

EN 60669-2-2  
 TLs: IEC/EN 60947-5-1

## > Impulse relays



**iTL 2P 16 A and iTL 4P 16 A**

- The impulse relays are used to control, by means of pushbuttons, lighting circuits consisting of:
  - incandescent lamps, low-voltage halogen lamps, etc. (resistive loads)
  - fluorescent lamps, discharge lamps, etc. (inductive loads)

## > Remote indication



**iTLs**

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



**Indication iATLs**

- Allows remote indication of the associated impulse relay

## > Centralised control



**iTLc**

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



**Centralised control iATLc**

- Used for centralised control, thanks to a "pilot line", of a group of impulse relays controlling separate circuit, while at the same time maintaining local individual control of each impulse relay

## > Latched control



**iTLm**

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



**Latched control iATLm**

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



## Impulse relays are used:

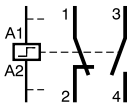
- Closing of the impulse relay pole(s) is triggered by an impulse on the coil.
- Having two stable mechanical positions, the pole(s) will be opened by the next impulse. Each impulse received by the coil reverses the position of the pole(s).
- Can be controlled by an unlimited number of pushbuttons.
-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

PB106131-34



### Changeover contact iTLi

- This impulse relay has a changeover contact

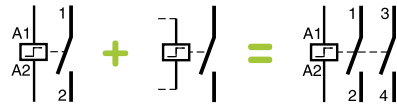


PB106134-34



### Extensions iETL

- Used to increase the number of impulse relay poles
- Can be installed on the iTL, iTLi, iTLc, iTLm and iTLs



PB106140-34



### Centralised control + indication iATLc+s

- Used for centralised control, thanks to a "pilot line", of a group of impulse relays controlling separate circuit, while at the same time maintaining local individual control of each impulse relay
- Remote indication of the mechanical status of each relay

PB106136-34



### Multi-level centralised control iATLc+c

- Allows centralised control of a group of iTLc or "iTL + ATLc" impulse relays

PB106125-34



### Time delay iATEt

- Combined with an impulse relay, it automatically disconnects the circuit after a preset time

PB106141-34



### Control iATLz

- Must be used when installing several illuminated PBs in parallel to control an impulse relay (prevents operating malfunctions)

PB106142-63



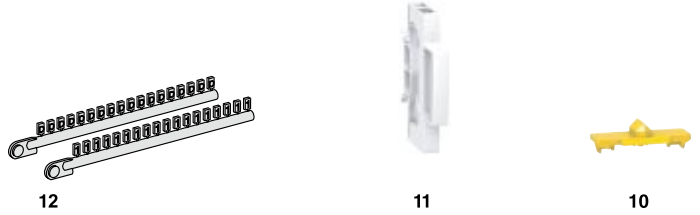
### Step by step control iATL4

- Allows step-by-step control of two circuits via a single pushbutton

## Mounting accessories

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

DB123631



## Auxiliaries

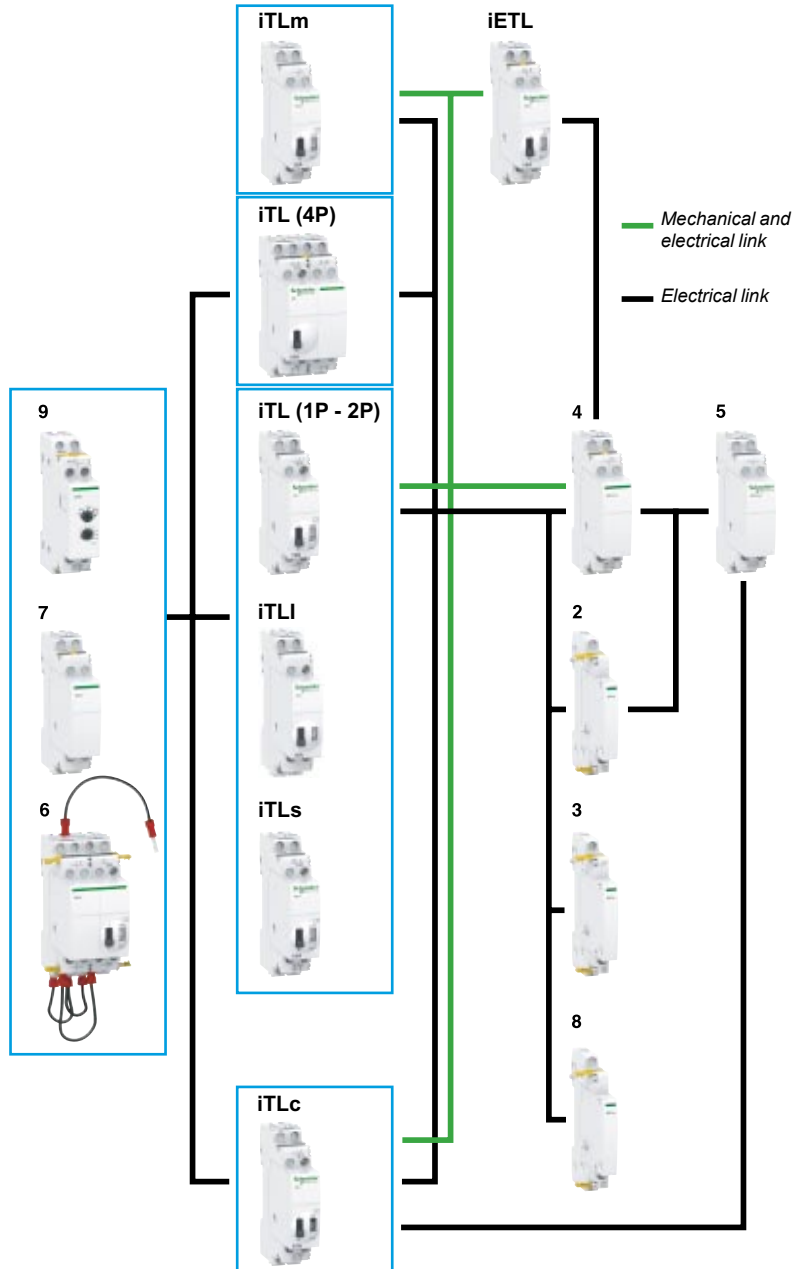
Centralised control			
2	iATLc <sup>(1),(3)</sup>	24...240 V AC	A9C15404
Indication			
3	iATLs <sup>(1)</sup>	24...240 V AC	A9C15405
Centralised control + indication			
4	iATLc+s <sup>(3)</sup>	24...240 V AC	A9C15409
Multi-level centralised control			
5	iATLc+c <sup>(2),(3)</sup>	24...240 V AC	A9C15410
Step by step control			
6	iATL4	230 V AC	A9C15412
Control by illuminated push-buttons			
7	iATLz	130...240 V AC	A9C15413
Latched control			
8	iATLm <sup>(1)</sup>	12...240 V AC	A9C15414
Time delay control			
9	iATEt <sup>(4)</sup>	24...240 V AC	A9C15419

(1) The iATLc, iATLs and iATLm 9 mm auxiliaries are used by themselves to the right of an impulse relay.

(2) Connection by traditional cabling. The iATLc+c must be mounted to the right of an iATLc+s or an iATLc.

(3) The centralised control functions (iTLc, iATLc, iATLc+s, iATLc+c) only operate on AC voltage networks.

(4) iATEt: control voltage: 24...240 V AC, 24...110 V DC.



PB106126-41

**Yellow clip**

- A simple clip-on system for flexible auxiliaries combination and improved robustness
- For electrical and mechanical connections

■ Insulated terminals IP20

■ Built-in or optional auxiliary function: state indication, centralised control, latched control, control for illuminated pushbutton, step-by-step control, time delay

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

■ Manual controls on front face: direct and priority manual control by O-I toggle

■ Mechanical contact position indicator

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

■ Large circuit labeling area

		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	16	16	16	16	16	16	16	16	16	16				
Control voltage	V AC	230/240	130	48	24	12	230/240	230/240	130	48	24	12	230/240	48	24	230/240	230/240	48	24		
	V DC	110	48	24	12	6	110	110	48	24	12	6	-	110	110	110	110	24	12		
<b>Auxiliaries</b>																					
<b>Extension</b>																					
iETL		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			
<b>Centralised control + indication</b>																					
iATLc+s		■	■	■	■	-	■	■	■	-	-	-	-	-	-	■	■	■			
<b>Centralised control</b>																					
iATLc		■	■	■	■	-	■	■	■	-	-	-	-	-	-	■	■	■			
<b>Indication</b>																					
iATLs		■	■	■	■	-	■	■	■	■	■	■	■	■	■	■	■	■			
<b>Multi-level centralised control</b>																					
iATLc+c		■	■	■	■	-	■	■	■	-	-	■	■	■	-	■	■	■			
<b>Latched control</b>																					
iATLm		■	■	■	■	■	■	■	■	■	■	-	-	-	-	■	■	■			
<b>Control for illuminated Pushbutton</b>																					
iATLz		■	■	-	-	-	■	■	■	-	-	-	■	■	-	■	■	-			
<b>Step by step control</b>																					
iATL4		■	-	-	-	-	■	■	-	-	-	■	-	-	-	■	-	-			
<b>Time delay control</b>																					
iATEt		■	■	■	(*)	■	-	■	■	■	■	(*)	-	■	■	■	■	■	■	■	(*)

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

## Catalogue numbers

iTL impulse relays						
Type	1P		2P	3P	4P	
Rating (In)	Control voltage (Uc)					
	(V AC)	(V DC)				
16 A	12	6	A9C30011	A9C30012	A9C30011 + A9C32016	A9C30012 + A9C32016
	24	12	A9C30111	A9C30112	A9C30111 + A9C32116	A9C30114
	48	24	A9C30211	A9C30212	A9C30211 + A9C32216	A9C30212 + A9C32216
	130	48	A9C30311	A9C30312	A9C30311 + A9C32316	A9C30312 + A9C32316
	230...240	110	A9C30811	A9C30812	A9C30811 + A9C32816	A9C30814
32 A	230...240	110	A9C30831	A9C30831 + A9C32836	A9C30831 + 2 x A9C32836	A9C30831 + 3 x A9C32836
Width in 9 mm modules			2	2	4	4

iTLI impulse relays				
Type	1P			
Rating (In)	Control voltage (Uc)			
	(V AC)	(V DC)		
16 A	12	6	A9C30015	
	24	12	A9C30115	
	48	24	A9C30215	
	130	48	A9C30315	
	230...240	110	A9C30815	
Width in 9 mm modules			2	

iETL extensions for iTL and iTLI						
Type	Rating (In)			Control voltage (Uc)		Width in 9 mm modules
		(V AC)	(V DC)			
	32 A	230...240	110	A9C32836	2	
	16 A	12	6	A9C32016	2	
		24	12	A9C32116	2	
		48	24	A9C32216	2	
		130	48	A9C32316	2	
		230...240	110	A9C32816	2	

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

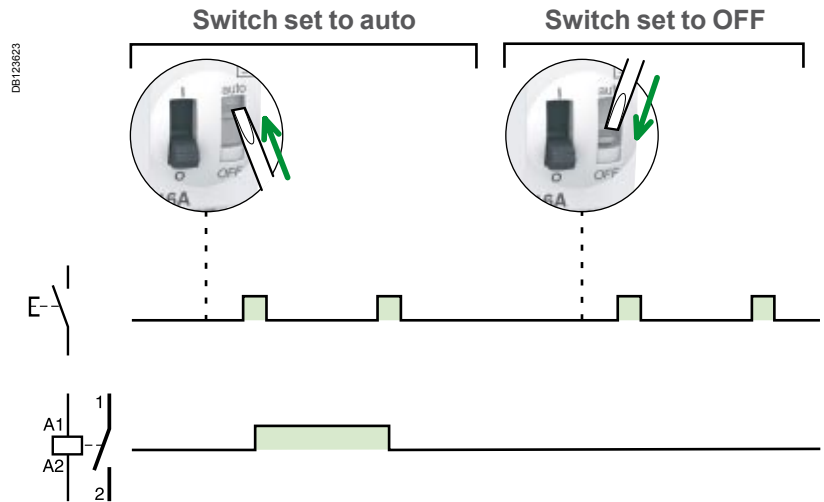
## Catalogue numbers (cont.)

		iTLC impulse relay with centralised control	
Type		1P	3P
Rating (In)	Control voltage (Uc) (V AC)		
16 A	24	<b>A9C33111</b>	<b>A9C33111 + A9C32116</b>
	48	<b>A9C33211</b>	<b>A9C33211 + A9C32216</b>
	230...240	<b>A9C33811</b>	<b>A9C33811 + A9C32816</b>
Width in 9 mm modules		2	4

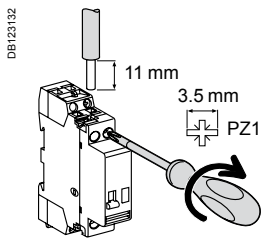
		iTLm impulse relay with latched control	
Type		1P	3P
Rating (In)	Control voltage (Uc) (V AC)		
16 A	230...240	<b>A9C34811</b>	<b>A9C34811 + A9C32116</b>
Width in 9 mm modules		2	4







		iTLs impulse relay with remote indication	
Type		1P	3P
Rating (In)	Control voltage (Uc) (V AC) (V DC)		
16 A	24 12	<b>A9C32111</b>	<b>A9C32111 + A9C32116</b>
	48 24	<b>A9C32211</b>	<b>A9C32211 + A9C32216</b>
	230...240 110	<b>A9C32811</b>	<b>A9C32811 + A9C32816</b>
Width in 9 mm modules		2	4

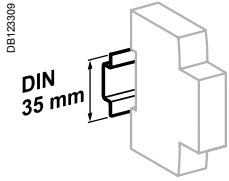
## Operation



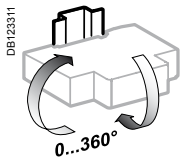
## Connection



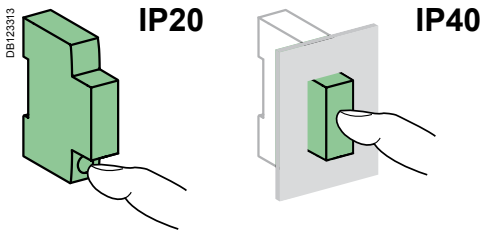
Type	Rating	Circuit	Tightening torque	Copper cables	
				Rigid or ferrule	Flexible or ferrule
iTL, iTLi, iTLc, iTLm, iTLs, iETL	16 A	Control	1 N.m		
		Power			
iTL, iETL	32 A	Control	1.2 N.m		
		Power			
Auxiliaries			1 N.m		



Clip on DIN rail 35 mm.



Indifferent position of installation.





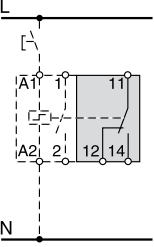
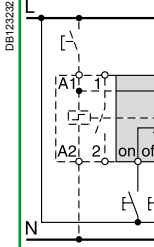
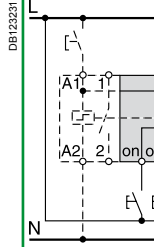
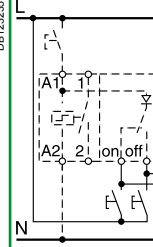


## Technical data

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 EN/IEC 60669-2-2	
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)	





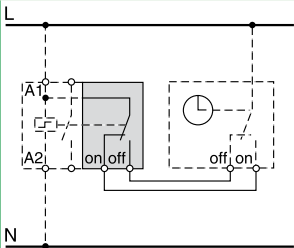
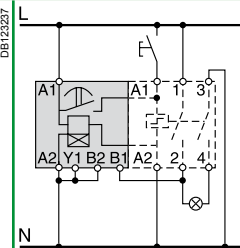
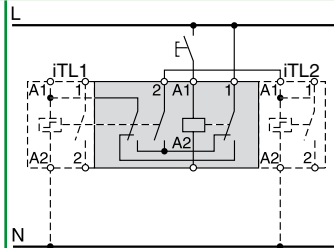
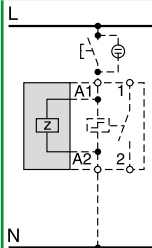



# iTL impulse relays Electrical auxiliaries for iTL impulse relays

		Indication		Control					
Auxiliaries		iATLs		iATLc		iATLc+s		iATLc+c	
Type		Indication		Centralised control		Centralised control + indication		Multi-level centralised control	
									
		PB108139-34		PB108137-34		PB108140-34		PB108138-34	
Function		<ul style="list-style-type: none"> <li>Allows remote indication of the associated impulse relay</li> </ul>		<ul style="list-style-type: none"> <li>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</li> </ul>		<ul style="list-style-type: none"> <li>And for remote indication of the mechanical status of each relay</li> </ul>		<ul style="list-style-type: none"> <li>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</li> </ul>	
Wiring diagrams									
		DB123233		DB123232		DB123231		DB123235	
Mounting		<ul style="list-style-type: none"> <li>Mounted to the right of iTL by yellow clips</li> </ul>		<ul style="list-style-type: none"> <li>Mounted to the right of iTL by yellow clips</li> </ul>		<ul style="list-style-type: none"> <li>Mounted to the right of iTL by yellow clips</li> </ul>		<ul style="list-style-type: none"> <li>Without mechanical link with impulse relays and auxiliaries</li> </ul>	
Catalogue numbers		<b>A9C15405</b>		<b>A9C15404</b>		<b>A9C15409</b>		<b>A9C15410</b>	
Technical specifications									
Control voltage (Ue)		V AC	24...240	24...240	24...240	24...240	24...240	24...240	24...240
		V DC	24...240	—	—	—	—	—	—
Width in 9 mm modules		1		1		2		2	
Auxiliary contact (breaking capacity)		<ul style="list-style-type: none"> <li>Minimum: 10 mA at 24 V AC/DC</li> <li>Maximum (IEC 60947-5-1):</li> </ul>		<ul style="list-style-type: none"> <li>Minimum: 10 mA at 24 V AC/DC</li> <li>Maximum (IEC 60947-5-1):</li> </ul>		<ul style="list-style-type: none"> <li>Minimum: 10 mA at 24 V AC/DC</li> <li>Maximum (IEC 60947-5-1):</li> </ul>		<ul style="list-style-type: none"> <li>Minimum: 10 mA at 24 V AC/DC</li> <li>Maximum (IEC 60947-5-1):</li> </ul>	
		<input type="checkbox"/> 12...240 V AC 6 A		<input type="checkbox"/> 12...240 V AC 6 A		<input type="checkbox"/> 12...240 V AC 6 A		<input type="checkbox"/> 12...240 V AC 6 A	
		<input type="checkbox"/> 12...24 V DC 6 A		<input type="checkbox"/> 12...24 V DC 6 A		<input type="checkbox"/> 12...24 V DC 6 A		<input type="checkbox"/> 12...24 V DC 6 A	
		<input type="checkbox"/> 15...240 V AC 2 A		<input type="checkbox"/> 15...240 V AC 2 A		<input type="checkbox"/> 15...240 V AC 2 A		<input type="checkbox"/> 15...240 V AC 2 A	
		<input type="checkbox"/> 13...24 V DC 2 A		<input type="checkbox"/> 13...24 V DC 2 A		<input type="checkbox"/> 13...24 V DC 2 A		<input type="checkbox"/> 13...24 V DC 2 A	
Number of contacts		—		—		—		—	
Operating temperature		°C -20°C to +50°C		—		—		—	
Storage temperature		°C -40°C to +70°C		—		—		—	

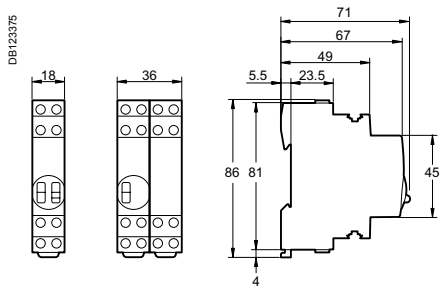
# iTL impulse relays Electrical auxiliaries for iTL impulse relays (cont.)

Control

iATLm	iATEt	iATL4	iATLz
<b>Latched control</b>	<b>Time delay</b>	<b>Step by step control</b>	<b>Control by illuminated push-buttons</b>
			
<ul style="list-style-type: none"> <li>Combined with an impulse relay, it operates on latched orders</li> </ul>	<ul style="list-style-type: none"> <li>Combined with an impulse relay, it automatically disconnects the circuit after a preset time</li> </ul>	<ul style="list-style-type: none"> <li>Allows the step by step sequence over 2 circuits</li> </ul>	<ul style="list-style-type: none"> <li>Used to control impulse relays by illuminated push-buttons, without operating risks</li> </ul>
			
	<ul style="list-style-type: none"> <li>5 time setting ranges:                             <ul style="list-style-type: none"> <li>1 to 10 s</li> <li>6 to 60 s</li> <li>2 to 10 min</li> <li>6 to 60 min</li> <li>2 to 10 h</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>The cycle is as follows:                             <ul style="list-style-type: none"> <li>1<sup>st</sup> impulse - iTL 1 closed, iTL 2 open</li> <li>2<sup>nd</sup> impulse - iTL 1 open, iTL 2 closed</li> <li>3<sup>rd</sup> impulse - iTL 1 and 2 closed</li> <li>4<sup>th</sup> impulse - iTL 1 and 2 open</li> <li>5<sup>th</sup> impulse - iTL 1 closed, iTL 2 open, etc</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>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.</li> <li>For example: for 7 mA, fit 2 iATLz</li> </ul>
<ul style="list-style-type: none"> <li>Mounted to the right of iTL by yellow clips</li> </ul>	<ul style="list-style-type: none"> <li>Mounted to the left of iTL by yellow clips</li> </ul>	<ul style="list-style-type: none"> <li>Assembled between 2 impulse relays: according to the auxiliarisation table by yellow clips</li> </ul>	<ul style="list-style-type: none"> <li>Mounted to the left of iTL by yellow clips</li> </ul>
<b>A9C15414</b>	<b>A9C15419</b>	<b>A9C15412</b>	<b>A9C15413</b>
12...240	24...240	230	130...240
6...110	24...110	-	-
1	2	4	2
-	-	-	-
-	-	-	-
-20°C to +50°C	-	-	-
-40°C to +70°C	-	-	-

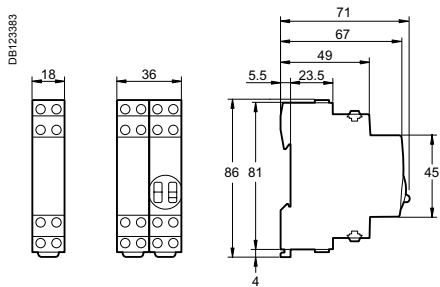
<b>Accessories</b>	<b>Security Yellow clips</b>
	
<b>Function</b>	<ul style="list-style-type: none"> <li>■ Ensure the mechanical and/or electrical link between contactors and their auxiliaries (set of 10).</li> </ul>
<b>Catalogue numbers</b>	<b>A9C15415</b>
<b>Technical specifications</b>	
Width in 9 mm modules	—
Number of poles	—

## Dimensions (mm)

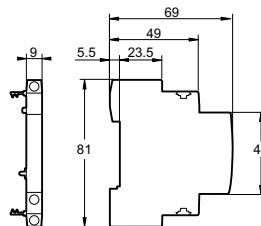


*iTL 1P*  
*iTLc*  
*iTLm*  
*iTLs*  
*iTLi*  
*iETL*

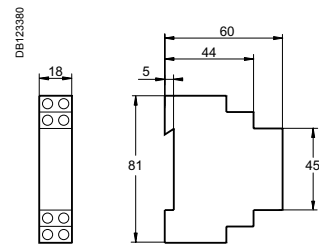
*iTL+iETL*  
*iTL 4P*



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



*iATLc*  
*iATLs*  
*iATLm*



*iATEt*