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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

PB10751-34



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

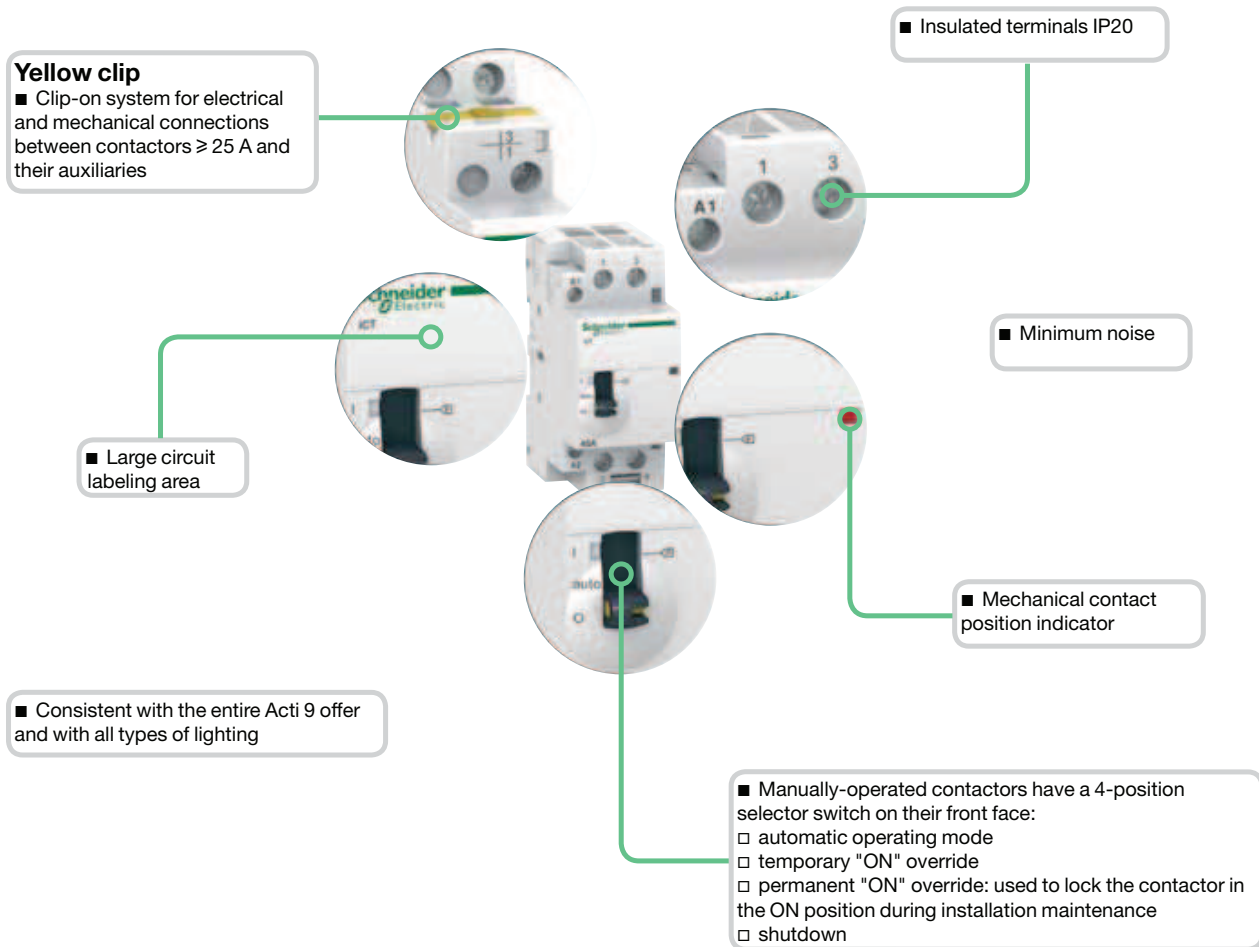
■ Operate the contactor for a pre-determined time from the moment of energizing

Contactors

Contactors auxiliaries

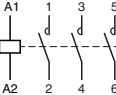
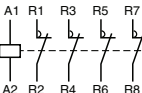
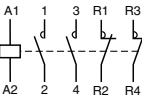
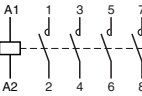
		Choice of 50 Hz contactors											
Type		Contactor						Manually-operated contactors					
Rating	A	16	20	25	40	63	100	16	25	40	63		
Auxiliaries								Contactors that can be equipped with auxiliaries					
iACTs indication auxiliary		Yes	Yes	Yes				Yes					
iACTp protection auxiliary	By yellow clips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

PS100115-39



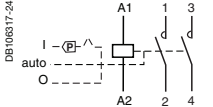
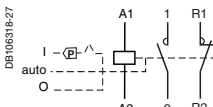
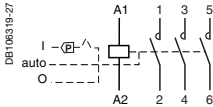
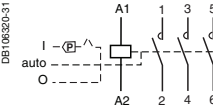
Catalogue numbers

iCT contactors - 50 Hz

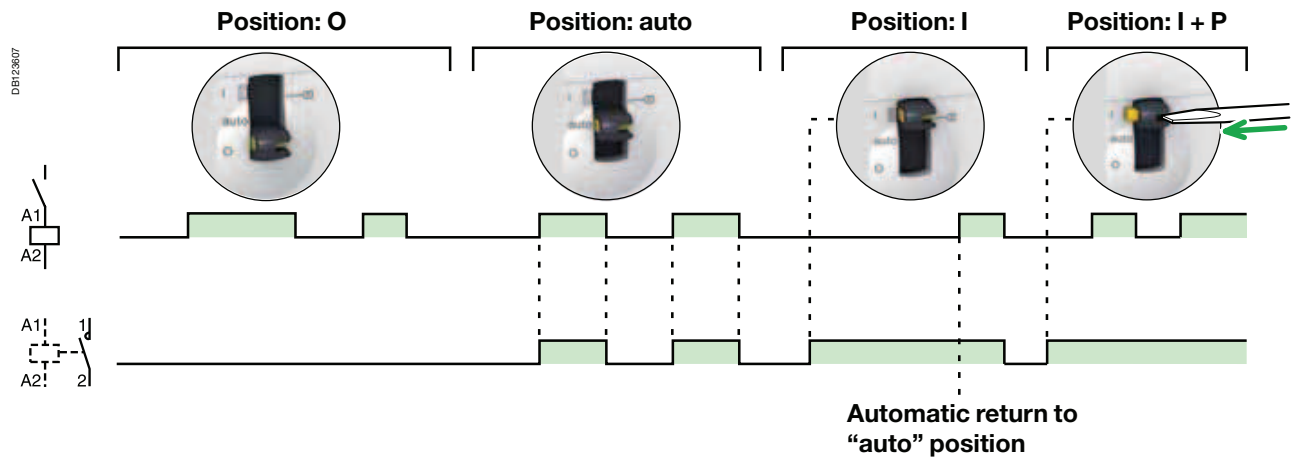
Type						Width in 9 mm modules					
1P		Rating (In)	Control voltage	Contact							
		AC7a	(V AC) (50 Hz)								
 DB10373-5		16 A	6 A	12	1NO	A9C22011	2				
			24	1NO	A9C22111	2					
			48	1NO	A9C22211	2					
			220	1NO	A9C22511	2					
			230...240	1NO	A9C22711	2					
		25 A	8.5 A	220	1NO	A9C20531	2				
				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				
				 DB10377-11		20 A	-	12	1NO+1NC	A9C22015	2
								24	1NO+1NC	A9C22115	2
220	1NO+1NC	A9C22515	2								
230...240	1NO+1NC	A9C22715	2								
230...240	2NO	A9C22722	2								
 DB10375-10		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											
 DB10378-14		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				
 DB122917		20 A	-	220...240	4NO	A9C22824	4				
				24	4NO	A9C20134	4				
				220...240	4NO	A9C20834	4				
		25 A	8.5 A	24	4NC	A9C20137	4				
				220...240	4NC	A9C20837	4				
				220...240	2NO+2NC	A9C20838	4				
				40 A	15 A	220...240	4NO	A9C20844	6		
63 A	20 A	220...240	4NC	A9C20847	6						
		24	4NO	A9C20164	6						
		220...240	4NO	A9C20864	6						
 DB10381-18		100 A	-	24	4NC	A9C20167	6				
				220...240	4NC	A9C20867	6				
				220...240	2NO+2NC	A9C20868	6				
				220...240	3NO+1NC	A9C20869	6				
				220...240	4NO	A9C20884	12				

Catalogue numbers

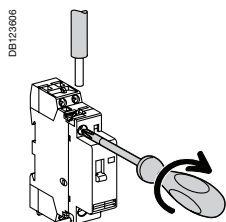
iCT manual control contactor 50 Hz

Type						Width in 9 mm modules
2P		Rating (In)	Control voltage (V AC) (50/60 Hz)	Contact		
		AC7a	AC7b			
	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
			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						
	25 A	8.5 A	220...240	3NO	A9C21833	4
	40 A	15 A	220...240	3NO	A9C21843	6
4P						
	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

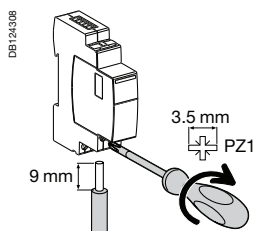
Operation (Manual control contactor)



Connection

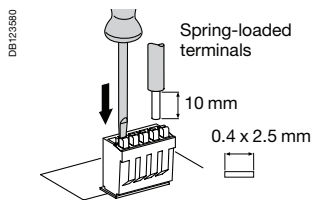


Type	Rating	Length tripping	Circuit	Tightening torque	Copper cables	
					Rigid	Flexible or ferrule
iCT	PZ1: 4 mm	16 - 100 A	Control	0.8 N.m		
		16 and 25 A				
	PZ2: 6 mm	40 A - 63 A	Power	3.5 N.m		
		100 A				
iACTs, iACTp, iACTc, iATeT	PZ1: 4 mm	-	-	0.8 N.m	1.5 to 2.5 mm: 2 x 1.5 mm ²	1.5 to 2.5 mm: 2 x 2.5 mm ²



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

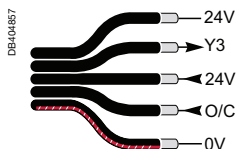
Ti24 connector connection



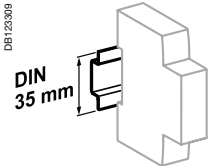
Type	Catalogue numbers	Copper cables	
		Rigid	Flexible
Ti24 Interface	A9XC2412	1 x 0.5 to 1.5 mm ²	1 x 0.5 to 1.5 mm ²

7

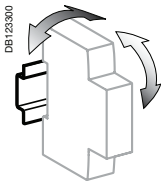
Ti24 prefabricated cables connection



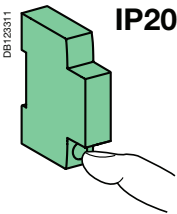
Type	Catalogue numbers	Length
Connection for Acti 9 Smartlink		
6 short prefabricated	A9XCAS06	100 mm
6 medium-sized prefabricated	A9XCAM06	160 mm
6 long prefabricated	A9XCAL06	870 mm
Connection for PLC type terminals		
6 long prefabricated on a single side	A9XCAU06	870 mm



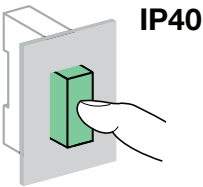
Clip on DIN rail 35 mm.



± 30° vertical.



IP20



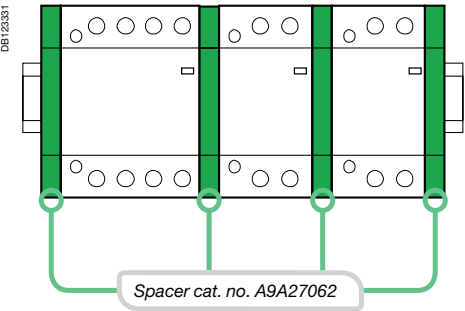
IP40

Technical data

Power circuit		
Voltage rating (Ue)	1P, 2P	250 V AC
	3P, 4P	400 V AC
Frequency		50 Hz
Type of load		See technical section
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

7

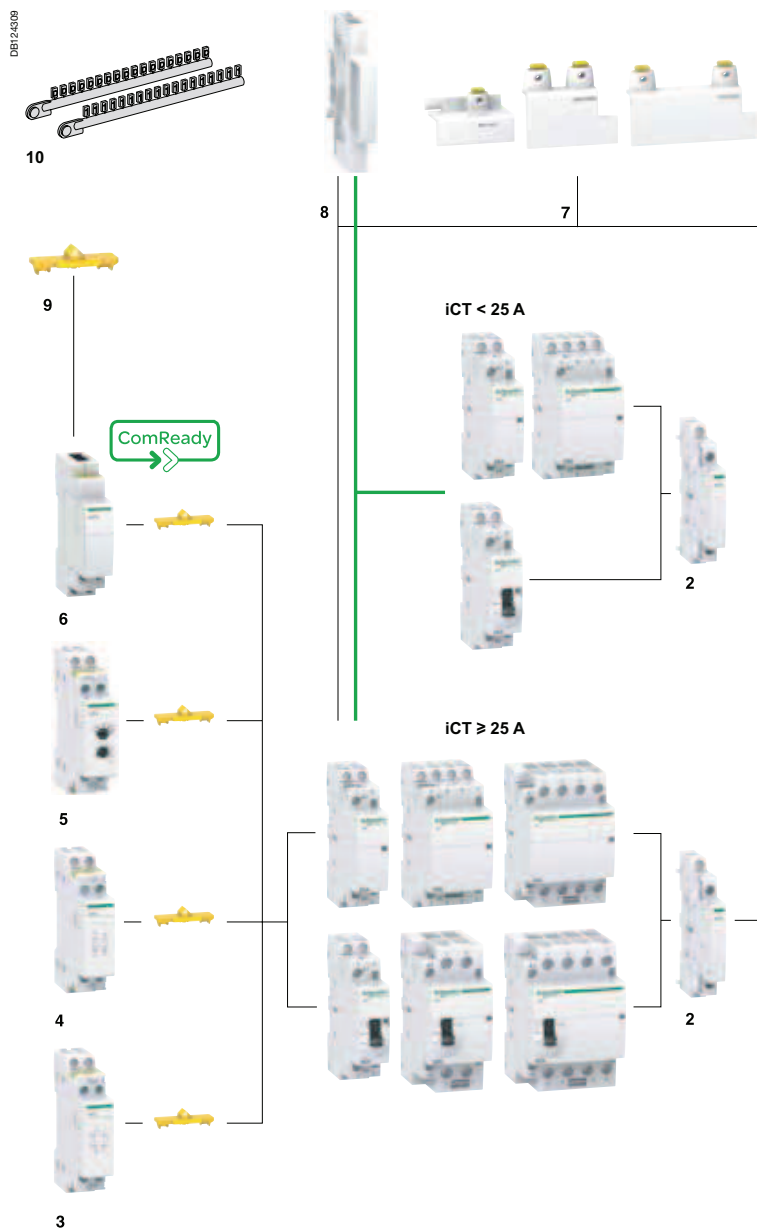


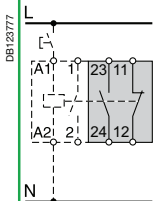
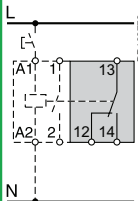
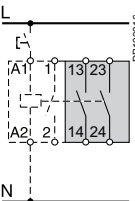
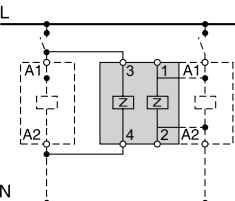
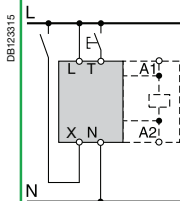
Mounting accessories

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 module	CA907001

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



		Indication	Protection			Control			
Auxiliaries		iACTs	iACTp			iACTc			
Type		Indication	Interference filtering			Impulse/latched control			
		With Open/Close auxiliary contact	2 protection circuits						
PB06120-34			PB06124-34						
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: □ impulse order for local control (input T) □ latched order for centralised control (input X) □ the last order received takes priority			
Wiring diagrams									
DB123777			DB123778		DB123779				
			DB123316						
DB123315									
Mounting									
		■ Mounted to the right of iCT	■ Mounted to the left of iCT by yellow clips ⁽¹⁾ ■ 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: □ < 70 ms: keeps its initial status □ > 80 ms: reset □ put back into operation by manual operation on input X or T. ■ Minimum impulse duration: 250 ms			
Catalogue numbers		A9C15914	A9C15915	A9C15916	A9C15918	A9C15919	A9C15920	A9C18308	A9C18309
Technical specifications									
Control voltage (U _e)	V AC	24...240			48 ...127	12 ...48	220 ...240	230...240	24...48
	V DC	24...130			–		–		
Control voltage frequency	Hz	50/60			50/60			50/60	
Width in 9 mm modules		1			2		2		
Auxiliary contact (breaking capacity)		■ Minimum: 10 mA at 24 V DC/AC - cos φ = 1 ■ Maximum: □ 5 A at 240 V AC - cos φ = 1 □ 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 Inrush ⁽²⁾ : 2 VA Holding ⁽²⁾ : 0.2 VA	

(1) Electrical and mechanical link.

(2) Maximum consumption of all contactors controlled.

Control (cont.)

iATEt

Time delay

PB1010125-34



■ 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

■ Delay energizing of contactor.

Function type B: time delay

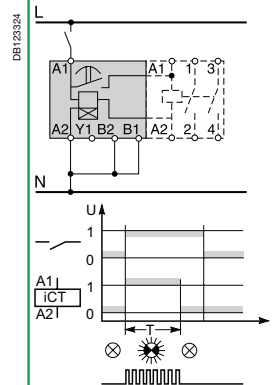
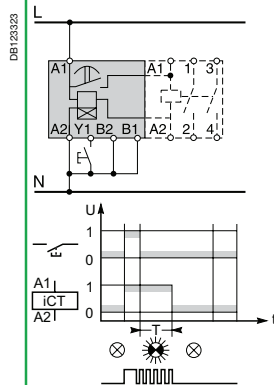
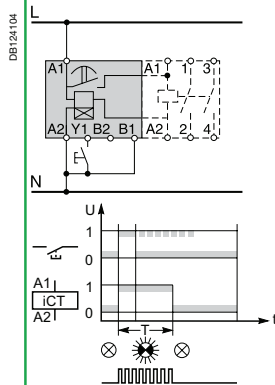
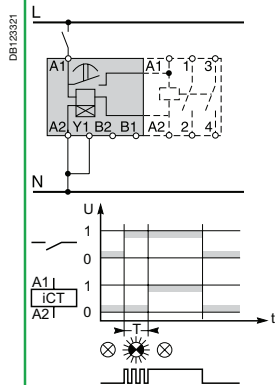
■ Energize the contactor by closing a push button.
■ The time delay starts as soon as the control contacts are closed.

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.



■ 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

	Control and indication	
Auxiliary	iACT24	
Type	Control and indication 24 V DC	
	With Ti24 connector	
	PB10751-34 	
Function		

(1) Mechanical and electrical link.

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. ■ 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. ■ 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	–	–	

IEC/EN 60669-2-2

iTls: IEC/EN 60947-5-1



Impulse relays

PB106125-34



PB106125-34



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

PB106133-34



iTLs

- Allows remote indication of its operating state (open/closed)

PB106133-34



Indication iATLs

- Allows remote indication of the associated impulse relay

7



Centralised control

PB106130-34



iTLc

- Allows centralised control of a group of iTL impulse relays, whilst at the same time retaining local impulse-type control

PB106137-34



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

PB106132-34



iTLm

- Operated by latched orders from a changeover contact (switch, time switch, thermostat). Manual control does not work

PB106138-34



Latched control iATLm

- Controls the associated impulse relay by latched orders from a changeover contact

Impulse relays

Impulse relays are used:

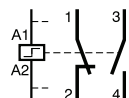
- Closing of the impulse relay pole(s) is triggered by an impulse on the coil.
- Having two stable mechanical positions, the pole(s) will be opened by the next impulse. Each impulse received by the coil reverses the position of the pole(s).
- Can be controlled by an unlimited number of pushbuttons.
- Zero energy consumption.

PB106131-34



Changeover contact iTLi

- This impulse relay has a changeover contact

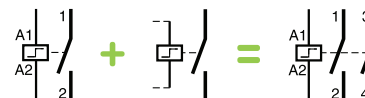


PB106134-34



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

PB10752-34



ComReady

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

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

7

Mounting accessories

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

DB123631



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
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Multi-level centralised control

5 iATLc+c ^{(2), (3)}	24...240 V AC	A9C15410
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Step by step control

6 iATL4	230 V AC	A9C15412
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Control by illuminated push-buttons

7 iATLz	130...240 V AC	A9C15413
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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
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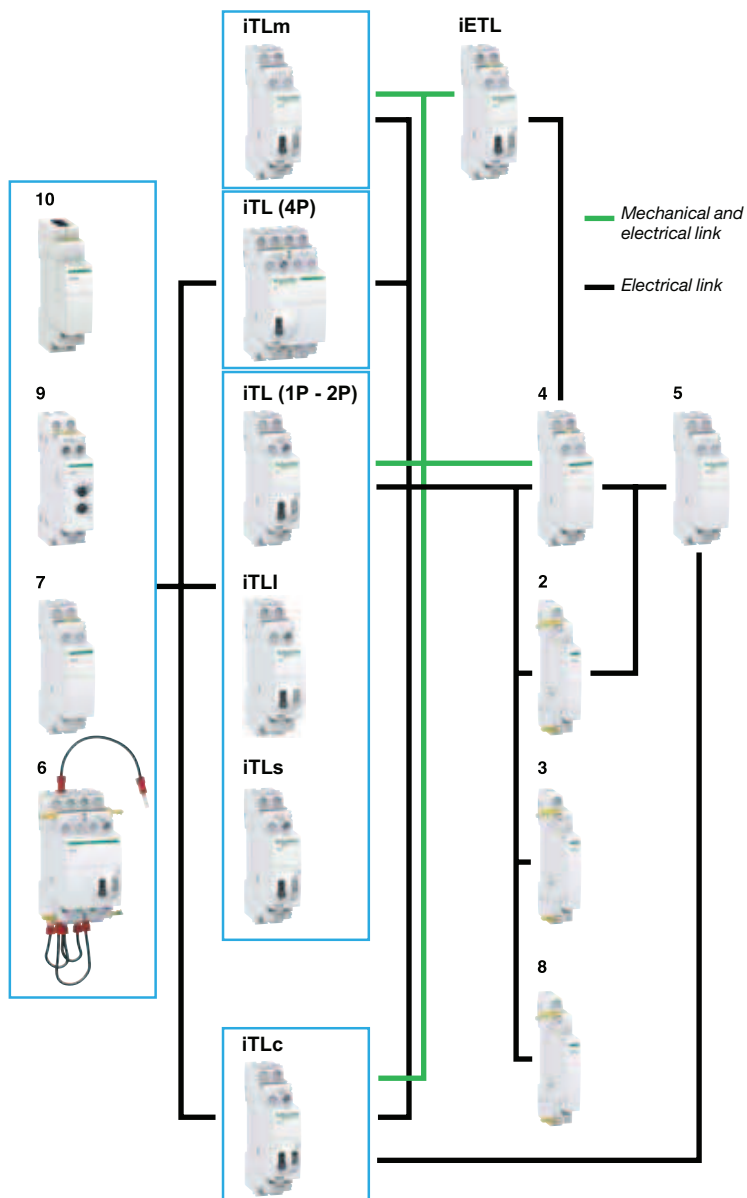
(1) The iATLc, iATLs and iATLm 9 mm auxiliaries are used by themselves to the right of an impulse relay.

(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.

ComReady



PB106128-41

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

- Consistent with the entire Acti 9 offer and with all types of lighting

- Disconnection of remote control by selector switch (except for 4P single-piece iTL) for maintenance operation

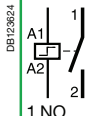
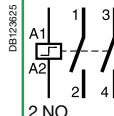
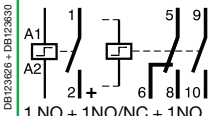
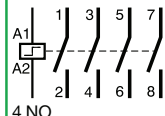
- Manual controls on front face: direct and priority manual control by O-I toggle
- Mechanical contact position indicator

		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	48	24	230/240	48	24	
	V DC	110	48	24	12	6	110	110	48	24	12	6	-			-		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		■	-	-	-	-	■	■	-	-	-	-	■	-	-	-	-	■			-	-

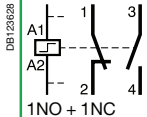
(*) iATEt : does not operate on 12 V DC.

Catalogue numbers

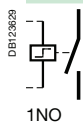
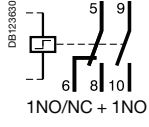
iTL impulse relays

Type			1P	2P	3P	4P
						
Rating (In)	Control voltage (Uc)					
16 A	(V AC) (50/60 Hz)	(V DC)				
	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
32 A	230...240	110	A9C30811	A9C30812	A9C30811 + A9C32816	A9C30814
	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			2P
			
Rating (In)	Control voltage (Uc)		
16 A	(V AC) (50/60 Hz)	(V DC)	
	12	6	A9C30015
	24	12	A9C30115
	48	24	A9C30215
	130	48	A9C30315
32 A	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)			
	32 A	(V AC) (50/60 Hz)	(V DC)	A9C32836	2
		230...240	110		
2P	Rating (In)	Control voltage (Uc)			
	16 A	12	6	A9C32016	2
		24	12	A9C32116	2
		48	24	A9C32216	2
		130	48	A9C32316	2
		230...240	110	A9C32816	2

Catalogue numbers (cont.)

iTLc impulse relay with centralised control

Type		1P	3P
Rating (In)	Control voltage (Uc) (V AC) (50/60 Hz)		
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

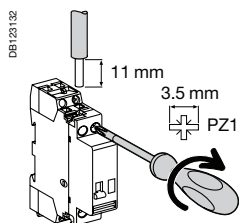
Type		1P	3P
Rating (In)	Control voltage (Uc) (V AC) (50/60 Hz)		
16 A	230...240	A9C34811	A9C34811 + A9C32816
Width in 9 mm modules		2	4

iTLs impulse relay with remote indication*

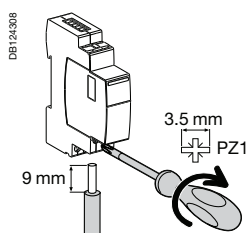
Type		1P	3P
Rating (In)	Control voltage (Uc) (V AC) (50/60 Hz)	(V DC)	
16 A	24	12	A9C32111 + A9C32116
	48	24	A9C32211 + A9C32216
	230...240	110	A9C32811 + A9C32816
Width in 9 mm modules			4

(*) Short circuit protection device for indication contacts : 6 A gG fuse.

Connection

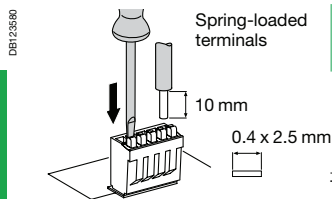


Type	Rating	Circuit	Tightening torque	Copper cables	
				Rigid or ferrule	Flexible or ferrule
iTL, iTLi, iTLc, iTLm, iTLs, iETL	16 A	Control	1 N.m		
		Power			
iTL, iETL	32 A	Control	1.2 N.m		
		Power			
iATLs, iATLc, iATLc+s, iATLc+c, iATLm, iATEt, iATL4, iATLz			1 N.m		



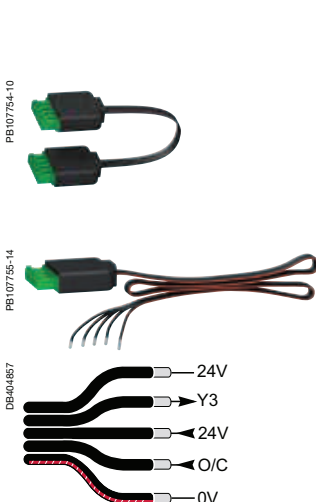
Type	Terminals	Tightening torque	Copper cables		
			Rigid	Flexible	Flexible or ferrule
iATL24	Power supply (N/P)	1 N.m			
	Input (Y1/Y2)				

Ti24 connector connection



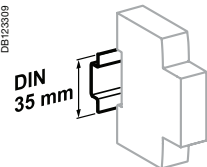
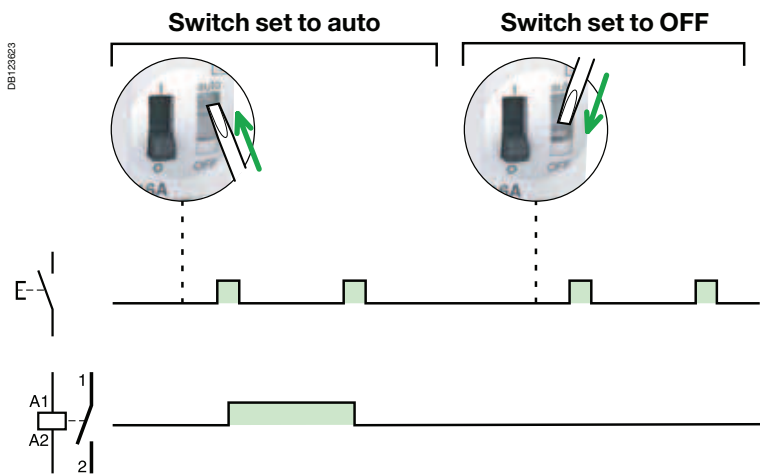
Type	Catalogue numbers	Copper cables	
		Rigid	Flexible
Ti24 interface	A9XC2412		

Ti24 prefabricated cables connection

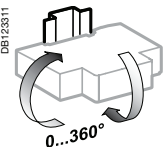


Type	Catalogue numbers	Length
Connection for Acti 9 Smartlink		
6 short prefabricated	A9XCAS06	100 mm
6 medium-sized prefabricated	A9XCAM06	160 mm
6 long prefabricated	A9XCAL06	870 mm
Connection for PLC type terminals		
6 long prefabricated on a single side	A9XCAU06	870 mm

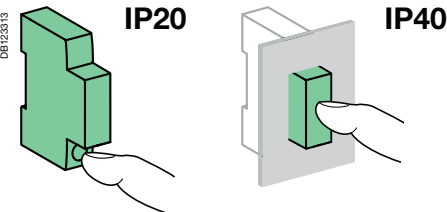
Operation



Clip on DIN rail 35 mm.

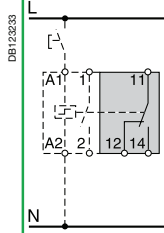
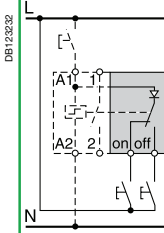
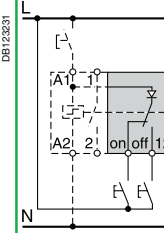
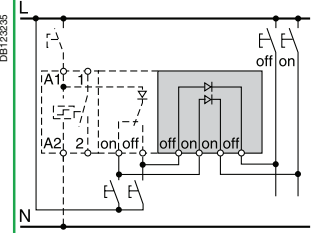


Indifferent position of installation.



Technical data

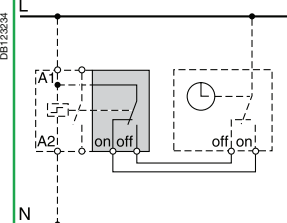
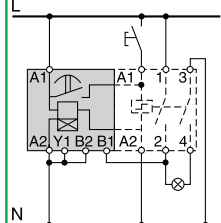
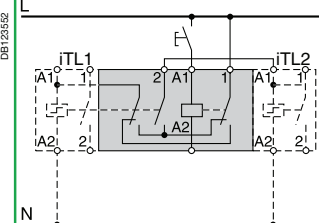
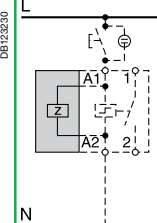
Control circuit		
	iTL and iTLI 16 A iTLc, iTLm, iTLs, iETL 16 A	iTL 32 A, iETL 32 A
Dissipated power (during the impulse)	1, 2, 3P: 19 VA 4P: 38 VA	19 VA
Illuminated PB control	Max. current 3 mA (if > use an ATLz)	
Operating threshold	Min. 85 % of Un in conformance with IEC/EN60669-2-2	
Duration of 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 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)	

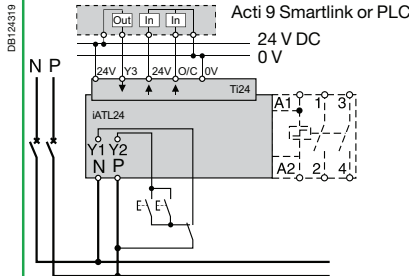
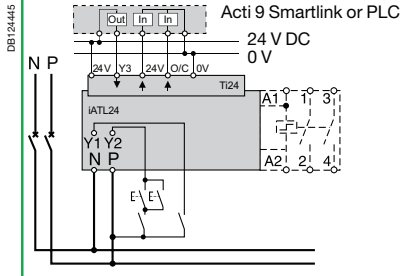
		Indication	Control		
Auxiliaries		iATLs	iATLc	iATLc+s	iATLc+c
Type		Indication	Centralised control	Centralised control + indication	Multi-level centralised control
					
Function		Allows remote indication of the associated impulse relay	Used for centralised control, thanks to a "pilot line", of a group 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 iTL) or iTLs) + iATLc+s, must only contain a single iATLc+c - Maximum number of impulse relays that can be controlled: 230 V AC: 24 130 V AC: 12 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	—	—	—
Control voltage frequency	Hz	50/60	50/60	50/60	50/60
Width in 9 mm modules		1	1	2	2
Auxiliary contact (breaking capacity)		- Minimum: 10 mA at 24 V AC/DC - Maximum (IEC 60947-5-1): 12...240 V AC 6 A 12...24 V DC 6 A 15...240 V AC 2 A 13...24 V DC 2 A	—	- Minimum: 10 mA at 24 V AC/DC - Maximum (IEC 60947-5-1): 12...240 V AC 6 A 12...24 V DC 6 A 15...240 V AC 2 A 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.)

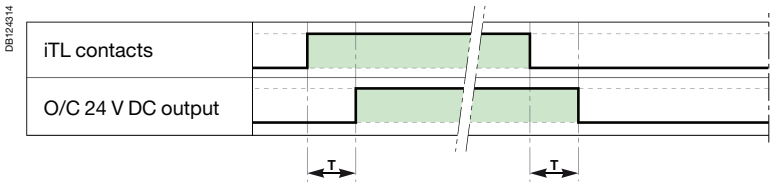
	iATLm	iATEt	iATL4	iATLz
	Latched control	Time delay	Step by step control	Control by illuminated push-buttons
				
	Combined with an impulse relay, it operates on latched orders	Combined with an impulse relay, it automatically disconnects the circuit after a preset time	Allows the step by step sequence over 2 circuits	Used to control impulse relays by illuminated push-buttons, without operating risks
				
	–	5 time setting ranges: 1 to 10 s 6 to 60 s 2 to 10 min 6 to 60 min 2 to 10 h	- The cycle is as follows: 1st impulse - iTL 1 closed, iTL 2 open 2nd impulse - iTL 1 open, iTL 2 closed 3rd impulse - iTL 1 and 2 closed 4th impulse - iTL 1 and 2 open 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. - 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 auxiliatisation 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	–	–
	50/60	50/60	50/60	50/60
	1	2	4	2
	–	–	–	–
	–	–	–	–
	–20°C to +50°C			
	–40°C to +70°C			

Control and indication	
Auxiliaire	iATL24
Type	Control and indication 24 V DC
	With Ti24 connector
	
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	 Wiring with exclusive selector 230 V AC and 24 V DC controls  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 (U _e)	V AC 230, +10 %, -15 % (Y2)
	V DC 24, ± 20 % (Y3)
Control voltage frequency	Hz 50/60
Insulation voltage (U _i)	V AC 250
Rated impulse withstand voltage (U _{imp})	kV 8 (OVC IV)
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.	



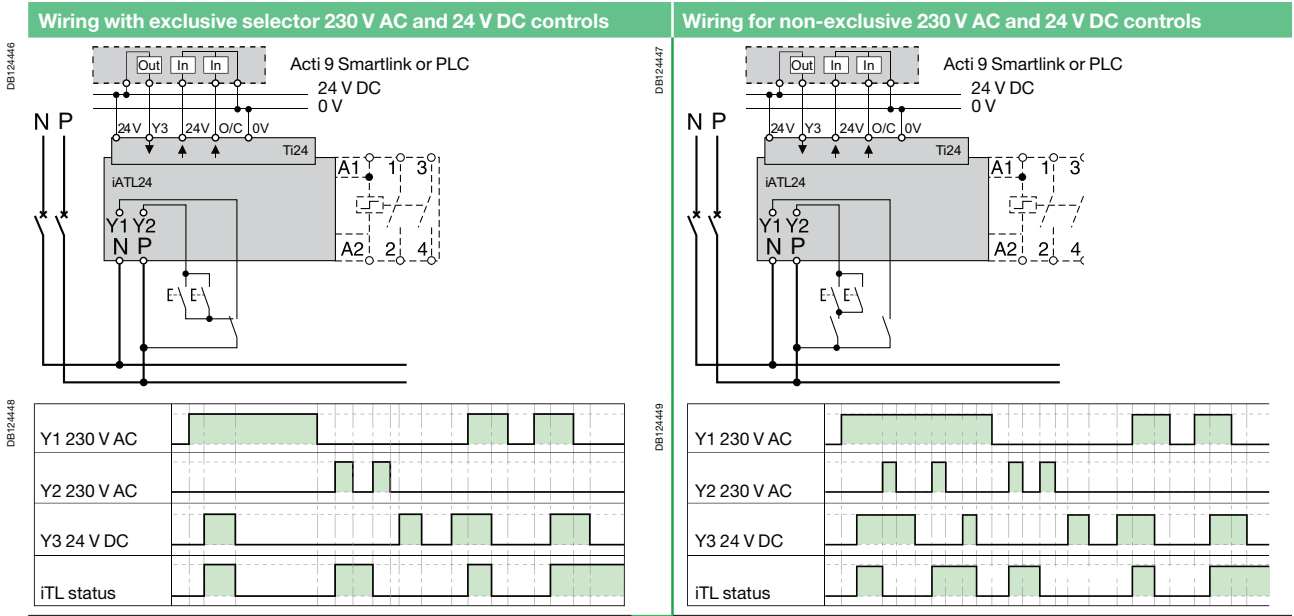
Operation of the iATL24

O/C 24 V DC output



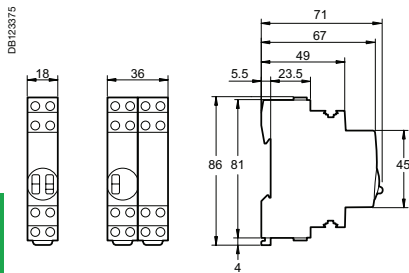
Parameter	Min	Max
T	100 ms	200 ms

- 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.

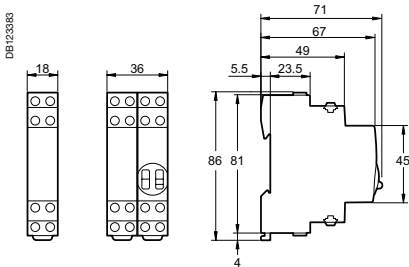


Security		
Accessories	Yellow clips	Spacer
	PB10E145-10 	PB10A483 
Function	■ Ensure the mechanical and/or electrical link between impulse relays and their auxiliaries (set of 10). ■ Required to reduce temperature rise of modular devices installed side by side. ■ Recommended to separate electronic devices (thermostat, programmable clock, etc.) from electromechanical devices (relays, contactors).	
Catalogue numbers	A9C15415	A9A27062
Technical specifications		
Width in 9 mm modules	–	1

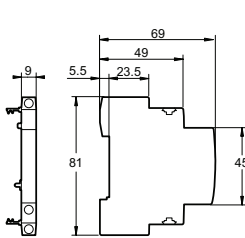
Dimensions (mm)



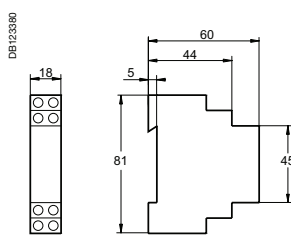
iTL 1P
iTLc
iTLm
iTLs
iTLi
iETL



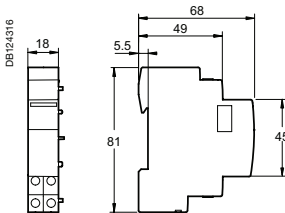
iATLc+s
iATLc+c
iATLz
iATL4



iATLc
iATLs
iATLm



iATet



iATL24

Remote control

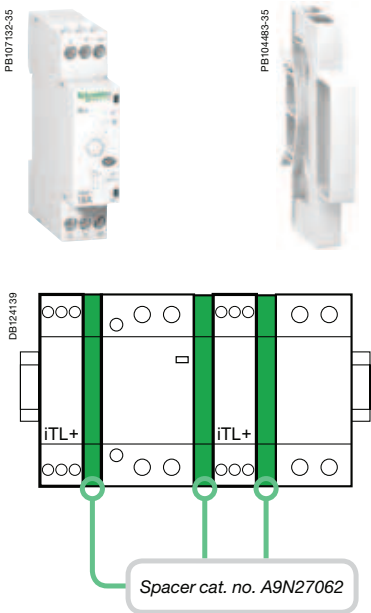
iTL+ high-performance impulse relays

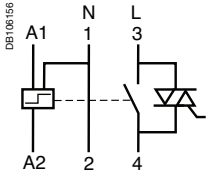
EN 60669-2-2

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).



iTL+			
Type	Rating		Width in 9 mm modules
1P+N			
	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.

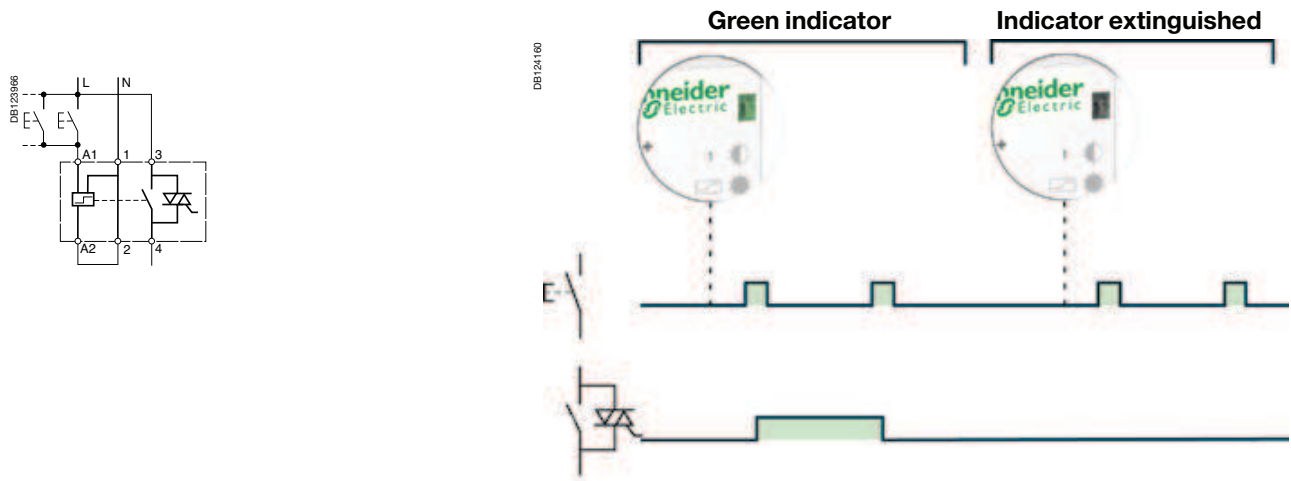


It is compulsory:

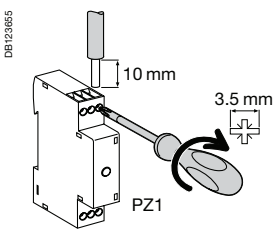
- to connect the neutral
- to keep the same control circuit connection "A1: phase", "A2: neutral"
- to use the same phase for connection of the power and control functions.

Operation

7

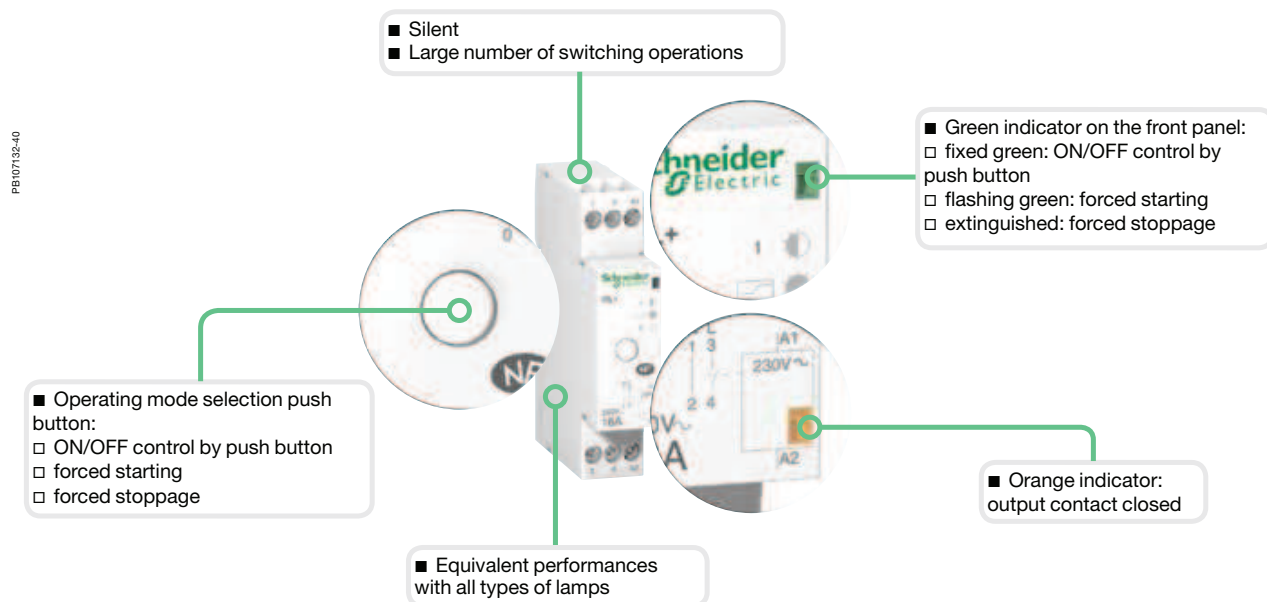


Connection



Type	Rating	Tightening torque	Copper cables	
			Rigid or flexible with ferrule	Rigid or flexible without ferrule
iTL+	16 A	1 N.m	 2 x 1.5 mm ²	 2 x 2.5 mm ² 1 x 4 mm ²

They combine the benefits of static switching and electromechanical technology: small size, little temperature rise.



Following a mains failure, the iTL+ returns to 0 position (forced stoppage) irrespective of its initial state.

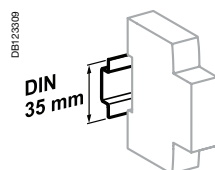
Technical data

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
	Electrical	Insulation class II
Endurance (O-C)		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)

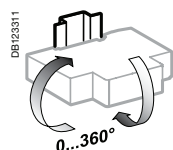
Weight (g)

High-performance impulse relays	
Type	iTL+
1P+N	70

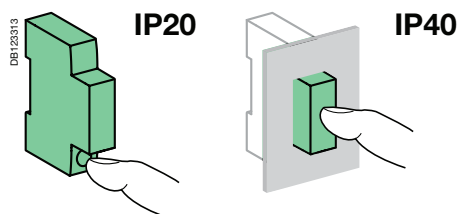
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Clip on DIN rail 35 mm.



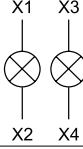
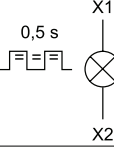
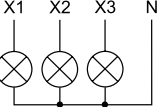
Indifferent position of installation.



IEC 60947-5-1

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

Catalogue numbers

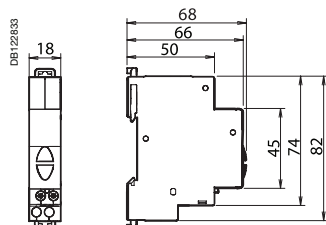
iLL indicator lights									
Type	Single					Double		Flashing light	Three-phase voltage presence indicator light
									
Diagram									
Colour	Red	Green	White	Blue	Yellow	Green/red	White/white	Red	Red/red/red
Cat. no.									
12...48 V AC/DC	A9E18330	A9E18331	A9E18332	A9E18333	A9E18334	A9E18335	-	-	-
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
DB122845		
	0.5 mm² min. 2 x 2.5 mm² max.	0.5 mm² min. 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)

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

iPB pushbuttons																		
Type	Single				Double		Single + indicator light											
Diagram	1 NC 3 E--- 4		1 NO 1 E--- 2		1 NO + 1 NC 1 3 E--- --- 2 4		1 NO / 1 NC 1 3 E--- E--- 2 4		1 NO / 1 NO 1 3 E--- E--- 2 4		1 NO 1 X1 E--- ⊗ 2 X2		1 NC 3 X1 E--- ⊗ 4 X2		1 NO 1 X1- E--- ⊗ 2 X2+		1 NC 3 X1- E--- ⊗ 4 X2-	
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											

DB12313

4 mm

PZ1

9 mm

Tightening torque	Copper cables	
	Rigid	Flexible or ferrule
DB12315 1 N.m	DB12316 0.5 mm ² min. 2 x 2.5 mm ² max.	DB12316 0.5 mm ² min. 2 x 2.5 mm ² max.

-
- Technical drawing of the DB122832 device. The front view (left) shows a rectangular unit with a width of 18 mm. The side view (right) shows a depth of 71 mm. The front view also shows a height of 82 mm and a width of 66 mm. The side view shows a height of 74 mm and a width of 50 mm. The device has a top handle and a bottom handle.

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 ($\cos \varphi = 0.8$)
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)



RCM

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.



1P



2P



3P



4P



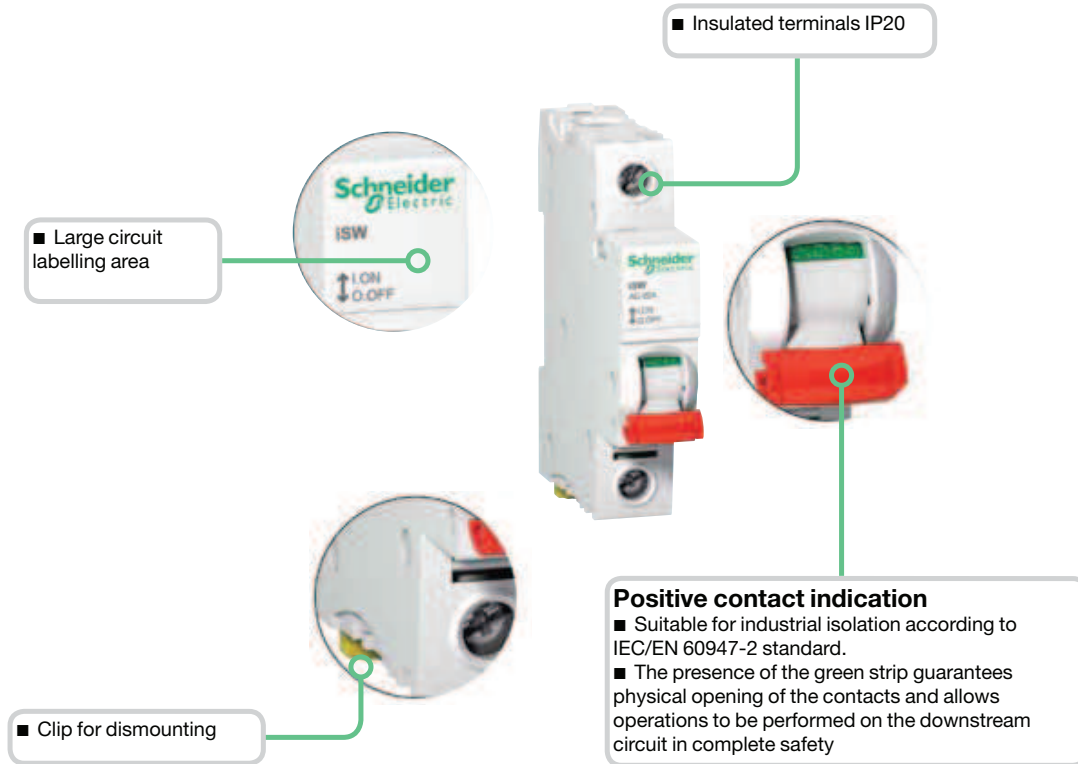
PB104474-35

Catalogue numbers

40 to 125 A iSW switch-disconnectors				
Type				Width in 9 mm modules
1P				
	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				
	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				
	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	
4P				
	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		Module CA907000 and CA907001		

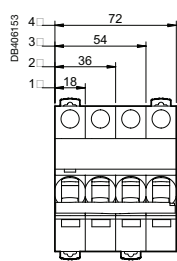
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Auxiliary			
Type	Voltage (Ue)		Width in 9 mm modules
	240...415 V AC	A9A26924	1
	24...130 V DC		

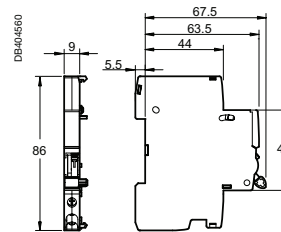
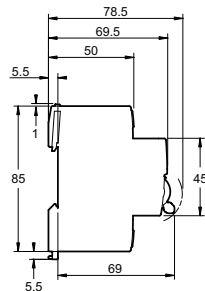


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Dimensions (mm)

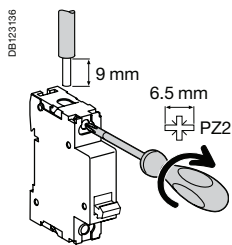


iSW

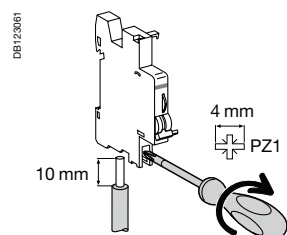


iOF

Connection



Type	Rating	Tightening torque	Copper cables	
			Rigid	Flexible or with ferrule
iSW	40 to 125 A	3.5 N.m	 $\leq 50 \text{ mm}^2$	 $\leq 35 \text{ mm}^2$

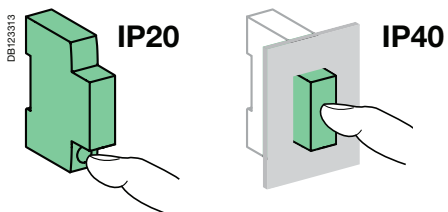


Type	Tightening torque	Copper cables		Multi-cables terminal	
		Rigid	Flexible	Rigid cables	Cables with ferrule
iOF	1 N.m	 1 to 4 mm ²	 0.5 to 2.5 mm ²	 2 x 2.5 mm ²	 2 x 1.5 mm ²

Technical data

Main characteristics			
Insulation voltage (Ui)		1P: 250 V AC 2P, 3P, 4P: 500 V AC	
Pollution degree		3	
Power circuit			
Rated impulse withstand voltage (Uimp)		6 kV	
Operating category		AC - 22 A	
Permissible rated short-time withstand current (Icw)		1500 A	
Conditional rated short-circuit current (Icn)		10 kA according to IEC 60947-3	
Rated short-circuit closing current (Icm)		5 kA	
Additional characteristics			
Degree of protection	Device only	IP20	
	Device in modular enclosure	IP40 Insulation class II	
Endurance (O-C)	Mechanical	20,000 cycles	
	Electrical	40 A - 63 A	15,000 cycles
		80 A - 100 A	10,000 cycles
		125 A	2 500 cycles
Operating temperature		-25°C to +60°C	
Storage temperature		-40°C to +85°C	
Tropicalization		Treatment 2 (relative humidity 95% at 55°C)	

7



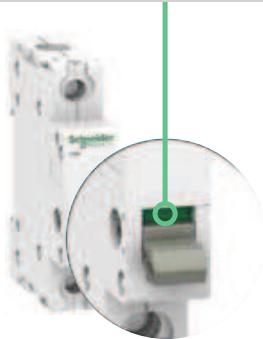
iOF characteristics		
Rated voltage (Ue)	240...415 V AC	
	24...130 V DC	
Operating frequency	50/60 Hz	
Operating current	24 V DC	6 A
	48 V DC	2 A
	60 V DC	1.5 A
	130 V DC	1 A
	240 V AC	6 A
	415 V AC	3 A
Number of contacts	1 NO/NC	
Operating temperature	-35°C to +70°C	
Storage temperature	-40°C to +85°C	

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.

PB102606-40

DB122818



PB102604-40



Control switches

PB102605-40



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)		
	20 A	250 V AC	A9S60120	2
	32 A	250 V AC	A9S60132	
2P				
	20 A	250 V AC	-	2
			415 V AC	
	32 A	250 V AC	-	
			415 V AC	
3P				
	20 A	415 V AC	A9S60320	4
	32 A	415 V AC	A9S60332	
4P				
	20 A	415 V AC	A9S60420	4
	32 A	415 V AC	A9S60432	
Operating frequency			50/60 Hz	
Accessories			Module CA907012	



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	2
	20 A	A9S61120	
	32 A	A9S61132	
2P			
2P 	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



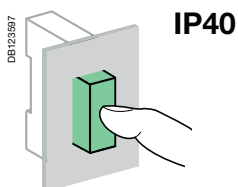
OF iSW

Catalogue numbers (cont.)

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

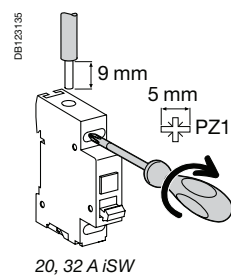
Technical data

Main characteristics		20, 32 A iSW	
Insulation voltage (Ui)		Without indicator light ■ 1P: 250 V AC ■ 2P, 3P, 4P: 500 V AC	With indicator light 250 V AC
Pollution degree		2	
Power circuit			
Rated impulse withstand voltage (Uimp)		4 kV	
Operating category		AC - 22 A	
Permissible rated short-time withstand current (Icw)		-	
Conditional rated short-circuit current (Inc)		3 kA to IEC/EN 60669-2-4	
Rated short-circuit closing current (Icm)		-	
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	
	Electrical	30,000 cycles	
Operating temperature		-20°C to +50°C	
Storage temperature		-40°C to +70°C	
Tropicalization		Treatment 2 (relative humidity 95% at 55°C)	



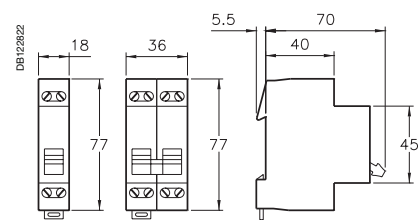
IP40

Connection

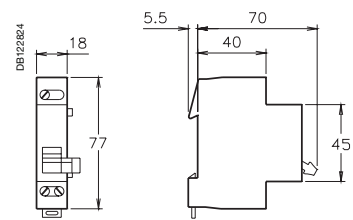


Type	Rating	Tightening torque	Copper cables	
			Rigid	Flexible or ferrule
iSW	20, 32 A	1.2 N.m	10 mm ²	10 mm ²
OF iSW	-	1.2 N.m	10 mm ²	10 mm ²

Dimensions (mm)



1P, 2P 3P, 4P
20, 32 A iSW

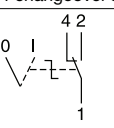
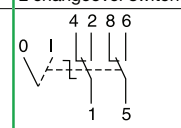
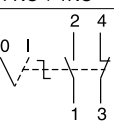
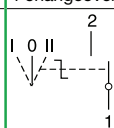
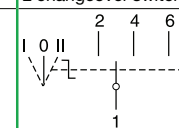


OF iSW

IEC 60669-1 and IEC 60947-5-1

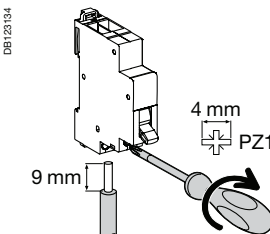
■ iSSW linear switches are used for the manual control of electric circuits.

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

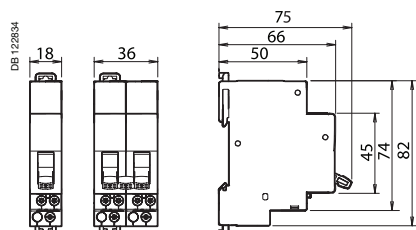
7

Connection

Tightening torque	Copper cables	
	Rigid	Flexible or ferrule
		
1 N.m	0.5 mm ² min. 2 x 2.5 mm ² max.	0.5 mm ² min. 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	
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)



Bell transformers: NF EN 60742, EN/IEC 61558-2-8.
Safety transformers: NF EN 60742, EN/IEC 61558-2-6.

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.

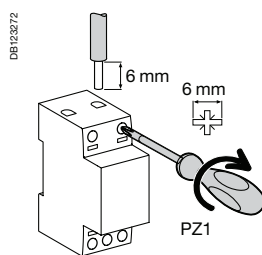
Catalogue numbers

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

Connection



Tightening torque	Copper cables	
	Rigid	Flexible or with ferrule
0.5 N.m	DB122845 	DB122846
	< 2.5 mm ²	< 2.5 mm ²

Technical data

Main characteristics

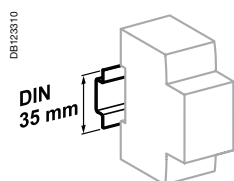
Primary voltage	230 V AC ±10 %
Secondary voltage on load	For bell transformers: 8-12-24 V AC ±15 % For safety transformers: 12-24 V AC ±5 %

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

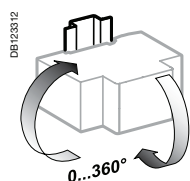
Additional characteristics

Degree of protection	Device only	IP20 with terminal shield
(IEC 60529)		
Operating temperature		-20°C to +55°C
Storage temperature		-25°C to +80°C

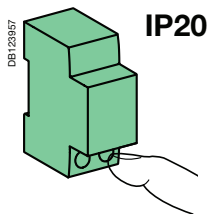
Note: Transformers have an off load operating voltage that is higher than the rated voltage. For loads that are sensitive to overloads (electro-magnetic circuits), the transformer must be made to operate at In. After operation of the protection device upon an overload, cut-off the power supply and let the transformer cool down before restart.



Clip on DIN rail 35 mm.



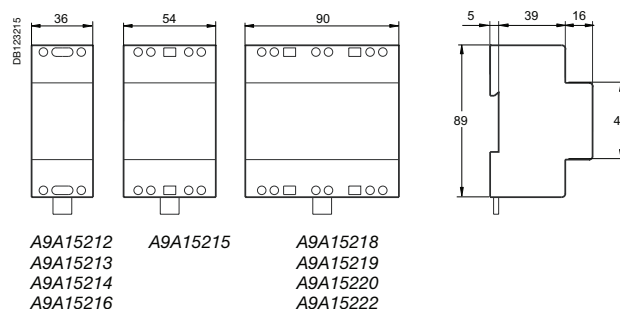
Bell transformer: indifferent position of installation.
Safety transformer: vertical position.



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)



Measurement indication

ISO bells and iRO buzzers

ISO

iRO

Clip on DIN rail 35 mm.

Indifferent position of installation.

IP20

IP40

ISO bell and iRO buzzer

ISO and iRO

Audible indication in housing and the tertiary sector.

Catalogue numbers

Bell and buzzer			
Type			Width in 9 mm modules
	Voltage (Ue)	230 V AC	A9A15320 2
		8...12 V AC	A9A15321 2
		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
1.3 N.m	< 4 mm ²	< 4 mm ²

Technical data

Main characteristics		iSO	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	
iSO	77
iRO	64

Dimensions (mm)

Technical
Section 11

Dimensions
Section 12

7/41



Function

STI

The isolatable fuse-carriers provide overload and short-circuit protection and are used in the tertiary and industrial sectors.

Fuse-links

aM, gG (gL, gL) types for STI.

Indicator light

230 V neon indicator adaptable on STI.

Description

STI

- Isolation of all poles is guaranteed for the 2P, 3P, and 3P + N versions during factory assembly
- Positive contact indication
- To be equipped with aM or gG (gL - gL) type fuse-links, with or without fuse blowing indicator

Rating (A)	Size (mm)	aM fuse	gG fuse
0.5 to 20	8.5 x 31.5		■
1 to 20	10.3 x 38	■	
25 to 32	10.3 x 38		■

- Fuse-carrier: Captive, additional housing is provided for a spare fuse
- Optional indication by indicator lights (see accessories)
- Connection by tunnel terminals for rigid cables up to 10 mm² and flexible cables up to 6 mm²
- Complies with standard IEC 947.3

Fuse-links

- aM, gG (gL - gL) types
- Fuse-link without striker pin
- Breaking capacity as in the standards

Dimensions (ø x L) (mm)	Rating (A)	Operating voltage (V AC)	Breaking capacity (kA)	
			aM	gG
8.5 x 31.5	All	380	20	20
10 x 38	≤10	500	80	80
	25	660	80	80

- Complies with standards NF C 60 200 and NF C 63 210
- Véritas and Lloyds approved

Indicator light (option)

Technical data

230V AC neon (400V AC maximum)

Allows indication of fuse blowing (lift after blowing)

Specific characteristics

STI 1P + N and 3P + N

- Disconnection of the phase and neutral in the normal dimensions of the phase (2 modules of 9 mm)
- Phase opening causes compulsory opening of the neutral
- The phase opens before the neutral on isolation and closes after the neutral on circuit closing

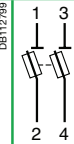
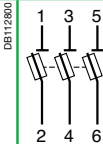
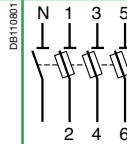


STI	Cartridges
IEC/EN 60947-3, IEC/EN 60269-2	IEC 60269-1, IEC 60269-2, NF C 60-200-2

- The STI isolatable fuse-carriers provide overload and short-circuit protection.
- They are used for industrial applications requiring a high breaking capacity.
- They perform the isolation function and must not be used as switches.
- To be equipped with aM or gG (gL - gI) type fuse cartridge without striker, with or without fuse blowing indicator.
- Isolation of all poles is guaranteed for the 2P, 3P, and 3P+N versions during factory assembly.

The general purpose fuse (**gG fuse**) provides overload and short-circuit protection. The fuse for motor application (**aM fuse**) only provides short-circuit protection. It is used for protection of loads with a high peak current (motors, transformer primaries, etc.).

Catalogue numbers

Fuse cartridge (Type F)							STI fuse holder				
Type							Network type				
	Rating	Voltage rating (Ue)	Short-circuit current (Isc)								
			aM	gG	aM	gG					
8.5 x 31.5 mm	2 A	400 V AC	20 kA	20 kA	DF2BA0200	DF2BN0200	A9N15635	A9N15645	A9N15650	A9N15655	A9N15657
	4 A	400 V AC	20 kA	20 kA	DF2BA0400	DF2BN0400					
	6 A	400 V AC	20 kA	20 kA	DF2BA0600	DF2BN0600					
	8 A	400 V AC	20 kA	20 kA	DF2BA0800	DF2BN0800					
	10 A	400 V AC	20 kA	20 kA	DF2BA1000	DF2BN1000					
10.3 x 38 mm	2 A	500 V AC	120 kA	120 kA	DF2CA02	DF2CN02	A9N15636	A9N15646	A9N15651	A9N15656	A9N15658
	4 A	500 V AC	120 kA	120 kA	DF2CA04	DF2CN04					
	6 A	500 V AC	120 kA	120 kA	DF2CA06	DF2CN06					
	10 A	500 V AC	120 kA	120 kA	DF2CA10	DF2CN10					
	16 A	500 V AC	120 kA	120 kA	DF2CA16	DF2CN16					
	20 A	500 V AC	120 kA	120 kA	DF2CA20	DF2CN20					
	25 A	400 V AC	120 kA	120 kA	DF2CA25	DF2CN25					

(1) The neutral pole comes equipped with a locked tube.

230 V neon indicator light (Option)

- Indicates fuse blowing (off in normal operation and lit red after fuse blowing)
- 400 V maxi

1P+N, 3P+N

- Phase opening causes compulsory opening of the neutral
- The phase opens before the neutral on isolation and closes after the neutral on circuit closing
- Small dimensions
 - 1P+N in 18 mm
 - 3P+N in 54 mm

Clip-on markers

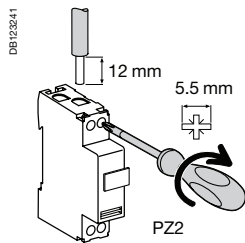
Padlocking device

- Locks the toggle in the "open" or "closed" position. Used with an 8 mm max. diameter padlock (not supplied):
 - only one padlock for 1P, 1P+N and 2P products (on the left pole)
 - and two padlock on the 3P and 3P+N products (on every extremity)

Fuse-carrier

- Captive
- Additional housing is provided for a spare fuse

Connection



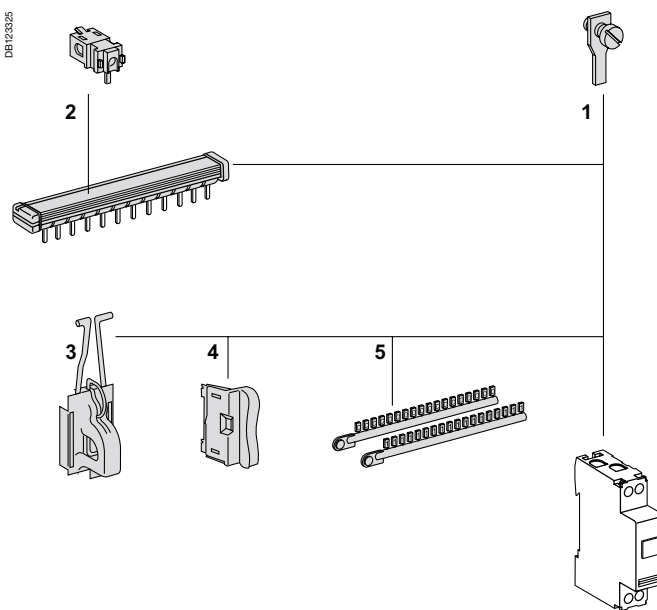
Type	Rating	Tightening torque	Without accessory		With accessories
			Copper cables		Screw-on connection for ring terminal
			Rigid	Flexible or ferrule	
STI	All	2 N.m	DB122945 	DB122946 	DB119789
			0.75 to 10 mm ² 2 x 0.75 mm ² to 2 x 4 mm ²	0.5 to 6 mm ² 2 x 0.5 mm ² to 2 x 4 mm ²	Ø 5 mm

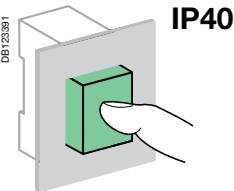
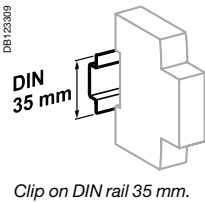
1 Screw-on connection for ring terminal

27053

Mounting accessories

2	Comb busbar	See section 10
3	Padlocking device	15669
4	Neon indicator light	1 piece blister 15668
5	Clip-on terminal markers	Use AB1 range





Technical data

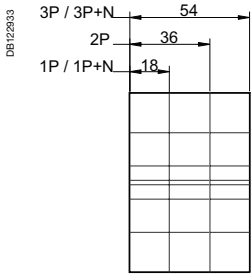
Main characteristics	
Insulation voltage (Ui)	500 V
Breaking capacity according to IEC 60269-2 ≤ 400 V	50 kA
Pollution degree	3
Operating frequency (Hz)	50/60

Additional characteristics	
Degree of protection	Device in modular enclosure
	IP40 Insulation classe II
Operating temperature	-20°C to +60°C
Storage temperature	-40°C to +80°C

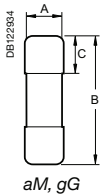
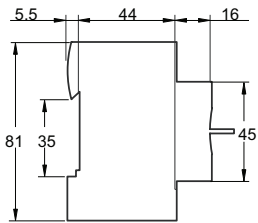
Maximum dissipated power per pole of STI isolatable fuse-carriers			
Fuse cartridge type		I _{th}	P _{max}
8.5 x 31 mm	aM	10 A	2.5 W
	gG	20 A	2.5 W
10.3 x 38 mm	aM	16 A	3 W
	gG	25 A	3 W

Maximum dissipated power per fuse cartridges			
Fuse cartridge type		I _{th}	P _{max}
8.5 x 31 mm	aM	2 to 10 A	0.9 W
	gG	2 to 10 A	2.5 W
10.3 x 38 mm	aM	2 to 25 A	1.2 W
	gG	2 to 25 A	3 W

Dimensions (mm)



STI



aM, gG fuse cartridge			
Type	A	B	C
8.5 x 31.5 mm	8.5	31.5	10.3
10.3 x 38 mm	10.3	38	10.5

Local control selector switches

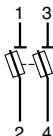
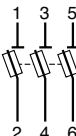
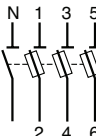
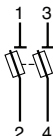
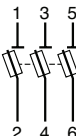
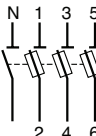
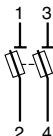
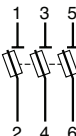
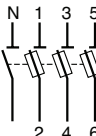
SBI fuse holder with indicator light



IEC EN 60947-3

- SBI fuse holders provide overload and short-circuit protection.
 - They are used for industrial applications requiring a high breaking capacity.
 - They perform the isolation function and must not be used as switches.
 - They are equipped with an indicator light indicating blowing of the fuse cartridge: to be equipped with aM or gG (gL-gl) type fuse cartridge without striker.
- The general purpose fuse (gG fuse) provides overload and short-circuit protection. The fuse for motor application (**aM fuse**) only provides short-circuit protection. It is used for protection of loads with a high peak current (motors, transformer primaries, etc.).

Catalogue numbers

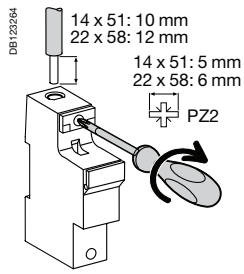
Fuse cartridge							SBI fuse holder						
Type	Rating	Voltage rating (Ue)	Short-circuit current (Isc)				Network type						
			aM	gG	aM	gG							
													
14 x 51 mm	10 A	690 V CA	120 kA	120 kA	DF2EA10	DF2EN10							
	12 A	690 V CA	120 kA	-	DF2EA12	-							
	16 A	690 V CA	120 kA	120 kA	DF2EA16	DF2EN16							
	20 A	690 V CA	120 kA	120 kA	DF2EA20	DF2EN20							
	25 A	690 V CA	120 kA	120 kA	DF2EA25	DF2EN25							
	32 A	500 V CA	120 kA	120 kA	DF2EA32	DF2EN32							
	40 A	500 V CA	120 kA	120 kA	DF2EA40	DF2EN40							
22 x 58 mm	50 A	400 V CA	120 kA	120 kA	DF2EA50	DF2EN50							
	32 A	690 V CA	80 kA	80 kA	DF2FA32	DF2FN32							
	40 A	690 V CA	80 kA	80 kA	DF2FA40	DF2FN40							
	50 A	690 V CA	80 kA	80 kA	DF2FA50	DF2FN50							
	63 A	690 V CA	80 kA	80 kA	DF2FA63	DF2FN63							
	80 A	690 V CA	80 kA	80 kA	DF2FA80	DF2FN80							
	100 A	400 V CA	120 kA	120 kA	DF2FA100	DF2FN100							
125 A	400 V CA	120 kA	-	DF2FA125	-								
							Operating frequency: 50/60 Hz						

(1) The neutral pole comes equipped with a locked tube.

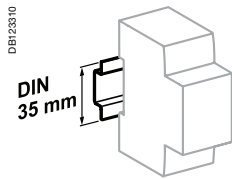
Local control selector switches

SBI fuse holder with indicator light (cont.)

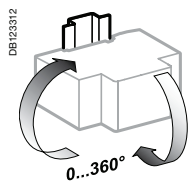
Connection



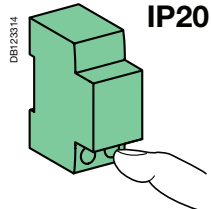
Type of fuse cartridge	Tightening torque	Copper cables		Multi-cables terminal	
		Rigid	Flexible or ferrule	Rigid cables	Flexible cables
14 x 51 mm	3.5 N.m	2.5 to 25 mm ²	2.5 to 25 mm ²	2.5 to 10 mm ²	2.5 to 10 mm ²
22 x 58 mm	3.5 N.m	2.5 to 35 mm ²	2.5 to 35 mm ²	2.5 to 25 mm ²	2.5 to 16 mm ²



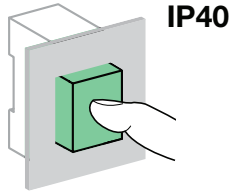
Clip on DIN rail 35 mm.



Indifferent position of installation.



IP20



IP40

Technical data

Main characteristics

Insulation voltage (Ui)	690 V
Utilization category	AC20B isolation by switching the drawer, must not be operated under load

Additional characteristics

Degree of protection	Device only	IP20
	Device in modular enclosure	IP40
Operating temperature	-20°C to +60°C	
Storage temperature	-40°C to +80°C	
Cartridge blowing signalling	By indicator light ON (neon)	

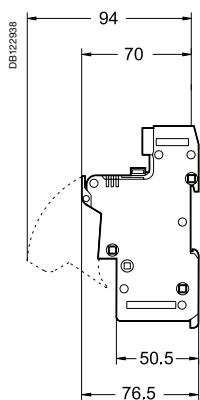
Maximum permissible characteristics of the fuse cartridges:

Fuse cartridge type		Ith	Pmax*
14 x 51 mm	aM	50 A	3 W
	gG	50 A	5 W
22 x 58 mm	aM	125 A	9.5 W
	gG	100 A	9.5 W

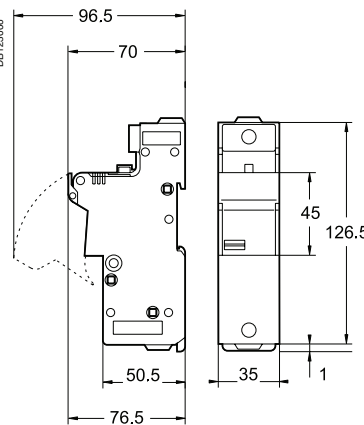
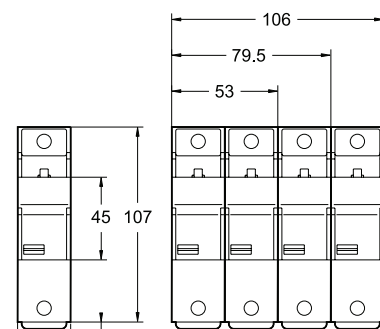
*Pmax: maximum dissipated power per fuse cartridge.

7

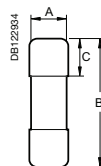
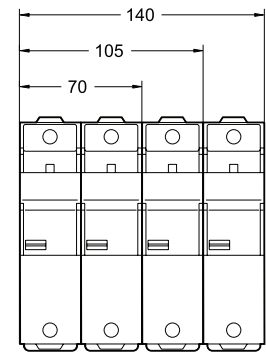
Dimensions (mm)



14 x 51 mm



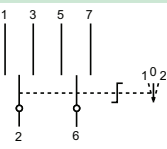
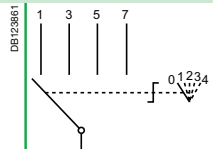
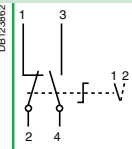
22 x 58 mm

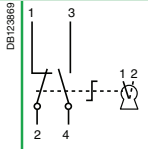
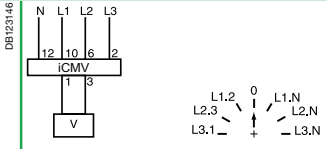
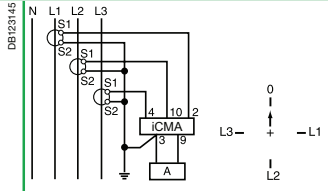


aM, gG

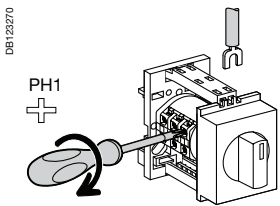
aM, gG fuse cartridge

Type	A	B	C
14 x 51 mm	14.3	51	13.8
22 x 58 mm	22.2	58	16.2

		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) VDE 0660 part. 107 UL	IEC 60947-3 (EN 60947-3) VDE 0660 part. 107 UL	IEC 60947-3 (EN 60947-3) VDE 0660 part. 107 UL																											
PB107120-38				PB107121-38																											
PB107122-38				PB107123-38																											
																															
Function																															
		■ This two-pole selector switch with zero setting allows manual control of a circuit with 2-way operation with a stop position Key type Ronis 455	■ 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 circuits of low voltage and current level																											
Wiring diagrams																															
DB123860				DB123861																											
				DB123862																											
																															
Use																															
		Example: electrically controlled metal screen: ■ position 1 = raising ■ position 0 = stop ■ position 2 = lowering	Example: fan control: ■ position 0 = stop ■ position 1 = override operation, slow speed ■ position 2 = override operation, high speed ■ position 3 = remote control ■ 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)		–	–	<table><tr><th></th><th>V AC</th><th>V DC</th></tr><tr><td>1 V</td><td>5 A</td><td>3 A</td></tr><tr><td>12 V</td><td>1.2 A</td><td>0.7 A</td></tr><tr><td>24 V</td><td>0.7 A</td><td>0.4 A</td></tr><tr><td>48 V</td><td>0.45 A</td><td>0.25 A</td></tr><tr><td>110 V</td><td>0.25 A</td><td>0.13 A</td></tr><tr><td>240 V</td><td>0.15 A</td><td>0.08 A</td></tr><tr><td>300 V</td><td>0.13 A</td><td>0.07 A</td></tr><tr><td>440 V</td><td>0.1 A</td><td>0.05 A</td></tr></table>		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
	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																											

iCMC	iCMV	iCMA
2-way key-actuated	7-position voltmeter	4-position ammeter
IEC 60947-3 (EN 60947-3) VDE 0660 part. 107 UL	IEC 60947-3 (EN 60947-3) VDE 0660 part. 107 UL	IEC 60947-3 (EN 60947-3) VDE 0660 part. 107 UL
		
■ 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
		
-	-	-
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

Connection



Tightening torque	Copper cables
	Flexible or rigid with ferrule
DB122945 0.35 N.m	 < 1.5 mm²

■ Connection by jumper terminals with captive screws.

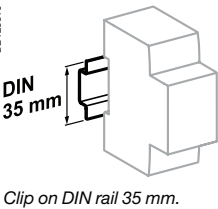
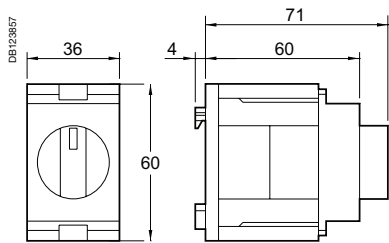
Technical data

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)



Clip on DIN rail 35 mm.



Application

The device holders can be mounted on 35mm rail to facilitate mounting of pushbuttons, indicators or other devices.

Technical data

Button holder

For buttons, switches and indicators with metal or plastic flange Ø 22 of the Telemecanique XB4 / XB5 type

Depth under rail:	60mm (same as products in the Acti 9 range)
Drilling diameter:	Ø 22.3
Self-extinguishing insulating material	
Colour:	White RAL 9003

Universal holder

For buttons, indicators, light emitting diodes (LED), potentiometers

Easy drilling	To be adapted depending on use
Depth under rail	60 mm (same as products in the multi 9 range)
Self extinguishing insulating material	
Colour:	Light grey RAL 7035

Type	Width in 18mm ways	Part number
22mm button holder	3	A9A15151
Universal holder	3	A9A15152

Monitoring Control Remote control

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.



Time delay relays



iRTA

■ Delays energizing of a load



iRTB

■ Delays de-energizing of a load upon closing of an auxiliary contact (push button)



iRTC

■ Delays de-energizing of a load upon opening of an auxiliary contact (push button)

Time delay

iRBN and iRTBT relays can interface automatic control system inputs/outputs with low-voltage devices.



Interface relays



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 monitor electrical parameters and indicate when they are exceeded



Control relays



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



iRTH

- Applies a time delay to de-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

- Relays ON or OFF information to the auxiliary circuits
- Actuates low-power loads



iERL extension

7

Relaying and control



iRCU

Voltage control

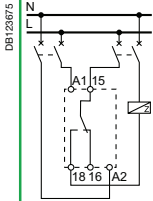
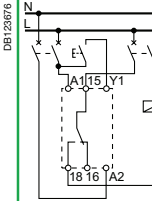
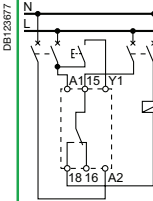
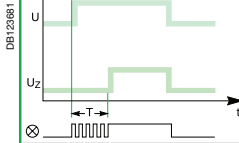
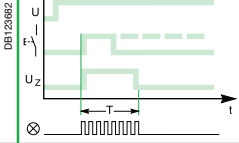
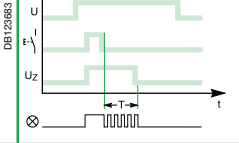
- Monitors the potential difference of a circuit and indicates any crossing of the set threshold

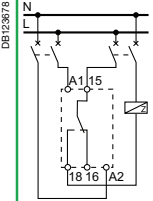
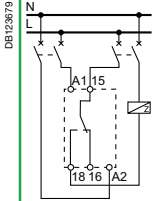
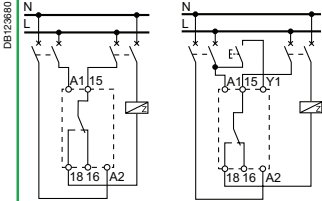
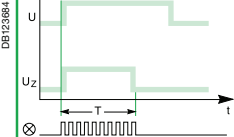
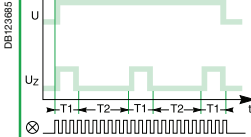


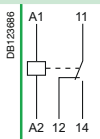
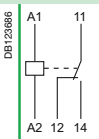
iRCC

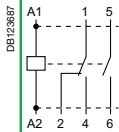
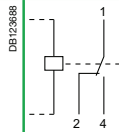
Compressor control

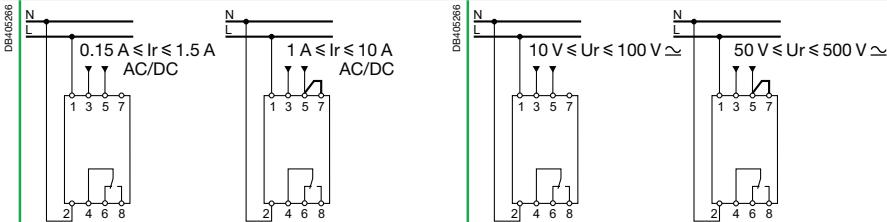
- Monitors the compressor power supply and prevents its immediate restarting upon detection of a power cut or voltage dip

Time delay relays				
		iRTA	iRTB	iRTC
Type				
Function		■ Delays energizing of a load	■ Delays de-energizing of a load upon closing of an auxiliary contact (push button)	■ Delays de-energizing of a load upon opening of an auxiliary contact (push button)
Wiring diagrams				
Use		 ■ The single time delay cycle starts at switching on of the iRTA relay power supply ■ 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) ■ 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) ■ The load is de-energized at the end of time delay T
Catalogue numbers		A9E16065	A9E16066	A9E16067
Technical specifications				
Control and power supply voltage (U _c)	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 mm ² single-strand	2 x 2.5 mm ² single-strand	2 x 2.5 mm ² single-strand
	With ferrule	2 x 1.5 mm ² multi-strand	2 x 1.5 mm ² multi-strand	2 x 1.5 mm ² 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

iRTH	iRTL	iRTMF
		
■ Applies a time delay to de-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
		
		
■ The single time delay cycle starts at switching on of the iRTH relay power supply ■ The load is de-energized at the end of time delay T	■ The time delay cycle starts at energizing ■ 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
Type		Low level	Extra low voltage
			
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			
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) 5 mA/5 V AC	10 mA/10 V DC (DC12) 10 mA/10 V AC
	Maxi	1 A/24 V DC (DC12) 5 A/250 V AC	1 A/24 V DC (DC12) 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

Changeover and extension relays									
		iRLI				iERL			
Type		Changeover relay				Extension for RLI			
									
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									
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) - 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 $\varphi = 1$				10, cos $\varphi = 1$			
Operating frequency	Hz	50/60				50/60			
Inrush and holding power		4 VA				iRLI + iERL : 8 VA			
Endurance	Electrical	100,000 cycles AC21 (cos $\varphi = 1$)				100,000 cycles AC21 (cos $\varphi = 1$)			
Operation on front face	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 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			

Control relays		
Type	iRCI Current control	iRCU Voltage control
		
Function	■ Monitors the current (I_r) flowing in an AC or DC circuit and indicates any crossing of the set threshold	■ Monitors the voltage variation (U_r) of an AC or DC circuit and indicates any crossing of the set threshold
Wiring diagrams		
Catalogue numbers	A9E21181	A9E21182
Common technical specifications		
Supply voltage (U_c)	V AC	230, -15 % to +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 ($\cos \varphi = 1$)	
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 mm ²
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 I_r	Threshold adjustable from 10 % to 100 % of U_r
	Hysteresis adjustable from 5 % to 50 % of I_r	Hysteresis adjustable from 5 % to 50 % of U_r
	Monitoring of overcurrent and undercurrent (selection by selector switch)	
	Fail-safe contact	
	De-energized	
	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.
	■ Automatic recognition of alternating or direct current.	■ 2 measuring ranges selected by cabling:
	■ 2 measuring ranges selected by cabling:	□ 10 V to 50 V
	□ 0.15 A to 1.5 A	□ 50 V to 500 V
	□ 1 A to 10 A	

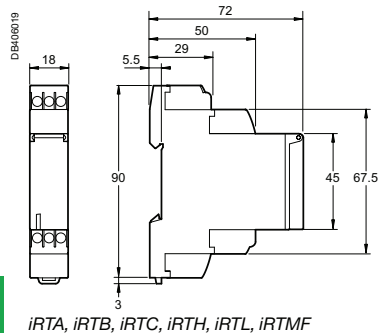
iRCP		iRCC	
Phase control		Compressor control	
PB107124-35 		PB107127-35 	
■ Monitors phases and the presence of voltage on the 3 phases of a three-phase circuit (power supply of a motor, etc.). It indicates any phase loss or inversion		■ Monitors the compressor's power supply and prevents its immediate restarting upon detection of a power cut or voltage dip	
DB405285 L1 L2 L3 50 Hz 60 Hz 1 3 5 7 2 4 6 8		DB405287 N L L L t = 6 min. t = 3 min. 1 3 5 7 2 4 6 8	
A9E21180		A9E21183	
400, ±15 %		230, -15 % to +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		De-energized	
Energized with fault	2 4 6 8	Energized with fault	2 4 6 8
Energized without fault	2 4 6 8	Energized without fault	2 4 6 8
Time delay on tripping: 0.3 s		Time delay on overshoot: 3 or 6 minutes (selection by cabling)	

Technical data

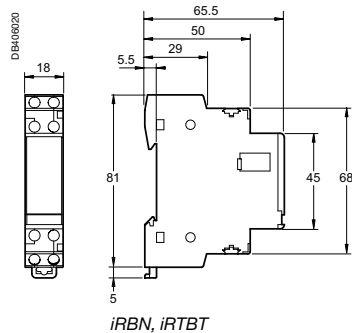
Weight (g)

Relays	
Type	
iRTA, iRTB, iRTC, iRTH, iRBN	65
iRTL	66
iRTMF	68
iRTBT	63
iRLI, iERL	112
iRCP, iRCC	210
iRCI, iRCU	215

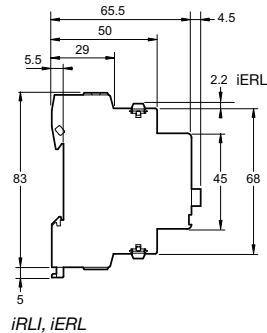
Dimensions (mm)



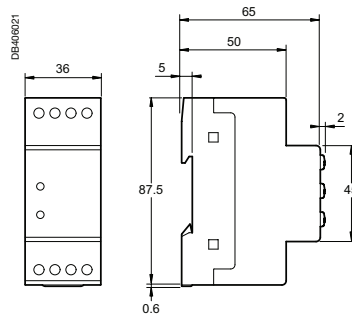
iRTA, iRTB, iRTC, iRTH, iRTL, iRTMF



iRBN, iRTBT



iRLI, iERL



iRCP, iRCI, iRCU, iRCC