



### 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<br>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<br>12 min/year at 0...55 °C   |
| Checks                         | Program memory on each power up  |
| [Us] rated supply voltage      | 12 V DC  |
| Supply voltage limits          | 10.4...14.4 V  |
| Supply current                 | 200 mA (without extension)   |
| Power dissipation in W         | 2.5 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         | 12 V DC  |
| Discrete input current         | 4 mA   |
| Counting frequency             | 1 kHz for discrete input   |
| Voltage state 1 guaranteed     | $\geq 7$ V for IB...IG used as discrete input circuit<br>$\geq 5.6$ V for I1...IA and IH...IR discrete input circuit   |
| Voltage state 0 guaranteed     | $\leq 3$ V for IB...IG used as discrete input circuit<br>$\leq 2.4$ V for I1...IA and IH...IR discrete input circuit   |
| Current state 1 guaranteed     | $\geq 2$ mA for I1...IA and IH...IR discrete input circuit<br>$\geq 0.5$ mA for IB...IG used as discrete input circuit |
| Current state 0 guaranteed     | $< 0.9$ mA for I1...IA and IH...IR discrete input circuit  |

|  |   |
|--|---|
|  | < 0.9 mA for IB...IG used as discrete input circuit   |
| Input compatibility                    | 3-wire proximity sensors PNP (discrete input)   |
| Analogue input number                  | 6   |
| Analogue input type                    | Common mode   |
| Analogue input range                   | 0...10 V<br>0...12 V  |
| Maximum permissible voltage            | 14.4 V (analogue input circuit)   |
| Analogue input resolution              | 8 bits at maximum voltage   |
| LSB value                              | 39 mV (analogue input circuit)  |
| Conversion time                        | Smart relay cycle time for analogue input circuit   |
| Conversion error                       | +/- 5 % at 25 °C for analogue input circuit<br>+/- 6.2 % at 55 °C for analogue input circuit  |
| Repeat accuracy                        | +/- 2 % at 55 °C for analogue input circuit   |
| Operating distance                     | 10 m between stations, with screened cable (sensor not isolated) for analogue input circuit   |
| Input impedance                        | 14 kOhm (IB...IG used as analogue input circuit)<br>14 kOhm (IB...IG used as discrete input circuit)<br>2.7 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)<br>5...30 V DC (relay output)  |
| Contacts type and composition          | NO for relay output   |
| Output thermal current                 | 8 A for all 8 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<br>500000 cycles AC-15 at 230 V, 0.9 A for relay output conforming to EN/IEC 60947-5-1<br>500000 cycles DC-12 at 24 V, 1.5 A for relay output conforming to EN/IEC 60947-5-1<br>500000 cycles DC-13 at 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<br>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                                  | With  |
| Response time                          | 10 ms (from state 0 to state 1) for relay output<br>5 ms (from state 1 to state 0) for 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<br>Screw terminals, clamping capacity: 1 x 0.2...1 x 2.5 mm <sup>2</sup> AWG 25...AWG 14 solid<br>Screw terminals, clamping capacity: 1 x 0.25...1 x 2.5 mm <sup>2</sup> AWG 24...AWG 14 flexible with cable end<br>Screw terminals, clamping capacity: 2 x 0.2...2 x 1.5 mm <sup>2</sup> AWG 24...AWG 16 solid<br>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                         | 0.38 kg   |

## Environment

|                         |   |
|-------------------------|---|
| Immunity to microbreaks | <= 10 ms repeated 20 times  |
| Product certifications  | GL<br>CSA<br>C-Tick<br>UL<br>GOST   |
| Standards               | EN/IEC 60068-2-6 Fc<br>EN/IEC 61000-4-4 level 3<br>EN/IEC 60068-2-27 Ea<br>EN/IEC 61000-4-6 level 3<br>EN/IEC 61000-4-2 level 3<br>EN/IEC 61000-4-12<br>EN/IEC 61000-4-11<br>EN/IEC 61000-4-5<br>EN/IEC 61000-4-3 |
| 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<br>EMC directive conforming to EN/IEC 61000-6-3<br>EMC directive conforming to EN/IEC 61000-6-4<br>EMC directive conforming to EN/IEC 61131-2 zone B<br>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<br>-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   |

### Contractual warranty

|                 |           |
|-----------------|-----------|
| Warranty period | 18 months |
|-----------------|-----------|

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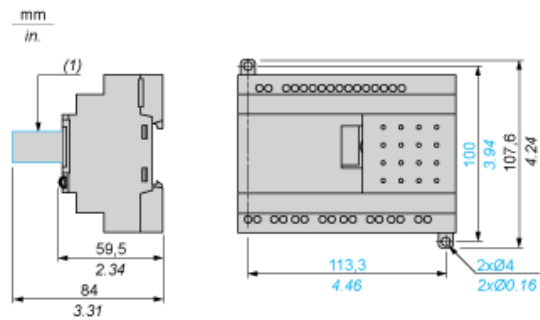
Compact and Modular Smart Relays

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Mounting on 35 mm/1.38 in. DIN Rail

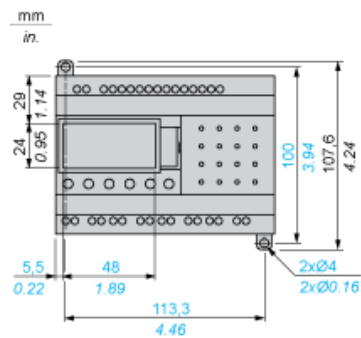
(1) With SR2USB01 or SR2BTC01

Screw Fixing (Retractable Lugs)



(1) With SR2USB01 or SR2BTC01

Position of Display



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## Compact and Modular Smart Relays

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### 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

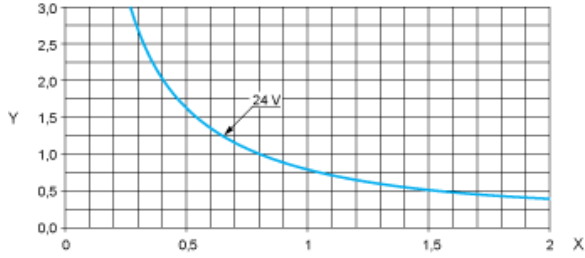
- (1) 1 A quick-blow fuse or circuit-breaker.

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)

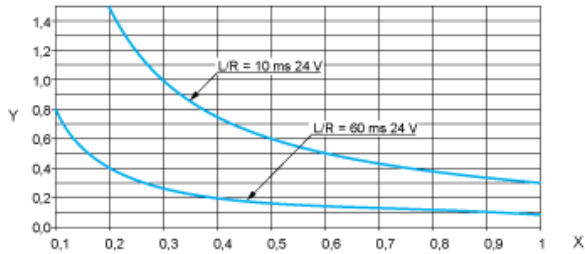


X: Current (A)

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,