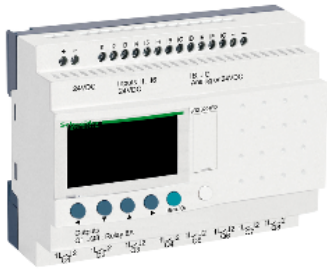


Product datasheet

Specifications



compact smart relay Zelio Logic - 20 I O - 24 V DC - clock - display

SR2B201BD

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 | 24 V DC |
| Supply voltage limits | 19.2...30 V |
| Maximum 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 | >= 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 | <= 0.75 mA (I1...IA and IH...IR discrete input circuit) <= 0.75 mA (IB...IG used as discrete input circuit) |
| Input compatibility | 3-wire proximity sensors PNP for discrete input |
| Analogue input number | 6 |

| | |
|--|--|
| Analogue input type | Common mode |
| Analogue input range | 0...24 V 0...10 V |
| Temperature probe type | NTC 10k at 25 °C NTC 1000k at 25 °C KTY81 210/220/221/222/250 Pt 500 |
| Maximum permissible voltage | 30 V for analogue input circuit |
| Analogue input resolution | 8 bits |
| LSB value | 39 mV for analogue input circuit |
| Conversion time | Smart relay cycle time for analogue input circuit |
| Conversion error | +/- 5 % at 25 °C for analogue input circuit +/- 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 | 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 |
| Number of outputs | 8 relay |
| Output voltage limits | 24...250 V AC (relay output) 5...30 V DC (relay output) |
| Contacts type and composition | NO for relay output |
| Output thermal current | 8 A for all 8 outputs for relay output |
| Electrical durability | 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 |
| 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 for 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 5 ms (from state 1 to state 0) for relay output |
| Connections - terminals | Screw terminals, 1 x 0.2...1 x 2.5 mm² (AWG 25...AWG 14) semi-solid Screw terminals, 1 x 0.2...1 x 2.5 mm² (AWG 25...AWG 14) solid Screw terminals, 1 x 0.25...1 x 2.5 mm² (AWG 24...AWG 14) flexible with cable end Screw terminals, 2 x 0.2...2 x 1.5 mm² (AWG 24...AWG 16) solid Screw terminals, 2 x 0.25...2 x 0.75 mm² (AWG 24...AWG 18) flexible with cable end |
| Tightening torque | 0.5 N.m |
| Overvoltage category | III conforming to EN/IEC 60664-1 |
| Net weight | 0.38 kg |

Environment

| | |
|-------------------------|--|
| Immunity to microbreaks | 10 ms |
| Product certifications | GOST UL CSA C-Tick GL |
| Standards | EN/IEC 61000-4-2 level 3 EN/IEC 61000-4-5 EN/IEC 60068-2-27 Ea EN/IEC 61000-4-12 EN/IEC 61000-4-3 EN/IEC 60068-2-6 Fc EN/IEC 61000-4-6 level 3 |

| | |
|--|---|
| | EN/IEC 61000-4-4 level 3 EN/IEC 61000-4-11 |
| 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 | -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 |
| Ambient air temperature for storage | -40...70 °C |
| Operating altitude | 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 | 7.0 cm |
| Package 1 Width | 10.0 cm |
| Package 1 Length | 13.5 cm |
| Package 1 Weight | 363.0 g |
| Unit Type of Package 2 | S03 |
| Number of Units in Package 2 | 20 |
| Package 2 Height | 30.0 cm |
| Package 2 Width | 30.0 cm |
| Package 2 Length | 40.0 cm |
| Package 2 Weight | 7.722 kg |

Offer Sustainability

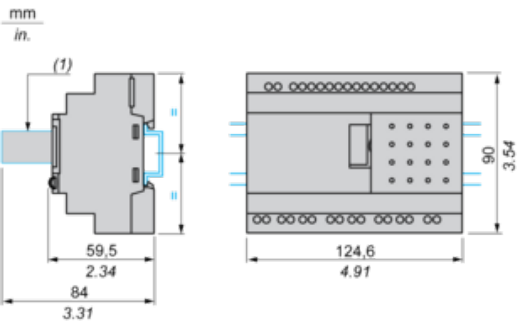
| | |
|----------------------------|---|
| Sustainable offer status | Green Premium product |
| REACH Regulation | REACH Declaration |
| EU RoHS Directive | Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration |
| Mercury free | Yes |
| China RoHS Regulation | China RoHS declaration |
| RoHS exemption information | Yes |
| Environmental Disclosure | Product Environmental Profile |
| Circularity Profile | End of Life Information |
| WEEE | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| PVC free | Yes |

Contractual warranty

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

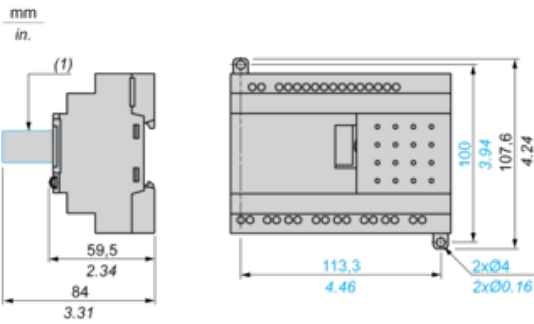
Compact and Modular Smart Relays

Mounting on 35 mm/1.38 in. DIN Rail



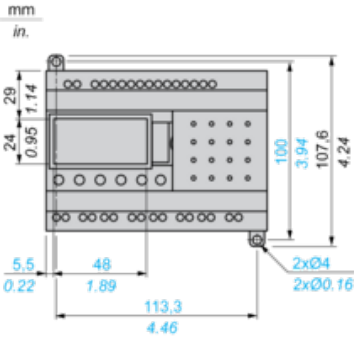
(1) With SR2USB01 or SR2BTC01

Screw Fixing (Retractable Lugs)

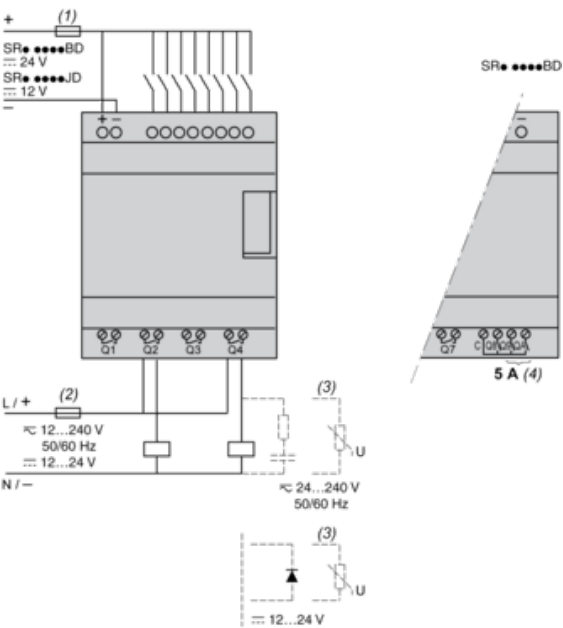


(1) With SR2USB01 or SR2BTC01

Position of Display

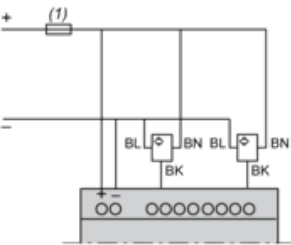


Connection of Smart Relays on DC Supply



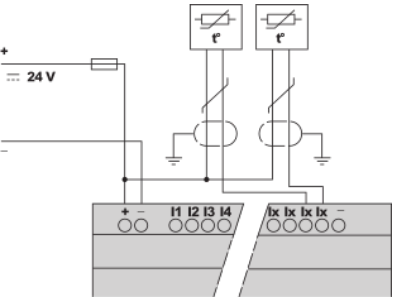
- (1) 1 A quick-blow fuse or circuit-breaker.
- (2) Fuse or circuit-breaker.
- (3) Inductive load.
- (4) Q9 and QA: 5 A (max. current in terminal C: 10 A).

Discrete Input Used for 3-Wire Sensors



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

Connection of Thermistor Input on DC Supply



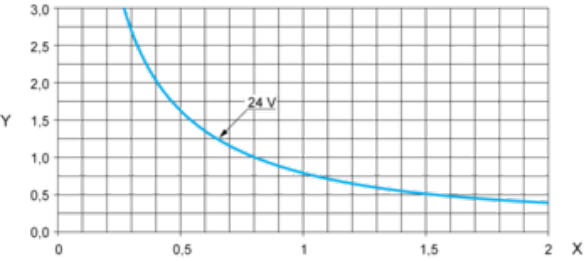
NOTE: Ix = IB...IG

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)

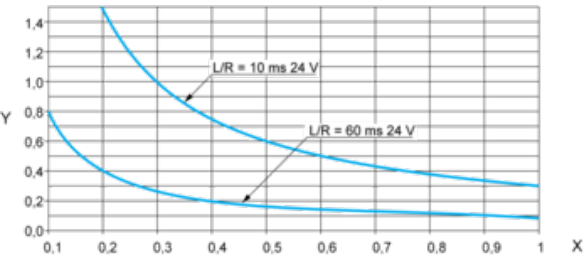


X: Current (A)

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)