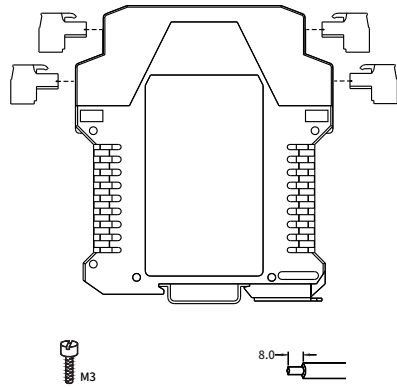


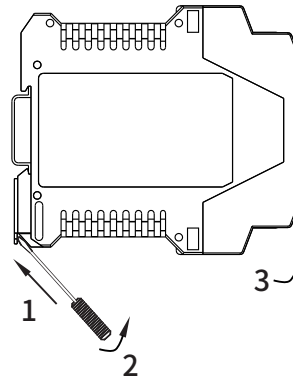
■ Connections

- (1) The module adopts knock-down connector with screw terminals.
- (2) The minimum cross section area of the flexible copper wire on the input side should be 0.5mm², and 1mm² on the output side.
- (3) A length of 8mm bared wire is locked by the M3 bolt.
- (4) Sufficient fuse protection must be provided to the output contacts.
- (5) The copper wire must tolerate ambient temperature at least 75°C.
- (6) Wrong use of the terminal screws may cause malfunction, heat, etc., so please tighten the screws with the torque of 0.5Nm.



■ Disassembly

- (1) Insert a screwdriver (its edge length ≤ 6mm) into the downside metal lock of the device;
- (2) Push the screwdriver upwards, then prize the metal lock downwards;
- (3) Take the device out of the guide rail.



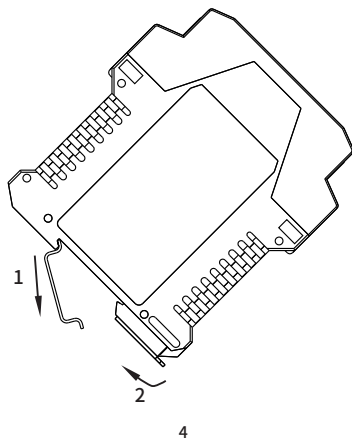
■ Installation

The safety relay should be installed in a housing at least IP54 (IEC 60529) degree of protection, and the installation and using should fulfill the related requirements of IEC 60204-1.

CZSR8000 series safety relays are designed for mounting on 35mm DIN guide rail.

Installation according to the following steps:

- (1) Make the upside of the device locked into the guide rail;
- (2) Push the downside of the device in the rail.



■ Maintenance

- (1) Please check the safety function of safety relay periodically, make sure the safety function executes properly, and there is no sign of any components or circuit changed or bypassed.
- (2) Please observe relevant safety regulations, and operate according to this user manual. Disregarding these safety regulations may cause fatal accident, serious personal injury or property loss.
- (3) Every product has been test strictly before leaving factory. If users find any abnormality in the module, please contact the nearest agent or our technic support hot-line.
- (4) In 5 years from the delivery date, if the product works improperly during normal operation, we will repair or replace it without payment.

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Safety Relay
 CZSR8001-3A1B



Performance Level: PL e

Category: Cat. 4



Read this instruction sheet to make sure of correct operation.
 Make sure that the instruction sheet is kept by the end user.

⚠ CAUTION

- Please check whether the product type on the package accords to the ordering contract;
- Read this manual carefully before installation or using. If anything unclear, please dial technical support hot-line:400 881 0780;
- Safety relay should be located in IP54 control cabinet;
- Supply voltage is 24V DC/AC, 220V AC is forbidden;
- Users are not allowed to dismantle or repair the product, otherwise it will induce malfunction.

Summarize

CZSR8001-3A1B is suitable for the application of E-STOP button and safety gate, with 3 safety output contacts (N/O) and 1 auxiliary output contact (N/C). It can be operated in single or double channel mode, manual or automatic reset, and with the function of monitoring the short circuit between channels.

Specification

Power:

- Supply voltage: 24 V DC/AC
- Voltage tolerance: 0.85 ~ 1.1
- AC frequency: 50 Hz ~ 60 Hz
- Current consumption: ≤ 90 mA (24 V DC); ≤ 240 mA (24 V AC)

Input:

- Input current: ≤ 50 mA (24 V DC)
- Cable resistance: ≤ 15 Ω
- Input devices: E-STOP Button, Safety Gate

Output:

- Number of contacts: 3NO + 1NC
- Contact material: AgSnO₂ + 0.2 μ m Au
- Contact type: Force guided
- External contact fuse protection: 10A gL/gG NEOZED (NO)
6A gL/gG NEOZED (NC)
- Utilisation category (EN60947-5-1): AC-15, 5A/230V;
DC-13, 5A/24V

Mechanical endurance: over 10⁷ times

Times:

- Switch-on delay:
 - with automatic reset, E-STOP operation: ≤ 300 ms
 - with automatic reset, power-on delay: ≤ 300 ms
 - with manual reset, manual reset: ≤ 150 ms
- Delay-on de-energisation:
 - with E-STOP: ≤ 30 ms
 - with power failure: ≤ 100 ms
- Recovery time:
 - after E-STOP: ≤ 30 ms
 - after power failure: ≤ 100 ms
- Supply interruption before de-energisation: 20ms

Safety

Performance level (PL): PL e	In accordance with EN ISO 13849
Category (Cat.): Cat. 4	In accordance with EN ISO 13849
Mission time (T _m): 20 years	In accordance with EN ISO 13849
Diagnostic coverage (DC/DC _{avg}): 99%	In accordance with EN ISO 13849
Safety integrity level (SIL): SIL 3	In accordance with IEC61508, IEC62061
Hardware fault tolerant (HFT): 1	In accordance with IEC61508, IEC62061
Safe failure fraction (SFF): 99%	In accordance with IEC61508, IEC62061
Average probability of dangerous failure (PFH _e): 3.09E-10/h	In accordance with IEC61508, IEC62061
Stop category: 0	In accordance with EN60204-1

B₁₀₀:

DC-13, U _e = 24 V:			
I _e	5A	2A	1A
Cycles	300,000	2,000,000	7,000,000
AC-15, U _e = 230 V:			
I _e	5A	3A	1A
Cycles	200,000	230,000	380,000

1

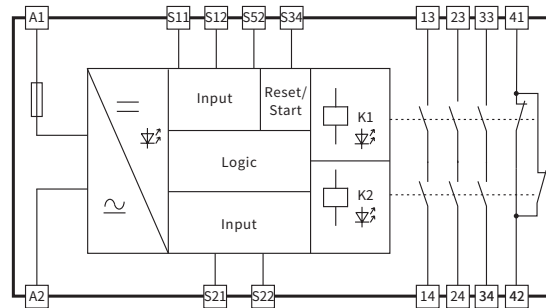
Environmental Characteristics

- EMC: In accordance with EN60947, EN61000-6-2, EN61000-6-4
- Vibration frequency: 10Hz ~ 55Hz
- Vibration amplitude: 0.35mm
- Ambient temperature: -20°C ~ +60°C
- Storage temperature: -40°C ~ +85°C
- Relative humidity: 10% ~ 90%

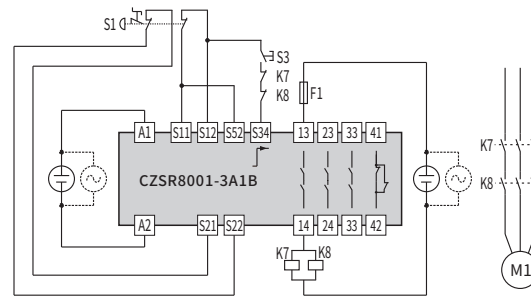
Insulation characteristic

- Clearance and creepage: In accordance with EN60947-1
- Overvoltage category: III
- Pollution degree: 2
- Protection type: IP20
- Elevation: ≤ 2000 m
- Rated insulation voltage: 250V AC
- Rated impulse voltage: 6000V (1.2/50 μ s)
- Dielectric strength: 1500V AC, 1min

Block Diagram



Typical Application

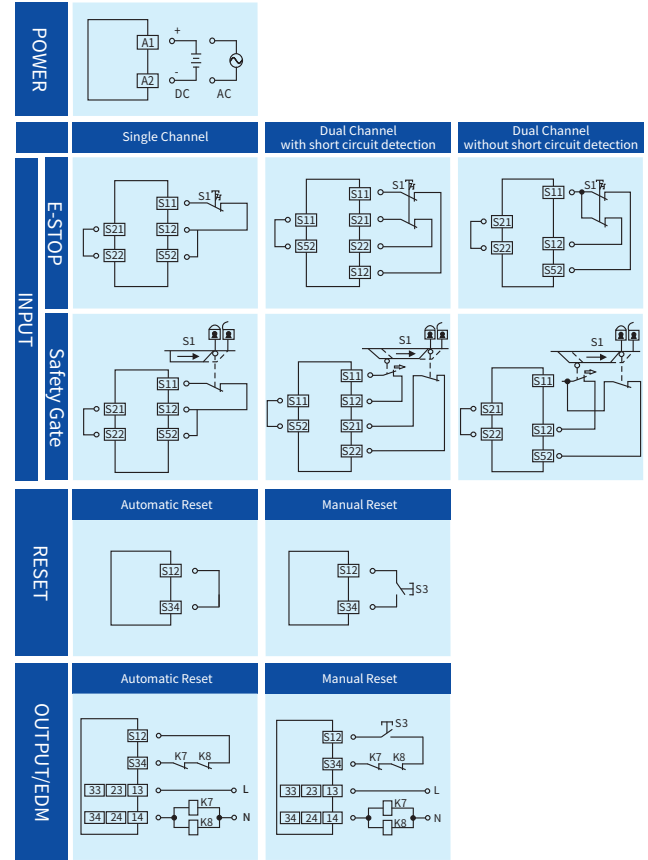


- Dual channel E-stop buttons input
- Short circuit monitoring
- Manual reset with EDM
- Up to Cat. 4

2

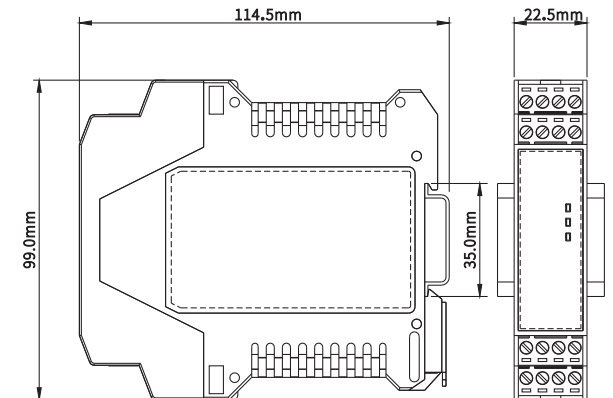
- S1: E-STOP button
- S3: Reset button
- K7, K8: Contactors
- F1: External fuse protection
- M1: Motor

Wiring Diagrams



Dimensions

Dimensions(L×H×W): 114.5mm×99.0mm×22.5mm
Weight: 200g



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