iTL impulse relays

DB123399 DB116619

iTL, iTLI, iTLs, iTLc, iTLm

Country approval pictograms

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

Impulse relays

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

Remote indication

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

Indication iATLs
■ Allows remote indication of the associated impulse relay

Centralised control

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

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

Latched control

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

Latched control iATLm
■ Controls the associated impulse relay by latched orders from a changeover contact

Impulse relays

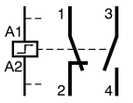
iTL impulse relays (cont.)

Impulse relays are used:

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

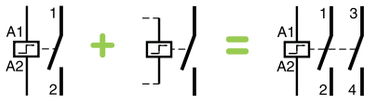
Changeover contact iTLi

- This impulse relay has a changeover contact



Extensions iETL

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



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

Multi-level centralised control iATLc+c

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

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

Time delay iATEt

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

Control iATLz

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

Step by step control iATL4

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

Impulse relays auxiliaries

Specific auxiliaries

iTL impulse relays (cont.)

Mounting accessories

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

DB123631

13

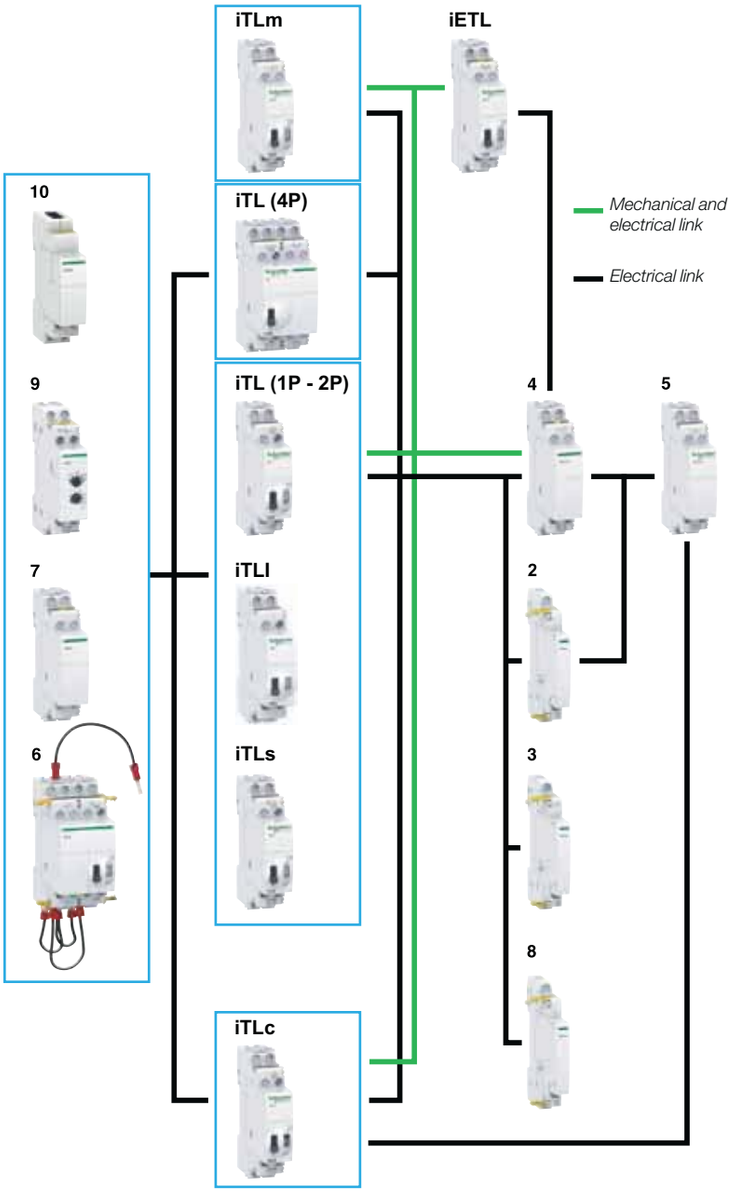
12

11

Auxiliaries

Centralised control			
2	iATLc [1], [3]	24...240 V AC	**A9C15404**
Indication			
3	iATLs [1]	24...240 V AC	**A9C15405**
Centralised control + indication			
4	iATLc+s [3]	24...240 V AC	**A9C15409**
Multi-level centralised control			
5	iATLc+c [2], [3]	24...240 V AC	**A9C15410**
Step by step control			
6	iATL4	230 V AC	**A9C15412**
Control by illuminated push-buttons			
7	iATLz	130...240 V AC	**A9C15413**
Latched control			
8	iATLm [1]	12...240 V AC	**A9C15414**
Time delay control			
9	iATEt [4]	24...240 V AC	**A9C15419**
Control and indication			
10	iATL24	230 V AC	**A9C15424**

(1) The iATLc, iATLs and iATLm 9 mm auxiliaries are used by themselves to the right of an impulse relay.
(2) Connection by traditional cabling. The iATLc+c must be mounted to the right of an iATLc+s or an iATLc.
(3) The centralised control functions (iTLc, iATLc, iATLc+s, iATLc+c) only operate on AC voltage networks.
(4) iATEt: control voltage: 24...240 V AC, 24...110 V DC.



iTL impulse relays (cont.)

PB106126-41

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

- Insulated terminals IP20

- Large circuit labeling area

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

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

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

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

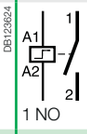
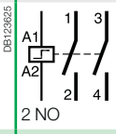
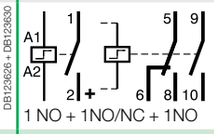
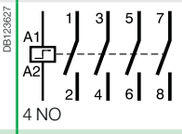
		Choice impulse relays auxiliaries																		
Type		**Standard iTL**						**Changeover iTLI**					**iTLc centralised control**			**iTLm control on latched order**	**iTLs remote indication**		
Rating	A	16					32	16					16			16	16		
Control voltage	V AC	230/240	130	48	24	12	230/240	230/240	130	48	24	12	230/240	48	24	230/240	230/240	48	24
	V DC	110	48	24	12	6	110	110	48	24	12	6	-			-	110	24	12
Auxiliaries																			
Extension																			
iETL		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Centralised control + indication																			
iATLc+s		■	■	■	■	-	■	■	■	■	-	-	-	-	-	-	■	■	■
Centralised control																			
iATLc		■	■	■	■	-	■	■	■	■	-	-	-	-	-	-	■	■	■
Indication																			
iATLs		■	■	■	■	-	■	■	■	■	■	■	■	■	■	■	■	■	■
Multi-level centralised control																			
iATLc+c		■	■	■	■	-	■	■	■	■	-	-	■	■	■	-	■	■	■
Latched control																			
iATLm		■	■	■	■	■	■	■	■	■	■	■	-	-	-	-	■	■	■
Control for illuminated Pushbutton																			
iATLz		■	■	-	-	-	■	■	■	-	-	-	■	■	-	-	■	■	-
Step by step control																			
iATL4		■	-	-	-	-	■	■	-	-	-	-	■	-	-	-	■	-	-
Time delay control																			
iATEt		■	■	■	(*)	■	-	■	■	■	■	■	(*)	-	■	■	■	-	■	■ (*)
Control and indication																			
iATL24		■	-	-	-	-	■	■	-	-	-	-	■	-	-	-	■	-	-

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

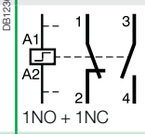
iTL impulse relays

Catalogue numbers

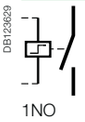
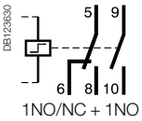
iTL impulse relays

Type			1P	2P	3P	4P
			 1 NO	 2 NO	 1 NO + 1NO/NC + 1NO	 4 NO
Rating (In)	**Control voltage (Uc)**					
	(V AC) (50/60 Hz)	**(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			2P
			 1NO + 1NC
Rating (In)	**Control voltage (Uc)**		
	(V AC) (50/60 Hz)	**(V DC)**	
16 A	12	6	**A9C30015**
	24	12	**A9C30115**
	48	24	**A9C30215**
	130	48	**A9C30315**
	230...240	110	**A9C30815**
Width in 9 mm modules			2

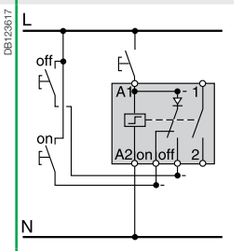
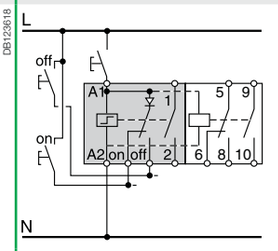
iETL extensions for iTL and iTLI

Type					Width in 9 mm modules
1P	**Rating (In)**	**Control voltage (Uc)**			
		(V AC) (50/60 Hz)	**(V DC)**		
 1NO	32 A	230...240	110	**A9C32836**	2
2P					
 1NO/NC + 1NO	16 A	12	6	**A9C32016**	2
		24	12	**A9C32116**	2
		48	24	**A9C32216**	2
		130	48	**A9C32316**	2
		230...240	110	**A9C32816**	2

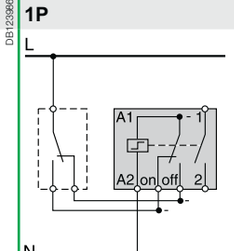
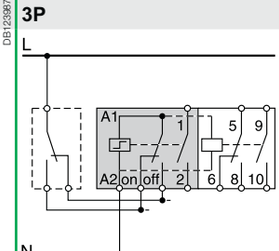
iTLc , iTLm, iTLs
with built-in auxiliary function

Catalogue numbers (cont.)

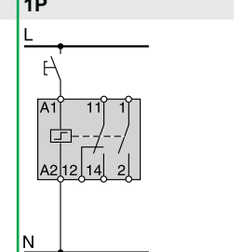
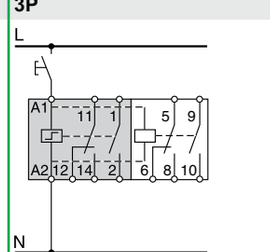
iTLc impulse relay with centralised control

Type		1P	3P
		 1NO	 3P
Rating (In)	**Control voltage (Uc) (V AC) (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
		 1NO	 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*

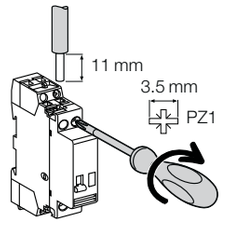
Type			1P	3P
			 1NO	 3P
Rating (In)	**Control voltage (Uc)**			
	(V AC) (50/60 Hz)	**(V DC)**		
16 A	24	12	**A9C32111**	**A9C32111 + A9C32116**
	48	24	**A9C32211**	**A9C32211 + A9C32216**
	230...240	110	**A9C32811**	**A9C32811 + A9C32816**
Width in 9 mm modules			2	4

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

iTL impulse relays

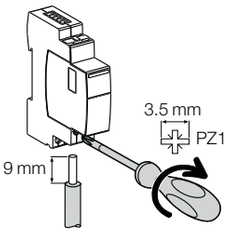
Connection

DB123132



Type	Rating	Circuit	Tightening torque	Copper cables	
				Rigid or ferrule	Flexible or ferrule
			DB122945	DB123553	
iTL, iTLi, iTLc, iTLm, iTLs, iETL	16 A	Control	1 N.m	0.5 to 4 mm²	1 to 4 mm²
		Power		1.5 to 4 mm²	1.5 to 4 mm²
iTL, iETL	32 A	Control		0.5 to 4 mm²	1 to 4 mm²
		Power	1.2 N.m	1.5 to 10 mm²	1.5 to 10 mm²
iATLs, iATLc, iATLc+s, iATLc+c, iATLm, iATEt, iATL4, iATLz			1 N.m	0.5 to 4 mm²	1 to 4 mm²

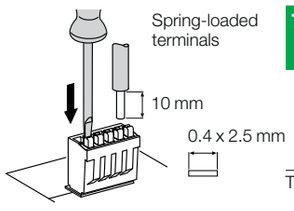
DB124308



Type	Terminals	Tightening torque	Copper cables		
			Rigid	Flexible	Flexible or ferrule
		DB122945	DB123553	DB123554	
iATL24	**Power supply (N/P)**	1 N.m	0.5 to 10 mm²	0.5 to 6 mm²	0.5 to 4 mm²
	Input (Y1/Y2)		2 x 0.5 to 2 x 2.5 mm²	2 x 0.5 to 2 x 2.5 mm²	2 x 0.5 to 2 x 2.5 mm²

Ti24 connector connection

DB123580



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

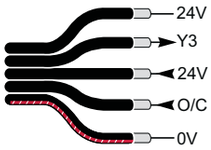
Ti24 prefabricated cables connection

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

PB107754-10

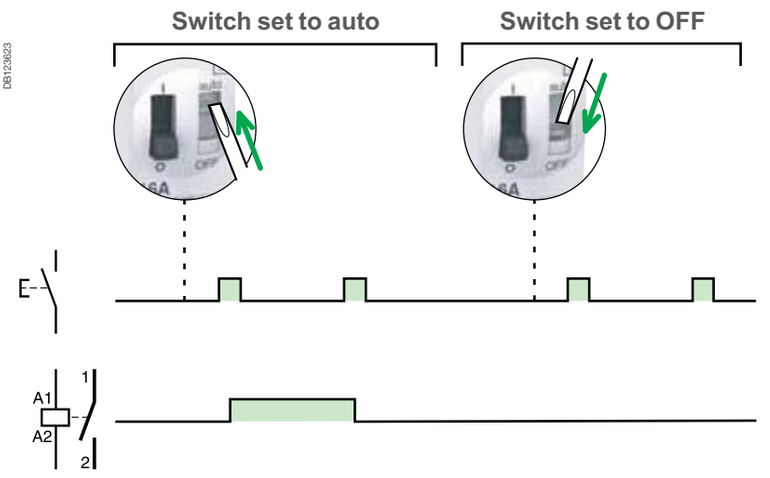
PB107755-14

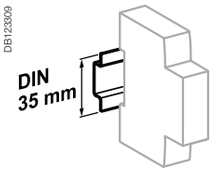
DB404857



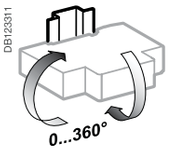
iTL impulse relays (cont.)

Operation

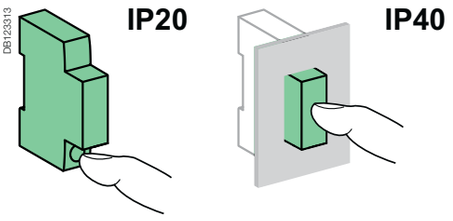




Clip on DIN rail 35 mm.



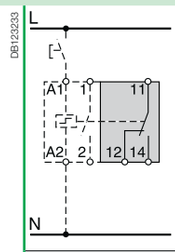
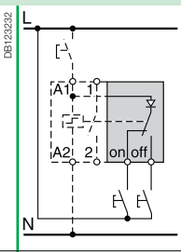
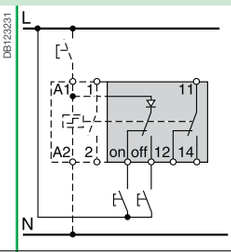
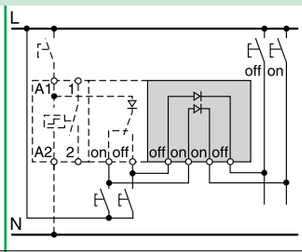
Indifferent position of installation.



Technical data

Control circuit			
		iTL and iTLI 16 A iTLc, iTLm, iTLs, iETL 16 A	**iTL 32 A, iETL 32 A**
Dissipated power (during the impulse)		1, 2, 3P: 19 VA	19 VA
		4P: 38 VA	
Illuminated PB control		Max. current 3 mA (if > use an ATLz)	
Operating threshold		Min. 85 % of Un in conformance with IEC/EN60669-2-2	
Duration of the control order		50 ms to 1 s (200 ms recommended)	
Response time		50 ms	
Power circuit			
Voltage rating (Ue)	1P, 2P	24 ...250 V AC	
	3P, 4P	24....415 V AC	
Frequency		50 Hz or 60 Hz	
Maximum number of operations per minute		5	
Maximum number of switching operation a day		100	
Additional characteristics to IEC/EN 60947-3			
Insulation voltage (Ui)		440 V AC	
Pollution degree		3	
Rated impulse withstand voltage (Uimp)		6 kV	
Endurance (O-C)			
Electrical to IEC/EN 60947-3		200,000 cycles (AC21)	50,000 cycles (AC21)
		100,000 cycles (AC22)	20,000 cycles (AC22)
Overvoltage category		IV	
Other characteristics			
Degree of protection (IEC 60529)	Device only	IP20	
	Device in modular enclosure	IP40 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)	

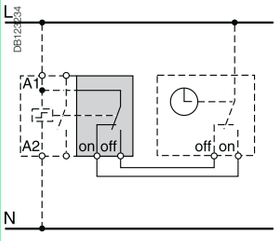
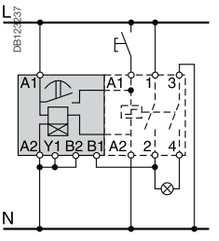
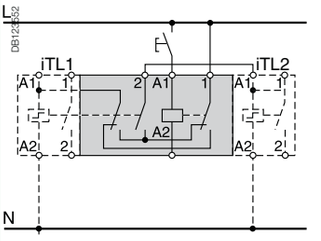
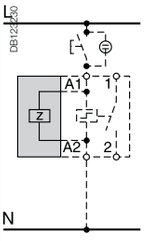
iTL impulse relays
Electrical auxiliaries
for iTL impulse relays

	Indication	Control		
Auxiliaries	**iATLs**	**iATLc**	**iATLc+s**	**iATLc+c**
Type	**Indication**	**Centralised control**	**Centralised control + indication**	**Multi-level centralised control**
				
Function				
	■ Allows remote indication of the associated impulse relay	■ Used for centralised control, thanks to a "pilot line", of a group of impulse relays controlling separate networks, while at the same time maintaining local individual control of each impulse relay	■ And for remote indication of the mechanical status of each relay	■ Used to control the centralised controls of a number of impulse relay groups, while at the same time maintaining local individual control and centralised control by level
Wiring diagrams				
				
	–	–	–	■ Each group, made up of iTLc or (iTL or iTLI or iTLs) + iATLc+s, must only contain a single iATLc+c ■ 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)		■ Mininimum: 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	–	■ Mininimum: 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.)

Control

	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 auxiliarisation table by yellow clips	■ Mounted to the left of iTL by yellow clips
	A9C15414	**A9C15419**	**A9C15412**	**A9C15413**
	12…240	24…240	230	130…240
	6…110	24…110	–	–
	50/60	50/60	50/60	50/60
	1	2	4	2
	–	–	–	–
	–	–	–	–
	-20°C to +50°C			
	-40°C to +70°C			

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

Control and indication

Auxiliaire	iATL24
Type	**Control and indication 24 V DC**
	With Ti24 connector

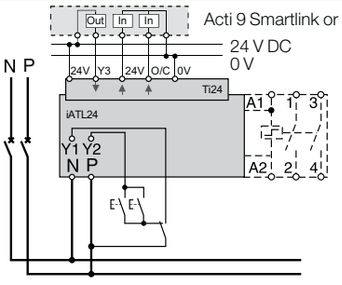
PB107752-34

Function

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

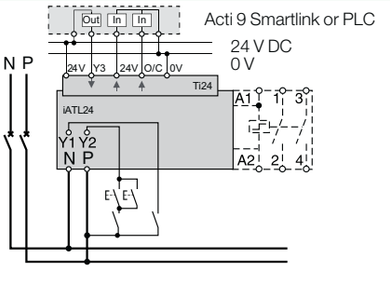
Wiring diagrams

DB124319



Wiring with exclusive selector 230 V AC and 24 V DC controls

DB124445



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

Mounting

- To the left of the iTL impulse relay using the yellow clips (1).
- When an iATL24 is used, the A1/A2 terminals of the impulse relay should not be wired. Only the yellow clips integral with the iATL24 should be used for connection to the coil.

Utilization

- 230 V AC interface:
  - Y1: enabling of 24 V DC control (Y1 = 1) or inhibition of 24 V DC control (Y1 = 0).
  - Y2: 230 V pulse control
- "TI24" 24 V DC interface:
  - Y3: 24 V DC control of iTL closing on rising edge and opening on falling edge
  - reading of the impulse relay status (opened or closed) from the position of the integrated O/C auxiliary contact
  - monitoring of connection of the "Ti24" terminal block by the upstream system (PLC, supervision system) via the 24 V terminal (in the centre of the Ti24 terminal block)

Catalogue numbers		**A9C15424**
Technical specifications		
Control voltage (Ue)	V AC	230, +10 %, -15 % (Y2)
	V DC	24, ± 20 % (Y3)
Control voltage frequency	Hz	50/60
Insulation voltage (Ui)	V AC	250
Rated impulse withstand voltage (Uimp)	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

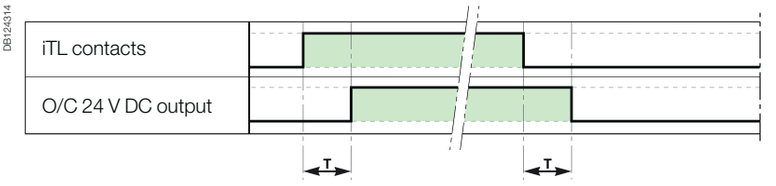
(1) Mechanical and electrical connection.

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

ComReady

Operation of the iATL24

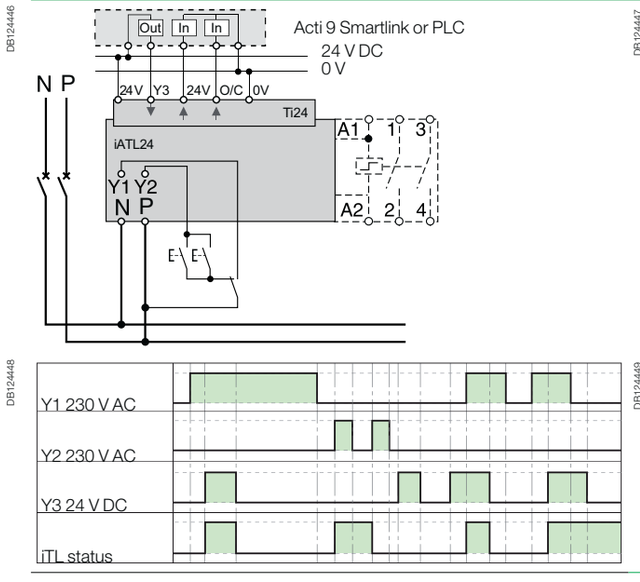
O/C 24 V DC output



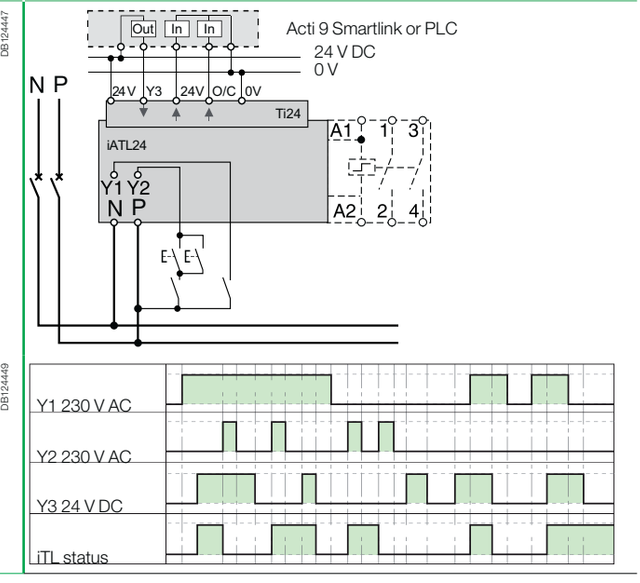
	Parameter	Min	Max
T	Time delay between iATL24 closing and indication	100 ms	200 ms

- Minimum duration of 230 V AC pulse (Y2): 200 ms.
- 30 iATL24 closing or opening actuations are authorized per minute: Minimum time delay between 2 actuations on the iATL24 via Y1,Y2, Y3 (closing or opening of the iTL coil): 440 ms.
- 10 closing or opening actuations spaced 440 milliseconds apart are authorized following no loading of the iATL24 during a period of 20 seconds.

Wiring with exclusive selector 230 V AC and 24 V DC controls



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



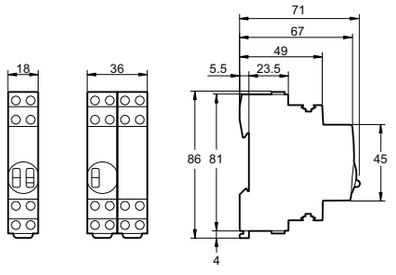
iTL impulse relays

Security

Accessories	Yellow clips	Spacer
	PB106143-10 	PB104483 
Function		
	■ Ensure the mechanical and/or electrical link between impulse relays and their auxiliaries (set of 10).	■ Required to reduce temperature rise of modular devices installed side by side. ■ Recommended to separate electronic devices (thermostat, programmable clock, etc.) from electromechanical devices (relays, contactors).
Catalogue numbers	**A9C15415**	**A9A27062**
Technical specifications		
Width in 9 mm modules	–	1

Dimensions (mm)

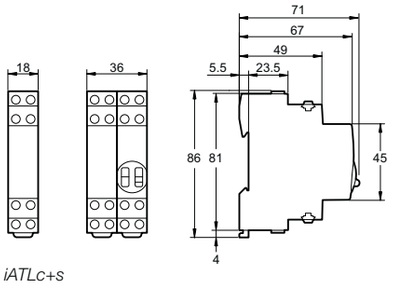
DB123375



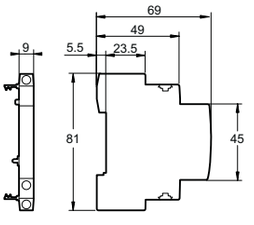
iTL 1P
iTLc
iTLm
iTLs
iTLi
iETL

iTL+iETL
iTL 4P

DB123383

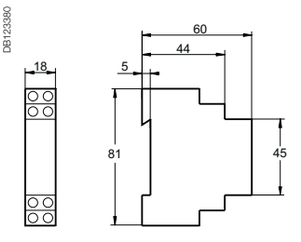


iATLc+s
iATLc+c
iATLz
iATL4



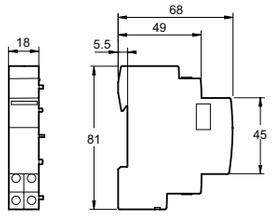
iATLc
iATLs
iATLm

DB123380



iATEt

DB124316



iATL24

iTL+ high-performance impulse relays

DB106604

Country approval pictograms

EN 60669-2-2

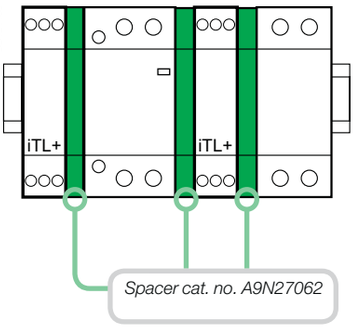
The iTL+ high-performance impulse relay allows remote control of single-phase circuits. It is designed for demanding applications.

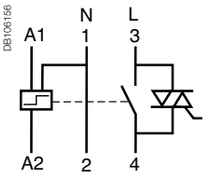
The iTL+ high-performance impulse relay is used for push-button control of lighting circuits consisting of:
- incandescent lamps, low-voltage halogen lamps, etc. (resistive loads)
- fluorescent tubes, discharge lamps, etc. (inductive loads).

PB107132-35

PB104483-35

DB124139

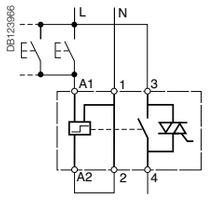


iTL+			
Type	**Rating**		**Width in 9 mm modules**
1P+N			
DB106156 	16 A	**A9C15032**	2+1 (1)

(1) Supplied with a 9 mm spacer (cat. no. **A9N27062***): to be used for mounting the iTL+ alongside a circuit breaker, contactor, impulse relay, etc., in order to maintain optimal operation.*

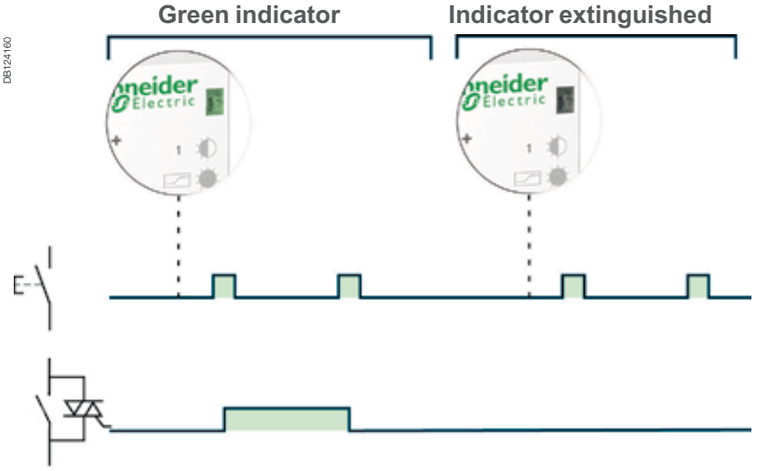
It is compulsory:
- to connect the neutral
- to keep the same control circuit connection
"A1: phase", "A2: neutral"
- to use the same phase for connection of the power and control functions.

DB123966



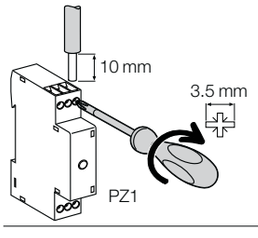
Operation

DB124160



Connection

DB123655

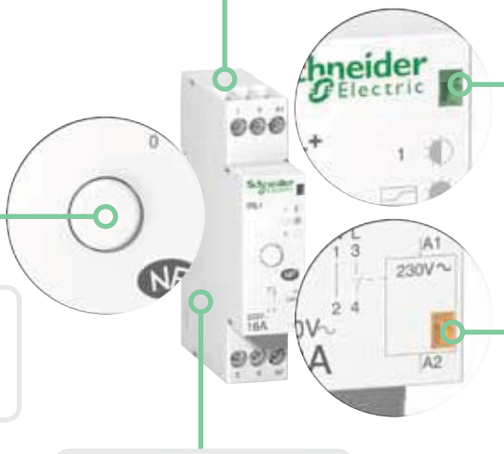


Type	Rating	Tightening torque	Copper cables	
			Rigid or flexible with ferrule	Rigid or flexible without ferrule
		DB123656	DB123657	
iTL+	16 A	1 N.m	2 x 1.5 mm²	2 x 2.5 mm² 1 x 4 mm²

iTL+ high-performance impulse relays (cont.)

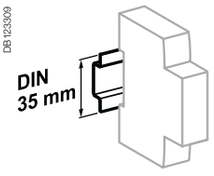
They combine the benefits of static switching and electromechanical technology: small size, little temperature rise.

PB107132-40



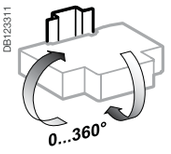
Following a mains failure, the iTL+ returns to 0 position (forced stoppage) irrespective of its initial state.

DB123309



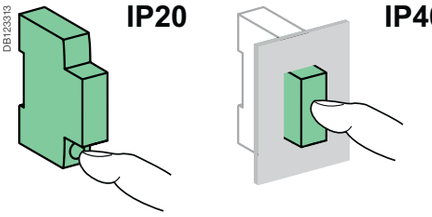
Clip on DIN rail 35 mm.

DB123311



Indifferent position of installation.

DB123313



Technical data

Control circuit		
Coil voltage (Uc)		230 V AC
Frequency		50 Hz
Inrush power		11 VA
Holding power		1.1 VA
Control by luminous push button		Max. current 5 mA
Control order duration		50 ms to 1 s (recommended 200 ms)
Power circuit		
Voltage rating (Ue)		230 V AC
Frequency		50 Hz
Electrical load	Minimum	20 W
	Maximum	3600 W
Max. number of switching operations per minute		6
Other characteristics		
Degree of protection (IEC 60529)	Device only	IP20
	Device in modular enclosure	IP40 Insulation class II
Endurance (O-C)	Electrical	5.000.000 cycles (AC21 - AC22)
Noise level at activation		< 30 dBA
Operating temperature		-5°C to +55°C
Storage temperature		-40°C to +60°C
Tropicalization (IEC 60068-1)		Treatment 2 (relative humidity of 95 % at 55°C)

Weight (g)

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