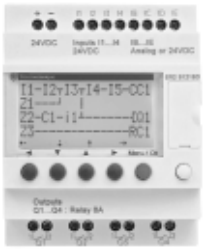
Zelio Logic smart relays
Compact and modular smart relays

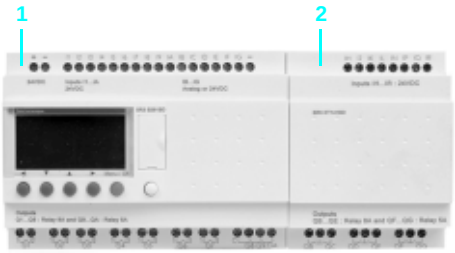
109446



Zelio Logic compact smart relay

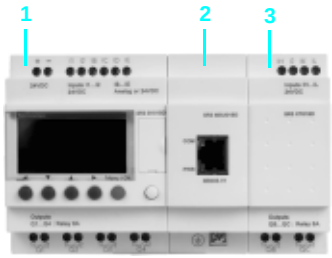
Combination of modular smart relays with I/O extension and communication modules

109458



1 Zelio Logic modular smart relay (10 or 26 I/O)
2 I/O extension module: discrete (6, 10 or 14 I/O) or analogue (4 I/O)

000003-26



1 Zelio Logic modular smart relay (10 or 26 I/O)
2 Modbus or Ethernet communication modules
3 I/O extension module: discrete (6, 10 or 14 I/O) or analogue (4 I/O)

⚠ *The order shown above must be observed when using a Modbus slave or Ethernet server communication module and a discrete or analogue I/O extension module. An I/O extension module cannot be fitted before the Modbus slave communication module.*

Presentation

Zelio Logic smart relays are designed for use in small automated systems. They are used in both the industrial and commercial sectors.

■ **For industry:**
□ automation of small finishing, production, assembly or packaging machines.
□ decentralised automation of ancillary equipment of large and medium-sized machines (textile, plastics, materials processing sectors etc.),
□ automation systems for agricultural machinery (irrigation, pumping, greenhouses etc.).

■ **For the commercial/building sectors:**
□ automation of barriers, roller shutters, access control,
□ automation of lighting systems,
□ automation of compressors and air conditioning systems.

Their compact size and ease of setting-up make them a competitive alternative to solutions based on cabled logic or specific cards.

■ **Programming**
Simple programming, ensured by the universal nature of the languages, meets all the requirements of automation specialists and also the needs of the electrician.
Programming can be performed:
□ independently, using the buttons on the Zelio Logic smart relay (ladder language),
□ on a PC using “Zelio Soft 2” software.
When using a PC, programming can be performed either in LADDER language or in function block diagram (FBD) language, see pages 14102/4 to 14102/8.

Backlighting of the LCD display *(1)* is obtained by activating one of the 6 programming buttons on the Zelio Logic smart relay or by programming with “Zelio Soft 2” software (example: flashing in the event of a malfunction).

The autonomous operating time of the clock, assured by a lithium battery, is 10 years.
Data backup (preset values and current values) is provided by an EEPROM Flash memory (10 years).

Compact smart relays

Compact smart relays meet requirements for simple automation systems.
The number of inputs/outputs can be:
■ 12 or 20 I/O, supplied with ∿ 24 V or ⎓ 12 V,
■ 10, 12 or 20 I/O, supplied with ∿ 100…240 V or ⎓ 24 V.

Modular smart relays and extensions

The number of inputs/outputs for modular smart relays can be:
■ 26 I/O, supplied with ⎓ 12 V,
■ 10 or 26 I/O, supplied with ∿ 24 V, ∿ 100…240 V or ⎓ 24 V

To improve performance and flexibility, Zelio Logic modular smart relays can be fitted with communication modules and I/O extension modules to obtain a maximum of 40 I/O:
■ Modbus or Ethernet communication modules, supplied with ⎓ 24 V via the Zelio Logic smart relay at the same voltage.
■ analogue I/O extension modules with 4 I/O, supplied with ⎓ 24 V via the Zelio Logic smart relay at the same voltage,
■ discrete I/O extension modules with 6, 10 or 14 I/O, supplied via the Zelio Logic smart relay at the same voltage.

(1) LCD: Liquid Crystal Display.

Functions : pages 14102/6 to 14102/8
Characteristics: pages 14102/10 to 14102/15
Curves : pages 14102/16 and 14102/17
References: pages 14102/18 to 14102/23
Dimensions, schemes: pages 14102/24 to 14102/27

Zelio Logic smart relays
Compact and modular smart relays

523409

Connecting cable

536135

Bluetooth interface

534944

Memory cartridge

Communication

Cabled and wireless programming tools

■ These programming tools allow the Zelio Logic smart relay to be connected to a PC running “Zelio Soft 2” software:

□ Link by cables:
- Cable SR2 CBL01 to 9-pin serial port
or
- Cable SR2 USB01 to USB port

□ Wireless link:
- Bluetooth interface SR2 BTC01

■ Memory cartridge

The Zelio Logic smart relay can be fitted with a backup memory cartridge which enables the application program to be copied into another Zelio Logic smart relay. However, loading and updating of the firmware (software embedded in the product) is only possible with memory cartridge SR2 MEM02.

The memory cartridge also enables a backup copy of the program to be saved prior to replacing the product.

When used with a smart relay without display or buttons, the copy of the program contained in the cartridge is automatically transferred into the Zelio Logic smart relay on power-up.

Modbus slave and Ethernet server communication modules

Modbus and Ethernet communication modules allow connection to automation system equipment such as display units or programmable controllers (see pages 14105/2 to 14105/11).

540454

Modbus communication module

536136

Ethernet communication module

534941

Modem communication interface

534943

Analogue PSTN Modem

534942

GSM Modem

Modem communication interface

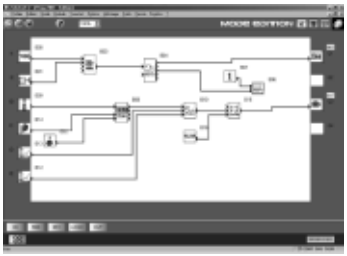
The “Modem communication interface” products in the Zelio Logic range include:
■ a Modem communication interface SR2 COM01 connected between a Zelio Logic smart relay and a Modem,
■ analogue (PSTN) Modems *(1)* SR2 MOD01 or GSM Modem *(2)* SR2 MOD02,
■ “Zelio Logic Alarm” software SR2 SFT02.

They are designed for monitoring or remote control of machines or installations which operate without personnel.
The Modem communication interface supplied with ⎓ 12...24 V, enables messages, telephone numbers and calling conditions to be stored, see pages 14104/2 to 14104/11.

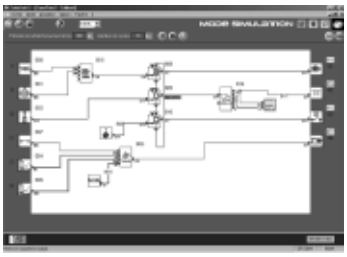
(1) Public Switched Telephone Network.
(2) Global System Mobile.

Zelio Logic smart relays
Compact and modular smart relays
“Zelio Soft 2” programming software

Programming in LADDER language



Programming in FBD language



Simulation mode

Monitoring window

“Zelio Soft 2” for PC (versions ⩾ 4.1)

“Zelio Soft 2” software enables:
- programming in LADDER language or in function block diagram (FBD) language, see pages 14102/6 to 14102/8,
- simulation, monitoring and supervision,
- uploading and downloading of programs,
- output of personalised files,
- automatic compiling of programs,
- on-line help.

Coherence tests and application languages

“Zelio Soft 2” software monitors applications by means of its coherence test function. An indicator turns red at the slightest input error. The problem can be located by simply clicking the mouse.
“Zelio Soft 2” software allows switching, at any time, to any of the 6 languages (English, French, German, Spanish, Italian, Portuguese) and editing of the application file in the selected language.

Inputting messages for display on Zelio Logic

“Zelio Soft 2” software allows Text function blocks to be configured, which can then be displayed on all Zelio Logic smart relays which have a display.

Program testing

2 test modes are provided:
- “Zelio Soft 2” **simulation** mode allows a program to be tested without a Zelio Logic smart relay, i.e.:
  - enable discrete inputs,
  - display the status of outputs,
  - vary the voltage of the analogue inputs,
  - enable the programming buttons,
  - simulate the application program in real time or in accelerated time,
  - dynamically display (in red) the various active elements of the program.

- “Zelio Soft 2” **monitoring** mode makes it possible to test the program executed by the smart relay, i.e.:
  - display the program “on-line”,
  - force inputs, outputs, control relays and current values of the function blocks,
  - adjust the time,
  - change from STOP mode to RUN mode and vice versa.

In simulation or monitoring mode, the monitoring window allows the status of the smart relay I/Os to be displayed within your application environment (diagram or image).

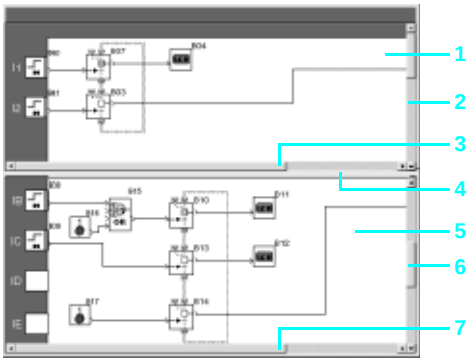
Zelio Logic smart relays
Compact and modular smart relays
“Zelio Soft 2” programming software

User interfaces

Version 4.1 of "Zelio Soft 2" software improves, amongst other things, the ease of use of user interfaces for the following functions:

"Split wiring sheet" function (FBD language)

The wiring sheet can be split into 2. Splitting allows two separate parts of the wiring sheet to be displayed on the same screen.



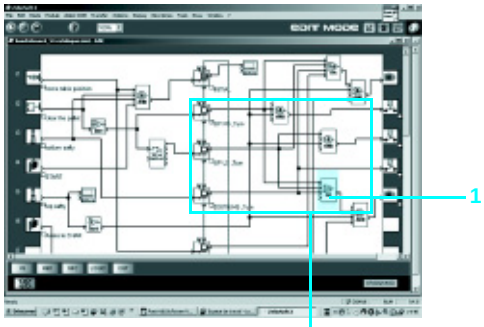
Structure of a split wiring sheet

This makes it possible to:
- Display the required function blocks in the top and bottom parts.
- Move the split bar as required.
- Connect the function blocks between the 2 parts of the wiring sheet.

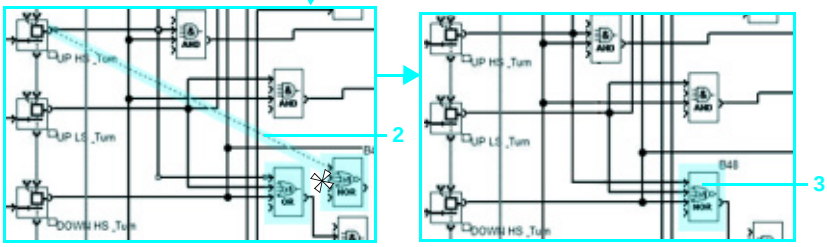
The split wiring sheet is structured as follows:
1 View of top part
2 Top window vertical scroll bar
3 Top window horizontal scroll bar
4 Split bar
5 View of bottom part
6 Bottom window vertical scroll bar
7 Bottom window horizontal scroll bar

"Replacement of a function block" (FBD language)

A function allows a block to be replaced without losing the input and output connections.
E.g.: Replacement of an "OR" block by a "NOR" block.

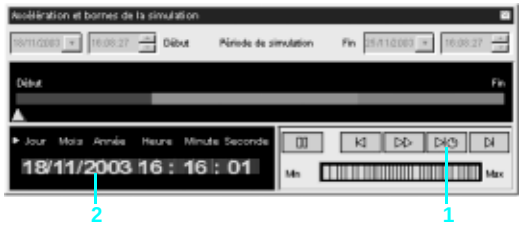


1 "OR" block to be replaced



2 Move all links to the new "NOR" block

3 Delete the "OR" block and position the "NOR" block in its place



“*Acceleration and simulation terminals" window*"

"Time Prog Simulation" function (LADDER and FBD languages)

LADDER or FBD program simulation mode allows the program to be debugged by simulating it on the software workshop host computer.
A function allows the time on the simulator clock to be modified by setting to 3 seconds before the start of the next event.

The “Next event” button 1 allows modification of the simulator clock 2.

Zelio Logic smart relays
Compact and modular smart relays
“Zelio Soft 2” programming software

LADDER language

Definition

Text function block

Timer

Up/down counter

Fast counter

Analogue comparator

Clock

Control relay

Counter comparator

LCD backlighting

Summer/Winter time switching

Output coil

Message

LADDER language enables a LADDER program to be written with elementary functions, elementary function blocks and derived function blocks, as well as with contacts, coils and variables.
The contacts, coils and variables can be annotated. Text can be placed freely within the graphic.

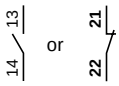
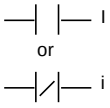
■ **Control scheme input modes**

“Zelio input” mode enables users who have directly programmed the Zelio Logic smart relay to find the same user interface, even when using the software for the first time.
“Free input” mode, which is more intuitive, is very user-friendly and incorporates many additional features.
With LADDER programming language, two alternative types of symbol can be used:
- LADDER symbols,
- electrical symbols.

“Free input” mode also allows the creation of mnemonics and notes associated with each line of the program.
Instant switching from one input mode to the other is possible at any time, by simply clicking the mouse.
Up to 120 control scheme lines can be programmed, with 5 contacts and 1 coil per program line

■ **Functions:**
- 16 Text function blocks,
- 16 time delay function blocks; parameters of 11 different types can be set for each of these (1/10th second to 9999 hours),
- 16 up/down counter function blocks from 0 to 32767,
- 1 fast counter (1 kHz),
- 16 analogue comparator function blocks,
- 8 clock function blocks, each with 4 channels,
- 28 control relays,
- 8 counter comparators,
- LCD screen with programmable backlighting,
- automatic Summer/Winter time switching,
- variety of functions: coil, latching (Set/Reset), impulse relay, contactor,
- 28 message blocks (with communication interface, see page 14104/2).

Functions

Function	Electrical scheme	LADDER language	Notes
Contact			I corresponds to the real state of the contact connected to the input of the smart relay. i corresponds to the inverse state of the contact connected to the input of the smart relay.
Standard coil			The coil is energised when the contacts to which it is connected are closed.
Latch coil (Set)			The coil is energised (set) when the contacts to which it is connected are closed. It remains set even if the contacts are no longer closed.
Unlatch coil (Reset)			The coil is de-energised (reset) when the contacts to which it is connected are closed. It remains disabled even if the contacts are no longer closed.

Presentation: pages 14102/2 to 14102/5
Characteristics: pages 14102/10 to 14102/15
Curves : pages 14102/16 and 14102/17
References: pages 14102/18 to 14102/23
Dimensions, schemes: pages 14102/24 to 14102/27

Function block diagram language (FBD / Grafcet SFC / Logic functions) *(1)*

Definition

FBD language allows graphical programming based on the use of predefined function blocks; it provides the use of:
- 32 functions for counting, time delay, timing, definition of switching threshold, (for example: temperature regulation), generation of impulses, time programming, multiplexing, display,
- 7 SFC functions,
- 6 logic functions.

Pre-programmed functions

Zelio Logic smart relays provide a high processing capacity, up to 200 function blocks, including 32 pre-programmed functions:

TIMER AC
Timer. Function A/C
(ON-delay and OFF-delay)

TIMER BH
Timer. Function BH.
(adjustable pulsed signal)

TIMER Li
Pulse generator
(ON-delay, OFF-delay)

TIMER BW
Timer. Function BW
(pulse on rising/falling edge)

Timer. Function A/C with external preset adjustment (ON-delay and OFF-delay)

Timer. Function BH with external preset adjustment (adjustable pulsed signal)

Pulse generator with external preset adjustment (ON-delay, OFF-delay)

BISTABLE
Impulse relay function

SET- RESET
Bistable latching - Priority assigned either to SET or RESET function

BOOLEAN
Allows logic equations to be created between connected inputs

CAM
Cam programmer

PRESET COUNT
Up/down counter

UP DOWN COUNT
Up/down counter with external preset

PRESET H-METER
Hour counter
(hour, minute preset)

TIME PROG
Time programmer, weekly and annual.

GAIN
Allows conversion of an analogue value by change of scale and offset.

TRIGGER
Defines an activation zone with hysteresis

MUX
Multiplexing functions on 2 analogue values

COMP IN ZONE
Zone comparison
(Min. ⩽ Value ⩽ Max.)

ADD/SUB
Add and/or subtract function

MUL/DIV
Multiply and/or divide function

TEXT
Display of 4 pieces of data: digital, analogue, date, time, messages for Human-Machine interface.

DISPLAY
Display of digital and analogue data, date, time, messages for Human-Machine interface.

COM
Sending of messages with communication interface (see page 14104/2)

COMPARE
Comparison of 2 analogue values using the operands =, >, <, ⩽, ⩾.

STATUS
Access to smart relay status

ARCHIVE
Storage of 2 values simultaneously

SPEED COUNT
Fast counting up to 1 kHz

CAN
Analog/digital converter

CNA
Digital/analog converter

SL In
Input of a word via serial link

SL Out
Output of a word via serial link

SFC functions *(2)* (GRAFCET)

RESET-INIT
Reinitialisable step

INIT STEP
Initial step

STEP
SFC step

DIV-OR 2
Divergence to OR

CONV-OR 2
Convergence to OR

DIV-AND 2
Divergence to AND

CONV-AND 2
Convergence to AND

Logic functions

AND
AND function

OR
OR function

NAND
NOT AND function

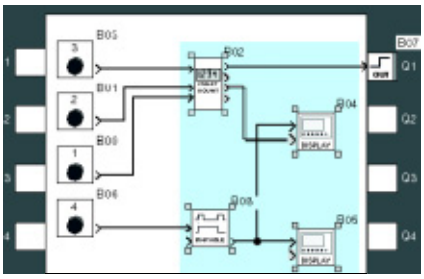
NOR
NOT OR function

XOR
Exclusive OR function

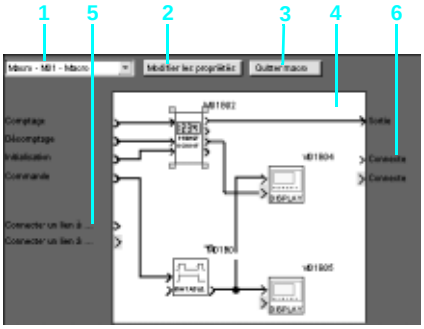
NOT
NOT function

(1) Functional Block Diagram
(2) Sequential Function Chart.

Function block diagram language (FBD / Grafcet SFC / Logic functions) (continued)

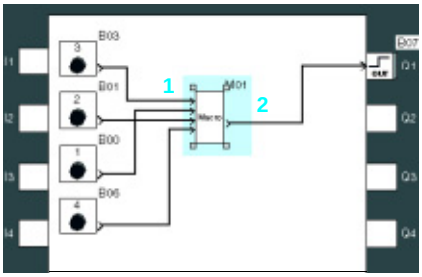


Creation of a Macro



Inside of a Macro

1 Macro selection
2 Edit properties
3 Allows return to external view of a Macro
4 Internal function block within the Macro
5 Non connected inputs
6 Non connected outputs



Outside of a Macro

1 Input connections
2 Output connection

Macro Function

A Macro is a grouping of function blocks. It is characterised by its number, its name, its links, its internal function blocks (255 max.) and by its I/O connections.

Seen from the outside, a Macro behaves like a function block with inputs and/or outputs that can be connected to links.
Once created, a Macro can be manipulated like a function block.

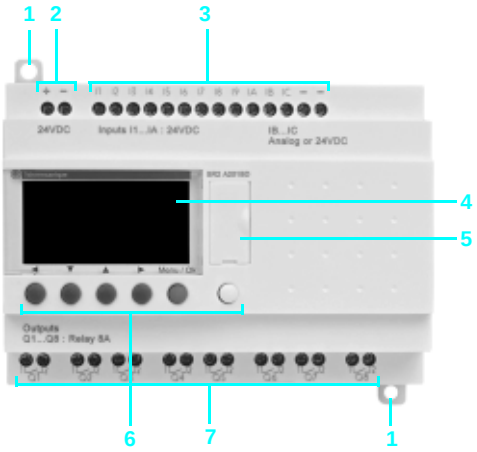
■ Macro characteristics:
□ The maximum number of Macros is 64.
□ A password dedicated to Macros can be used to protect their content,
□ A Macro can be edited / duplicated,
□ A Macro's comments can be edited.

■ Macro properties:
A "Macro properties" dialogue box allows the properties of a Macro to be entered or edited.
The properties of a Macro are:
□ Macro name (optional)
□ The block Symbol, which may be:
- an identifier,
- an image.
□ Name of inputs.
□ Name of outputs.

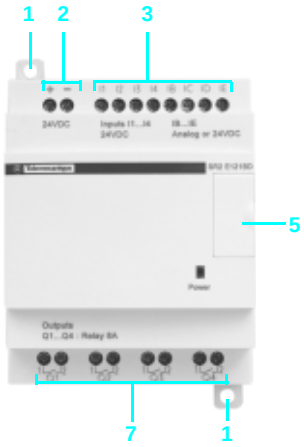
Zelio Logic smart relays
Compact and modular smart relays

Compact smart relays

With display - 10, 12 and 20 I/O



Without display - 10, 12 and 20 I/O

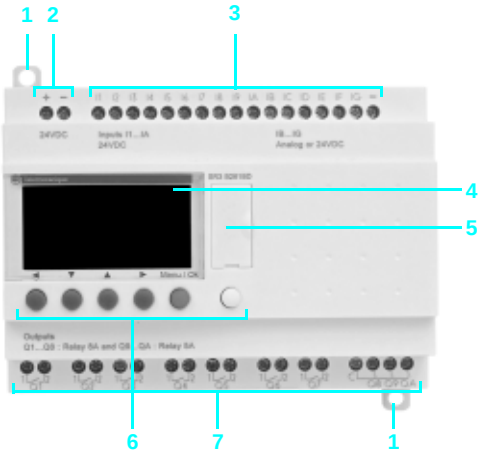


Zelio Logic compact smart relays have the following on their front panel:

1 Two retractable fixing lugs.
2 Two power supply terminals.
3 Terminals for connection of the inputs.
4 Backlit LCD display with 4 lines of 18 characters.
5 Slot for memory cartridge or connection to a PC or Modem communication interface.
6 6 buttons for programming and parameter entry.
7 Terminals for connection of the outputs.

Modular smart relays

With display - 10 and 26 I/O

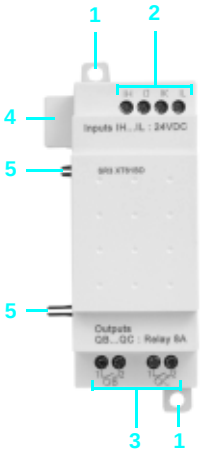


Zelio Logic modular smart relays have the following on their front panel:

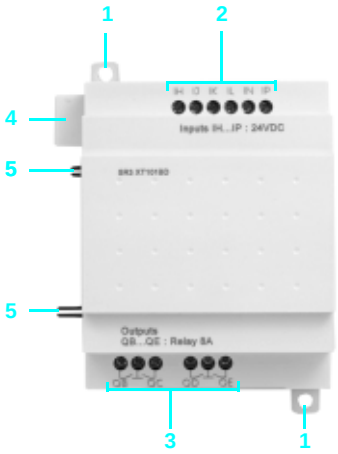
1 Two retractable fixing lugs.
2 Two power supply terminals.
3 Terminals for connection of the inputs.
4 Backlit LCD display with 4 lines of 18 characters.
5 Slot for memory cartridge or connection to a PC or Modem communication interface.
6 6 buttons for programming and parameter entry.
7 Terminals for connection of the outputs.

Discrete I/O extension modules

6 discrete I/O



10 and 14 discrete I/O



Discrete I/O extension modules have the following on their front panel:

1 Two retractable fixing lugs.
2 Terminals for connection of the inputs.
3 Terminals for connection of the outputs.
4 A connector for connection to the Zelio Logic smart relay (powered via the Zelio Logic smart relay).
5 Locating pegs.

Zelio Logic smart relays
Compact and modular smart relays

General environment characteristics

Type			SR2 A / SR2 B / SR2 D / SR2 E / SR3 B / SR3 XT
Product certifications			UL, CSA, GL, C-Tick
Conformity with the low voltage directive	Conforming to 73/23/EEC		EN (IEC) 61131-2 (open equipment)
Conformity with the EMC directive	Conforming to 89/336/EEC		EN (IEC) 61131-2 (Zone B) EN (IEC) 61000-6-2, EN (IEC) 61000-6-3 *(1)* and EN (IEC) 61000-6-4
Degree of protection	Conforming to IEC/EN 60529		IP 20 (terminal block), IP 40 (front panel)
Overvoltage category	Conforming to IEC/EN 60664-1		3
Degree of pollution	Conforming to IEC/EN 61131-2		2
Ambient air temperature around the device conforming to IEC 60028-2-1 and IEC 60068-2-2	Operation	**°C**	- 20...+ 55 (+ 40 in non-ventilated enclosure)
	Storage	**°C**	- 40...+ 70
Maximum relative humidity	Conforming to IEC/EN 60068-2-30		95% without condensation or dripping water
Maximum operating altitude	Operation	**m**	2000
	Transport	**m**	3048
Mechanical resistance	Immunity to vibration		IEC/EN 60068-2-6, test Fc
	Immunity to mechanical shock		IEC/EN 60068-2-27, test Ea
Resistance to electrostatic discharge	Immunity to electrostatic discharge		IEC/EN 61000-4-2, level 3
Resistance to HF interference (immunity)	Immunity to electromagnetic radiated fields		IEC/EN 61000-4-3
	Immunity to fast transients in bursts		IEC/EN 61000-4-4, level 3
	Immunity to shock waves		IEC/EN 61000-4-5
	Radio frequency in common mode		IEC/EN 61000-4-6, level 3
	Voltage dips and breaks (⏦)		IEC/EN 61000-4-11
	Immunity to damped oscillation waves		IEC/EN 61000-4-12
Conducted and radiated emissions	Conforming to EN 55022/11 (Group 1)		Class B *(1)*
Screw terminals connection capacity	Flexible cable with cable end	**mm²**	1 conductor: 0.25...2.5, cable: AWG 24...AWG 14 2 conductors: 0.25...0.75, cable: AWG 24...AWG 18
	Semi-solid cable	**mm²**	1 conductor: 0.25...2.5, cable: AWG 25...AWG 14
	Solid cable	**mm²**	1 conductor: 0.25...2.5, cable: AWG 25...AWG 14 2 conductors: 0.2...1.5, cable: AWG 24...AWG 16
	Tightening torque	**N.m**	0.5 (tightened using Ø 3.5 mm screwdriver)

Processing characteristics

Number of control scheme lines	With LADDER programming		120
Number of function blocks	With FBD programming		Up to 200
Cycle time		**ms**	6...90
Response time		**ms**	Input acquisition time + 1 to 2 cycle times
Back-up time (in the event of power failure)	Day/time		10 years (lithium battery) at 25 °C
	Program and adjustments in the Zelio Logic smart relay and in EEPROM memory cartridge SR2 MEM0●		10 years
Program memory checking			On each power-up
Clock drift			12 min/year (0 to 55 °C) 6 sec/month (at 25 °C and calibration)
Timer block accuracy			1% ± 2 of the cycle time

(1) Except for configuration SR3 B●●●BD + SR3 MBU01BD + SR3 XT43BD or SR3 B●●●BD + SR3 NET01BD + SR3 XT43BD class A (class B: work in progress).

Presentation: pages 14102/2 to 14102/5 | Functions : pages 14102/6 to 14102/8 | Curves : pages 14102/16 and 14102/17 | References: pages 14102/18 to 14102/23 | Dimensions, schemes: pages 14102/24 to 14102/27

Supply characteristics, ∿ 24 V products

Type				SR2 ●121B	SR2 ●201B	SR3 B101B	SR3 B261B
Nominal voltage			**V**	∿ 24			
Voltage limits			**V**	∿ 20.4…28.8			
Nominal frequency			**Hz**	50-60			
Nominal input current	Without extensions		**mA**	145	233	160	280
	With extensions		**mA**	–		280	415
Power dissipated	Without extensions		**VA**	4	6	4	7.5
	With extensions		**VA**	–		7.5	10
Micro-breaks	Permissible duration		**ms**	⩽ 10 (repeated 20 times)			
rms insulation voltage			**V**	∿ 1780			

Discrete input characteristics, ∿ 24 V products

Type				SR● ●●●●B
Nominal value of inputs	Voltage		**V**	∿ 24
	Current		**mA**	4,4
	Frequencies		**Hz**	47...53 and 57...63
Input switching limit values	At state 1	Voltage	**V**	⩾ ∿ 14
		Current	**mA**	> 2
	At state 0	Voltage	**V**	⩽ ∿ 5
		Current	**mA**	< 0.5
Input impedance at state 1			**kΩ**	4.6
Response time LADDER language	State 0 to 1 (50/60 Hz)		**ms**	50
	State 1 to 0 (50/60 Hz)		**ms**	50
FBD language	State 0 to 1 (50/60 Hz)		**ms**	50 min., 255 max. (in increments of 10)
	State 1 to 0 (50/60 Hz)		**ms**	50 min., 255 max. (in increments of 10)
Isolation	Between supply and inputs			None
	Between inputs			None
Protection	Against inversion of terminals			Yes (control instructions not executed)

Relay output characteristics, ∿ 24 V products

Type				SR2 ●121B SR3 B101B SR3 XT101B	SR2 ●201B	SR3 B261B	SR3 XT61B	SR3 XT141B
Operating limit values			**V**	⎓ 5...30, ∿ 24...250				
Contact type				N/O				
Thermal current			**A**	4 outputs: 8 A	8 outputs: 8 A	8 outputs: 8 A 2 outputs: 5 A	2 outputs: 8 A	4 outputs: 8 A 2 outputs: 5 A
Electrical durability for 500 000 operating cycles Conforming to IEC/EN 60947-5-1	Utilisation category	DC-12	**V**	⎓ 24				
			A	1.5				
		DC-13	**V**	⎓ 24 (L/R = 10 ms)				
			A	0.6				
		AC-12	**V**	∿ 230				
			A	1.5				
		AC-15	**V**	∿ 230				
			A	0.9				
Minimum switching capacity	At minimum voltage of ⎓ 12 V		**mA**	10				
Low power switching reliability of contact				⎓ 12 V - 10 mA				
Maximum operating rate	No-load		**Hz**	10				
	At Ie (operational current)		**Hz**	0.1				
Mechanical life	In millions of operating cycles			10				
Rated impulse withstand voltage (Uimp)	Conforming to IEC/EN 60947-1 and IEC/EN 60664-1		**kV**	4				
Response time	Set		**ms**	10				
	Reset		**ms**	5				
Built-in protection	Against short-circuits			None				
	Against overvoltage and overload			None				

Supply characteristics, ∿ 100...240 V products

Type				SR2 ●101FU SR2 ●121FU	SR2 ●201FU	SR3 B101FU	SR3 B261FU
Nominal voltage			**V**	∿ 100…240			
Voltage limits			**V**	∿ 85…264			
Nominal frequency			**Hz**	50-60			
Nominal input current	Without extensions		**mA**	80/30	100/50	80/30	100/50
	With extensions		**mA**	–		80/40	80/60
Power dissipated	Without extensions		**VA**	7	11	7	12
	With extensions		**VA**	–		12	17
Micro-breaks	Permissible duration		**ms**	10			
rms insulation voltage			**V**	∿ 1780			

Discrete input characteristics, ∿ 100...240 V products

Type				SR● ●●●●FU
Nominal value of inputs	Voltage		**V**	∿ 100... 240
	Current		**mA**	0.6
	Frequencies		**Hz**	47...53 and 57...63
Input switching limit values	At state 1	Voltage	**V**	⩾ ∿ 79
		Current	**mA**	> 0.17
	At state 0	Voltage	**V**	⩽ ∿ 40
		Current	**mA**	< 0.5
Input impedance at state 1			**kΩ**	350
Response time LADDER language	State 0 to 1 (50/60 Hz)		**ms**	50
	State 1 to 0 (50/60 Hz)		**ms**	50
FBD language	State 0 to 1 (50/60 Hz)		**ms**	50 min... 255 max. (in increments of 10)
	State 1 to 0 (50/60 Hz)		**ms**	50 min...255 max. (in increments of 10)
Isolation	Between supply and inputs			None
	Between inputs			None
Protection	Against inversion of terminals			Yes (control instructions not executed)

Relay output characteristics, ∿ 100...240 V products

Type				SR2 ●101FU SR2 ●121FU SR3 B101FU SR3 XT101FU	SR2 ●201FU	SR3 B261FU	SR3 XT61FU	SR3 XT141FU
Operating limit values			**V**	⎓ 5...30. ∿ 24...250				
Contact type				N/O				
Thermal current			**A**	4 outputs: 8 A	8 outputs: 8 A	8 outputs: 8 A 2 outputs: 5 A	2 outputs: 8 A	4 outputs: 8 A 2 outputs: 5 A
Electrical durability for 500 000 operating cycles Conforming to IEC/EN 60947-5-1	Utilisation category	DC-12	**V**	⎓ 24				
			A	1.5				
		DC-13	**V**	⎓ 24 (L/R = 10 ms)				
			A	0.6				
		AC-12	**V**	∿ 230				
			A	1.5				
		AC-15	**V**	∿ 230				
			A	0.9				
Minimum switching capacity	At minimum voltage of ⎓ 12 V		**mA**	10				
Low power switching reliability of contact				⎓ 12 V - 10 mA				
Maximum operating rate	No-load		**Hz**	10				
	At Ie (operational current)		**Hz**	0.1				
Mechanical life	In millions of operating cycles			10				
Rated impulse withstand voltage (Uimp)	Conforming to IEC/EN 60947-1 and IEC/EN 60664-1		**kV**	4				
Response time	Set		**ms**	10				
	Reset		**ms**	5				
Built-in protection	Against short-circuits			None				
	Against overvoltage and overload			None				

Supply characteristics, ⎓ 12 V products

Type				SR2 B121JD	SR2 B201JD	SR3 B261JD
Nominal voltage			**V**	⎓ 12		
Voltage limits	Including ripple		**V**	⎓ 10.4…14.4		
Nominal input current	Without extensions		**mA**	120	200	250
	With extensions		**mA**	–		400
Power dissipated	Without extensions		**W**	1.5	2.5	3
	With extensions		**W**	–		5
Micro-breaks	Permissible duration		**ms**	⩽ 1 (repeated 20 times)		
Protection	Against reversed polarity			Yes		

Discrete input characteristics, ⎓ 12 V products

Type				SR● ●●●●JD (inputs I1…IA, IH…IR)	SR● ●●●●JD (inputs IB…IG used as discrete inputs)
Nominal value of inputs	Voltage		**V**	⎓ 12	⎓ 12
	Current		**mA**	4	4
Input switching limit values	At state 1	Voltage	**V**	⩾ ⎓ 5.6	⩾ ⎓ 7
		Current	**mA**	⩾ 2	⩾ 0.5
	At state 0	Voltage	**V**	⩽ ⎓ 2.4	⩽ ⎓ 3
		Current	**mA**	< 0.9	< 0.2
Input impedance at state 1			**kΩ**	2.7	14
Conforming to IEC/EN 61131-2				Type 1	Type 1
Sensor compatibility	3-wire			Yes PNP	Yes PNP
	2-wire			No	No
Input type				Resistive	Resistive
Isolation	Between supply and inputs			None	None
	Between inputs			None	None
Maximum counting frequency			**kHz**	1	1
Protection	Against reversed polarity			Yes (control instructions not executed)	Yes (control instructions not executed)

Analogue input characteristics, ⎓ 12 V products

Type			SR● ●●●●JD (inputs IB…IG used as analogue inputs)
Input range		**V**	⎓ 0...10 or ⎓ 0...12
Input impedance		**kΩ**	14
Maximum non destructive voltage		**V**	⎓ 14.4
Value of LSB			39 mV
Input type			Common mode
Conversion	Resolution		8 bits at maximum voltage
	Conversion time		Smart relay cycle time
	Precision		± 5 % at 25 °C and ± 6.2 % at 55 °C
	Repeat accuracy		± 2 % at 55 °C
Isolation	Between analogue channel and supply		None
Cabling distance		**m**	10 max., with screened cable (sensor not isolated)
Protection	Against reversed polarity		Yes

Relay output characteristics, ⎓ 12 V products

Type				SR2 B121JD SR3 XT101JD	SR2 B201JD	SR3 B261JD	SR3 XT61JD	SR3 XT141JD
Operating limit values			**V**	⎓ 5...30, ∿ 24...250				
Contact type				N/O				
Thermal current			**A**	4 outputs: 8 A	8 outputs: 8 A	8 outputs: 8 A 2 outputs: 5 A	2 outputs: 8 A	4 outputs: 8 A 2 outputs: 5 A
Electrical durability for 500 000 operating cycles Conforming to IEC/EN 60947-5-1	Utilisation category	DC-12	**V**	⎓ 24				
			A	1.5				
		DC-13	**V**	⎓ 24 (L/R = 10 ms)				
			A	0.6				
		AC-12	**V**	∿ 230				
			A	1.5				
		AC-15	**V**	∿ 230				
			A	0.9				
Minimum switching capacity	At minimum voltage of ⎓ 12 V		**mA**	10				
Low power switching reliability of contact				⎓ 12 V - 10 mA				
Maximum operating rate	No-load		**Hz**	10				
	At Ie (operational current)		**Hz**	0.1				
Mechanical life	In millions of operating cycles			10				
Rated impulse withstand voltage (Uimp)	Conforming to IEC/EN 60947-1 and IEC/EN 60664-1		**kV**	4				
Response time	Set		**ms**	10				
	Reset		**ms**	5				
Built-in protection	Against short-circuits			None				
	Against overvoltage and overload			None				

Supply characteristics, ⎓ 24 V products

Type				SR2 ●1●1BD	SR2 B122BD	SR2 ●201BD	SR2 B202BD	SR3 B101BD	SR3 B102BD	SR3 B261BD	SR3 B262BD
Nominal voltage			**V**	⎓ 24							
Voltage limits	Including ripple		**V**	19.2…30							
Nominal input current	Without extensions		**mA**	100					50	190	70
	With extensions		**mA**	–				100	160	300	180
Power dissipated	Without extensions		**W**	3		6	3		4	6	5
	With extensions		**W**	–				8		10	
Micro-breaks	Permissible duration		**ms**	⩽ 1 (repeated 20 times)							
Protection	Against reversed polarity			Yes							

Discrete input characteristics, ⎓ 24 V products

Type				SR● ●●●●BD (input I1…IA, IH…IR)	SR● ●●●●BD (input IB…IG used as discrete input)
Nominal value of inputs	Voltage		**V**	⎓ 24	⎓ 24
	Current		**mA**	4	4
Input switching limit values	At state 1	Voltage	**V**	⩾ ⎓ 15	⩾ ⎓ 15
		Current	**mA**	⩾ 2.2	⩾ 1.2
	At state 0	Voltage	**V**	⩽ ⎓ 5	⩽ ⎓ 5
		Current	**mA**	< 0.75	< 0.5
Input impedance at state 1			**kΩ**	7.4	12
Conforming to IEC/EN 61131-2				Type 1	Type 1
Sensor compatibility	3-wire			Yes PNP	Yes PNP
	2-wire			No	No
Input type				Resistive	Resistive
Isolation	Between supply and inputs			None	None
	Between inputs			None	None
Maximum counting frequency			**kHz**	1	1
Protection	Against reversed polarity			Yes (control instructions not executed)	Yes (control instructions not executed)

Analogue input characteristics, ⎓ 24 V products

Type			SR● ●●●●BD (input IB…IG used as analogue inputs)
Input range		**V**	⎓ 0...10 or ⎓ 0...24
Input impedance		**kΩ**	12
Maximum non destructive voltage		**V**	⎓ 30
Value of LSB			39 mV
Input type			Common mode
Conversion	Resolution		8 bits at maximum voltage
	Conversion time		Smart relay cycle time
	Precision		± 5 % at 25 °C and ± 6.2 % at 55 °C
	Repeat accuracy		± 2 % at 55 °C
Isolation	Between analogue channel and supply		None
Cabling distance		**m**	10 maximum, with screened cable (sensor not isolated)
Protection	Against reversed polarity		Yes

Relay output characteristics, ⎓ 24 V products

Type				SR2 ●101BD SR2 ●121BD SR3 B101BD SR3 XT101BD	SR2 ●201BD	SR3 B261BD	SR3 XT61BD	SR3 XT141BD
Operating limit values			**V**	⎓ 5...30. ∿ 24...250				
Contact type				N/O				
Thermal current			**A**	4 outputs: 8 A	8 outputs: 8 A	8 outputs: 8 A 2 outputs: 5 A	2 outputs: 8 A	4 outputs: 8 A 2 outputs: 5 A
Electrical durability for 500 000 operating cycles Conforming to IEC/EN 60947-5-1	Utilisation category	DC-12	**V**	⎓ 24				
			A	1.5				
		DC-13	**V**	⎓ 24 (L/R = 10 ms)				
			A	0.6				
		AC-12	**V**	∿ 230				
			A	1.5				
		AC-15	**V**	∿ 230				
			A	0.9				
Minimum switching capacity	At minimum voltage of ⎓ 12 V		**mA**	10				
Low power switching reliability of contact				⎓ 12 V - 10 mA				
Maximum operating rate	No-load		**Hz**	10				
	At Ie (operational current)		**Hz**	0.1				
Mechanical life	In millions of operating cycles			10				
Rated impulse withstand voltage (Uimp)	Conforming to IEC/EN 60947-1 and IEC/EN 60664-1		**kV**	4				
Response time	Set		**ms**	10				
	Reset		**ms**	5				
Built-in protection	Against short-circuits			None				
	Against overvoltage and overload			None				

Transistor output characteristics, ⎓ 24 V products

Type			SR● B●●2BD
Operating limit values		**V**	⎓ 19.2..0.30
Load	Nominal voltage	**V**	⎓ 24
	Nominal current	**A**	0.5
	Maximum current	**A**	0.625 at 30 V
Residual voltage	At state 1	**V**	⩽ ⎓ 2 for I = 0.5 A
Response time	Set	**ms**	⩽ 1
	Reset	**ms**	⩽ 1
Built-in protection	Against overload and short-circuits		Yes
	Against overvoltage *(1)*		Yes
	Against inversions of power supply		Yes

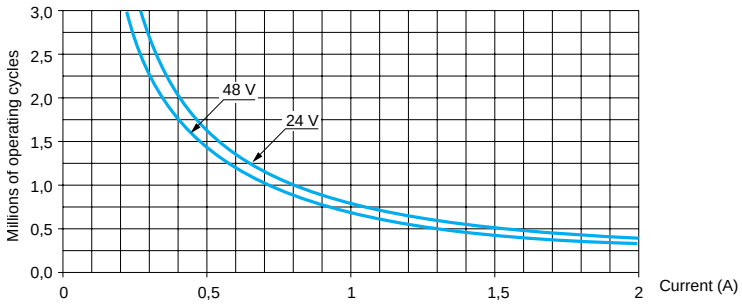
(1) If there is no volt-free contact between the Zelio Logic smart relay output and the load.

Zelio Logic smart relays
Compact and modular smart relays

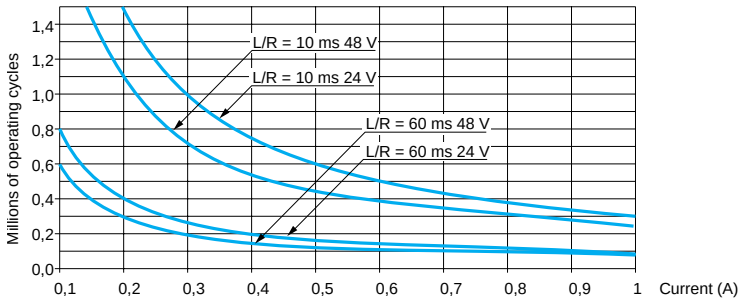
Electrical durability of relay outputs
(in millions of operating cycles, conforming to IEC/EN 60947-5-1)

d.c. loads

DC-12 *(1)*



DC-13 *(2)*



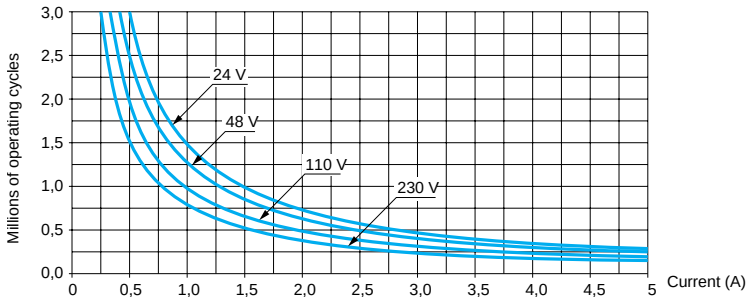
(1) DC-12: switching resistive loads and photo-coupler isolated solid-state loads, L/R ⩽ 1 ms.
(2) DC-13: switching electromagnets, L/R ⩽ 2 x (Ue x Ie) in ms, Ue: rated operational voltage, Ie: rated operational current (with a protection diode on the load, DC-12 curves must be used with a coefficient of 0.9 applied to the number in millions of operating cycles).

Electrical durability of relay outputs (continued)

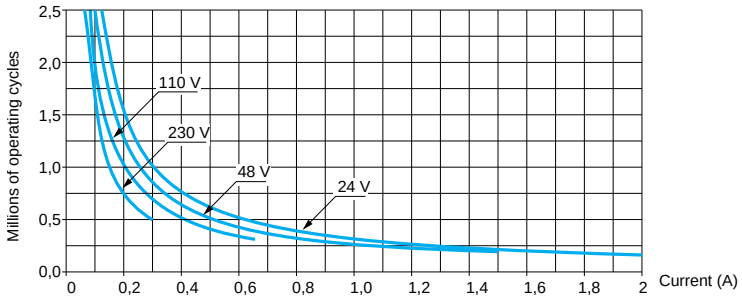
(in millions of operating cycles, conforming to IEC/EN 60947-5-1)

a.c. loads

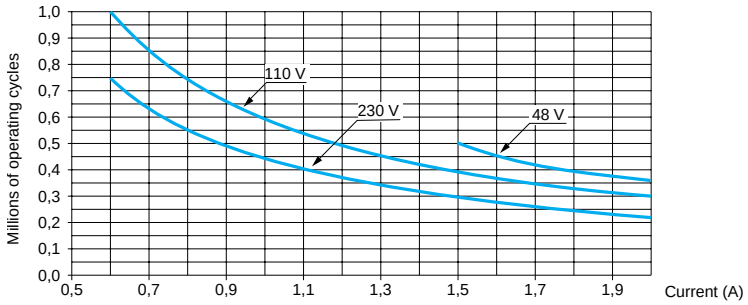
AC-12 *(1)*



AC-14 *(2)*



AC-15 *(3)*



(1) AC-12: switching resistive loads and photo-coupler isolated solid-state loads, cos ≥ 0.9.
(2) AC-14: switching small electromagnetic loads ≤ 72 VA, make: cos = 0.3, break: cos = 0.3.
(3) AC-15: switching electromagnetic loads > 72 VA, make: cos = 0.7, break: cos = 0.4.

Zelio Logic smart relays
Compact smart relays

109440

SR2 A201BD

536307

SR2 SFT01

536308

SR2 PACK●●●

536306

Modem communication interface

Compact smart relays with display

Number of I/O	Discrete inputs	Including ⎓ 0-10 V analogue inputs	Relay outputs	Transistor outputs	Clock	Reference	Weight kg
Supply ∿ 24 V							
12	8	0	4	0	Yes	**SR2 B121B**	0.250
20	12	0	8	0	Yes	**SR2 B201B**	0.380
Supply ∿ 100...240 V							
10	6	0	4	0	No	**SR2 A101FU** *(1)*	0.250
12	8	0	4	0	Yes	**SR2 B121FU**	0.250
20	12	0	8	0	No	**SR2 A201FU** *(1)*	0.380
					Yes	**SR2 B201FU**	0.380
Supply ⎓ 12 V							
12	8	4	4	0	Yes	**SR2 B121JD**	0.250
20	12	6	8	0	Yes	**SR2 B201JD**	0.380
Supply ⎓ 24 V							
10	6	0	4	0	No	**SR2 A101BD** *(1)*	0.250
12	8	4	4	0	Yes	**SR2 B121BD**	0.250
			0	4	Yes	**SR2 B122BD**	0.220
20	12	2	8	0	No	**SR2 A201BD** *(1)*	0.380
		6	8	0	Yes	**SR2 B201BD**	0.380
			0	8	Yes	**SR2 B202BD**	0.280

"Zelio Soft 2" software for PC

Description	Application	Reference	Weight kg
Programming software "Zelio Soft 2", multi-language	For PC, supplied on CD-ROM *(2)*, compatible with Windows 98, NT, 2000, XP	**SR2 SFT01**	0.200

Accessories

Connection accessories

Description	Application	Length	Reference	Weight kg
Connecting cable	Between the PC (USB connector) and the Zelio Logic smart relay	3 m	**SR2 USB01**	0.100

Other accessories: see pages 14102/22 and 14102/23

Compact "discovery" packs

Number of I/O	Pack contents: - Compact smart relay with display - "Zelio Soft 2" programming software supplied on CD-Rom - Cable PC SR2 USB01 for connection to PC *(3)*	Reference	Weight kg
	Description of compact smart relay with display		
Supply ∿ 100...240 V			
12	SR2 B121FU	**SR2 PACKFU**	0.700
20	SR2 B201FU	**SR2 PACK2FU**	0.850
Supply ⎓ 24 V			
12	SR2 B121BD	**SR2 PACKBD**	0.700
20	SR2 B201BD	**SR2 PACK2BD**	0.700

Modem communication interface

Supply ⎓ 12...24 V

Description	Application	Reference	Weight kg
Modem communication interface	For SR2 B	See page 14104/8	0.200

(1) Programming on Zelio Logic smart relay in LADDER language only.
(2) CD-ROM comprising "Zelio Soft 2" software, an application library, a self-training manual, installation instructions and a user's manual.
(3) Replaces cable SR2 CBL01 which is still available separately, as an accessory (see page 14102/22).

Presentation: pages 14102/2 to 14102/5 | Functions : pages 14102/6 to 14102/8 | Characteristics: pages 14102/10 to 14102/15 | Curves : pages 14102/16 and 14102/17 | Dimensions, schemes: pages 14102/24 to 14102/27

Zelio Logic smart relays
Compact smart relays

109442

SR2 E121BD

536307

SR2 SFT01

523109

SR2 USB01

536306

Modem communication interface

Compact smart relays without display

Number of I/O	Discrete inputs	Including ⎓ 0-10 V analogue inputs	Relay outputs	Transistor outputs	Clock	Reference	Weight kg
Supply ∿ 24 V							
12	8	0	4	0	Yes	**SR2 E121B**	0.220
20	12	0	8	0	Yes	**SR2 E201B**	0.350
Supply ∿ 100...240 V							
10	6	0	4	0	No	**SR2 D101FU** *(1)*	0.220
12	8	0	4	0	Yes	**SR2 E121FU**	0.220
20	12	0	8	0	No	**SR2 D201FU** *(1)*	0.350
					Yes	**SR2 E201FU**	0.350
Supply ⎓ 24 V							
10	6	0	4	0	No	**SR2 D101BD** *(1)*	0.220
12	8	4	4	0	Yes	**SR2 E121BD**	0.220
20	12	2	8	0	No	**SR2 D201BD** *(1)*	0.350
		6	8	0	Yes	**SR2 E201BD**	0.350

"Zelio Soft 2" software for PC

Description	Application	Reference	Weight kg
Programming software "Zelio Soft 2" software, multi-language	For PC, supplied on CD-Rom *(2)*, compatible with Windows 98, NT, 2000, XP	**SR2 SFT01**	0.200

Accessories

Connection accessories

Description	Application	Length	Reference	Weight kg
Connecting cable	Between the PC (USB connector) and the Zelio Logic smart relay	3 m	**SR2 USB01**	0.100

Other accessories: see pages 14102/22 and 14102/23

Modem communication interface

Supply ⎓ 12...24 V

Description	Application	Reference	Weight kg
Modem communication interface	For SR2 E	See page 14104/8	0.200

(1) Programming on Zelio Logic smart relay in LADDER language only.
(2) CD-ROM comprising "Zelio Soft 2" software, an application library, a self-training manual, installation instructions and a user's manual.

Zelio Logic smart relays
Modular smart relays

109444

SR3 B101BD

536307

SR2 SFT01

523109

SR2 USB01

536308

SR2 PACK●●●

Modular smart relays with display

Number of I/O	Discrete inputs	Including ⎓ 0-10 V analogue inputs	Relay outputs	Transistor outputs	Clock	Reference	Weight kg
Supply ∿ 24 V							
10	6	0	4	0	Yes	**SR3 B101B**	0.250
26	16	0	10 *(1)*	0	Yes	**SR3 B261B**	0.400
Supply ∿ 100...240 V							
10	6	0	4	0	Yes	**SR3 B101FU**	0.250
26	16	0	10 *(1)*	0	Yes	**SR3 B261FU**	0.400
Supply ⎓ 12 V							
26	16	6	10 *(1)*	0	Yes	**SR3 B261JD** *(2)*	0.400
Supply ⎓ 24 V							
10	6	4	4	0	Yes	**SR3 B101BD**	0.250
			0	4	Yes	**SR3 B102BD**	0.220
26	16	6	10 *(1)*	0	Yes	**SR3 B261BD**	0.400
			0	10	Yes	**SR3 B262BD**	0.300

"Zelio Soft 2" software for PC

Description	Application	Reference	Weight kg
Programming software "Zelio Soft 2" software, multi-language	For PC, supplied on CD-ROM *(3)*, compatible with Windows 98, NT, 2000, XP	**SR2 SFT01**	0.200

Accessories

Connection accessories

Description	Application	Length	Reference	Weight kg
Connecting cable	Between the PC (USB connector) and the Zelio Logic smart relay	3 m	**SR2 USB01**	0.100

Other accessories: see pages 14102/22 and 14102/23

Modular "discovery" packs

Number of I/O	Pack contents: - Compact smart relay with display - "Zelio Soft 2" programming software supplied on CD-Rom - Cable PC SR2 USB01 for connection to PC *(4)* Description of compact smart relay with display	Reference	Weight kg
Supply ∿ 100...240 V			
10	SR3 B101FU	**SR3 PACKFU**	0.700
26	SR3 B261FU	**SR3 PACK2FU**	0.850
Supply ⎓ 24 V			
10	SR3 B101BD	**SR3 PACKBD**	0.700
26	SR3 B261BD	**SR3 PACK2BD**	0.850

(1) Including 8 outputs at maximum current of 8 A and 2 outputs at maximum current of 5 A.
(2) Can only be used with "Zelio Soft 2" software version ≥V 3.1.
(3) CD-ROM comprising "Zelio Soft 2" software, an application library, a self-training manual, installation instructions and a user's manual.
(4) Replaces cable SR2 CBL01 which is still available separately, as an accessory (see page 14102/22).

Note: *The Zelio Logic smart relay and its associated extensions must have an identical voltage.*

Zelio Logic smart relays
Modular smart relays

524132

Modbus communication module

536314

Ethernet communication module

109363

SR3 XT61BD

109369

SR3 XT141BD

536306

Modem communication interface

Modbus and Ethernet communication module *(1)*

⎓ 24 V supply (via smart relays SR3B...BD)

For use with	Network	Reference	Weight kg
Zelio Logic modular smart relays SR3 B●●1BD and SR3 B●●2BD	Modbus	See page 14105/10	0.110
	Ethernet	See page 14105/10	0.110

Analogue I/O extension module *(2)*

Supply ⎓ 24 V (via Zelio Logic smart relay SR3 B...BD)

Number of I/O	Inputs	Including ⎓ 0 - 10 V	Including ⎓ 0 - 20 mA	Including Pt100	Output ⎓ 0-10 V	Reference	Weight kg
4	2 *(3)*	2 max	2 max	1 max	2	See page 14106/4	0.110

Discrete I/O extension modules

Number of I/O	Discrete inputs	Relay outputs	Reference	Weight kg
Supply ∿ 24 V (via Zelio Logic smart relays SR3 B●●●B)				
6	4	2	**SR3 XT61B**	0.125
10	6	4	**SR3 XT101B**	0.200
14	8	6 *(4)*	**SR3 XT141B**	0.220
Supply ∿ 100-240 V (via Zelio Logic smart relays SR3 B●●●FU)				
6	4	2	**SR3 XT61FU**	0.125
10	6	4	**SR3 XT101FU**	0.200
14	8	6 *(4)*	**SR3 XT141FU**	0.220
Supply ⎓ 12 V (via Zelio Logic smart relay SR3 B261JD)				
6	4	2	**SR3 XT61JD**	0.125
10	6	4	**SR3 XT101JD**	0.200
14	8	6 *(4)*	**SR3 XT141JD**	0.220
Supply ⎓ 24 V (via Zelio Logic smart relays SR3 B●●●BD)				
6	4	2	**SR3 XT61BD**	0.125
10	6	4	**SR3 XT101BD**	0.200
14	8	6 *(4)*	**SR3 XT141BD**	0.220

Modem communication interface *(5)*

Supply ⎓ 12...24 V

Description	Reference	Weight kg
Modem communication interface	See page 14104/8	0.200

(1) See pages 14105/2 to 14105/11.
(2) See pages 14106/2 to 14106/5.
(3) See page 14106/5.
(4) Including 4 outputs at maximum current of 8 A and 2 outputs at maximum current of 5 A.
(5) See pages 14104/2 to 14104/11.

Note: *The Zelio Logic smart relay and its associated extensions must have an identical voltage.*

Zelio Logic smart relays
Compact and modular smart relays

536307

SR2 SFT01

523109

SR2 USB01

536135

SR2 BTC01

534044

SR2 MEM02

Programming

"Zelio Soft 2" software for PC

Description	Application	Reference	Weight kg
Programming software "Zelio Soft 2" software, multi-language	For PC, supplied on CD-ROM (1), compatible with Windows 98, NT, 2000, XP	**SR2 SFT01**	0.200

Connection accessories

Description	Application	Reference	Weight kg
Connecting cables	Between the PC (SUB-D, 9-pin connector) and the Zelio Logic smart relay. Length: 3 m	**SR2 CBL01**	0.150
	Between the PC (USB connector) and the Zelio Logic smart relay. PC compatible with Windows 2000, XP Length: 3 m	**SR2 USB01**	0.100
Bluetooth interface for Zelio Logic smart relays	Between the PC (wireless link) and the Zelio Logic smart relay. Range 10 m (class 2)	**SR2 BTC01** *(2)*	0.015
Bluetooth adapter for non-equipped PC	To be used in conjunction with SR2 BTC01 when the PC is not equipped with Bluetooth technology. Connection to the USB port on the PC. PC compatible with Windows 98SE, 2000, XP Range of 10 m (class 2)	**VW3 A8115**	0.290

Memory cartridges *(3)*

Description	Application	Reference	Weight kg
EEPROM memory cartridges	For firmware (software embedded in the smart relay) version ⩽ 2.4	**SR2 MEM01**	0.010
	For firmware (software embedded in the smart relay) version ⩾ 3.0	**SR2 MEM02**	0.010

Documentation

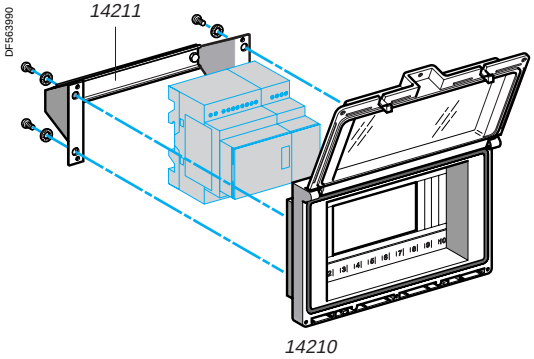
Description/application	Language	Reference	Weight kg
User's manual for direct programming on the Zelio Logic smart relay	English	**SR2 MAN01EN**	0.100
	French	**SR2 MAN01FR**	0.100
	German	**SR2 MAN01DE**	0.100
	Spanish	**SR2 MAN01ES**	0.100
	Italian	**SR2 MAN01IT**	0.100
	Portuguese	**SR2 MAN01P0**	0.100

(1) CD-ROM comprising "Zelio Soft 2" software, an application library, a self-training manual, installation instructions and a user's manual.
(2) Can only be used with "Zelio Soft 2" software version ⩾ V 4.1.
(3) Program loading using memory cartridge SR2 MEM02 is incompatible with Modem communication interface SR2 COM01.

Zelio Logic smart relays
Compact and modular smart relays

Regulated switch mode power supplie

Converters for thermocouples



Regulated switch mode power supplies *(1)*

Input voltage	Nominal output voltage	Reference	Weight kg
∿ 100...240 V (50/60 Hz)	⎓ 5 V, ⎓ 12 V or ⎓ 24 V	See page 14080/7	–

Converters *(2)*

Description	Reference	Weight kg
Converters for J and K type thermocouples, for Pt100 probes and voltage/current	See page 14011/6	–

Mounting accessories *(3)*

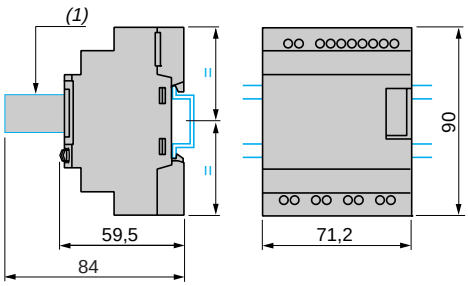
Description/application	Mounting capacity	Reference	Weight kg
Dust and damp-proof enclosure with split blanking plate arrangement, fitted with an IP 55 dust and damp-proof window with hinged flap, for mounting through a door	- 1 or 2 SR2 smart relays with 10 or 12 I/O or - 1 SR2 smart relay with 20 I/O or - 1 SR3 smart relay with 10 I/O + 1 I/O extension module (6, 10 or 14 I/O) or - 1 SR3 smart relay with 26 I/O + 1 I/O extension module (6 I/O).	**14210**	0.350
Fixing bracket and symmetrical mounting rail	For mounting enclosure **14210** through a door panel	**14211**	0.210

(1) See pages 14080/2 to 14080/7.
(2) See pages 14011/2 to 14011/7.
(3) Products marketed under the Merlin Gerin brand.

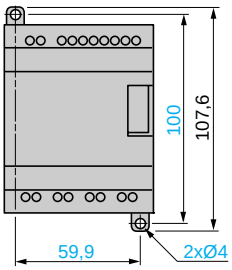
Compact and modular smart relays

SR● ●10●●● (10 I/O), SR2 ●12●●● (12 I/O)

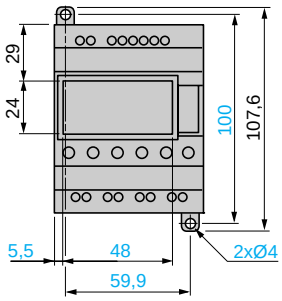
Mounting on 35 mm ⊓ rail



Screw fixing (retractable lugs)

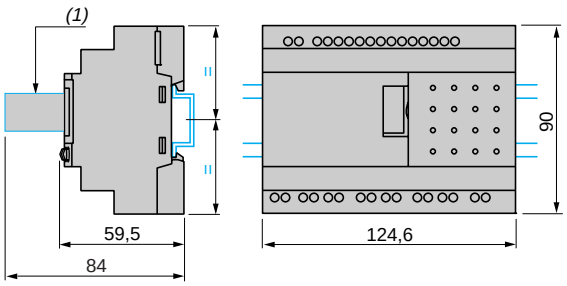


Position of display

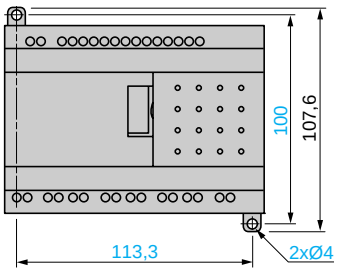


SR2 ●20●●● (20 I/O), SR3 B26●●● (26 I/O)

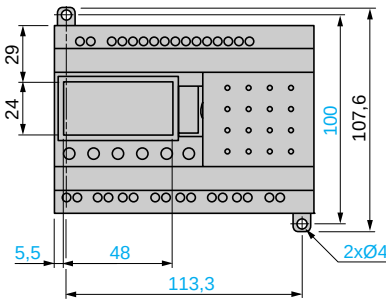
Mounting on 35 mm ⊓ rail



Screw fixing (retractable lugs)



Position of display

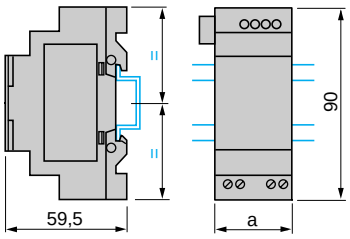


(1) With SR2 USB01 or SR2 BTC01

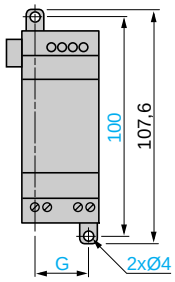
I/O extension modules

SR3 XT61●● (6 I/O), SR3 XT101●● and SR3 XT141●● (10 and 14 I/O)

Mounting on 35 mm ⊓ rail



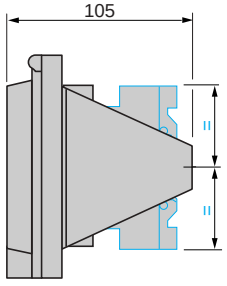
Screw fixing (retractable lugs)

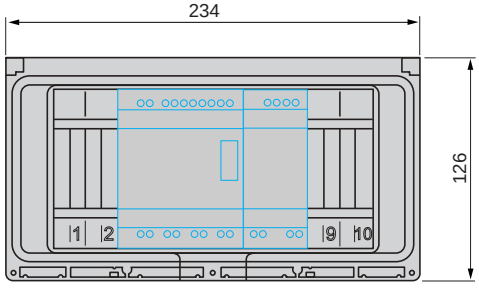


SR3	a	G
XT61●●	35.5	25
XT101●●	72	60
XT141●●	72	60

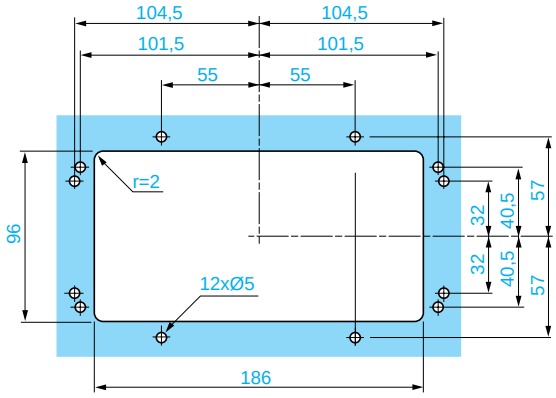
Enclosure + fixing bracket

14210 + 14211





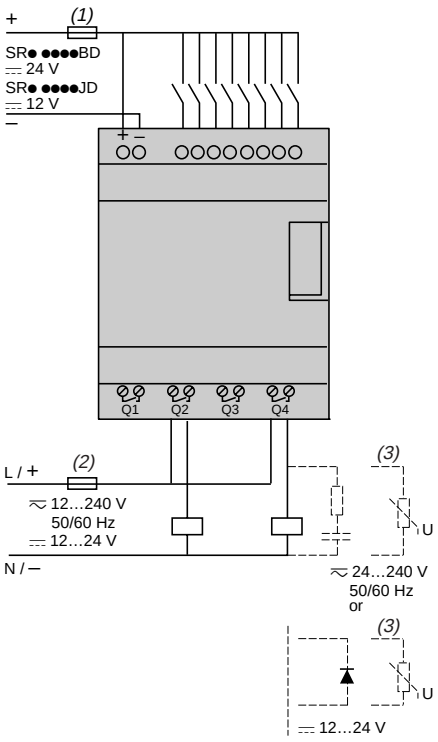
Cut-out



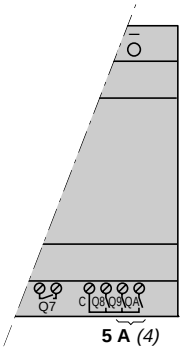
Zelio Logic smart relays
Compact and modular smart relays

Connection of smart relays on ⎓ supply

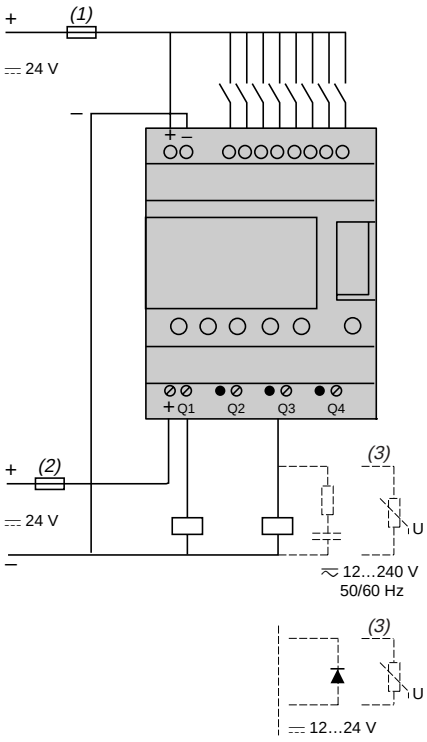
SR● ●●●1BD, SR● ●●●1JD



SR3 B261●D

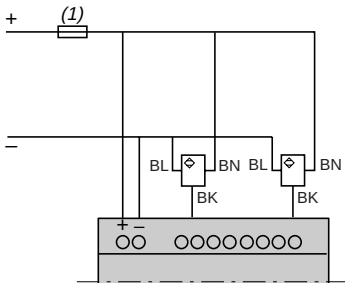


SR2 B●●2BD and SR3 B●●2BD



(1) 1 A quick-blow fuse or circuit-breaker.
(2) Fuse or circuit-breaker.
(3) Inductive load.
(4) Q9 and QA: 5 A (max. current in terminal C: 10 A).

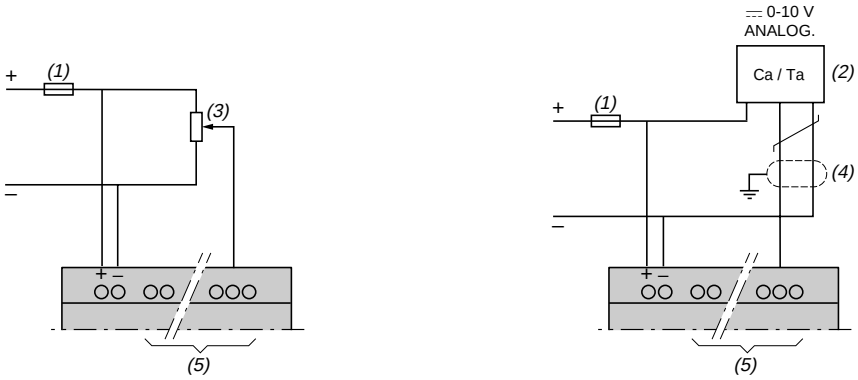
Discrete input used for 3-wire sensors



(1) 1 A quick-blow fuse or circuit-breaker.

Connection of smart relays on ⎓ supply (continued)

Analogue inputs

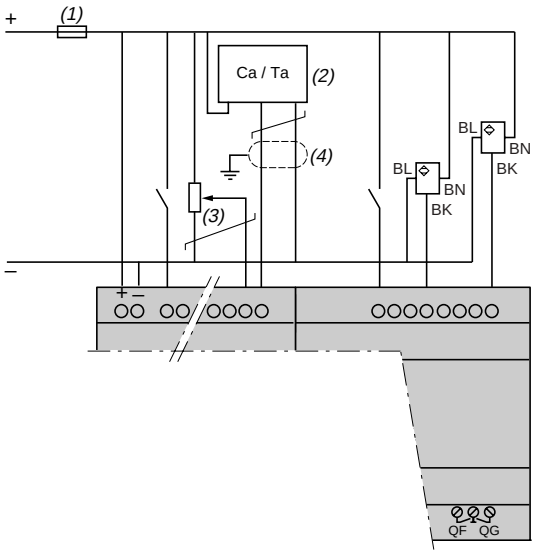


(1) 1 A quick-blow fuse or circuit-breaker.
(2) Ca: Analogue sensor / Ta: Analogue transmitter.
(3) Recommended values: 2.2 kΩ / 0.5 W (10 kΩ max.).
(4) Screened cables, maximum length 10 m.
(5) Analogue inputs according to Zelio Logic to smart relay, see table below:

Smart relays	Analogue inputs
SR2 ●12●●D	IB…IE
SR2 A201BD	IB and IC
SR2 D201BD	IB and IC
SR2 B20●●D	IB…IG
SR2 E201BD	IB…IG
SR3 B10●BD	IB…IE
SR3 B26●●D	IB…IG

Connection of smart relays on ⎓ supply, with discrete I/O extension modules

SR3 B●●●JD + SR3 XT●●●JD, SR3 B●●●BD + SR3 XT●●●BD



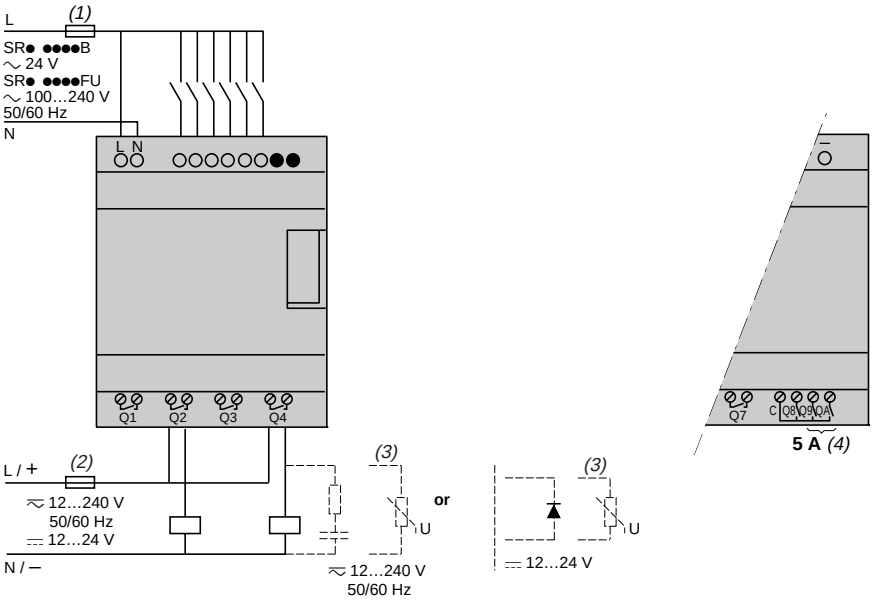
Warning: QF and QG: 5 A for **SR3 XT141●●**

(1) 1 A quick-blow fuse or circuit-breaker.
(2) Ca: Analogue sensor / Ta: Analogue transmitter.
(3) Recommended values: 2.2 kΩ / 0.5 W (10 kΩ max.).
(4) Screened cables, maximum length 10 m.

Connection of smart relays on ∿ supply

SR● ●●●1B, SR● ●●●1FU

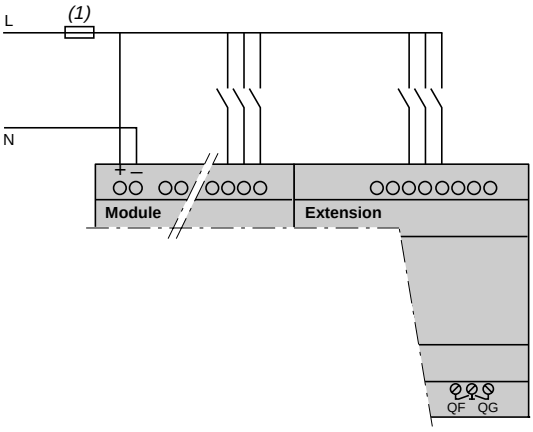
SR3 B261B and SR3 B261FU



(1) 1 A quick-blow fuse or circuit-breaker.
(2) Fuse or circuit-breaker.
(3) Inductive load.
(4) Q9 and QA: 5 A (max. current in terminal C: 10 A).

With discrete I/O extension module

SR3 B●●●B + SR3 XT●●●B, SR3 B●●●FU + SR3 XT●●●FU



Warning: QF and QG: 5 A for **SR3 XT141●●**

(1) 1 A quick-blow fuse or circuit-breaker.