

## Main

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

## Complementary

Local display	With
Number of control scheme lines	0...240 with ladder programming
Cycle time	6...90 ms
Backup time	10 years at 77 °F (25 °C)
Clock drift	6 s/month at 77 °F (25 °C) 12 min/year at 32...131 °F (0...55 °C)
Checks	Program memory on each power up
[Us] rated supply voltage	24 V DC
Supply voltage limits	19.2...30 V
Supply current	100 mA (without extension)
Power dissipation in W	6 W without extension
Reverse polarity protection	With
Discrete input number	12 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	$\geq 15$ 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 for IB...IG used as discrete input circuit $\geq 2.2$ mA for I1...IA and IH...IR discrete input circuit
Current state 0 guaranteed	$\leq 0.5$ mA for IB...IG used as discrete input circuit
Input compatibility	3-wire proximity sensors PNP (discrete input)
Analogue input number	2
Analogue input type	Common mode
Analogue input range	0...10 V 0...24 V
Maximum permissible voltage	30 V (analogue input circuit)
Analogue input resolution	8 bits
LSB value	39 mV (analogue input circuit)
Conversion time	Smart relay cycle time analogue input circuit
Conversion error	+/- 5 % at 77 °F (25 °C) for analogue input circuit +/- 6.2 % at 131 °F (55 °C) for analogue input circuit
Repeat accuracy	+/- 2 % at 131 °F (55 °C) for analogue input circuit
Operating distance	10 m between stations, with screened cable (sensor not isolated) analogue input circuit
Input impedance	12 kOhm (IB...IG used as analogue input circuit) 12 kOhm (IB...IG used as discrete input circuit)

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	7.4 kOhm (I1...IA and IH...IR discrete input circuit)
Number of outputs	8 relay output(s)
Output voltage limits	24...250 V AC (relay output) 5...30 V DC (relay output)
Contacts type and composition	NO relay output
Output thermal current	8 A for all 8 outputs (relay output)
Electrical durability	500000 cycles AC-12at 230 V, 1.5 A for relay output conforming to EN/IEC 60947-5-1 500000 cycles AC-15at 230 V, 0.9 A for relay output conforming to EN/IEC 60947-5-1 500000 cycles DC-12at 24 V, 1.5 A for relay output conforming to EN/IEC 60947-5-1 500000 cycles DC-13at 24 V, 0.6 A for relay output conforming to EN/IEC 60947-5-1
Switching capacity in mA	>= 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)
[Uimp] rated impulse withstand voltage	4 kV conforming to EN/IEC 60947-1 and EN/IEC 60664-1
Clock	Without
Response time	10 ms (from state 0 to state 1) relay output 5 ms (from state 1 to state 0) relay output
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	4.42 lbf.in (0.5 N.m)
Overvoltage category	III conforming to EN/IEC 60664-1
Product weight	0.84 lb(US) (0.38 kg)

## Environment

immunity to microbreaks	<= 1 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	-4...104 °F (-20...40 °C) in non-ventilated enclosure conforming to IEC 60068-2-1 and IEC 60068-2-2 -4...131 °F (-20...55 °C) conforming to IEC 60068-2-1 and IEC 60068-2-2
ambient air temperature for storage	-40...158 °F (-40...70 °C)
operating altitude	6561.68 ft (2000 m)
altitude transport	<= 10000 ft (3048 m)
relative humidity	95 % without condensation or dripping water

## Offer Sustainability

WARNING: This product can expose you to chemicals including:

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Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm.

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For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)

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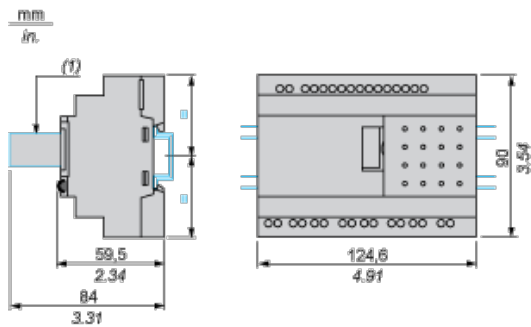
### Contractual warranty

Warranty period

18 months

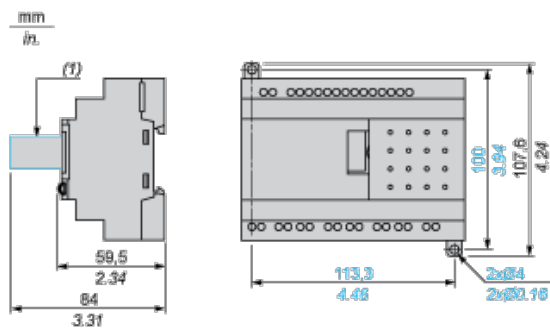
## Compact and Modular Smart Relays

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



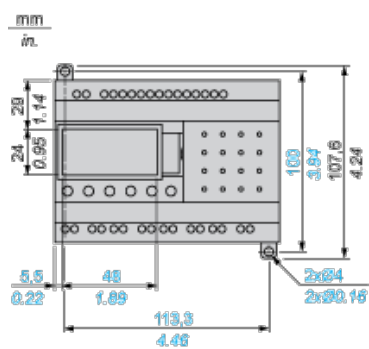
(1) With SR2USB01 or SR2BTC01

### Screw Fixing (Retractable Lugs)



(1) With SR2USB01 or SR2BTC01

### Position of Display



## 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



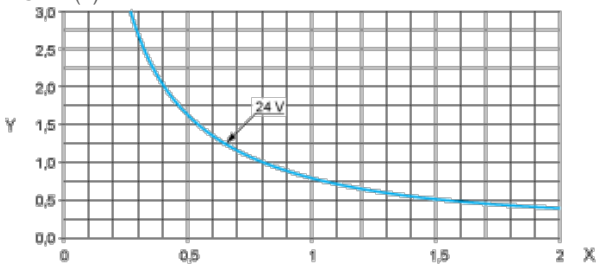
- (1) 1 A quick-blow fuse or circuit-breaker.

## 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)

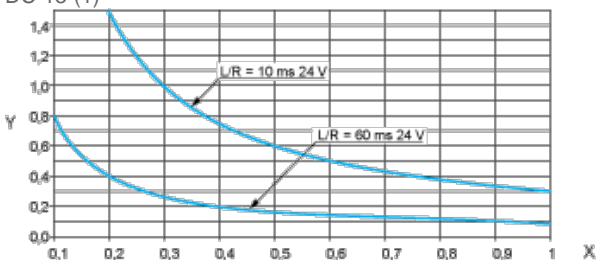


X: Current (A)

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).