEC/EN 60947-1 | | ■ | | | ■ | ■ | |
| IEC/EN 60947-5-1 | | – | | | – | – | |
| EN 60947-2 | | ■ | | | ■ | – | |
| EN 62019-2(1) | | – | | | – | – | |

*(1) For C120, DPN.*
**(Ua)*
*Voltages measured between the phase and the neutral conductor, at which the MSU device must control the associated protective device.*

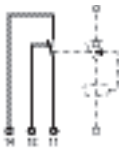
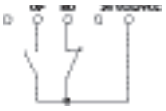
# Electrical auxiliaries for C120, ID, C60H-DC devices (cont.)

| MSU | MX | MX+OF |
|---|---|---|
| **Voltage threshold release** | **Shunt release** | |
| | | With Open/Close auxiliary contact |
|  PB107150-30 |  |  PB107148-30 |
| ■ Cuts off the power supply by opening the device with which it is associated when the phase/neutral voltage is exceeded (loss of neutral). For a four-phase network, use three MSU tripping auxiliaries | ■ Trips the associated device when it is powered on | |
| | | ■ Includes an open/close contact (OF) to indicate the "open" or "closed" position of the breaker |
|  DB123012 |  |  DB118808 |
| ■ Protection of the devices against overvoltages on the electrical network (break in the neutral conductor)<br>■ Monitoring the voltage between the phase conductor and the neutral conductor | ■ Emergency stop via a normally-open pushbutton. | ■ Emergency stop via a normally-open pushbutton<br>■ Remote indication of the position of the associated device |

| A9N26500 | | | | | A9N26476 | A9N26477 | A9N26478 | A9N26946 | A9N26947 | A9N26948 |
|---|---|---|---|---|---|---|---|---|---|---|
| ■ | | | | | ■ | ■ | ■ | ■ | ■ | ■ |
| – | | | | | ■ | ■ | ■ | ■ | ■ | ■ |
| | | | | | | | | | | |
| 230 | | | | | 100…415 | 48 | 12…24 | 100…415 | 48 | 12…24 |
| – | | | | | 110…130 | 48 | 12…24 | 110…130 | 48 | 12…24 |
| 255 V AC | 275 V AC | 300 V AC | 350 V AC | 400 V AC | – | – | – | – | – | – |
| No tripping | 15 s | 5 s | 0.75 s | 0.20 s | – | – | – | – | – | – |
| | 3 s | 1 s | 0.25 s | 0.07 s | – | – | – | – | – | – |
| 50/60 | | | | | 50/60 | | | 50/60 | | |
| On front face | | | | | On front face | | | On front face | | |
| – | | | | | – | | | – | | |
| 2 | | | | | 2 | | | 2 | | |
| – | | | | | – | | | 3 A / 415 V AC<br>6 A / ≤ 240 V AC | | |
| – | | | | | – | | | 1 NO/NC | | |
| -25…+50 | | | | | -25…+50 | | | -25…+50 | | |
| -40…+85 | | | | | -40…+85 | | | -40…+85 | | |
| | | | | | | | | | | |
| ■ | | | | | ■ | | | ■ | | |
| – | | | | | – | | | – | | |
| – | | | | | – | | | – | | |
| – | | | | | – | | | – | | |

# Electrical auxiliaries for C120, ID, C60H-DC devices (cont.)

## Indication

| Auxiliaries | OF.S | OF | SD | OF+SD/OF | OF+SD24 |
|---|---|---|---|---|---|
| **Type** | **Open/closed auxiliary contact** | **Open/closed auxiliary contact** | **Fault indicating contact** | **Double open/closed or fault indicating contact** | **Double open/close and fault indicating contact** |
| | PB100628_SE-28-b  PB107145-30 | PB107146-30  | PB100625_SE-28-b  | PB107760-35  |   |
| **Function** | | | | | |
| | ■ Changeover contact indicating the "open" or "closed" position of the associated device<br>⚠ **Compulsory for the addition of tripping or indication auxiliaries on a residual current circuit breaker ID** | ■ Changeover contact indicating the "open" or "closed" position of the associated device | ■ Changeover contact indicating the position of the associated device in the event of:<br>□ electrical fault<br>□ action on the tripping auxiliary<br>⚠ **Not compatible with a ID residual current circuit breaker, use an OF+SD/OF in the SD position** | ■ The OF+SD/OF auxiliary is a two-in-one product: choice of OF + SD or OF + OF contact via the selector switch | ■ Double changeover contact which can report the signalling information of the associated device to the Acti 9 Smartlink or a programmable logic controller:<br>□ electrical fault<br>□ actuation of the tripping auxiliary<br>□ "Open" or "Closed" position of the associated device |
| **Wiring diagrams** | | | | | |
| | DB118809  DB118810  | DB118811  | DB118812  DB118813  | OF position SD position | DB124318  |
| **Utilization** | | | | | |
| | ■ Remote indication of the position of the associated device | ■ Remote indication of the position of the associated device | ■ Remote fault tripping indication of the associated device | ■ Remote position and/or fault tripping indication of the associated device | ■ Remote indication of position and tripping upon a fault of the associated breaker |
| **Catalogue numbers** | **A9N26923** | **A9N26924** | **A9N26927** | **A9N26929** | **A9N26899** |
| ID | ■ | ■ | ■ | ■ | ■ |
| C120, DPN, DPN Vigi, C60H-DC, C60H-DC, SW60-DC, C60PV-DC, C60NA-DC | – | ■ | ■ | ■ | ■ |

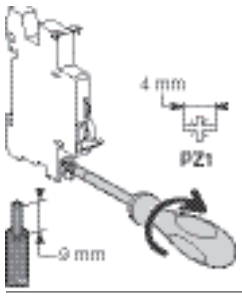
| **Technical specifications** | | | | | | |
|---|---|---|---|---|---|---|
| Rated voltage (Ue) | V AC | 24…415 | 24…415 | 24…415 | 24…415 | – |
| | V DC | 24…130 | 24…130 | 24…130 | 24…130 | 24 |
| Operating frequency | Hz | 50/60 | 50/60 | 50/60 | 50/60 | – |
| Mechanical state indicator | | – | – | On front face | On front face | On front face |
| Test function | | – | On front face | On front face | On front face | On toggle |
| Width in 9 mm modules | | 1 | 1 | 1 | 1 | 1 |
| Operating current | | 3 A /415 V AC<br>6 A / ⩽ 240 V AC | | | | 2 mA mini, 50 mA maxi |
| Number of contacts | | 1 NO/NC | 1 NO/NC | 1 NO/NC | 1 NO/NC + 1 NO/NC | 1 NO + 1 NC |
| Operating temperature | °C | -25…+50 | -25…+50 | -25…+50 | -25…+50 | -25…+70 |
| Storage temperature | °C | -40…+85 | -40…+85 | -40…+85 | -40…+85 | -40…+85 |
| **Standards** | | | | | | |
| IEC/EN 60947-1 | | – | – | – | – | – |
| IEC/EN 60947-5-1 | | ■ | ■ | ■ | ■ | ■ IEC 60947-5-4 |
| EN 60947-2 | | – | – | – | – | – |
| EN 62019-2(1) | | ■ | ■ | ■ | ■ | – |

*(1) For C120, DPN.*

# Electrical auxiliaries for C120, ID, C60H-DC devices (cont.)

## Connection

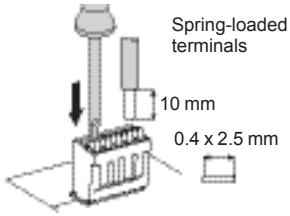
DB12614475




| Type | Tightening torque | Copper cables | |
|---|---|---|---|
| | | Rigid | Flexible or with ferrule |
| | DB122945 | DB122946 | |
| Indication and tripping auxiliaries | 1 N.m | 0.5 to 2.5 mm² | 2 x 1.5 mm² |

## Ti24 connector connection

DB123580

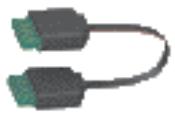



| Type | Catalogue numbers | Copper cables | |
|---|---|---|---|
| | | Rigid | Flexible |
| | DB122945 | DB123553 | |
| Ti24 interface | **A9XC2412** | 1 x 0.5 to 1.5 mm² | 1 x 0.5 to 1.5 mm² |

## Ti24 prefabricated cables connection

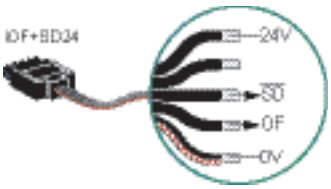
| Type | Catalogue numbers | Length |
|---|---|---|
| **Connection for Acti 9 Smartlink** | | |
| 6 short prefabricated | **A9XCAS06** | 100 mm |
| 6 medium-sized prefabricated | **A9XCAM06** | 160 mm |
| 6 long prefabricated | **A9XCAL06** | 870 mm |
| **Connection for PLC type terminals** | | |
| 6 long prefabricated on a single side | **A9XCAU06** | 870 mm |

PB107754-10



PB107755-14

DB404941




F

# Electrical auxiliaries for NG125 devices

■ The electrical auxiliaries are combined with NG125 circuit breakers and NG125 switch-disconnectors; they provide the remote tripping or position (open/closed/tripped) indication functions of these devices in the event of a fault.
■ They clip on (no tool required) to the left-hand side of the associated device.

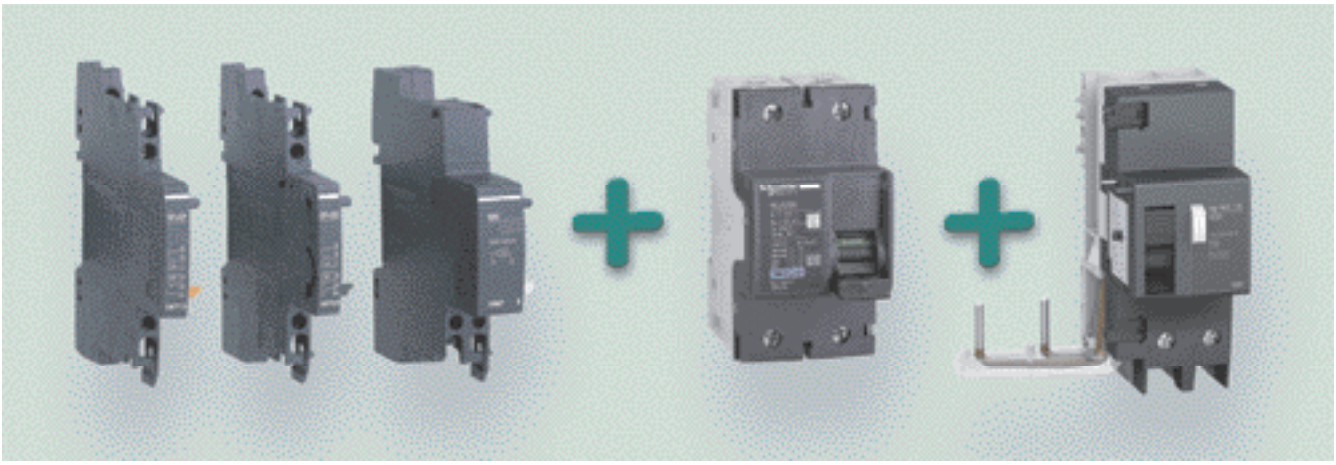
## IEC/EN 60947-2

■ Tripping auxiliaries:
□ MN: undervoltage release
□ MNx: undervoltage release, independent of the supply voltage
□ **MX**+OF: shunt release with open/closed contact
□ MXV: shunt release for Vigi add-on residual current device.

## IEC/EN 60947-5-1

■ Indication contacts:
□ OF+OF: open/closed contact
□ OF+SD: fault indicating contact
□ MX+**OF**: shunt release with open/closed contact
□ SDV: fault indicating contact for Vigi add-on residual current device.

DB123424

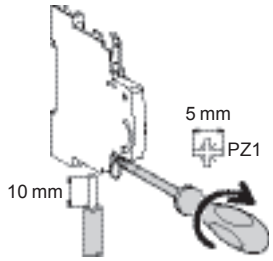


## Combination table

| Electrical auxiliaries | | | Device |
|---|---|---|---|
| Indication auxiliaries | | Tripping auxiliaries | |
| | | Max. quantity | |
| 2 (OF+OF or OF+SD) | + | + 1 (MX+OF or MN or MNx) |  NG125 |

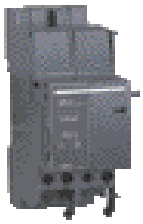
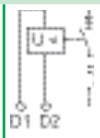
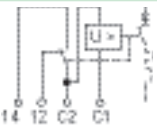
## Connection

DB123413




| Type | Tightening torque | Copper cables | | Multi-cable terminal | |
|---|---|---|---|---|---|
| | | Rigid | Flexible or with ferrule | Flexible or rigid cables | Cables with ferrule |
| | DB122945 | DB123411 | DB123011 | DB123412 | |
| Indication contacts | 1 N.m | 0.5 to 2.5 mm² | 0.5 to 1.5 mm² | 2 x 2.5 mm² | 2 x 1.5 mm² |
| Tripping auxiliaries | 1 N.m | 0.5 to 2.5 mm² | 0.5 to 1.5 mm² | 2 x 2.5 mm² | 2 x 1.5 mm² |

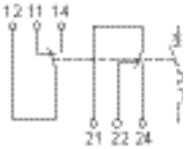
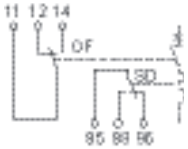
# Electrical auxiliaries for NG125 devices and for Vigi NG125 add-on residual current devices (cont.)

| | Tripping | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Auxiliaries** | **MN** | | | **MNx** | **MX+OF** | | | |
| **Type** | **Undervoltage release** | | | | **Shunt release** | | | |
| | Instantaneous | | | Independent of the supply voltage | With open/closed auxiliary contact | | | |
| | 056367_SE-28  | | | 057084N_SE-28  | 056368_SE-35  | | | |
| **Function** | | | | | | | | |
| | ■ Causes tripping of the device with which it is combined when its input voltage decreases (between 70% and 35% of Un). Prevents closing of the device until its input voltage has been restored | | | ■ Tripping of the associated device by opening of the control circuit (e.g. push-button, dry contact) | ■ Causes tripping of the associated device when powered | | | |
| | | | | ■ A drop in the supply voltage does not trip the associated device<br>■ A locking push-button control allows the circuit protected (e.g. machine control) to be placed in safety configuration | ■ Includes an open/closed contact (OF) to indicate the "open" or "closed" position of the associated device | | | |
| **Wiring diagrams** | | | | | | | | |
| | DB123415  | | | DB123416  | DB123417  | | | |
| **Utilization** | | | | | | | | |
| | ■ Emergency stop by normally-closed pushbutton<br>■ Ensures safety of the power supply circuits for several machines by preventing untimely restarting | | | ■ Fail-safe emergency stop<br>■ Insensitive to variations in the control circuit voltage for improved continuity of service<br>**Important: Before any servicing operation switch off the mains power supply (voltage presence at terminals E1/E2)** | ■ Provided with a self-interrupting contact | | | |
| **Catalogue numbers** | **19067** | **19069** | **19070** | **19061** | **19064** | **19065** | **19066** | **19063** |
| **Technical specifications** | | | | | | | | |
| Rated voltage (Ue) V AC | 230…240 | 48 | – | 220…240 | 230…415 | 48…130 | 24 | 12 |
| V DC | – | – | 48 | – | 110…130 | 48 | 24 | 12 |
| Operating frequency Hz | 50/60 | | | 50/60 | 50/60 | | | |
| Mechanical state indicator light, red | On front face | | | On front face | On front face | | | |
| Width in 9 mm modules | 2 | | | 4 | 2 | | | |
| Current rating | – | | | – | ≥ 240 V AC | 3 A | | |
| | | | | | < 240 V AC | 6 A | | |
| | | | | | 130 V CC | 1 A | | |
| | | | | | ≤ 48 V CC | 2 A | | |
| | | | | | ≤ 24 V CC | 6 A | | |
| Number of contacts | – | | | – | – | | | |
| Operating temperature °C | -25…+60 | | | -25…+60 | -25…+60 | | | |
| Storage temperature °C | -40…+85 | | | -40…+85 | -40…+85 | | | |

F

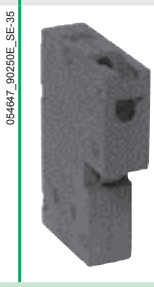
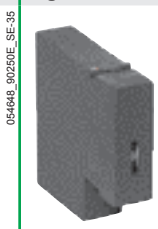
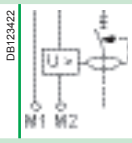
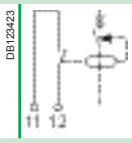
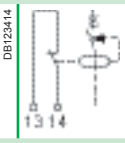
# Electrical auxiliaries for NG125 devices and for Vigi NG125 add-on residual current devices (cont.)

## Signalisation

| OF+OF | OF+SD |
|---|---|
| **Auxiliary contact** | **Fault indicating contact** |
|  056368_SE-28 |  |
| ■ Double changeover contact indicating "open" or "closed" position of the associated device | ■ Double changeover contact indicating:<br>□ the position of the associated device in the event of:<br>- electrical fault<br>- actuation of the tripping auxiliary<br>□ the "open" or "closed" position of the associated device |
|   DB123419 |   |
| ■ Remote indication of the position of the associated device | ■ Remote indication of tripping upon a fault of the associated device |
| **19071** | **19072** |
| 220…240 | 220…240 |
| – | – |
| 50/60 | 50/60 |
| – | – |
| 1 | 1 |
| 240 V AC 6 A<br>415 V AC 3 A | 240 V AC 6 A<br>415 V AC 3 A |
| 2 NO/NC | 2 NO/NC |
| -25…+60 | -25…+60 |
| -40…+85 | -40…+85 |

# Electrical auxiliaries for NG125 devices and for Vigi NG125 add-on residual current devices (cont.)

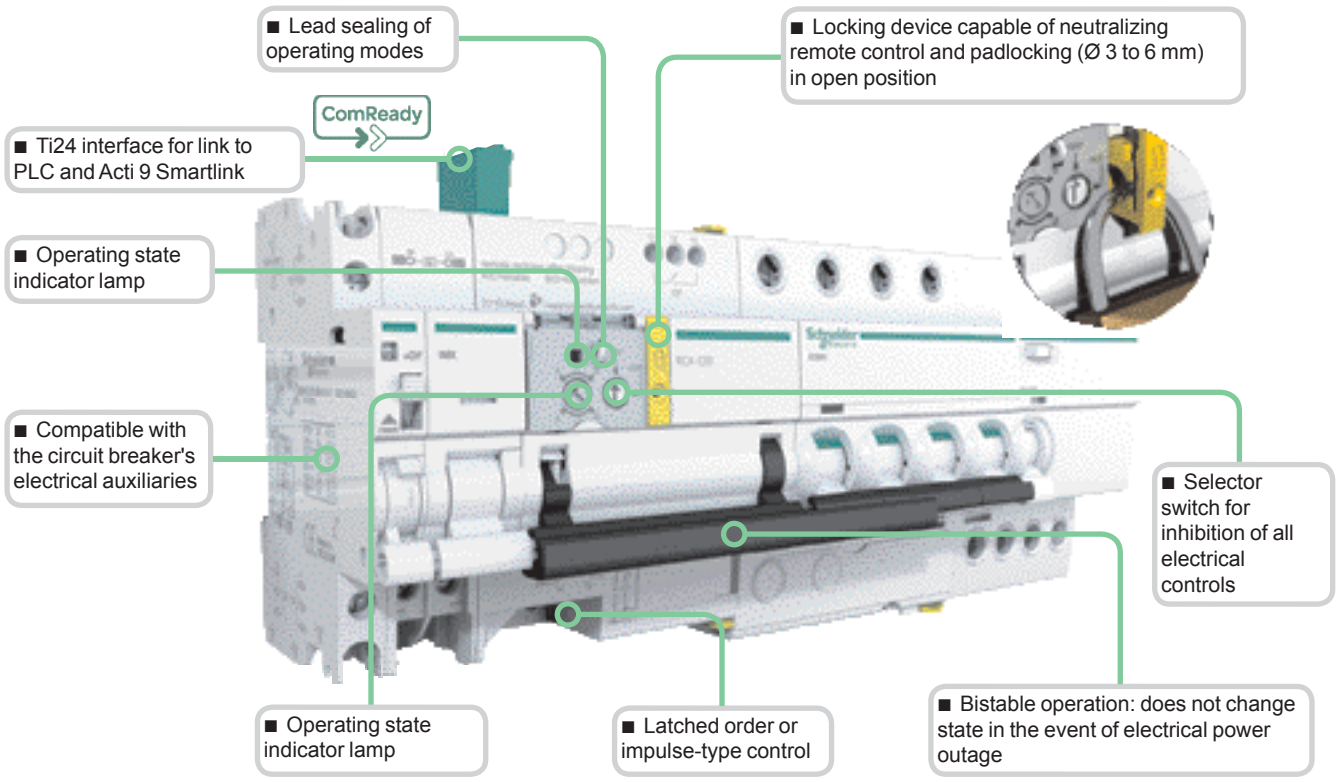
## Indication

| Auxiliaries | MXV | SDV | |
|---|---|---|---|
| **Type** | **Shunt release** | **Vigi fault indicating contact** | |
| |  |  | |
| **Function** | | | |
| | ■ At power up, actuates tripping of a circuit breaker or residual current circuit breaker<br>■ It is provided with a self-interrupting contact | ■ Normally-closed or normally-open contact indicating tripping upon an earth fault (including tripped by MXV) | |
| **Wiring diagrams** | | | |
| |  |  |  |
| **Utilization** | | | |
| | ■ Adaptable to 125 A Vigi add-on residual current device, all types, and to 63 A Vigi add-on residual current device, adjustable | | |
| | ■ Impulse withstand voltage: 6 kV<br>■ High-impedance input: use an iACTp if the leakage current in the control unit exceeds 1 mA (e.g. illuminated pushbutton) | | |
| **Catalogue numbers** | **19060** | **19058** | **19059** |
| **Suitable for the following devices:** | | | |
| **NG125** | – | – | |
| **Vigi NG125** | ■ | ■ | |

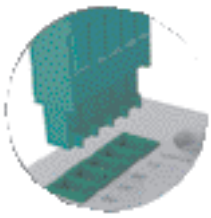
| Technical specifications | | | | |
|---|---|---|---|---|
| Rated voltage (Ue) | V AC | 110…240 | 250 | |
| | V DC | 110 | – | |
| Operating frequency | Hz | 50/60 | 50/60 | |
| Number of contacts | | – | 1 NO | 1 NC |
| Current rating | | – | 0.1 to 1 A (AC14) | |
| Operating temperature | °C | -25…+60 | -25…+60 | |
| Storage temperature | °C | -40…+85 | -40…+85 | |

# RCA remote controls
## For iC60 circuit breakers

DB123576



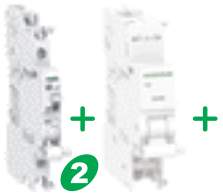

DB123763



DB123578

DB123579

| Legend | |
|---|---|
| **Type** | **Application** |
| **+24VDC** | V DC power supply |
| **Y3** | Latched order centralized control |
| **SD** | Circuit-breaker tripping information |
| **OF** | Control circuit state information (open/closed) |
| **0 V** | V DC power supply |
| **Y1** | Latched order local control |
| **Y2** | Impulse-type or latched order local control (depending on mode) |
| **N** | 230 V AC, 50 Hz power supply |
| **P** | |
| **OF** 11 12 14 | Circuit-breaker state indication contact (open/closed) |

| Indication auxiliaries | | Tripping auxiliaries | RCA remote control | iC60 circuit breaker | Vigi iC60 add-on RCD |
|---|---|---|---|---|---|
| PB104474-25  | PB104475-25  | PB104496-25  | | | |
| No | 1 (iSD or iOF or iOF/SD+OF or iOF+SD24) | 1 (iMX or iMN) max. | PB106253-25  *RCA* | PB104437-25  *iC60* | PB104437-25  *Vigi iC60* |
| 1 iOF | 1 (iSD or iOF or iOF/SD+OF) | No | | | |

# RCA remote controls (cont.)
## For iC60 circuit breakers

PB106253-40


PB106251-40

The RCA remote control system allows:
- Remote electrical control (opening and closing) of circuit breakers with or without Vigi add-on RCD, with or without auxiliary.
- Circuit-breaker resetting after tripping, in accordance with safety principles and the regulations in force.
- Local control by operating handle.
- Circuit placing in safety configuration by padlocking.

2 choices of operation after tripping:
- A: Enabling of remote circuit-breaker resetting;
- B: Inhibition of remote resetting.

The version with Ti24 interface allows:
- Direct interfacing of remote control with a programmable logic controller (PLC), a supervision system and any other communication device, having inputs/outputs in 24 V DC (control, OF and SD indications).
- Fast, reliable connection of the remote control to the Acti 9 Smartlink thanks to the prefabricated cables.
- Remote indication by "OF" potential-free contact.
- Provision of 2 operating modes, "1 and 3".

The iMDU auxiliary allows RCA control in 24/48 V AC/DC.

F

## Catalogue numbers

| RCA remote control | | | |
|---|---|---|---|
| **Type** | | | **Width in 9 mm modules** |
| **For circuit breakers 1P, 1P+N, 2P** | **Voltage** | | |
| Without Ti24 interface | 230 V AC, 50 Hz | **A9C70112** | 7 |
| With Ti24 interface | 230 V AC, 50 Hz | **A9C70122** | 7 |
| **For 3P, 4P circuit breakers** | | | |
| Without Ti24 interface | 230 V AC, 50 Hz | **A9C70114** | 7 |
| With Ti24 interface | 230 V AC, 50 Hz | **A9C70124** | 7 |
| **Auxiliaries** | | **See page E-10 and F-2** | |

DB123813

*Without Ti24 interface*

DB123572


DB123573

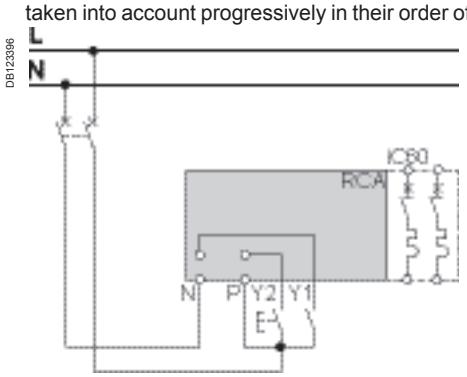
*With Ti24 interface*

| Legend | | |
|---|---|---|
| **Type** | | **Application** |
| **OFF** | | All remote control inhibited |
| **auto** | **A** | Circuit breaker remote reclosing after tripping allowed |
| | **B** | Circuit breaker remote reclosing after tripping inhibited |
| **Green indicator lamp** | | Remote control possible |
| **Orange indicator lamp** | | Remote control impossible |
| **1 (Ti24)** | | Mode 1 |
| **3 (Ti24)** | | Mode 3 |
| **Y1** | | Latched order local control |
| **Y2** | | Impulse-type or latched order local control (depending on mode) |
| **Y3** | | Latched order centralized control |

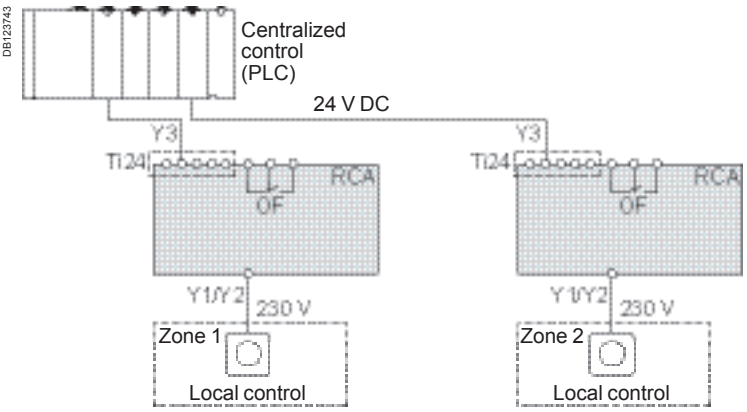
# RCA remote controls (cont.)
## For iC60 circuit breakers

**Standard RCA**

■ The orders received on terminals Y1 and Y2 are taken into account progressively in their order of arrival.



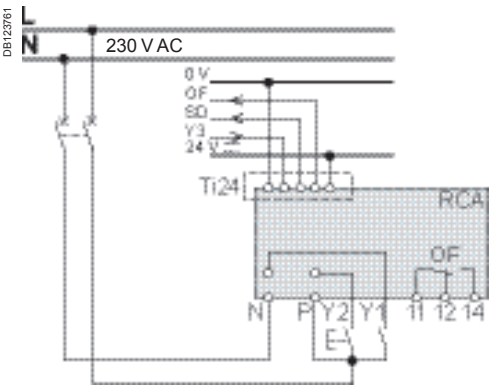

**RCA Ti24**




**RCA Ti24 mode 1**

**Mode 1: Locally or centrally controlled circuit-breaker opening/closing**

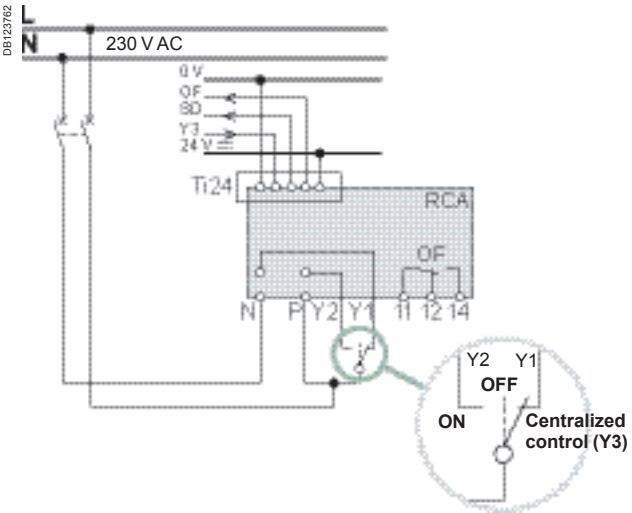
■ The orders come from various control points, and they are taken into account in their order of arrival
■ Y1: Latched order local control
■ Y2: Impulse-type local control
■ Y3: Latched order centralized control




**RCA Ti24 mode 3**

**Mode 3: Centrally controlled opening/closing + local override**

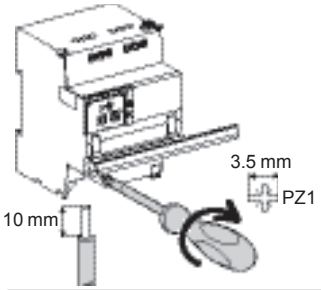
■ 3 positions allowing a choice between override and centralized control:
■ Y1: Latched order local control
■ Y2: Latched order local control
■ Y3: Latched order centralized control



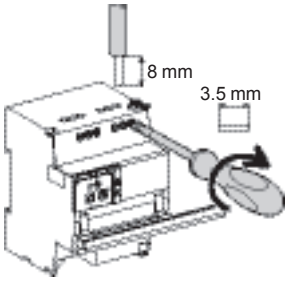
# RCA remote controls (cont.)
## For iC60 circuit breakers

## Connection

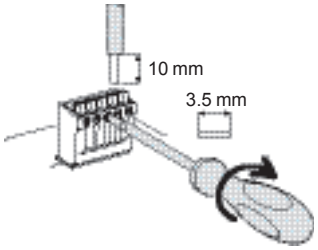
DB123565




DB123568



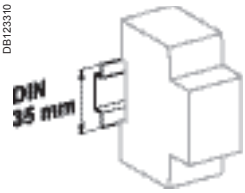

DB123764




### Without accessories

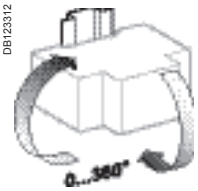
| Terminal | Tightening torque | Copper cables | | |
|---|---|---|---|---|
| | | Rigid | Flexible | Flexible with ferrule |
| | DB122945 | DB123553 | DB123554 | |
| **Power supply (N/P)**<br>**Inputs (Y1/Y2)** | 1 N.m | 0.5 to 10 mm²<br>2 x 0.5 to 2 x 2.5 mm² | 0.5 to 6 mm²<br>2 x 0.5 to 2 x 2.5 mm² | 0.5 to 4 mm²<br>2 x 0.5 to 2 x 2.5 mm² |
| **Outputs (OF)** | 0.7 N.m | 0.5 to 2.5 mm²<br>2 x 0.5 to 2 x 1.5 mm² | 0.5 to 2.5 mm²<br>2 x 0.5 to 2 x 1.5 mm² | 0.5 to 1.5 mm²<br>2 x 0.5 to 2 x 1.5 mm² |
| **Ti24 interface** | Spring-loaded terminals | 0.5 to 1.5 mm² | 0.5 to 1.5 mm² | - |

DB123310



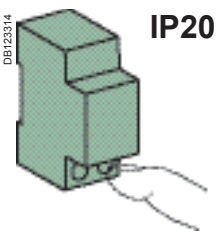

*Clip on DIN rail 35 mm.*

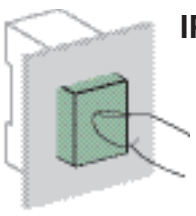
DB123312




*Indifferent position of installation.*

DB123314




## Technical data

| | | |
|---|---|---|
| **Control circuit** | | |
| Supply voltage (Ue) (N/P) | | 230 V AC, 50 Hz |
| Control voltage (Uc) | Type 1 inputs (Y1/Y2) | 230 V AC (as per IEC 61131-2) |
| Min. duration of control order (Y2) | | ≥ 200 ms |
| Response time (Y2) | | < 500 ms |
| Consumption | | ≤ 1 W |
| Thermal self-protection with automatic Reset against overheating of the control circuit due to an abnormal number of operations | | |
| **Endurance (O-C) (RCA combined with a circuit breaker)** | | |
| Electrical/Mechanical | | 10,000 cycles |
| **Indication / Remote control** | | |
| Potential free changeover contact output (OF) | Min. | 24 V AC/DC, 10 mA |
| | Max. | 230 V AC ,1 A |
| Input (Y1/Y2) | 230 V AC | 5 mA |
| **Ti24 interface (as per IEC 61131)** | | |
| Type 1 input (Y3) | 24 V DC | 5.5 mA |
| Output (OF and SD) | 24 V DC | In max.: 100 mA |
| **Additional characteristics** | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in a modular enclosure | IP40<br>Insulation class II |
| Insulation voltage (Ui) | | 400 V |
| Degree of pollution (IEC 60947) | | 3 |
| Rated impulse withstand voltage (Uimp) | | 6 kV |
| Operating temperature | | -25°C to +60°C |
| Storage temperature | | -40°C to +70°C |
| Tropicalization | | Treatment 2<br>(relative humidity of 93 % at +40°C) |

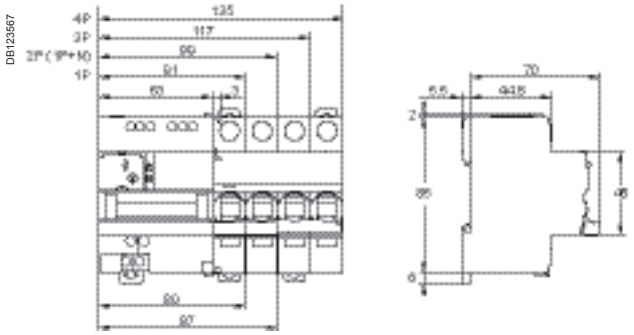
F

# RCA remote controls (cont.)
## For iC60 circuit breakers

### Weight (g)

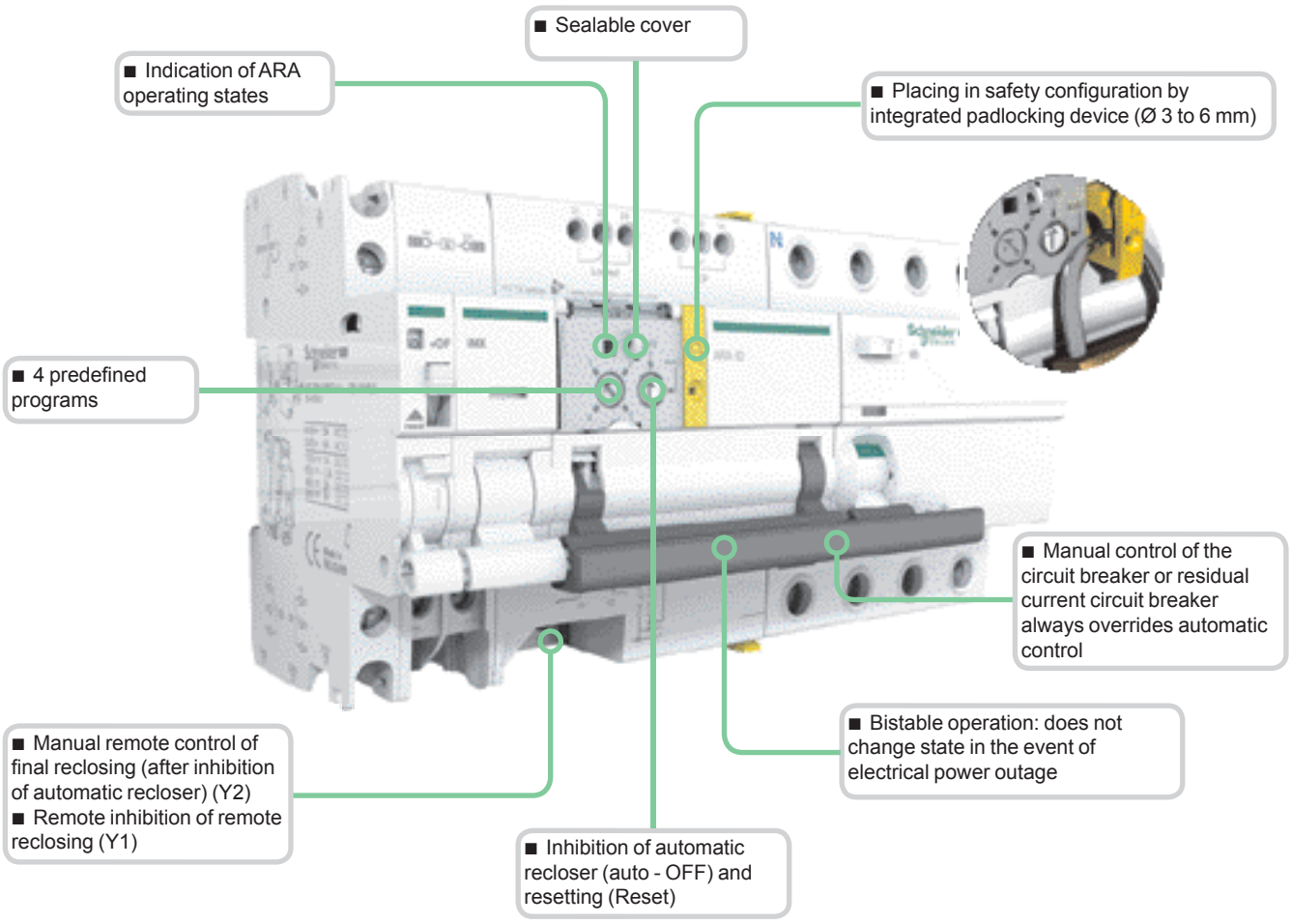
| Remote controls | |
|---|---|
| **Type** | **RCA** |
| For 1P, 1P+N, 2P circuit breakers | 400 |
| For 3P, 3P+N, 4P circuit breakers | 430 |

### Dimensions (mm)



# ARA automatic reclosers (cont.)
## For iC60 circuit breakers and iID residual current circuit breakers

PB106050-78




F

| Indication auxiliaries | | Tripping auxiliaries | ARA remote control | iC60 or iID device | Vigi iC60 add-on RCD |
|---|---|---|---|---|---|
| PB104474-25  | PB104475-25  | PB104496-25  | | | |
| No | 1 (iSD or iOF or iOF/SD+OF or iOF+SD24) | 1 (iMX or iMN) max. | PB106256-25  *ARA* | PB104437-25  *iC60* | PB104437-25  *Vigi iC60* |
| 1 iOF | 1 (iSD or iOF or iOF/SD+OF) | No | | PB104472-25  *iID* | – |

# ARA automatic reclosers
## For iC60 circuit breakers and iID residual current circuit breakers

PB106256-40

PB106257-40

The ARA reclosing auxiliary can:
- Perform automatic reclosing of the associated protection device, after tripping.
- Increase the availability of installations without supervision, isolated, hard of access and demanding very great availability (mobile telephony systems, motorways, pumping stations, airports, railways, meteorological stations, service stations, automatic teller machines, public lighting, tunnels, etc.), by restoring them to operation without intervention by personnel in the event of a transient fault (atmospheric disturbances, industrial overvoltages, etc.).
- The operator can choose predefined reclosing program which allows the safety and availability of facilities to be reconciled taking into account the facility's environment.
- The circuit is placed in safety configuration by the padlocking device.

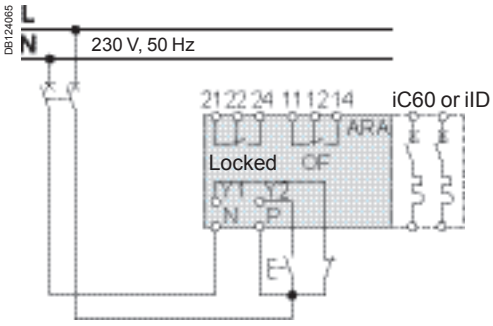
## Catalogue numbers

| ARA iC60 | | | | |
|---|---|---|---|---|
| **For circuit breaker** | | | | **Width in 9 mm modules** |
| **1P, 1P+N, 2P** | **Number of programs** | **Voltage** | | |
| | 4 | 230 V AC, 50 Hz | **A9C70132** | 7 |
| **3P, 4P** | | | | |
| | 4 | 230 V AC, 50 Hz | **A9C70134** | 7 |

| ARA iID | | | | |
|---|---|---|---|---|
| **For residual current circuit breaker** | | | | **Width in 9 mm modules** |
| **2P** | **Number of programs** | **Voltage** | | |
| | 1 | 230 V AC, 50 Hz | **A9C70342** | 7 |
| | 4 | 230 V AC, 50 Hz | **A9C70332** | |
| **4P** | | | | |
| | 4 | 230 V AC, 50 Hz | **A9C70334** | 7 |

## Diagram

DB124065




DB124060

DB123582

DB123583

DB123584

| Legend | | |
|---|---|---|
| **Type** | | **Application** |
| DB124061  | | Choice of program |
| **Y1** | | "Remote" inhibition of automatic reclosing |
| **Y2** | | Remote control of final reclosing |
| **N** | | 230 V power supply |
| **P** | | |
| **Locked** |  21 22 24 | Automatic recloser inhibition indication contact |
| **OF** |  11 12 14 | Indicates the state of the circuit breaker or residual current circuit breaker (opened or closed) |
| **Indicator lamp** | Flashing green |  ARA automatic recloser operational |
| | Flashing red |  Reclosing cycle in progress |
| | Fixed red |  ARA automatic recloser locked at end of reclosing cycle: circuit breaker or residual current circuit breaker tripped (open) |
| | Flashing orange |  ARA automatic recloser not operational |

# ARA automatic reclosers (cont.)
## For iC60 circuit breakers and iID residual current circuit breakers

## Operating principle

The ARA automatic recloser makes a number of attempts at reclosing depending on the program chosen by the user.
The program includes the following settings:
- A time delay before reclosing (TA).
- A reinitialization time delay (TB).
- A maximum number of reclosing attempts.

If, following these attempts, the fault is still present, the device places itself in waiting for manual reclosing, or final remote reclosing (Y2).

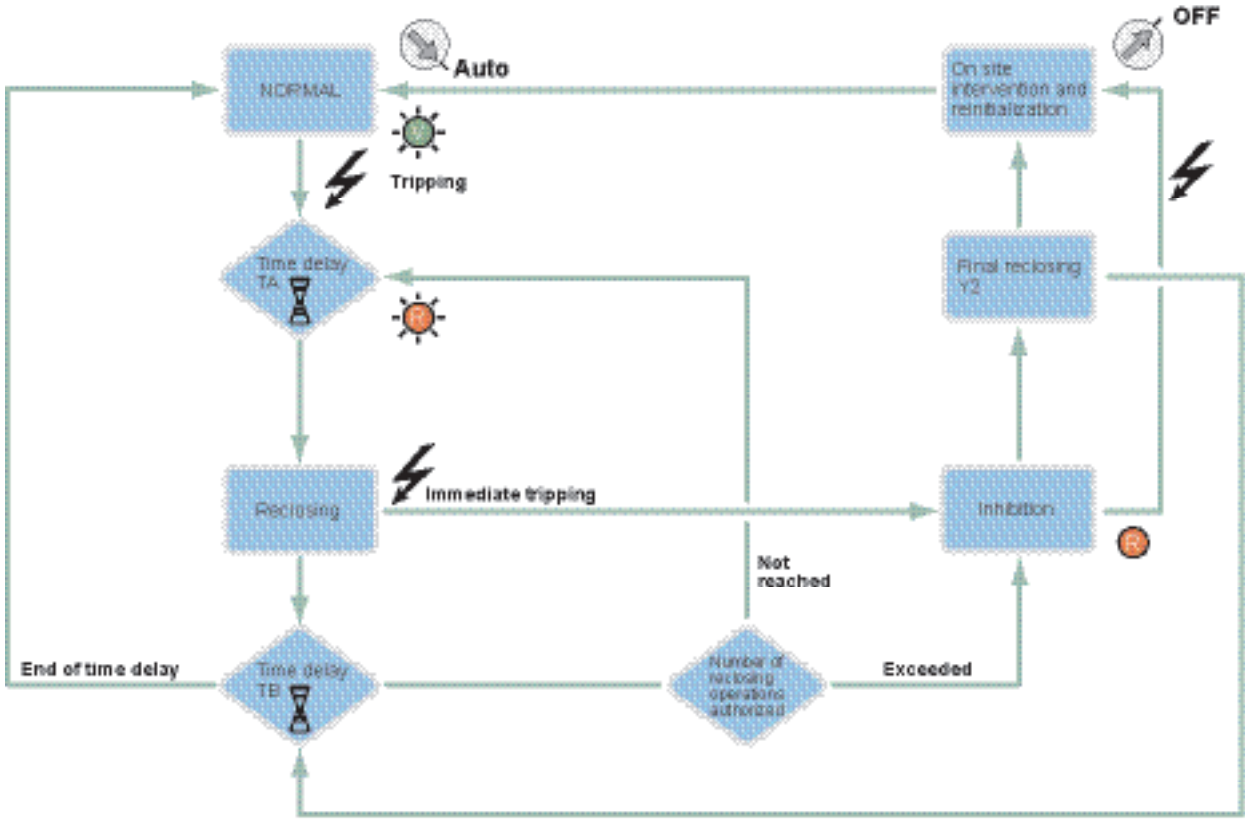
| | | | | Number of reclosing attempts | Delay before reclosing | Check time | Final reclosing Y2 |
|---|---|---|---|---|---|---|---|
| | iC60 | iID | | | TA | TB | |
| | 1P, 1P+N, 2P: A9C70132<br>3P, 4P: A9C70134 | 2P: A9C70342 | 2P: A9C70332<br>4P: A9C70334 | | | | |
| Program | – | 1 program | 4 programs | | | | |
| DB124061 | ■ | – | ■ | 1 | 60 s | 6 min. | Once after inhibition |
| DB124062 | ■ | – | ■ | 3 | 60 s<br>3 min.<br>3 min. | 2 min.<br>6 min.<br>6 min. | |
| DB124063 | ■ | – | – | 5 | 60 s<br>3 min.<br>3 min.<br>3 min.<br>3 min. | 2 min.<br>6 min.<br>6 min.<br>6 min.<br>6 min. | |
| DB124064 | ■ | – | – | 5 | 60 s<br>3 min.<br>4 min.<br>5 min.<br>6 min. | 2 min.<br>6 min.<br>8 min.<br>10 min.<br>12 min. | |
| DB124063 | – | – | ■ | 5 | 60 s<br>4 min.<br>10 min.<br>1 h<br>6 h | 2 min.<br>3 min.<br>6 min.<br>10 min.<br>10 min. | Once per cycle |
| DB124064 | – | – | ■ | 15 | 20 s<br>40 s<br>3 min.<br>3 min.<br>... | 30 min.<br>30 min.<br>... | |
| Only 1 program available | – | ■ | – | | | | |

# ARA automatic reclosers (cont.)

## For iC60 circuit breakers and iID residual current circuit breakers

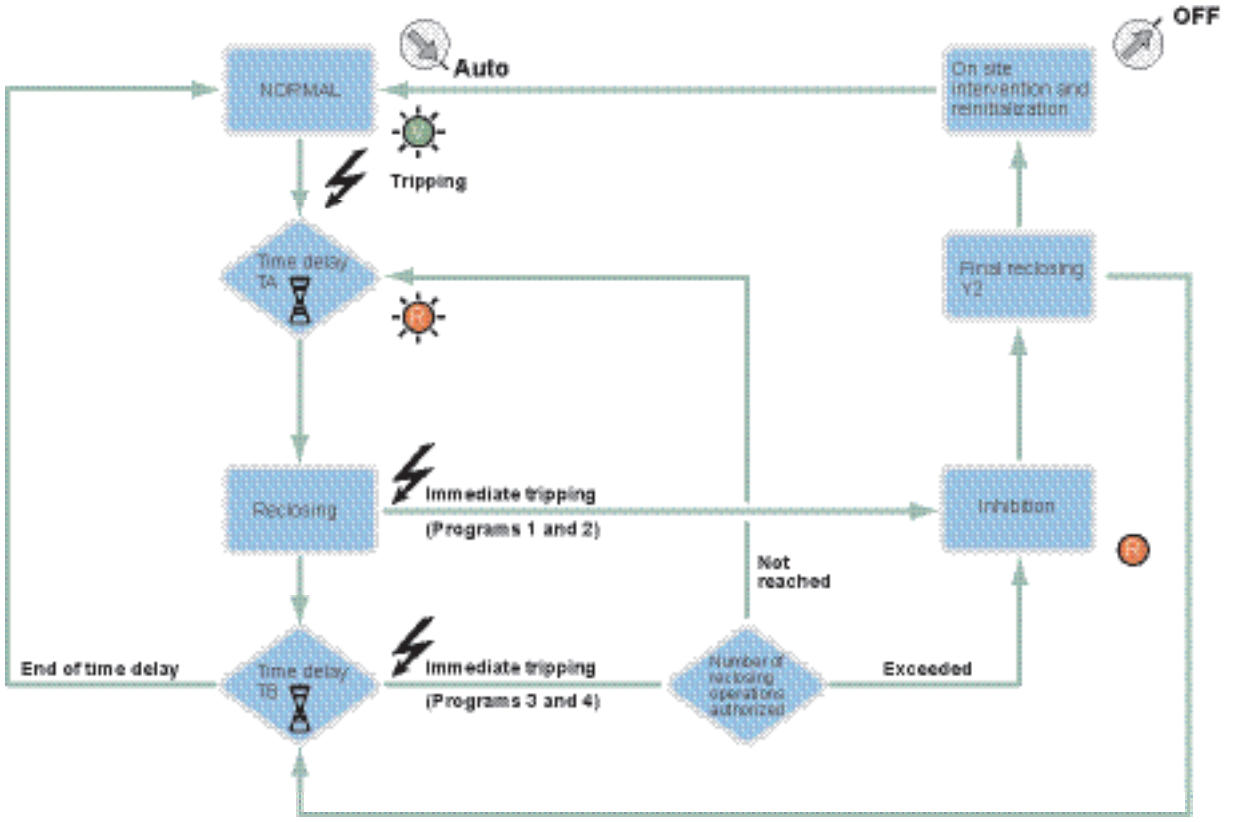
### Permanent fault ARA iC60

DB404539




### Permanent fault ARA iID

DB404538

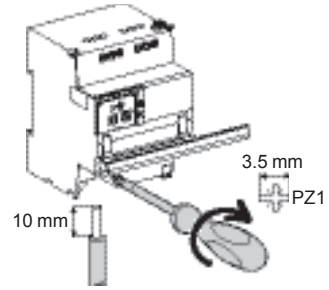


# ARA automatic reclosers (cont.)

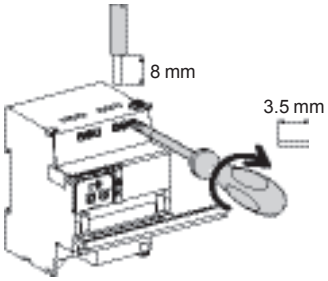
## For iC60 circuit breakers and iID residual current circuit breakers

## Connection

DB123565



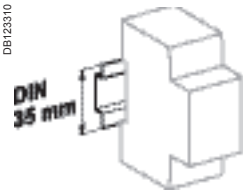

DB123566




### Without accessories

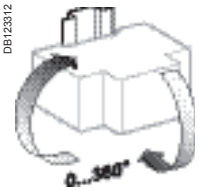
| Terminal | Tightening torque | Copper cables | | |
|---|---|---|---|---|
| | | Rigid | Flexible | Flexible with ferrule |
| | | DB122945  DB123553 |  DB123554 |  |
| Power supply (N/P)<br>Inputs (Y1/Y2) | 1 N.m | 0.5 to 10 mm²<br>2 x 0.5 to 2 x 2.5 mm² | 0.5 to 6 mm²<br>2 x 0.5 to 2 x 2.5 mm² | 0.5 to 4 mm²<br>2 x 0.5 to 2 x 2.5 mm² |
| Outputs (OF/Locked) | 0.7 N.m | 0.5 to 2.5 mm²<br>2 x 0.5 to 2 x 1.5 mm² | 0.5 to 2.5 mm²<br>2 x 0.5 to 2 x 1.5 mm² | 0.5 to 1.5 mm²<br>2 x 0.5 to 2 x 1.5 mm² |

DB123310



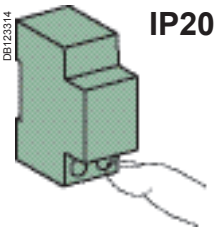

*Clip on DIN rail 35 mm.*

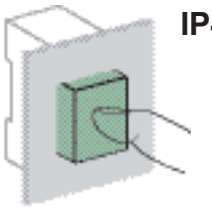
DB123312




*Indifferent position of installation.*

DB123314




## Technical data

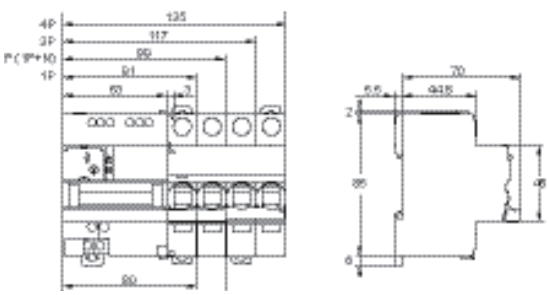
| | | |
|---|---|---|
| **Control circuit** | | |
| Supply voltage (Ue) (N/P) | | 230 V AC, 50 Hz |
| Control voltage (Uc) | Type 1 inputs (Y1/Y2) | 230 V AC (as per IEC 61131-2) |
| Min. duration of control order (Y2) | | ≥ 200 ms |
| Response time (Y2) | | < 500ms |
| Consumption | | ≤ 1 W |
| **Endurance (O-C) (ARA combined with a circuit breaker)** | | |
| Electrical | | 5000 cycles |
| **Indication / Remote control** | | |
| Potential-free changeover contact output (OF/Locked) | Min. | 24 V AC/DC, 10 mA |
| | Max. | 230 V AC ,1 A |
| Input (Y1/Y2) | 230 V AC | 5 mA |
| **Additional characteristics** | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in a modular enclosure | IP40<br>Insulation class II |
| Insulation voltage (Ui) | | 400 V |
| Degree of pollution (IEC 60947) | | 3 |
| Rated impulse withstand voltage (Uimp) | | 6 kV |
| Operating temperature | | -25°C to +60°C |
| Storage temperature | | -40°C to +70°C |
| Tropicalization | | Treatment 2<br>(relative humidity of 93 % at +40°C) |

## Weight (g)

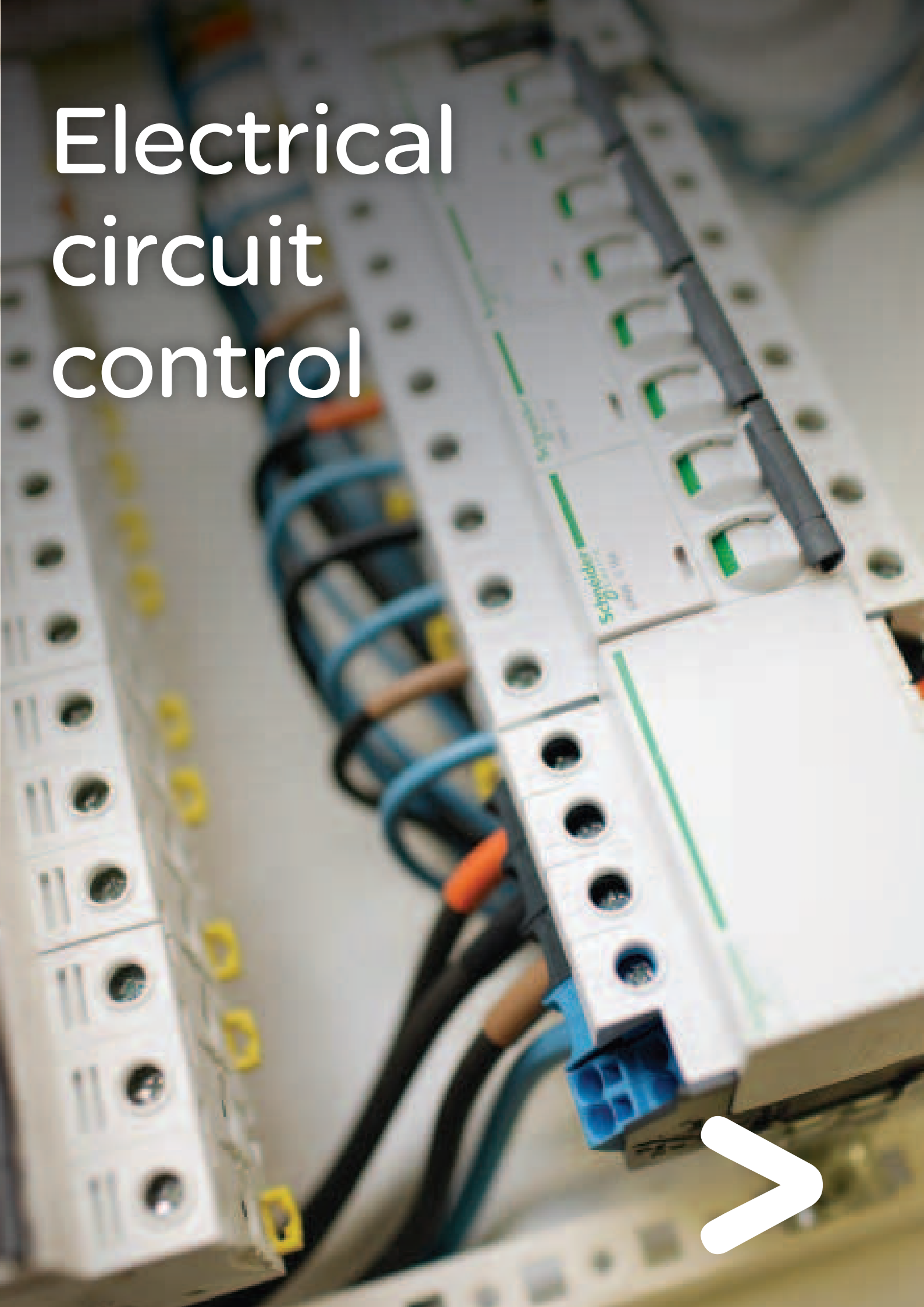
| Automatic reclosers | |
|---|---|
| **Type** | **ARA** |
| For 1P, 1P+N, 2P circuit breakers or iID 2P residual current circuit breaker | 440v |
| For 3P, 4P circuit breakers or iID 4P residual current circuit breaker | 470 |

## Dimensions (mm)

DB123567

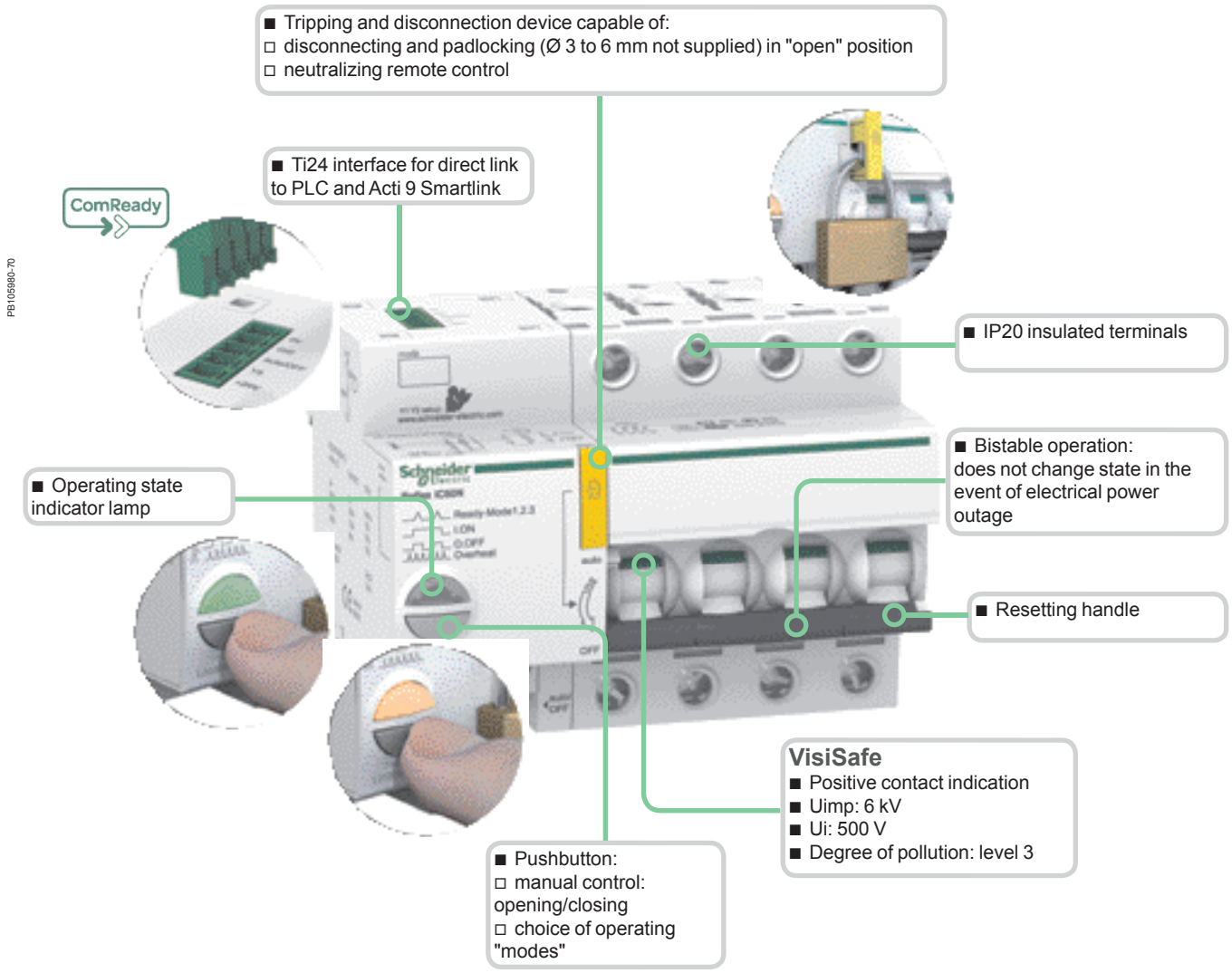



F



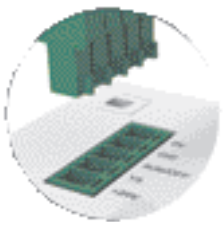
# Electrical circuit control

# Reflex iC60N, iC60H (curves B, C, D)




PB105980-70

■ Longer product service life thanks to:
□ good overvoltage withstand capacity: products designed to provide a high industrial performance level (degree of pollution, rated impulse withstand voltage and insulation voltage),
□ high limitation performances,
□ fast closure independent of the speed of resetting of the operating handle.



DB123765

DB123516

| Legend | |
|---|---|
| **Ti24 interface** | |
| **+24VDC** | V DC power supply |
| **Y3** | Remote control by latched order |
| **auto/OFF** | Circuit-breaker state information |
| **O/C** | Control circuit state information (open/closed) |
| **0 V** | V DC power supply |
| **Y1** | Latched order control |
| **Y2** | Control by impulse-type |
| **N** | 230 V AC power supply |
| **P** | |
| **O/C** 11 12 14 | Control circuit state indication contact |
| **auto/OFF** 21 22 24 | Circuit-breaker tripping indication contact |

# Reflex iC60N, iC60H (curves B, C, D) (cont.)

PB106239-40


PB106238-40

## IEC/EN 60947-2

The Reflex iC60 devices are integrated control circuit breakers which combine the following main functions in a single device:
- Remote control by latched and/or impulse-type order according to the 3 operating modes to be chosen by the user.
- Circuit breaker, to provide:
  - circuit protection against short-circuit currents,
  - circuit protection against overload currents,
  - disconnection in the industrial sector.

Resetting after a fault is performed manually, by the resetting handle.

The version with Ti24 allows direct interfacing of the Reflex iC60 with a PLC, to:
- Execute remote control (Y3).
- Indicate the state of the control circuit (O/C) and circuit-breaker state information (auto/OFF).

The Ti24 interface also allows fast, reliable connection of the Reflex iC60 to the Acti 9 Smartlink thanks to the prefabricated cables.

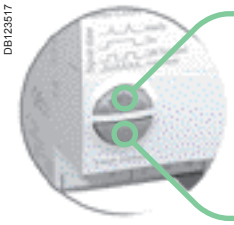
The iMDU auxiliary allows the Reflex iC60 to be controlled in 24/48 V AC/DC.

| Alternating current (AC) 50 Hz | | | | |
|---|---|---|---|---|
| Ultimate breaking capacity (Icu) as per IEC/EN 60947-2 | | | | Service breaking capacity (Ics) |
| | | Voltage (Ue) | | |
| Ph/Ph (2P, 3P, 4P) | | 220 to 240 V | 380 to 415 V | |
| Reflex iC60N | | | | |
| Rating (In) | 10 to 40 A | 20 kA | 10 kA | 75 % of Icu |
| | 63 A | 20 kA | 10 kA | 50 % of Icu |
| Reflex iC60H | | | | |
| Rating (In) | 10 to 40 A | 30 kA | 15 kA | 50 % of Icu |

## Catalogue numbers

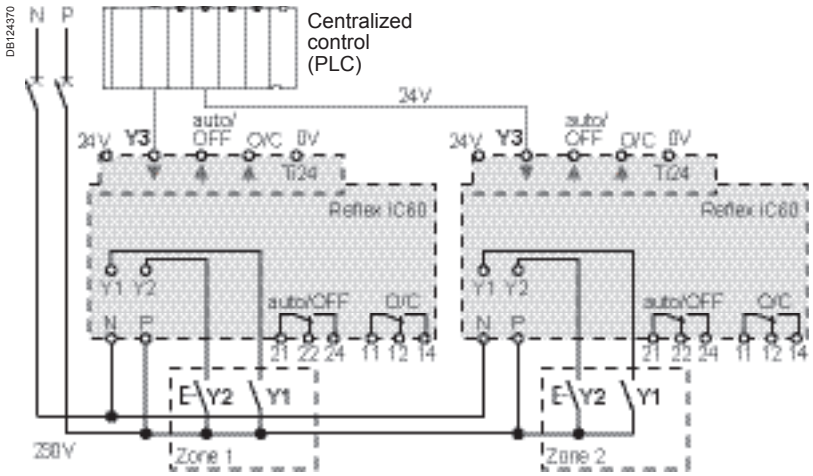
| Reflex iC60 circuit breaker | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Type | 2P | | | 3P | | | 4P | | |
| Rating (In) | Curve | | | Curve | | | Curve | | |
| | B | C | D | B | C | D | B | C | D |
| **Reflex iC60N** | | | | | | | | | |
| **With Ti24 interface** | | | | | | | | | |
| 10 A | A9C61210 | A9C62210 | A9C63210 | A9C61310 | A9C62310 | A9C63310 | A9C61410 | A9C62410 | A9C63410 |
| 16 A | A9C61216 | A9C62216 | A9C63216 | A9C61316 | A9C62316 | A9C63316 | A9C61416 | A9C62416 | A9C63416 |
| 25 A | A9C61225 | A9C62225 | A9C63225 | A9C61325 | A9C62325 | A9C63325 | A9C61425 | A9C62425 | A9C63425 |
| 40 A | A9C61240 | A9C62240 | - | A9C61340 | A9C62340 | - | A9C61440 | A9C62440 | - |
| 63 A | A9C61263 | A9C62263 | - | A9C61363 | A9C62363 | - | A9C61463 | A9C62463 | - |
| **Without Ti24 interface** | | | | | | | | | |
| 10 A | - | A9C52210 | - | - | A9C52310 | - | - | A9C52410 | - |
| 16 A | - | A9C52216 | - | - | A9C52316 | - | - | A9C52416 | - |
| 25 A | - | A9C52225 | - | - | A9C52325 | - | - | A9C52425 | - |
| 40 A | - | A9C52240 | - | - | A9C52340 | - | - | A9C52440 | - |
| 63 A | - | A9C52263 | - | - | A9C52363 | - | - | A9C52463 | - |
| **Reflex iC60H** | | | | | | | | | |
| **With Ti24 interface** | | | | | | | | | |
| 10 A | A9C64210 | A9C65210 | A9C66210 | A9C64310 | A9C65310 | A9C66310 | A9C64410 | A9C65410 | A9C66410 |
| 16 A | A9C64216 | A9C65216 | A9C66216 | A9C64316 | A9C65316 | A9C66316 | A9C64416 | A9C65416 | A9C66416 |
| 25 A | A9C64225 | A9C65225 | A9C66225 | A9C64325 | A9C65325 | A9C66325 | A9C64425 | A9C65425 | A9C66425 |
| 40 A | A9C64240 | A9C65240 | - | A9C64340 | A9C65340 | - | A9C64440 | A9C65440 | - |
| Width in 9 mm modules | 9 | | | 11 | | | 13 | | |
| **Vigi iC60** | See page B-17 | | | See page B-17 | | | See page B-17 | | |
| **iMDU auxiliary** | See page E-2 and F-2 | | | See page E-2 and F-2 | | | See page E-2 and F-2 | | |
| **Accessories** | See page E-2 and E-10 | | | See page E-2 and E-10 | | | See page E-2 and E-10 | | |

# Reflex iC60N, iC60H (curves B, C, D) (cont.)




Remote control is possible by 3 operating modes to be set using the pushbutton on the front panel.

**Three types of control: Y1, Y2, Y3**




## Operating modes

### Mode 1: Reflex iC60 opening/closing, locally or centrally controlled

■ The opening/closing orders come from various control points, and they are taken into account in their order of arrival
□ Y1: latched order local control
□ Y2: impulse-type local control
□ Y3: latched order centralized control

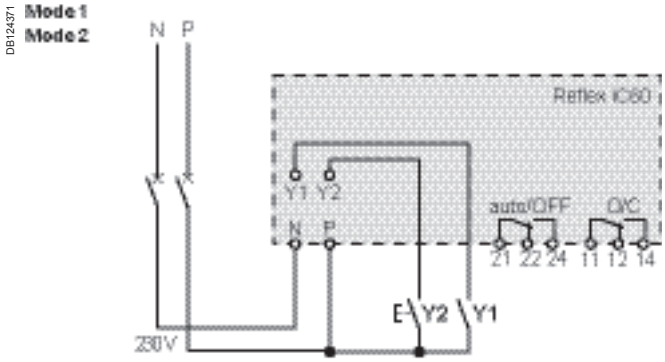
### Mode 2: Reflex iC60 opening/closing, possible inhibition of local impulse-type control

■ Y1 is used to inhibit Y2
□ Y1: local opening/Y2 inhibition latched order control
□ Y2: impulse-type local opening/closing control
□ Y3: latched order centralized opening/closing control

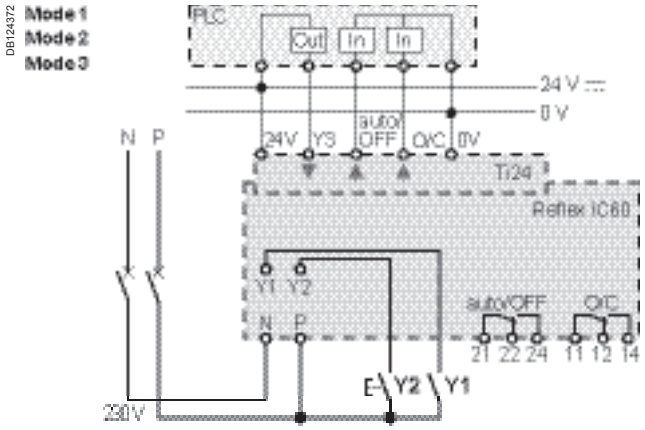
### Mode 3: Reflex iC60 opening/closing, possible inhibition of centralised latched order control

■ Y1 is used to inhibit Y3
□ Y3 inhibition local latched order control
□ Y2: impulse-type local opening/closing control
□ Y3: latched order centralized opening/closing control

**Reflex iC60 without Ti24 interface**




**Reflex iC60 with Ti24 interface**

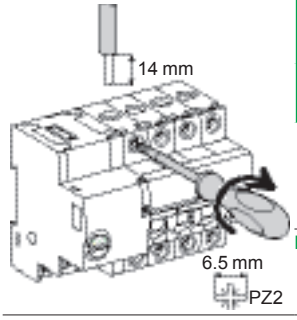



| Table of modes | | | |
|---|---|---|---|
| | **Mode 1** | **Mode 2** | **Mode 3** |
| **Reflex iC60 without interface Ti24** | ■ Default mode | ■ Possible mode | – |
| **Reflex iC60 with interface Ti24** | ■ Possible mode | ■ Possible mode | ■ Default mode |

# Reflex iC60N, iC60H (curves B, C, D) (cont.)

## Power connection

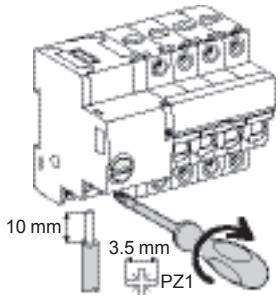
DB123561



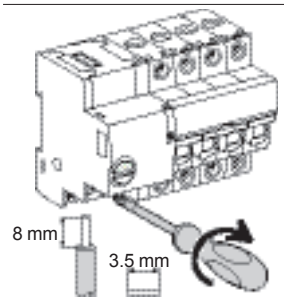

| Terminal | Rating | Tightening torque | Without accessories: Copper cables: Rigid | Without accessories: Copper cables: Flexible or with ferrule | With accessories: Al terminal 50 mm² | With accessories: Screw-on connection for ring terminal | With accessories: Multi-cable terminal: Rigid cables | With accessories: Multi-cable terminal: Flexible cables |
|---|---|---|---|---|---|---|---|---|
| | | DB122945 | DB122946 | DB122935 | DB118789 | DB118787 | | |
| Power | 10 to 25 A | 2 N.m | 1 to 25 mm² | 1 to 16 mm² | - | Ø 5 mm | - | - |
| | 40 to 63 A | 3.5 N.m | 1 to 35 mm² | 1 to 25 mm² | 50 mm² | | 3 x 16 mm² | 3 x 10 mm² |

## Control connection

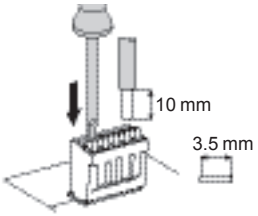
DB123562




DB123563



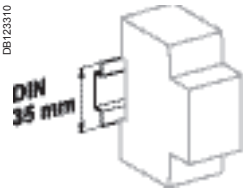

DB123580




| Terminal | Tightening torque | Without accessories: Copper cables: Rigid | Without accessories: Copper cables: Flexible | Without accessories: Copper cables: Flexible with ferrule |
|---|---|---|---|---|
| | DB122945 | DB123553 | DB123554 | |
| Power supply (N/P) Inputs (Y1/Y2) | 1 N.m | 1 to 10 mm² | 1 to 6 mm² | 1 to 4 mm² |
| Outputs (O/C, auto/OFF) | 0.7 N.m | 1 to 2.5 mm² | 1 to 2.5 mm² | 1 to 1.5 mm² |
| Ti24 interface | Spring-loaded terminals | 0.5 to 1.5 mm² | 0.5 to 1.5 mm² | 0.5 to 1.5 mm² |

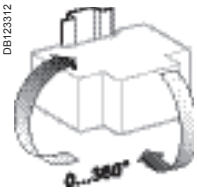
# Reflex iC60N, iC60H (curves B, C, D) (cont.)

DB123310



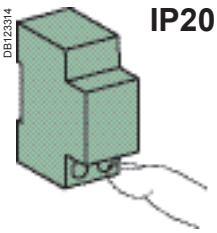

*Clip on DIN rail 35 mm.*

DB123312

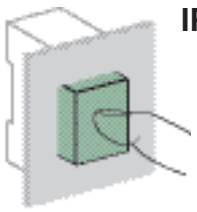



*Indifferent position of installation.*

DB123314



**IP20**



**IP40**

## Technical data

| | | |
|---|---|---|
| **Control circuit** | | |
| Supply voltage (Ue) (N/P) | | 230 V AC - 50 Hz |
| Control voltage (Uc) | Inputs (Y1/Y2) | 230 V AC - 5 mA<br>(24…48 V AC/DC, with iMDU auxiliary) |
| | Input (Y3) | 24 V DC - 5.5 mA |
| Min. duration of control impulse (Y2) | | ≥ 250 ms |
| Response time (Y2) | | ≤ 200 ms |
| Consumption | | ≤ 1 W |
| Inrush consumption | | < 1000 VA |
| Length of control wires | Inputs (Y1/Y2) | Cable: 100 m |
| | | Wires in a sheath: 500 m |
| | Input (Y3) | 500 m |
| Inrush current at 230 V - 50 Hz | 2P | 4.2 Â |
| | 3P | 8.2 Â |
| | 4P | 16.2 Â |
| **Power circuit** | | |
| Max. working voltage (Ue) | | 400 V AC |
| Insulation voltage (Ui) | | 500 V |
| Rated impulse withstand voltage (Uimp) | Set to Disconnected | 6 kV |
| | Set to Ready | 4 kV |
| Thermal tripping | Reference temperature | 50°C |
| Magnetic tripping | Curve B | 4 In ± 20 % |
| | Curve C | 8 In ± 20 % |
| | Curve D | 12 In ± 20 % |
| Overvoltage category (IEC 60364) | | IV |
| Temperature derating | | See page CA908007 |
| **Indication / Remote control** | | |
| Potential-free changeover contact outputs (O/C, auto/OFF) | Min. | 24 V DC - 100 mA |
| | Max | 230 V AC - 1 A |
| **Ti24 interface (as per IEC 61131)** | | |
| Outputs (O/C, auto/OFF) | Ti24 interface | 24 V DC - 100 mA max |
| **Endurance (O-C)** | | |
| Electrical | AC1 - AC7a | Up to 50,000 cycles (1) |
| | AC5a - AC5b | Up to15,000 cycles (1) |
| | AC7c | Up to 20,000 cycles (1) |
| Mechanical | | 50,000 cycles |
| **Additional characteristics** | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in a modular enclosure | IP40<br>Insulation class II |
| Degree of pollution | | 3 |
| Operating temperature | | -25°C to +60°C |
| Storage temperature | | -40°C to +85°C |
| Tropicalization | | Treatment 2<br>(relative humidity of 93 % at 40°C) |
| Immunity to voltage dips | | IEC 61000-4-11 class III |
| Immunity to power supply frequency variations | | IEC 61000-4-28 and IACS E10 |
| Immunity to harmonics | | IEC 61000-4-13 class 2 |
| Immunity to electrostatic discharges | Air | 8 kV, IEC 61 000-4-2 |
| | Contacts | 4 kV, IEC 61 000-4-2 |
| Immunity to stray magnetic fields | | 10 V/m up to 3 GHz, IEC 61000-4-3 |
| Immunity to fast transients | | 4 kV from 5 to 100 kHz, IEC 61000-4-4 |
| Immunity to shock waves | | IEC 61000-4-5 |
| Immunity to power frequency magnetic fields | | 10 V from 150 kHz to 80 MHz, IEC 61000-4-6 |
| Immunité aux champs magnétiques à la fréquence du réseau | | Level 4 30 A/m to IEC 61000-4-8 and IEC 61000-4-9 |
| Conducted emissions | | CISPR 11/22 |
| Radiated emissions | | CISPR 11/22 |

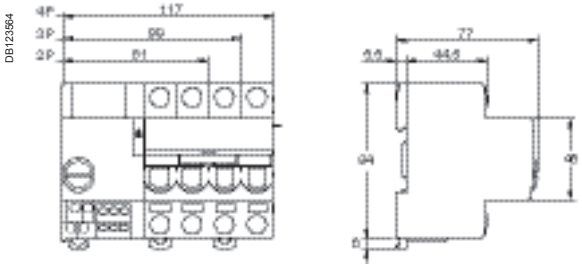
*(1) See the derating table according to the load types and ratings*

# Reflex iC60N, iC60H (curves B, C, D) (cont.)

## Weight (g)

| Circuit breaker | |
|---|---|
| **Type** | **Reflex iC60** |
| 2P | 480 |
| 3P | 620 |
| 4P | 750 |

## Dimensions (mm)



# iMDU electrical auxiliary for Reflex iC60

PB106245-40

A9C18195

The voltage matching module allows safety voltages of 24 and 48 V AC/DC to be used on the control inputs.

- Only connects to the Reflex iC60 circuit breakers remote controlled by a 220-240 V control voltage
- Galvanic isolation 6000 V
- Maximum combined power between terminals P and Y1/Y2: 100 mA at 230 V and 25°C.

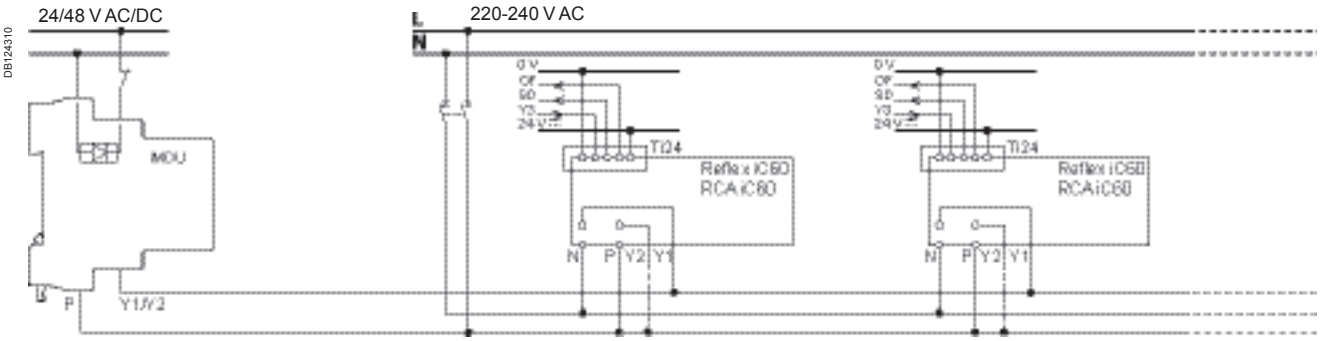
## Catalogue numbers

| Electrical auxiliary for Reflex iC60 | | |
|---|---|---|
| **Type** | | **Width in 9 mm modules** |
| iMDU | **A9C18195** | 1 |

## Diagram

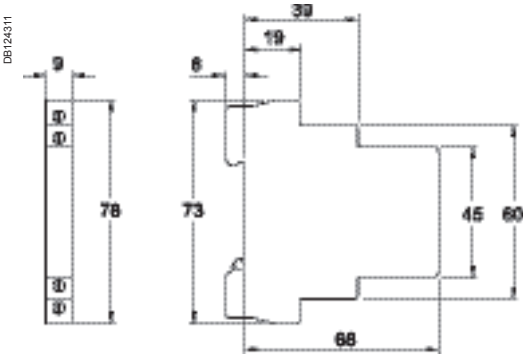
An iMDU electrical auxiliary allows up to a maximum of five Reflex iC60 to be controlled simultaneously at the same input.

DB124310



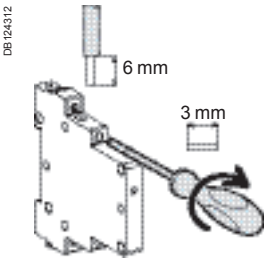

## Dimensions (mm)

DB124311




## Connection

DB124312




| Type | Tightening torque | Copper cables | |
|---|---|---|---|
| | | Rigid | Flexible or with ferrule |
| | DB122945 | DB122946 | |
| iMDU | 1 N.m | 1.5 mm² | 1.5 mm² |

## Technical data

| Main characteristics | | |
|---|---|---|
| Control circuit voltage | | 24…48 V AC/DC |
| Insulation voltage (Ui) | | 500 V |
| **Additional characteristics** | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40<br>Insulation class II |
| Operating temperature | | -20°C to +60°C |
| Storage temperature | | -40°C to +80°C |
| Tropicalisation | | Treatment 2<br>(relative humidity 95 % at 55°C) |
| Weight | | 53 g |

G

# iCT contactors

DB116619

*Country approval pictograms*

## EN 61095, IEC 1095

### iCT contactors are available in two versions:

- Contactors without manually-operated
- Contactors with manually-operated.

The breadth of the iCT contactor range satisfies most application cases.
iCT contactors can be combined with auxiliary control, protection and indication functions.

## Contactors

### iCT 2P

PB106115-35

*manual control*

### iCT 4P

PB106105-35

- iCT contactors can be used to remote control applications in alternative networks:
  - lighting, heating, ventilation, roller blinds, sanitary hot water
  - mechanical ventilation systems, etc
  - load-shedding of non-priority circuits

PB106120-34

### Indication iACTs

- This auxiliary allows indication or control of the "open" or "closed" position of the contactor power contacts

PB106124-34

### Interference filtering iACTp

- This auxiliary is an interference suppressor which limits overvoltages on the control circuit

PB106123-34

### Dual control iACTc

- Used to control a contactor in impulse-type mode or to combine latched or impulse-type control orders

PB107751-34


### Control and indication 24 V DC iACT24

- Allows control and indication of a 230 Vac contactor from the Acti 9 Smartlink or by a PLC, by 24 V DC signals
- Also allows control by a maintained signal

PB106125-34

### Time delay iATEt

- This auxiliary is used to time delay for iCT and iTL. According to cabling, there are 5 possible time delay types:
  - 1 for iTL
  - 4 for iCT

**Function type A:**
**late closing**
Delay energizing of contactor

**Function type B:**
**time delay**
- Energize the contactor by closing a push button
- The time delay starts as soon as the control contacts are closed

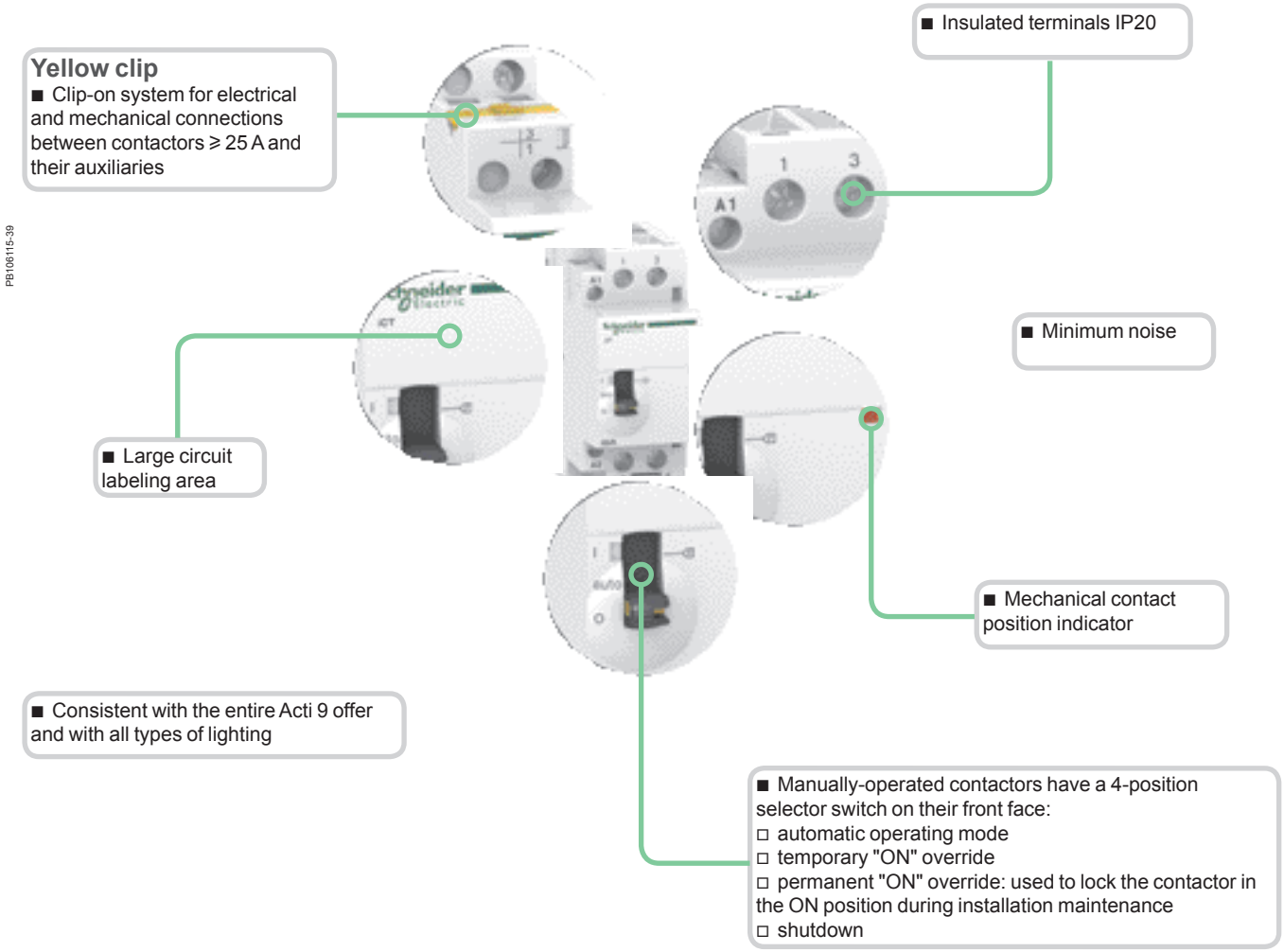
**Function type C:**
**late opening**
- Energize the contactor by closing a push button
- The time delay starts when the control contacts are opened

**Function type H:**
**fixed time operation**
- Operate the contactor for a pre-determined time from the moment of energizing

Contactors  Contactors auxiliaries

| | | Choice of 50 Hz contactors | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | | **Contactor** | | | | | | **Manually-operated contactors** | | | |
| Rating | A | 16 | 20 | 25 | 40 | 63 | 100 | 16 | 25 | 40 | 63 |
| **Auxiliaries** | | | | | | | | **Contactors that can be equipped with auxiliaries** | | | |
| iACTs indication auxiliary | | Yes | Yes | Yes | | | | Yes | | | |
| iACTp protection auxiliary | By yellow clips | No | No | Yes | | | | No | Yes | | |
| iACTc, iATEt control auxiliary | By yellow clips | No | No | Yes | | | | No | Yes | | |
| iACT24 control auxiliary | | Non | No | Yes (for contactors 230 V - 50 Hz) | | | | No | Yes (for contactors 230 V - 50 Hz) | | |

# iCT contactors (cont.)

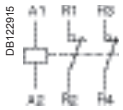
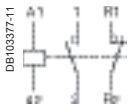
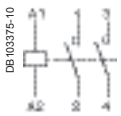
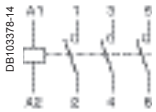
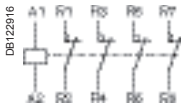
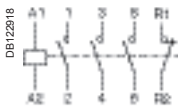



| | Choice of 60 Hz contactors | | | | |
|---|---|---|---|---|---|
| | Contactor | | | | Manually-operated contactors |
| | 16 | 25 | 40 | 63 | 40 |
| | Contactors that can be equipped with auxiliaries | | | | |
| | Yes | | | | |
| | No | Yes | | | |
| | No | Yes | | | |
| | No | | | | |

# iCT contactors (cont.)

## Catalogue numbers

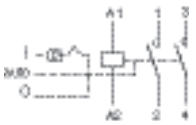
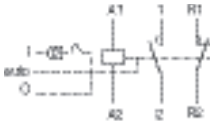
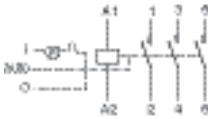
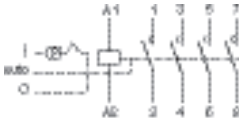
### iCT contactors - 50 Hz

| Type | | | | | | Width in 9 mm modules |
|---|---|---|---|---|---|---|
| 1P | Rating (In) AC7a | AC7b | Control voltage (V AC) (50 Hz) | Contact | | |
|  DB103373-5 | 16 A | 6 A | 12 | 1NO | **A9C22011** | 2 |
| | | | 24 | 1NO | **A9C22111** | 2 |
| | | | 48 | 1NO | **A9C22211** | 2 |
| | | | 220 | 1NO | **A9C22511** | 2 |
| | | | 230…240 | 1NO | **A9C22711** | 2 |
| | 25 A | 8.5 A | 220 | 1NO | **A9C20531** | 2 |
| | | | 230…240 | 1NO | **A9C20731** | 2 |
| **2P** | | | | | | |
|  DB122915 | 16 A | 6 A | 12 | 2NO | **A9C22012** | 2 |
| | | | 24 | 2NO | **A9C22112** | 2 |
| | | | 48 | 2NO | **A9C22212** | 2 |
| | | | 220 | 2NO | **A9C22512** | 2 |
| | | | 230...240 | 2NO | **A9C22712** | 2 |
|  DB103377-11 | | | 12 | 1NO+1NC | **A9C22015** | 2 |
| | | | 24 | 1NO+1NC | **A9C22115** | 2 |
| | | | 220 | 1NO+1NC | **A9C22515** | 2 |
| | | | 230...240 | 1NO+1NC | **A9C22715** | 2 |
| | 20 A | 6 A | 230...240 | 2NO | **A9C22722** | 2 |
|  DB103375-10 | 25 A | 8.5 A | 24 | 2NO | **A9C20132** | 2 |
| | | | 48 | 2NO | **A9C20232** | 2 |
| | | | 220 | 2NO | **A9C20532** | 2 |
| | | | 230...240 | 2NO | **A9C20732** | 2 |
| | | | 220 | 2NC | **A9C20536** | 2 |
| | | | 230...240 | 2NC | **A9C20736** | 2 |
| | 40 A | 15 A | 220...240 | 2NO | **A9C20842** | 4 |
| | 63 A | 20 A | 24 | 2NO | **A9C20162** | 4 |
| | | | 220...240 | 2NO | **A9C20862** | 4 |
| | 100 A | - | 220...240 | 2NO | **A9C20882** | 6 |
| **3P** | | | | | | |
|  DB103378-14 | 16 A | 6 A | 220…240 | 3NO | **A9C22813** | 4 |
| | 25 A | 8.5 A | 220…240 | 3NO | **A9C20833** | 4 |
| | 40 A | 15 A | 220…240 | 3NO | **A9C20843** | 6 |
| | 63 A | 20 A | 220…240 | 3NO | **A9C20863** | 6 |
| **4P** | | | | | | |
|  DB122916 | 16 A | 6 A | 24 | 4NO | **A9C22114** | 4 |
| | | | 220...240 | 4NO | **A9C22814** | 4 |
| | | | 220...240 | 2NO+2NC | **A9C22818** | 4 |
| | 20 A | 6 A | 220 ...240 | 4NO | **A9C22824** | 4 |
| | 25 A | 8.5 A | 24 | 4NO | **A9C20134** | 4 |
|  DB122917 | | | 220...240 | 4NO | **A9C20834** | 4 |
| | | | 24 | 4NC | **A9C20137** | 4 |
| | | | 220...240 | 4NC | **A9C20837** | 4 |
| | | | 220...240 | 2NO+2NC | **A9C20838** | 4 |
| | 40 A | 15 A | 220...240 | 4NO | **A9C20844** | 6 |
| | | | 220...240 | 4NC | **A9C20847** | 6 |
|  DB103381-18 | 63 A | 20 A | 24 | 4NO | **A9C20164** | 6 |
| | | | 220...240 | 4NO | **A9C20864** | 6 |
| | | | 24 | 4NC | **A9C20167** | 6 |
| | | | 220...240 | 4NC | **A9C20867** | 6 |
| | | | 220...240 | 2NO+2NC | **A9C20868** | 6 |
|  DB122918 | | | 220...240 | 3NO+1NC | **A9C20869** | 6 |
| | 100 A | - | 220...240 | 4NO | **A9C20884** | 12 |

# iCT contactors (cont.)

## Catalogue numbers

### iCT manual control contactor 50 Hz

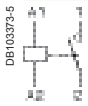
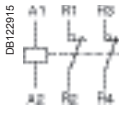
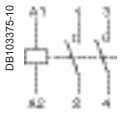
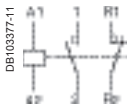
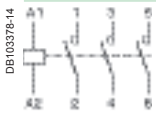
| Type | | | | | | Width in 9 mm modules |
|---|---|---|---|---|---|---|
| 2P | Rating (In) AC7a | AC7b | Control voltage (V AC) (50 Hz) | Contact | | |
| DB106317-24  | 16 A | 6 A | 220 | 2NO | **A9C23512** | 2 |
| | | | 230...240 | 2NO | **A9C23712** | 2 |
| | | | 220 | 1NO+1NC | **A9C23515** | 2 |
| | | | 230...240 | 1NO+1NC | **A9C23715** | 2 |
| | 25 A | 8,5 A | 24 | 2NO | **A9C21132** | 2 |
| DB106318-27  | | | 220 | 2NO | **A9C21532** | 2 |
| | | | 230...240 | 2NO | **A9C21732** | 2 |
| | 40 A | 15 A | 24 | 2NO | **A9C21142** | 2 |
| | | | 220...240 | 2NO | **A9C21842** | 4 |
| | 63 A | 20 A | 24 | 2NO | **A9C21162** | 4 |
| | | | 220...240 | 2NO | **A9C21862** | 4 |
| 3P | | | | | | |
| DB106319-27  | 25 A | 8,5 A | 220...240 | 3NO | **A9C21833** | 4 |
| | 40 A | 15 A | 220...240 | 3NO | **A9C21843** | 6 |
| 4P | | | | | | |
| DB106320-31  | 25 A | 8,5 A | 24 | 4NO | **A9C21134** | 4 |
| | | | 220...240 | 4NO | **A9C21834** | 4 |
| | 40 A | 15 A | 24 | 4NO | **A9C21144** | 6 |
| | | | 220...240 | 4NO | **A9C21844** | 6 |
| | 63 A | 20 A | 24 | 4NO | **A9C21164** | 6 |
| | | | 220...240 | 4NO | **A9C21864** | 6 |

G

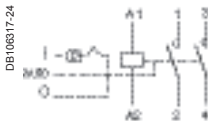
# iCT contactors (cont.)

## Catalogue numbers

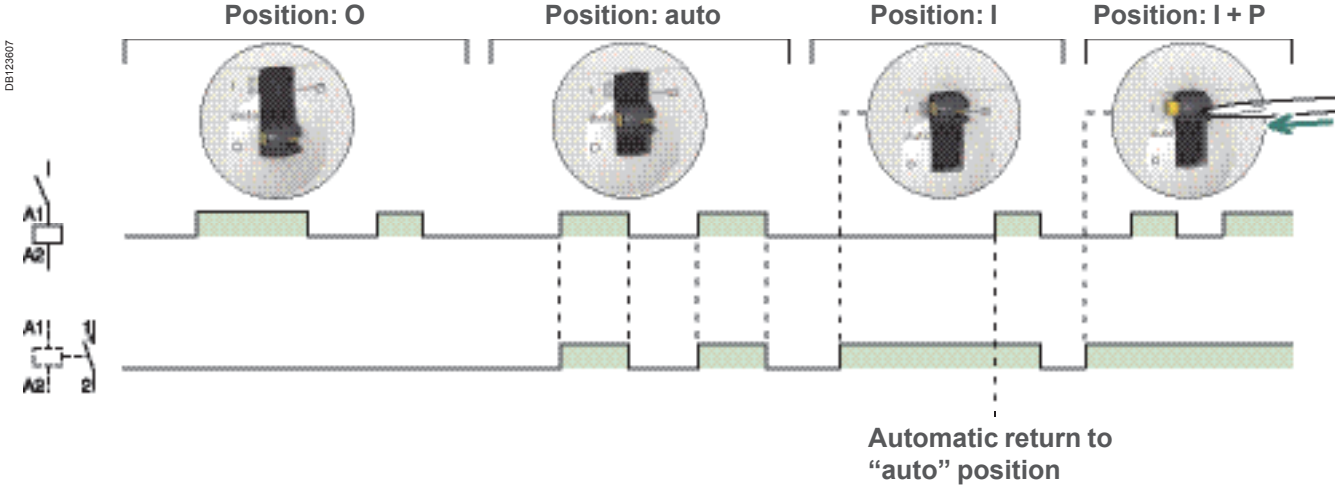
### iCT contactors - 60 Hz

| Type | | | | | | Width in 9 mm modules |
|---|---|---|---|---|---|---|
| 1P | Rating (In) AC7a | AC7b | Control voltage (V AC) (60 Hz) | Contact | | |
|  | 25 A | 8.5 A | 127 | 1NO | **A9C20431** | 2 |
| | | | 220 ...240 | 1NO | **A9C20631** | 2 |
| **2P** | | | | | | |
|   | 16 A | 6 A | 127 | 1NO+1NC | **A9C22415** | 2 |
| | | | 220...240 | 1NO+1NC | **A9C22615** | 2 |
| | 25 A | 8.5 A | 127 | 2NO | **A9C20432** | 2 |
| | | | 220...240 | 2NO | **A9C20632** | 2 |
| | | | 127 | 2NC | **A9C20436** | 2 |
|  | | | 220...240 | 2NC | **A9C20636** | 2 |
| | 40 A | 15 A | 127 | 2NO | **A9C20442** | 4 |
| | | | 220...240 | 2NO | **A9C20642** | 4 |
| **3P** | | | | | | |
|  | 25 A | 8.5 A | 127 | 3NO | **A9C20433** | 4 |
| | | | 220...240 | 3NO | **A9C20633** | 4 |
| | 40 A | 15 A | 127 | 3NO | **A9C20443** | 6 |
| | | | 220...240 | 3NO | **A9C20643** | 6 |
| | 63 A | 20 A | 127 | 3NO | **A9C20463** | 6 |
| | | | 220...240 | 3NO | **A9C20663** | 6 |

### iCT manual control contactor 60 Hz

| Type | | | | | | Width in 9 mm modules |
|---|---|---|---|---|---|---|
| 2P | Rating (In) AC7a | AC7b | Control voltage (V AC) (60 Hz) | Contact | | |
|  | 40 A | 15 A | 127 | 2NO | **A9C21442** | 4 |
| | | | 220...240 | 2NO | **A9C21642** | 4 |

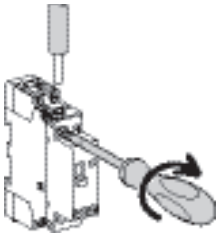
## Operation (Manual control contactor)



# iCT contactors (cont.)

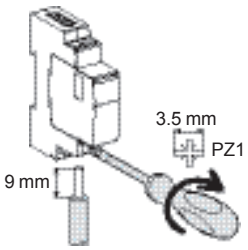
## Connection

DB123606



| Type | | Rating | Lenght tripping | Circuit | Tightening torque | Copper cables | |
|---|---|---|---|---|---|---|---|
| | | | | | | Rigid | Flexible or ferrule |
| | | | | | DB122945 | DB122946 | |
| iCT | PZ1: 4 mm | 16 - 100 A | 9 mm | Control | 0.8 N.m | 1.5 to 2.5 mm: 2 x 1.5 mm² | 1.5 to 2.5 mm: 2 x 2.5 mm² |
| | | 16 and 25 A | | Power | | 1.5 to 6 mm² | 1 to 4 mm² |
| | PZ2: 6 mm | 40 A - 63 A | 14 mm | | 3.5 N.m | 6 to 25 mm² | 6 to 16 mm² |
| | | 100 A | | | | 6 to 35 mm² | 6 to 35 mm² |
| iACTs, iACTp, iACTc, iATEt | PZ1: 4 mm | - | 9 mm | - | 0.8 N.m | 1.5 to 2.5 mm: 2 x 1.5 mm² | 1.5 to 2.5 mm: 2 x 2.5 mm² |

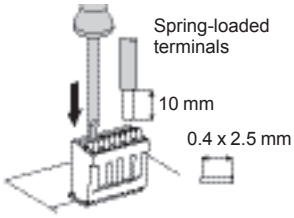
DB124308




| Type | Terminals | Tightening torque | Copper cables | | |
|---|---|---|---|---|---|
| | | | Rigid | Flexible | Flexible or ferrule |
| | | DB122945 | DB123553 | DB123554 | |
| iACT24 | Power supply (N/P) | 1 N.m | 0.5 to 10 mm² 2 x 0.5 to 2 x 2.5 mm² | 0.5 to 6 mm² 2 x 0.5 to 2 x 2.5 mm² | 0.5 to 4 mm² 2 x 0.5 to 2 x 2.5 mm² |
| | Input (Y1/Y2) | | | | |

## Ti24 connector connection

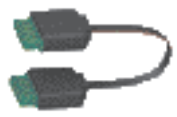
DB123580




| Type | Catalogue numbers | Copper cables | |
|---|---|---|---|
| | | Rigid | Flexible |
| | DB122945 | DB123553 | |
| Ti24 Interface | **A9XC2412** | 1 x 0.5 to 1.5 mm² | 1 x 0.5 to 1.5 mm² |

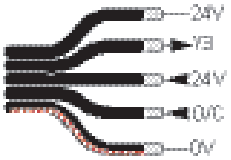
## Ti24 prefabricated cables connection

PB107754-10



PB107755-14

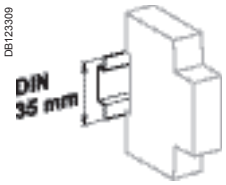
DB404857



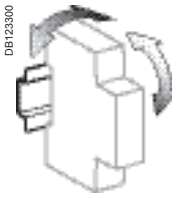

| Type | Catalogue numbers | Length |
|---|---|---|
| **Connection for Acti 9 Smartlink** | | |
| 6 short prefabricated | **A9XCAS06** | 100 mm |
| 6 medium-sized prefabricated | **A9XCAM06** | 160 mm |
| 6 long prefabricated | **A9XCAL06** | 870 mm |
| **Connection for PLC type terminals** | | |
| 6 long prefabricated on a single side | **A9XCAU06** | 870 mm |

G

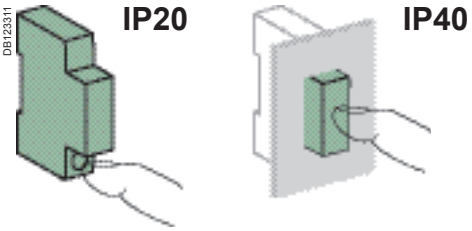
# iCT contactors (cont.)

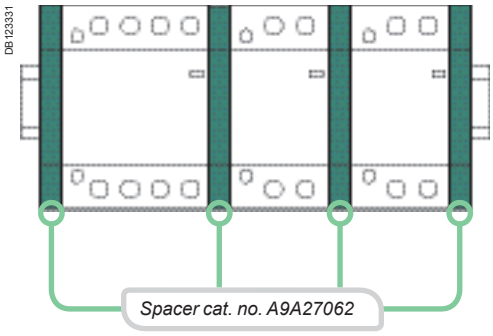



*Clip on DIN rail 35 mm.*




*± 30° vertical.*




## Technical data

| | | |
|---|---|---|
| **Power circuit** | | |
| Voltage rating (Ue) | 1P, 2P | 250 V AC |
| | 3P, 4P | 400 V AC |
| Frequency | | 50 Hz or 60 Hz |
| Type of load | | See page the Technical Guide |
| **Endurance (O-C)** | | |
| Electrical | | 100,000 cycles |
| Maximum number of switching operation a day | | 100 |
| **Additional characteristics** | | |
| Insulation voltage (Ui) | | 500 V AC |
| Pollution degree | | 2 |
| Rated impulse withstand voltage (Uimp) | | 2.5 kV (4 kV for 12/24/48 V AC) |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Operating temperature | | -5°C to +60°C (1) |
| Storage temperature | | -40°C to +70°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity 95 % at 55°C) |
| ELSV compliance (Extra Low Safety Voltage) for 12/24/48 V AC versions | | |
| The product control conforms to the SELV (safety extra low voltage) requirements | | |

*(1) In the case of contactor mounting in a enclosure for which the interior temperature is in range between 50°C and 60°C, it is necessary to use a spacer, cat. no. A9A27062, between each contactor*

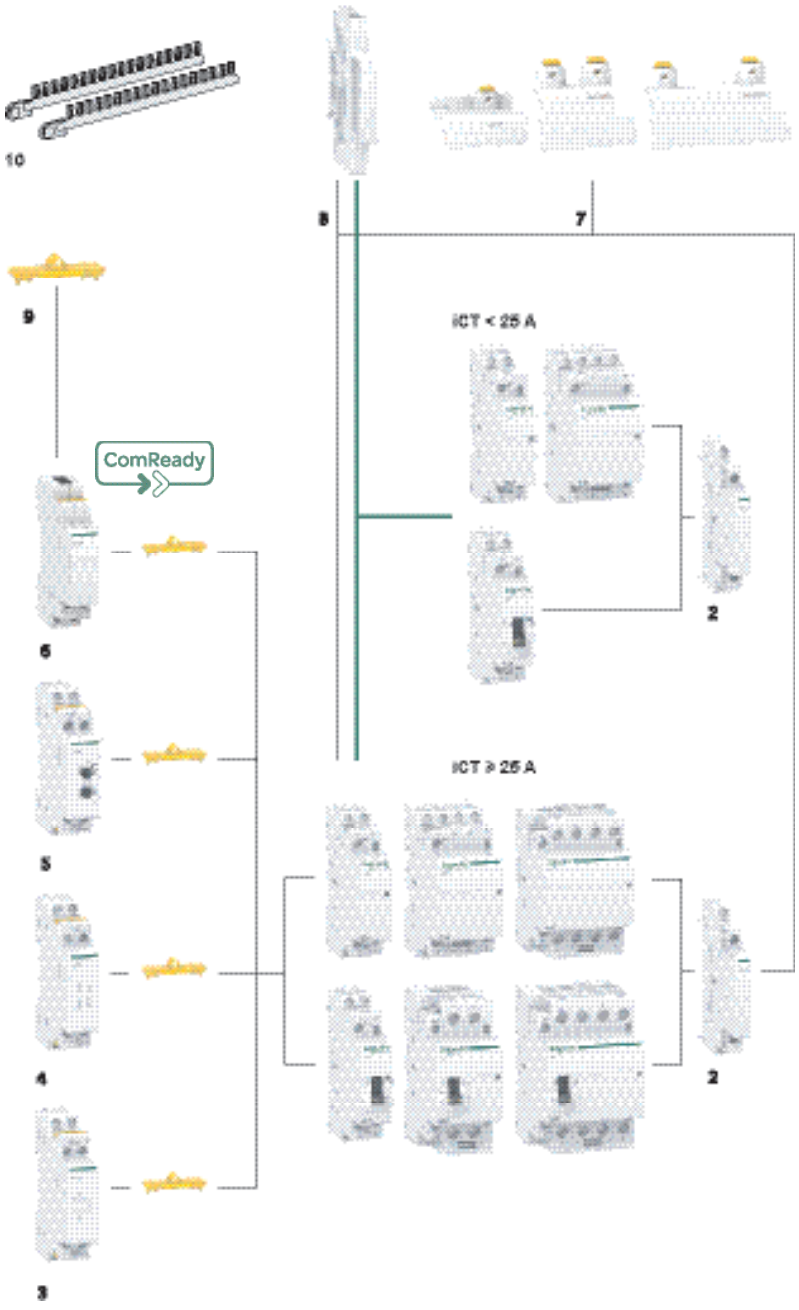
# iCT contactors (cont.)

## Mounting accessories

| | | | |
|---|---|---|---|
| **7** | Sealable screw shields for top and bottom | 3P, 4P 25 A | **A9A15921** |
| | | 2P 40/63 A | **A9A15922** |
| | | 3P, 4P 40/63 A | **A9A15923** |
| **8** | 9 mm spacer | | **A9A27062** |
| **9** | Yellow clips | | **A9C15415** |
| **10** | Clip-on terminal markers | see page | **E-10** |

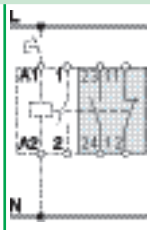
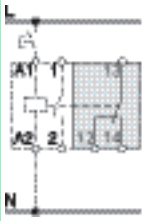
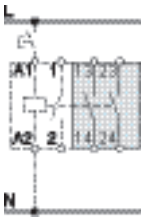
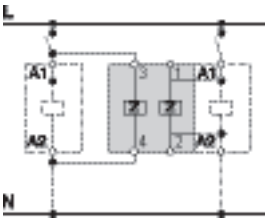
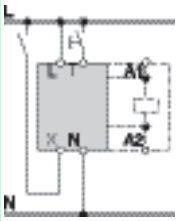
## Auxiliaries

| | | | |
|---|---|---|---|
| **Indication** | | | |
| **2** | iACTs | 1NO + 1NC | **A9C15914** |
| | | 1CO | **A9C15915** |
| | | 2NO | **A9C15916** |
| **Double control inputs** | | | |
| **3** | iACTc | 230 V AC | **A9C18308** |
| | | 24 V AC | **A9C18309** |
| **Coil suppression blocs** | | | |
| **4** | iACTp | 12...48 V AC | **A9C15919** |
| | | 48...127 V AC | **A9C15918** |
| | | 220...240 V AC | **A9C15920** |
| **Time delay** | | | |
| **5** | iATEt | 24...240 V AC | **A9C15419** |
| **Control and indication** | | | |
| **6** | iACT24 | 230 V AC | **A9C15924** |




G

# iCT contactors
# Electrical auxiliaries for iCT

| | Indication | | | Protection | | | Control | |
|---|---|---|---|---|---|---|---|---|
| **Auxiliaries** | **iACTs** | | | **iACTp** | | | **iACTc** | |
| **Type** | **Indication** | | | **Interference filtering** | | | **Impulse/latched control** | |
| | With Open/Close auxiliary contact | | | 2 protection circuits | | | | |
| |  | | |  | | |  | |
| **Function** | | | | | | | | |
| | ■ This auxiliary allows indication of the "open" or "closed" position of the contactor power contacts | | | ■ This auxiliary is an interference suppressor which limits overvoltages on the control circuit | | | ■ This auxiliary, combined with contactors, enables them to be controlled by 2 order types:<br>□ impulse order for local control (input T)<br>□ latched order for centralised control (input X)<br>□ the last order received takes priority | |
| **Wiring diagrams** | | | | | | | | |
| |  |  |  |  | | |  | |
| **Mounting** | | | | | | | | |
| | ■ Mounted to the right of iCT | | | ■ Mounted to the left of iCT by yellow clips (1)<br>■ By wires | | | ■ Mounted to the left of iCT by yellow clips (1) | |
| **Use** | | | | | | | | |
| | – | | | ■ The iACTp has 2 separate and identical circuits, allowing it to be combined with 2 different one on the iCT the other by wires | | | ■ Mains power outages:<br>□ < 1 s: keeps its initial status<br>□ ⩾ 5 s: reset<br>□ put back into operation by manual operation on input X or T.<br>■ Minimum impulse duration: 250 ms | |
| **Catalogue numbers** | **A9C15914** | **A9C15915** | **A9C15916** | **A9C15918** | **A9C15919** | **A9C15920** | **A9C18308** | **A9C18309** |

| **Technical specifications** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Control voltage (Ue) | V AC | 24…240 | | | 48 …127 | 12 …48 | 220 …240 | 230…240 | 24…48 |
| | V DC | 24…130 | | | – | | | – | |
| Operating frequency | Hz | 50/60 | | | 50/60 | | | 50/60 | |
| Width in 9 mm modules | | 1 | | | 2 | | | 2 | |
| Auxiliary contact (breaking capacity) | | ■ Mininimum: 10 mA at 24 V DC/AC - cos φ = 1<br>■ Maximum:<br>□ 5 A at 240 V AC - cos φ = 1<br>□ 1 A at 130 V DC | | | – | | | – | |
| Number of contacts | | 1NO + 1NC | 1CO | 2NO | – | | | – | |
| Operating temperature | °C | -5°C to +50°C | | | | | | | |
| Storage temperature | °C | -40°C to +70°C | | | | | | | |
| Consumption | | – | | | – | | | OFF load: 3 VA<br>Inrush (2): 2 VA<br>Holding (2): 0.2 VA | |

*(1) Electrical and mechanical link.*
*(2) Maximum consumption of all contactors controlled.*

# iCT contactors
# Electrical auxiliaries for iCT (cont.)

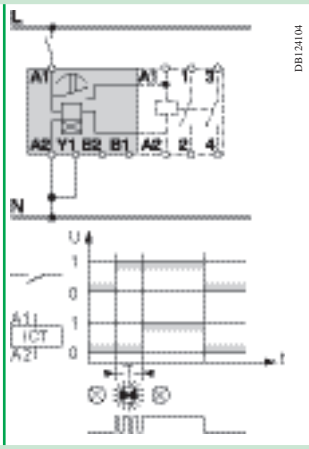
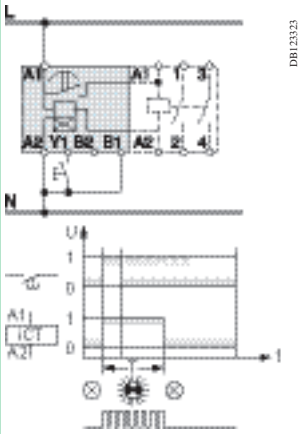
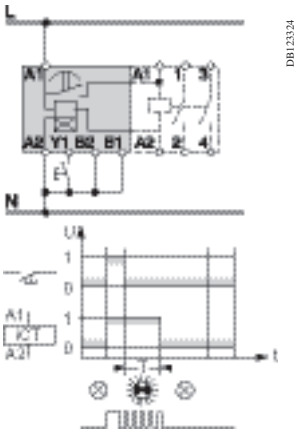
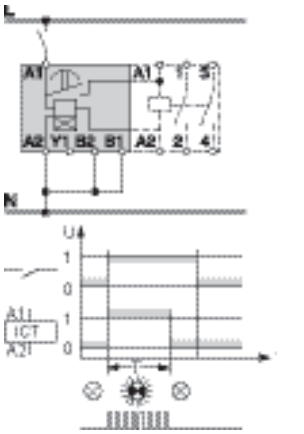
## Control (cont.)

### iATEt

**Time delay**

PB106125-34

■ This auxiliary is used to time delay for iCT and iTL. According to cabling, there are 5 possible time delay types:
□ 1 for iTL
□ 4 for iCT.

| **Function type A: late closing** | **Function type B: time delay** | **Function type C: late opening** | **Function type H: fixed time operation** |
|---|---|---|---|
| ■ Delay energizing of contactor. | ■ Energize the contactor by closing a push button.<br>■ The time delay starts as soon as the control contacts are closed. | ■ Energize the contactor by closing a push button.<br>■ The time delay starts when the control contacts are opened. | ■ Operate the contactor for a pre-determined time from the moment of energizing. |
| DB123321 | DB124104 | DB123323 | DB123324 |
|  |  |  |  |

■ Mounted to the left of iCT by yellow clips (1)

–

**A9C15419**

24…240

24…110

50/60

2

–

–

-20°C to +50°C

-40°C to +80°C

Off-load: 5 VA
Inrush (2): 3 A
Holding (2): 0.2 A

G

# iCT contactors
# Electrical auxiliaries for iCT (cont.)

## Control and indication

| Auxiliary | iACT24 |
|---|---|
| **Type** | **Control and indication 24 V DC** |
| | With Ti24 connector |

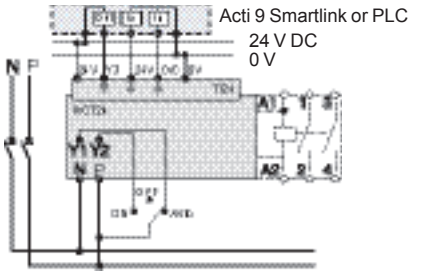
PB107751-34


**Function**

- This auxiliary allows a contactor to be interfaced with the Acti 9 Smartlink interface or a programmable logic controller (PLC) in 24 V DC (control, O/C indication)
- 230 V AC control

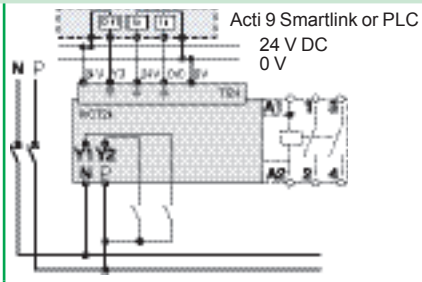
**Wiring diagrams**

DB124313




Wiring with exclusive selector
230 V AC control (Y1 = 0) / 24 V DC control (Y1 = 1)

DB124441




Wiring for non-exclusive 230 V AC and 24 V DC controls

**Mounting**

- To the left of the iCT contactor using the yellow clips (1).
- When an iACT24 is used, the A1/A2 terminals of the contactors should not be wired. Only the yellow clips integral with the iACT24 should be used for connection to the coil.

**Utilization**

- 230 V AC interface:
  - Y1: enabling of 24 V DC control (Y1 = 1) or inhibition of 24 V DC control (Y1 = 0).
  - Y2: 230 V pulse control
- "Ti24" 24 V DC interface:
  - Y3: 24 V DC control of iCT closing on rising edge and opening on falling edge
  - reading of the contactor status (opened or closed) from the position of the integrated O/C auxiliary contact
  - monitoring of connection of the "Ti24" terminal block by the upstream system (PLC, supervision system) via the 24 V terminal (in the centre of the Ti24 terminal block)

| | | |
|---|---|---|
| **Catalogue numbers** | | **A9C15924** |
| **Technical specifications** | | |
| Control voltage (Ue) | V AC | 230, +10 %, -15 % (Y2) |
| | V DC | 24, ± 20 % (Y3) |
| Operating frequency | Hz | 50 |
| Insulation voltage (Ui) | V AC | 250 |
| Rated impulse withstand voltage (Uimp) | kV | 8 |
| Pollution degree | | 3 |
| Degree of protection | | IP20B device only |
| | | IP40 device in modular enclosure |
| Width in 9 mm modules | | 2 |
| Auxiliary contact (O/C) Ti24 | | 24 V DC protected output, min. 2 mA, max. 100 mA |
| Contact | | 1 O/C operating category AC 14 |
| Operating temperature | °C | -25°C to +60°C |
| Storage temperature | °C | -40°C to +80°C |
| Consumption | | <1 W |
| Standard | | IEC/EN 60947-5-1 |

*(1) Mechanical and electrical link.*

# iCT contactors
# Accessories for iCT

## Security

| Accessories | Sealable screw shields | | | Yellow clips | Spacer |
|---|---|---|---|---|---|
| | PB104485-15  | PB104486-15  | PB104487-15  | PB106143-10  | PB104483-40  |
| **Function** | | | | | |
| | ■ Designed to cover terminals to avoid contact with device screws.<br>■ Allow sealing | | | ■ Ensure the mechanical and/or electrical link between contactors and their auxiliaries. | ■ Required to reduce temperature rise of modular devices installed side by side.<br>■ Recommended to separate electronic devices (thermostat, programmable clock, etc.) from electromechanical devices (relays, contactors). |
| | ■ **For iCT: 3P, 4P - 25 A** | ■ **For iCT: 2P - 40/63 A** | ■ **For iCT: 3P, 4P - 40/63 A** | ■ **For iCT: ≥ 25 A** | |
| **Use** | | | | | |
| | ■ Bag of 10 upstream/10 downstream | | | ■ Bag of 10 | ■ Bag of 5 |
| **Catalogue numbers** | **A9A15921** | **A9A15922** | **A9A15923** | **A9C15415** | **A9A27062** |
| **Technical specifications** | | | | | |
| Width in 9 mm modules | 4 | 4 | 6 | – | 1 |
| Number of poles | 3P, 4P | 2P | 3P | – | – |

G

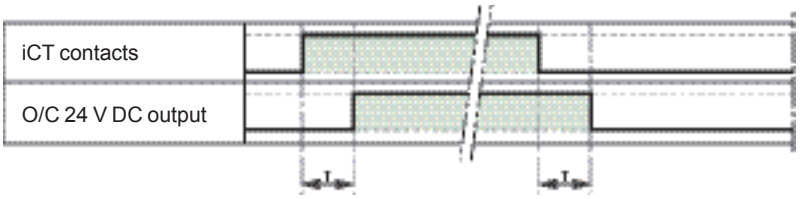
# iCT contactors
# Technical advice for iCT (cont.)

ComReady

## Operation of the iACT24

### O/C 24 V DC output

DB124314

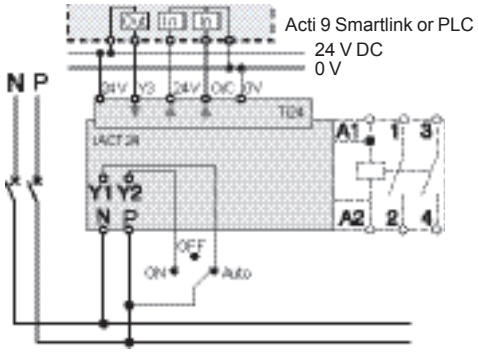



| | Parameter | Min | Max |
|---|---|---|---|
| T | Time delay between iACT24 closing and indication | 100 ms | 200 ms |

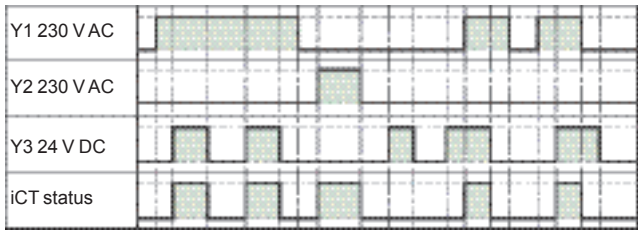
- Minimum duration of 230 V AC pulse (Y2): 200 ms.
- 30 iACT24 closing or opening actuations are authorized per minute: Minimum time delay between 2 actuations on the iACT4 via Y1,Y2, Y3 (closing or opening of the iCT coil): 220 ms.
- 10 closing or opening actuations spaced 440 milliseconds apart are authorized following no loading of the iACT24 during a period of 20 seconds.

**Wiring with exclusive selector**
**230 V AC control (Y1 = 0) / 24 V DC control (Y1 = 1)**

DB124443

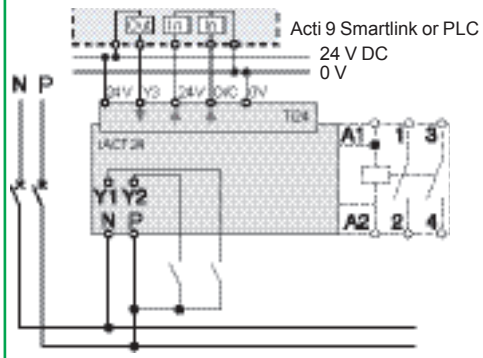



DB124314

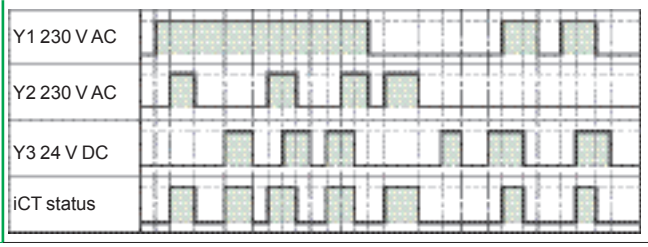



**Wiring for non-exclusive 230 V AC and 24 V DC controls**

DB124444




DB124442



# iCT contactors
# Technical advice for iCT

## Consumption

**iCT contactors - 50 Hz**

| Type | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1P | Rating (In) | | Control voltage (V AC) (50 Hz) | Consumption | | Max. power | |
| | AC7a | AC7b | | Holding | Inrush | | |
| | 16 A | 5 A | 12 | 3.8 VA | 15 VA | 1.3 W | **A9C22011** |
| | | | 24 | 3.8 VA | 15 VA | 1.3 W | **A9C22111** |
| | | | 48 | 3.8 VA | 15 VA | 1.3 W | **A9C22211** |
| | | | 220 | 3.8 VA | 15 VA | 1.3 W | **A9C22511** |
| | | | 230…240 | 2.7 VA | 9.2 VA | 1.2 W | **A9C22711** |
| | 25 A | 8.5 A | 220 | 3.8 VA | 15 VA | 1.3 W | **A9C20531** |
| | | | 230…240 | 2.7 VA | 9.2 VA | 1.2 W | **A9C20731** |
| 2P | | | | | | | |
| | 16 A | 5 A | 12 | 3.8 VA | 15 VA | 1.3 W | **A9C22012** |
| | | | 24 | 3.8 VA | 15 VA | 1.3 W | **A9C22112** |
| | | | 48 | 3.8 VA | 15 VA | 1.3 W | **A9C22212** |
| | | | 220 | 3.8 VA | 15 VA | 1.3 W | **A9C22512** |
| | | | 230...240 | 2.7 VA | 9.2 VA | 1.2 W | **A9C22712** |
| | | | 12 | 3.8 VA | 15 VA | 1.3 W | **A9C22015** |
| | | | 24 | 3.8 VA | 15 VA | 1.3 W | **A9C22115** |
| | | | 220 | 3.8 VA | 15 VA | 1.3 W | **A9C22515** |
| | | | 230...240 | 2.7 VA | 9.2 VA | 1.2 W | **A9C22715** |
| | 20 A | 6.4 A | 230...240 | 2.7 VA | 9.2 VA | 1.2 W | **A9C22722** |
| | 25 A | 8.5 A | 24 | 3.8 VA | 15 VA | 1.3 W | **A9C20132** |
| | | | 48 | 3.8 VA | 15 VA | 1.3 W | **A9C20232** |
| | | | 220 | 3.8 VA | 15 VA | 1.3 W | **A9C20532** |
| | | | 230...240 | 2.7 VA | 9.2 VA | 1.2 W | **A9C20732** |
| | | | 220 | 3.8 VA | 15 VA | 1.3 W | **A9C20536** |
| | | | 230...240 | 2.7 VA | 9.2 VA | 1.2 W | **A9C20736** |
| | 40 A | 15 A | 220...240 | 4.6 VA | 34 VA | 1.6 W | **A9C20842** |
| | 63 A | 20 A | 24 | 4.6 VA | 34 VA | 1.6 W | **A9C20162** |
| | | | 220...240 | 4.6 VA | 34 VA | 1.6 W | **A9C20862** |
| | 100 A | - | 220...240 | 6.5 VA | 53 VA | 2.1 W | **A9C20882** |
| 3P | | | | | | | |
| | 16 A | 5 A | 220…240 | 4.6 VA | 34 VA | 1.6 W | **A9C22813** |
| | 25 A | 8.5 A | 220…240 | 4.6 VA | 34 VA | 1.6 W | **A9C20833** |
| | 40 A | 15 A | 220…240 | 6.5 VA | 53 VA | 2.1 W | **A9C20843** |
| | 63 A | 20 A | 220…240 | 6.5 VA | 53 VA | 2.1 W | **A9C20863** |
| 4P | | | | | | | |
| | 16 A | 5 A | 24 | 4.6 VA | 34 VA | 1.6 W | **A9C22114** |
| | | | 220...240 | 4.6 VA | 34 VA | 1.6 W | **A9C22814** |
| | | | 220...240 | 4.6 VA | 34 VA | 1.6 W | **A9C22818** |
| | 20 A | 6.4 A | 220 ...240 | 4.6 VA | 34 VA | 1.6 W | **A9C22824** |
| | 25 A | 8.5 A | 24 | 4.6 VA | 34 VA | 1.6 W | **A9C20134** |
| | | | 220...240 | 4.6 VA | 34 VA | 1.6 W | **A9C20834** |
| | | | 24 | 4.6 VA | 34 VA | 1.6 W | **A9C20137** |
| | | | 220...240 | 4.6 VA | 34 VA | 1.6 W | **A9C20837** |
| | | | 220...240 | 4.6 VA | 34 VA | 1.6 W | **A9C20838** |
| | 40 A | 15 A | 220...240 | 6.5 VA | 53 VA | 2.1 W | **A9C20844** |
| | | | 220...240 | 6.5 VA | 53 VA | 2.1 W | **A9C20847** |
| | 63 A | 20 A | 24 | 6.5 VA | 53 VA | 2.1 W | **A9C20164** |
| | | | 220...240 | 6.5 VA | 53 VA | 2.1 W | **A9C20864** |
| | | | 24 | 6.5 VA | 53 VA | 2.1 W | **A9C20167** |
| | | | 220...240 | 6.5 VA | 53 VA | 2.1 W | **A9C20867** |
| | | | 220...240 | 6.5 VA | 53 VA | 2.1 W | **A9C20868** |
| | | | 220...240 | 6.5 VA | 53 VA | 2.1 W | **A9C20869** |
| | 100 A | - | 220...240 | 13 VA | 106 VA | 4.2 W | **A9C20884** |

# iCT contactors
# Technical advice for iCT (cont.)

## Consumption (cont.)

### iCT manual control contactor 50 Hz

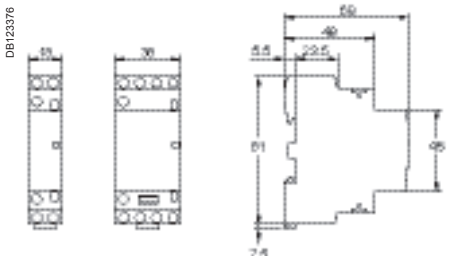
| Type | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2P | Rating (In) | | Control voltage (V AC) (50 Hz) | Consumption | | Max. power | |
| | AC7a | AC7b | | Holding | Inrush | | |
| | 16 A | 5 A | 220 | 2.7 VA | 9.2 VA | 1.2 W | **A9C23512** |
| | | | 230...240 | 2.7 VA | 9.2 VA | 1.2 W | **A9C23712** |
| | | | 220 | 3.8 VA | 15 VA | 1.3 W | **A9C23515** |
| | | | 230...240 | 2.7 VA | 9.2 VA | 1.2 W | **A9C23715** |
| | 25 A | 8.5 A | 24 | 3.8 VA | 15 VA | 1.3 W | **A9C21132** |
| | | | 220 | 2.7 VA | 9.2 VA | 1.2 W | **A9C21532** |
| | | | 230...240 | 2.7 VA | 9.2 VA | 1.2 W | **A9C21732** |
| | 40 A | 15 A | 24 | 4.6 VA | 34 VA | 1.6 W | **A9C21142** |
| | | | 220...240 | 4.6 VA | 34 VA | 1.6 W | **A9C21842** |
| | 63 A | 20 A | 24 | 4.6 VA | 34 VA | 1.6 W | **A9C21162** |
| | | | 220...240 | 4.6 VA | 34 VA | 1.6 W | **A9C21862** |
| 3P | | | | | | | |
| | 25 A | 8.5 A | 220...240 | 4.6 VA | 34 VA | 1.6 W | **A9C21833** |
| | 40 A | 15 A | 220...240 | 6.5 VA | 53 VA | 2.1 W | **A9C21843** |
| 4P | | | | | | | |
| | 25 A | 8.5 A | 24 | 4.6 VA | 34 VA | 1.6 W | **A9C21134** |
| | | | 220...240 | 4.6 VA | 34 VA | 1.6 W | **A9C21834** |
| | 40 A | 15 A | 24 | 6.5 VA | 53 VA | 2.1 W | **A9C21144** |
| | | | 220...240 | 6.5 VA | 53 VA | 2.1 W | **A9C21844** |
| | 63 A | 20 A | 24 | 6.5 VA | 53 VA | 2.1 W | **A9C21164** |
| | | | 220...240 | 6.5 VA | 53 VA | 2.1 W | **A9C21864** |

### iCT contactors - 60 Hz

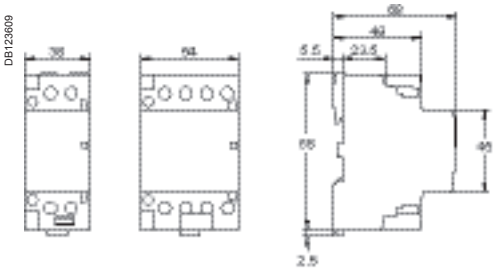
| Type | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1P | Rating (In) | | Control voltage (V AC) (60 Hz) | Consumption | | Max. power | |
| | AC7a | AC7b | | Holding | Inrush | | |
| | 25 A | 8.5 A | 127 | 3.8 VA | 15 VA | 1.3 W | **A9C20431** |
| | | | 220 ...240 | 2.7 VA | 9.2 VA | 0.9 W | **A9C20631** |
| 2P | | | | | | | |
| | 16 A | 5 A | 127 | 3.8 VA | 15 VA | 1.3 W | **A9C22415** |
| | | | 220...240 | 2.7 VA | 9.2 VA | 0.9 W | **A9C22615** |
| | 25 A | 8.5 A | 127 | 3.8 VA | 15 VA | 1.3 W | **A9C20432** |
| | | | 220...240 | 2.7 VA | 9.2 VA | 0.9 W | **A9C20632** |
| | | | 127 | 3.8 VA | 15 VA | 1.3 W | **A9C20436** |
| | | | 220...240 | 2.7 VA | 9.2 VA | 0.9 W | **A9C20636** |
| | 40 A | 15 A | 127 | 4.6 VA | 34 VA | 1.6 W | **A9C20442** |
| | | | 220...240 | 4.6 VA | 34 VA | 1.6 W | **A9C20642** |
| 3P | | | | | | | |
| | 25 A | 8.5 A | 127 | 4.6 VA | 34 VA | 1.6 W | **A9C20433** |
| | | | 220...240 | 4.6 VA | 34 VA | 1.6 W | **A9C20633** |
| | 40 A | 15 A | 127 | 6.5 VA | 53 VA | 2.1 W | **A9C20443** |
| | | | 220...240 | 6.5 VA | 53 VA | 2.1 W | **A9C20643** |
| | 63 A | 20 A | 127 | 6.5 VA | 53 VA | 2.1 W | **A9C20463** |
| | | | 220...240 | 6.5 VA | 53 VA | 2.1 W | **A9C20663** |

# iCT contactors
# Dimensions for iCT

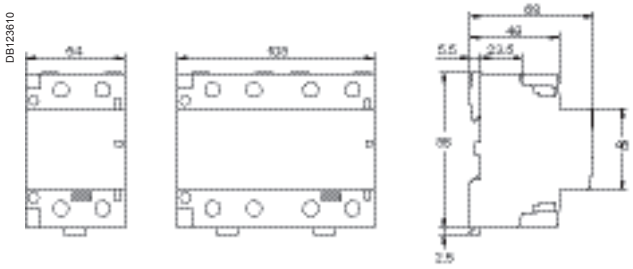
## Dimensions (mm)



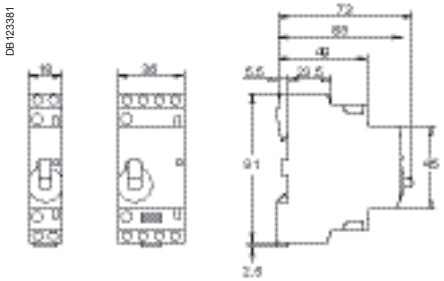

*iCT 16/25 A*



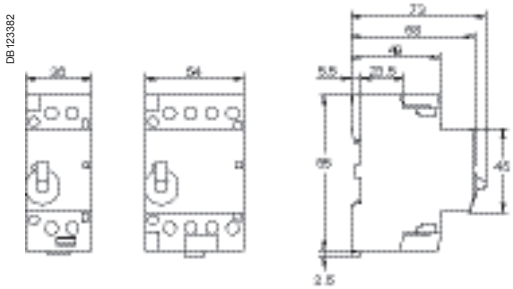

*iCT 40/63 A*



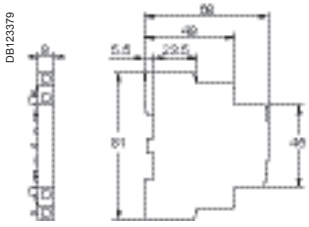

*iCT 100 A*



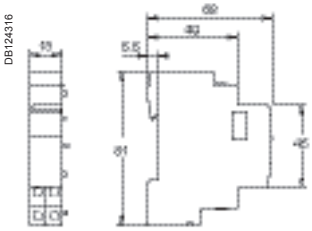

*iCT manual control contactor 16/25 A*



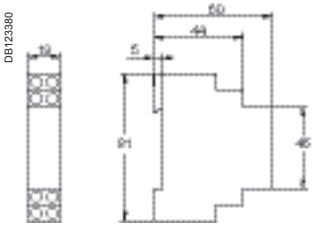

*iCT manual control contactor 40/63 A*




*iACTs*




*iACT24*




*iATEt*
*iACTp*
*iACTc*

G

# iTL impulse relays

DB116619

**iTL, iTLI, iTLs, iTLc, iTLm**

**IEC/EN 60669-2-2**
**iTLs: IEC/EN 60947-5-1**

## Impulse relays



### iTL

- The impulse relays are used to control, by means of pushbuttons, lighting circuits consisting of:
  - incandescent lamps, low-voltage halogen lamps, etc. (resistive loads)
  - fluorescent lamps, discharge lamps, etc. (inductive loads)

## Remote indication


### iTLs

- Allows remote indication of its operating state (open/closed)


### Indication iATLs

- Allows remote indication of the associated impulse relay

## Centralised control


### iTLc

- Allows centralised control of a group of TLc impulse relays, whilst at the same time retaining local impulse-type control


### Centralised control iATLc

- Used for centralised control, thanks to a "pilot line", of a group of impulse relays controlling separate circuit, while at the same time maintaining local individual control of each impulse relay

## Latched control


### iTLm

- Operated by latched orders from a changeover contact (switch, time switch, thermostat). Manual control does not work


### Latched control iATLm

- Controls the associated impulse relay by latched orders from a changeover contact

Impulse relays



Schneider Electric

# iTL impulse relays (cont.)

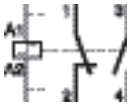
## Impulse relays are used:

- Closing of the impulse relay pole(s) is triggered by an impulse on the coil.
- Having two stable mechanical positions, the pole(s) will be opened by the next impulse. Each impulse received by the coil reverses the position of the pole(s).
- Can be controlled by an unlimited number of pushbuttons.
- Zero energy consumption.

PB106131-34

### Changeover contact iTLi

- This impulse relay has a changeover contact




PB106134-34

### Extensions iETL

- Used to increase the number of impulse relay poles
- Can be installed on the iTL, iTLi, iTLc, iTLm and iTLs


PB106140-34

### Centralised control + indication iATLc+s

- Used for centralised control, thanks to a "pilot line", of a group of impulse relays controlling separate circuit, while at the same time maintaining local individual control of each impulse relay
- Remote indication of the mechanical status of each relay

PB107752-34


### Control and indication 24 V DC iATL24

- Allows control and indication of a 230 V AC impulse relay from the Acti 9 Smartlink or by a PLC, by 24 V DC signals
- Also allows control by a pulsed signal

PB106136-34

### Multi-level centralised control iATLc+c

- Allows centralised control of a group of iTLc or “iTL + ATLc” impulse relays

PB106125-34

### Time delay iATEt

- Combined with an impulse relay, it automatically disconnects the circuit after a preset time

PB106141-34

### Control iATLz

- Must be used when installing several illuminated PBs in parallel to control an impulse relay (prevents operating malfunctions)

PB106142-63

### Step by step control iATL4

- Allows step-by-step control of two circuits via a single pushbutton

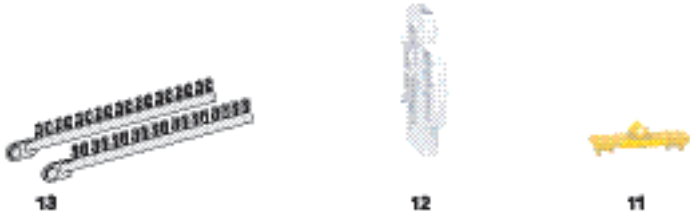
Impulse relays auxiliaries

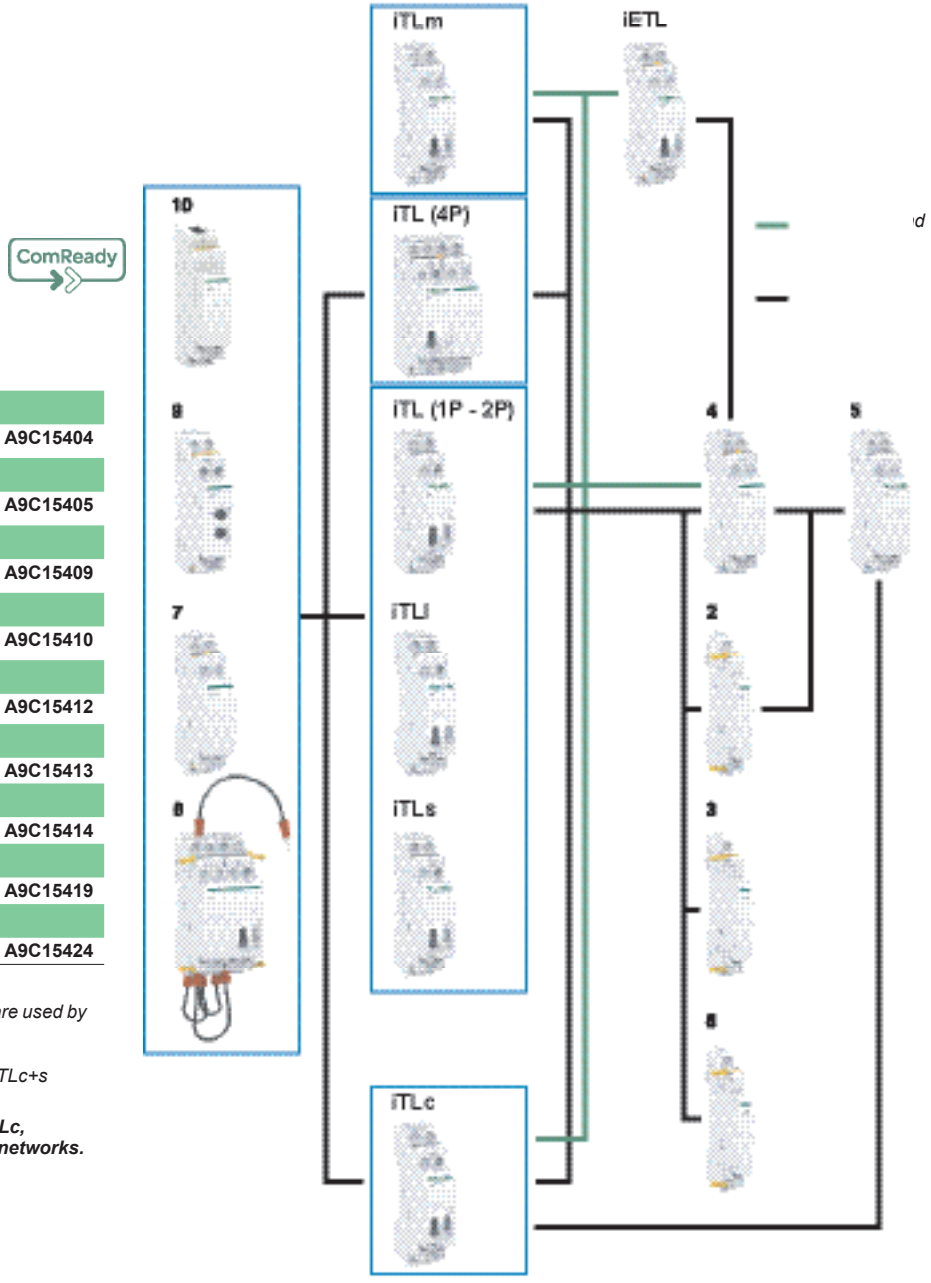
Specific auxiliaries

# iTL impulse relays (cont.)

## Mounting accessories

| | | | |
|---|---|---|---|
| **11** | Yellow clips | | **A9C15415** |
| **12** | 9 mm spacer | | **A9A27062** |
| **13** | Clip-on terminal markers | see page | **E-10** |




## Auxiliaries

| | | | |
|---|---|---|---|
| **Centralised control** | | | |
| **2** | iATLc [1], [3] | 24...240 V AC | **A9C15404** |
| **Indication** | | | |
| **3** | iATLs [1] | 24...240 V AC | **A9C15405** |
| **Centralised control + indication** | | | |
| **4** | iATLc+s [3] | 24...240 V AC | **A9C15409** |
| **Multi-level centralised control** | | | |
| **5** | iATLc+c [2], [3] | 24...240 V AC | **A9C15410** |
| **Step by step control** | | | |
| **6** | iATL4 | 230 V AC | **A9C15412** |
| **Control by illuminated push-buttons** | | | |
| **7** | iATLz | 130...240 V AC | **A9C15413** |
| **Latched control** | | | |
| **8** | iATLm [1] | 12...240 V AC | **A9C15414** |
| **Time delay control** | | | |
| **9** | iATEt [4] | 24...240 V AC | **A9C15419** |
| **Control and indication** | | | |
| **10** | iATL24 | 230 V AC | **A9C15424** |

*(1) The iATLc, iATLs and iATLm 9 mm auxiliaries are used by themselves to the right of an impulse relay.*
*(2) Connection by traditional cabling.*
*The iATLc+c must be mounted to the right of an iATLc+s or an iATLc.*

***(3) The centralised control functions (iTLc, iATLc, iATLc+s, iATLc+c) only operate on AC voltage networks.***

*(4) iATEt: control voltage:*
*24...240 V AC, 24...110 V DC.*

# iTL impulse relays (cont.)

PB106126-41

**Yellow clip**
- A simple clip-on system for flexible auxiliaries combination and improved robustness
- For electrical and mechanical connections

- Large circuit labeling area

- Consistent with the entire Acti 9 offer and with all types of lighting


- Insulated terminals IP20

- Built-in or optional auxiliary function: state indication, centralised control, latched control, control for illuminated pushbutton, step-by-step control, time delay

- Disconnection of remote control by selector switch (except for 4P single-piece iTL) for maintenance operation

- Manual controls on front face: direct and priority manual control by O-I toggle
- Mechanical contact position indicator

| | | Choice impulse relays auxiliaries | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | | **Standard iTL** | | | | | | **Changeover iTLI** | | | | | | **iTLc centralised control** | | | **iTLm control on latched order** | **iTLs remote indication** | | |
| Rating | A | 16 | | | | | 32 | 16 | | | | | | 16 | | | 16 | 16 | | |
| Control voltage | V AC | 230/240 | 130 | 48 | 24 | 12 | 230/240 | 230/240 | 130 | 48 | 24 | 12 | | 230/240 | 48 | 24 | 230/240 | 230/240 | 48 | 24 |
| | V DC | 110 | 48 | 24 | 12 | 6 | 110 | 110 | 48 | 24 | 12 | 6 | | - | | | 110 | 110 | 24 | 12 |
| **Auxiliaries** | | | | | | | | | | | | | | | | | | | | |
| **Extension** | | | | | | | | | | | | | | | | | | | | |
| iETL | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Centralised control + indication** | | | | | | | | | | | | | | | | | | | | |
| iATLc+s | | ■ | ■ | ■ | ■ | - | ■ | ■ | ■ | ■ | - | - | | - | - | - | - | ■ | ■ | ■ |
| **Centralised control** | | | | | | | | | | | | | | | | | | | | |
| iATLc | | ■ | ■ | ■ | ■ | - | ■ | ■ | ■ | ■ | - | - | | - | - | - | - | ■ | ■ | ■ |
| **Indication** | | | | | | | | | | | | | | | | | | | | |
| iATLs | | ■ | ■ | ■ | ■ | - | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Multi-level centralised control** | | | | | | | | | | | | | | | | | | | | |
| iATLc+c | | ■ | ■ | ■ | ■ | - | ■ | ■ | ■ | ■ | - | - | | ■ | ■ | ■ | - | ■ | ■ | ■ |
| **Latched control** | | | | | | | | | | | | | | | | | | | | |
| iATLm | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | - | - | - | - | ■ | ■ | ■ |
| **Control for illuminated Pushbutton** | | | | | | | | | | | | | | | | | | | | |
| iATLz | | ■ | ■ | - | - | - | ■ | ■ | ■ | - | - | - | | ■ | ■ | - | - | ■ | ■ | - |
| **Step by step control** | | | | | | | | | | | | | | | | | | | | |
| iATL4 | | ■ | - | - | - | - | ■ | ■ | - | - | - | - | | ■ | - | - | - | ■ | - | - |
| **Time delay control** | | | | | | | | | | | | | | | | | | | | |
| iATEt | | ■ | ■ | ■ (*) | ■ | - | ■ | ■ | ■ | ■ | ■ (*) | - | | ■ | ■ | ■ | - | ■ | ■ | ■ (*) |
| **Control and indication** | | | | | | | | | | | | | | | | | | | | |
| iATL24 | | ■ | - | - | - | - | ■ | ■ | - | - | - | - | | ■ | - | - | - | ■ | - | - |

*(*) iATEt : does not operate on 12 V DC.*

# iTL impulse relays

## Catalogue numbers

### iTL impulse relays

| Type | | | 1P | 2P | 3P | 4P |
|---|---|---|---|---|---|---|
| | | | DB123624<br>1 NO | DB123625<br>2 NO | DB123626 + DB123630<br>1 NO + 1NO/NC + 1NO | DB123627<br>4 NO |
| Rating (In) | Control voltage (Uc) (V AC) | (V DC) | | | | |
| 16 A | 12 | 6 | **A9C30011** | **A9C30012** | **A9C30011 + A9C32016** | **A9C30012 + A9C32016** |
| | 24 | 12 | **A9C30111** | **A9C30112** | **A9C30111 + A9C32116** | **A9C30114** |
| | 48 | 24 | **A9C30211** | **A9C30212** | **A9C30211 + A9C32216** | **A9C30212 + A9C32216** |
| | 130 | 48 | **A9C30311** | **A9C30312** | **A9C30311 + A9C32316** | **A9C30312 + A9C32316** |
| | 230...240 | 110 | **A9C30811** | **A9C30812** | **A9C30811 + A9C32816** | **A9C30814** |
| 32 A | 230...240 | 110 | **A9C30831** | **A9C30831 + A9C32836** | **A9C30831 + 2 x A9C32836** | **A9C30831 + 3 x A9C32836** |
| Width in 9 mm modules | | | 2 | 2 | 4 | 4 |

### iTLI impulse relays

| Type | | | DB123628<br>1P<br>1NO + 1NC |
|---|---|---|---|
| Rating (In) | Control voltage (Uc) (V AC) | (V DC) | |
| 16 A | 12 | 6 | **A9C30015** |
| | 24 | 12 | **A9C30115** |
| | 48 | 24 | **A9C30215** |
| | 130 | 48 | **A9C30315** |
| | 230...240 | 110 | **A9C30815** |
| Width in 9 mm modules | | | 2 |

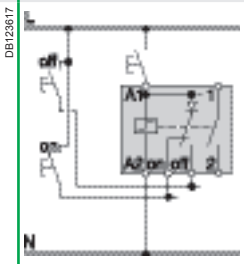
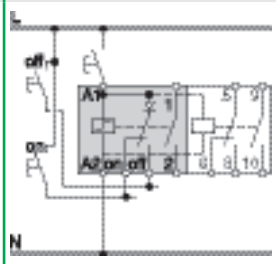
### iETL extensions for iTL and iTLI

| Type | | | | | Width in 9 mm modules |
|---|---|---|---|---|---|
| 1P | Rating (In) | Control voltage (Uc) (V AC) | (V DC) | | |
| DB123629<br>1NO | 32 A | 230...240 | 110 | **A9C32836** | 2 |
| **2P** | | | | | |
| DB123630<br>1NO/NC + 1NO | 16 A | 12 | 6 | **A9C32016** | 2 |
| | | 24 | 12 | **A9C32116** | 2 |
| | | 48 | 24 | **A9C32216** | 2 |
| | | 130 | 48 | **A9C32316** | 2 |
| | | 230...240 | 110 | **A9C32816** | 2 |

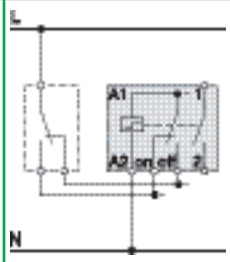
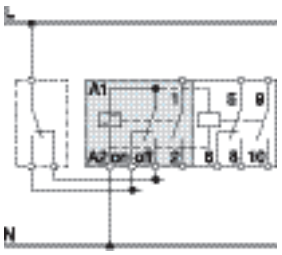
# iTLc , iTLm, iTLs with built-in auxiliary function

## Catalogue numbers (cont.)

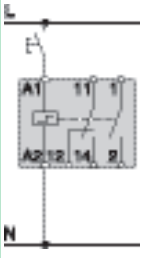
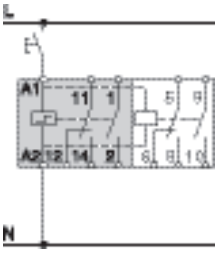
### iTLc impulse relay with centralised control

| Type | | 1P | 3P |
|---|---|---|---|
| | |  |  |
| | | 1NO | 3P |
| **Rating (In)** | **Control voltage (Uc) (V AC)** | | |
| 16 A | 24 | **A9C33111** | **A9C33111 + A9C32116** |
| | 48 | **A9C33211** | **A9C33211 + A9C32216** |
| | 230...240 | **A9C33811** | **A9C33811 + A9C32816** |
| Width in 9 mm modules | | 2 | 4 |

### iTLm impulse relay with latched control

| Type | | 1P | 3P |
|---|---|---|---|
| | |  |  |
| | | 1NO | 3P |
| **Rating (In)** | **Control voltage (Uc) (V AC)** | | |
| 16 A | 230...240 | **A9C34811** | **A9C34811 + A9C32116** |
| Width in 9 mm modules | | 2 | 4 |

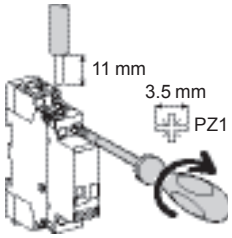
### iTLs impulse relay with remote indication*

| Type | | | 1P | 3P |
|---|---|---|---|---|
| | | |  |  |
| | | | 1NO | 3P |
| **Rating (In)** | **Control voltage (Uc)** | | | |
| | **(V AC)** | **(V DC)** | | |
| 16 A | 24 | 12 | **A9C32111** | **A9C32111 + A9C32116** |
| | 48 | 24 | **A9C32211** | **A9C32211 + A9C32216** |
| | 230...240 | 110 | **A9C32811** | **A9C32811 + A9C32816** |
| Width in 9 mm modules | | | 2 | 4 |

*(*) Short circuit protection device for indication contacts : 6 A gG fuse.*

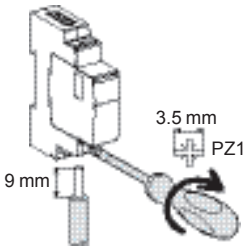
## Connection

DB123132




| Type | Rating | Circuit | Tightening torque | Copper cables | |
|---|---|---|---|---|---|
| | | | | Rigid or ferrule | Flexible or ferrule |
| | | | DB122945 | DB123553 | |
| iTL, iTLi, iTLc, iTLm, iTLs, iETL | 16 A | Control | 1 N.m | 0.5 to 4 mm² | 1 to 4 mm² |
| | | Power | | 1.5 to 4 mm² | 1.5 to 4 mm² |
| iTL, iETL | 32 A | Control | | 0.5 to 4 mm² | 1 to 4 mm² |
| | | Power | 1.2 N.m | 1.5 to 10 mm² | 1.5 to 10 mm² |
| iATLs, iATLc, iATLc+s, iATLc+c, iATLm, iATEt, iATL4, iATLz | | | 1 N.m | 0.5 to 4 mm² | 1 to 4 mm² |

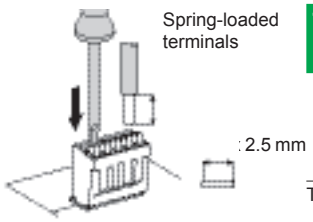
DB124308




| Type | Terminals | Tightening torque | Copper cables | | |
|---|---|---|---|---|---|
| | | | Rigid | Flexible | Flexible or ferrule |
| | | DB122945 | DB123553 | DB123554 | |
| iATL24 | Power supply (N/P) | 1 N.m | 0.5 to 10 mm² | 0.5 to 6 mm² | 0.5 to 4 mm² |
| | Input (Y1/Y2) | | 2 x 0.5 to 2 x 2.5 mm² | 2 x 0.5 to 2 x 2.5 mm² | 2 x 0.5 to 2 x 2.5 mm² |

## Ti24 connector connection

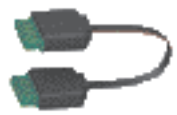
DB123580




| Type | Catalogue numbers | Copper cables | |
|---|---|---|---|
| | | Rigid | Flexible |
| | DB122945 | DB123553 | |
| Ti24 interface | **A9XC2412** | 1 x 0.5 to 1.5 mm² | 1 x 0.5 to 1.5 mm² |

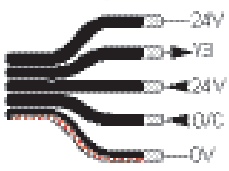
## Ti24 prefabricated cables connection

PB107754-10



PB107755-14

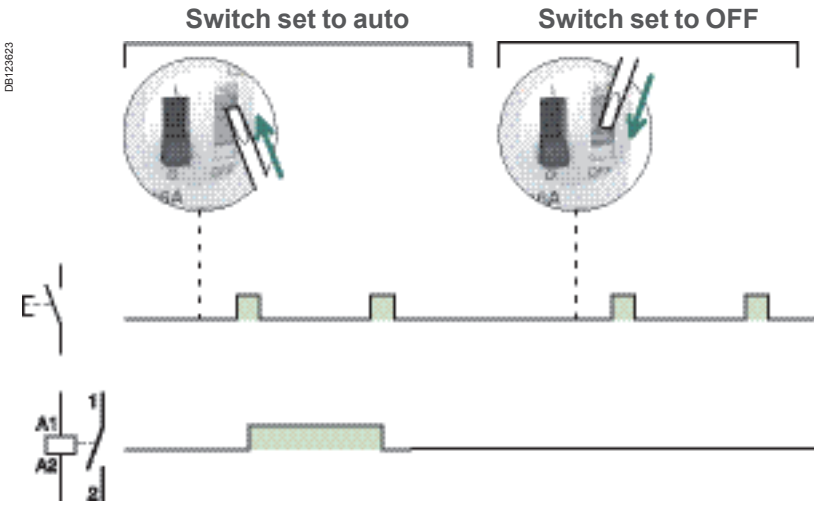
DB404857

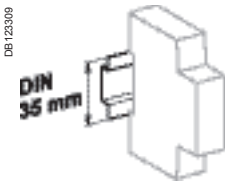



| Type | Catalogue numbers | Length |
|---|---|---|
| **Connection for Acti 9 Smartlink** | | |
| 6 short prefabricated | **A9XCAS06** | 100 mm |
| 6 medium-sized prefabricated | **A9XCAM06** | 160 mm |
| 6 long prefabricated | **A9XCAL06** | 870 mm |
| **Connection for PLC type terminals** | | |
| 6 long prefabricated on a single side | **A9XCAU06** | 870 mm |

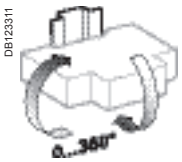
# iTL impulse relays (cont.)

## Operation

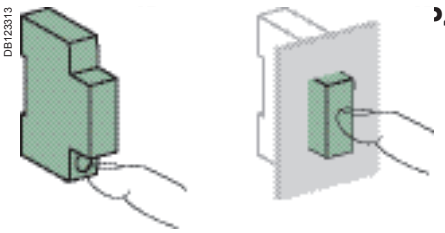



*Clip on DIN rail 35 mm.*




*Indifferent position of installation.*

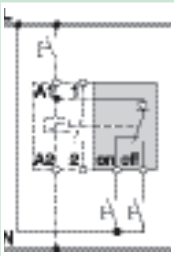
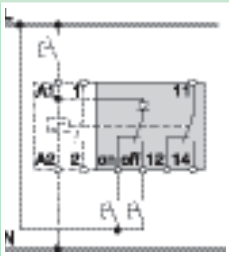
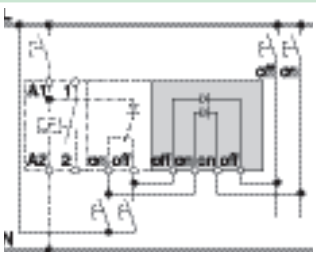



## Technical data

| | | | |
|---|---|---|---|
| **Control circuit** | | | |
| | | **iTL and iTLI 16 A iTLc, iTLm, iTLs, iETL 16 A** | **iTL 32 A, iETL 32 A** |
| Dissipated power (during the impulse) | | 1, 2, 3P: 19 VA | 19 VA |
| | | 4P: 38 VA | |
| Illuminated PB control | | Max. current 3 mA (if > use an ATLz) | |
| Operating threshold | | Min. 85 % of Un in conformance with IEC/EN60669-2-2 | |
| Duration of the control order | | 50 ms to 1 s (200 ms recommended) | |
| Response time | | 50 ms | |
| **Power circuit** | | | |
| Voltage rating (Ue) | 1P, 2P | 24 ...250 V AC | |
| | 3P, 4P | 24....415 V AC | |
| Frequency | | 50 Hz or 60 Hz | |
| Maximum number of operations per minute | | 5 | |
| Maximum number of switching operation a day | | 100 | |
| **Additional characteristics** to IEC/EN 60947-3 | | | |
| Insulation voltage (Ui) | | 440 V AC | |
| Pollution degree | | 3 | |
| Rated impulse withstand voltage (Uimp) | | 6 kV | |
| **Endurance (O-C)** | | | |
| Electrical to IEC/EN 60947-3 | | 200,000 cycles (AC21) | 50,000 cycles (AC21) |
| | | 100,000 cycles (AC22) | 20,000 cycles (AC22) |
| Overvoltage category | | IV | |
| **Other characteristics** | | | |
| Degree of protection (IEC 60529) | Device only | IP20 | |
| | Device in modular enclosure | IP40<br>Insulation class II | |
| Operating temperature | | -20°C to +50°C | |
| Storage temperature | | -40°C to +70°C | |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity 95 % at 55°C) | |

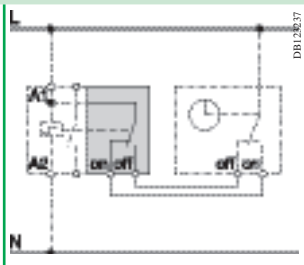
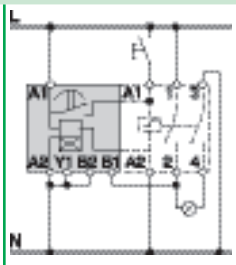
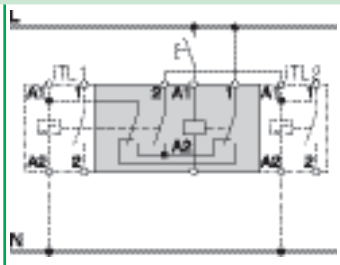
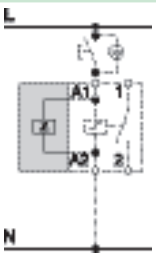
G

# iTL impulse relays
# Electrical auxiliaries
# for iTL impulse relays

| | | Indication | Control | | |
|---|---|---|---|---|---|
| **Auxiliaries** | | **iATLs** | **iATLc** | **iATLc+s** | **iATLc+c** |
| **Type** | | **Indication** | **Centralised control** | **Centralised control + indication** | **Multi-level centralised control** |
| | |  |  |  |  |
| **Function** | | | | | |
| | | ■ Allows remote indication of the associated impulse relay | ■ Used for centralised control, thanks to a "pilot line", of a group of impulse relays controlling separate networks, while at the same time maintaining local individual control of each impulse relay | ■ And for remote indication of the mechanical status of each relay | ■ Used to control the centralised controls of a number of impulse relay groups, while at the same time maintaining local individual control and centralised control by level |
| **Wiring diagrams** | | | | | |
| | |  |  |  |  |
| | | – | – | – | ■ Each group, made up of iTLc or (iTL or iTLI or iTLs) + iATLc+s, must only contain a single iATLc+c<br>■ Maximum number of impulse relays that can be controlled:<br>□ 230 V AC: 24<br>□ 130 V AC: 12<br>□ 48 V AC: 5 |
| **Mounting** | | | | | |
| | | ■ Mounted to the right of iTL by yellow clips | ■ Mounted to the right of iTL by yellow clips | ■ Mounted to the right of iTL by yellow clips | ■ Without mechanical link with impulse relays and auxiliaries |
| **Catalogue numbers** | | **A9C15405** | **A9C15404** | **A9C15409** | **A9C15410** |
| **Technical specifications** | | | | | |
| Control voltage (Ue) | V AC | 24…240 | 24…240 | 24…240 | 24 …240 |
| | V DC | 24…240 | – | – | – |
| Width in 9 mm modules | | 1 | 1 | 2 | 2 |
| Auxiliary contact (breaking capacity) | | ■ Mininimum: 10 mA at 24 V AC/DC<br>■ Maximum (IEC 60947-5-1):<br>□ 12…240 V AC 6 A<br>□ 12…24 V DC 6 A<br>□ 15…240 V AC 2 A<br>□ 13…24 V DC 2 A | – | ■ Mininimum: 10 mA at 24 V AC/DC<br>■ Maximum (IEC 60947-5-1):<br>□ 12…240 V AC 6 A<br>□ 12…24 V DC 6 A<br>□ 15…240 V AC 2 A<br>□ 13…24 V DC 2 A | – |
| Number of contacts | | – | – | – | – |
| Operating temperature | °C | -20°C to +50°C | | | |
| Storage temperature | °C | -40°C to +70°C | | | |

# iTL impulse relays
# Electrical auxiliaries
# for iTL impulse relays (cont.)

## Control

| | iATLm | iATEt | iATL4 | iATLz |
|---|---|---|---|---|
| | **Latched control** | **Time delay** | **Step by step control** | **Control by illuminated push-buttons** |
| | PB106138-34 PB106125-34  | PB106142-63  | PB106141-34  |  |
| | ■ Combined with an impulse relay, it operates on latched orders | ■ Combined with an impulse relay, it automatically disconnects the circuit after a preset time | ■ Allows the step by step sequence over 2 circuits | ■ Used to control impulse relays by illuminated push-buttons, without operating risks |
| | DB123234 DB123237  | DB123552  | DB123230  |  |
| | – | ■ 5 time setting ranges:<br>□ 1 to 10 s<br>□ 6 to 60 s<br>□ 2 to 10 min<br>□ 6 to 60 min<br>□ 2 to 10 h | ■ The cycle is as follows:<br>□ 1st impulse - iTL 1 closed, iTL 2 open<br>□ 2nd impulse - iTL 1 open, iTL 2 closed<br>□ 3rd impulse - iTL 1 and 2 closed<br>□ 4th impulse - iTL 1 and 2 open<br>□ 5th impulse - iTL 1 closed, iTL 2 open, etc | ■ Provide an iATLz when the current drawn up by the illuminated push-buttons is higher than 3 mA (this current is sufficient to keep the coils energised). Above this value, fit one extra iATLz per 3 mA.<br>■ For example: for 7 mA, fit 2 iATLz |
| | ■ Mounted to the right of iTL by yellow clips | ■ Mounted to the left of iTL by yellow clips | ■ Assembled between 2 impulse relays: according to the auxiliarisation table by yellow clips | ■ Mounted to the left of iTL by yellow clips |
| | **A9C15414** | **A9C15419** | **A9C15412** | **A9C15413** |
| | 12…240 | 24…240 | 230 | 130…240 |
| | 6…110 | 24…110 | – | – |
| | 1 | 2 | 4 | 2 |
| | – | – | – | – |
| | – | – | – | – |
| | -20°C to +50°C | | | |
| | -40°C to +70°C | | | |

# iTL impulse relays
# Electrical auxiliaries
# for iTL impulse relays (cont.)

## Control and indication

| Auxiliaire | iATL24 |
|---|---|
| **Type** | **Control and indication 24 V DC** |
| | With Ti24 connector |

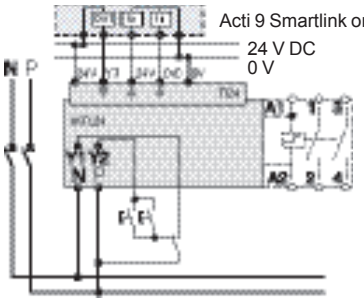
PB107752-34


**Function**

- This auxiliary allows a impulse relay to be interfaced with the Acti 9 Smartlink interface or a programmable logic controller (PLC) in 24 V DC (control, O/C indication)
- 230 V AC control

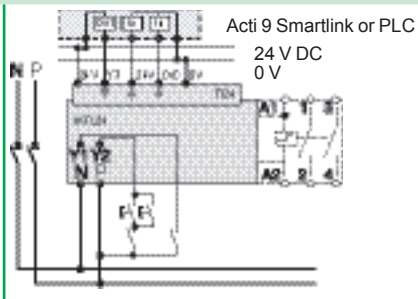
**Wiring diagrams**

DB124319




Wiring with exclusive selector 230 V AC and 24 V DC controls

DB124445




Wiring for non-exclusive 230 V AC and 24 V DC controls

**Mounting**

- To the left of the iTL impulse relay using the yellow clips (1).
- When an iATL24 is used, the A1/A2 terminals of the impulse relay should not be wired. Only the yellow clips integral with the iATL24 should be used for connection to the coil.

**Utilization**

- 230 V AC interface:
  - Y1: enabling of 24 V DC control (Y1 = 1) or inhibition of 24 V DC control (Y1 = 0).
  - Y2: 230 V pulse control
- "TI24" 24 V DC interface:
  - Y3: 24 V DC control of iTL closing on rising edge and opening on falling edge
  - reading of the impulse relay status (opened or closed) from the position of the integrated O/C auxiliary contact
  - monitoring of connection of the "Ti24" terminal block by the upstream system (PLC, supervision system) via the 24 V terminal (in the centre of the Ti24 terminal block)

| | | |
|---|---|---|
| **Catalogue numbers** | | **A9C15424** |
| **Technical specifications** | | |
| Control voltage (Ue) | V AC | 230, +10 %, -15 % (Y2) |
| | V DC | 24, ± 20 % (Y3) |
| Operating frequency | Hz | 50 |
| Insulation voltage (Ui) | V AC | 250 |
| Rated impulse withstand voltage (Uimp) | kV | 8 |
| Pollution degree | | 3 |
| Degree of protection | | IP20B device only |
| | | IP40 device in modular enclosure |
| Width in 9 mm modules | | 2 |
| Auxiliary contact (O/C) Ti24 | | 24 V DC protected output, min. 2 mA, max. 100 mA |
| Contact | | 1 O/C operating category AC 14 |
| Operating temperature | °C | -25°C to +60°C |
| Storage temperature | °C | -40°C to +80°C |
| Consumption | | <1 W |
| Standard | | IEC/EN 60947-5-1 |

*(1) Mechanical and electrical connection.*



Schneider Electric

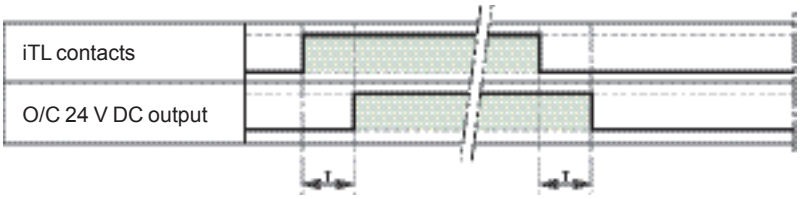
# iTL impulse relays
# Electrical auxiliaries
# for iTL impulse relays (cont.)

ComReady

## Operation of the iATL24

### O/C 24 V DC output

DB124314

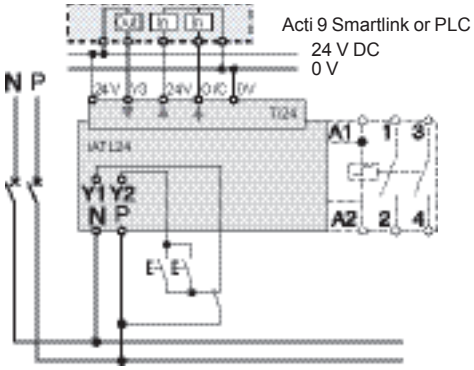



| | Parameter | Min | Max |
|---|---|---|---|
| T | Time delay between iATL24 closing and indication | 100 ms | 200 ms |

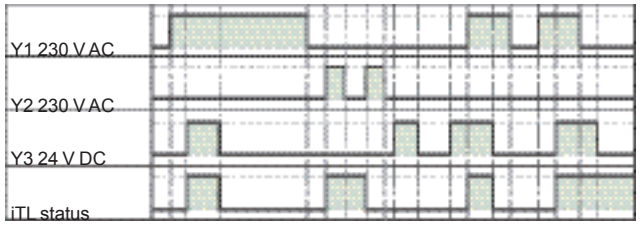
- Minimum duration of 230 V AC pulse (Y2): 200 ms.
- 30 iATL24 closing or opening actuations are authorized per minute: Minimum time delay between 2 actuations on the iATL24 via Y1,Y2, Y3 (closing or opening of the iTL coil): 440 ms.
- 10 closing or opening actuations spaced 440 milliseconds apart are authorized following no loading of the iATL24 during a period of 20 seconds.

**Wiring with exclusive selector 230 V AC and 24 V DC controls**

DB124446

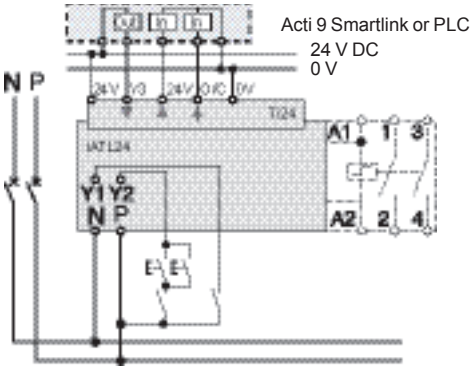



DB124448

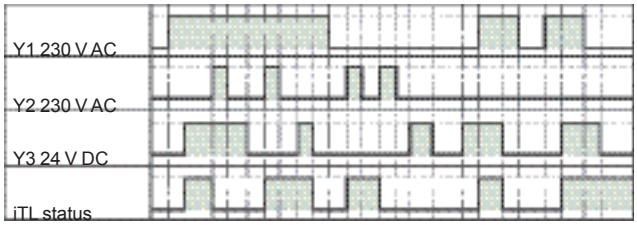



**Wiring for non-exclusive 230 V AC and 24 V DC controls**

DB124447




DB124449




G

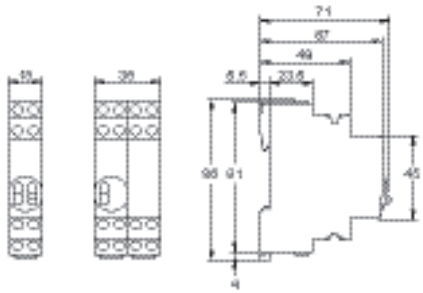
# iTL impulse relays

## Security

| Accessories | Yellow clips | Spacer |
|---|---|---|
| | PB106143-10  | PB104483  |
| **Function** | | |
| | ■ Ensure the mechanical and/or electrical link between impulse relays and their auxiliaries (set of 10). | ■ Required to reduce temperature rise of modular devices installed side by side.<br>■ Recommended to separate electronic devices (thermostat, programmable clock, etc.) from electromechanical devices (relays, contactors). |
| **Catalogue numbers** | **A9C15415** | **A9A27062** |
| **Technical specifications** | | |
| Width in 9 mm modules | – | 1 |

## Dimensions (mm)

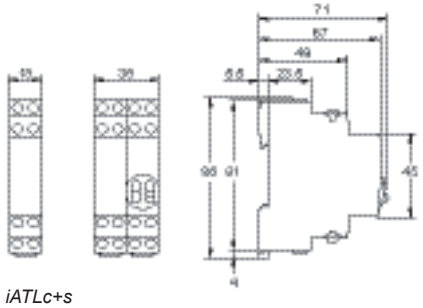
DB123375



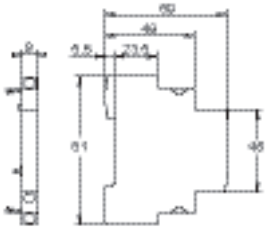
*iTL 1P*
*iTLc*
*iTLm*
*iTLs*
*iTLi*
*iETL*

*iTL+iETL*
*iTL 4P*

DB123383

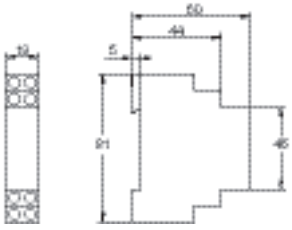


*iATLc+s*
*iATLc+c*
*iATLz*
*iATL4*



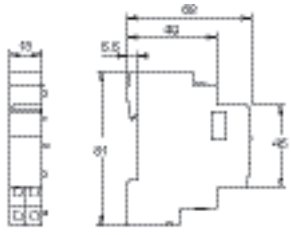
*iATLc*
*iATLs*
*iATLm*

DB123380



*iATEt*

DB124316



*iATL24*

# iTL+ high-performance impulse relays

## EN 60669-2-2

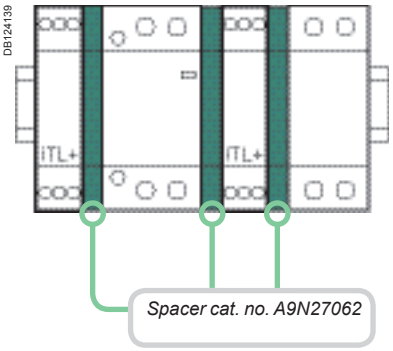
The iTL+ high-performance impulse relay allows remote control of single-phase circuits. It is designed for demanding applications.

The iTL+ high-performance impulse relay is used for push-button control of lighting circuits consisting of:
- incandescent lamps, low-voltage halogen lamps, etc. (resistive loads)
- fluorescent tubes, discharge lamps, etc. (inductive loads).

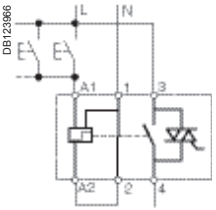
PB107132-35

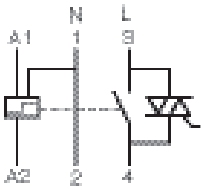
PB104483-35

DB124139




DB123986



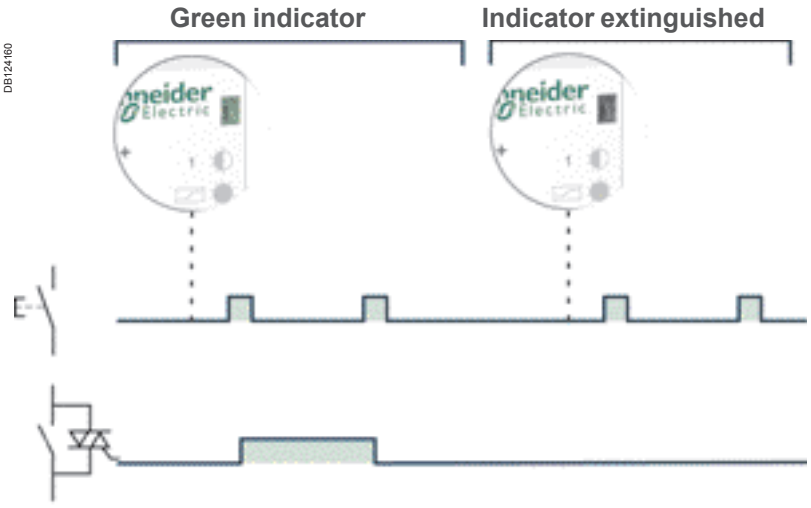

| iTL+ | | | |
|---|---|---|---|
| **Type** | **Rating** | | **Width in 9 mm modules** |
| **1P+N** | | | |
| DB106156   | 16 A | **A9C15032** | 2+1 (1) |

*(1) Supplied with a 9 mm spacer (cat. no.* **A9N27062***): to be used for mounting the iTL+ alongside a circuit breaker, contactor, impulse relay, etc., in order to maintain optimal operation.*

**It is compulsory:**
**- to connect the neutral**
**- to keep the same control circuit connection "A1: phase", "A2: neutral"**
**- to use the same phase for connection of the power and control functions.**

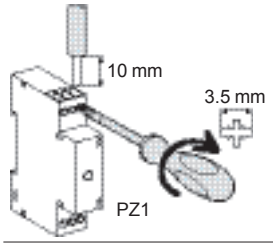
## Operation

DB124160




## Connection

DB123655

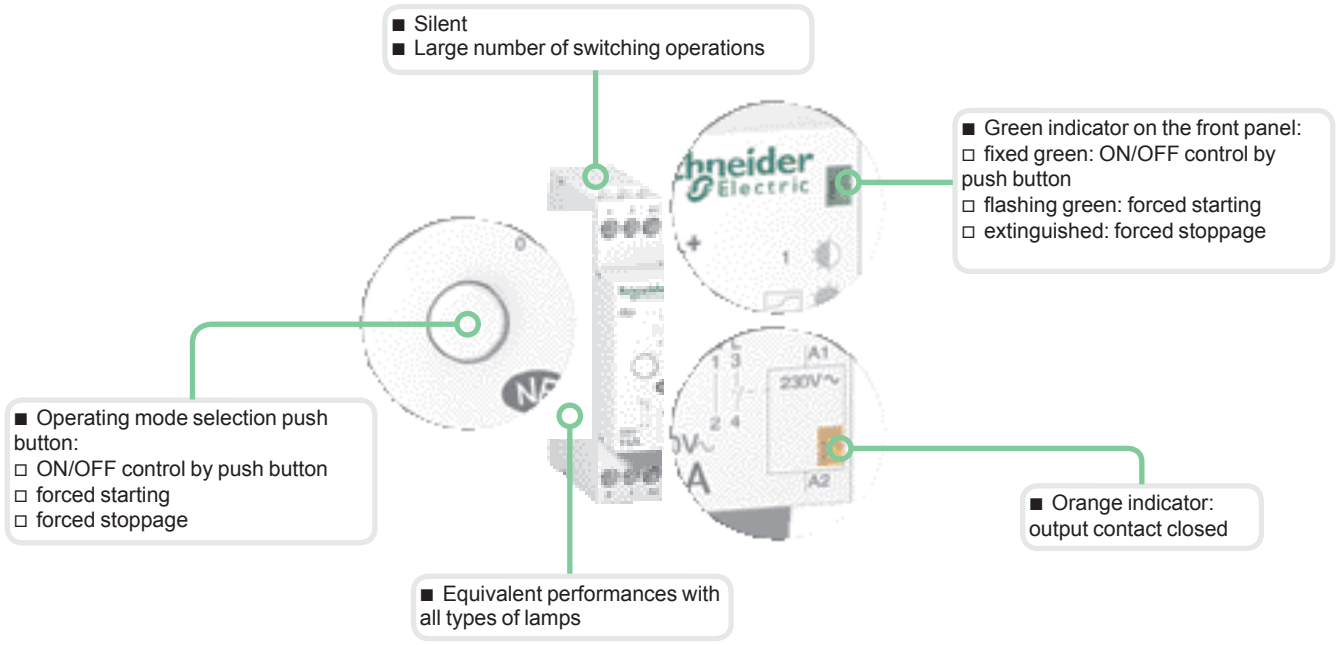



| Type | Rating | Tightening torque | Copper cables | |
|---|---|---|---|---|
| | | | Rigid or flexible with ferrule | Rigid or flexible without ferrule |
| | | DB123656 | DB123657  |  |
| iTL+ | 16 A | 1 N.m | 2 x 1.5 mm² | 2 x 2.5 mm²<br>1 x 4 mm² |

# iTL+ high-performance impulse relays (cont.)

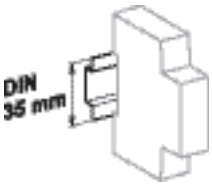
They combine the benefits of static switching and electromechanical technology: small size, little temperature rise.

PB107132-40




Following a mains failure, the iTL+ returns to 0 position (forced stoppage) irrespective of its initial state.

DB123309

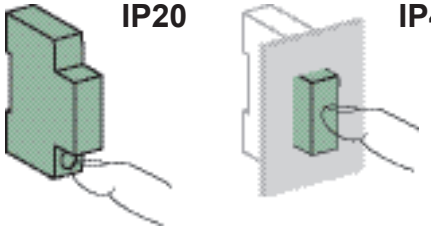



*Clip on DIN rail 35 mm.*

DB123311


*Indifferent position of installation.*

DB123313




## Technical data

| | | |
|---|---|---|
| **Control circuit** | | |
| Coil voltage (Uc) | | 230 V AC |
| Frequency | | 50 Hz |
| Inrush power | | 11 VA |
| Holding power | | 1.1 VA |
| Control by luminous push button | | Max. current 5 mA |
| Control order duration | | 50 ms to 1 s (recommended 200 ms) |
| **Power circuit** | | |
| Voltage rating (Ue) | | 230 V AC |
| Frequency | | 50 Hz |
| Electrical load | Minimum | 20 W |
| | Maximum | 3600 W |
| Max. number of switching operations per minute | | 6 |
| **Other characteristics** | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40<br>Insulation class II |
| Endurance (O-C) | Electrical | 5.000.000 cycles (AC21 - AC22) |
| Noise level at activation | | < 30 dBA |
| Operating temperature | | -5°C to +55°C |
| Storage temperature | | -40°C to +60°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) |

## Weight (g)

| High-performance impulse relays | |
|---|---|
| **Type** | **iTL+** |
| 1P+N | 70 |

# iCT+ high-performance contactors

## EN 60669-2-2

iCT+ high-performance contactors allow remote control of single-phase circuits.
They are designed for demanding applications.

iCT+ high-performance contactors can be used for remote control of applications on AC networks:
- lighting, heating, ventilation, roller blinds, domestic hot water
- mechanical ventilation systems, etc.
- load shedding on non-priority circuits.

PB107130-35

*Standard 1P+N*

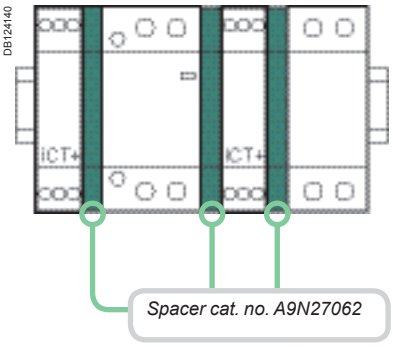
PB107131-35

*1P+N with manual control*

PB104483-35

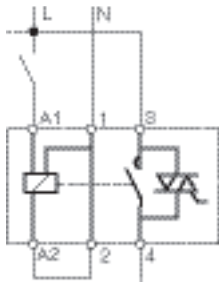
*Spacer*

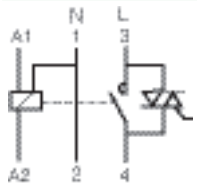
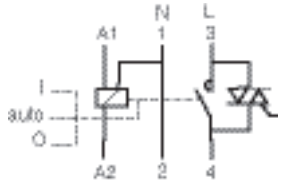
DB124140




*Spacer cat. no. A9N27062*

DB404607



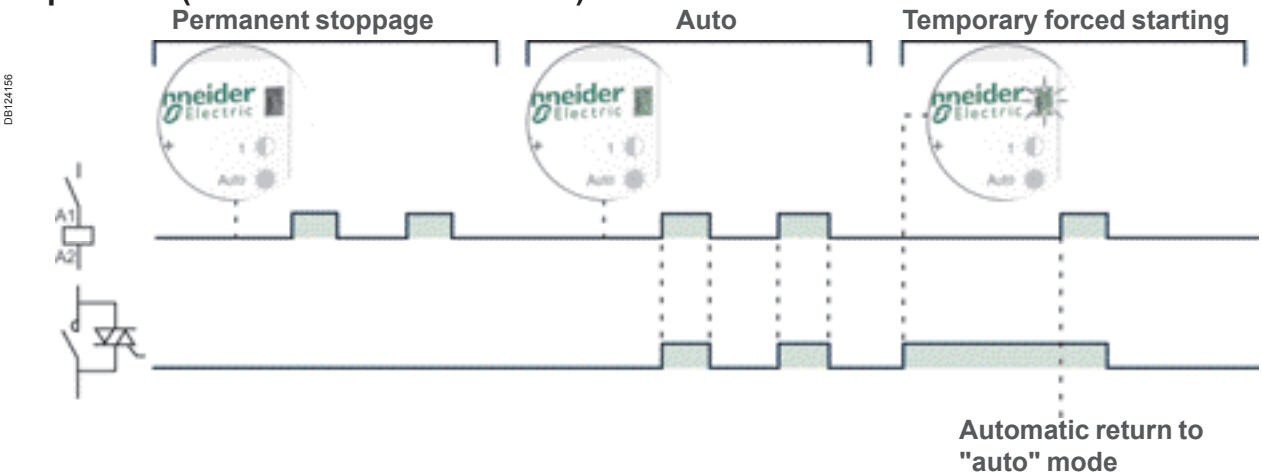

| iCT+ | | | | |
|---|---|---|---|---|
| **Type** | **Rating** | **Contact** | | **Width in 9-mm modules** |
| **Standard 1P+N** | | | | |
| E57636  | 20 A | 1 NO | **A9C15030** | 2+1 (1) |
| **1P+N with manual control** | | | | |
| E57646  | 20 A | 1 NO | **A9C15031** | 2+1 (1) |

*(1) Supplied with a 9 mm spacer (cat. no.* **A9N27062***): to be used for mounting the iCT+ alongside a circuit breaker, contactor, impulse relay, etc., in order to maintain optimal operation.*

**It is compulsory:**
**- to connect the neutral**
**- to keep the same control circuit connection "A1: phase", "A2: neutral"**
**- to use the same phase for connection of the power and control functions.**

## Operation (manual-control contactor)

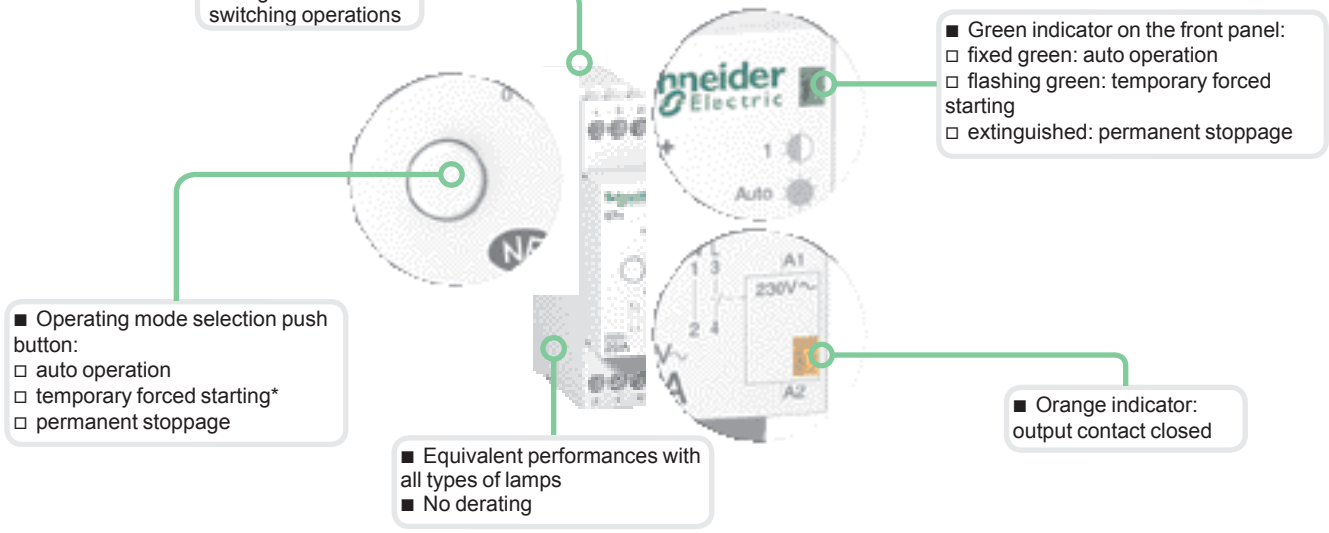
DB124156



# iCT+ high-performance contactors (cont.)

They combine the benefits of static switching and electromechanical technology: small size, little temperature rise.

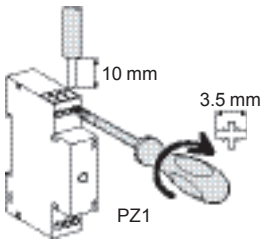
PB137131-40




Following a mains failure, the iCT+ returns to "auto" operating mode irrespective of its initial state.

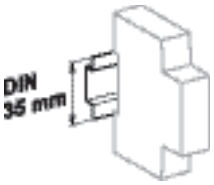
## Connection

DB123655




| Type | Tightening torque | Copper cables | |
|---|---|---|---|
| | | Rigid or flexible with ferrule | Rigid or flexible without ferrule |
| | DB123656 | DB123657 | |
| iCT+ | 1 N.m | 2 x 1.5 mm² | 2 x 2.5 mm²<br>1 x 4 mm² |

DB123309

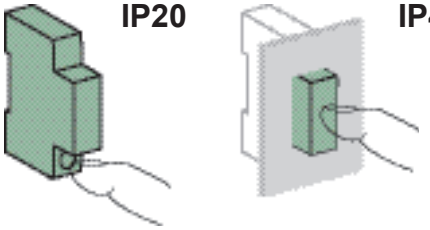



*Clip on DIN rail 35 mm.*

DB123311

*Indifferent position of installation.*

DB123313




## Technical data

| | | |
|---|---|---|
| **Control circuit** | | |
| Coil voltage (Uc) | | 230 V AC (± 10 %) |
| Frequency | | 50 Hz |
| Inrush power | | 11 VA |
| Holding power | | 1.1 VA |
| **Power circuit** | | |
| Voltage rating (Ue) | | 230 V AC (± 10 %) |
| Frequency | | 50 Hz |
| Electrical load | Minimum | 20 W |
| | Maximum | 3600 W |
| Max. number of switching operations per minute | | 6 |
| **Other characteristics** | | |
| Endurance (O-C) | Electrical | 5.000.000 cycles |
| Pollution degree | | 3 |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40<br>Insulation class II |
| Operating temperature | | -5°C to +55°C |
| Storage temperature | | -40°C to +60°C |
| Tropicalization (IEC 60068-1) | | 2 (relative humidity of 95 % at 55°C) |

## Weight (g)

| High-performance contactors | |
|---|---|
| **Type** | **iCT+** |
| Standard 1P+N | 70 |
| 1P+N with manual control | 70 |

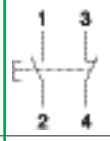
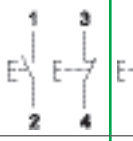
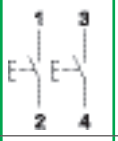
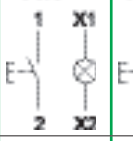
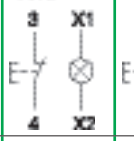
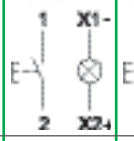
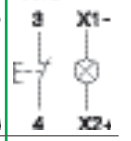
# iPB pushbuttons

## IEC 60669-1 and IEC 60947-5-1

■ iPB pushbuttons are used to control electric circuits by means of pulses.

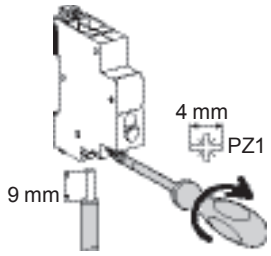
## Catalogue numbers

**iPB pushbuttons**

| Type | | Single | | | | Double | | Single + indicator light | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | |  | | | |  | |  | | | |
| Diagram | |  | |  |  |  |  |  |  |  |  |
| Pushbutton | Colour | Grey | Red | Grey | Grey | Green/red | Grey/grey | Grey | Grey | Grey | Grey |
| Indicator light | Power supply | - | - | - | - | - | - | 110…230 V AC | | 12…48 V AC/DC | |
| | Colour | - | - | - | - | - | - | Green | Red | Green | Red |
| **Cat. no.** | | **A9E18030** | **A9E18031** | **A9E18032** | **A9E18033** | **A9E18034** | **A9E18035** | **A9E18036** | **A9E18037** | **A9E18038** | **A9E18039** |
| Width in 9 mm modules | | 2 | | | | 2 | | 2 | | | |

## Connection

DB123133

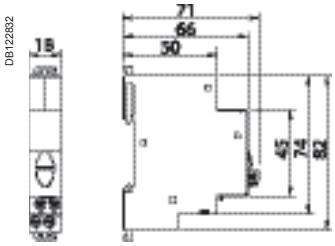



| Tightening torque | Copper cables | |
|---|---|---|
| | Rigid | Flexible or ferrule |
| | DB122945  DB122946 |  |
| 1 N.m | 0.5 mm² min. | 0.5 mm² min. |
| | 2 x 2.5 mm² max. | 2 x 2.5 mm² max. |

■ Phase-separated wall that can be divided to allow the teeth of all types of comb busbar to pass through.
■ Staggered terminals to simplify connection.

## Dimensions (mm)

DB122832




## Technical data

| | |
|---|---|
| **Main characteristics** | |
| Pollution degree | 3 |
| **Power circuit** | |
| Voltage rating (Ue) | 250 V AC |
| Current rating (Ie) | 20 A |
| **Additional characteristics** | |
| Endurance (O-C) | 30,000 operations AC22 (cos φ = 0.8) |
| Operating temperature | -35°C... +70°C |
| Storage temperature | -40°C... +80°C |
| Tropicalization | Treatment 2 (relative humidity 95 % at 55°C) |
| LED indicator light | Consumption: 0.3 W |
| | Service life: 100,000 hours of constant lighting efficiency |
| | Maintenance-free indicator light (non-interchangeable LEDs) |

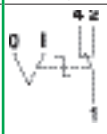
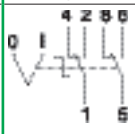
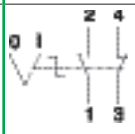
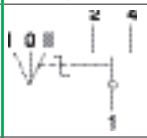
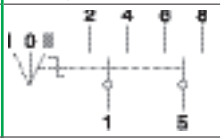
# iSSW linear switches

## IEC 60669-1 and IEC 60947-5-1

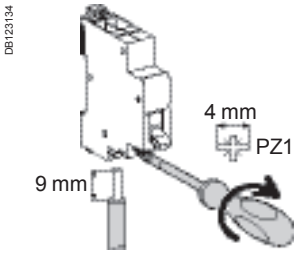
■ iSSW linear switches are used for the manual control of electric circuits.

## Catalogue numbers

**iSSW linear switches**

| Type | 2 positions | | | 3 positions | |
|---|---|---|---|---|---|
| |  | | |  | |
| Contact | 1 changeover switch | 2 changeover switches | 1 NO + 1NC | 1 changeover switch | 2 changeover switches |
| Diagram |  |  |  |  |  |
| Cat. no. | **A9E18070** | **A9E18071** | **A9E18072** | **A9E18073** | **A9E18074** |
| Width in 9 mm modules | 2 | 4 | 2 | 2 | 4 |

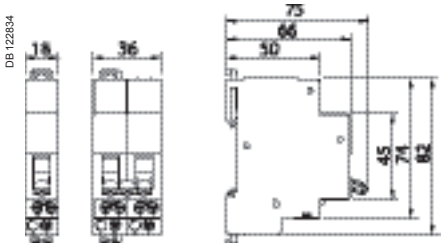
## Connection




| Tightening torque | Copper cables | |
|---|---|---|
| | Rigid | Flexible or ferrule |
| |  |  |
| 1 N.m | 0.5 mm² min.<br>2 x 2.5 mm² max. | 0.5 mm² min.<br>2 x 2.5 mm² max. |

■ Phase-separated wall that can be divided to allow the teeth of all types of comb busbar to pass through.
■ Staggered terminals to simplify connection.

## Dimensions (mm)

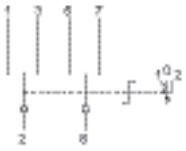



## Technical data

| Main characteristics | |
|---|---|
| Pollution degree | 3 |
| **Power circuit** | |
| Voltage rating (Ue) | 250 V AC |
| Current rating (Ie) | 20 A |
| **Additional characteristics** | |
| Endurance (O-C) | 30,000 cycles AC22 (cos φ = 0.8) |
| Operating temperature | -20°C... +50°C |
| Storage temperature | -40°C... +70°C |
| Tropicalization | Treatment 2 (relative humidity 95 % at 55°C) |

# DIN rail selector switches iCMB, iCMD, iCME, iCMC, iCMV and iCMA

## Control

| Selector switches | iCMB | iCMD | iCME |
|---|---|---|---|
| **Type** | **Two-pole with zero setting** | **4-way** | **2-way for electronic circuits** |
| In compliance with standards | IEC 60947-3 (EN 60947-3)<br>VDE 0660 part. 107<br>UL | IEC 60947-3 (EN 60947-3)<br>VDE 0660 part. 107<br>UL | IEC 60947-3 (EN 60947-3)<br>VDE 0660 part. 107<br>UL |
| | PB107120-38  | PB107121-38  | PB107122-38  |
| **Function** | | | |
| | ■ This two-pole selector switch with zero setting allows manual control of a circuit with 2-way operation with a stop position | ■ This 4-way selector switch allows control of a circuit with operating priorities | ■ This 2-way selector switch is used specially for the control of electronic circu of low voltage and current level |
| **Wiring diagrams** | | | |
| | DB123860  | DB123861  | DB123862  |
| **Use** | | | |
| | Example: electrically controlled metal screen:<br>■ position 1 = raising<br>■ position 0 = stop<br>■ position 2 = lowering | Example: fan control:<br>■ position 0 = stop<br>■ position 1 = override operation, slow speed<br>■ position 2 = override operation, high speed<br>■ position 3 = remote control<br>■ position 4 = automatic operation | ■ Voltage range from 30 mV to 600 V AC |
| **Catalogue numbers** | **A9E15120** | **A9E15121** | **A9E15122** |

**Technical specifications**

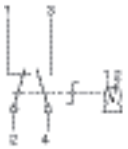
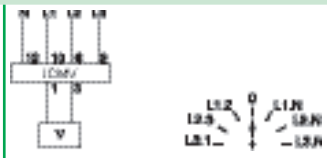
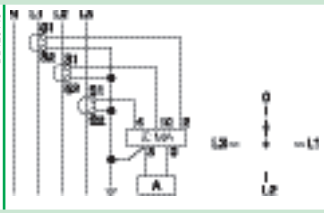
| | | | | |
|---|---|---|---|---|
| Rated voltage (Ue) | V AC | 415 | 415 | See following table |
| Maximum operating voltage | V | 440 | 440 | 440 |
| Rating | A | 10 | 10 | See following table |
| Operating frequency | Hz | 50/60 | 50/60 | 50/60 |
| Width in 9-mm modules | | 4 | 4 | 4 |
| Breaking capacity (resistive load) | | – | – | |

| | V AC | V DC |
|---|---|---|
| 1 V | 5 A | 3 A |
| 12 V | 1.2 A | 0.7 A |
| 24 V | 0.7 A | 0.4 A |
| 48 V | 0.45 A | 0.25 A |
| 110 V | 0.25 A | 0.13 A |
| 240 V | 0.15 A | 0.08 A |
| 300 V | 0.13 A | 0.07 A |
| 440 V | 0.1 A | 0.05 A |

| | | | | |
|---|---|---|---|---|
| Operating temperature | °C | -20…+55 | -20…+55 | -20…+55 |
| Storage temperature | °C | -25…+80 | -25…+80 | -25…+80 |

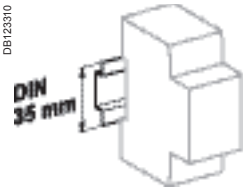
G

# DIN rail selector switches iCMB, iCMD, iCME, iCMC, iCMV and iCMA (cont.)

| iCMC | iCMV | iCMA |
|---|---|---|
| **2-way key-actuated** | **7-position voltmeter** | **4-position ammeter** |
| IEC 60947-3 (EN 60947-3)<br>VDE 0660 part. 107<br>UL | IEC 60947-3 (EN 60947-3)<br>VDE 0660 part. 107<br>UL | IEC 60947-3 (EN 60947-3)<br>VDE 0660 part. 107<br>UL |
| PB107123-38<br>  | PB107118-38<br>  | PB107119-38<br>  |
| ■ 2-way key-actuated selector switch with locking in one or the other position | ■ This 7-position voltmeter selector switch makes it possible, with a single voltmeter, to measure in succession the voltages (phase-to-phase and phase-to-neutral) of a three-phase circuit | ■ This 4-position ammeter selector switch makes it possible, with a single ammeter (using current transformers), to measure in succession the currents of a three-phase circuit |
| DB123869<br>  | DB123146<br>  | DB123145<br>  |
| – | – | – |
| **A9E15123** | **15125** | **15126** |
| 415 | 415 | 415 |
| 440 | 440 | 440 |
| 10 | 10 | 10 |
| 50/60 | 50/60 | |
| 4 | 4 | 4 |
| – | – | – |
| -20…+55 | -20…+55 | -20…+55 |
| -25…+80 | -25…+80 | -25…+80 |

# DIN rail selector switches iCMB, iCMD, iCME, iCMC, iCMV and iCMA (cont.)

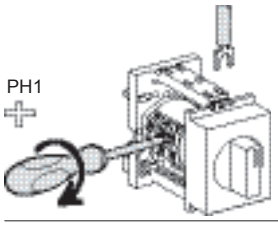
DB123310




*Clip on DIN rail 35 mm.*

## Connection

DB123270




| Tightening torque | Copper cables |
|---|---|
| | Flexible or rigid with ferrule |
| DB122945 |  |
| 0.35 N.m | < 1.5 mm² |

■ Connection by jumper terminals with captive screws.

## Technical data

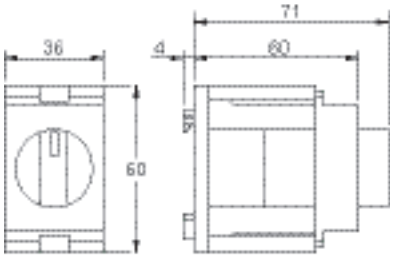
| Additional characteristics | | |
|---|---|---|
| Degree of protection | Device only | IP20 |
| Endurance (O-C) | Electrical | 1,000,000 switching operations |
| | Mechanical | 2,000,000 switching operations (AC21A-3 x 440 V) |

## Weight (g)

| Selector switches | |
|---|---|
| **Type** | |
| **iCMA** | 58 |
| **iCMB** | 58 |
| **iCMC** | 70 |
| **iCMD** | 58 |
| **iCME** | 44 |
| **iCMV** | 58 |

## Dimensions (mm)

DB123857



# Indication

H

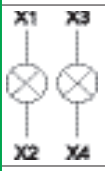
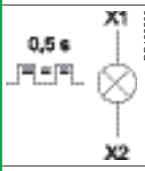
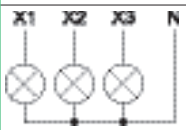
# iIL indicator lights

## IEC 60947-5-1

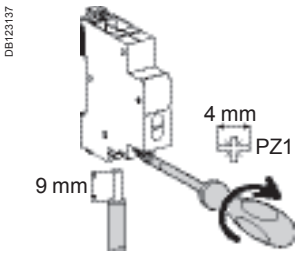
■ iIL indicator lights light up to indicate that a voltage is present.

## Catalogue numbers

**iIL indicator lights**

| Type | Single | | | | | Double | | Flashing light | Three-phase voltage presence indicator light |
|---|---|---|---|---|---|---|---|---|---|
| |  | | | |  | | |  |  |
| Diagram |  | | | |  | | |  |  |
| Colour | Red | Green | White | Blue | Yellow | Green/red | White/ white | Red | Red/red/red |
| **Cat. no.** | | | | | | | | | |
| 12...48 V AC/DC | **A9E18330** | **A9E18331** | **A9E18332** | **A9E18333** | **A9E18334** | **A9E18335** | - | - | - |
| 110...230 V AC | **A9E18320** | **A9E18321** | **A9E18322** | **A9E18323** | **A9E18324** | **A9E18325** | **A9E18328** | **A9E18326** | - |
| 230...400 V AC (3 phases) | - | - | - | - | - | - | - | - | **A9E18327** |
| Width in 9 mm modules | 2 | | | | | 2 | | 2 | 2 |

## Connection




| Tightening torque | Copper cables | |
|---|---|---|
| | Rigid | Flexible or ferrule |
| |  |  |
| 1 N.m | 0.5 mm² min. | 0.5 mm² min. |
| | 2 x 2.5 mm² max. | 2 x 2.5 mm² max. |

■ Phase-separated wall that can be divided to allow the teeth of all types of comb busbar to pass through.
■ Staggered terminals to simplify connection.

## Dimensions (mm)


## Technical data

| | |
|---|---|
| **Main characteristics** | |
| Pollution degree | 3 |
| **Power circuit** | |
| Operating frequency | 50...60 Hz |
| Flashing frequency | 2 Hz |
| **Additional characteristics** | |
| Operating temperature | -35°C... +70°C |
| Storage temperature | -40°C... +80°C |
| Tropicalization | Treatment 2 (relative humidity 95 % at 55°C) |
| LED indicator light | Consumption per indicator light: 0.3 W |
| | Service life: 100,000 hours of constant lighting efficiency |
| | Maintenance-free indicator light (non-interchangeable LEDs) |

# SO bells and iRO buzzers


*SO*


*iRO*

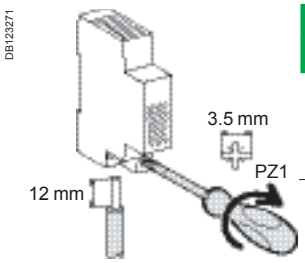
## SO and iRO

Audible indication in housing and the tertiary sector.

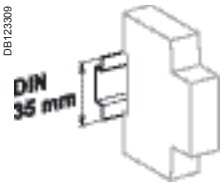
## Catalogue numbers

| Bell and buzzer | | | |
|---|---|---|---|
| **Type** | | | **Width in 9 mm modules** |
| **SO bell** | **Voltage (Ue)** | | |
| DB123820 | 230 V AC | **15320** | 2 |
| | 8…12 V AC | **15321** | 2 |
| **iRO buzzer** | | | |
| DB123821 | 230 V AC | **A9A15322** | 2 |
| | 8…12 V AC | **A9A15323** | 2 |
| Operating frequency | 50...60 Hz | | |

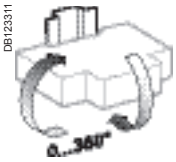
## Connection




| Tightening torque | Copper cables | |
|---|---|---|
| | Rigid | Flexible or ferrule |
| | DB122945  DB122946 |  |
| 1.3 N.m | < 4 mm² | < 4 mm² |



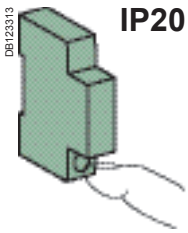

*Clip on DIN rail 35 mm.*

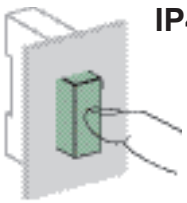



*Indifferent position of installation.*

## Technical data

| Main characteristics | | SO | iRO |
|---|---|---|---|
| Consumption | 8…12 V AC | 3.6 VA | |
| | 220…240 V AC | 5 VA | |
| **Additional characteristics** | | | |
| Degree of protection (IEC 60529) | Device only | IP40 | |
| | Device in modular enclosure | IP20 | |
| Operating temperature | | -10°C to +40°C | |
| Storage temperature | | -25°C to +60°C | |
| Sound level (at a distance of 60 cm) | | 80 dBA | 70 dBA |

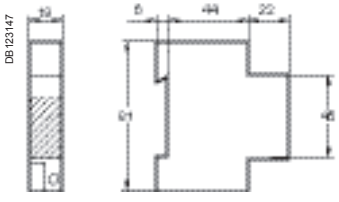



## Weight (g)

| Bell and buzzer | |
|---|---|
| **Type** | |
| SO | 77 |
| iRO | 64 |

## Dimensions (mm)




*SO bell and iRO buzzer*

# iTR transformers

PB107156-35

PB107158-35

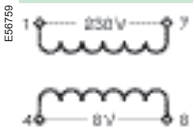
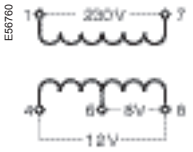
## NF EN 60742, EN and IEC 61558-2-6, Approval NF USE

Bell transformers and safety transformers allow for a very low voltage (ELV 8 V, 12 V or 24 V) to be obtained from a low voltage network (LV 230 V).

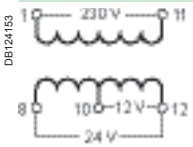
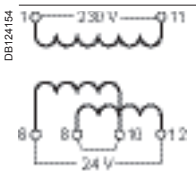
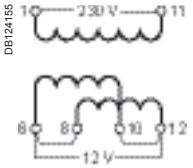
All Schneider Electric transformers are:
- Safe: primary and secondary circuits are perfectly insulated by each other
- Resistant to short-circuit currents thanks to the built-in device
- Class II with terminal shield (optional).

## Catalogue numbers

### Bell transformer

| Type | Power | Secondary voltage | | Width in 9 mm modules |
|---|---|---|---|---|
| E56759  | 4 VA | 8 V AC | **A9A15214** | 4 |
| E56760  | 4 VA | 8-12 V AC | **A9A15213** | 4 |
| | 8 VA | 8-12 V AC | **A9A15216** | 4 |
| | 16 VA | 8-12 V AC | **A9A15212** | 4 |
| E56761  | 25 VA | 12-24 V AC | **A9A15215** | 6 |

### Safety transformer

| Type | Power | Secondary voltage | | Width in 9 mm modules |
|---|---|---|---|---|
| DB124153  | 16 VA | 12-24 V AC | **A9A15218** | 10 |
| | 25 VA | 12-24 V AC | **A9A15219** | 10 |
| DB124154  | 40 VA | 12-24 V AC | **A9A15220** | 10 |
| | 63 VA | 12-24 V AC | **A9A15222** | 10 |
| DB124155  | | | | |
| Operating frequency | 50/60 Hz | | | |

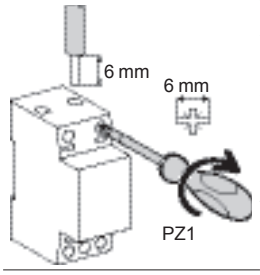
### Terminal shield

| Type | | Width in 9 mm modules |
|---|---|---|
| | **15228** | 4 |
| | **15229** | 6 |
| | **15230** | 10 |

# iTR transformers (cont.)

## Connection

DB123272




| Tightening torque | Copper cables | |
|---|---|---|
| | Rigid | Flexible or with ferrule |
| | DB122945  DB122946 |  |
| 0.5 N.m | < 2.5 mm² | < 2.5 mm² |

## Technical data

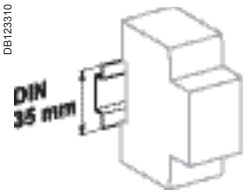
| Main characteristics | | |
|---|---|---|
| Primary voltage | | 230 V AC ±10 % |
| Secondary voltage on load | For bell transformers | 8-12-24 V AC ±15 % |
| | For safety transformers | 12-24 V AC ±5 % |

| Transformer catalogue numbers | Rated secondary voltage | Off load voltage |
|---|---|---|
| **A9A15214** | 8 V | 12 V |
| **A9A15213** | 8 V | 12 V |
| | 12 V | 16 V |
| **A9A15216** | 8 V | 13 V |
| | 12 V | 18 V |
| **A9A15212** | 8 V | 13 V |
| | 12 V | 18 V |
| **A9A15215** | 12 V | 16 V |
| | 24 V | 32 V |
| **A9A15218** | 12 V | 14 V |
| | 24 V | 28 V |
| **A9A15219** | 12 V | 14 V |
| | 24 V | 28 V |
| **A9A15220** | 12 V | 14 V |
| | 24 V | 28 V |
| **A9A15222** | 12 V | 14 V |
| | 24 V | 28 V |

| Additional characteristics | | |
|---|---|---|
| Degree of protection (IEC 60529) | Device only | IP20 with terminal shield |
| Operating temperature | | -20°C to +55°C |
| Storage temperature | | -25°C to +80°C |

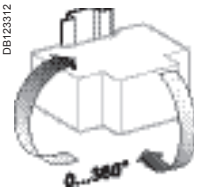
*Note: Transformers have an off load operating voltage that is higher than the rated voltage. For loads that are sensitive to overloads (electro-magnetic circuits), the transformer must be made to operate at In. After operation of the protection device upon an overload, cut-off the power supply and let the transformer cool down before restart.*

DB123310



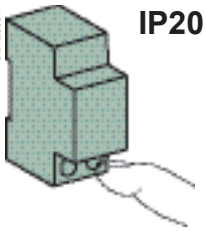

*Clip on DIN rail 35 mm.*

DB123312




*Bell transformer: indifferent position of installation.*
*Safety transformer: vertical position.*

DB123957



**IP20**

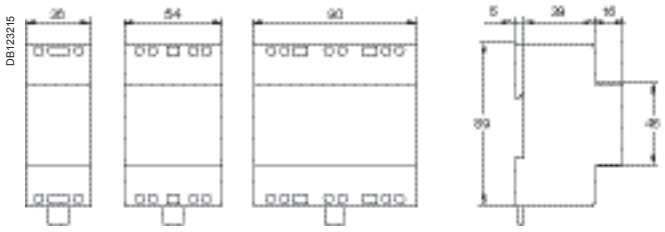
H

# iTR transformers (cont.)

## Weight (g)

| iTR | | |
|---|---|---|
| **Type** | **Cat. no.** | **Weight** |
| Bell | **A9A15212** | 384 |
| | **A9A15213** | 240 |
| | **A9A15214** | 237 |
| | **A9A15215** | 633 |
| | **A9A15216** | 275 |
| Safety | **A9A15218** | 1082 |
| | **A9A15219** | 1125 |
| | **A9A15220** | 1190 |
| | **A9A15222** | 1309 |

## Dimensions (mm)

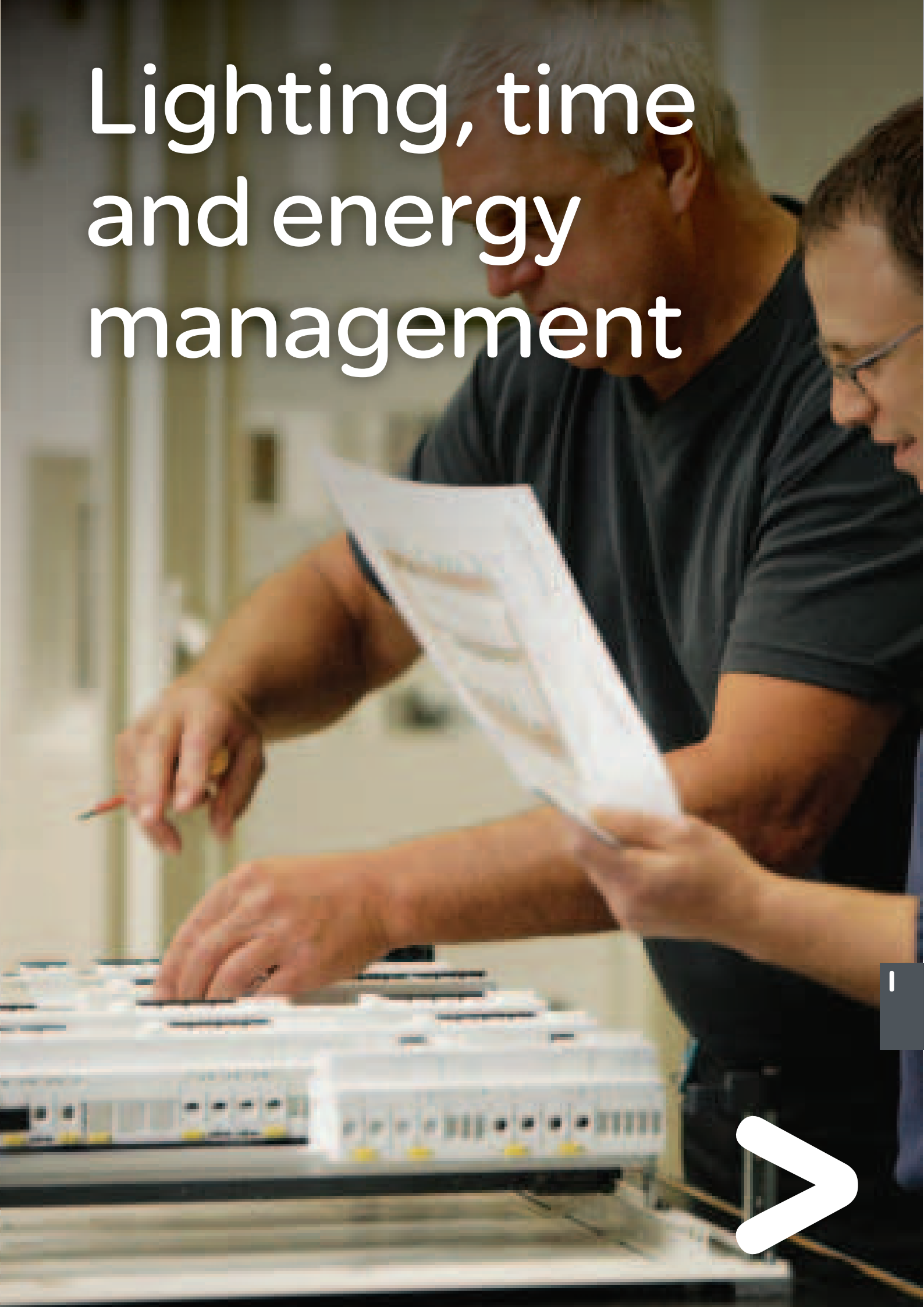



*A9A15212*
*A9A15213*
*A9A15214*
*A9A15216*

*A9A15215*

*A9A15218*
*A9A15219*
*A9A15220*
*A9A15222*

# Lighting, time and energy management

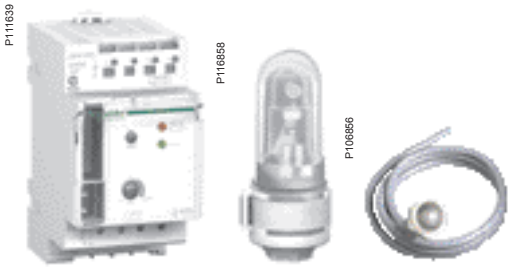


# IC100, IC2000, IC2000P+, IC 100k, IC Astro

## Twilight switches

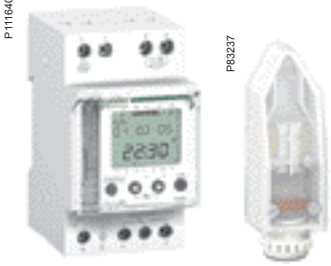

### IC100

Adjustable from 2 to 100 lux.
It comes with a wall-mounted cell.




### IC2000

Adjustable from 2 to 2000 lux. It comes with a standard wall-mounted or switchboard cell.

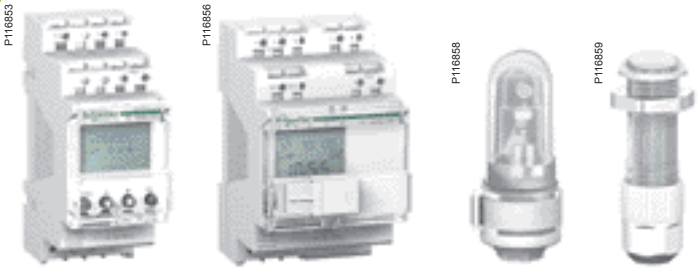



### IC2000P+

It has 3 customisable pre-set programs and 3 setting ranges from 2 to 2100 lux.
Its 4 keys and large screen facilitate its programming.
It comes with a wall-mounted cell.


### IC Astro

It operates without photoelectric cell and calculates sunrise and sunset times according to its geographic position.
It can be customised by using its programmation function.

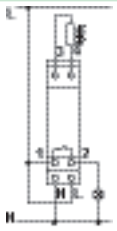
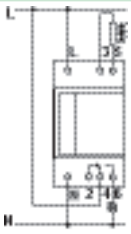
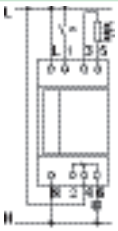



### IC 100k

Adjustable from 2 to 99000 lux.
Its 4 keys and large screen facilitate its programming.
It comes with a digital wall-mounted or a switchboard cell.

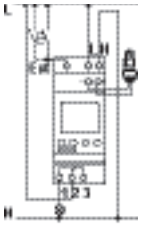
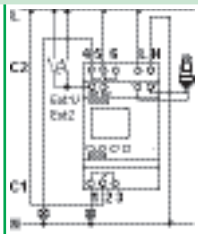
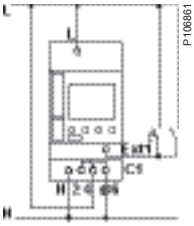
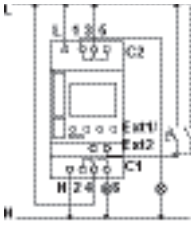
# IC100, IC2000, IC2000P+, IC 100k, IC Astro (cont.)

## Selection table

| | IC100 | IC2000 | | IC2000P+ |
|---|---|---|---|---|
| | P111637 + P83237  | P111639 + P116858 + P106856  | | P111640 + P83237  |
| **Function** | | | | |
| | The IC100 controls closing of a contact when brightness decreases and drops below the selected threshold. It controls opening of a contact when brightness increases and rises above the selected threshold | The IC2000 control closing of a contact when brightness decreases and drops below the selected threshold. They control opening of a contact when brightness increases and rises above the selected threshold | | The IC2000P+ controls lighting according to brightness and time. If brightness drops below the set threshold (twilight function: IC) and if the time program allows relay closing (time switch function), then the lighting circuit is activated |
| **Wiring diagrams** | | | | |
| | P106857  | P106858  | | P106859  |
| **Catalogue numbers** | **15482** | **CCT15284** | **CCT15368** | **15483** (1) |
| **Technical specifications** | | | | |
| Delivered with | Wall-mounted cell | Switchboard cell (**15281**) | Wall-mounted cell (**CCT15268**) | Wall-mounted cell |
| Optional accessories | Wall-mounted cell (**CCT15268**) | Switchboard cell (**15281**) Wall-mounted cell (**CCT15268**) | Wall-mounted cell (**CCT15268**) Switchboard cell (**CCT15281**) | Wall-mounted cell (**CCT15268**) |
| Adjustable brightness threshold | 2 to 100 lx | 2 to 2000 lx | | Range 1: 2 to 50 lx<br>Range 2: 60 to 300 lx<br>Range 3: 350 to 2100 lx |
| Voltage rating (Ue) (+10 %, -15 %) | 230 V AC, 50/60 Hz | 230 V AC, 50/60 Hz | | 230 V AC, 50/60 Hz |
| Consumption | 6 VA | 6 VA | | 3 VA |
| Operating temperature | -20°C to +50°C | -25°C to +50°C | | -20°C to +50°C |
| Width (9 mm modules) | 2 | 5 | | 5 |
| Insulation class | Class II | Class II | | Class II |
| Degree of protection | IP20B | IP20B | | IP20B |
| Output contact rating (under 250 VAC) $\cos \varphi = 1$ | 16 A | 16 A | | 16 A |
| Output contact rating (under 250 VAC) $\cos \varphi = 0.6$ | 10 A | 10 A | | 10 A |
| Time delays (On and Off) | 20 s (On)<br>80 s (Off) | ≥ 60 s | | Adjustable from 20 to 140 s (80 s by default) |
| Operating accuracy | – | – | | < ±1 s / day at 20 °C. |
| Monitoring indicator light, not time delayed, lit when brightness is less than the threshold | Red | Red | | – |
| Contact switching indicator light | Green | Green | | – |
| LCD liquid crystal display | – | – | | Back-lit |
| Program saving by lithium battery | – | – | | ■ |
| Operating reserve | – | – | | 5-6 years |
| Location for instruction manual on front face | – | ■ | | ■ |
| Cabling test function with a push-button on front face | – | ■ | | – |
| Number of channels | 1 | 1 | | 1 |
| Control by brightness detection | ■ | ■ | | ■ |
| Coupling with weekly programming | – | – | | 42 switching times<br>Minimum switching: 1 min<br>Switching accuracy: 1 s |
| Control by calculation of sunrise/sunset times | – | – | | – |

***Languages:*** *(1) English, french, spanish, italian, german, portuguese, swedish, dutch, finnish, norwegian/danish. (2) English, french, spanish, portuguese, hungarian, p*

# IC100, IC2000, IC2000P+, IC 100k, IC Astro (cont.)

| IC 100k | | | | IC Astro | |
|---|---|---|---|---|---|
| IC 100k+ 1C | IC 100k+ 2C | IC100kp+ 1C | IC100kp+ 2C | IC Astro 1C | IC Astro 2C |
| P116853 + P116858 | P116854 | P116856 | | | |
|  |  |  |  |  |  |
| The IC 100k+ 1C/2C control closing of a contact when brightness decreases and drops below the selected threshold. It controls opening of a contact when brightness increases and rises above the selected threshold | | The IC100kp+ 1C/2C control lighting according to brightness and time.<br>If brightness drops below the set threshold (twilight function: IC) and if the time program allows relay closing (time switch function), then the lighting circuit is activated | | The IC Astro astronomic programmable twilight switch is used to start and stop an electric load (e.g. lighting) according to sunrise and sunset times, without a brightness detector.Sunrise and sunset times are calculated automatically by the IC Astro according to the geographic parameters configured by the user | |
| P106862 | | P106863 | | P106860 | P106861 |
|  | |  | |  |  |
| **CCT15250** [2]<br>**CCT15251** [3] | **CCT15252** [2]<br>**CCT15253** [3] | **CCT15490** [2]<br>**CCT15491** [3] | **CCT15492** [2]<br>**CCT15493** [3] | **CCT15223** [2]<br>**CCT15224** [3] | **CCT15243** [2]<br>**CCT15244** [3] |
| Digital wall-mounted cell (**CCT15260**) | | Digital wall-mounted cell (**CCT15260**)<br>Memory key (alone) (**CCT15861**) | | – | Memory key (alone) (**CCT15861**) |
| Digital wall-mounted cell (**CCT15260**)<br>Digital switchboard cell (**CCT15261**)<br>Programming kit for PC (**CCT15860**) | | Digital wall-mounted cell (**CCT15260**)<br>Digital switchboard cell (**CCT15261**)<br>Programming kit for PC (**CCT15860**)<br>Memory key (alone) (**CCT15861**) | | Programming kit for PC (**CCT15860**)<br>Memory key (alone) (**CCT15861**) | |
| 1 to 99000 lx | | 1 to 99000 lx | | According to sunrise/sunset times | |
| 230 V AC, 50/60 Hz | 100-240 V AC, 50/60 Hz | 230 V AC, 50/60 Hz | 100-240 V AC, 50/60 Hz | 230 V AC, 50/60 Hz | |
| 3 VA | | 3 VA | | 3 VA | 6 VA |
| -30°C to +50°C | | -30°C to +50°C | | -25°C to +45°C | |
| 4 | 6 | 4 | 6 | 5 | |
| Class II | | Class II | | Class II | |
| IP20C | | IP20C | | IP20B | |
| 16 A | | 16 A | | 16 A | |
| 10 A | | 10 A | | 10 A | |
| Adjustable from 0 to 59.59 min. | | | | Difference in sunset and/or sunrise times adjustable separately by ±120 min. | |
| – | | – | | – | |
| – | | – | | – | |
| – | | – | | – | |
| Back-lit | | Back-lit | | Back-lit | |
| ■ | | ■ | | ■ | |
| 10 years | | 10 years | | 6 years | |
| – | | – | | ■ | |
| – | | – | | – | |
| 1 | 2 | 1 | 2 | 1 | 2 |
| ■ | | ■ | | – | |
| – | | 84 switching times<br>Operating accuracy: < ±1 s / day at 20°C<br>Minimum switching: 1 min<br>Switching accuracy: 1 s | | 84 switching times (not including sunrise/sunset)<br>Minimum time between 2 switching operations: 1 min.<br>Switching accuracy: 1 s<br>Time accuracy: ±1 s /day | |
| – | | – | | ■ | |

*bulgarian, greek, slovene, serbian, croatian.* ***(3)*** *English, french, italian, german, swedish,dutch, finnish, danish, russian, ukrainian, latvian, lituanien, estonian, turkis*

## Accessories selection table

| | Wall-mounted cell | | Switchboard cell | Programming kit for PC | Memory key | Digital wall-mounted cell | Digital switchboard cell |
|---|---|---|---|---|---|---|---|
| | P83237  | P116858 P106856  | P93580  | P93581  | P116858  | P116859  |  |
| **Function** | | | | | | | |
| | Wall-mounted photoelectric cell | | Switchboard photoelectric cell | Consists of a programming device, a memory key, a CDROM and a 2 m USB cable | Saving and duplicating programs | Digital wall-mounted photoelectric cell | Digital wall-mounted photoelectric cell |
| **Mounting** | | | | | | | |
| | ■ Delivered with its fixing device for IC100 and IC200P+<br>■ Replaced by CCT15268 for spare part use<br>■ Cell connection: by double insulation 2-conductor cable, not to be laid next to mains cables or water ducts, maximum length: 25 m | Delivered with 1 m cable and its fixing device | ■ Delivered with its fixing device<br>■ Cell connection: by double insulation 2-conductor cable, not to be laid next to mains cables or water ducts, maximum length: 100 m | – | – | ■ Delivered with its fixing device.<br>■ Cell connection:<br>□ by double insulation 2-conductor cable:<br>- 0.5 - 2.5 $mm^2$ for **CCT15260**<br>- 0.25 - 1.5 $mm^2$ for **CCT15261**<br>□ Not to be laid next to mains cables or water ducts, maximum length:<br>- 100 m (2 x 1.5 $mm^2$)<br>- 50 m (2 x 0.75 $mm^2$) | |
| **Catalogue no.** | **–** | **CCT15268** | **15281** | **CCT15860** | **CCT15861** | **CCT15260** | **CCT15261** |
| **Technical spécifications** | | | | | | | |
| Degree of protection | IP54 | IP65 | IP54 | – | – | IP55 | IP66 |
| | IK05 | – | IK05 | – | – | – | – |
| Operating temperature | -40°C to +70°C | -40°C to +70°C | -40°C to +70°C | – | – | -40°C to +70°C | -40°C to +70°C |
| Horizontally orientable | – | – | 90° | – | – | 90° | 90° |

## Load table

| **Type of lighting** (230 V AC) | **Max. power** (for higher power, relay with a contactor) | | | | |
|---|---|---|---|---|---|
| | **IC100** | **IC2000** | **IC2000P+** | **IC Astro** | **IC 100k** |
| Incandescent and halogen lamps | 2300 W | 2300 W | 2300 W | 2300 W | 2600 W |
| Non-corrected / serial-corrected / dual mounted fluorescent tubes with conventional ballast | 2300 VA | 2300 VA | 26 x 36 W,<br>20 x 58 W,<br>10 x 100 W | 26 x 36 W,<br>20 x 58 W,<br>10 x 100 W | 26 x 36 W,<br>20 x 58 W,<br>10 x 100 W |
| Parallel corrected fluorescent tubes with conventional ballast | 400 VA | 400 VA | 10 x 36 W,<br>6 x 58 W,<br>2 x 100 W | 10 x 36 W,<br>6 x 58 W,<br>2 x 100 W | 10 x 36 W, 6 x 58 W,<br>2 x 100 W |
| Fluorescent tubes with electronic ballast | – | – | 9 x 36 W,<br>6 x 58 W | 9 x 36 W,<br>6 x 58 W | 650 VA max. |
| Dual-mounted fluorescent tubes with electronic ballast | 300 VA | 300 VA | 5 x (2 x 36 W),<br>3 x (2 x 58 W) | 5 x (2 x 36 W),<br>3 x (2 x 58 W) | – |
| Fluocompact lamps with electronic ballast | 9 x 7 W, 7 x 11 W,<br>7 x 15 W, 7 x 20 W,<br>7 x 23 W | 9 x 7 W, 7 x 11 W,<br>7 x 15 W, 7 x 20 W,<br>7 x 23 W | 9 x 7 W, 7 x 11 W,<br>7 x 15 W, 7 x 20 W | 9 x 7 W, 7 x 11 W,<br>7 x 15 W, 7 x 20 W | 22 x 7 W, 18 x 11 W,<br>16 x 15 W, 16 x 20 W,<br>14 x 23 W |
| Fluocompact lamps with conventional ballast | 1500 VA | 1500 VA | – | – | – |
| Parallel-corrected mercury and sodium vapour lamps | 400 VA | 400 VA | 250 VA | 250 VA | 800 VA max. (80uF) |
| Non-corrected/ serial-corrected mercury and sodium vapour lamps | 1000 VA | 1000 VA | – | – | – |
| Motor | – | – | – | – | 2300 VA max. |

# IC100, IC2000, IC2000P+, IC 100k, IC Astro (cont.)

## Specific technical data

| | |
|---|---|
| **IC2000P+** | |
| **External input** | |
| Voltage rating (Ue) | 230 V AC, +10 %, -15 % |
| Frequency | 50/60 Hz |
| Input current | ≤ 2.5 mA |
| Consumption | ≤ 0.4 mW |
| Cable length | ≤ 100 m |
| **IC Astro** | |
| Programming longitude | -180° (East) to +180° (West) in steps of 1° |
| Programming latitude | -90° (South) to +90° (North) in steps of 1° |
| External inputs for external control with a standard switch or a push-button | ■ 1 input "Ext1" for IC Astro 1C<br>■ 2 inputs "Ext1" and "Ext2" for IC Astro 2C<br>□ consumption: < 0.5 mA<br>□ cable length: ≤ 100 m |
| Programming accessories | ■ Programming kit for PC consists of a programming device, a memory key, a CDROM and a 2 m USB cable<br>■ Memory key for saving and duplicating programs |
| **IC 100k, IC Astro** | |
| Programming accessories | ■ Programming kit for PC consists of a programming device, a memory key, a CDROM and a 2 m USB cable<br>■ Memory key for saving and duplicating programs |
| Memory key delivered on front face for IC100kp+ 1C, IC100kp+ 2C and IC Astro | |
| **External inputs** | |
| External inputs for external control with a standard switch or a push-button | ■ 1 input "Ext" for 1 channel versions<br>■ 2 inputs "Ext1" and "Ext2"for 2 channels versions |
| Voltage rating (Ue) | ■ 230 V AC, +10 %, -15 % for 1 channel versions<br>■ 100-240 V AC +10 %, -15 % for 2 channels versions |
| Frequency | 50/60 Hz |
| Input current | ≤ 0.5 mA |
| Consumption | ≤ 130 mW |
| Cable length | ≤ 100 m |

# IC2000P+, IC Astro
## Practicle advices

### IC2000P+

The IC 2000P+ uses its time programming to define lighting On and Off periods:
■ According to three pre-set time programs:
□ "DAYPROG": On time programming from 7 am to 8 pm a validation of the IC function from 7 am to 8 pm,
□ "NIGHTPROG": On time programming from 5 am to 8 am and from 6 pm to 11 pm a validation of the IC function on these two operating periods,
□ "EMPTYPROG": Off time programming throughout the day a no validation of the IC function. These programs can be modified if necessary.
■ According to a customised operating period, with possibility of copying to the other days.
It is equipped with the following functions:
□ consideration of periods of absence (holidays),
□ temporary or permanent On or Off override,
□ remote control of lighting override by NO external contact,
□ consideration of change to “summer/winter” time, automatic or manual,
□ permanent liquid crystal display: of time and minutes, of day of the week, of the contact output status and current program.

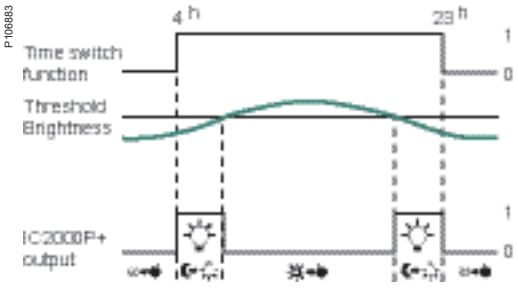


*Fig. 1.*

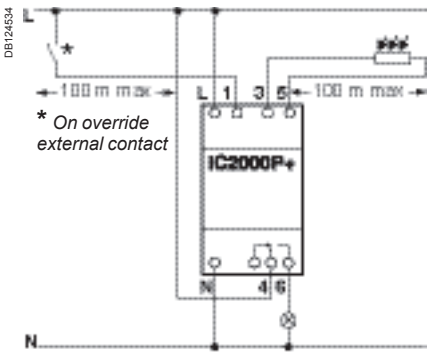


*Fig. 2.*

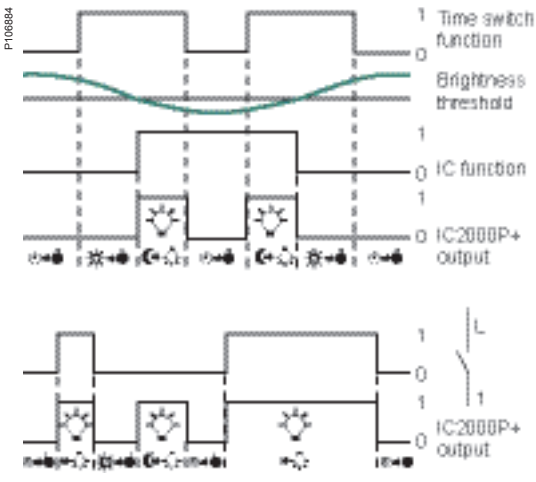


*Fig. 3.*

### Example

Lighting of a shop window, in the evening, at a time variable according to brightness and switch-off at a set time (e.g. 11 pm). Then in the morning, lighting at a set time (e.g. 4 am) and switch-off at a time variable according to brightness (see Fig. 1).

### Configuration

This consists of recording in the memory:
■ The language.
■ The year, month, day and time.
■ One of the 3 pre-set programs:
□ "DAYPROG": "On" time programming from 7 am to 8 pm ➡ validation of the IC function from 7 am to 8 pm,
□ "NIGHTPROG": "On" time programming from 5 am to 8 am and from 6 pm to 11 pm ➡ validation of the IC function on these two operating periods,
"EMPTYPROG": "Off" time programming throughout the day ➡ no validation of the IC function. These programs can be modified.
■ The brightness threshold. Once this phase is over, your IC 2000P+ operates in AUTO mode according to the items you have chosen.

### Programming

The IC2000P+ is used to manage time programs. It allows:
■ Creation of a new program with the possibility of copying to the other days.
■ Viewing programs in memory.
■ Modification of a program in memory, of the time, date, summer/winter time.
■ Partial or total deletion of the program (date, time and language are kept).
■ Modification of the brightness threshold.
■ Separate setting of the time delay on switch-on and switch-off.

### Move to On/Off override

■ Press briefly (< 2 s) and simultaneously the 2 keys "**-**", "**+**" (value setting and navigation keys) on the front face to move to "MAN ON" or "MAN OFF".
■ Press the keys for more than 2 s to move to "PERM ON" or "PERM OFF".
■ Supply of terminal 1 overrides the IC 2000P+ output to the "On" position.
This external override takes priority over the product On/Off override function (see Fig. 2, 3).

# IC2000P+, IC Astro (cont.)
## Practicle advices


*Fig. 3.*


*Fig. 4.*


*Fig. 5.*

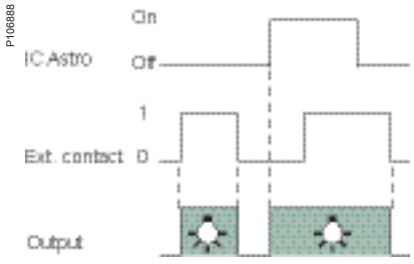



*Fig. 6.*

## IC Astro

The IC Astro is configured according to the place of installation.
- The place of installation of the IC Astro can be configured:
  - either by selecting a country and a town,
  - or by its geographic coordinates (latitude, longitude).
- The IC Astro allows:
  - addition or deletion of a switch-off/switch-on switching operation (Off-On) between the sunset and sunrise times,
  - different programmes each day,
  - difference in sunset and/or sunrise times, adjustable separately by ±120 min. according to local constraints (mountains, buildings, etc.),
  - consideration of periods of absence (holidays),
  - remote control of lighting override by external standard switch or push-button via the external input (1 external input per channel),
  - re-initialisation of programmes,
  - automatic switching to “summer-winter” time,
  - permanent display by liquid crystals: hours and minutes, day of the week, contact output status, and current programme,
  - manual waiver of the lighting On/Off programme, permanently or temporarily (up to the next switching operation).
  - back-lighting of the screen.

### Example

Automatically lighting On and Off a shop window in Paris according to sunset and sunrise, example the 20th June.
- At night (10 pm) the lighting switch-on.
- At the morning (6 am) the lighting switch-off.

### Configuration

This consists of writing in the memory:
- The language.
- The place of installation, either:
  - by its position (Argentina, China, etc.) and by the closest town,
  - by its geographic coordinates (latitude, longitude, time difference with respect to GMT) (a map is provided with the product).
- The year, month, day and time.
- Once this phase is complete, IC Astro will calculate the sunrise and sunset times and propose a default programme (operation from sunset to sunrise) (see Fig. 3).

### Programming an Off period

The IC Astro offers the possibility of adding an "Off" period (programmed switch-off and switch-on) inside the programme, between the sunrise and sunset times (by default it is proposed from 11 pm to 5 am) (see Fig. 4).

### Modifying programming and configuration

The twilight switch allows:
- Creation of a new customised programme with possibility of copying onto the other days.
- Display of programmes in memory.
- Deletion, modification or addition of an automatic or programmed switching operation.
- Partial or total deletion of the programme (date, time and language are kept).
- Modification of time, date, summer/winter time.
- Temporary cancellation of the "On" periods by configuring start and end dates and Times of absence (holidays).
- Adjustment of difference in sunset and/or sunrise times by ± 120 min. according to local constraints (mountains, buildings, etc.) (see Fig. 5).

### Move to On/Off override

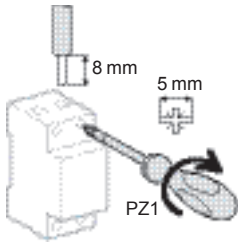
- Briefly press (<2 s) at the same time on the 2 keys "**-**", "**+**": (value setting and navigation keys) on the front face to move to "ON TEMP" or "OFF TEMP".
- Hold down (>2 s) the keys to move to "ON PERM" or "OFF PERM".
- The supply of input 5 forces the IC Astro output to the “ON” position.

This override takes priority over the product On/Off override function (see Fig. 6).

# IC100, IC2000, IC2000P+, IC 100k, IC Astro (cont.)

## Connection

DB123132




| Type | Tightening torque | Copper cables | |
|---|---|---|---|
| | | Rigid | Flexible or with ferrule |
| | DB122945 | DB123553 | |
| IC100, IC2000P+ | 1.2 N.m | ≤ 6 mm² | ≤ 6 mm² |
| IC2000, IC Astro, IC 100k | 2 screwless / pole | 2 x 2.5 mm² | 2 x 2.5 mm² |

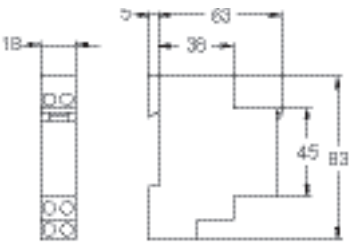
IC100, IC Astro are mechanical compatible with electrical distribution comb busbar.

## Weight (g)

| Twilight switches | |
|---|---|
| IC100 | 173 |
| IC2000 | 280 |
| IC2000P+ | 323 |
| IC Astro | 132 |
| IC 100k+/kp+ 1C / IC 100k+/kp+ 2C | 183/ 352 |

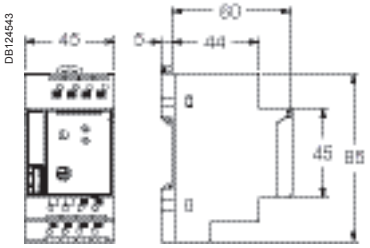
## Dimensions (mm)

DB124541



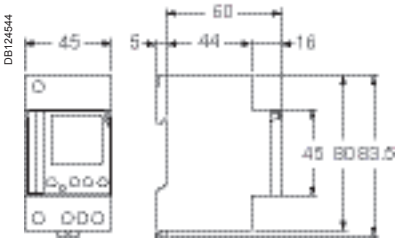

*IC100*

DB124543



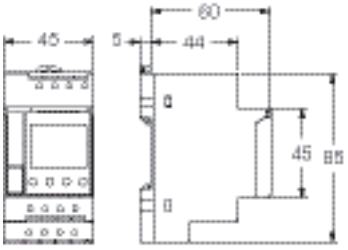

*IC2000*

DB124544



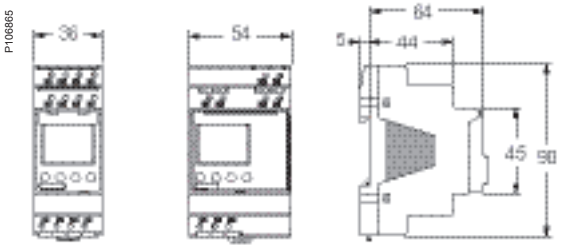

*IC2000P+*

P106864




*IC Astro 1C/2C*

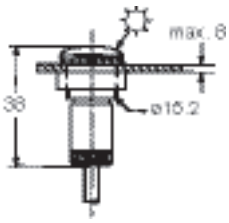
P106865



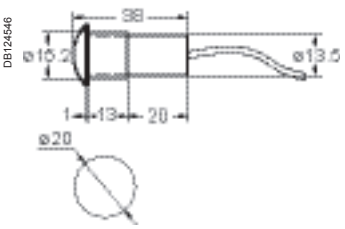

*IC 100k+ 1C/2C, IC100kp+ 1C/2C*

## Cells

DB124545

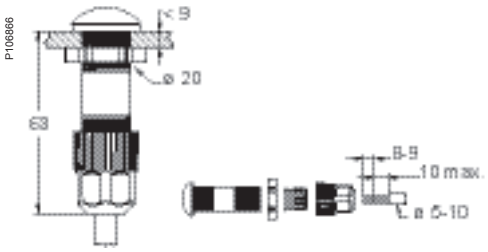



DB124546



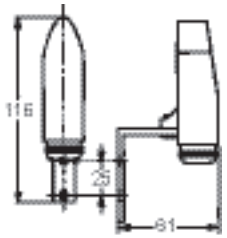

*Standard switchboard cell (15281) Fixed externally in vertical position by 2 ø 4 mm screws*

P106866

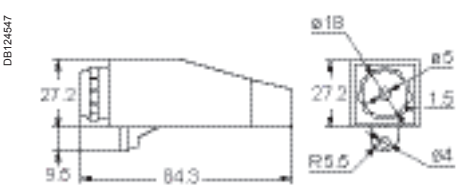



*Digital switchboard cell (CCT15261)*

DB124555

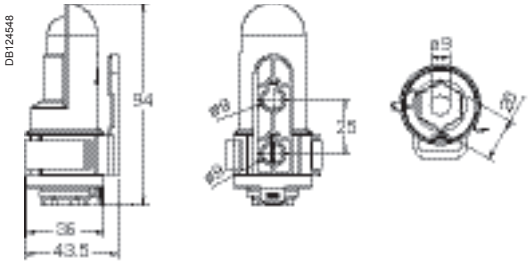



DB124547




*Wall-mounted cell (delivered with IC100, IC2000P+ )*

DB124548




*Standard and digital wall-mounted cell (CCT15268, CCT15260)*

# IHP, IH, IHH, ITM

Time switches

## The 45 mm intuitive switches


**IHP 1c**


**IHP 2c**


**IHP+1c**


**IHP+2c**

Automatically switch On and Off loads according to the program entered by the user with 4 keys and a display, they operate on a weekly cycle: the same program is repeated week after week.



**IHP DCF 1c + ANT DCF**

Synchronised on the frankfort transmitter via the ANT DCF antenna.

## The 18 mm intuitive switches



**IHP 1c/+ 1c**

Automatically switch On and Off loads according to the program entered by the user with 4 keys and a display, they operate on a weekly cycle: the same program is repeated week after week.

## The 54 mm mechanical switches


**IH 60mn** 1c SRM


**IH 24h** 1c SRM/ ARM


**IH 24h** 2c ARM


**IH 24h** + 7j 1+1c ARM


**IH 7j** 1c ARM

Automatically switch On and Off loads according to the program entered by the user they operate on an hourly, daily or weekly cycle: the same program is repeated hour after hour (IH 60mn), day after day (IH 24h) or week after week (IH 7j).

## The 18 mm mechanical switches



**IH 24h** 1c SRM/ ARM **IHH 7j** 1c ARM

Automatically switch On and Off loads according to the program entered by the user they operate daily on a weekly cycle.

## The multifunctional switch


**ITM** 4c-6E

They operate with weekly or annual time programming distributed across 1, 2, 3 or 4 channels, 6 inputs to condition the functions.

# IHP, IH, IHH, ITM (cont.)

## Selection table

The time switches control opening and closing of one or more separate circuits according to a programming pre-set by the user:
- by memorisation of On and Off switching operations for the IHP switches
- by positioning of jumpers or captive segments on a programming dial for the mechanical IH switches.

An IHP or IH time switch is chosen according to the following criteria:

| Designation | Number of channels | Cycle period (d: day) | Minimum time between 2 switching operations | Number of switching operations | Saving on mains cut off | Width (modules of 9 mm) | Override controls On / Off | Output contact changeover switch (cos φ =1) | Time changeover (summer / winter) |
|---|---|---|---|---|---|---|---|---|---|
| **The 45 mm intuitive switches** | | | | | | | | | |
| IHP 1c | 1 | 24 h and/or 7 d | 1 min. | 56 | 6 years | 5 | On / Off | 16 A | Auto |
| IHP + 1c | 1 | 24 h and/or 7 d | 1 s | 84 | 6 years | 5 | On / Off | 16 A | Auto |
| IHP 2c | 2 | 24 h and/or 7 d | 1 min. | 56 | 6 years | 5 | On / Off | 16 A | Auto |
| IHP + 2c | 2 | 24 h and/or 7 d | 1 s | 84 | 6 years | 5 | On / Off | 16 A | Auto |
| IHP DCF 1c (1) | 1 | 24 h and/or 7 d | 1 s | 42 | 4 years | 5 | On / Off | 16 A | Auto |
| **The 18 mm intuitive switches** | | | | | | | | | |
| IHP 1c 18 mm | 1 | 24 h and/or 7 d | 1 min. | 56 | 10 years | 2 | On / Off | 16 A | Auto |
| IHP + 1c 18 mm | 1 | 24 h and/or 7 d | 1 min. | 84 | 10 years | 2 | On / Off | 16 A | Auto |
| **The multifunctional switch** | | | | | | | | | |
| ITM 4C-6E (2) | 4 | 60 min., 24 h, 7 d, 7 d + dated d | 1 s | (3) | 5 years | 10 | On/Off (5) | 10 A | Auto |
| **The 54 mm mechanical switches** | | | | | | | | | |
| IH 60mn 1c SRM | 1 | 60 min. | 37.5 s | 48 On - 48 Off | none | 6 | On | 10 A | Manual |
| IH 24h 1c SRM | 1 | 24 h | 15 min. | 48 On - 48 Off | none | 6 | On | 16 A | Manual |
| IH 24h 1c ARM | 1 | 24 h | 15 min. | 48 On - 48 Off | 200 h (4) | 6 | On | 16 A | Manual |
| IH 24h 2c ARM | 2 | 24 h | 30 min. | 24 On - 24 Off | 150 h | 6 | On | 16 A | Manual |
| IH 7j 1c ARM | 1 | 7 days | 2 h | 42 On - 42 Off | 200 h (4) | 6 | On | 16 A | Manual |
| IH 24h + 7j 1+1c ARM | 1+1 | 24 h + 7 days | 45 min. + 12 h | 16 On -16 Off + 7 On -7 Off | 150 h | 6 | On | 16 A | Manual |
| **The 18 mm mechanical switches** | | | | | | | | | |
| IHH 7j 1c ARM | 1 | 7 days | 2 h | 42 On - 42 Off | 100 h | 2 | On / Off | 16 A | Manual |
| IH 24h 1c ARM | 1 | 24 h | 15 min. | 48 On - 48 Off | 100 h | 2 | On / Off | 16 A | Manual |
| IH 24h 1c SRM | 1 | 24 h | 15 min. | 48 On - 48 Off | none | 2 | On / Off | 16 A | Manual |
| **Accessories** | | | | | | | | | |
| Programming kit (6) | | | | | | | | | |
| Memory key (6) | | | | | | | | | |
| Memory cartridge (7) | | | | | | | | | |
| ANT DCF antenna | | | | | | | | | |

*(1) The IHP DCF is synchronised on the Frankfurt 's DCF77 radio station via the ANT DCF antenna.*
*(2) 4 output channels and 6 condition inputs.*
*(3) 45 time brackets in weekly time programming, 15 time brackets in annual time programming, 20 different pulses in pulse programming.*
*(4) 110 h for 100 V CA supply voltage.*
*(5) On/Off via an override input or a condition input.*
*(6) For IHP +1c and IHP+ 2c.*
*(7) For ITM 4c-6E.*

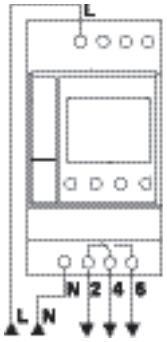
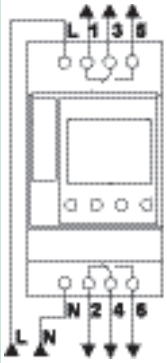
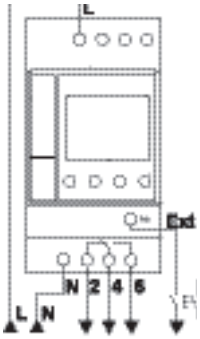
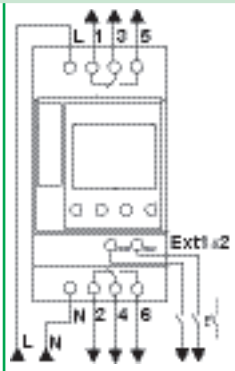
| | Back-lit display, random function and pulse programming (8) | "Absence for holidays" function | Screwless connection | Mechanical compatibility with electrical distribution comb busbars | Input for external control | Instruction manual holder on front face | Memory key supplied with the product | Cat. no. |
|---|---|---|---|---|---|---|---|---|
| | | ■ | ■ | ■ | | ■ | | **CCT15850** (13) |
| | ■ | ■ | ■ | ■ | 1 input | ■ | ■ | **CCT15851** (13) |
| | | ■ | ■ | ■ | | ■ | | **CCT15852** (13) |
| | ■ | ■ | ■ | ■ | 2 inputs | ■ | ■ | **CCT15853** (13) |
| | Random function | ■ | | | | ■ | | **15857** |
| | | ■ | ■ | | | | | **CCT15854** (14) |
| | Random and pulse function | ■ | ■ | | ■ | | ■ | **CCT15837** (14) |
| | Pulse function | | ■ | | | ■ | ■ | **15270** |
| | | | ■ | | | | | **CCT15338** |
| | | | ■ | | | | | **CCT16364** |
| | | | ■ | | | | | **CCT15365** |
| | | | | | | | | **15337** |
| | | | ■ | | | | | **CCT15367** |
| | | | | | | | | **15366** |
| | | | | | | | | **15331** |
| | | | | | | | | **15336** |
| | | | | | | | | **15335** |
| | | | | | | | | **CCT15860** |
| | | | | | | | | **CCT15861** |
| | | | | | | | | **15280** |
| | | | | | | | | **15858** |

*(8) Pulse programming allows switching operations of a duration less than one minute (adjustable from 1 to 59 s); a pulse control always has priority.*
*(9) English, Russian, Ukrainian, Latvian, Lituanien, Estonian languages.*
*(10) English, Bulgarian, Greek, Slovene, Serbian, Croatian languages.*
*(11) English, Hungarian, Polish, Romanian, Czech, Slovak languages.*
*(12) French, English, Italian, Spanish, German, Portuguese languages.*
*(13) French, English, Swedish, Dutch, Finnish, Norwegian/Danish languages.*
*(14) French, English, Italian, Spanish, German, Portuguese, Dutch languages.*

# IHP, ITM

## Selection table

### Programmable time switches

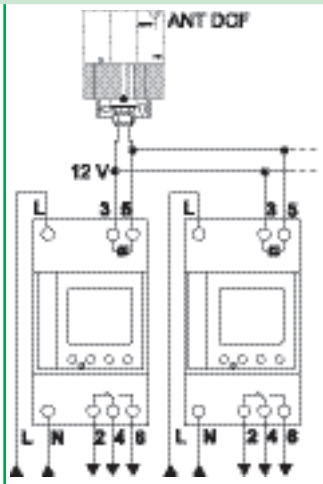
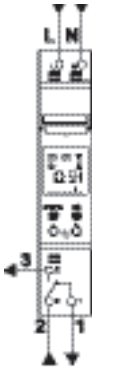
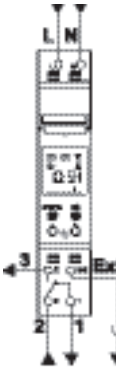
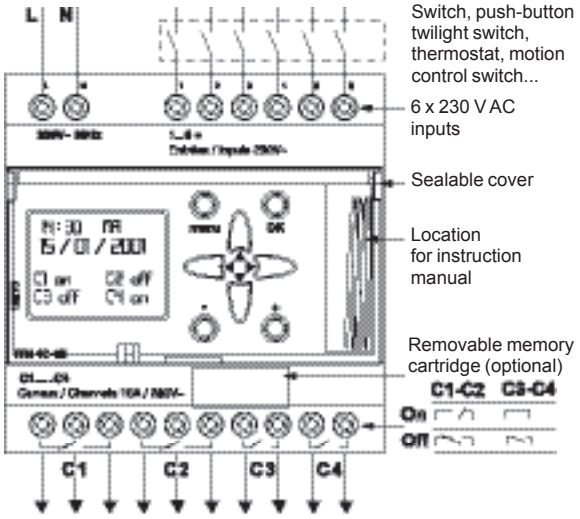
| | IHP 1c | IHP2c | IHP+1c | IHP+2c |
|---|---|---|---|---|
| | P111627  P111625  | P111624  P111626  | | |
| **Function** | | | | |
| | ■ These time switches automatically switch on and off loads according to the program entered by the user<br>■ They operate on weekly cycle: the same program is repeated week after week<br>■ They offer automatic summer/winter time change and allow to adjust it according to where you are located<br>■ The program can be overriden temporary or permanently by pressing 2 keys on the product<br>■ They also offer holidays program, by configuring the starting and ending dates of the absence. | | | |
| | | | ■ A memory key (**CT15861**) and a programming kit (**CCT15860**) can be used to duplicate on another IHP+ 1C/2c or to save the program created by the contractor (see "Accessories selection table") | |
| **Wiring diagrams** | | | | |
| | P106873  | P106874  | P106875  | P106876  |
| **Catalogue Number** | **CCT15850**(5) | **CCT15852**(5) | **CCT15851**(5) | **CCT15853**(5) |

### Technical specifications

| | | IHP 1c | IHP2c | IHP+1c | IHP+2c |
|---|---|---|---|---|---|
| Voltage rating (Ue) | | 230 V AC, ±10 %, 50/60 Hz | 230 V AC, ±10 %, 50/60 Hz | 230 V AC, ±10 %, 50/60 Hz | 230 V AC, ±10 %, 50/60 Hz |
| Consumption | | 4 VA | 7 VA | 4 VA | 7 VA |
| Output contact current (250 V AC) | Cos φ = 1 | 16 A | 16 A | 16 A | 16 A |
| | Cos φ = 0.6 | 10 A | 10 A | 10 A | 10 A |
| Degree of protection | | IP20B | IP20B | IP20B | IP20B |
| Operating temperature | | -10°C to +50°C | -10°C to +50°C | -10°C to +50°C | -10°C to +50°C |
| Time accuracy | | ± 1 s per day at 20°C | ± 1 s per day at 20°C | ± 1 s per day at 20°C | ± 1 s per day at 20°C |
| Saving of program and time by lithium battery | Lifetime | 6 years | 6 years | 6 years | 6 years |
| | Back-up time, cumulated mains cut off | 6 years | 6 years | 6 years | 6 years |

*(1) English, russian, ukrainian, latvian, lituanien, estonian.*
*(2) English, bulgarian, greek, slovene, serbian, croatian.*
*(3) English, hungarian, polish, romanian, czech, slovak.*
*(4) French, english, italian, spanish, german, portuguese.*
*(5) French, english, swedish, dutch, finnish, norwegian/danish.*
*(6) French, english, italian, spanish, german, portuguese, dutch.*

## Multifunctional time switch

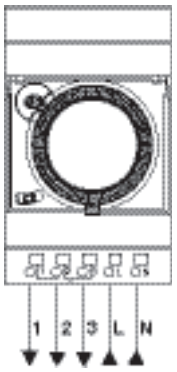
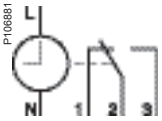
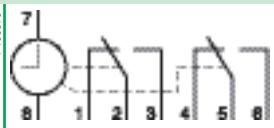
| | IHP DCF 1c | IHP 1c 18 mm | IHP+1c 18 mm | ITM 4c-6E |
|---|---|---|---|---|
| | P111633  | P111630  | P131535 P131536  |  |
| | | | | ■ Weekly or annual time programming to be distributed over 1, 2, 3 or 4 channels. 6 inputs to condition these functions<br>■ A memory cartridge can be used to duplicate on another ITM or to save the program created by the contractor |
| | | ■ A memory key (**CT15861**) and a programming kit (**CCT15860**) can be used to duplicate on another IHP | | |
| | P106877   | P107021   | P107022   |   |
| | **15857** | **CCT15854**(6) | **CCT15837**(6) | **15270** |
| | 230 V AC, ±10 %, 50/60 Hz | 230 V AC, +10 %, -15 %, 50/60 Hz | 230 V AC, +10 %, -15 %, 50/60 Hz | 230 V AC, ±10 %, 50 Hz |
| | 2 VA | 2.3 VA | 2.3 VA | 4.5 VA |
| | 16 A | 16 A | 16 A | 10 A |
| | 10 A | 4 A | 4 A | 6 A |
| | IP20B | IP20B | IP20B | IP20B |
| | -10°C to +50°C | -25°C to +55°C | -25°C to +55°C | -5°C to +50°C |
| | 1 s on 1 million years thanks to the synchronisation on the DCF Frankfurt's DCF77 radio station via the ANT DCF | ± 0.5 s per day at 25°C | ± 0.5 s per day at 25°C | ± 1 s per day at 20°C |
| | 12 years | 10 years | 10 years | 10 years |
| | 4 years | 10 years | 10 years | 5 years |

*(1) English, russian, ukrainian, latvian, lituanien, estonian.*
*(2) English, bulgarian, greek, slovene, serbian, croatian.*
*(3) English, hungarian, polish, romanian, czech, slovak.*
*(4) French, english, italian, spanish, german, portuguese.*
*(5) French, english, swedish, dutch, finnish, norwegian/danish.*
*(6) French, english, italian, spanish, german, portuguese, dutch.*

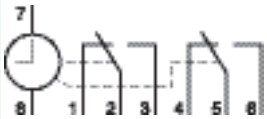
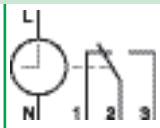
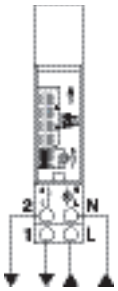
# IH, IHH

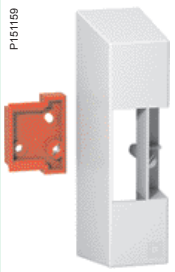
## Selection table

## Mechanical time switches

| | IH 60mn 1c SRM | IH 24h 1c SRM | IH 24h 1c ARM | IH 24h 2c ARM |
|---|---|---|---|---|
| | P116860  | P116861  | P116862  | P116616  |
| **Function** | | | | |
| | ■ They operate on hourly, daily or weekly cycle: the same program is repeated hour after hour (IH 60mn), day after day (IH 24h) or week after week (IH 7j, (IHH 7j)<br>■ The program can be overriden On | | | |
| **Wiring diagrams** | | | | |
| | P106923   P106881   | | | P106879   |
| **Catalogue numbers** | **CCT15338** | **CCT16364** | **CCT15365** | **15337** |

| **Technical specifications** | | | | | |
|---|---|---|---|---|---|
| Voltage rating (Ue) | | 230 V AC +10 %, -15%, 50 Hz | 230 V AC +10 %, -15%, 50/60 Hz | 110-230 V AC +10 %, -15%, 50/60 Hz | 230 V AC +10 %, -15%, 50/60 Hz |
| Consumption | | 1 VA | 2.5 VA | 2.5 VA | 2.5 VA |
| Output contact current under 250 VAC | Cos φ = 1 | 10 A | 16 A | 16 A | 16 A |
| | Cos φ = 0.6 | 4 A | 4 A | 4 A | 4 A |
| Degree of protection | | IP20B | IP20B | IP20B | IP20B |
| Operating temperature | | -20°C to +55°C | -20°C to +55°C | -20°C to +55°C | -20°C to +55°C |
| Time accuracy | | ±1 s per day at 20°C | ±1 s per day at 20°C | ±1 s per day at 20°C | ±1 s per day at 20°C |
| Saving of program and time by lithium battery | Lifetime | – | – | 6 years | 6 years |
| | Back-up time, cumulated mains cut off | – | – | 200 h with 230 V AC<br>100 h with 100 V AC | 150 h |
| Programming by: | Jumpers (supplied) | – | – | – | 4 red + 4 green + 2 white |
| | Captive segments | 96 | 96 | 96 | – |

| | IH 24h + 7j 1+1c ARM | IH 7j 1c ARM | IH24h 1c SRM 18 mm | IH 24h 1c ARM 18 mm | IHH 7j 1c ARM 18 mm |
|---|---|---|---|---|---|
| | P111619  | P116863  | P111614  | P111615  | P111613  |
| | P106879  | P106881  | P106882  | | |
| | **15366** | **CCT15367** | **15335** | **15336** | **15331** |
| | 230 V AC +10 %, -15%, 50 Hz | 110-230 V AC +10 %, -15%, 50/60 Hz | 230 V AC, ±10 %, 50/60 Hz | 230 V AC, ±10 %, 50/60 Hz | 230 V AC, ±10 %, 50/60 Hz |
| | 2.5 VA | 2.5 VA | 2.5 VA | 2.5 VA | 2.5 VA |
| | 16 A | 16 A | 16 A | 16 A | 16 A |
| | 4 A | 4 A | 4 A | 4 A | 4 A |
| | IP20B | IP20B | IP20B | IP20B | IP20B |
| | -20°C to +55°C | -20°C to +55°C | -10°C to +50°C | -10°C to +50°C | -10°C to +50°C |
| | ±1 s per day at 20°C | ±1 s per day at 20°C | ±1 s per day at 20°C | ±1 s per day at 20°C | ±1 s per day at 20°C |
| | 6 years | 6 years | – | 10 years | 10 years |
| | 150 h | 200 h with 230 V AC<br>100 h with 110 V AC | – | 100 h | 100 h |
| | 6 yellow (24 h), 12 blue + 2 red (7 days) | – | – | – | – |
| | – | 84 | 96 | 96 | 84 |

| Accessories selection table | Program | Memory | | Antenna | Additional jumpers | Wall mount accessory |
|---|---|---|---|---|---|---|
| | IHP+ programming kit for PC | IHP+ key | Cartridge | IHP ANT DCF | IH jumpers | |
| | P93580  | P93581  | | 059236N  | | P151159  |
| **Function** | | | | | | |
| | Consists of a programming device, a memory key, a CDROM and a 2 m USB cable | Saving and duplicating programs<br>For IHP+ 1c/2c, ICAstro 1c/2c, IC100kp+ 1c/2c, IHP 1c 18 mm, IHP+ 1c 18 mm | For ITM | Antenna for IHP DCF | They are used to program a larger number of sequences for:<br>■ IH 24h 2c ARM (**15337**)<br>■ IH 24h + 7j 1+1c ARM (**15366**) | The 18 mm time switches can be mounted on a wall by using 15359 reference.<br>The protection cover is sealable. |
| **Mounting** | | | | | | |
| | – | Located on front face | | ■ 5 IHP DCF maximum per antenna, maximum distance between the IHP DCF and the antenna: 200 m<br>■ Outside the electrical switchboard, outdoors, under shelter | 1 bag containing:<br>■ 5 red<br>■ 5 green<br>■ 5 white<br>■ 5 yellow | The 15359 accessory can be also used to mount others 18 mm DIN rail devices (for example: timers , circuit breakers...). |
| **Catalogue numbers** | **CCT15860** | **CCT15861** | **15280** | **15858** | **15341** | **15359** |
| **Technical spécifications** | | | | | | |
| Degree of protection | – | – | – | IP54 | – | |
| Operating temperature | – | – | – | -20°C to +70°C | – | |
| Overall dimensions L x W x H (mm) | – | – | – | 70 x 57 x 92 | – | See § dimensions |

## Specific technical data

| **IHP+ 1c, IHP+ 2c, IHP DCF** | |
|---|---|
| Manual functions | Temporary cancellation of programming for holidays, public holidays, etc. by configuration of the 2 dates - start and end of absence |
| | Simulation of presence thanks to random operation during On periods |
| Pulse functions | Programming of pulses adjustable from 1 to 59 s (pulse takes priority over switching) |
| Back-lighting of the screen | |
| **External input (only for IHP+ 1c, IHP+ 2c)** | |
| External inputs for external control with a standard switch or a push-button | 1 input for IHP+ 1c<br>2 inputs for IHP+ 2c |
| Voltage rating (Ue) | 230 V AC, +10 %, -15 % |
| Frequency | 50/60 Hz |
| Input current | ≤ 1.2 mA |
| Consumption | ≤ 0.3 mW |
| Cable length | ≤ 100 m |
| **Synchronisation on the Frankfurt's DCF 77 radio station signal (only for IHP DCF)** | |
| Automatic on commissioning, then at 1 am, 2 am, 3 am and 4 am every day | |
| Manual by pressing the IHP keys or after a "reset" | |
| Displayed on the screen by the letters RC | |
| Programming of pulses adjustable from 1 to 59 s (pulse takes priority over switching) | |

# IHP, IH, IHH, ITM (cont.)
## Praticle advices

## Programming principle

■ For the IHP switches, this consists of memorising the days and times of the required switching operations.

■ For the IH - IHH switches, this is performed by positioning captive segments or jumpers on a switching dial.

### Example

■ Controlling an air conditionner in a hairdressing salon:

| | Monday | Tuesday | Wednesday | Thursday | Etc. | |
|---|---|---|---|---|---|---|
| On n° 1 | | 08 h 30 | 08 h 30 | 08 h 30 | | Switch on |
| Off n° 1 | | 12 h 00 | 12 h 00 | | | Switch off |
| On n° 2 | | 13 h 30 | 13 h 30 | | | Switch on |
| Off n° 2 | | 20 h 00 | 20 h 00 | 20 h 00 | | Switch off |

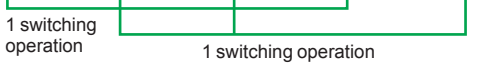
*(1) Closed on Mondays*
*(2) Non-stop*

## Programming by copying or blocks

Whenever identical switching operations are found at the same times, several days in the week, this function lets you program these operations once only.
In this case a single switching operation is used. If this function is used wisely, the number of possible switching operations can be greatly increased.

### Example

| | Monday | Tuesday | Wednesday | Thursday | Friday | |
|---|---|---|---|---|---|---|
| On n°1 | 10 h 00 | | | 10 h 00 | | Switch on |
| Off n°1 | | 18 h 00 | 18 h 00 | | 18 h 00 | Switch off |




## Number of switching operations

| Designation | Number of switching operations |
|---|---|
| **IHP** 1c | 56 |
| **IHP** + 1c | 84 |
| **IHP** DCF 1c | 42 |
| **IHP** 2c | 56 |
| **IHP** + 2c | 84 |
| **IHP** 1c 18 mm | 56 |
| **IHP** + 1c 18 mm | 84 |
| **ITM 4C-6E** | 45 time brackets in weekly time programming, 15 time brackets in annual time programming and 20 different pulses in pulse programming |
| **IH** 24h 1c ARM | 48 On - 48 Off |
| **IH** 24h 1c SRM | 48 On - 48 Off |
| **IH** 60mn 1c SRM | 48 On - 48 Off |
| **IH** 24h 1c SRM | 48 On - 48 Off |
| **IH** 24h 1c ARM | 48 On - 48 Off |
| **IH** 24h 2c ARM | 24 On - 24 Off |
| **IH** 7j 1c ARM | 42 On - 42 Off |
| **IH** 24 h + 7j 1+1c ARM | 16 On - 16 Off + 7 On - 7 Off |

## Saving on mains cut off

For IHP switches equipped with this function, a lithium battery is used for saving. The program, date and time are preserved. Switching operations are not performed.

# IHP, IH, IHH, ITM (cont.)
## Praticle advices

Lets you control starting and stopping of a group of loads according to a cycle that is repeated every 60 minutes.

### 60 min. time programming

Example

| Controlling automatic watering | |
|---|---|
| On n° 1 | 2 min. 30 s |
| Off n° 1 | 5 min. |
| On n° 2 | 25 min. |
| Off n° 2 | 37 min. 30 s |

#### Relevant time switches

IH 60mn 1c SRM.

Lets you control starting and stopping of one or two groups of loads according to a daily cycle that is repeated, in identical manner, every day of the week.

### 24 h daily programming

Example

- Controlling a door of a block of flats:
  - from 8 am to 7.30 pm: contact on "On", free access,
  - from 7.30 pm to 8 am the next day: contact on "Off", access by confidential code every day of the week:

| | From Monday to Sunday |
|---|---|
| On n° 1 | 8 am |
| Off n° 1 | 7.30 pm |

#### Relevant time switches

- IH 24h 1c SRM/ARM.
- IH 24h 2c ARM.
- IHP 1c 18 mm.
- IHP + 1c 18 mm.
- IHP DCF 1c.
- IHP 1c, IHP + 1c.
- IHP 2c, IHP + 2c.
- ITM 4C-6E.

Lets you control starting and stopping of one to 4 groups of loads according to a weekly cycle, that can be different each day, repeated each week.

### 7 days weekly programming

Example

- Controlling an air conditionner in a hairdressing salon:

| Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
|---|---|---|---|---|---|---|
| On n° 1 | | 09 h 00 | 09 h 00 | 09 h 00 | | |
| Off n° 1 | | 12 h 00 | 12 h 00 | | | |
| On n° 2 | | 14 h 00 | 14 h 00 | | | |
| Off n° 2 | | 20 h 00 | 20 h 00 | 20 h 00 | | |
| On n° 3 | | | | | 8 h 30 | 8 h 30 |
| Off n° 3 | | | | | 12 h 30 | 12 h 30 |
| On n° 4 | | | | | 14 h 30 | 14 h 30 |
| Off n° 4 | | | | | 21 h 00 | 21 h 00 |

#### Relevant time switches

- IH 7j 1c ARM.
- IHP 1c, IHP + 1c.
- IHP 2c, IHP + 2c.
- IHP 1c 18 mm.
- IHP + 1c 18 mm.
- IHP DCF 1c.
- ITM 4C-6E.

Lets you control by pulses (adjustable from 1 to 59 s) one to four groups of loads (pulse relays, bells, etc.).

## Pulse programming

### Example

■ Automatic controlling of bells, lighting and distribution of food: bells sounding the resumption and finish of work (channel 1), lighting of premises (channel 2), feeding fish in the aquarium (channel 3):

| | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
|---|---|---|---|---|---|---|---|
| **Channel 1**: bell (20 s pulse order) | | | | | | | |
| On | 08 h 00 | 08 h 00 | 08 h 00 | 08 h 00 | 07 h 00 | 09 h 00 | – |
| Duration | 20 s | 20 s | 20 s | 20 s | 20 s | 20 s | – |
| On | 12 h 00 | 12 h 00 | 12 h 00 | 12 h 00 | 11 h 00 | 13 h 00 | – |
| Duration | 20 s | 20 s | 20 s | 20 s | 20 s | 20 s | – |
| On | 14 h 00 | 14 h 00 | 14 h 00 | 14 h 00 | 13 h 00 | – | – |
| Duration | 20 s | 20 s | 20 s | 20 s | 20 s | – | – |
| On | 18 h 00 | 18 h 00 | 18 h 00 | 18 h 00 | 16 h 00 | – | – |
| Duration | 20 s | 20 s | 20 s | 20 s | 20 s | – | – |
| **Channel 2**: lighting (latched order) | | | | | | | |
| On | 07 h 30 | 07 h 30 | 07 h 30 | 07 h 30 | 06 h 30 | 08 h 30 | – |
| Off | 18 h 30 | 18 h 30 | 18 h 30 | 18 h 30 | 17 h 00 | 13 h 30 | – |
| **Channel 3**: aquarium (15 s pulse order) | | | | | | | |
| On | 10 h 00 | – | 10 h 00 | – | 10 h 00 | – | 10 h 00 |
| Duration | 15 s | – | 15 s | – | 15 s | – | 15 s |

### Programming

■ Programming of a pulse takes up 2 memory spaces.
■ Combination of the two order types (pulse and latched) is possible on the same channel.

### Relevant time switches

■ IHP + 1c.
■ IHP + 1c 18 mm.
■ IHP DCF 1c.
■ IHP + 2c.
■ ITM 4C-6E.

Lets you create special programs for dated days.

## Programming special days.

### Example

■ Controlling lighting and heating in a school:
□ basic programming: program lighting (channel 1) and heating (channel 2):

| | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
|---|---|---|---|---|---|---|---|
| **Channel 1**: lighting | | | | | | | |
| On | 07 h 00 | 07 h 00 | 07 h 00 | 07 h 00 | 07 h 00 | – | – |
| Off | 20 h 00 | 20 h 00 | 16 h 00 | 20 h 00 | 16 h 00 | – | – |
| **Channel 2**: heating | | | | | | | |
| On | 06 h 00 | 06 h 00 | 06 h 00 | 06 h 00 | 06 h 00 | – | – |
| Off | 18 h 00 | 18 h 00 | 12 h 00 | 18 h 00 | 12 h 00 | – | – |

□ dated programming: periods of non-operation, school holidays, etc.
Just memorise an Off at the start and another Off at the end of each period of absence:

| | | Holidays | | | | |
|---|---|---|---|---|---|---|
| | | Winter | Spring | Summer | Autumn | End of year |
| **Channel 1**: lighting | | | | | | |
| Off | Date | 20 feb. | 17-apr | 07-july | 23 oct. | 18 dec. |
| | Time | 12 h 00 | 17 h 00 | 12 h 00 | 17 h 00 | 12 h 00 |
| Off | Date | 08-march | 03-may | 9 sept. | 2 nov. | 4 jan. |
| | Time | 01 h 00 | 01 h 00 | 01 h 00 | 01 h 00 | 01 h 00 |
| **Channel 2**: heating | | | | | | |
| Off | Date | 20 feb. | 17-apr | | 23 oct. | 18 dec. |
| | Time | 12 h 00 | 17 h 00 | | 17 h 00 | 12 h 00 |
| Off | Date | 08-march | 03-may | | 2 nov. | 4 jan. |
| | Time | 01 h 00 | 01 h 00 | | 01 h 00 | 01 h 00 |

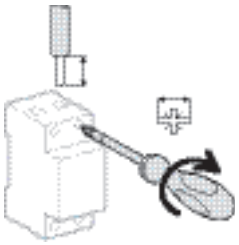
### Relevant time switches

■ ITM 4C-6E.

# IHP, IH, IHH, ITM (cont.)

## Connection

DB123947



| Type | | Tightening torque | Copper cables | |
|---|---|---|---|---|
| | | | Rigid | Flexible or with ferrule |
| | | DB122945 | DB122946 | |
| IHP | 1c, 2c, +1c, +2c | 2 screwless / pole | 2 x 2.5 mm² | 2 x 2.5 mm² |
| IHP 18 mm | 1c, +1c | 2 screwless / pole | 2 x 2.5 mm² | 2 x 2.5 mm² |
| IHP | DCF | 1.2 N.m | ≤ 6 mm² | ≤ 6 mm² |
| IH | 60mn 1c SRM | 2 screwless / pole | 2 x 2.5 mm² | 2 x 2.5 mm² |
| | 24h 1c SRM, ARM | 2 screwless / pole | 2 x 2.5 mm² | 2 x 2.5 mm² |
| | 24h 2c ARM | 1.2 N.m | ≤ 6 mm² | ≤ 6 mm² |
| | 7j 1c ARM | 2 screwless / pole | 2 x 2.5 mm² | 2 x 2.5 mm² |
| | 24h + 7j 1+1c ARM | 1.2 N.m | ≤ 6 mm² | ≤ 6 mm² |
| IH 18 mm | 24h 1c SRM/ ARM | 1.2 N.m | ≤ 6 mm² | ≤ 6 mm² |
| IHH 18 mm | 7j 1c ARM | 1.2 N.m | ≤ 6 mm² | ≤ 6 mm² |
| ITM 4c-6E | | 1.2 N.m | ≤ 6 mm² | ≤ 6 mm² |

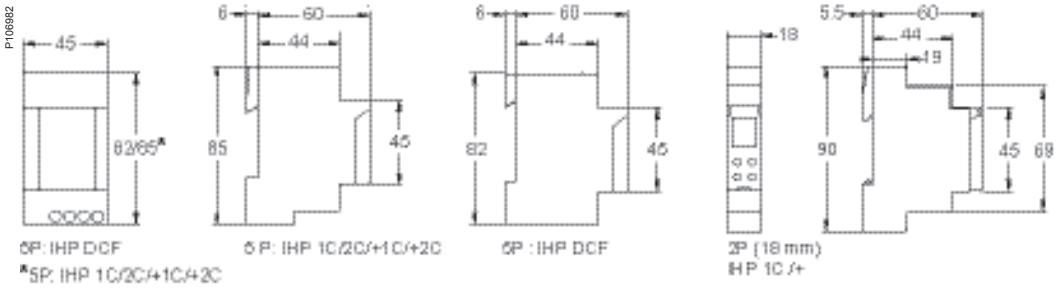
IHP 1c/2c, IHP+ 1c/2c are mechanical compatible with electrical distribution comb busbar.

## Weight (g)

| Time switches | | |
|---|---|---|
| IHP | 1c / 2c | 170/ 205 |
| IHP+ | 1c / 2c | 190/ 211 |
| IHP 18 mm | 1c / +1c | 90 |
| IHP DCF | | 244 |
| IH 54 mm | 60mn 1c SRM | 208 |
| | 24h 1c SRM/ARM | 212 / 119 |
| | 24h 2c ARM | 216 |
| | 7j 1c ARM | 119 |
| | 24h + 7j 1+1c ARM | 223 |
| IH 18 mm | 24h 1c SRM / ARM | 97 |
| IHH 18 mm | 7j 1c ARM | 101 |
| ITM 4c-6E | | 415 |
| **Accessories** | | |
| Programming kit for PC | | 150 |
| ANT DCF | | 168 |

## Dimensions (mm)

### IHP programmable time switches



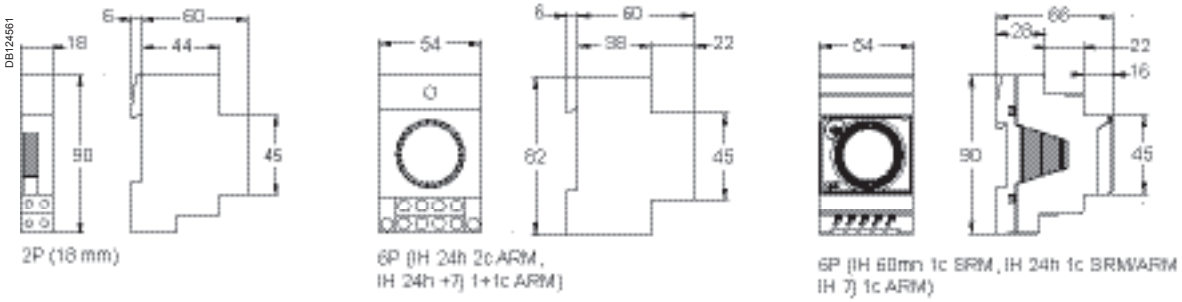

5P: IHP DCF
*5P: IHP 1C/2C/+1C/+2C

5 P: IHP 1C/2C/+1C/+2C

5P : IHP DCF

2P (18 mm)
IHP 1C /+

### IH, IHH time switches

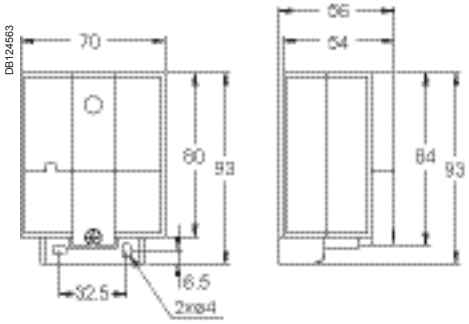



2P (18 mm)

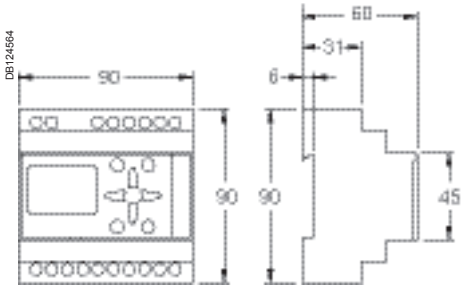
6P (IH 24h 2c ARM,
IH 24h +7) 1+1c ARM)

6P (IH 60mn 1c SRM, IH 24h 1c SRM/ARM
IH 7) 1c ARM)

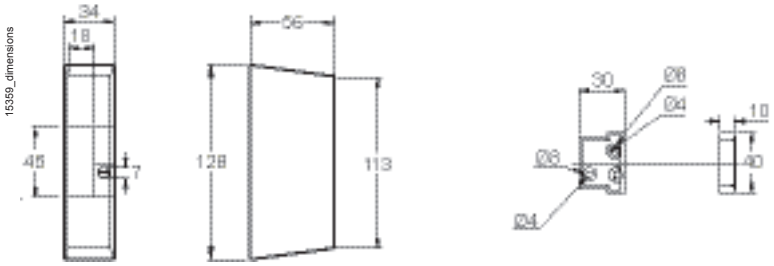
### ANT DCF antenna




### ITM 4C-6E




### Wall mount accessory



# MIN, MINs, MINp, MINt

Timers

## Electromechanical timer


**MIN**
Adjustable time delay from 1 to 7 min.

## Silent electronic timers

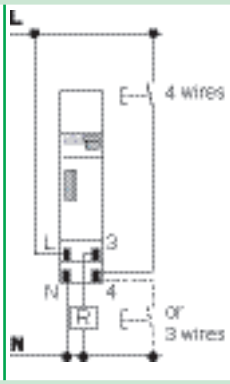
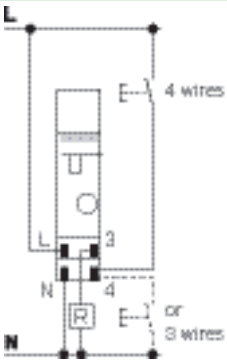

**MINs**
Adjustable time delay from 0.5 to 20 min.


**MINp**
Adjustable time delay from 0.5 to 20 min. with switch-off warning.


**MINt**
Adjustable time delay from 0.5 to 20 min. with switch-off warning and impulse relay function.

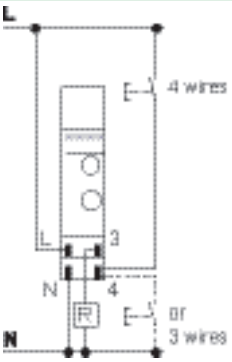
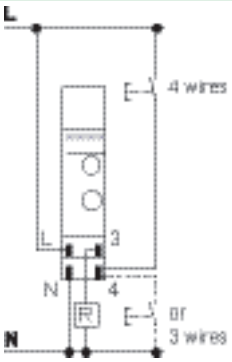
# MIN, MINs, MINp, MINt (cont.)

## Selection table

| | MIN | MINs |
|---|---|---|
| **Type** | **Electromechanical timer** | **Silent electronic timer** |
| | P111648  | P111642  |
| **Function** | | |
| | These timers allow closing and then opening of a contact in a determined time | |
| | Control circuit: connected standard or luminous push-buttons. Timer inoperative via self-protection if consumption above 50 mA maximum | |
| **Wiring diagrams** | | |
| | P106867   | P106869   |
| **Mounting** | | |
| | Two operating modes triggered by switch on front face:<br>■ Automatic mode:<br>□ operation in timing mode<br>□ time delay adjustable from 1 to 7 min.<br>□ setting in steps of 15 s using knob<br>□ pressing a push-button renews the time delay<br>■ Manual override mode: constant lighting<br>■ Specific shield for terminal blocks insulation<br>(Cat. no. **15359**) | Two operating modes triggered by switch on front fac<br>■ Timer mode: time delay adjustable from 0.5 to 20 r<br>■ Permanent mode: constant lighting |
| **Catalogue numbers** | **15363** | **CCT15232** |

| **Technical specifications** | | | |
|---|---|---|---|
| Voltage rating (Ue) (+10 %, -15 %) | | 230 V AC, 50 Hz | 230 V AC, 50/60 Hz |
| Consumption | | 1 VA | < 6 VA |
| Output contact current | Cos φ = 1 | 16 A | 16 A |
| Degree of protection | | IP20B | IP20B |
| Operating temperature | | -10°C to +50°C | -10°C to +50°C |
| Width (9 mm modules) | | 2 | 2 |
| Consumption of connected luminous push-buttons | | 50 mA maxi | 150 mA maxi |
| Adjustable time delay | | 1 to 7 min. | 0.5 to 20 min. |
| Long time delay | | – | – |
| Insulation class | | – | Class II |
| 1 screw connection per pole for cables up to 6 $mm^2$ | | ■ | ■ |
| Selection of the type of connection (3 or 4 wires) | | Selector switch | Automatic |
| Mechanical compatibility with electrical distribution comb busbar | | – | ■ |
| Switch-off warning function | | – | – |
| Impulse relay function | | – | – |

# MIN, MINs, MINp, MINt (cont.)

| MINp | MINt |
|---|---|
| **Silent electronic timer** | |
| P111643<br>  | P111644<br>  |
| The MINp timer allows closing and then opening of a contact in a determined time, and it also provides warning that the lighting is about to be switched off by flickering of the lamplight (switch-off warning) | The MINt timer is the same as MINp with an "impulse relay" additional function |
| P106871<br>  | P106871<br>  |
| ■ Time delay adjustable from 0.5 to 20 min<br>■ Three operating modes triggered by switch on front face:<br>□ timer mode with "switch-off warning" function built into the device. The lamp blinks 40 and 30 s before the end of the time delay<br>□ timer mode mode without "switch-off warning" function<br>□ permanent mode : constant lighting | |
| ■ Timer mode operation:<br>□ pressing a push-button for longer than 2 s: lighting will last for 1h. Pressing again a push-button for less than 2 s relaunch the time delay of 1h and pressing again a push-button for more than 2 s switches off the light<br>□ pressing a push-button for less than 2 s launch the pre-set time delay, pressing again a push-button for less than 2 s relaunch the pre-set time delay | ■ Timer mode operation:<br>□ pressing a push-button for longer than 2 s: lighting will last for 1h. Pressing again a push-button for less than 2 s relaunch the time delay of 1h and pressing again a push-button for more than 2 s switches off the light<br>□ pressing a push-button for less than 2 s launch the pre-set time delay, pressing again a push-button for less than 2 s, switches off the light (impulse relay mode) |
| **CCT15233** | **CCT15234** |
| | |
| 230 V AC, 50/60 Hz | 230 V AC, 50/60 Hz |
| < 6 VA | < 6 VA |
| 16 A | 16 A |
| IP20B | IP20B |
| -25°C to +50°C | -25°C to +50°C |
| 2 | 2 |
| 150 mA maxi | 150 mA maxi |
| 0.5 to 20 min. | 0.5 to 20 min. |
| 1 h | 1 h |
| Class II | Class II |
| ■ | ■ |
| Automatic | Automatic |
| ■ | ■ |
| ■ | ■ |
| – | ■ |

# MIN, MINs, MINp, MINt (cont.)

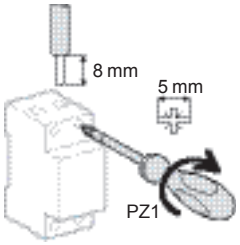
## Load table

| Products | MIN | MINs | MINp, MINt |
|---|---|---|---|
| **Type of lighting** | **Maximum power** | | |
| 230 V incandescent and halogen lamps | 2300 W | 2300 W | 3600 W |
| Non-corrected / serial-corrected / dual mounted fluorescent tubes with conventional ballast | 2300 VA | 2300 VA | 3600 VA (1) |
| Fluocompact lamps with conventional ballast | 2000 VA | 1500 VA | 1500 VA (1) |
| Parallel-corrected fluorescent tubes with conventional ballast | 1300 VA (70 F) | 400 VA (42 µF) | 1200 VA (120 µF) (1) |
| Fluorescent tubes with electronic ballast | 300 VA | 300 VA | 1000 VA |
| Fluocompact lamps with electronic ballast | 9 x 7 W, 6 x 11 W, 5 x 15 W, 5 x 20 W | 9 x 7 W, 7 x 11 W, 7 x 15 W, 7 x 20 W, 7 x 23 W | 34 x 7 W, 27 x 11 W, 24 x 15 W, 22 x 23 W |

(1) *The "switch-off warning" function is not available for these types of loads.*

## Connection

DB123947



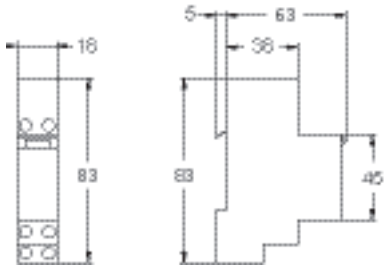

| Type | Tightening torque | Copper cables | |
|---|---|---|---|
| | | Rigid | Flexible or with ferrule |
| | DB122945 | DB123553 | |
| **MIN, MINs, MINp, MINt** | 1.2 N.m | ⩽ 6 mm² | ⩽ 6 mm² |

## Weight (g)

| Time switches | |
|---|---|
| **MIN** | 84 |
| **MINs** | 75 |
| **MINp** | 103 |
| **MINt** | 76 |

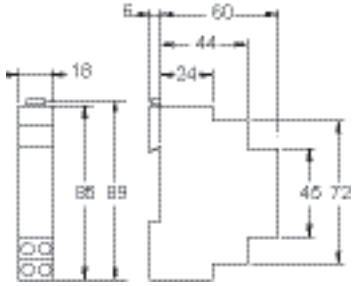
## Dimensions (mm)

DB124571




*MIN*

DB124572




*MINs, MINp, MINt*

# STD and SCU range
## STD400RC/RL-DIN & SAE
## STD1000RL-DIN & SAE
## SCU10-DIN & SAE

## STD


*STD400RC/RL-DIN*


*STD400RC/RL-SAE*


*STD1000RL-SAE*

### STD

■ The STD dimmers modulate incandescent halogen, lighting brightness and motors for unit powers from 40 to 1000 W from one or more switch-on points.
■ They can be controlled either with the local control push-button placed on front panel or with auxiliary push-buttons.
■ They have soft-On / soft-Off, light level memory and minimum level setting features.
■ They are available in 2 different types:
□ DIN type (STD400RC/RL-DIN, STD1000RL-DIN) supplied without digital inputs,
□ SAE type (STD400RC/RL-SAE, STD1000RL-SAE) supplied with 4 digital inputs.

## SCU

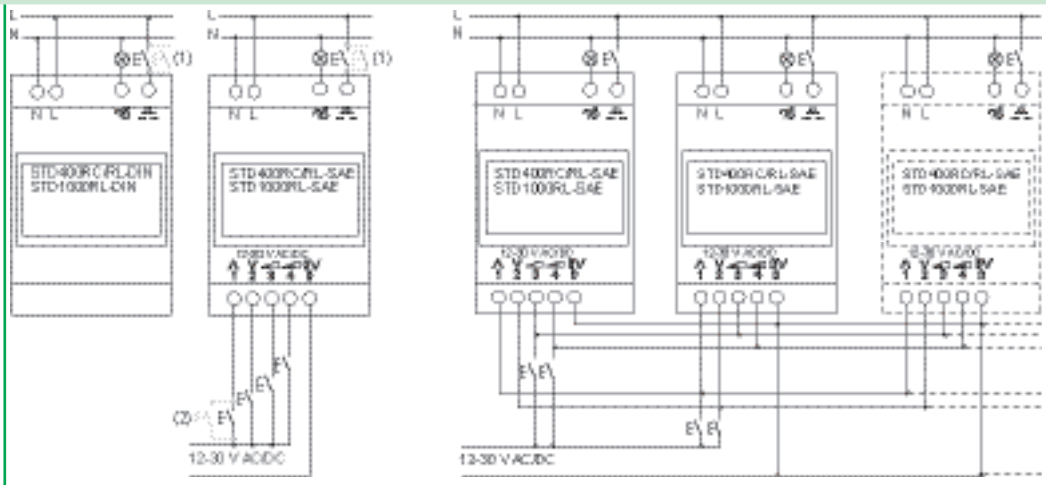

*SCU10-SAE*

### SCU

■ The SCU dimmers modulate fluorescent lighting brightness for unit powers from 40 to 1500 W from one or more switch-on points.
■ They can be controlled either with the local control push-button placed on front panel or with auxiliary push-buttons.
■ They have soft-On / soft-Off, light level memory and minimum level setting features.
■ They are available in 2 different types:
□ DIN type (SCU10-DIN) supplied without digital inputs,
□ SAE type (SCU10-SAE) supplied with 4 digital inputs.

# STD and SCU range (cont.)
## STD400RC/RL-DIN & SAE
## STD1000RL-DIN & SAE
## SCU10-DIN & SAE

## Selection table
### STD

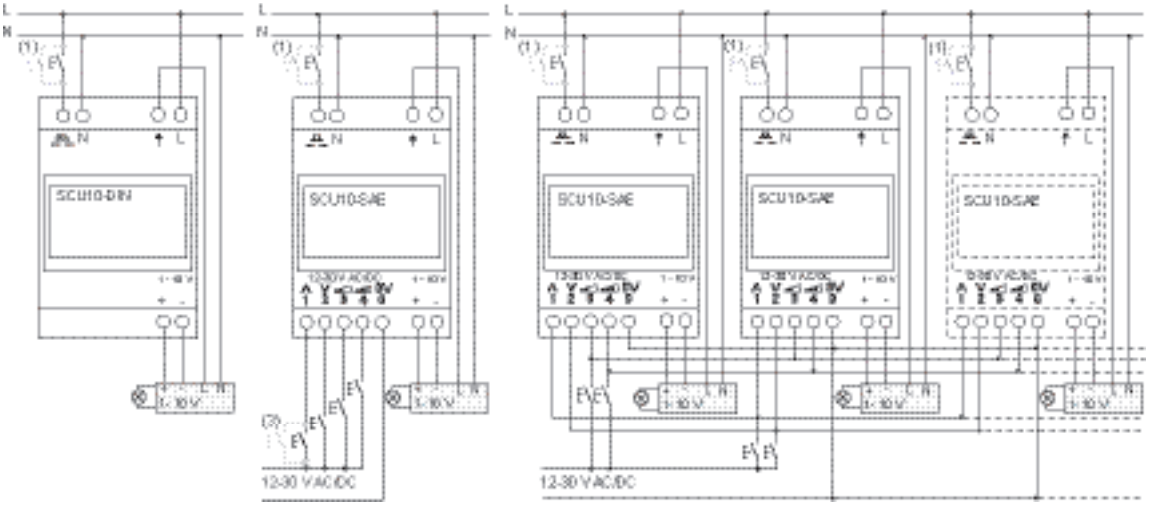
| | STD400RC/RL-DIN | STD400RC/RL-SAE | STD1000RL-DIN | STD1000RL-SAE |
|---|---|---|---|---|
| **Type** | **400 W** | | **1000 W** | |
| | P112245  | P112246  | P112247  | P112248  |
| **Wiring diagrams** | | | | |
| | P106846  | | | |
| **Mounting** | | | | |
| | With SAE types, it is possible to control a maximum of 20 dimmers combining STD400RC/RL-SAE and STD1000RL-SAE, with only one push-button via the 4 digital inputs | | | |
| **Catalogue numbers** | **CCTDD20001** | **CCTDD20002** | **CCTDD20003** | **CCTDD20004** |

| **Technical specifications** | | | | |
|---|---|---|---|---|
| Voltage rating (Ue) | 230 V AC ± 10 %, 50 Hz | | | |
| Consumption | 0.8 VA | | | |
| Power loss | 3 W | | | |
| Current sink for 1-10 V output | - | | | |
| Local push-button | Short push for On/Off control, long push for dimming | | | |
| Auxiliary push-button input | Short push for On/Off control, long push for dimming:<br>■ up to 25 parallel connected auxiliary push-buttons without indication lamps<br>■ up to 5 parallel connected auxiliary push-buttons with indication lamps<br>■ max wire length 50 m | | | |
| The minimum light level setting is adjustable | ■ | | | |
| Indication blue LED (built in the local push-button) | Illuminates during the on-state. The LED is blinking in error mode | | | |
| Degree of protection | IP20 | | | |
| Operating temperature | 0°C to +40°C, 40°C to +70°C with - 6 W /°C de-rating | | | |
| Storage temperature | 0°C to +60°C | | | |
| Width (module of 9 mm) | 4 | 4 | 8 | 8 |
| Protections, fuses | ■ Electronic overload, overvoltage and over temperature protection<br>■ Single shot thermal fuse | | | |
| Standards | According to EN 60669-2-1 | | | |
| Directives | According to CE, EMC 89/336/EEC and LVD 73/73/23/EEC | | | |

*(1) Use of maximum 25 push-buttons without indication lamp and 5 push-buttons with indication lamp, connected in parallel.*
*(2) Use of maximum 25 push-buttons without indication lamp, connected in parallel, only for STD400RC/RL-SAE and STD1000RL-SAE.*

# STD and SCU range (cont.)
## STD400RC/RL-DIN & SAE
## STD1000RL-DIN & SAE
## SCU10-DIN & SAE

### SCU

| SCU10-DIN | SCU10-SAE |
|---|---|
| **1 - 10 V** | |
| P112250  | P112221  |
| P106847  | |
| With SAE types, it is possible to control a maximum of 20 dimmers combining STD400RC/RL-SAE, STD1000RL-SAE and SCU10-SAE with only one push-button via the 4 digital inputs | |
| **CCTDD20011** | **CCTDD20012** |
| 230 V AC ± 10 %, 50 Hz | |
| 0.8 VA | |
| 3 W | |
| 0.2- 100 mA | |
| Short push for On/Off control, long push for dimming | |
| Short push for On/Off control, long push for dimming:<br>■ up to 25 parallel connected auxiliary push-buttons without indication lamps<br>■ up to 5 parallel connected auxiliary push-buttons with indication lamps<br>■ max wire length 50 m | |
| ■ | |
| Illuminates during the on-state. The LED is blinking in error mode | |
| IP20 | |
| 0°C to +40°C, 40°C to +70°C with - 6 W /°C de-rating | |
| 0°C to +60°C | |
| 8 | 8 |
| ■ Electronic overload, overvoltage and over temperature protection<br>■ Single shot thermal fuse | |
| According to EN 60669-2-1 | |
| According to CE, EMC 89/336/EEC and LVD 73/73/23/EEC | |

*(3) Use of maximum 25 push-buttons without indication lamp, connected in parallel, only for SCU10-SAE*

# STD and SCU range (cont.)
## STD400RC/RL-DIN & SAE
## STD1000RL-DIN & SAE
## SCU10-DIN & SAE

## Specific technical data

| SAE types | | |
|---|---|---|
| Input voltage | | 12- 30 V AC/DC |
| The **STD400RC/RL-SAE**, **STD1000RL-SAE** and **SCU10-SAE** dimmers are supplied with 4 digital inputs | Input 1 | On/Off and dimming up/down or only On and dimming up (depends on function mode) |
| | Input 2 | Off and dimming down or only Off (depends on function mode) |
| | Input 3 | Adjustable lighting level memory 1 (50 % default) |
| | Input 4 | Adjustable lighting level memory 2 (100 % default) |
| Max wire length | | 50 m |
| Up to 25 push-buttons per input. No push-button with indication lamp | | |
| STD400RC/RL-DIN and STD400RC/RL-SAE dimmers are power regulators designed for all dimmable load types. Dimmers have automatic load type detection and the load regulation method is adjusted to fit the load | | |

### Operation modes for SAE types

■ **STD400RC/RL-SAE**, **STD1000RL-SAE** and **SCU10-SAE** dimmers have 2 different operation modes (**A** and **B**) using auxiliary push-buttons connected on digital inputs (1, 2, 3 and 4 terminals).

■ Modes **A** and **B** can be changed by pushing the digital inputs 3 and 4 simultaneously for 10 s. After the mode is changed the load and the LED start to blink as long as the inputs are pushed.

■ In the mode **A**, the input 1 dims the lights on with a short push and up with a long push and turns light off with a short push and dims the light down with a long push. The direction is changed every time the input 1 is released. The input 2 dims the lights always off.

■ In the mode **B**, the input 1 dims lights only up with a long push and turns lights on with a short push. The input 2 dims the lights only down with a long push and turns lights off with a short push.

■ Inputs 3 and 4 are for memory places for light levels. The light level is called with a short push and set into the memory with a long push of 3 s.

## Common technical data

### Common operation mode for SAE & DIN types

■ The dimmer is turned On/Off by shortly pushing the front panel push-button. This push-button lights blue when the dimmer is On.

■ The light level is controlled by keeping the front panel push-button pushed until wanted level has been reached.

■ The direction of dimming (up/down) is changed every time the front panel push-button is released.

■ The dimmer has memory function which stores the light level before Off-command. When the dimmer is turned back On, the light level is the same as it was before Off-command.

■ Auxiliary push-buttons connected on  terminal have the same functionality as the push-button on the front panel of the dimmer.

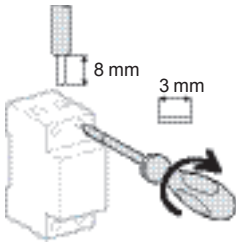
## Load table

| STD400RC/RL-DIN, STD400RC/RL-SAE | |
|---|---|
| 230 V incandescent and halogen lamps | 40 - 400 W |
| Low voltage halogen lamps with electronic transformer | 40 - 400 W |
| Low voltage halogen lamps with conventional transformer | 40 - 300 W |
| Motors (fans, ventilators...) | 40 - 200 W |
| **STD1000RL-DIN, STD1000RL-SAE** | |
| 230 V incandescent and halogen lamps | 60 - 1000 W |
| Low voltage halogen lamps with electronic transformer | 60 - 1000 W |
| Low voltage halogen lamps with conventional transformer | 60 - 1000 W |
| Motors (fans, ventilators...) | 60 - 600 W |
| **SCU10-DIN, SCU10-SAE** | |
| Mono fluorescent tubes with electronic ballast (dia.26 mm) | 50 x 18 W, 40 x 36 W, 25 x 58 W |
| Duo fluorescent tubes with electronic ballast (dia.26 mm) | 40 x 18 W, 20 x 36 W, 12 x 58 W |
| Fluocompact lamps with electronic ballast | 50 max. up to 1500 W |

# STD and SCU range (cont.)
## STD400RC/RL-DIN & SAE
## STD1000RL-DIN & SAE
## SCU10-DIN & SAE

## Connection

P106928



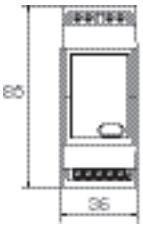

| Type | Tightening torque | Copper cables | |
|---|---|---|---|
| | | Rigid | Flexible or with ferrule |
| | DB122945 | DB123553 | |
| STD and SCU (top connection) | 0.5 N.m | < 4mm² | < 4 mm² |
| STD and SCU (bottom connection) | 0.5 N.m | < 2.5 mm² | < 2.5 mm² |

## Weight (g)

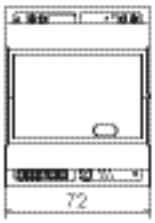
| Dimmers | |
|---|---|
| STD400RC/RL-DIN | 80 |
| STD400RC/RL-SAE | 90 |
| STD1000RL-DIN | 120 |
| STD1000RL-SAE, SCU10 | 130 |

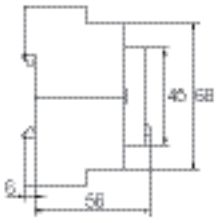
## Dimensions (mm)

P106845




*STD400RC/RL*




*STD1000RL*
*SCU10*

# TH4, TH7 and THP1, THP2

## Thermostats

P123732

### TH4

For individual and multifamily housing, tertiary premises, TH4 thermostat monitors and regulates ambient temperature from +8°C to +26°C according to 3 temperature set points:
- comfort: while the promises are occupied
- reduced: while the premises are unoccupied
- above freezing: for a prolonged period of non-occupancy.

P123731

### TH7

For industrial premises stretching from cold storage to ovens, TH7 thermostat monitors and regulates temperature from -40°C to +80°C with a wide setting range.
It can also be used for frost protections at home.

## Programmable thermostats

P126317

### THP1 and THP2

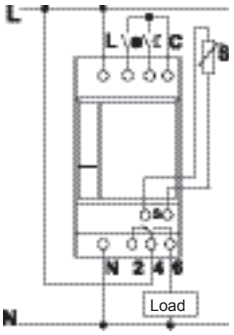
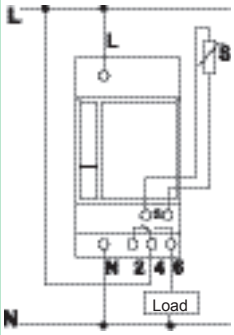
Programmable thermostats control the operating periods of all heating types by monitoring and regulating ambient temperature between 5°C and 30°C, using a programme pre-set by the user and memorised:
- THP1: 1 zone,
- THP2: 2 zones.

P126318

# TH4, TH7 and THP1, THP2 (cont.)

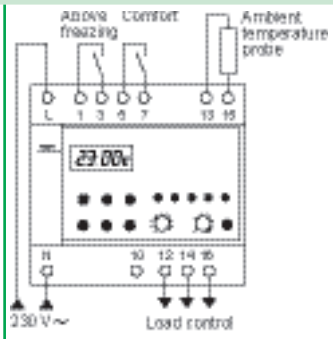
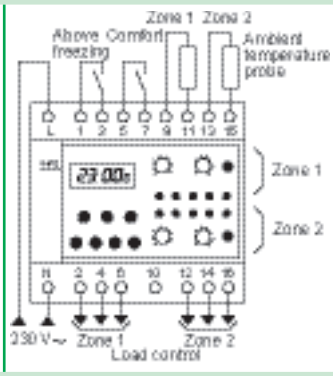
## Selection table

### Thermostats

| | TH4 | TH7 |
|---|---|---|
| **Type** | | |
| | P123732  | P123731  |
| **Function** | | |
| | For individual and multifamily housing, tertiary premises, TH4 thermostat monitors and regulates ambient temperature from +8°C to +26°C according to 3 temperature set points:<br>■ comfort: while the promises are occupied<br>■ reduced: while the premises are unoccupied<br>■ above freezing: for a prolonged period of non-occupancy | ■ For industrial premises stretching from cold storage to ovens, TH7 thermostat monitors and regulates temperature from -40°C to +80°C with a wide setting range<br>■ It can also be used for frost protections at home |
| **Wiring diagrams** | | |
| | P106772   | P106773   |
| **Mounting** | | |
| | Delivered with CCT15846 ambient temperature probe | Delivered without probe |
| **Catalogue numbers** | **CCT15841** | **CCT15840** |

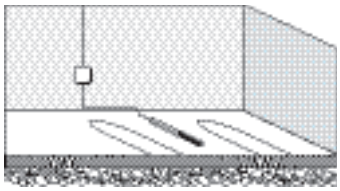
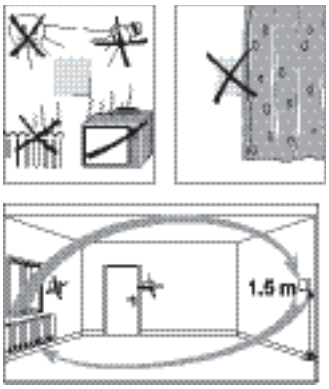
| **Technical specifications** | | |
|---|---|---|
| Voltage rating (Ue) | | 230 V AC, ± 10 %, 50/60 Hz |
| | | – |
| Consumption | | < 4 VA |
| Output contact current (250 V AC) | Cos φ = 1 | 16 A |
| | Cos φ = 0.6 | 3 A |
| Power reserve | | – |
| Time base | | – |
| Difference between tripping and activation | | ±0.2°C |
| Degree of protection | | IP20 |
| Operating temperature | | -10°C to +55°C |
| Storage temperature | | -20°C to +60°C |
| Set Point accuracy | | 1°C |
| Humidity | | 15-95 % RH (no condensation) |
| Width (module of 9 mm) | | 5 |
| Color | | White RAL 9003 |
| Protections, fuses | | Internal over voltage protection against surges, internal over temperature protection |
| Compliance with Community Directives | Isolating requirements, E.M.C. guidelines and Safety guidelines | EN 60730-2-9 |
| | RoHS and environmental issues | EU-directive 2002/95/EC (RoHS) |
| | | WEEE-directive 2002/96/EC (recycling) |
| | | REACH Regulation (EC) No 1907/2006 |

# Programmable thermostats

| | THP1 | THP2 |
|---|---|---|
| | P126317  | P126318  |
| | ■ The THP1 and THP2 programmable thermostats control the operating periods of all heating types by monitoring and regulating ambient temperature between 5°C and 30°C, using a programme pre-set by the user and memorised<br>■ The THP1 and THP2 monitors and regulates temperature in a room by comparing the value of the temperature measured by the ambient temperature probe with the value of the setpoint displayed on its front face according to 3 operating modes:<br>□ comfort: 5°C to 30°C while the premises are occupied<br>□ reduced: 5°C to 26°C while the premises are unoccupied<br>□ above freezing: the temperature in the premises is maintained at approximately 6°C<br>■ The THP1 and THP2, can control the following loads:<br>□ convectors<br>□ a burner<br>□ a "hot air" heating system<br>□ heating valves: hydraulic, electromagnetic or electrothermal | |
| | P106851   | P106852   |
| | Delivered with 1 non-adjustable ambient temperature probe | Delivered with -2 non-adjustable ambient temperature probes |
| | **15833** | **15834** |
| | 230 V AC | |
| | – | |
| | 1 VA | |
| | 5 A | |
| | 1 A | |
| | 6 years | |
| | Quartz | |
| | ±0.2°C | |
| | IP20.1 | |
| | -5°C to +55°C | |
| | -25°C to +70 °C | |
| | – | |
| | 30-50 % RH (no condensation) | |
| | 10 | |
| | White RAL 9003 | |
| | – | |
| | NF C 47-121<br>EN 60730-1: 1991 | |
| | – | |
| | – | |
| | – | |

# TH4, TH7 and THP1, THP2 (cont.)

## Selection table TH4, TH7 temperature probes

| Accessories | Floor temperature probe (with 1.5 m cable) | Ambient temperature probe (with 1.5 m cable) |
|---|---|---|
| **Type** | | |
| | P123733  | P123734  |
| **Installation** | | |
| | P106853  | P106854   |
| **Mounting** | | |
| | This probe must be placed:<br>■ in a Ø 9 mm tube, embedded in the slab in the middle of a turn<br>■ one of the ends must run out of a distribution box sealed in the nearest wall (to simplify probe installation or replacement) | This probe must be fixed 1.50 m above the floor, away from drafts and sources of heat (sun's rays, radiators, machines, etc.) |
| **Catalogue numbers** | **CCT15845** | **CCT15846** |

***Note:*** *for all probes, do not run connecting cables alongside power cables.*
*TH4 and TH7 probes cables can be extended up to 70 m by using 6/10th telephone cable or up to 150 m by using shielded copper cable.*
*THP1 and THP2 probes cables can be extended up to 50 m by using 6/10th telephone cable or shielded copper cable.*

## Specific technical data

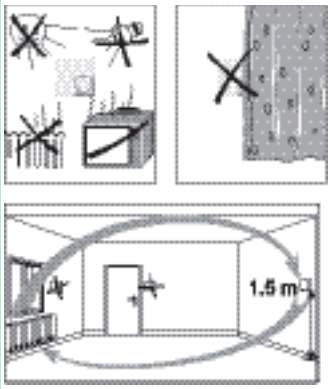
| **TH4** | | |
|---|---|---|
| Settings | Comfort | From +8°C to +26°C |
| | Reduced | From 0°C to 10°C below the selected "comfort" temperature set point: control (manual or automatic) by external dry contact |
| | Above freezing | Maintains room temperature according to a factory adjusted temperature set point of +5°C: control (manual or automatic) by external dry contact |
| Three indicator lights visualise | Green | Above freezing operation |
| | Yellow | Reduced operation |
| | Red | Relay: ON |
| Delivered with ambient temperature probe (CCT15846) | | NTC 10 kΩ (25°C) can be extended up to 150 m with shieded copper cable and up to 70 m with telephone cable |

***Note:*** *however, the set point selected never can't be less than +8°C. Eg. If the reduced set point is selected with a 12°C set point temperature and a 10°C reduction temperature, the operative set point will not be +2°C (12-10) but rather +8°C (+5°C only if the "above freezing" input is closed/active).*

| **TH7** | | |
|---|---|---|
| Temperature set point settings (1) | Range | 6 fixed positions: -40°C, -20°C, 0°C, +20°C, +40°C and +60°C |
| | Adjustements | From 0°C to 20°C above the selected fixed position |
| Indicator light | Red | Relay: ON |
| Delivered without probe | | |

*(1) For example: if "range" is on -40°C, setting is possible between -40°C and -20°C.*

## THP1,THP2 temperature probes

| | Outside temperature probe (with 2 m cable) | Collar temperature probe (with 1.5 m cable) | Ambient temperature probes | | |
|---|---|---|---|---|---|
| | | | Non-adjustable probe | ± 3 °C adjustable probe | Spare battery |
| |  P123735 P123736 |  P123736 |  P126320 |  049540r P126321 |  |
| | | |  P106855 | | |
| | This probe must be fixed away from:<br>■ the sun preferably facing north<br>■ all heat sources (chimney, etc.) | This probe must be fixed on the hot water outgoing pipe (min. ø 21 mm, max. ø 90 mm) approximately 1.50 m from the boiler. | These probes must be fixed 1.50 m above the floor, away from drafts and sources of heat (sun's rays, radiators, machines, etc.) | | |
| | **CCT15847** | **CCT15848** | **15835** | **15836** | **16358** |

| THP1, THP2 | |
|---|---|
| Display | By liquid crystal display of hour, minutes, day of the week and of contact status |
| | Indicator lights: 5 LEDs for 1 zone and 10 for 2 zones displaying:<br>■ the automatic, comfort and reduced operating modes (yellow)<br>■ the above freezing operating mode (green)<br>■ the ON position of the output contact(s) (red) |
| Choosing the operating mode | By local pushbutton: automatic, reduced, comfort, above freezing |
| | By external remote contact overriding the local push-button |
| | The comfort operating mode overrides the above freezing mode |
| Programming | Minimum programming time between 2 switching operations: 1 minute |
| | Memory:<br>■ THP1: up to 42 switching operations<br>■ THP2: up to 168 switching operations |
| | Programming 24 h / 7 days with:<br>■ possible anticipation of switching<br>■ deletion of a switching operation in order to modify or cancel a sequence |
| | Changeover to "summer-winter" time in a single operation |

# TH4, TH7 and THP1, THP2 (cont.)
## Practical advice

P106774

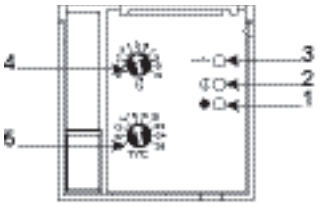



*Fig. 1.*

P106775

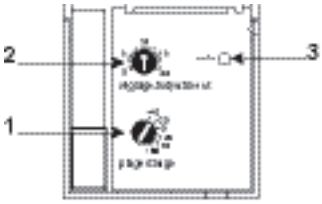



*Fig. 2.*

P106885

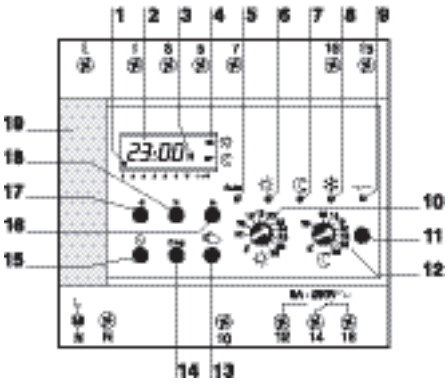



*Fig. 3.*

P106886

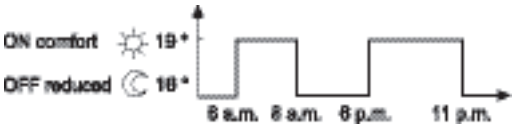



*Fig. 4.*

## TH4

### Front face (see Fig. 1)

- Above freezing mode indicator.
- √2 Reduced mode indicator.
- √3 Relay.
- Reduced threshold adjustment (reduction of temperature with respect to the setpoint).
- Temperature threshold adjustment.

## TH7

### Front face (see Fig. 2)

- Temperature range setting (6 ranges).
- √2 Temperature fine adjustement.
- √3 Relay indicator.

## THP1

### Front face (see Fig. 3)

- Days indication: cursor on 1 = Monday, on 2 = Tuesday, etc.
- √2 Hours and minutes indication.
- √3 Stopping during holiday periods (holiday override mode).
- Visualisation of switching status:
  - ON: comfort
  - OFF: reduced
- Yellow indicator light: "Auto" position.
- Yellow indicator light: "comfort" position.
- Yellow indicator light: "reduced" position.
- Green indicator light: "above freezing" position.
- Red indicator light: output contact status.
- Button for setting the "comfort" operating mode.
- Pushbutton for selecting the operating mode for zone 1.
- √2 Button for setting the "reduced" operating mode.
- √3 Key for anticipation of switching and programming over 7 days.
- Key for scrolling the switching and memorisation operations.
- Function key for time and day updating and return to the time display.
- Minutes setting key.
- Days setting key.
- Hours setting key.
- Manual slot.

### THP1 programming

A programmable clock, built into the THP1, is used for programming (see Fig. 4).

■ The various operations for:
□ updating time and day,
□ introduction of the programme, are the same as those used to programme the IHP 24 hours and 7 days.
■ Programming possibilities:
□ 24 hours and 7 days: a separate programme for each day of the week,
□ up to 42 switching operations memorised,
□ the same switching operation used over several days only counts as one switching operation,
□ power reserve: 6 years.

#### Example

■ Programming:
□ temperature thresholds: "comfort" 19°C and "reduced" 16°C,
□ presence from 6 a.m. to 8 a.m. and from 6 p.m. to 11 p.m.: "comfort" heating, temperature of 19°C,
□ absence (from 8 a.m. to 6 p.m.) and nighttime (from 11 p.m. to 6 a.m.): "reduced" heating, temperature of 16°C.

DB121125

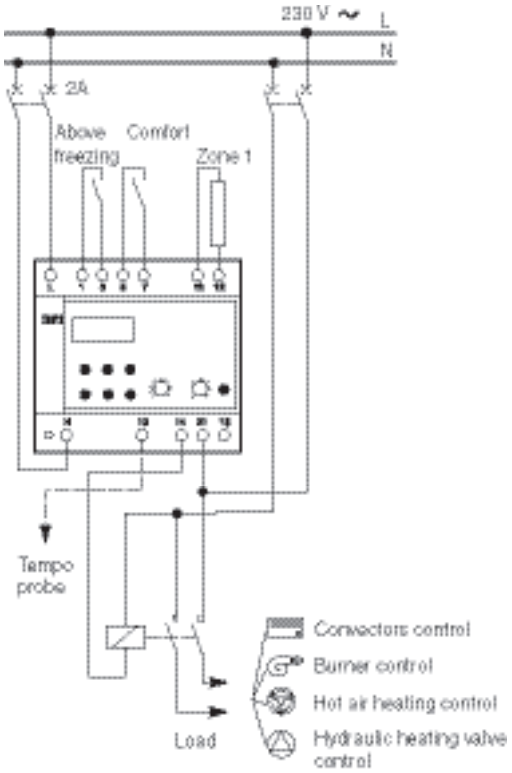



*Fig. 5. THP1 connection example.*

## Local control

The operating mode pushbutton (**11**) is used to select the operating mode and to light up the relevant indicator lights in turn:

**Auto** (indicator light **5**)
Operation takes place according to a pre-set programme (see § on "programming").
- Temperature is regulated with respect to the following temperature thresholds:
  - comfort (ON symbol visible) which is set using the button (**10**),
  - reduced (OFF symbol visible) which is set using the button (**12**).

**Comfort** (indicator light **6**)
The ON symbol is visible.
- Indicator light ON: temperature is regulated only with respect to the "comfort" temperature threshold (setting button **10**).
- Flashing indicator light (see § on "remote control").

**Reduced** (indicator light **7**)
Temperature is regulated only with respect to the "reduced" temperature threshold (setting button **12**). The OFF symbol is visible.

**Above freezing** (indicator light **8**)
- Indicator light ON: temperature is regulated only with respect to the 6.5°C temperature threshold pre-set in the factory.
- Flashing indicator light (see § on "remote control").

## Remote control

This operating mode corresponds to the closing of a contact external to the THP (e.g. switch or TRC).

**Closing a comfort operation contact**
(Red indicator light (**6**) flashing on the THP). Once closed, temperature is only regulated with respect to the "comfort" temperature threshold.
This external contact (terminals 5 and 7) takes priority over:
- The local controls ("Auto", "comfort", "reduced", "above freezing").
- The external "above freezing" contact.

**Closing an above freezing operation contact**
(Green indicator light (**8**) flashing on the THP). Once closed, temperature is only regulated with respect to the "above freezing" temperature threshold.
This external contact (terminals 1 and 3) takes priority over local controls ("Auto", "comfort", "reduced", "above freezing").

DB121146

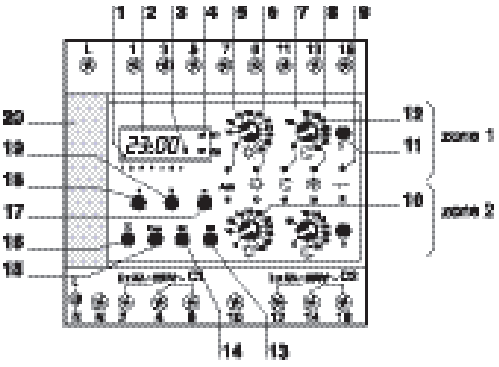



*Fig. 6.*

# THP2

## Front face (see Fig. 6)

- Days indication: cursor on 1 = Monday, on 2 = Tuesday, etc.
- Hours and minutes indication.
- Stopping during holiday periods (holiday override).
- Visualisation of switching status.

| | | Comfort | Reduced |
|---|---|---|---|
| Zone 1 | C1 | ON | OFF |
| Zone 2 | C2 | ON | OFF |

- Yellow indicator light: "Auto" position.
- Yellow indicator light: "comfort" position.
- Yellow indicator light: "reduced" position.
- Green indicator light: "above freezing" position.
- Red indicator light: output contact status.
- Button for setting the "comfort" operating mode.
- Pushbutton for selecting the operating mode for the zone.
- Button for setting the "reduced" operating mode.
- Zone 2 selection key.
- Zone 1 selection key.
- Key for scrolling switching and memorisation operations.
- Function key for updating time and day and return to the time display.
- Minutes setting key.
- Days setting key.
- Hours setting key.
- Manual slot.

# TH4, TH7 and THP1, THP2 (cont.)
## Practical advice

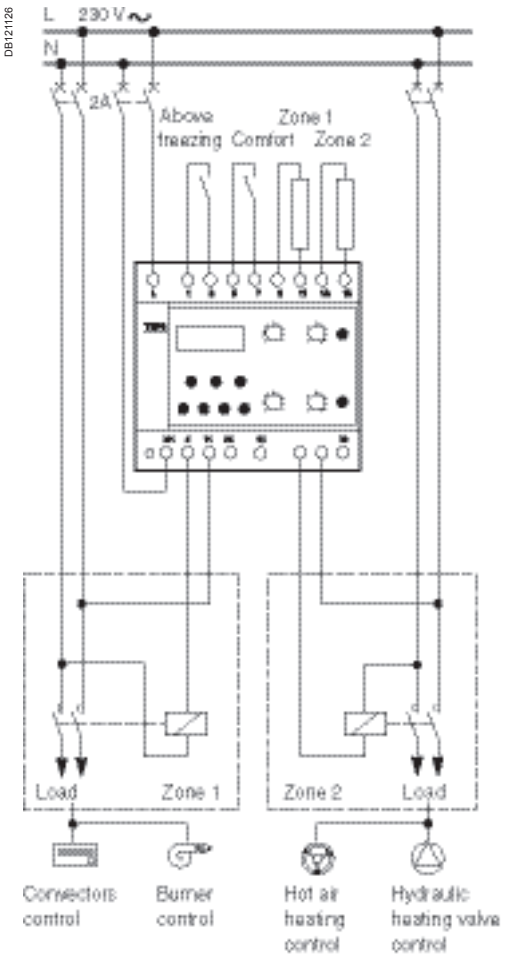
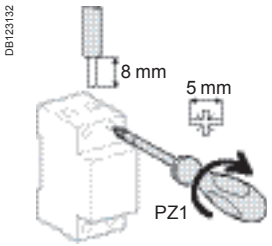



*Fig. 7. THP2 connection example.*

### THP2 programming

■ Programming is carried out by a 2 channel, IHP 24 hours and 7 days programmable time switch, built into the THP2.
■ Programming possibilities:
□ 24 hours and 7 days: a separate programme for each day of the week,
□ 24 switching operations memorised, to be divided up over the 2 zones,
□ the same switching operation, used over several days, only counts for the same operation,
□ power reserve: 6 years.

## Connection

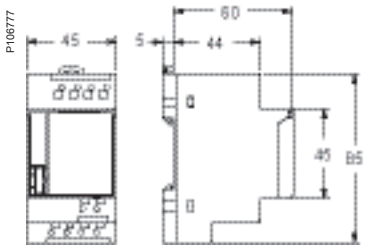



| Type | Tightening torque | Copper cables | |
|---|---|---|---|
| | | Rigid | Flexible or with ferrule |
| | DB122945 | DB123553 | |
| THP1, THP2 | 1.2 N.m | 4 mm² | 4 mm² |
| TH4, TH7 | 2 screwless / pole | 2 x 2.5 mm² | 2 x 2.5 mm² |

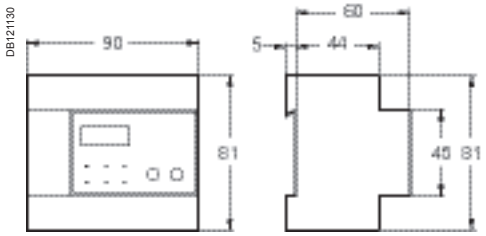
## Weight (g)

| Thermostats | |
|---|---|
| TH4, TH7 | 125 |
| TH4 with probe | 205 |
| **Programmable thermostats** | |
| THP1 | 489 |
| THP2 | 570 |

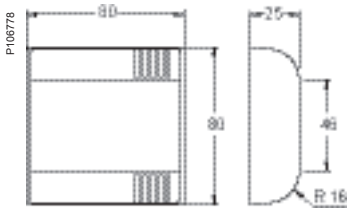
## Dimensions (mm)



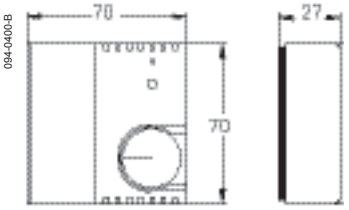

*TH4 and TH7 thermostats*




*THP1 and THP2 programmable thermostats*




*TH4, TH7, ambient temperature probe*

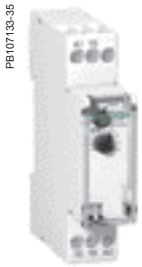



*THP1, THP2, ambient temperature probes*

# Relays

## Time delay relays

Time delay relays are used in service sector and industrial buildings for small automatic control systems: ventilation, heating, animation, roller blind servo controls, escalators, pumps, lighting, signalling, monitoring, etc.




**iRTA**
■ Delays energizing of a load


**iRTB**
■ Applies a time delay to energizing of a load upon closing of an auxiliary contact (push button)


**iRTC**
■ Delays de-energizing of a load upon closing of an auxiliary contact (push button)

Time delay

## Interface relays

iRBN and iRTBT relays can interface automatic control system inputs/ outputs with low-voltage devices.


**iRBN**
**Low level relay**
■ Actuation of low-amperage electronic circuits upon receiving an LV electrical order


**iRTBT**
**Extra low voltage relay**
■ Actuation of LV circuits based on an extra low voltage order

Control

## Control relays

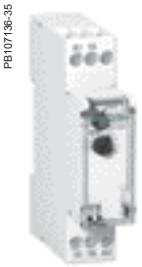
Control relays monitor electrical parameters and indicate when they are exceeded


**iRCP**
**Phase control**
■ Monitors the order and asymmetry of phases and the presence of voltage on the 3 phases of a three-phase circuit (power supply of a motor, etc.)


**iRCI**
**Current control**
■ Monitors the current flowing in a circuit and indicates any crossing of the set threshold

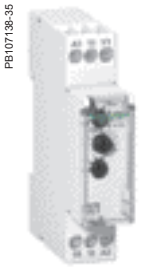
Monitoring

# Relays (cont.)




**iRTH**
■ Applies a time delay to energizing of a load


**iRTL**
■ Applies a time delay to energizing and de-energizing of a load during different times, repeatedly (flasher)




**iRTMF**
■ Allows one of the four types of time delay to be selected: A, B, C or H

iRLI and iERL relays are used to relay ON or OFF information to the auxiliary circuits and actuate low-power loads

## Changeover relays


**iRLI**
**Changeover**


**iERL extension**

■ Relays ON or OFF information to the auxiliary circuits
■ Actuates low-power loads

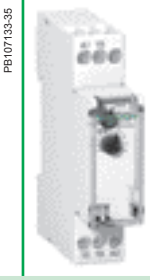
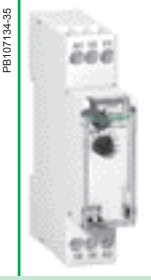
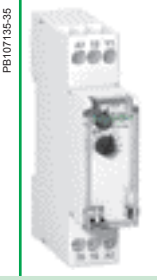
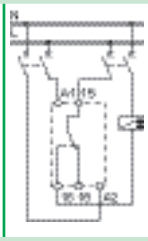
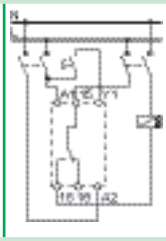
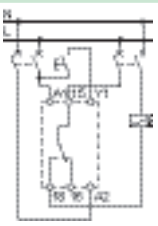
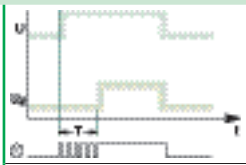
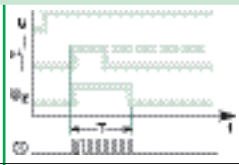
## Relaying and control


**iRCU**
**Voltage control**
■ Monitors the potential difference of a circuit and indicates any crossing of the set threshold


**iRCC**
**Compressor control**
■ Monitors the compressor power supply and prevents its immediate restarting upon detection of a power cut or voltage dip

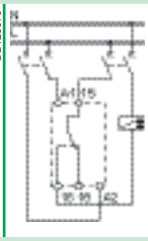
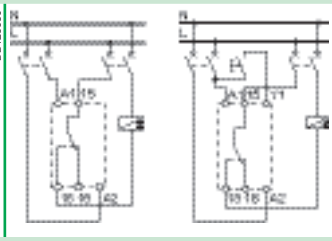
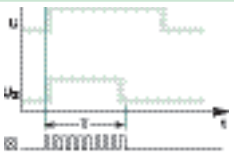
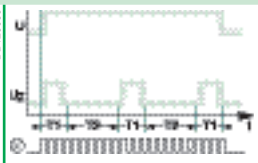
# Time delay relays iRTA, iRTB, iRTC, iRTH, iRTL and iRTMF

## Time delay relays

| | iRTA | iRTB | iRTC |
|---|---|---|---|
| **Type** | | | |
| |  PB107133-35 |  PB107134-35 |  PB107135-35 |
| **Function** | | | |
| | ■ Delays energizing of a load | ■ Applies a time delay to energizing of a load upon closing of an auxiliary contact (push button) | ■ Delays de-energizing of a load upon closing of an auxiliary contact (push button) |
| **Wiring diagrams** | | | |
| |  DB123675 |  DB123676 |  DB123677 |
| **Use** | | | |
| |  DB123681 |  DB123682 |  DB123683 |
| | ■ The single time delay cycle starts at switching on of the iRTA relay power supply<br>■ The load is energized at the end of time delay T | ■ The single time delay cycle starts at closing of an auxiliary contact (push button)<br>■ The load is de-energized at the end of time delay T | ■ The single time delay cycle starts only upon release of an auxiliary contact (push button)<br>■ The load is de-energized at the end of time delay T |
| **Catalogue numbers** | **A9E16065** | **A9E16066** | **A9E16067** |

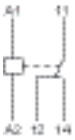
| **Technical specifications** | | | | |
|---|---|---|---|---|
| Control and power supply voltage (Uc) | V AC | 24…240, ±10 % | 24…240, ±10 % | 24…240, ±10 % |
| | V DC | 24, ±10 % | 24, ±10 % | 24, ±10 % |
| Operating frequency | Hz | 50/60 | 50/60 | 50/60 |
| Time delay range | | 0.1 s to 100 h | 0.1 s to 100 h | 0.1 s to 100 h |
| Precision | | ±10 % of full scale | ±10 % of full scale | ±10 % of full scale |
| Minimum duration of control impulse | | 100 ms | 100 ms | 100 ms |
| Insensitive to brownouts | | ⩽ 20 ms | ⩽ 20 ms | ⩽ 20 ms |
| Max. resetting time per voltage interruption | | 100 ms | 100 ms | 100 ms |
| Accuracy of repetition | | ±0.5 % at constant parameters | ±0.5 % at constant parameters | ±0.5 % at constant parameters |
| Changeover contact (cadmium free) | Mini | Rating 10 mA/5 V DC | Rating 10 mA/5 V DC | Rating 10 mA/5 V DC |
| | Maxi | Rating 8 A/250 V AC/DC | Rating 8 A/250 V AC/DC | Rating 8 A/250 V AC/DC |
| Endurance | Mechanical | > 5 x $10^6$ switching operations | > 5 x $10^6$ switching operations | > 5 x $10^6$ switching operations |
| | Electrical | > $10^5$ switching operations (utilization category AC1) | > $10^5$ switching operations (utilization category AC1) | > $10^5$ switching operations (utilization category AC1) |
| Display of contact status by green indicator lamp | | Flashing during time delay | Flashing during time delay | Flashing during time delay |
| Degree of protection | Device only | IP20 | IP20 | IP20 |
| Connection by tunnel terminals | Without ferrule | 2 x 2.5 mm² single-strand | 2 x 2.5 mm² single-strand | 2 x 2.5 mm² single-strand |
| | With ferrule | 2 x 1.5 mm² multi-strand | 2 x 1.5 mm² multi-strand | 2 x 1.5 mm² multi-strand |
| Width in 9-mm modules | | 2 | 2 | 2 |
| Operating temperature | °C | -5 … +55 | -5 … +55 | -5 … +55 |
| Storage temperature | °C | -40 … +70 | -40 … +70 | -40 … +70 |

# Time delay relays iRTA, iRTB, iRTC, iRTH, iRTL and iRTMF (cont.)

| | iRTH | iRTL | iRTMF |
|---|---|---|---|
| | PB107136-35  | PB107137-35  | PB107138-35  |
| | ■ Applies a time delay to energizing of a load | ■ Applies a time delay to energizing and de-energizing of a load during different times, repeatedly (flasher) | ■ Allows one of the four types of time delay to be selected: A, B, C or H |
| | DB123678  | DB123679  | DB123680  |
| | DB123684  | DB123685  | |
| | ■ The single time delay cycle starts at switching on of the iRTH relay power supply<br>■ The load is de-energized at the end of time delay T | ■ The time delay cycle starts at energizing<br>■ The load is energized during an adjustable time T1 and then de-energized during an adjustable time T2. This cycle is reproduced until de-energizing of the iRTL relay power supply | ■ Depending on the choice, the iRTMF generates time delay cycles for the iRTA, iRTB, iRTC or iRTH relays |
| | **A9E16068** | **A9E16069** | **A9E16070** |
| | 24…240, ±10 % | 24…240, ±10 % | 12…240, ±10 % |
| | 24, ±10 % | 24, ±10 % | 12…240, ±10 % |
| | 50/60 | 50/60 | 50/60 |
| | 0.1 s to 100 h | 0.1 s to 100 h | 0.1 s to 100 h |
| | ±10 % of full scale | ±10 % of full scale | ±10 % of full scale |
| | 100 ms | 100 ms | 100 ms |
| | ≤ 20 ms | ≤ 20 ms | ≤ 20 ms |
| | 100 ms | 100 ms | 100 ms |
| | ±0.5 % at constant parameters | ±0.5 % at constant parameters | ±0.5 % at constant parameters |
| | Rating 10 mA/5 V DC | Rating 10 mA/5 V DC | Rating 10 mA/5 V DC |
| | Rating 8 A/250 V AC/DC | Rating 8 A/250 V AC/DC | Rating 8 A/250 V AC/DC |
| | > 5 x $10^6$ switching operations | > 5 x $10^6$ switching operations | > 5 x $10^6$ switching operations |
| | > $10^5$ switching operations (utilization category AC1) | > $10^5$ switching operations (utilization category AC1) | > $10^5$ switching operations (utilization category AC1) |
| | Flashing during time delay | Flashing during time delay | Flashing during time delay |
| | IP20 | IP20 | IP20 |
| | 2 x 2.5 $mm^2$ single-strand | 2 x 2.5 $mm^2$ single-strand | 2 x 2.5 $mm^2$ single-strand |
| | 2 x 1.5 $mm^2$ multi-strand | 2 x 1.5 $mm^2$ multi-strand | 2 x 1.5 $mm^2$ multi-strand |
| | 2 | 2 | 2 |
| | -5 … +55 | -5 … +55 | -5 … +55 |
| | -40 … +70 | -40 … +70 | -40 … +70 |

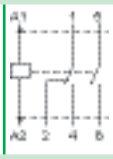
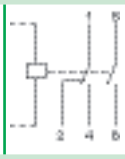
# Interface relays iRBN, iRTBT

## Interface relays

| | | iRBN | iRTBT |
|---|---|---|---|
| **Type** | | **Low level** | **Extra low voltage** |
| | | PB107144-35  | PB107164-35  |
| Standard | | IEC 255 100 and IEC 529 | IEC 255 100 and IEC 529 |
| **Function** | | | |
| | | ■ Actuation of low-amperage electronic circuits upon receiving an LV electrical order | ■ Actuation of LV circuits based on an extra low voltage order |
| **Wiring diagrams** | | | |
| | | DB123686  | DB123686  |
| **Use** | | | |
| | | ■ Inputs of programmable logic controllers, of measuring or supervision circuits, etc. | ■ ELV orders can be issued by a programmable logic controller (24 V DC static outputs), a central fire detection unit, a regulation system, etc. |
| **Catalogue numbers** | | **A9A15393** | **A9A15416** |
| **Technical specifications** | | | |
| Input control voltage (Uc) | V AC | 230, ±10 % | 12...24, -15 to +10 % |
| | V DC | - | 12...24, ±20 % |
| Output contact rating | Mini | 5 mA/5 V DC (DC12)<br>5 mA/5 V AC | 10 mA/10 V DC (DC12)<br>10 mA/10 V AC |
| | Maxi | 1 A/24 V DC (DC12)<br>5 A/250 V AC | 1 A/24 V DC (DC12)<br>5 A/250 V AC |
| Operating frequency | Hz | 50/60 | 0…60 |
| Strengthened insulation between ELV/LV circuits | | 4 kV | 4 kV |
| Consumption | At inrush | 5 VA | 0.22 W |
| | At holding | 2.5 VA | 0.11 W |
| Endurance | Electrical | 100,000 switching operations | 100,000 switching operations |
| Display of voltage presence on the control circuit | | By green indicator lamp | By green indicator lamp |
| Degree of protection | Device only | IP20 | IP20 |
| Connection by tunnel terminals | | 0.5 x 6 $mm^2$ | 0.5 x 6 $mm^2$ |
| Width in 9-mm modules | | 2 | 2 |
| Operating temperature | °C | -5 … +55 | -5 … +55 |
| Storage temperature | °C | -40 … +70 | -40 … +70 |

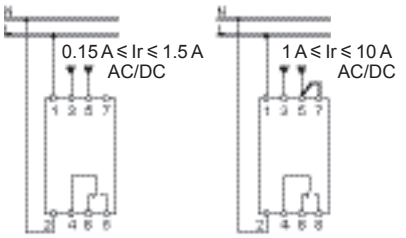
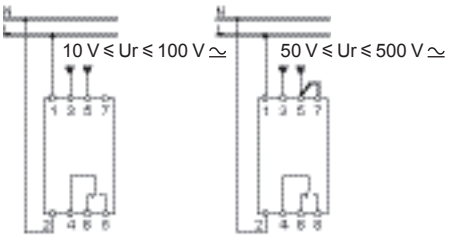
# iRLI changeover and iERL extension relays

## Changeover and extension relays

| | | iRLI | | | | iERL | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Type** | | **Changeover relay** | | | | **Extension for RLI** | | | |
| | | PB107108-35  | | | | PB107109-35  | | | |
| Standard | | IEC 255 and NF C 45-250 | | | | IEC 255 and NF C 45-250 | | | |
| **Function** | | | | | | | | | |
| | | ■ Relaying of ON or OFF information to the auxiliary circuits and actuation of low-power loads | | | | ■ Extension allowing additional contacts to be added to the iRLI changeover relays | | | |
| **Wiring diagrams** | | | | | | | | | |
| | | DB123687  | | | | DB123688  | | | |
| **Use** | | | | | | | | | |
| | | ■ The iRLI relay contains 1 changeover contact (O-C) and 1 normally open contact (N/O) | | | | ■ The iERL extension (max. 3 iERLs for 1 iRLI) contains 1 changeover contact (O-C) and 1 normally open contact (N/O)<br>■ Can be mounted without any tool and without additional cabling using a yellow clip which performs mechanical assembly and electrical connection between the coils | | | |
| **Catalogue numbers** | | **A9E15535** | **A9E15536** | **A9E15537** | **A9E15538** | **A9E15539** | **A9E15540** | **A9E15541** | **A9E15542** |
| **Technical specifications** | | | | | | | | | |
| Control voltage (Uc) | V AC | 230…240 | 48 | 24 | 12 | 230…240 | 48 | 24 | 12 |
| Voltage rating (Ue) | V AC | 230 | | | | 230 | | | |
| Insulation voltage (Ui) | V AC | 250 | | | | 250 | | | |
| Rating (In) | A | 10, cos φ = 1 | | | | 10, cos φ = 1 | | | |
| Operating frequency | Hz | 50/60 | | | | 50/60 | | | |
| Inrush and holding power | | 4 VA | | | | iRLI + iERL : 8 VA | | | |
| Endurance | Electrical | 100,000 cycles AC21 (cos φ = 1) | | | | 100,000 cycles AC21 (cos φ = 1) | | | |
| Commande directe en face avant | Power | By push button | | | | By push button | | | |
| | Coil | By selector switch (disconnection) | | | | By selector switch (disconnection) | | | |
| Position indicator | | Mechanical indicator | | | | Mechanical indicator | | | |
| Marking | | Clip-on markers on the front panel | | | | Clip-on markers on the front panel | | | |
| Degree of protection | Device only | IP20 | | | | IP20 | | | |
| Connection by tunnel terminals | | 0.5 x 6 mm² | | | | 0.5 x 6 mm² | | | |
| Width in 9-mm modules | | 2 | | | | 2 | | | |
| Operating temperature | °C | -5 … +55 | | | | -5 … +55 | | | |
| Storage temperature | °C | -40 … +70 | | | | -40 … +70 | | | |

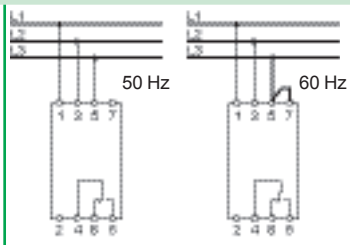
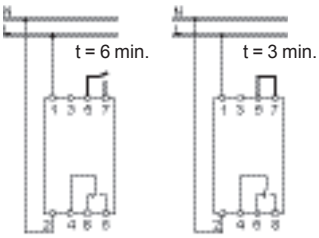
# iRCP phase control, iRCI current control, iRCU voltage control and iRCC compressor control relays

## Control relays

| | iRCI | iRCU |
|---|---|---|
| **Type** | **Current control** | **Voltage control** |
| | PB107125-35  | PB107126-35  |
| **Function** | | |
| | ■ Monitors the current (Ir) flowing in an AC or DC circuit and indicates any crossing of the set threshold | ■ Monitors the voltage variation (Ur) of an AC or DC circuit and indicates any crossing of the set threshold |
| **Wiring diagrams** | | |
| | DB405286   | DB405286   |
| **Catalogue numbers** | **A9E21181** | **A9E21182** |

| | | | |
|---|---|---|---|
| **Common technical specifications** | | | |
| Supply voltage (Uc) | V AC | 230, -15 % à +10 % | |
| Frequency | Hz | 50/60 | |
| Parameter setting | | ■ On the front panel, by direct scale, using a screwdriver | |
| Precision of display | | ±10 % of full scale | |
| Output by changeover contact | | 8 A under 250 V AC (cos φ = 1) | |
| Indications by LED | Green | Voltage presence | |
| | Red | Fault | |
| Consumption | VA | 3 | |
| Dissipated power | W | 2 | |
| Degree of protection | Device only | IP20 | |
| Connection by tunnel terminals | Rigid cable | 1.5 x 6 mm² | |
| Width in 9-mm modules | | 4 | |
| Operating temperature | °C | -5 … +55 | |
| Storage temperature | °C | -40 … +80 | |
| **Particular technical specifications** | | | |
| | | Threshold adjustable from 10 % to 100 % of Ir | Threshold adjustable from 10 % to 100 % of Ur |
| | | Hysteresis adjustable from 5 % to 50 % of Ir | Hysteresis adjustable from 5 % to 50 % of Ur |
| | | Monitoring of overcurrent and undercurrent (selection by selector switch) | |
| | | Fail-safe contact | |
| | | De-energized<br>Energized with fault  | |
| | | Energized without fault  | |
| | | Time delay on crossing threshold: 0.1 s to 10 s | |
| | | Possibility of memorizing fault with resetting | |
| | | Compatible with current transformers (CTs) of ratio X/5 | ■ Automatic recognition of AC voltage or DC voltage.<br>■ 2 measuring ranges selected by cabling:<br>□ 10 V to 50 V<br>□ 50 V to 500 V |
| | | ■ Automatic recognition of alternating or direct current.<br>■ 2 measuring ranges selected by cabling:<br>□ 0.15 A to 1.5 A<br>□ 1 A to 10 A | |

# iRCP phase control, iRCI current control, iRCU voltage control and iRCC compressor control relays (cont.)

| | iRCP | iRCC |
|---|---|---|
| | **Phase control** | **Compressor control** |
| | PB107124-35  | PB107127-35  |
| | ■ Monitors phases and the presence of voltage on the 3 phases of a three-phase circuit (power supply of a motor, etc.). It indicates any phase loss or inversion | ■ Monitors the compressor's power supply and prevents its immediate restarting upon detection of a power cut or voltage dip |
| | DB405265   | DB405267   |
| | **A9E21180** | **A9E21183** |
| | 400, ±15 % | 230, -15 % à +10 % |
| | 50/60 | |
| | ■ On the front panel, by direct scale, using a screwdriver | |
| | ±10 % of full scale | |
| | 8 A under 250 V AC (cos φ = 1) | |
| | Voltage presence | |
| | Fault | |
| | 3 | |
| | 3 (total on the 3 phases) | 2 |
| | IP20 | |
| | 1.5 x 6 $mm^2$ | |
| | 4 | |
| | -5 … +55 | |
| | -40 … +80 | |
| | Setting of phase asymmetry threshold: 5 % to 2 5% of 400 V | Threshold setting: ±5 % to ±15 % of 230 V |
| | Hysteresis: fixed, 5 % of asymmetry threshold | |
| | Monitoring of direction of phase rotation | |
| | Monitoring of presence of the 3 phases | |
| | Fail-safe contact | Fail-safe contact |
| | De-energized<br>Energized with fault  | De-energized<br>Energized with fault  |
| | Energized without fault  | Energized without fault  |
| | Time delay on tripping: 0.3 s | Time delay on overshoot: 3 or 6 minutes (selection by cabling) |

## Notes

## Notes


Schneider Electric
**Customer Care Center**

| | |
|---|---|
| UAE/Pakistan/Yemen | +971 4 7099333 |
| Bahrain | +973 17 213277 |
| Kuwait | +965 22494604 |
| Oman | 800 73666 |
| Qatar | +974 44553010 |
| Saudi Arabia | 920 011101 |
| Fax | +971 4 7099399 |

E-mail: ae-ccc-gulf@ae.schneider-electric.com
www.schneider-electric.com/ae

**Schneider Electric FZE**

E Wing, Level 4, Dubai Silicon Oasis, Emirates Road & Dubai-Al Ain Road Intersection
P.O. Box 341057, Dubai, United Arab Emirates
Phone: + 971 (4) 709 91 00
Fax: + 971 (4) 709 91 01
www.schneider-electric.com/ae





Gulf0138EN

September 2012