

# Product data sheet

Specifications



modular smart relay, Zelio Logic  
SR2 SR3, 10 IO, 24V DC, clock,  
display, 4 transistor outputs

SR3B102BD

## Main

Range of product	Zelio Logic
Product or component type	Modular 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	12 min/year at 0...55 °C 6 s/month at 25 °C
Checks	Program memory on each power up
[Us] rated supply voltage	24 V
Supply voltage limits	19.2...30 V
Maximum supply current	160 mA (with extensions) 50 mA (without extension)
Power dissipation in W	4 W without extension 8 W with extensions
Reverse polarity protection	With
Discrete input number	6 conforming to IEC 61131-2 Type 1
Discrete input type	Resistive
Discrete input voltage	24 V DC
Discrete input current	4 mA
Counting frequency	1 kHz for discrete input
Voltage state 1 guaranteed	$\geq 15$ V for I1...IA and IH...IR discrete input circuit $\geq 15$ V for IB...IG used as discrete input circuit
Voltage state 0 guaranteed	$\leq 5$ V for I1...IA and IH...IR discrete input circuit $\leq 5$ V for IB...IG used as discrete input circuit
Current state 1 guaranteed	$\geq 1.2$ mA (IB...IG used as discrete input circuit) $\geq 2.2$ mA (I1...IA and IH...IR discrete input circuit)
Current state 0 guaranteed	$\leq 0.5$ mA (IB...IG used as discrete input circuit) $\leq 0.75$ mA (I1...IA and IH...IR discrete input circuit)
Input compatibility	3-wire proximity sensors PNP for discrete input
Analogue input number	4
Analogue input type	Common mode

<b>Analogue input range</b>	0...10 V 0...24 V
<b>Temperature probe type</b>	NTC 10k at 25 °C NTC 1000k at 25 °C KTY81 210/220/221/222/250 Pt 500
<b>Maximum permissible voltage</b>	30 V for analogue input circuit
<b>Analogue input resolution</b>	8 bits
<b>LSB value</b>	39 mV for analogue input circuit
<b>Conversion time</b>	Smart relay cycle time for analogue input circuit
<b>Conversion error</b>	+/- 5 % at 25 °C for analogue input circuit +/- 6.2 % at 55 °C for analogue input circuit
<b>Repeat accuracy</b>	+/- 2 % at 55 °C for analogue input circuit
<b>Operating distance</b>	10 m between stations, with screened cable (sensor not isolated) for analogue input circuit
<b>Input impedance</b>	12 kOhm for IB...IG used as analogue input circuit 12 kOhm for IB...IG used as discrete input circuit 7.4 kOhm for I1...IA and IH...IR discrete input circuit
<b>Number of outputs</b>	4 transistor
<b>Output voltage</b>	24 V transistor output
<b>Output voltage limits</b>	19.2...30 V DC (transistor output)
<b>Load current</b>	0.5...0.625 A transistor output
<b>[Ures] residual voltage</b>	2 V at state 1 transistor output
<b>Overload protection</b>	With overload protection for transistor output
<b>Short-circuit protection</b>	With transistor output
<b>Overvoltage protection</b>	With overvoltage protection for transistor output
<b>Clock</b>	With
<b>Response time</b>	<= 1 ms (from state 0 to state 1) for transistor output <= 1 ms (from state 1 to state 0) for transistor 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 IEC 60664-1
<b>Product weight</b>	0.22 kg

## Environment

<b>Standards</b>	IEC 60068-2-27 Ea IEC 60068-2-6 Fc IEC 61000-4-6 level 3 IEC 61000-4-4 level 3 IEC 61000-4-2 level 3 IEC 61000-4-12 IEC 61000-4-11 IEC 61000-4-3 IEC 61000-4-5
<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 IEC 61000-6-2 EMC directive conforming to IEC 61000-6-3 EMC directive conforming to IEC 61000-6-4 EMC directive conforming to IEC 61131-2 zone B Low voltage directive conforming to IEC 61131-2
<b>Disturbance radiated/conducted</b>	Class B conforming to EN 55022-11 group 1
<b>Pollution degree</b>	2 conforming to 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
<b>Maximum altitude transport</b>	3048 m
<b>Relative humidity</b>	95 % without condensation or dripping water

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	6.500 cm
<b>Package 1 Width</b>	9.000 cm
<b>Package 1 Length</b>	10.000 cm
<b>Package 1 Weight</b>	208.000 g
<b>Unit Type of Package 2</b>	S03
<b>Number of Units in Package 2</b>	30
<b>Package 2 Height</b>	30.000 cm
<b>Package 2 Width</b>	30.000 cm
<b>Package 2 Length</b>	40.000 cm
<b>Package 2 Weight</b>	6.706 kg

## Contractual warranty

<b>Warranty</b>	18 months
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Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing "Use Better, Use Longer, Use Again" campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)

## Environmental footprint

Total lifecycle Carbon footprint **72**

Environmental Disclosure [Product Environmental Profile](#)

## Use Better

### Materials and Substances

Packaging made with recycled cardboard **Yes**

Packaging without single use plastic **Yes**

[EU RoHS Directive](#) **Pro-active compliance (Product out of EU RoHS legal scope)**

SCIP Number **Eee2fc35-1620-4b70-b1d5-206e9240044e**

REACH Regulation [REACH Declaration](#)

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 [www.P65Warnings.ca.gov](#)**

PVC free **Yes**

## Use Again

### Repack and remanufacture

End of life manual availability [End of Life Information](#)

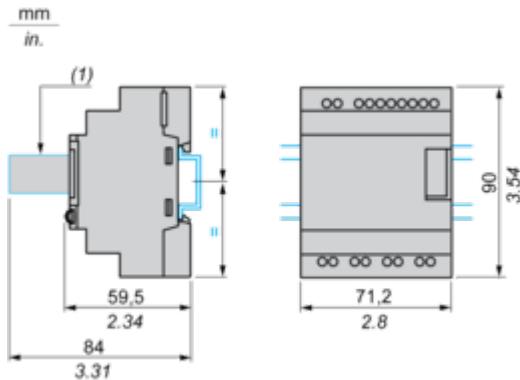
Take-back **No**

WEEE Label **The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins**

## Dimensions Drawings

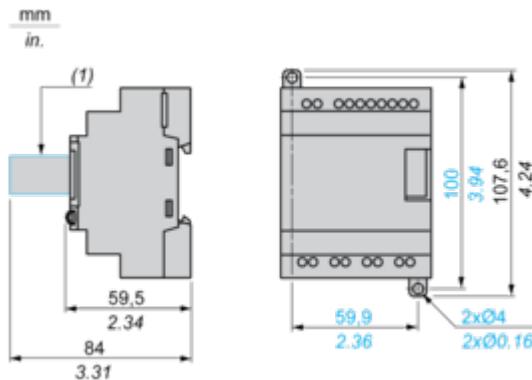
Compact and Modular Smart Relays

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



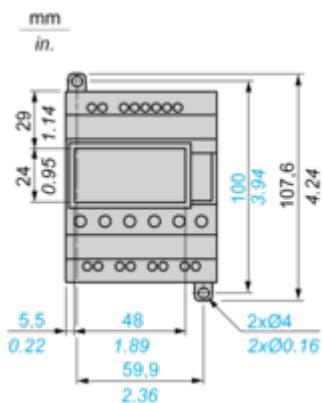
(1) With SR2USB01 or SR2BTC01

## Screw Fixing (Retractable Lugs)



(1) With SR2USB01 or SR2BTC01

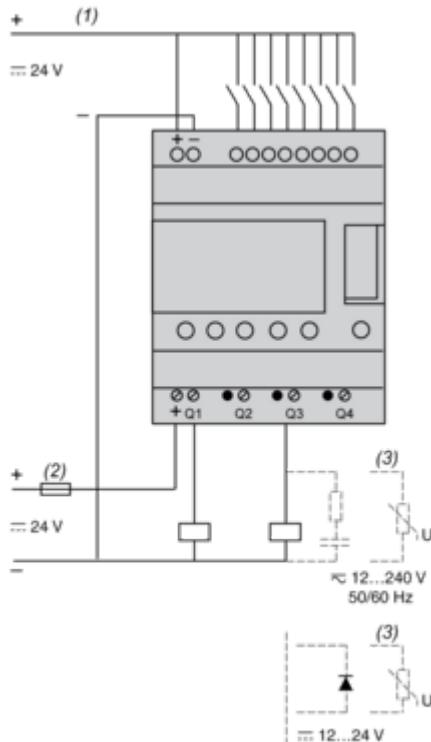
## Position of Display



## Connections and Schema

Compact and Modular Smart Relays

## Connection of Smart Relays on DC Supply



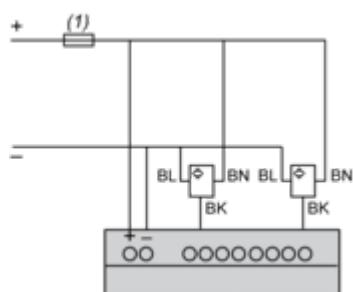
(1) 1 A quick-blow fuse or circuit-breaker.

(2) Fuse or circuit-breaker.

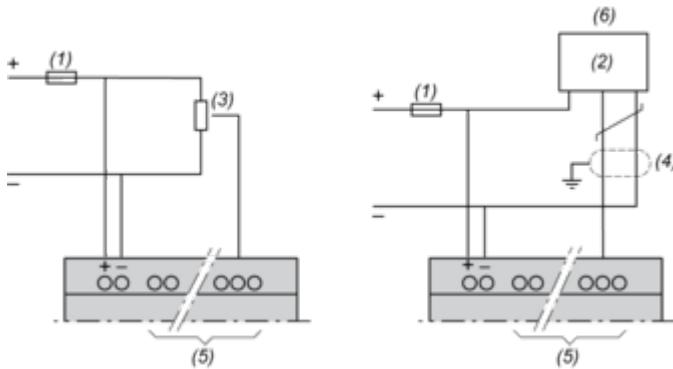
(3) Inductive load.

(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 DC Supply****Analog Inputs**

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

(2) Ca: Analog sensor / Ta: Analog transmitter.

(3) Recommended values: 2.2 kΩ / 0.5 W (10 kΩ max.)

(4) Screened cables, maximum length 10 m / 32.80 feet.

(5) Analog inputs according to Zelio Logic smart relay type (see table below)

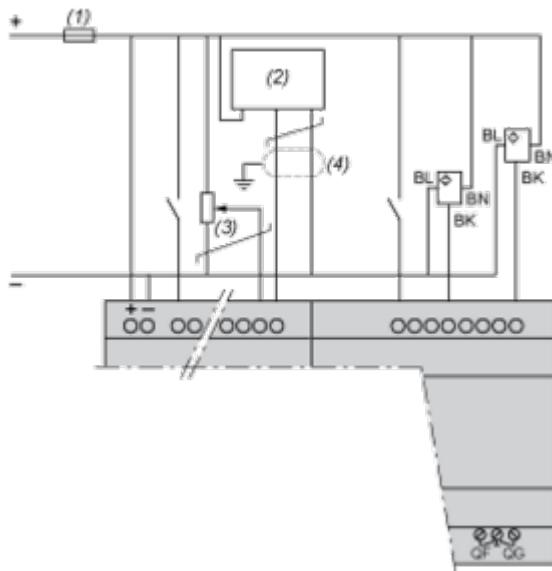
(6) 0-10 Vdc ANALOG

Smart Relays	Analog Inputs
SR2•12•D	IB...IE
SR2A201BD	IB and IC
SR2D201BD	IB and IC
SR2B20•D	IB...IG
SR2E201BD	IB...IG
SR3B10•BD	IB...IE
SR3B26•D	IB...IG

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**Connection of Smart Relays on DC Supply, with Discrete I/O Extension Modules**

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**SR3B...JD + SR3XT...JD, SR3B...BD + SR3XT...BD**

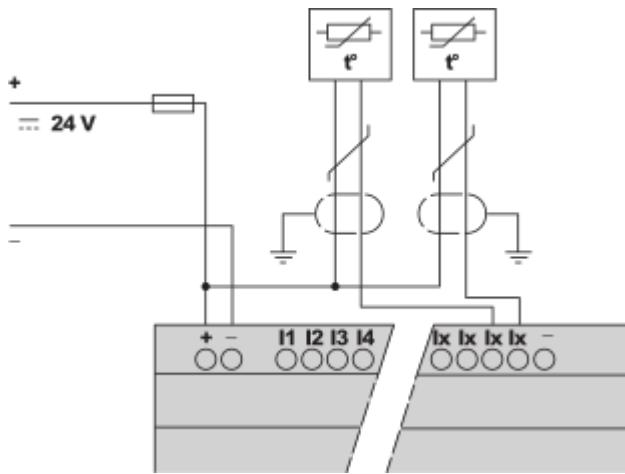
(1) 1 A quick-blow fuse or circuit-breaker.

(2) Ca: Analog sensor / Ta: Analog transmitter.

(3) Recommended values: 2.2 kΩ / 0.5 W (10 kΩ max.)

(4) Screened cables, maximum length 10 m / 32.80 feet.

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

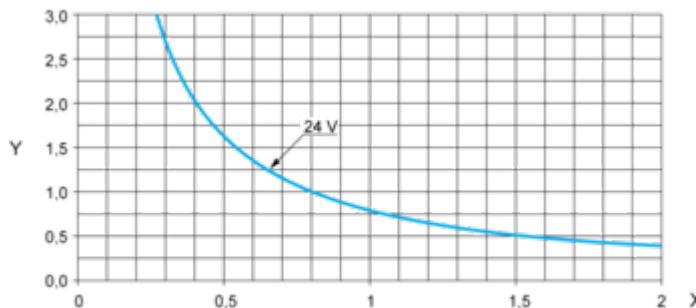
Connection of Thermistor Input on DC Supply

NOTE:  $I_x = I_B \dots I_G$

## Performance Curves

Compact and Modular Smart Relays**Electrical Durability of Relay Outputs**

(in millions of operating cycles, conforming to IEC/EN 60947-5-1)  
DC-12 (1)

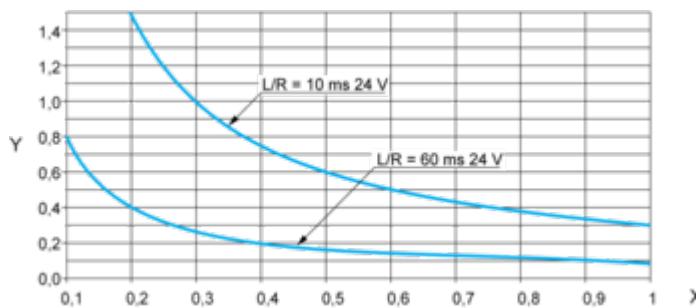


X: Current (A)

Y: Millions of operating cycles

(1) DC-12: control of resistive loads and of solid state loads isolated by opto-coupler,  $L/R \leq 1$  ms.

DC-13 (1)



X: Current (A)

Y: Millions of operating cycles

(1) DC-13: switching electromagnets,  $L/R \leq 2 \times (U_e \times I_e)$  in ms,  $U_e$ : rated operational voltage,  $I_e$ : 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).

Image of product / Alternate images

Alternative

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