

CHENZHU

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Safety Relay CZSR Process Series

SIS Control System

SIL3 | TÜV Certification | G3 anti-corrosion

Isolated Barrier | Signal Conditioner | SPD | Safety Relay

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COMPANY PROFILE

CHENZHU FOCUSED ON PROFESSIONALISM

Chenzhu Instrument Co. Ltd, was founded in April, 2002, who was origialed from Shanghai Institute of Process Automation Instrumentation. CHENZHU is a professional company with core expertise of R&D, manufacturing and sale service of high quality protection products, such as intrinsic barriers, signal isolators, surge protection devices, safety relays etc. CHENZHU has been specialised in providing a professional solution for the safety circuit on site.



R&D STRENGTHS

- Functional safety
- Intrinsic safety explosion-proof
- Signal interference preventing
- Surge protective
- Machinery safety
- Control safety
- Drive safety



MANAGEMENT SYSTEMS



ISO9001



ISO14001



ISO45001



Safety production certification



Integration of informatization and industrialization

R&D SOURCE OF DEVELOPMENT

Based on ISO/IEC/GB standards, CHENZHU has established the professional laboratory which is applied up to 70 test capabilities and verification items in CHENZHU's safety electrical products' development process.



R&D Team
28%
Employees



R&D Investment
11%
/Sales revenue/Year



Innovation
110+
Patents



Testing Facility
80+
Test capabilities

QUALITY ACHIEVEMENTS IN THE FUTURE

CHENZHU factory is continually driven by lean management and flexible production. By our strict quality examination, CHENZHU ensures the production meets the design specification and satisfies our customers.



Company
8500m²
In total



Max Cap.
2,000,000pcs
Per year



Lean Production
10+
Years' experience



SIL3
IEC61508
IEC61511



CZSR Process Series Safety Relay Overview



G3 anti-corrosion

- ◆ Suitable for harsh environment



Lower heat generation

- ◆ High-density installation for industrial process control



Isolation design

- ◆ Suitable for SIS control system



International certification

- ◆ SIL3 TÜV certification



Overcurrent protection

- ◆ Output contact series overcurrent fuse



5 years warranty

- ◆ Warranties and guarantees add to your legal rights.

CZSR Process Series Safety Relay Product List

Input Devices	Model	Power Supply	Utilisation category	Relay Output		Page
	CZSR8401-1A	24V DC	5A	1 NO	-	5
	CZSR8401-1AR	24V DC	5A	1 NO	-	6
	CZSR8401-1B	24V DC	5A	-	1 NC	7
	CZSR8403-1AR1B	24V DC	5A	1 NO	1 NC	8
	CZSR8001-3A1B	24V DC/AC	5A	3 NO	1 NC	9
	CZSR8001-2A2B	24V DC/AC	5A	2 NO	2 NC	10

CZSR Process Series Safety Relay Product video



[Watch Video]

Upgraded CZSR Process series safety relay have:

- ✓ Slim overall width 12.5mm
- ✓ Only half power consumption
- ✓ 5A contact rate
- ✓ Proof Test & Fuse Changable
- ✓ Applicable to NE、ND、 high altitude

Model
CZSR8401-1A



Dimension(L×H×W): 114.5mm×99.0mm×12.5mm

Features

- Triple redundancy
- Internal contact fuse protection

Technical Data

- Power data:**
Supply voltage: 16V~35V DC
Current consumption: ≤35mA (24V DC)
- Input data:**
Number of channels: 1
Input current: ≤35mA (24V DC)
Cable resistance: ≤15Ω
Input devices: SIS controller DIO signals input
- Output data:**
Number of contacts: **1NO**
Contact material: AgSnO₂
Contact fuse protection: 5A (Internal)
Utilisation category: 5A/250V AC
5A/24V DC

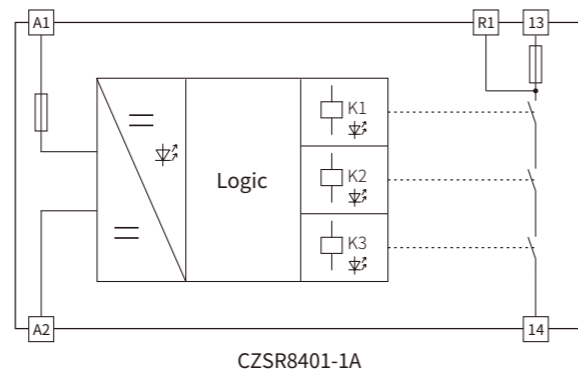
- Time data:**
Switch-on delay: ≤30ms
Delay-on de-energisation: ≤30ms
Recovery time: ≤30ms
Supply short interruption: 20ms

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

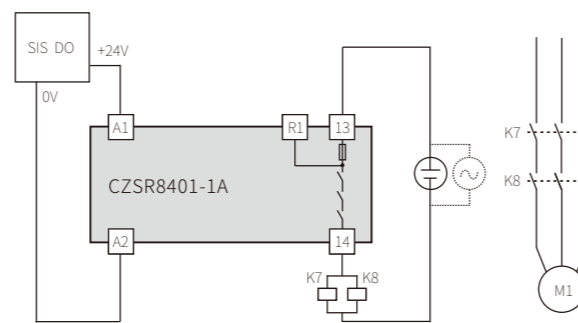
- Insulation data:**
Overvoltage category: III
Pollution degree: 2
Elevation: ≤2000m
Rated insulation voltage: 250V AC
Rated impulse voltage: 6000V (1.2/50us)
Dielectric strength: 1500V AC, 1min
Clearance and creepage distance: In accordance with EN

60947-1
Certification:
Safety integrity level: SIL3

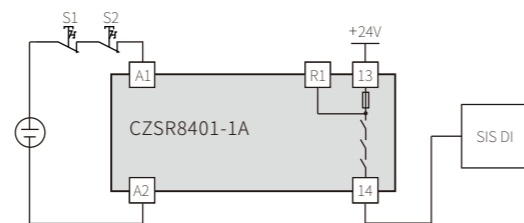
Block diagram



Application (SIS System)



■ SIS controller DO signals input



■ SIS controller DI signals input

Model
CZSR8401-1AR



Dimension(L×H×W): 114.5mm×99.0mm×12.5mm

Features

- Triple redundancy
- Internal contact fuse protection
- With proof test terminal

Technical Data

- Power data:**
Supply voltage: 16V~35V DC
Current consumption: ≤35mA (24V DC)
- Input data:**
Number of channels: 1
Input current: ≤35mA (24V DC)
Cable resistance: ≤15Ω
Input devices: SIS controller DIO signals input
- Output data:**
Number of contacts: **1NO**
Contact material: AgSnO₂
Contact fuse protection: 5A (Internal)
Utilisation category: 5A/250V AC
5A/24V DC

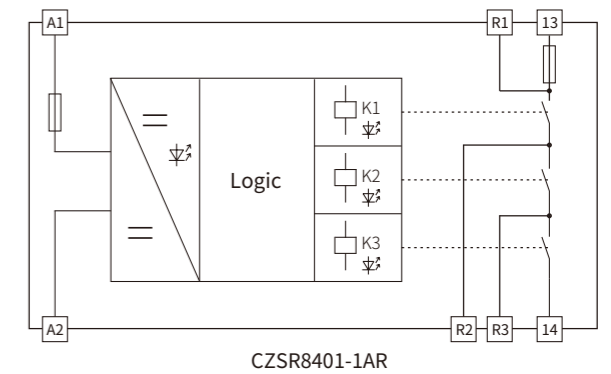
- Time data:**
Switch-on delay: ≤30ms
Delay-on de-energisation: ≤30ms
Recovery time: ≤30ms
Supply short interruption: 20ms

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

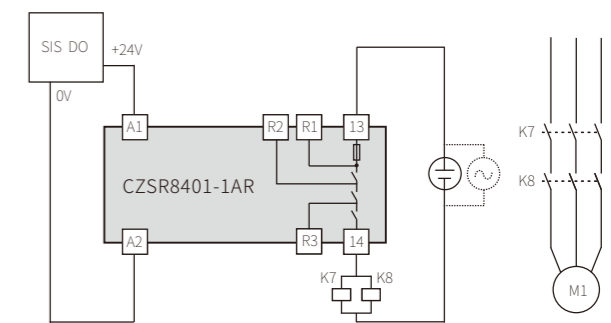
- Insulation data:**
Overvoltage category: III
Pollution degree: 2
Elevation: ≤2000m
Rated insulation voltage: 250V AC
Rated impulse voltage: 6000V (1.2/50us)
Dielectric strength: 1500V AC, 1min
Clearance and creepage distance: In accordance with EN

60947-1
Certification:
Safety integrity level: SIL3

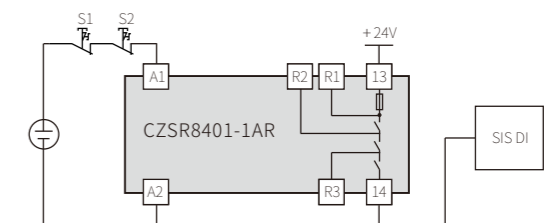
Block diagram



Application (SIS System)



■ SIS controller DO signals input



■ SIS controller DI signals input

Model
CZSR8401-1B



Dimension(L×H×W): 114.5mm×99.0mm×12.5mm

Features

- Triple redundancy
- Normally closed output form

Technical Data

Power data:

- Supply voltage: 16V~35V DC
- Current consumption: ≤35mA (24V DC)

Input data:

- Number of channels: 1
- Input current: ≤35mA (24V DC)
- Cable resistance: ≤15Ω
- Input devices: SIS controller DIO signals input

Output data:

- Number of contacts: **1NC**
- Contact material: AgSnO₂
- Contact fuse protection: 5A (Internal)
- Utilisation category: 5A/250V AC
5A/24V DC

Time data:

- Switch-on delay: ≤30ms
- Delay-on de-energisation: ≤30ms
- Recovery time: ≤30ms
- Supply short interruption: 20ms

Environmental data:

- EMC: EN60947, EN61000-6-2, EN61000-6-4
- Vibration: 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 data:

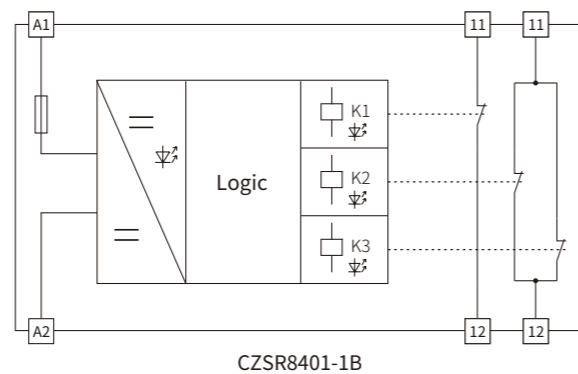
- Overvoltage category: III
- Pollution degree: 2
- Elevation: ≤2000m
- Rated insulation voltage: 250V AC
- Rated impulse voltage: 6000V (1.2/50us)
- Dielectric strength: 1500V AC, 1min
- Clearance and creepage distance: In accordance with EN

60947-1

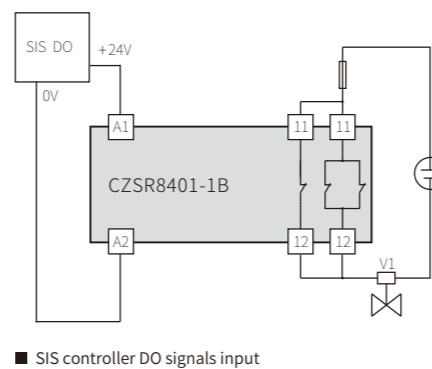
Certification:

- Safety integrity level: SIL2

Block diagram



Application (SIS System)



■ SIS controller DO signals input

Model
CZSR8403-1AR1B



Dimension(L×H×W): 114.5mm×99.0mm×22.5mm

Features

- Triple redundancy
- Replaceable fuse design
- With proof test terminal

Technical Data

Power data:

- Supply voltage: 16V~35V DC
- Current consumption: ≤60mA (24V DC)

Input data:

- Number of channels: 1
- Input current: ≤60mA (24V DC)
- Cable resistance: ≤15Ω
- Input devices: SIS controller DIO signals input

Output data:

- Number of contacts: **1NO+1NC**
- Contact material: Ag-alloy
- Contact fuse protection: 5A (Fuse socket)
- Utilisation category: 5A/250V AC
5A/30V DC

Time data:

- Switch-on delay: ≤30ms
- Delay-on de-energisation: ≤30ms
- Recovery time: ≤30ms
- Supply short interruption: 20ms

Environmental data:

- EMC: EN60947, EN61000-6-2, EN61000-6-4
- Vibration: 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 data:

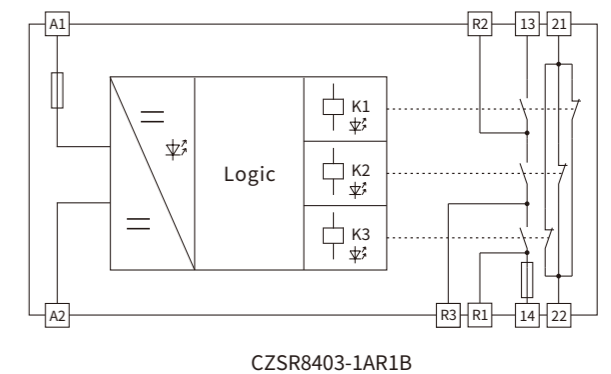
- Overvoltage category: III
- Pollution degree: 2
- Elevation: ≤4000m
- Rated insulation voltage: 250V AC
- Rated impulse voltage: 6000V (1.2/50us)
- Dielectric strength: 1500V AC, 1min
- Clearance and creepage distance: In accordance with EN

60947-1

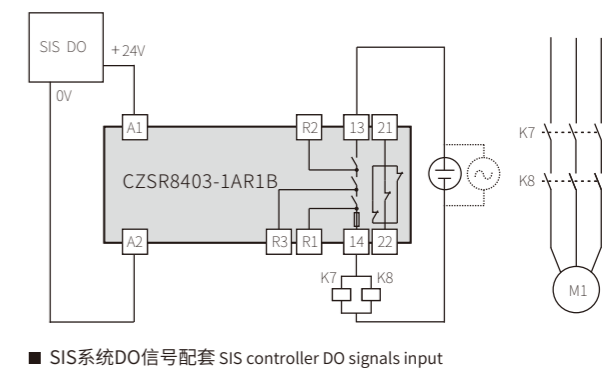
Certification:

- Safety integrity level: SIL3

Block diagram



Application (SIS System)



■ SIS系统DO信号配套 SIS controller DO signals input

Model
CZSR8001-3A1B



SIL3
IEC61508

PLe
Cat.4
EN/ISO13849



Dimension(L×H×W): 114.5mm×99.0mm×22.5mm

Features

- Several contacts output
- Low start-up inrush current

Technical Data

Power data:

- Supply voltage: 24V DC/AC
- Voltage tolerance: 0.85~1.1
- Current consumption: ≤90mA (24V DC)

Input data:

- Input current: ≤50mA (24V DC)
- Cable resistance: ≤15Ω
- Input devices: SIS controller DIO signals input

Output data:

- Number of contacts: **3NO+1NC**
- Contact material: AgSnO₂ + 0.2 μm Au
- Contact fuse protection: 10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)
- Utilisation category: AC-15, 5A/230V; DC-13, 5A/24V
(In accordance with EN60947-5-1)

Time data:

- Switch-on delay: ≤300ms
- Delay-on de-energisation: ≤30ms
- Recovery time: ≤100ms
- Supply short interruption: 20ms

Environmental data:

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

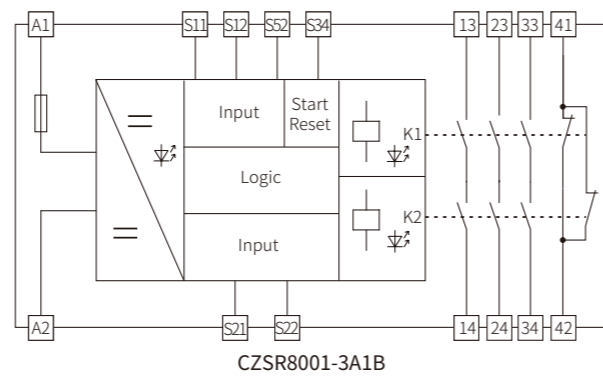
Insulation data:

- Overvoltage category: III
- Pollution degree: 2
- Rated insulation voltage: 250V AC
- Rated impulse voltage: 6000V (1.2/50us)
- Dielectric strength: 1500V AC, 1min
- Clearance and creepage distance: In accordance with EN 60947-1

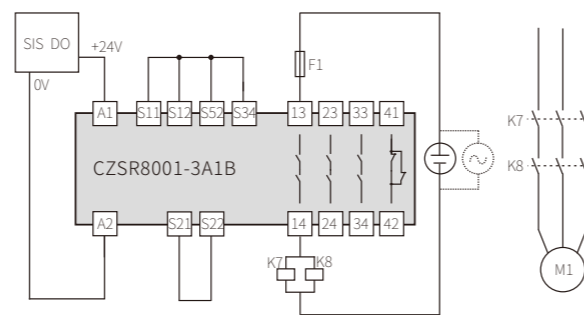
Certification:

- Safety integrity level: SIL3
- Performance level: PLe
- Category: Cat.4

Block diagram



Application (SIS System)



- SIS controller DO signals input
- Auto reset

Model
CZSR8001-2A2B



SIL3
IEC61508

PLe
Cat.4
EN/ISO13849



Dimension(L×H×W): 114.5mm×99.0mm×22.5mm

Features

- Several contacts output
- Low start-up inrush current

Technical Data

Power data:

- Supply voltage: 24V DC/AC
- Voltage tolerance: 0.85~1.1
- Current consumption: ≤90mA (24V DC)

Input data:

- Input current: ≤50mA (24V DC)
- Cable resistance: ≤15Ω
- Input devices: SIS controller DIO signals input

Output data:

- Number of contacts: **2NO+2NC**
- Contact material: AgSnO₂ + 0.2 μm Au
- Contact fuse protection: 10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)
- Utilisation category: AC-15, 5A/230V; DC-13, 5A/24V
(In accordance with EN60947-5-1)

Time data:

- Switch-on delay: ≤300ms
- Delay-on de-energisation: ≤30ms
- Recovery time: ≤100ms
- Supply short interruption: 20ms

Environmental data:

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

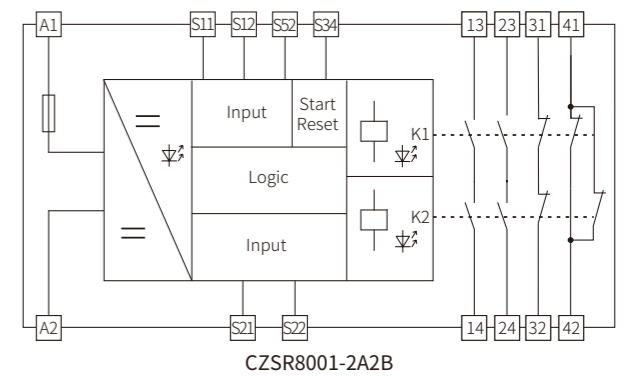
Insulation data:

- Overvoltage category: III
- Pollution degree: 2
- Rated insulation voltage: 250V AC
- Rated impulse voltage: 6000V (1.2/50us)
- Dielectric strength: 1500V AC, 1min
- Clearance and creepage distance: In accordance with EN 60947-1

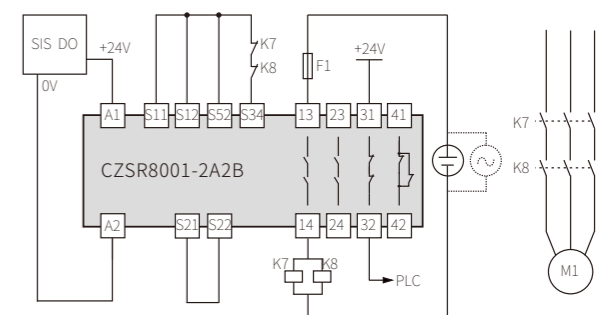
Certification:

- Safety integrity level: SIL3
- Performance level: PLe
- Category: Cat.4

Block diagram



Application (SIS System)



- SIS controller DO signals input
- Auto reset
- Output with EDM
- State diagnosis and feedback