Find Distribution Protection

# Acti9

## Din Rail Control Products

2012

Schneider Electric

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# Contents



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# iTL impulse relays and iCT contactors

## Choice of rating according to load type

### Use of contactors from 16 to 100 A

For automation needs in the housing, tertiary and industrial sectors, the range of modular CT contactors is used for:

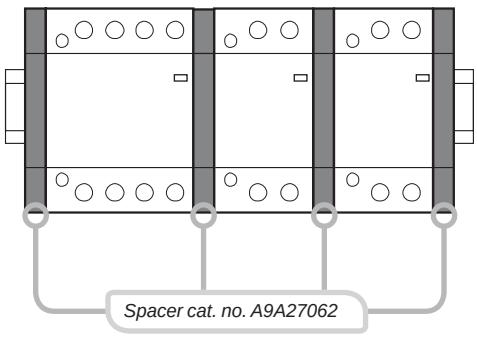
■ Power control of final circuits for housing and the tertiary sector:
□ lighting (luminous signs, shop windows, safety lighting, etc.)
□ heating, heat pumps, ovens
□ hot water for domestic use
□ small utility motors (pumps, fans, barriers, garage doors, etc.)
□ emergency stops and safety systems
□ air conditioning
■ Energy distribution control:
□ load shedding and restoration
□ source changeover, etc.

### Characterisation on load types

■ Standard IEC 61095 applies to electromechanical contactors for domestic and similar purposes. It differs from standard IEC 60947.4 (designed for industrial applications) by specific requirements relating to safety of persons and equipment in premises and corridors accessible to the general public.

| Applications | Industrial: IEC 60947.4 | Domestic: IEC 61095 |
|---|---|---|
| Motor | AC3 | AC7b |
| Heating | AC1 | AC7a |
| Lighting | AC5a and b | AC5a and b |

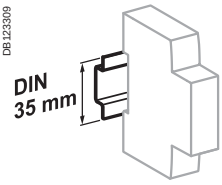
DB123331




### Use for temperatures between 50°C and 60°C

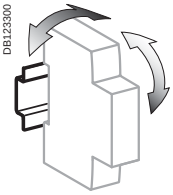
When contactors are mounted in enclosures with an internal temperature of between 50°C and 60°C, a spacer, catalogue number A9A27062, must be placed between each contactor.

DB123309



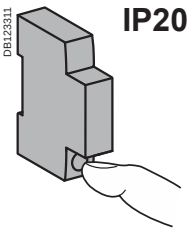

*Clip on DIN rail 35 mm.*

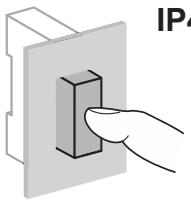
DB123300



*± 30° vertical.*

DB123311




## 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 module CA908026 |
| **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*

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# iTL impulse relays and iCT contactors (cont.)

## Choice of rating according to load type

### General comment

Modular contactors and impulse relays do not use the same technologies. Their rating is determined according to different standards and does not correspond to the rated current of the circuit. For example, for a given rating, an impulse relay is more efficient than a modular contactor for the control of light fittings with a strong inrush current, or with a low power factor (non-compensated inductive circuit).

### Relay rating

■ The table below shows the maximum number of light fittings for each relay, according to the type, power and configuration of a given lamp. As an indication, the total acceptable power is also mentioned.

■ These values are given for a 230 V circuit with 2 active conductors (single-phase phase/neutral or two-phase phase/phase). For 110 V circuits, divide the values in the table by 2.

■ To obtain the equivalent values for the entire 230 V three-phase circuit, multiply the number of lamps and the maximum power output:

□ by (1.73) for circuits with 230 V between phases without neutral;

□ by for circuits with 230 V between phase and neutral or 400 V between phases.

*Note: The power ratings of the lamps most commonly used are shown in bold. For powers not mentioned, use a proportional rule with the nearest values.*

## Choice table

| Products | | | iTL impulse relays | | iCT contactors | | | |
|---|---|---|---|---|---|---|---|---|
| Type of lamp | Unit power and capacitance of power factor correction capacitor | | Maximum number of light fittings for a single-phase circuit and maximum power output per circuit | | | | | |
| | | | 16 A | 32 A | 16 A | 25 A | 40 A | 63/100 A |
| **Basic incandescent lamps, LV halogen lamps, replacement mercury vapour lamps (without ballast)** | | | | | | | | |
| | **40 W** | | 40 1500 W | 106 4000 W | 38 1550 W | 57 2300 W | 115 4600 W | 172 6900 W |
| | **60 W** | | 25 to | 66 to | 30 to | 45 to | 85 to | 125 to |
| | **75 W** | | 20 1600 W | 53 4200 W | 25 2000 W | 38 2850 W | 70 5250 W | 100 7500 W |
| | **100 W** | | 16 | 42 | 19 | 28 | 50 | 73 |
| | 150 W | | 10 | 28 | 12 | 18 | 35 | 50 |
| | 200 W | | 8 | 21 | 10 | 14 | 26 | 37 |
| | 300 W | | 5 1500 W | 13 4000 W | 7 2100 W | 10 3000 W | 18 5500 W | 25 7500 W |
| | 500 W | | 3 | 8 | 4 | 6 | 10 to | 15 to |
| | 1000 W | | 1 | 4 | 2 | 3 | 6 6000 W | 8 8000 W |
| | 1500 W | | 1 | 2 | 1 | 2 | 4 | 5 |
| **ELV 12 or 24 V halogen lamps** | | | | | | | | |
| With ferromagnetic transformer | **20 W** | | 70 1350 W | 180 3600 W | 15 300 W | 23 450 W | 42 850 W | 63 1250 W |
| | **50 W** | | 28 to | 74 to | 10 to | 15 to | 27 to | 42 to |
| | 75 W | | 19 1450 W | 50 3750 W | 8 600 W | 12 900 W | 23 1950 W | 35 2850 W |
| | 100 W | | 14 | 37 | 6 | 8 | 18 | 27 |
| With electronic transformer | **20 W** | | 60 1200 W | 160 3200 W | 62 1250 W | 90 1850 W | 182 3650 W | 275 5500 W |
| | **50 W** | | 25 to | 65 to | 25 to | 39 to | 76 to | 114 to |
| | 75 W | | 18 1400 W | 44 3350 W | 20 1600 W | 28 2250 W | 53 4200 W | 78 6000 W |
| | 100 W | | 14 | 33 | 16 | 22 | 42 | 60 |
| **Fluorescent tubes with starter and ferromagnetic ballast** | | | | | | | | |
| 1 tube without compensation (1) | 15 W | | 83 1250 W | 213 3200 W | 22 330 W | 30 450 W | 70 1050 W | 100 1500 W |
| | **18 W** | | 70 to | 186 to | 22 to | 30 to | 70 to | 100 to |
| | 20 W | | 62 1300 W | 160 3350 W | 22 850 W | 30 1200 W | 70 2400 W | 100 3850 W |
| | **36 W** | | 35 | 93 | 20 | 28 | 60 | 90 |
| | 40 W | | 31 | 81 | 20 | 28 | 60 | 90 |
| | **58 W** | | 21 | 55 | 13 | 17 | 35 | 56 |
| | 65 W | | 20 | 50 | 13 | 17 | 35 | 56 |
| | 80 W | | 16 | 41 | 10 | 15 | 30 | 48 |
| | 115 W | | 11 | 29 | 7 | 10 | 20 | 32 |
| 1 tube with parallel compensation (2) | 15 W | 5 µF | 60 900 W | 160 2400 W | 15 200 W | 20 300 W | 40 600 W | 60 900 W |
| | **18 W** | 5 µF | 50 | 133 | 15 to | 20 to | 40 to | 60 to |
| | 20 W | 5 µF | 45 | 120 | 15 800 W | 20 1200 W | 40 2400 W | 60 3500 W |
| | **36 W** | 5 µF | 25 | 66 | 15 | 20 | 40 | 60 |
| | 40 W | 5 µF | 22 | 60 | 15 | 20 | 40 | 60 |
| | **58 W** | 7 µF | 16 | 42 | 10 | 15 | 30 | 43 |
| | 65 W | 7 µF | 13 | 37 | 10 | 15 | 30 | 43 |
| | 80 W | 7 µF | 11 | 30 | 10 | 15 | 30 | 43 |
| | 115 W | 16 µF | 7 | 20 | 5 | 7 | 14 | 20 |
| 2 or 4 tubes with series compensation | 2 x **18 W** | | 56 2000 W | 148 5300 W | 30 1100 W | 46 1650 W | 80 2900 W | 123 4450 W |
| | 4 x **18 W** | | 28 | 74 | 16 to | 24 to | 44 to | 68 to |
| | 2 x **36 W** | | 28 | 74 | 16 1500 W | 24 2400 W | 44 3800 W | 68 5900 W |
| | 2 x **58 W** | | 17 | 45 | 10 | 16 | 27 | 42 |
| | 2 x 65 W | | 15 | 40 | 10 | 16 | 27 | 42 |
| | 2 x 80 W | | 12 | 33 | 9 | 13 | 22 | 34 |
| | 2 x 115 W | | 8 | 23 | 6 | 10 | 16 | 25 |



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# iTL impulse relays and iCT contactors (cont.)

## Choice of rating according to load type

### Choice table (cont.)

| Products | | | iTL impulse relays | | iCT contactors | | | |
|---|---|---|---|---|---|---|---|---|
| **Type of lamp** | **Unit power and capacitance of power factor correction capacitor** | | **Maximum number of light fittings for a single-phase circuit and maximum power output per circuit** | | | | | |
| | | | **16 A** | **32 A** | **16 A** | **25 A** | **40 A** | **63/100 A** |
| **Fluorescent tubes with electronic ballast** | | | | | | | | |
| 1 or 2 tubes | **18 W** | | 80 1450 W | 212 3800 W | 74 1300 W | 111 2000 W | 222 4000 W | 333 6000 W |
| | **36 W** | | 40 to | 106 to | 38 to | 58 to | 117 to | 176 to |
| | **58 W** | | 26 1550 W | 69 4000 W | 25 1400 W | 37 2200 W | 74 4400 W | 111 6600 W |
| | 2 x **18 W** | | 40 | 106 | 36 | 55 | 111 | 166 |
| | 2 x **36 W** | | 20 | 53 | 20 | 30 | 60 | 90 |
| | 2 x **58 W** | | 13 | 34 | 12 | 19 | 38 | 57 |
| **Compact fluorescent lamps** | | | | | | | | |
| With external electronic ballast | **5 W** | | 240 1200 W | 630 3150 W | 210 1050 W | 330 1650 W | 670 3350 W | Not tested |
| | **7 W** | | 171 to | 457 to | 150 to | 222 to | 478 to | |
| | **9 W** | | 138 1450 W | 366 3800 W | 122 1300 W | 194 2000 W | 383 4000 W | |
| | **11 W** | | 118 | 318 | 104 | 163 | 327 | |
| | **18 W** | | 77 | 202 | 66 | 105 | 216 | |
| | **26 W** | | 55 | 146 | 50 | 76 | 153 | |
| With integral electronic ballast (replacement for incandescent lamps) | **5 W** | | 170 850 W | 390 1950 W | 160 800 W | 230 1150 W | 470 2350 W | 710 3550 W |
| | **7 W** | | 121 to | 285 to | 114 to | 164 to | 335 to | 514 to |
| | **9 W** | | 100 1050 W | 233 2400 W | 94 900 W | 133 1300 W | 266 2600 W | 411 3950 W |
| | **11 W** | | 86 | 200 | 78 | 109 | 222 | 340 |
| | **18 W** | | 55 | 127 | 48 | 69 | 138 | 213 |
| | **26 W** | | 40 | 92 | 34 | 50 | 100 | 151 |
| **High-pressure mercury vapour lamps** with ferromagnetic ballast without ignitor<br>**Replacement high-pressure sodium vapour lamps** with ferromagnetic ballast with integral ignitor (3) | | | | | | | | |
| Without compensation (1) | 50 W | | Not tested, infrequent use | | 15 750 W | 20 1000 W | 34 1700 W | 53 2650 W |
| | **80 W** | | | | 10 to | 15 to | 27 to | 40 to |
| | **125 / 110 W** (3) | | | | 8 1000 W | 10 1600 W | 20 2800 W | 28 4200 W |
| | **250 / 220 W** (3) | | | | 4 | 6 | 10 | 15 |
| | 400 / 350 W (3) | | | | 2 | 4 | 6 | 10 |
| | 700 W | | | | 1 | 2 | 4 | 6 |
| With parallel compensation (2) | 50 W | 7 µF | | | 10 500 W | 15 750 W | 28 1400 W | 43 2150 W |
| | **80 W** | 8 µF | | | 9 to | 13 to | 25 to | 38 to |
| | **125 / 110 W** (3) | 10 µF | | | 9 1400 W | 10 1600 W | 20 3500 W | 30 5000 W |
| | **250 / 220 W** (3) | 18 µF | | | 4 | 6 | 11 | 17 |
| | 400 / 350 W (3) | 25 µF | | | 3 | 4 | 8 | 12 |
| | 700 W | 40 µF | | | 2 | 2 | 5 | 7 |
| | 1000 W | 60 µF | | | 0 | 1 | 3 | 5 |
| **Low-pressure sodium vapour lamps** with ferromagnetic ballast with external ignitor | | | | | | | | |
| Without compensation (1) | **35 W** | | Not tested, infrequent use | | 5 270 W | 9 320 W | 14 500 W | 24 850 W |
| | **55 W** | | | | 5 to | 9 to | 14 to | 24 to |
| | 90 W | | | | 3 360 W | 6 720 W | 9 1100 W | 19 1800 W |
| | **135 W** | | | | 2 | 4 | 6 | 10 |
| | 180 W | | | | 2 | 4 | 6 | 10 |
| With parallel compensation (2) | **35 W** | 20 µF | 38 1350 W | 102 3600 W | 3 100 W | 5 175 W | 10 350 W | 15 550 W |
| | **55 W** | 20 µF | 24 | 63 | 3 to | 5 to | 10 to | 15 to |
| | 90 W | 26 µF | 15 | 40 | 2 180 W | 4 360 W | 8 720 W | 11 1100 W |
| | **135 W** | 40 µF | 10 | 26 | 1 | 2 | 5 | 7 |
| | 180 W | 45 µF | 7 | 18 | 1 | 2 | 4 | 6 |


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## Choice table (cont.)

| Products | | | iTL impulse relays | | iCT contactors | | | |
|---|---|---|---|---|---|---|---|---|
| **Type of lamp** | **Unit power and capacitance of power factor correction capacitor** | | **Maximum number of light fittings for a single-phase circuit and maximum power output per circuit** | | | | | |
| | | | **16 A** | **32 A** | **16 A** | **25 A** | **40 A** | **63/100 A** |
| **High-pressure sodium vapour lamps Metal-iodide lamps** | | | | | | | | |
| With ferromagnetic ballast with external ignitor, without compensation [1] | 35 W | | Not tested, infrequent use | | 16 600 W | 24 850 W | 42 1450 W | 64 2250 W |
| | **70 W** | | | | 8 | 12 to | 20 to | 32 to |
| | **150 W** | | | | 4 | 7 1200 W | 13 2000 W | 18 3200 W |
| | **250 W** | | | | 2 | 4 | 8 | 11 |
| | 400 W | | | | 1 | 3 | 5 | 8 |
| | 1000 W | | | | 0 | 1 | 2 | 3 |
| With ferromagnetic ballast with external ignitor and parallel compensation [2] | 35 W | 6 µF | 34 1200 W | 88 3100 W | 12 450 W | 18 650 W | 31 1100 W | 50 1750 W |
| | **70 W** | 12 µF | 17 to | 45 to | 6 to | 9 to | 16 to | 25 to |
| | **150 W** | 20 µF | 8 1350 W | 22 3400 W | 4 1000 W | 6 2000 W | 10 4000 W | 15 6000 W |
| | **250 W** | 32 µF | 5 | 13 | 3 | 4 | 7 | 10 |
| | 400 W | 45 µF | 3 | 8 | 2 | 3 | 5 | 7 |
| | 1000 W | 60 µF | 1 | 3 | 1 | 2 | 3 | 5 |
| | 2000 W | 85 µF | 0 | 1 | 0 | 1 | 2 | 3 |
| With electronic ballast | 35 W | | 38 1350 W | 87 3100 W | 24 850 W | 38 1350 W | 68 2400 W | 102 3600 W |
| | **70 W** | | 29 to | 77 to | 18 to | 29 to | 51 to | 76 to |
| | **150 W** | | 14 2200 W | 33 5000 W | 9 1350 W | 14 2200 W | 26 4000 W | 40 600 W |

*(1) Circuits with non-compensated ferromagnetic ballasts consume twice as much current for a given lamp power output. This explains the small number of lamps in this configuration.*
*(2) The total capacitance of the power factor correction capacitors in parallel in a circuit limits the number of lamps that can be controlled by a contactor. The total downstream capacitance of a modular contactor of rating 16, 25, 40 or 63 A should not exceed 75, 100, 200 or 300 µF respectively. Allow for these limits to calculate the maximum acceptable number of lamps if the capacitance values are different from those in the table.*
*(3) High-pressure mercury vapour lamps without ignitor, of power 125, 250 and 400 W, are gradually being replaced by high-pressure sodium vapour lamps with integral ignitor, and respective power of 110, 220 and 350 W.*



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# iTL impulse relays and iCT contactors (cont.)

## Heating application

■ Impulse relay rating to be chosen according to the power to be controlled.

| 230 V heating | | |
|---|---|---|
| **Type** | **Maximum power for a given rating** | |
| | **iTL impulse relays** | |
| **Single-phase circuit** | **16 A** | **32 A** |
| Heating (AC1) | 3.6 kW | 7.2 kW |

■ Contactor rating to be chosen according to the power to be controlled and the number of operations a day.

| 230 V heating | | | | |
|---|---|---|---|---|
| **Type of heating application** | **Maximum power for a given rating** | | | |
| | **iCT contactors** | | | |
| **Number of operations / day** | **25 A** | **40 A** | **63 A** | **100 A** |
| 25 | 5.4 kW | 8.6 kW | 14 kW | 21.6 kW |
| 50 | 5.4 kW | 8.6 kW | 14 kW | 21.6 kW |
| 75 | 4.6 kW | 7.4 kW | 12 kW | 18 kW |
| 100 | 4 kW | 6 kW | 9.5 kW | 14 kW |
| 250 | 2.5 kW | 3.8 kW | 6 kW | 9 kW |
| 500 | 1.7 kW | 2.7 kW | 4.5 kW | 6.8 kW |
| **400 V heating** | | | | |
| 25 | 16 kW | 26 kW | 41 kW | 63 kW |
| 50 | 16 kW | 26 kW | 41 kW | 63 kW |
| 75 | 14 kW | 22 kW | 35 kW | 52 kW |
| 100 | 11 kW | 17 kW | 26 kW | 40 kW |
| 250 | 5 kW | 8 kW | 13 kW | 19 kW |
| 500 | 3.5 kW | 6 kW | 9 kW | 14 kW |

## Small motor application

Contactor rating to be chosen according to the power to be controlled.

| Asynchronous single-phase motor with capacitor | | | |
|---|---|---|---|
| **Small motor application type** | **Maximum power for a given rating** | | |
| | **iCT contactors** | | |
| **Voltage** | **25 A** | **40 A** | **63 A** |
| 230 V | 1.4 | 2.5 | 4 |
| **Asynchronous three-phase motor** | | | |
| 400 V | 4 | 7.5 | 15 |
| **Universal motor** | | | |
| 230 V | 0.9 | 1.4 | 2.2 |


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# iCT contactors

DB122399 DB116619 DB106604

*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

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** | | | | | |
| Rating | A | 16 | 20 | 25 | 40 | 63 | 100 |
| **Auxiliaries** | | | | | | | |
| iACTs indication auxiliary | | Yes | Yes | Yes | | | |
| iACTp protection auxiliary | By yellow clips | No | No | Yes | | | |
| iACTc, iATEt control auxiliary | By yellow clips | No | No | Yes | | | |



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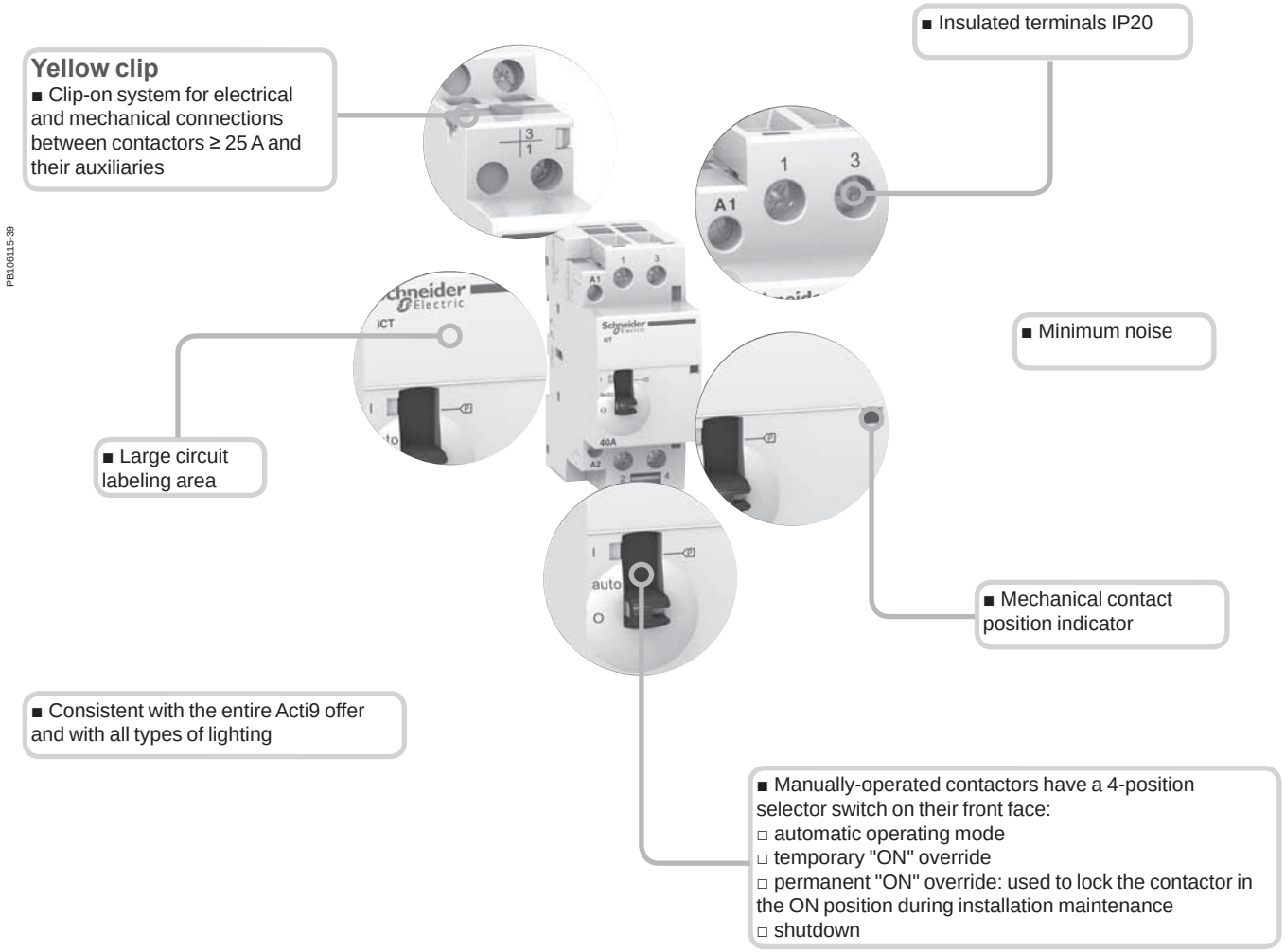
# iCT contactors (cont.)




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



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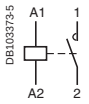
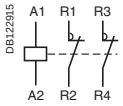
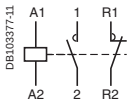
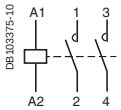
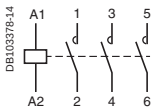
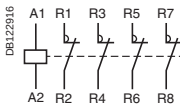
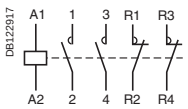
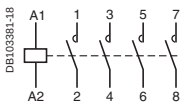
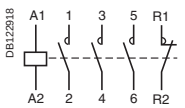
# iCT contactors (cont.)

## Catalogue numbers

**iCT contactors - 50 Hz**

| Type | | | | | | Width in 9 mm modules |
|---|---|---|---|---|---|---|
| **1P** | **Rating (In)** | | **Control voltage (V AC) (50 Hz)** | **Contact** | | |
| | **AC7a** | **AC7b** | | | | |
|  | 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** | | | | | | |
|  | 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 |
|  | | | 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 |
|  | 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** | | | | | | |
|  | 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** | | | | | | |
|  | 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 |
|  | | | 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 |
|  | 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 |
| | | | 220...240 | 3NO+1NC | **A9C20869** | 6 |
| | 100 A | - | 220...240 | 4NO | **A9C20884** | 12 |



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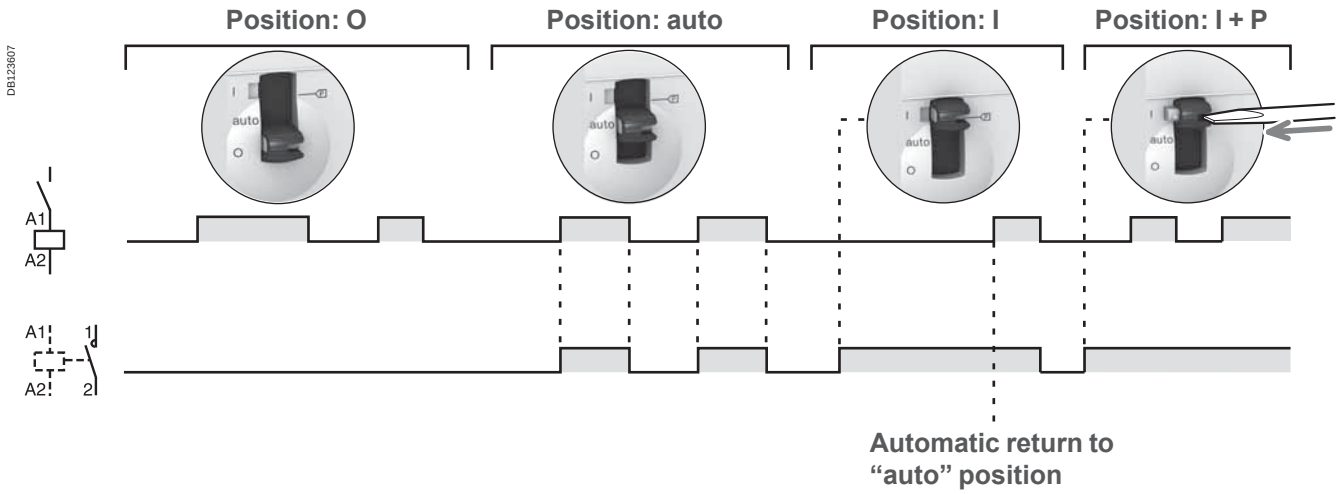
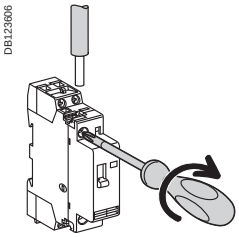
# iCT contactors (cont.)

## Operation (Manual control contactor)




## Connection




| 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 $mm^2$ | 1.5 to 2.5 mm: 2 x 2.5 $mm^2$ |
| | | 16 and 25 A | | Power | | 1.5 to 6 $mm^2$ | 1 to 4 $mm^2$ |
| | PZ2: 6 mm | 40 A - 63 A | 14 mm | | 3.5 N.m | 6 to 25 $mm^2$ | 6 to 16 $mm^2$ |
| | | 100 A | | | | 6 to 35 $mm^2$ | 6 to 35 $mm^2$ |
| iACTs, iACTp, iACTc, iATEt | PZ1: 4 mm | - | 9 mm | - | 0.8 N.m | 1.5 to 2.5 mm: 2 x 1.5 $mm^2$ | 1.5 to 2.5 mm: 2 x 2.5 $mm^2$ |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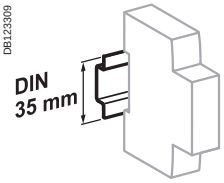
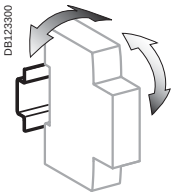
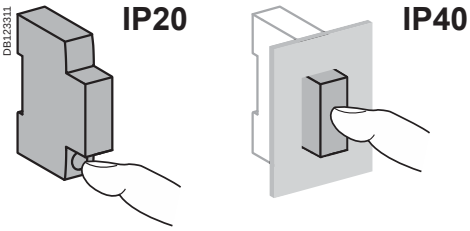
# iCT contactors (cont.)




*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 module CA908026 |
| **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*



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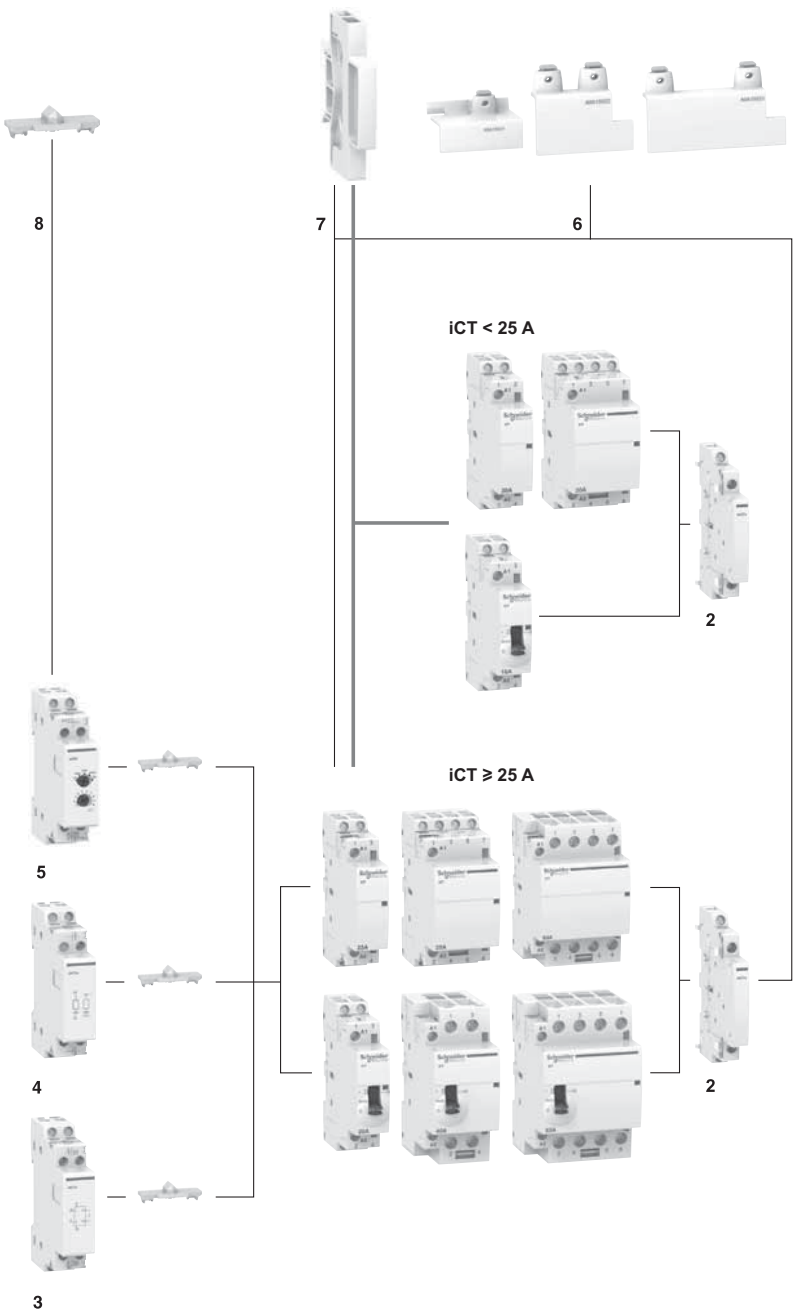
# iCT contactors (cont.)

## Mounting accessories

| | | | |
|---|---|---|---|
| **6** | Sealable screw shields for top and bottom | 3P, 4P 25 A | **A9A15921** |
| | | 2P 40/63 A | **A9A15922** |
| | | 3P, 4P 40/63 A | **A9A15923** |
| **7** | 9 mm spacer | | **A9A27062** |
| **8** | Yellow clips | | **A9C15415** |

## 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** |





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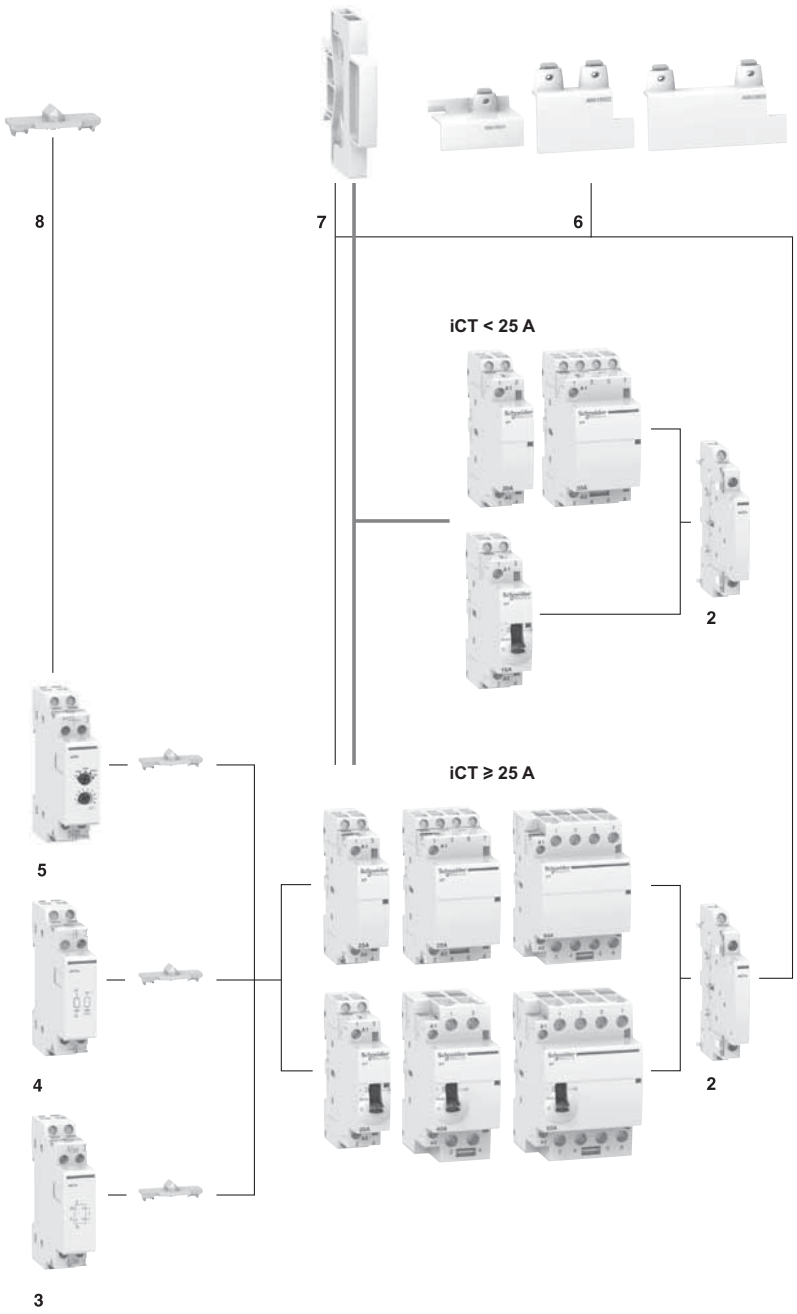
# iCT contactors (cont.)

## Mounting accessories

| | | | |
|---|---|---|---|
| **6** | Sealable screw shields for top and bottom | 3P, 4P 25 A | **A9A15921** |
| | | 2P 40/63 A | **A9A15922** |
| | | 3P, 4P 40/63 A | **A9A15923** |
| **7** | 9 mm spacer | | **A9A27062** |
| **8** | Yellow clips | | **A9C15415** |

## 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** |



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# 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 | – | – |


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# iCT contactors
# Technical advice for iCT

## Consumption

**iCT contactors - 50 Hz**

| Type | Rating (In) | | Control voltage (V AC) (50 Hz) | Consumption | | Max. power | |
|---|---|---|---|---|---|---|---|
| 1P | 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** |



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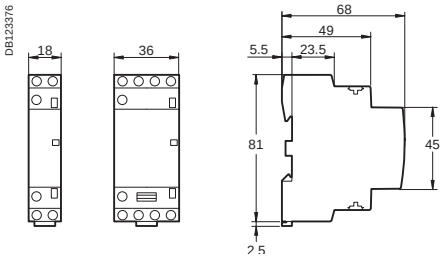
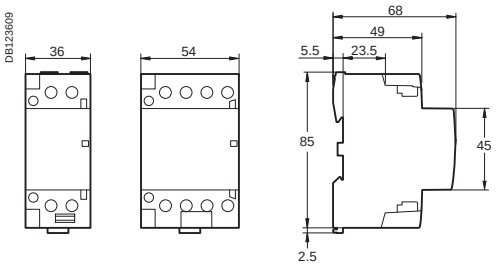
# iCT contactors
# Dimensions for iCT

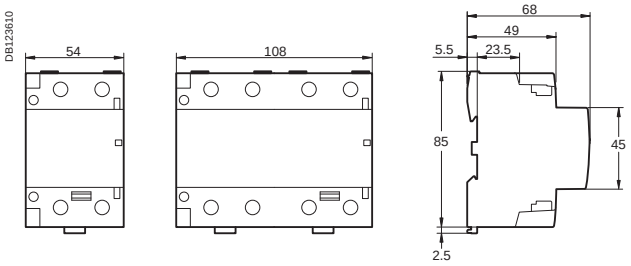
## Dimensions (mm)



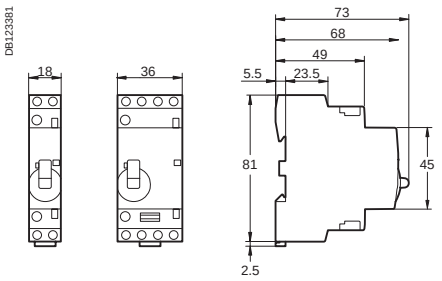

*iCT 16/25 A*



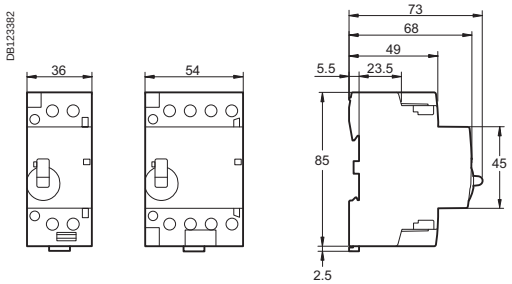

*iCT 40/63 A*



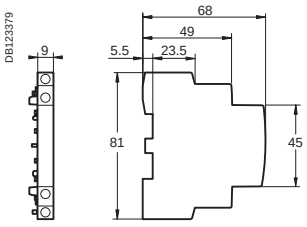

*iCT 100 A*



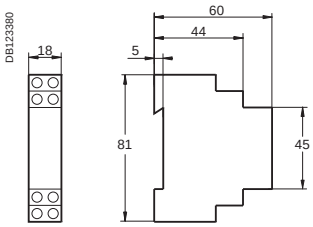

*iCT manual control contactor 16/25 A*




*iCT manual control contactor 40/63 A*




*iACTs*




*iATEt*
*iACTp*
*iACTc*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# iTL impulse relays

DB122399 DB116619

*Country approval pictograms*

**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

# iTL impulse relays (cont.)

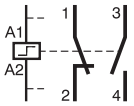
## Impulse relays are used:

- 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

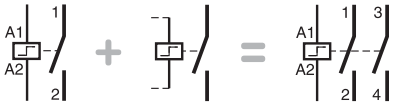
- This impulse relay has a changeover contact




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

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



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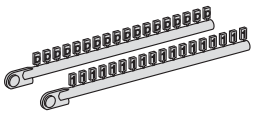
# iTL impulse relays (cont.)

## Mounting accessories

| | | | |
|---|---|---|---|
| **10** | Yellow clips | | **A9C15415** |
| **11** | 9 mm spacer | | **A9A27062** |
| **12** | Clip-on terminal markers | see module | **CA907001** |

DB123631



12

11

10

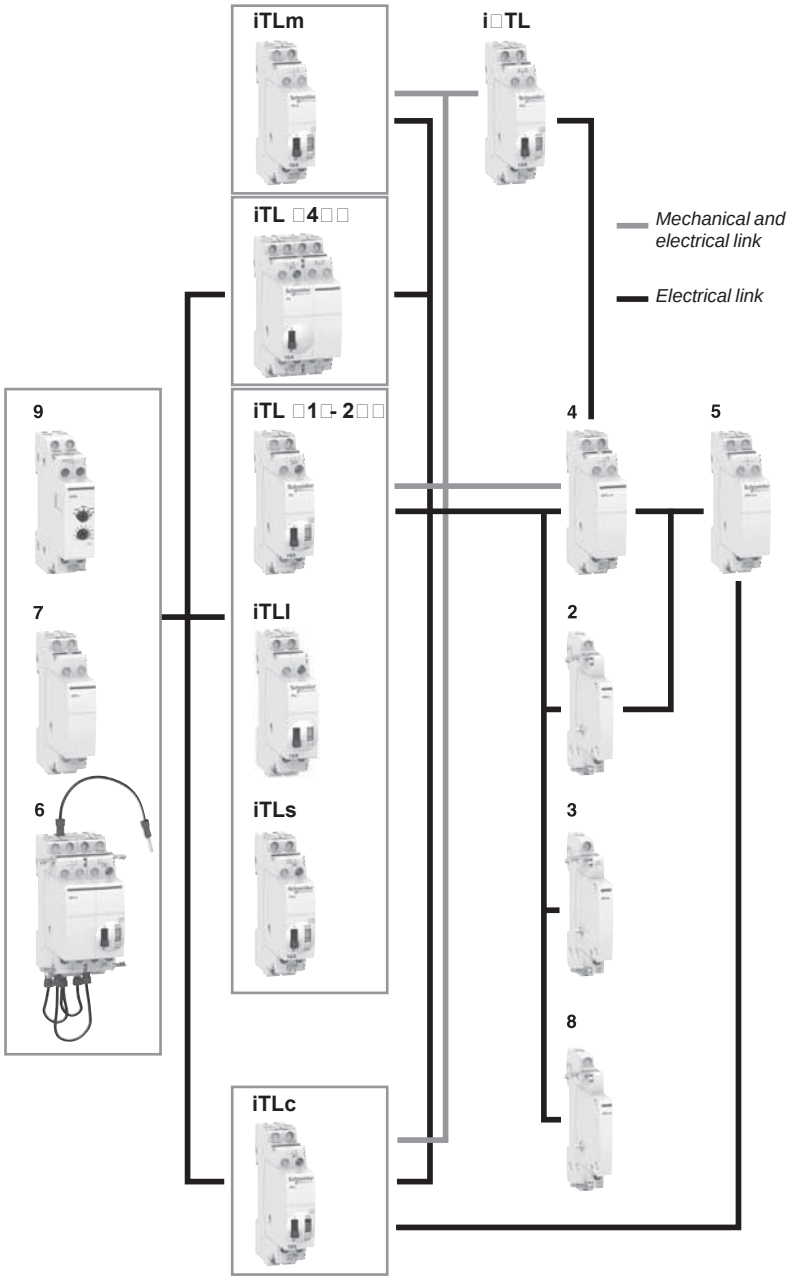
## Auxiliaries

| | | | |
|---|---|---|---|
| **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** |

***(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.*



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# 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

■ Insulated terminals IP20

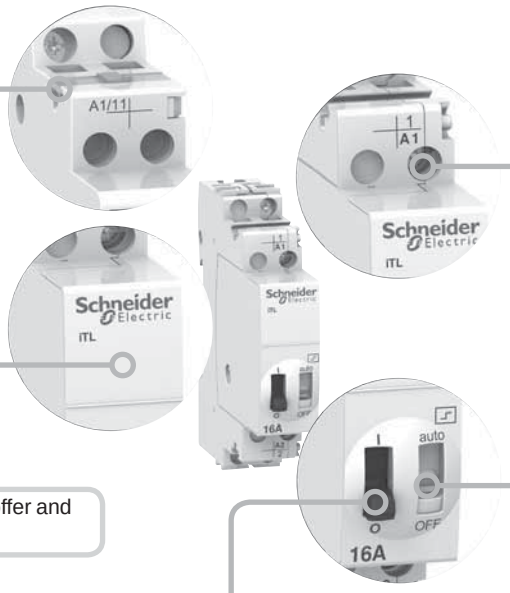
■ Large circuit labeling area

■ 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

■ Consistent with the entire Acti9 offer and with all types of lighting

■ 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 | | ■ | ■ | ■ | (*) | ■ | - | ■ | ■ | ■ | ■ | ■ | (*) | - | ■ | ■ | ■ | - | ■ | ■ | ■ (*) |

*(*) 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 |



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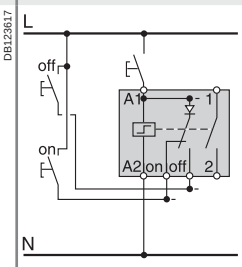
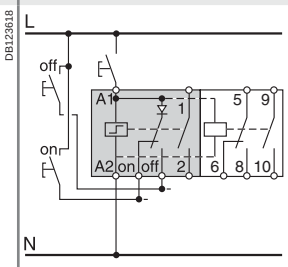
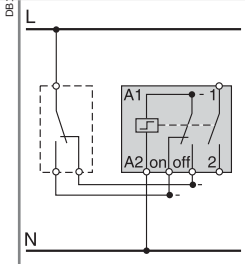
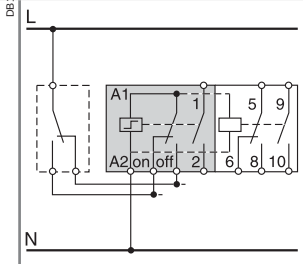
# iTLc , iTLm, iTLs with built-in auxiliary function

## Catalogue numbers (cont.)

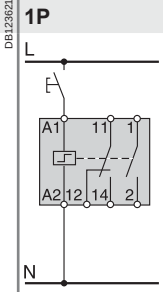
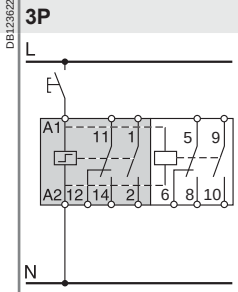
### iTLc impulse relay with centralised control

| 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.*



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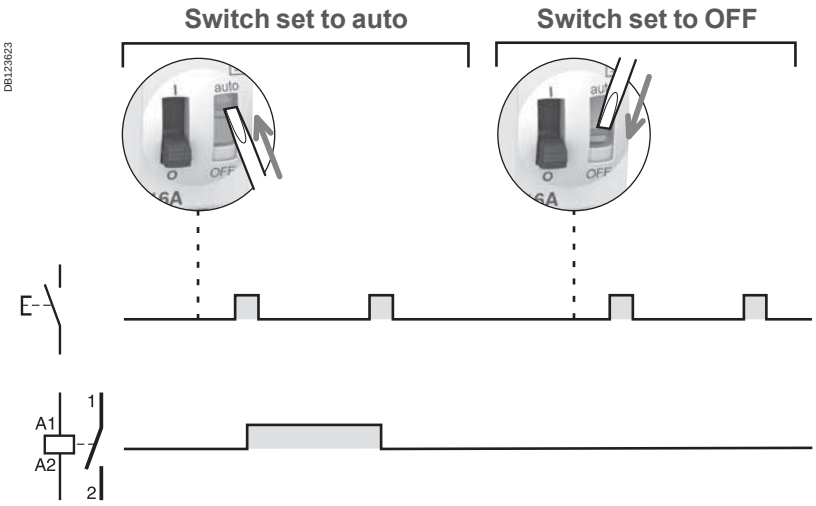
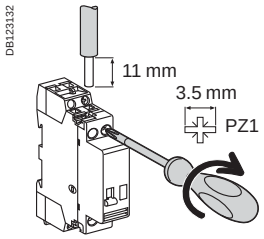
# iTL impulse relays

## Operation




## Connection




| 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 |
| Auxiliaries | | | 1 N.m | 0.5 to 4 mm² | 1 to 4 mm² |



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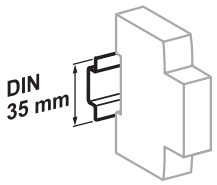
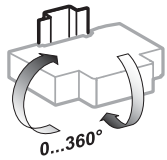
# iTL impulse relays (cont.)

DB123309



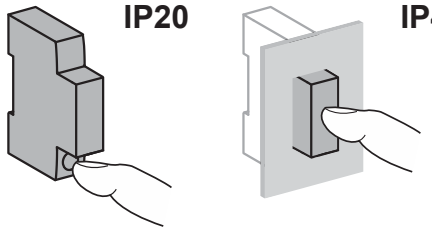

*Clip on DIN rail 35 mm.*

DB123311




*Indifferent position of installation.*

DB123313




## 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) | |



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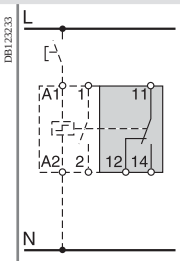
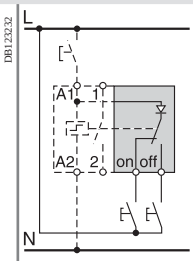
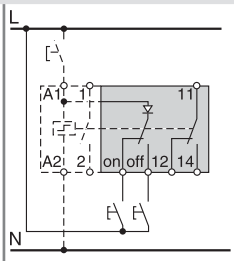
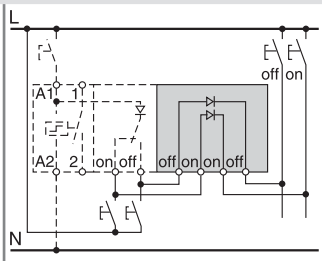
# iTL impulse relays
# Electrical auxiliaries
# for iTL impulse relays

| | Indication | Control | | |
|---|---|---|---|---|
| **Auxiliaries** | **iATLs** | **iATLc** | **iATLc+s** | **iATLc+c** |
| **Type** | **Indication** | **Centralised control** | **Centralised control + indication** | **Multi-level centralised control** |
| | PB106139-34  | PB106137-34  | PB106140-34  | PB106136-34  |
| **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** | | | | |
| | DB123233  | DB123232  | DB123231  | DB123235  |
| | – | – | – | ■ 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 | | | |



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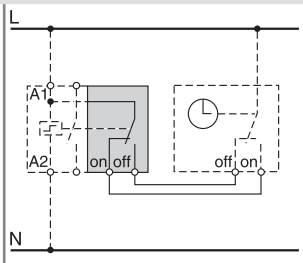
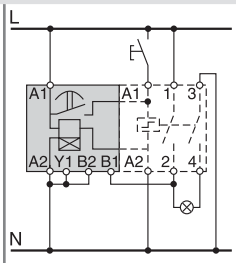
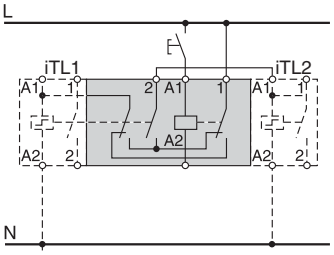
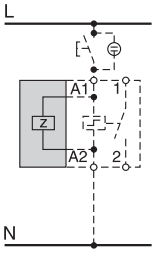
# iTL impulse relays
# Electrical auxiliaries
# for iTL impulse relays (cont.)

## 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   |   |
| | – | ■ 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 | | | |



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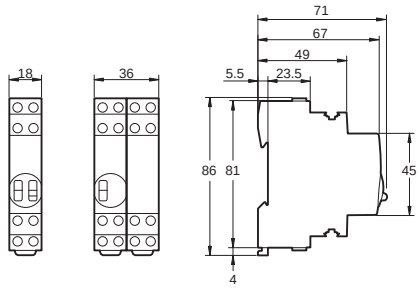
## Security

| Accessories | Yellow clips |
|---|---|
| PB106143-10 |  |
| **Function** | |
| | ■ Ensure the mechanical and/or electrical link between contactors and their auxiliaries (set of 10). |
| **Catalogue numbers** | **A9C15415** |
| **Technical specifications** | |
| Width in 9 mm modules | – |
| Number of poles | – |

## Dimensions (mm)

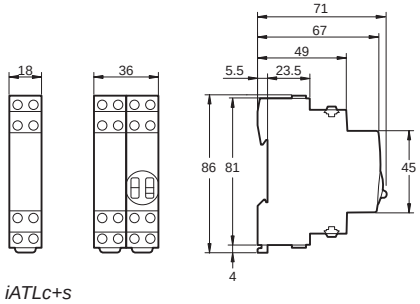
DB123375



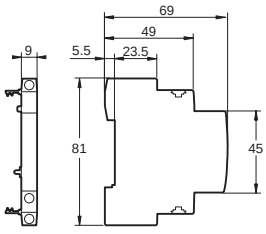

*iTL 1P*
*iTLc*
*iTLm*
*iTLs*
*iTLi*
*iETL*

*iTL+iETL*
*iTL 4P*

DB123383

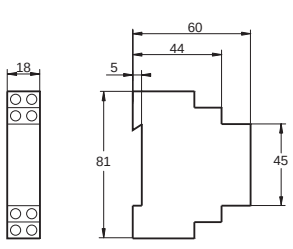



*iATLc+s*
*iATLc+c*
*iATLz*
*iATL4*




*iATLc*
*iATLs*
*iATLm*

DB123380




*iATEt*

# iSW switches

## 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)** | | |
| DB119698 1 2 | 20 A | 250 V AC | **A9S60120** | 2 |
| | 32 A | 250 V AC | **A9S60132** | |
| **2P** | | | | |
| DB119699 1 3 2 4 | 20 A | 250 V AC | **-** | 2 |
| | | 415 V AC | **A9S60220** | |
| | 32 A | 250 V AC | **-** | |
| | | 415 V AC | **A9S60232** | |
| **3P** | | | | |
| DB119000 1 3 5 2 4 6 | 20 A | 415 V AC | **A9S60320** | 4 |
| | 32 A | 415 V AC | **A9S60332** | |
| **4P** | | | | |
| DB119001 1 3 5 7 2 4 6 8 | 20 A | 415 V AC | **A9S60420** | 4 |
| | 32 A | 415 V AC | **A9S60432** | |
| Operating frequency | | | 50/60 Hz | |
| **Accessories** | | | **Module CA907012** | |

# iSW switches (cont.)

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** | | **Module CA907012** | |

### 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** |

PB105266-40

PB105267-40

*Switch-disconnectors*

### 40 to 125 A iSW switch-disconnectors

| Type | | | | Width in 9 mm modules |
|---|---|---|---|---|
| **1P** | **Rating** | **Voltage (Ue)** | | |
| DB118998  | 40 A | 250 V AC | **A9S60140** | 2 |
| | 63 A | 250 V AC | **A9S60163** | |
| | 100 A | 250 V AC | **A9S60191** | |
| | 125 A | 250 V AC | **A9S60192** | |
| **2P** | | | | |
| DB118999  | 40 A | 415 V AC | **A9S60240** | 4 |
| | 63 A | 415 V AC | **A9S60263** | |
| | 100 A | 415 V AC | **A9S60291** | |
| | 125 A | 415 V AC | **A9S60292** | |
| **3P** | | | | |
| DB119000  | 40 A | 415 V AC | **A9S60340** | 6 |
| | 63 A | 415 V AC | **A9S60363** | |
| | 100 A | 415 V AC | **A9S60391** | |
| | 125 A | 415 V AC | **A9S60392** | |
| **4P** | | | | |
| DB119001  | 40 A | 415 V AC | **A9S60440** | 8 |
| | 63 A | 415 V AC | **A9S60463** | |
| | 100 A | 415 V AC | **A9S60491** | |
| | 125 A | 415 V AC | **A9S60492** | |
| Operating frequency | | 50/60 Hz | | |



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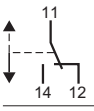
# iSW switches (cont.)

PB105264-40

*OF iSW*

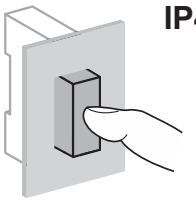
## Catalogue numbers (cont.)

| 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**<br>■ 1P: 250 V AC<br>■ 2P, 3P, 4P: 500 V AC | **With indicator light** 250 V AC | 1P: 250 V AC<br>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) | | | |

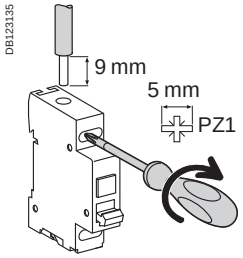
DB123597



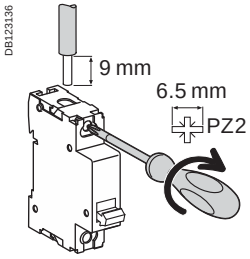
**IP40**

# iSW switches (cont.)

## Connection



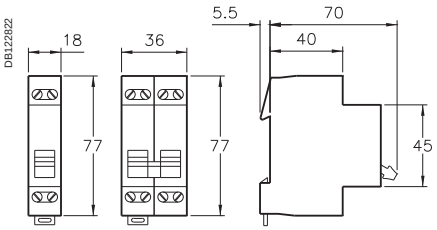

*20, 32 A iSW*




*40 to 125 A iSW*

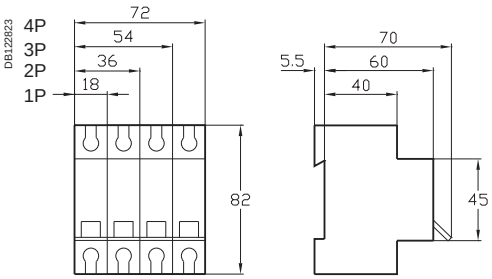
| Type | Rating | Tightening torque | Copper cables | |
|---|---|---|---|---|
| | | DB122945 | Rigid DB122946 | Flexible or ferrule |
| iSW | 20, 32 A | 1.2 N.m | 10 mm² | 10 mm² |
| | 40 to 125 A | 3.5 N.m | ≤ 50 mm² | ≤ 35 mm² |
| OF iSW | - | 1.2 N.m | 10 mm² | 10 mm² |

## Dimensions (mm)

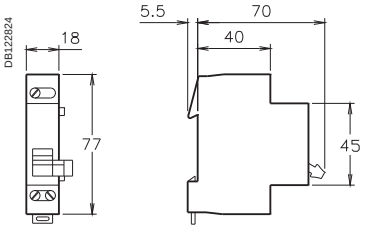



*1P, 2P* *3P, 4P*

*20, 32 A iSW*




*40 to 125 A iSW*




*OF iSW*



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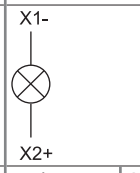
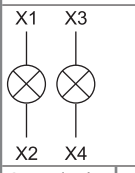
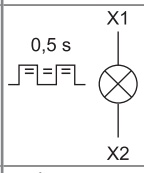
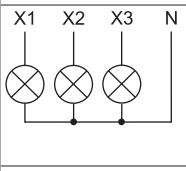
# iIL indicator lights

## IEC 60947-5-1

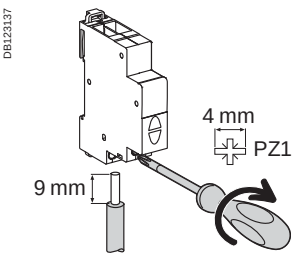
■ iIL indicator lights light up to indicate that a voltage is present.

## 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 |

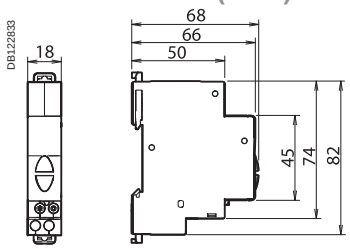
## Connection




| Tightening torque | Copper cables | |
|---|---|---|
| | Rigid | Flexible or ferrule |
| |  |  |
| 1 N.m | 0.5 $mm^2$ min. | 0.5 $mm^2$ min. |
| | 2 x 2.5 $mm^2$ max. | 2 x 2.5 $mm^2$ 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) |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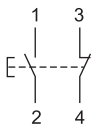
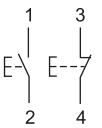
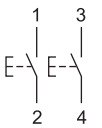
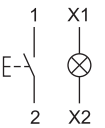
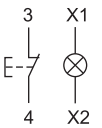
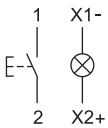
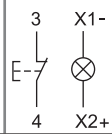
# iPB pushbuttons

## IEC 60669-1 and IEC 60947-5-1

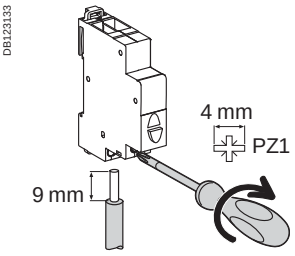
■ iPB pushbuttons are used to control electric circuits by means of pulses.

## Catalogue numbers

**iPB pushbuttons**

| Type | | Single | | | | Double | | Single + indicator light | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | |  | | | |  | |  | | | |
| Diagram | | 1 NC  | | 1 NO  | 1 NO + 1 NC  | 1 NO / 1 NC  | 1 NO / 1 NO  | 1 NO  | 1 NC  | 1 NO  | 1 NC  |
| 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 | | | |

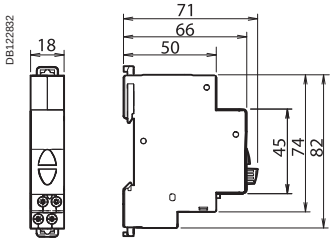
## Connection




| 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** | |
| Voltage rating (Ue) | 250 V AC |
| Current rating (Ie) | 20 A |
| **Additional characteristics** | |
| Endurance (O-C) | 30,000 operations AC22 (cos = 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) |



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As standards, specifications and designs change from time to time.
please ask for confirmation of the information given in this publication.

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