

Product data sheet

Characteristics

SR2E121FU

Compact smart relay, Zelio Logic, 12 I/O,
100...240 V AC, clock, no display



Main

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

Complementary

| | |
|--------------------------------|--|
| Local display | Without |
| Number of 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 | 100...240 V AC |
| Supply voltage limits | 85...264 V |
| Supply frequency | 50/60 Hz |
| Maximum supply current | 30 mA at 240 V (without extension) 80 mA at 100 V (without extension) |
| Power consumption in VA | 7 VA without extension |
| Isolation voltage | 1780 V |
| Protection type | Against inversion of terminals (control instructions not executed) |
| Discrete input number | 8 |
| Discrete input voltage | 100...240 V AC |
| Discrete input current | 0.6 mA |
| Discrete input frequency | 57...63 Hz 47...53 Hz |
| Voltage state 1 guaranteed | ≥ 79 V for discrete input |
| Voltage state 0 guaranteed | ≤ 40 V for discrete input |
| Current state 1 guaranteed | ≥ 0.17 mA (discrete input) |
| Current state 0 guaranteed | ≤ 0.5 mA (discrete input) |
| Input impedance | 350 kOhm for discrete input |
| Number of outputs | 4 relay |
| Output voltage limits | 5...30 V DC (relay output) 24...250 V AC |
| Contacts type and composition | NO for relay output |
| Output thermal current | 8 A for all 4 outputs for relay output |

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| 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 | 50 ms with ladder programming (from state 0 to state 1) for discrete input 50 ms with ladder programming (from state 1 to state 0) for discrete input 50...255 ms with FBD programming (from state 0 to state 1) for discrete input 50...255 ms with FBD programming (from state 1 to state 0) for discrete input 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 mm ² (AWG 25...AWG 14) semi-solid Screw terminals, 1 x 0.2...1 x 2.5 mm ² (AWG 25...AWG 14) solid Screw terminals, 1 x 0.25...1 x 2.5 mm ² (AWG 24...AWG 14) flexible with cable end Screw terminals, 2 x 0.2...2 x 1.5 mm ² (AWG 24...AWG 16) solid Screw terminals, 2 x 0.25...2 x 0.75 mm ² (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 | 0.22 kg |

Environment

| | |
|---------------------------------------|---|
| Immunity to microbreaks | 10 ms |
| Product certifications | GOST C-Tick UL CSA GL |
| Standards | EN/IEC 60068-2-6 Fc EN/IEC 61000-4-11 EN/IEC 61000-4-4 level 3 EN/IEC 61000-4-2 level 3 EN/IEC 61000-4-12 EN/IEC 61000-4-6 level 3 EN/IEC 61000-4-5 EN/IEC 60068-2-27 Ea 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 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

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|------------------------------|----------|
| Unit Type of Package 1 | PCE |
| Number of Units in Package 1 | 1 |
| Package 1 Weight | 220 g |
| Package 1 Height | 6.5 cm |
| Package 1 width | 10 cm |
| Package 1 Length | 8.8 cm |
| Unit Type of Package 2 | S03 |
| Number of Units in Package 2 | 30 |
| Package 2 Weight | 7.163 kg |
| Package 2 Height | 30 cm |
| Package 2 width | 30 cm |
| Package 2 Length | 40 cm |

Offer Sustainability

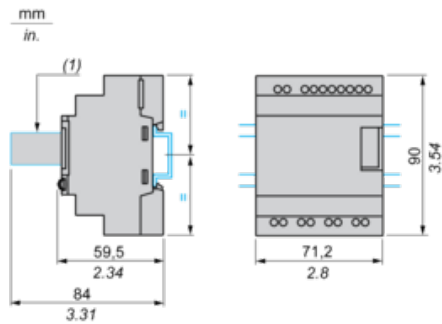
| | |
|----------------------------|---|
| Sustainable offer status | Green Premium product |
| EU RoHS Directive | Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration |
| Mercury free | Yes |
| RoHS exemption information | Yes |
| China RoHS Regulation | China RoHS Declaration |
| 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

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

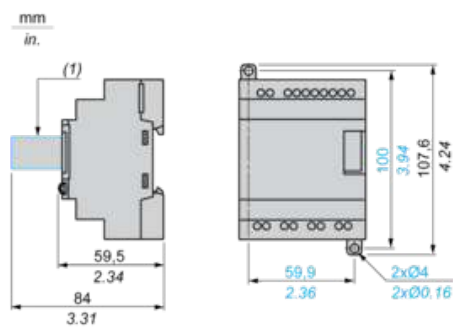
Compact and Modular Smart Relays

Mounting on 35 mm/1.38 in. DIN Rail



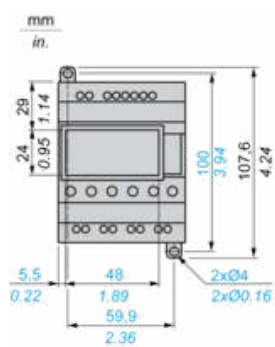
(1) With SR2USB01 or SR2BTC01

Screw Fixing (Retractable Lugs)



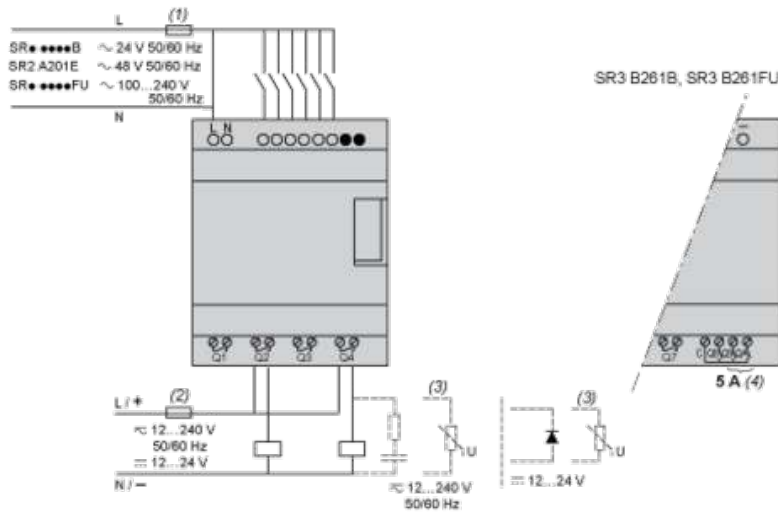
(1) With SR2USB01 or SR2BTC01

Position of Display



Connection of Smart Relays on AC Supply

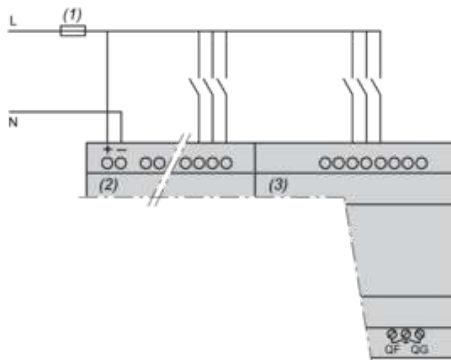
SR•••1B, SR•••1FU



- (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).

With Discrete I/O Extension Module

SR3B•••B + SR3XT•••B, SR3B•••FU + SR3XT•••FU



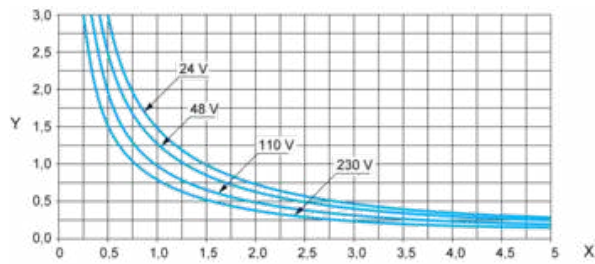
- (1) 1 A quick-blow fuse or circuit-breaker.
- NOTE: QF and QG: 5 A for SR3XT141••

Compact and Modular Smart Relays

Electrical Durability of Relay Outputs

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

AC-12 (1)

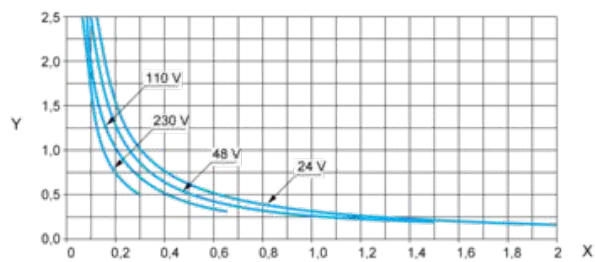


X: Current (A)

Y: Millions of operating cycles

(1) AC-12: switching resistive loads and opto-coupler isolated solid-state loads, $\cos \geq 0.9$.

AC-14 (1)

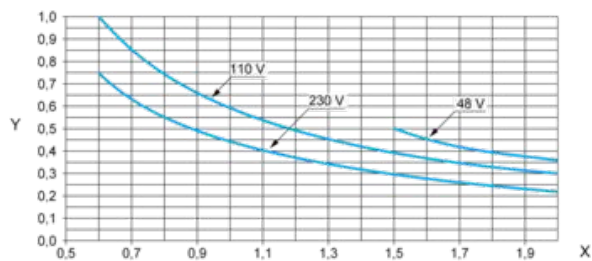


X: Current (A)

Y: Millions of operating cycles

(1) AC-14: switching small electromagnetic loads ≤ 72 VA, make: $\cos = 0.3$, break: $\cos = 0.3$.

AC-15 (1)



X: Current (A)

Y: Millions of operating cycles

(1) AC-15: switching electromagnetic loads ≥ 72 VA, make: $\cos = 0.7$, break: $\cos = 0.4$.