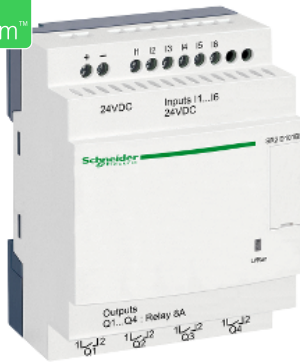


# Product data sheet

Specifications



## Compact smart relay, Zelio Logic, 10 I/O, 24 V DC, no clock, no display

SR2D101BD

### Main

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

### Complementary

Local display	Without
Number or control scheme lines	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 DC
Supply voltage limits	19.2...30 V
Maximum supply current	100 mA (without extension)
Power dissipation in W	3 W without extension
Reverse polarity protection	With
Discrete input number	6 conforming to EN/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	>= 15 V for I1...IA and IH...IR discrete input circuit >= 15 V for IB...IG used as discrete input circuit
Voltage state 0 guaranteed	<= 5 V for I1...IA and IH...IR discrete input circuit <= 5 V for IB...IG used as discrete input circuit
Current state 1 guaranteed	>= 1.2 mA (IB...IG used as discrete input circuit) >= 2.2 mA (I1...IA and IH...IR discrete input circuit)
Current state 0 guaranteed	<= 0.5 mA (IB...IG used as discrete input circuit) <= 0.75 mA (I1...IA and IH...IR discrete input circuit)
Input compatibility	3-wire proximity sensors PNP for discrete input
Analogue input number	0
Input impedance	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 relay
<b>Output voltage limits</b>	24...250 V AC (relay output) 5...30 V DC (relay output)
<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 Ie) 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>	Without
<b>Response time</b>	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>	0.22 kg
<b>Environment</b>	
<b>Immunity to microbreaks</b>	1 ms
<b>Product certifications</b>	CSA UL GL GOST C-Tick
<b>Standards</b>	EN/IEC 61000-4-5 EN/IEC 61000-4-12 EN/IEC 60068-2-27 Ea EN/IEC 61000-4-2 level 3 EN/IEC 60068-2-6 Fc EN/IEC 61000-4-11 EN/IEC 61000-4-4 level 3 EN/IEC 61000-4-6 level 3 EN/IEC 61000-4-3
<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
<b>Maximum altitude transport</b>	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	6.9 cm
------------------	--------

---

Package 1 Width	9.0 cm
-----------------	--------

---

Package 1 Length	10.0 cm
------------------	---------

---

Package 1 Weight	199.0 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	6.456 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>
---------------------------	---

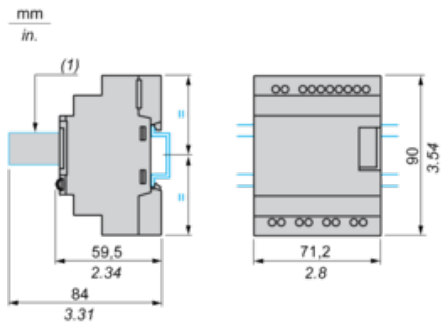
## Contractual warranty

---

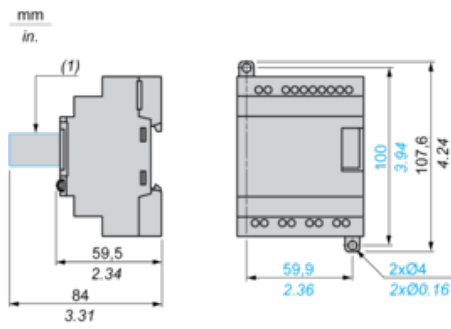
Warranty	18 months
----------	-----------

**Compact and Modular Smart Relays**

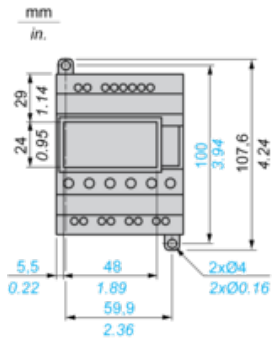
**Mounting on 35 mm/1.38 in. DIN Rail**



**Screw Fixing (Retractable Lugs)**

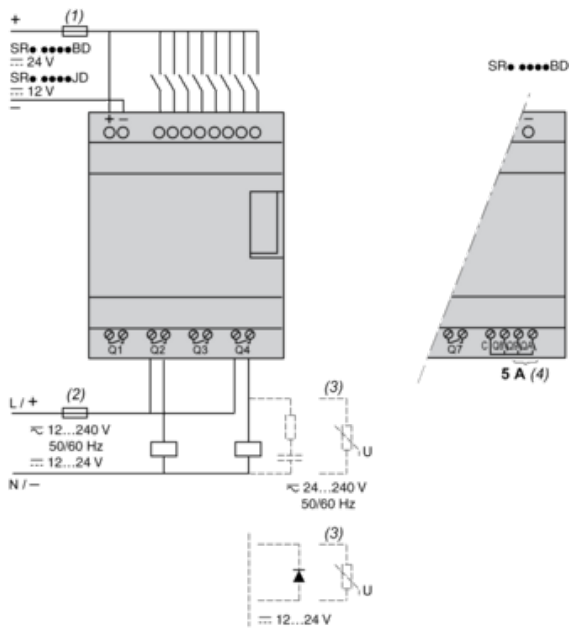


**Position of Display**



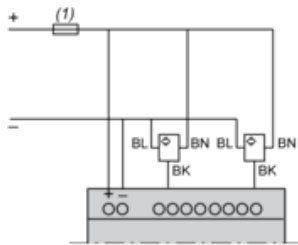
**Compact and Modular Smart Relays**

**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**



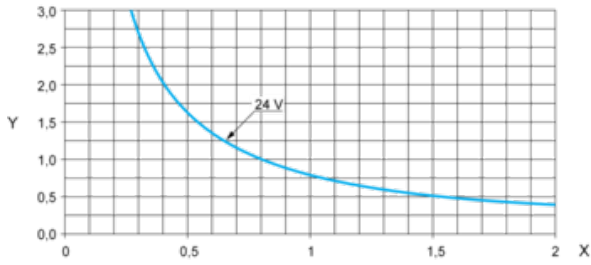
- (1) 1 A quick-blow fuse or circuit-breaker.

**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)

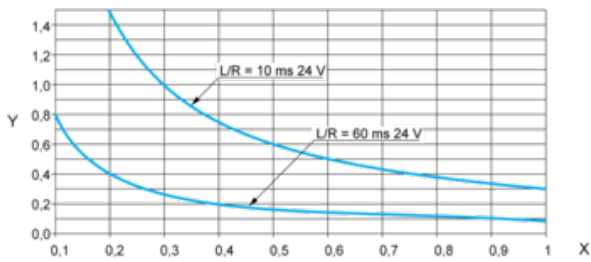


X: Current (A)

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).

**Recommended replacement(s)**