

## SR2B121FU

compact smart relay Zelio Logic - 12 I O - 100..240 V AC - clock - display



### Main

Range of product	Zelio Logic
Product or component type	Compact smart relay

### Complementary

Local display	With
Number of control scheme lines	0...500 with FBD programming 0...240 with ladder programming
Cycle time	6...90 ms
Backup time	10 years at 25 °C
Clock drift	6 s/month at 25 °C 12 min/year at 0...55 °C
Checks	Program memory on each power up
[Us] rated supply voltage	100...240 V AC
Supply voltage limits	85...264 V
Supply frequency	50/60 Hz
Supply current	30 mA at 240 V (without extension) 80 mA at 100 V (without extension)
Power consumption in VA	7 VA without extension
Isolation voltage	1780 V
Protection type	Against inversion of terminals (control instructions not executed)
Discrete input number	8
Discrete input voltage	100...240 V AC
Discrete input current	0.6 mA
Discrete input frequency	47...53 Hz 57...63 Hz
Voltage state 1 guaranteed	$\geq 79$ V for discrete input
Voltage state 0 guaranteed	$\leq 40$ V for discrete input
Current state 1 guaranteed	$\geq 0.17$ mA for discrete input
Current state 0 guaranteed	$\leq 0.5$ mA for discrete input
Input impedance	350 kOhm (discrete input)
Number of outputs	4 relay output(s)
Output voltage limits	24...250 V AC 5...30 V DC (relay output)
Contacts type and composition	NO for relay output
Output thermal current	8 A for all 4 outputs (relay output)
Electrical durability	500000 cycles AC-12 at 230 V, 1.5 A for relay output conforming to EN/IEC 60947-5-1 500000 cycles AC-15 at 230 V, 0.9 A for relay output conforming to EN/IEC 60947-5-1 500000 cycles DC-12 at 24 V, 1.5 A for relay output conforming to EN/IEC 60947-5-1 500000 cycles DC-13 at 24 V, 0.6 A for relay output conforming to EN/IEC 60947-5-1
Switching capacity in mA	$\geq 10$ mA at 12 V (relay output)
Operating rate in Hz	0.1 Hz (at Ie) for relay output 10 Hz (no load) for relay output
Mechanical durability	10000000 cycles (relay output)

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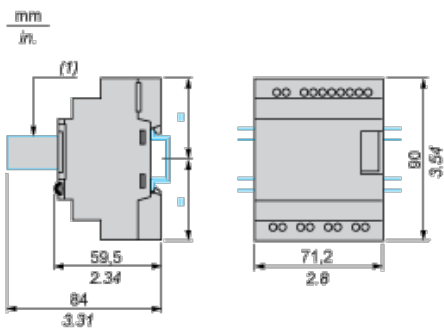
[Uimp] rated impulse withstand voltage	4 kV conforming to EN/IEC 60947-1 and EN/IEC 60664-1
Clock	With
Response time	10 ms (from state 0 to state 1) for relay output 5 ms (from state 1 to state 0) for relay output 50 ms with ladder programming (from state 0 to state 1) for discrete input 50 ms with ladder programming (from state 1 to state 0) for discrete input 50...255 ms with FBD programming (from state 0 to state 1) for discrete input 50...255 ms with FBD programming (from state 1 to state 0) for discrete input
Connections - terminals	Screw terminals, clamping capacity: 1 x 0.2...1 x 2.5 mm <sup>2</sup> AWG 25...AWG 14 semi-solid Screw terminals, clamping capacity: 1 x 0.2...1 x 2.5 mm <sup>2</sup> AWG 25...AWG 14 solid Screw terminals, clamping capacity: 1 x 0.25...1 x 2.5 mm <sup>2</sup> AWG 24...AWG 14 flexible with cable end Screw terminals, clamping capacity: 2 x 0.2...2 x 1.5 mm <sup>2</sup> AWG 24...AWG 16 solid Screw terminals, clamping capacity: 2 x 0.25...2 x 0.75 mm <sup>2</sup> AWG 24...AWG 18 flexible with cable end
Tightening torque	0.5 N.m
Overvoltage category	III conforming to EN/IEC 60664-1
Product weight	0.25 kg

## Environment

immunity to microbreaks	<= 10 ms
product certifications	CSA C-Tick GL GOST UL
standards	EN/IEC 60068-2-27 Ea EN/IEC 60068-2-6 Fc EN/IEC 61000-4-11 EN/IEC 61000-4-12 EN/IEC 61000-4-2 level 3 EN/IEC 61000-4-3 EN/IEC 61000-4-4 level 3 EN/IEC 61000-4-5 EN/IEC 61000-4-6 level 3
IP degree of protection	IP20 (terminal block) conforming to IEC 60529 IP40 (front panel) conforming to IEC 60529
environmental characteristic	EMC directive conforming to EN/IEC 61000-6-2 EMC directive conforming to EN/IEC 61000-6-3 EMC directive conforming to EN/IEC 61000-6-4 EMC directive conforming to EN/IEC 61131-2 zone B Low voltage directive conforming to EN/IEC 61131-2
disturbance radiated/conducted	Class B conforming to EN 55022-11 group 1
pollution degree	2 conforming to EN/IEC 61131-2
ambient air temperature for operation	-20...40 °C in non-ventilated enclosure conforming to IEC 60068-2-1 and IEC 60068-2-2 -20...55 °C conforming to IEC 60068-2-1 and IEC 60068-2-2
ambient air temperature for storage	-40...70 °C
operating altitude	2000 m
altitude transport	<= 3048 m
relative humidity	95 % without condensation or dripping water

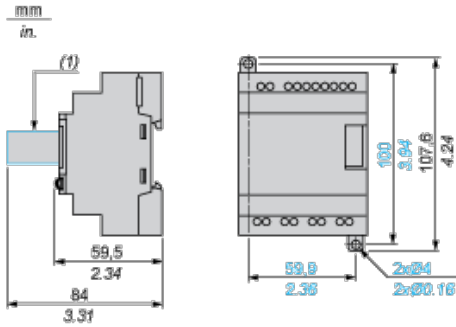
## Compact and Modular Smart Relays

### Mounting on 35 mm/1.38 in. DIN Rail



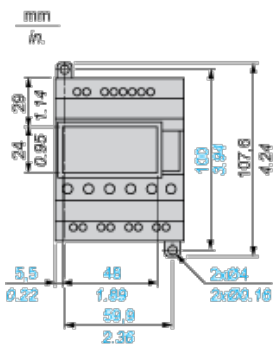
(1) With SR2USB01 or SR2BTC01

### Screw Fixing (Retractable Lugs)



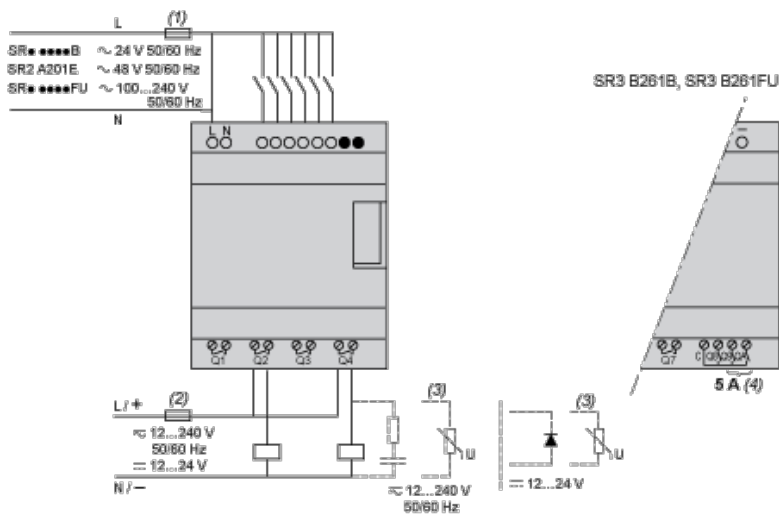
(1) With SR2USB01 or SR2BTC01

### Position of Display



## Connection of Smart Relays on AC Supply

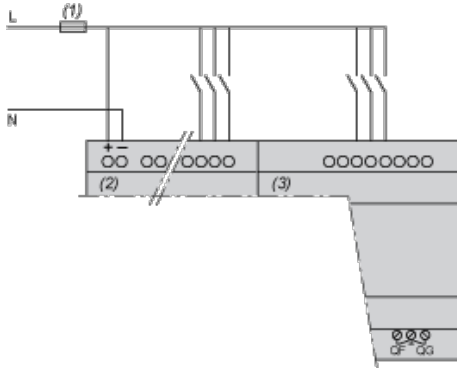
### SR\*\*\*1B, SR\*\*\*1FU



- (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

SR3B...B + SR3XT...B, SR3B...FU + SR3XT...FU



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

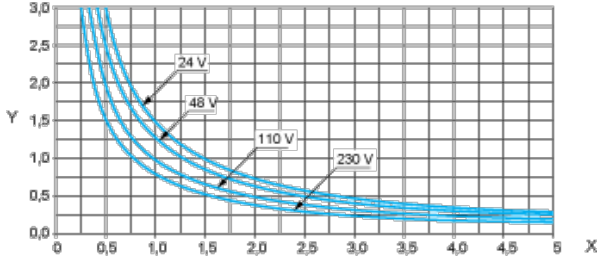
**NOTE:** QF and QG: 5 A for SR3XT141..

## Compact and Modular Smart Relays

### Electrical Durability of Relay Outputs

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

AC-12 (1)

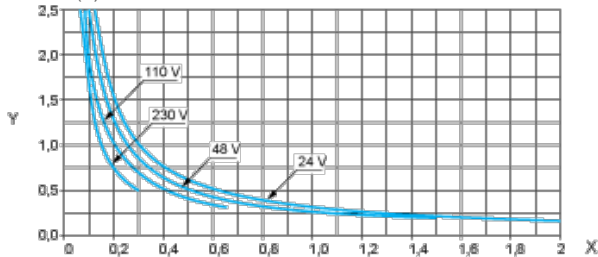


X: Current (A)

Y: Millions of operating cycles

(1) AC-12: switching resistive loads and opto-coupler isolated solid-state loads,  $\cos \geq 0.9$ .

AC-14 (1)

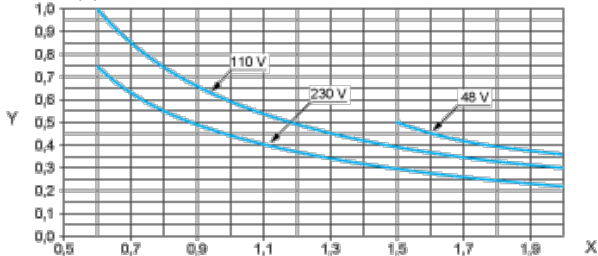


X: Current (A)

Y: Millions of operating cycles

(1) AC-14: switching small electromagnetic loads  $\leq 72$  VA, make:  $\cos = 0.3$ , break:  $\cos = 0.3$ .

AC-15 (1)



X: Current (A)

Y: Millions of operating cycles

(1) AC-15: switching electromagnetic loads  $\geq 72$  VA, make:  $\cos = 0.7$ , break:  $\cos = 0.4$ .