

# Product data sheet

Specifications



## Compact smart relay, Zelio Logic, 12 I/O, 100...240 V AC, clock, display

SR2B121FU

### Main

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

### Complementary

Local display	With
Number or control scheme lines	0...240 with ladder programming 0...500 with FBD programming
Cycle time	6...90 ms
Backup time	10 years at 25 °C
Clock drift	12 min/year at 0...55 °C 6 s/month at 25 °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
Maximum 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 (discrete input)
Current state 0 guaranteed	$\leq 0.5$ mA (discrete input)
Analogue input number	0
Input impedance	350 kOhm for discrete input

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

<b>Number of outputs</b>	4 relay
<b>Output voltage limits</b>	5...30 V DC (relay output) 24...250 V AC
<b>Contacts type and composition</b>	NO for relay output
<b>Output thermal current</b>	8 A for all 4 outputs for relay output
<b>Electrical durability</b>	AC-12: 500000 cycles at 230 V, 1.5 A for relay output conforming to EN/IEC 60947-5-1 AC-15: 500000 cycles at 230 V, 0.9 A for relay output conforming to EN/IEC 60947-5-1 DC-12: 500000 cycles at 24 V, 1.5 A for relay output conforming to EN/IEC 60947-5-1 DC-13: 500000 cycles at 24 V, 0.6 A for relay output conforming to EN/IEC 60947-5-1
<b>Switching capacity in mA</b>	>= 10 mA at 12 V (relay output)
<b>Operating rate in Hz</b>	0.1 Hz (at I <sub>e</sub> ) for relay output 10 Hz (no load) for relay output
<b>Mechanical durability</b>	10000000 cycles for relay output
<b>[Uimp] rated impulse withstand voltage</b>	4 kV conforming to EN/IEC 60947-1 and EN/IEC 60664-1
<b>Clock</b>	With
<b>Response time</b>	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 10 ms (from state 0 to state 1) for relay output 5 ms (from state 1 to state 0) for relay output
<b>Connections - terminals</b>	Screw terminals, 1 x 0.2...1 x 2.5 mm <sup>2</sup> (AWG 25...AWG 14) semi-solid Screw terminals, 1 x 0.2...1 x 2.5 mm <sup>2</sup> (AWG 25...AWG 14) solid Screw terminals, 1 x 0.25...1 x 2.5 mm <sup>2</sup> (AWG 24...AWG 14) flexible with cable end Screw terminals, 2 x 0.2...2 x 1.5 mm <sup>2</sup> (AWG 24...AWG 16) solid Screw terminals, 2 x 0.25...2 x 0.75 mm <sup>2</sup> (AWG 24...AWG 18) flexible with cable end
<b>Tightening torque</b>	0.5 N.m
<b>Overvoltage category</b>	III conforming to EN/IEC 60664-1
<b>Net weight</b>	0.25 kg
<b>Environment</b>	
<b>Immunity to microbreaks</b>	10 ms
<b>Product certifications</b>	GL GOST UL CSA C-Tick
<b>Standards</b>	EN/IEC 61000-4-4 level 3 EN/IEC 60068-2-27 Ea EN/IEC 61000-4-5 EN/IEC 61000-4-11 EN/IEC 61000-4-12 EN/IEC 61000-4-3 EN/IEC 60068-2-6 Fc EN/IEC 61000-4-2 level 3 EN/IEC 61000-4-6 level 3
<b>IP degree of protection</b>	IP20 (terminal block) conforming to IEC 60529 IP40 (front panel) conforming to IEC 60529
<b>Environmental characteristic</b>	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
<b>Disturbance radiated/ conducted</b>	Class B conforming to EN 55022-11 group 1
<b>Pollution degree</b>	2 conforming to EN/IEC 61131-2
<b>Ambient air temperature for operation</b>	-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
<b>Ambient air temperature for storage</b>	-40...70 °C
<b>Operating altitude</b>	2000 m

Maximum altitude transport	3048 m
Relative humidity	95 % without condensation or dripping water

## Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	6.8 cm
Package 1 Width	8.8 cm
Package 1 Length	10.0 cm
Package 1 Weight	246.0 g
Unit Type of Package 2	S03
Number of Units in Package 2	30
Package 2 Height	30.0 cm
Package 2 Width	30.0 cm
Package 2 Length	40.0 cm
Package 2 Weight	7.892 kg

## Offer Sustainability

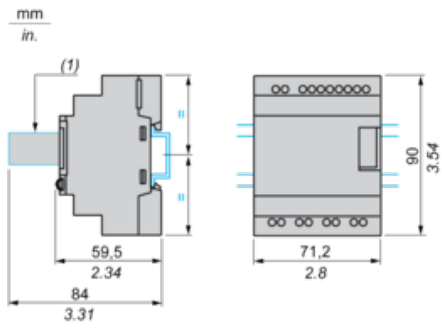
Sustainable offer status	Green Premium product
REACH Regulation	<a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
Mercury free	Yes
China RoHS Regulation	<a href="#">China RoHS declaration</a>
RoHS exemption information	<a href="#">Yes</a>
Environmental Disclosure	<a href="#">Product Environmental Profile</a>
Circularity Profile	<a href="#">End of Life Information</a>
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
PVC free	Yes
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>

## Contractual warranty

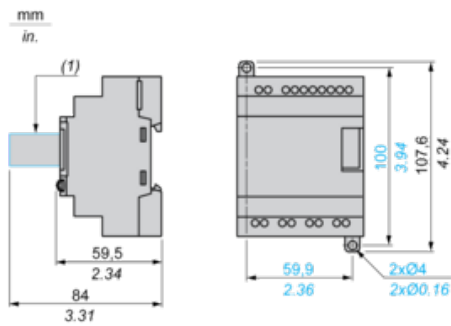
Warranty	18 months
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**Compact and Modular Smart Relays**

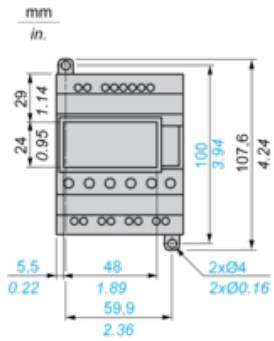
**Mounting on 35 mm/1.38 in. DIN Rail**



**Screw Fixing (Retractable Lugs)**

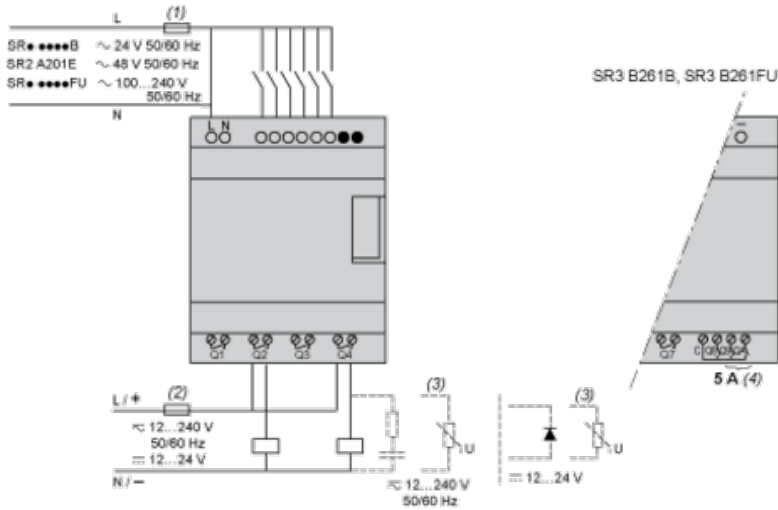


**Position of Display**



**Connection of Smart Relays on AC Supply**

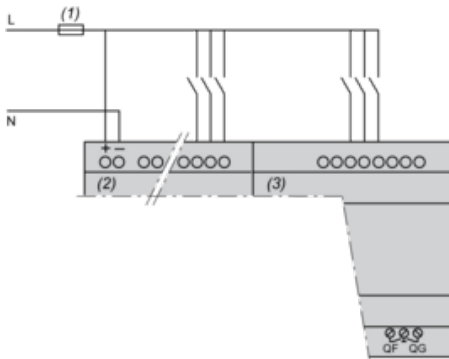
**SR...1B, SR...1FU**



- (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



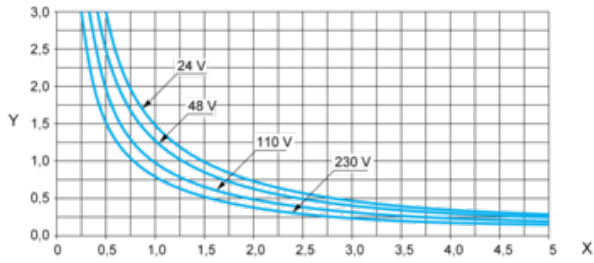
- (1) 1 A quick-blow fuse or circuit-breaker.
- NOTE:** QF and QG: 5 A for SR3XT141...

**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)

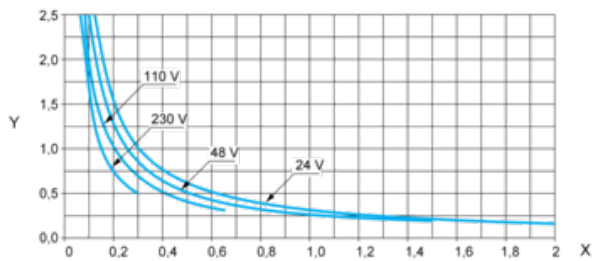


X: Current (A)

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)

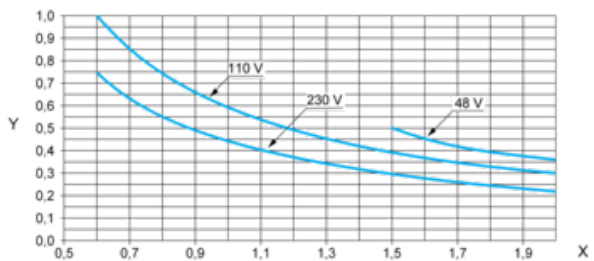


X: Current (A)

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:  $\cos = 0.4$ .

**Recommended replacement(s)**