



Isolated Barrier



Signal Conditioner



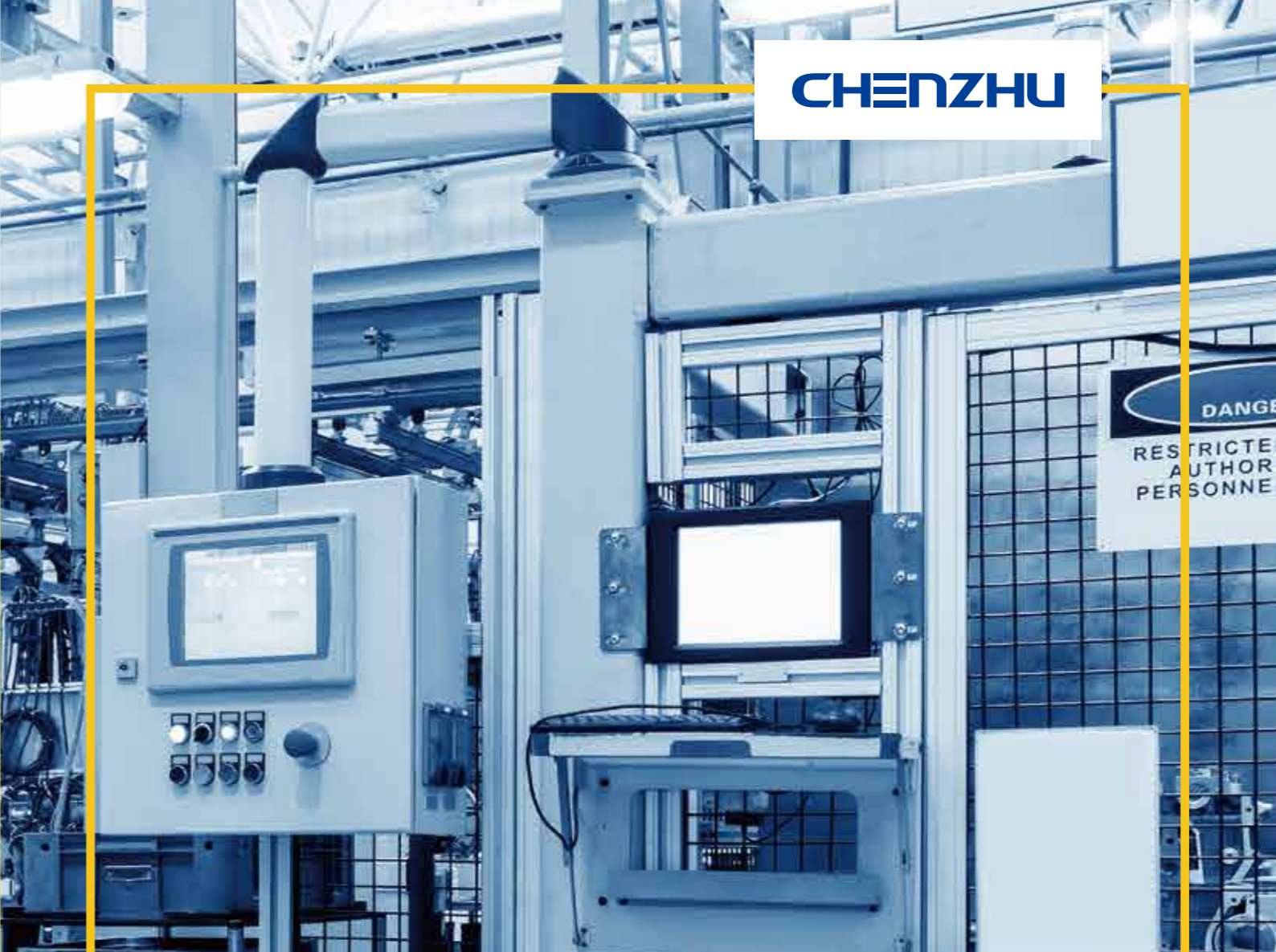
SPD



Safety Relay



Temperature Transmitter



## CZSR Classic Series Safety Relay

Support Multiple Input Devices

SIL3 PLe Cat.4 | TÜV Rheinland

G3 anti-corrosion



CZYB-15.04/2021.02

### Headquarters

SHANGHAI CHENZHU INSTRUMENT CO.,LTD.

Add: Building 6, 201 Minyi Rd., Shanghai 201612, P.R.China

Tel: +86-21-64360668

E-mail: [chenzhu@chenzhu-inst.com](mailto:chenzhu@chenzhu-inst.com)

Web: [en.chenzhu-inst.com](http://en.chenzhu-inst.com)

### ASEAN Region

CHENZHU SDN BHD (1314739-P)

Add: 7, Jalan Tasik Prima 2/1, 47150 Puchong, Selangor, Malaysia.

Tel: +60-3-80704739

E-mail: [sales@chenzhu-asean.com](mailto:sales@chenzhu-asean.com)

Web: [www.chenzhu-asean.com](http://www.chenzhu-asean.com)



## COMPANY PROFILE

### CHENZHU FOCUSED ON PROFESSIONALISM

Chenzhu Instrument Co. Ltd, was founded in April, 2002, who was originated 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.



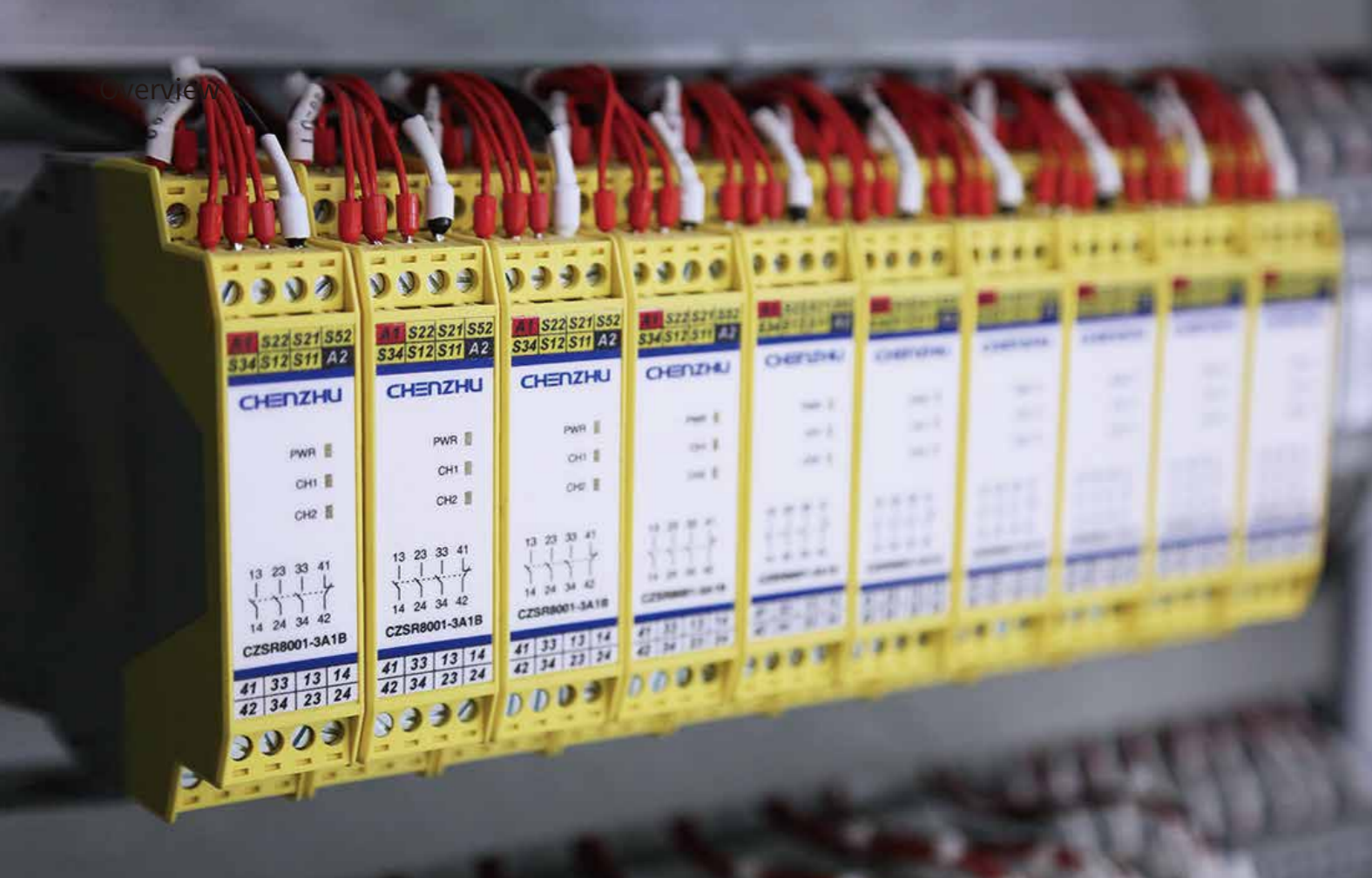
Company  
**8500m<sup>2</sup>**  
In total



Max Cap.  
**2,000,000 pcs**  
Per year



Lean Production  
**10+**  
Years' experience



### CZSR Classic Serise Safety Relay Overview



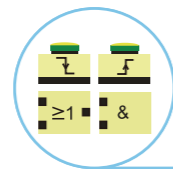
**Easy Mounting**  
35mm DIN guide rail  
Removable terminal block



**G3 anti-corrosion**  
Protect the Printed Circuit Board



**Easy Wiring**



**Comprehensive Functions**  
Single/dual channel operation  
Auto/manual reset  
Input devices state monitoring



**Multiple Input Devices**  
E-stop buttons | Safety gates  
Light beam devices | Safety mats  
Two-hand control buttons



**EMC Characteristics of Safety Instruments**  
IEC61326-3-1

### CZSR Classic Series Safety Relay Product List

Input Devices	Model	Power	Reset Mode	Relay Output		Transistor output	Page	
				N/O	N/C			
	CZSR8001-3A1B	24V DC/AC	Auto / Manual	3	-	1	-	5
	CZSR8001-3A1B(M)	24V DC/AC	Monitored manual	2	-	2	-	5
	CZSR8002-2A2AT	24V DC	Auto / Manual	2	2	-	-	6
	CZSR8002-2A2AT(M)	24V DC	Monitored manual	2	2	-	-	6
	CZSR8003-3A1B	230V AC	Auto / Manual	3	-	1	-	7
	<b>New</b> CZSR8001-2A1B	24V DC/AC	Auto / Manual	2	-	1	-	8
	<b>New</b> CZSR8001-2A1B3AT1BT	24V DC/AC	Auto / Manual	2	3	1	1	8
	CZSR8001-3A1B-P	24V DC	Auto / Manual	3	-	1	-	9
	CZSR8101-3A1B-N	24V DC	Auto / Manual	3	-	1	-	9
	CZSR8201-3A1B	24V DC/AC	None	3	-	1	-	10
	CZSR8301-3A1B	24V DC/AC	Auto / Manual	3	-	1	-	11
	CZSR8301-3A1B(M)	24V DC/AC	Monitored manual	3	-	1	-	11
	CZSR8302-3A1B	24V DC/AC	Universal	3	-	1	-	12
	CZSR8303-3A1B	230V AC	Universal	3	-	1	-	12
	<b>New</b> CZSR8302-2A1B1S	24V DC/AC	Auto / Manual	2	-	1	-	13
	<b>New</b> CZSR8302-2AT1BT1S	24V DC/AC	Auto / Manual	-	2	-	1	13
	CZSR8801-4A2B	24V DC	Auto / Manual	4	-	1	-	14
	CZSR8801-8A4B	24V DC	Auto / Manual	8	-	2	-	14

## E-Stop Buttons, Safety Gates Input Safety Relay

### Features

Single or dual channel  
Manual or automatic reset  
Short circuit monitoring

#### CZSR8001-3A1B

#### CZSR8001-3A1B(M)

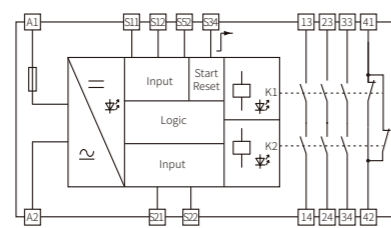
Power data		
Supply voltage	24V DC/AC	24V DC/AC
Voltage tolerance	0.85~1.1	0.85~1.1
Current consumption	≤90mA (24V DC) / ≤240mA (24V AC)	≤90mA (24V DC) / ≤240mA (24V AC)
Input data		
Input current	≤50mA (24V DC)	≤50mA (24V DC)
Cable resistance	≤15Ω	≤15Ω
Input devices	E-stop buttons, Safety gates	E-stop buttons, Safety gates
Output data		
Number of contacts	<b>3NO+1NC</b>	<b>3NO+1NC</b>
Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)
Mechanical endurance of contacts	10 <sup>7</sup> 次以上	10 <sup>7</sup> 次以上
Utilisation category	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V
Time data		
Switch-on delay	≤300ms	≤150ms
Delay-on de-energisation	≤30ms	≤30ms
Recovery time	≤100ms	≤100ms
Supply short interruption	20ms	20ms
Environmental data		
EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
Vibration	Vibration frequency: 10Hz~55Hz; Vibration amplitude: 0.35mm	Vibration frequency: 10Hz~55Hz; Vibration amplitude: 0.35mm
Ambient temperature	-20°C~+60°C	-20°C~+60°C
Storage temperature	-40°C~+85°C	-40°C~+85°C
Relative humidity	10%~90%	10%~90%
Elevation	≤2000m	≤2000m
Insulation data		
Overvoltage category	III	III
Pollution degree	2	2
Rated insulation voltage	250V AC	250V AC
Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
Dielectric strength	1500V AC, 1min	1500V AC, 1min
Clearance and creepage distance	In accordance with EN 60947-1	In accordance with EN 60947-1
Certification		
Safety integrity level	SIL3	SIL3
Performance level	PLe	PLe
Category	Cat.4	Cat.4

### Products show

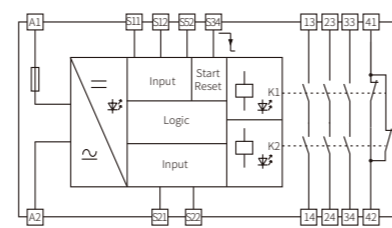
114.5mm×99.0mm×22.5mm



### Block diagram



CZSR8001-3A1B



CZSR8001-3A1B(M)

## E-Stop Buttons, Safety Gates Input Safety Relay

### Features

Instantaneous or delayed output  
Manual or automatic reset  
Short circuit monitoring

#### CZSR8002-2A2AT

#### CZSR8002-2A2AT(M)

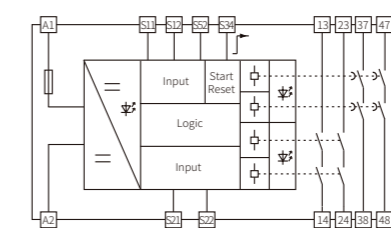
Power data		
Supply voltage	24V DC	24V DC
Voltage tolerance	0.85~1.1	0.85~1.1
Current consumption	≤130mA (24V DC)	≤130mA (24V DC)
Input data		
Input current	≤50mA (24V DC)	≤50mA (24V DC)
Cable resistance	≤15Ω	≤15Ω
Input devices	E-stop buttons, Safety gates	E-stop buttons, Safety gates
Output data		
Number of contacts	<b>2NO+2NO(t)</b>	<b>2NO+2NO(t)</b>
Contact material	AgSnO <sub>2</sub>	AgSnO <sub>2</sub>
External contact fuse protection	10A gL/gG NEOZED (NO)	10A gL/gG NEOZED (NO)
Mechanical endurance of contacts	10 <sup>7</sup> 次以上	10 <sup>7</sup> 次以上
Utilisation category	In accordance with EN60947-5-1: AC-15, 3A/230V; DC-13, 3A/24V	In accordance with EN60947-5-1: AC-15, 3A/230V; DC-13, 3A/24V
Time data		
Switch-on delay	≤300ms	≤150ms
Delay-on de-energisation	≤30ms (instantaneous); 0.1s~3s (delayed, factory set as 3s)	≤30ms (instantaneous); 0.1s~3s (delayed, factory set as 3s)
Recovery time	≤100ms	≤100ms
Supply short interruption	20ms	20ms
Environmental data		
EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
Vibration	Vibration frequency: 10Hz~55Hz; Vibration amplitude: 0.35mm	Vibration frequency: 10Hz~55Hz; Vibration amplitude: 0.35mm
Ambient temperature	-20°C~+60°C	-20°C~+60°C
Storage temperature	-40°C~+85°C	-40°C~+85°C
Relative humidity	10%~90%	10%~90%
Elevation	≤2000m	≤2000m
Insulation data		
Overvoltage category	III	III
Pollution degree	2	2
Rated insulation voltage	250V AC	250V AC
Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
Dielectric strength	1500V AC, 1min	1500V AC, 1min
Clearance and creepage distance	In accordance with EN 60947-1	In accordance with EN 60947-1
Certification		
Safety integrity level	SIL3	SIL3
Performance level	PLe	PLe
Category	Cat.4	Cat.4

### Products show

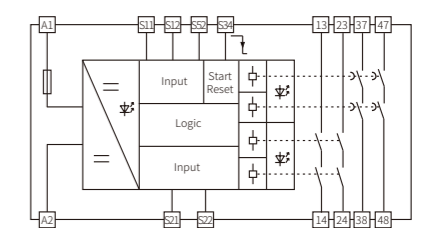
114.5mm×99.0mm×22.5mm



### Block diagram



CZSR8002-2A2AT



CZSR8002-2A2AT(M)

**Features**

Single or dual channel  
Manual or automatic reset  
Short circuit monitoring

**CZSR8003-3A1B**

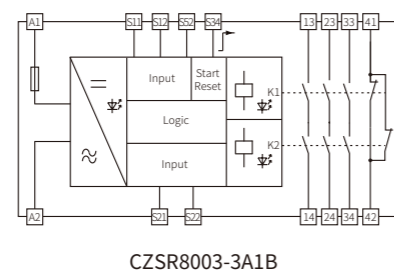
Power data	
Supply voltage	100V~230V AC
Current consumption	≤7 VA (220V AC)
Input data	
Input current	≤50mA (220V AC)
Cable resistance	≤15Ω
Input devices	E-stop buttons, Safety gates
Output data	
Number of contacts	3NO+1NC
Contact material	AgSnO <sub>2</sub> + 0.2 μm Au
External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)
Mechanical endurance of contacts	10 <sup>7</sup> 次以上
Utilisation category	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V
Time data	
Switch-on delay	≤300ms
Delay-on de-energisation	≤30ms
Recovery time	≤500ms
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%
Elevation	≤2000m
Insulation data	
Overvoltage category	II
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

**Products show**

114.5mm×99.0mm×22.5mm



**Block diagram**



CZSR8003-3A1B

Newly Released

**Features**

Single or dual channel  
Manual or automatic reset  
Short circuit monitoring

**CZSR8001-2A1B**

**CZSR8001-2A1B3AT1BT**

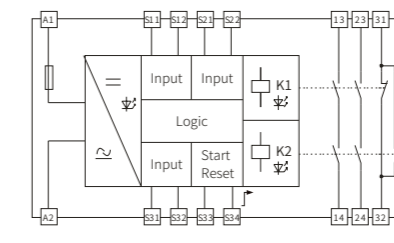
Power data		
Supply voltage	24V DC/AC	24V DC/AC
Voltage tolerance	0.85~1.1	0.85~1.1
Current consumption	≤90mA (24V DC) / ≤240mA (24V DC)	≤170mA (24V DC) / ≤400mA (24V AC)
Input data		
Input current	≤50mA (24V DC)	≤50mA (24V DC)
Cable resistance	≤15Ω	≤15Ω
Input devices	E-stop buttons, Safety gates	E-stop buttons, Safety gates
Output data		
Number of contacts	2NO+2NC	2NO+1NC+3NO(t)+1NC(t)
Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
External contact fuse protection	10A gL/gG NEOZED (N/O); 6A gL/gG NEOZED (N/C)	10A gL/gG NEOZED (N/O); 6A gL/gG NEOZED (N/C)
Mechanical endurance of contacts	10 <sup>7</sup> 次以上	10 <sup>7</sup> 次以上
Utilisation category	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V
Time data		
Switch-on delay	≤300ms	≤300ms
Delay-on de-energisation	≤30ms (instantaneous);	≤30ms (instantaneous)
Recovery time	-	0s, 0.5s, 1s, 2s, 3s, 5s(delayed, factory set as 5s)
Supply short interruption	20ms	20ms
Environmental data		
EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
Vibration	Vibration frequency: 10Hz~55Hz; Vibration amplitude: 0.35mm	Vibration frequency: 10Hz~55Hz; Vibration amplitude: 0.35mm
Ambient temperature	-20°C~+60°C	-20°C~+60°C
Storage temperature	-40°C~+85°C	-40°C~+85°C
Relative humidity	10%~90%	10%~90%
Elevation	≤2000m	≤2000m
Insulation data		
Overvoltage category	II	II
Pollution degree	2	2
Rated insulation voltage	250V AC	250V AC
Rated impulse voltage	4000V (1.2/50us)	4000V (1.2/50us)
Dielectric strength	1500V AC, 1min	1500V AC, 1min
Clearance and creepage distance	In accordance with EN 60947-1	In accordance with EN 60947-1
Certification		
Safety integrity level	SIL3	SIL3
Performance level	PLe	PLe
Category	Cat.4	Cat.4

**Products show**

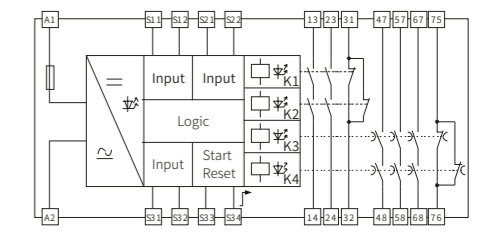
114.5mm×99.0mm×22.5mm (CZSR8001-2A1B)  
114.5mm×99.0mm×45mm (CZSR8001-2A1B3AT1BT)



**Block diagram**



CZSR8001-2A1B



CZSR8001-2A1B3AT1BT

## Light Beam Devices Input Safety Relay

### Features

PNP type light beam devices  
Dual channel  
Manual or automatic reset

#### CZSR8001-3A1B-P

#### CZSR8101-3A1B-N

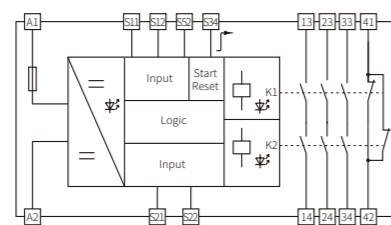
Power data		
Supply voltage	24V DC	24V DC
Voltage tolerance	0.85~1.1	0.85~1.1
Current consumption	≤90mA (24V DC)	≤90mA (24V DC)
Input data		
Input current	≤50mA (24V DC)	≤50mA (24V DC)
Cable resistance	≤15Ω	≤15Ω
Input devices	PNP type light beam devices	NPN type light beam devices
Output data		
Number of contacts	<b>3NO+1NC</b>	<b>3NO+1NC</b>
Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)
Mechanical endurance of contacts	10 <sup>7</sup> 次以上	10 <sup>7</sup> 次以上
Utilisation category	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V
Time data		
Switch-on delay	≤300ms	≤300ms
Delay-on de-energisation	≤30ms	≤30ms
Recovery time	≤100ms	≤100ms
Supply short interruption	20ms	20ms
Environmental data		
EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
Vibration	Vibration frequency: 10Hz~55Hz; Vibration amplitude: 0.35mm	Vibration frequency: 10Hz~55Hz; Vibration amplitude: 0.35mm
Ambient temperature	-20°C~+60°C	-20°C~+60°C
Storage temperature	-40°C~+85°C	-40°C~+85°C
Relative humidity	10%~90%	10%~90%
Elevation	≤2000m	≤2000m
Insulation data		
Overvoltage category	III	III
Pollution degree	2	2
Rated insulation voltage	250V AC	250V AC
Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
Dielectric strength	1500V AC, 1min	1500V AC, 1min
Clearance and creepage distance	In accordance with EN 60947-1	In accordance with EN 60947-1
Certification		
Safety integrity level	SIL3	SIL3
Performance level	PLe	PLe
Category	Cat.4	Cat.4

### Products show

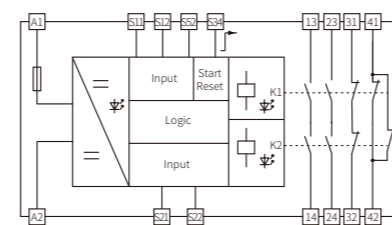
114.5mm×99.0mm×22.5mm



### Block diagram



CZSR8001-3A1B-P



CZSR8101-3A1B-N

## Two-Hand Control Buttons Input Safety Relay

### Features

Dual channel  
Accord with EN 574 Type IIIC

#### CZSR8201-3A1B

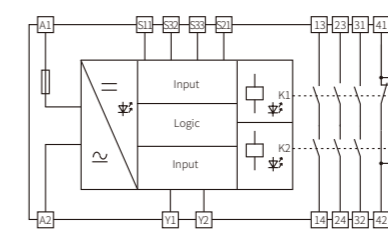
Power data	
Supply voltage	24V DC/AC
Voltage tolerance	0.85~1.1
Current consumption	≤60mA (24V DC) / ≤140mA (24V AC)
Input data	
Input current	≤50mA (24V DC)
Cable resistance	≤15Ω
Input devices	Two-hand control buttons
Output data	
Number of contacts	<b>3NO+1NC</b>
Contact material	AgSnO <sub>2</sub> + 0.2 μm Au
External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)
Mechanical endurance of contacts	10 <sup>7</sup> 次以上
Utilisation category	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V
Time data	
Switch-on delay	≤30ms
Delay-on de-energisation	≤15ms
Simultaneity	≤500ms
Recovery time	≤250ms
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%
Elevation	≤2000m
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

### Products show

114.5mm×99.0mm×22.5mm



### Block diagram



CZSR8201-3A1B

**Features**

4-wire safety mats  
Monitored manual reset

**CZSR8301-3A1B**

**CZSR8301-3A1B(M)**

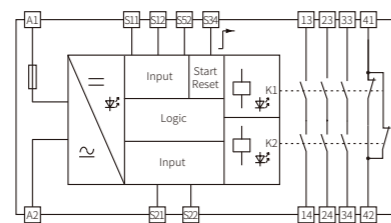
<b>Power data</b>		
Supply voltage	24V DC/AC	24V DC/AC
Voltage tolerance	0.85~1.1	0.85~1.1
Current consumption	≤90mA (24V DC) / ≤240mA (24V AC)	≤90mA (24V DC) / ≤240mA (24V AC)
<b>Input data</b>		
Input current	≤50mA (24V DC)	≤50mA (24V DC)
Cable resistance	≤15Ω	≤15Ω
Input devices	Safety mats (4-wire)	Safety mats (4-wire)
<b>Output data</b>		
Number of contacts	<b>3NO+1NC</b>	<b>3NO+1NC</b>
Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)
Mechanical endurance of contacts	10 <sup>7</sup> 次以上	10 <sup>7</sup> 次以上
Utilisation category	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V
<b>Time data</b>		
Switch-on delay	≤300ms	≤150ms
Delay-on de-energisation	≤30ms	≤30ms
Recovery time	≤300ms	≤300ms
Supply short interruption	20ms	20ms
<b>Environmental data</b>		
EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
Vibration	Vibration frequency: 10Hz~55Hz; Vibration amplitude: 0.35mm	Vibration frequency: 10Hz~55Hz; Vibration amplitude: 0.35mm
Ambient temperature	-20°C~+60°C	-20°C~+60°C
Storage temperature	-40°C~+85°C	-40°C~+85°C
Relative humidity	10%~90%	10%~90%
Elevation	≤2000m	≤2000m
<b>Insulation data</b>		
Overvoltage category	III	III
Pollution degree	2	2
Rated insulation voltage	250V AC	250V AC
Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
Dielectric strength	1500V AC, 1min	1500V AC, 1min
Clearance and creepage distance	In accordance with EN 60947-1	In accordance with EN 60947-1
<b>Certification</b>		
Safety integrity level	SIL3	SIL3
Performance level	PLe	PLe
Category	Cat.4	Cat.4

**Products show**

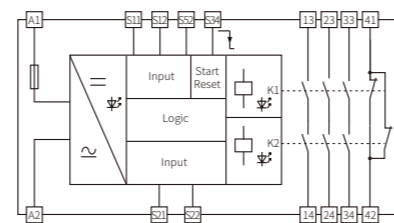
114.5mm×99.0mm×22.5mm



**Block diagram**



CZSR8301-3A1B



CZSR8301-3A1B(M)

**Features**

2-wire safety mats/edges  
Automatic reset  
Monitored manual reset

**CZSR8302-3A1B**

**CZSR8303-3A1B**

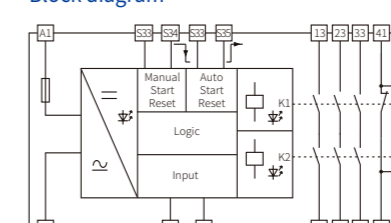
<b>Power data</b>		
Supply voltage	24V DC/AC	<b>100V~230V AC</b>
Voltage tolerance	0.85~1.1	-
Current consumption	≤95mA (24V DC) / ≤240mA (24V AC)	≤7 VA (220V AC)
<b>Input data</b>		
Input current	≤10mA (24V DC)	≤10mA (220V AC)
Cable resistance	≤15Ω	≤15Ω
Input devices	Safety mats, safety edges (2-wire)	Safety mats, safety edges (2 or 4-wire)
Terminal resistance	1.0KΩ ~ 10KΩ	1.0KΩ ~ 10KΩ
<b>Output data</b>		
Number of contacts	<b>3NO+1NC</b>	<b>3NO+1NC</b>
Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)
Mechanical endurance of contacts	10 <sup>7</sup> 次以上	10 <sup>7</sup> 次以上
Utilisation category	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V
<b>Time data</b>		
Switch-on delay	≤300ms	≤300ms
Delay-on de-energisation	≤30ms	≤30ms
Recovery time	≤100ms	≤500ms
Supply short interruption	20ms	20ms
<b>Environmental data</b>		
EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
Vibration	Vibration frequency: 10Hz~55Hz; Vibration amplitude: 0.35mm	Vibration frequency: 10Hz~55Hz; Vibration amplitude: 0.35mm
Ambient temperature	-20°C~+60°C	-20°C~+60°C
Storage temperature	-40°C~+85°C	-40°C~+85°C
Relative humidity	10%~90%	10%~90%
Elevation	≤2000m	≤2000m
<b>Insulation data</b>		
Overvoltage category	III	III
Pollution degree	2	2
Rated insulation voltage	250V AC	250V AC
Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
Dielectric strength	1500V AC, 1min	1500V AC, 1min
Clearance and creepage distance	In accordance with EN 60947-1	In accordance with EN 60947-1
<b>Certification</b>		
Safety integrity level	SIL3	SIL3
Performance level	PLe	PLe
Category	Cat.4	Cat.4

**Products show**

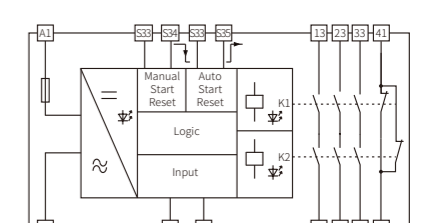
114.5mm×99.0mm×22.5mm



**Block diagram**



CZSR8302-3A1B



CZSR8303-3A1B

Newly Released

Features

- 2 or 4-wire safety mats/edges
- Automatic reset
- Monitored manual reset

	CZSR8302-2A1B1S	CZSR8302-2AT1BT1S
<b>Power data</b>		
Supply voltage	24V DC/AC	24V DC/AC
Voltage tolerance	0.85~1.1	0.85 ~ 1.1
Current consumption	≤120mA (24V DC), ≤300mA (24V AC)	≤120mA (24V DC), ≤300mA (24V AC)
<b>Input data</b>		
Input current	≤10mA (24V DC)	≤10mA (24V DC)
Cable resistance	≤15Ω	≤15Ω
Input devices	Safety mats, safety edges (2 or 4-wire)	Safety switches, Contact switches
Terminal resistance	1.0KΩ ~ 10KΩ	1.0KΩ ~ 10KΩ
<b>Output data</b>		
Number of contacts	2NO+1NC+1SO	2NO(t)+1NC(t)
Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)	10A gL/gG NEOZED (N/O); 6A gL/gG NEOZED (N/C)
Mechanical endurance of contacts	10 <sup>7</sup> 次以上	10 <sup>7</sup> 次以上
Utilisation category	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V
Semiconductor output data	Number of semi-output: 1SO Driving ability: 20mA/24V DC	Number of semi-output: 1SO Driving ability: 20mA/24V DC
<b>Time data</b>		
Switch-on delay	≤300ms	≤300ms
Delay-on de-energisation	≤30ms(instantaneous)	≤30ms (instantaneous)
Recovery time	≤100ms	≤100ms
Supply short interruption	20ms	20ms
<b>Environmental data</b>		
EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
Vibration	Vibration frequency: 10Hz~55Hz; Vibration amplitude: 0.35mm	Vibration frequency: 10Hz~55Hz; Vibration amplitude: 0.35mm
Ambient temperature	-20°C~+60°C	-20°C~+60°C
Storage temperature	-40°C~+85°C	-40°C~+85°C
Relative humidity	10%~90%	10%~90%
Elevation	≤2000m	≤2000m
<b>Insulation data</b>		
Overvoltage category	III	III
Pollution degree	2	2
Rated insulation voltage	250V AC	250V AC
Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
Dielectric strength	1500V AC, 1min	1500V AC, 1min
Clearance and creepage distance	In accordance with EN 60947-1	In accordance with EN 60947-1
<b>Certification</b>		
Safety integrity level	SIL3	SIL3
Performance level	PLe	PLe
Category	Cat.4	Cat.4

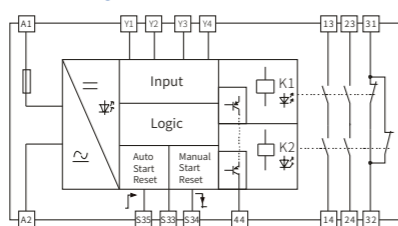
Products show

114.5mm × 99.0mm × 22.5mm

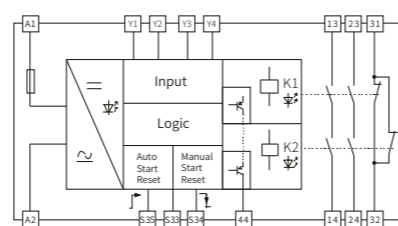


SIL3 IEC61508  
PLe Cat.4 EN1813949

Block diagram



CZSR8302-2A1B1S



CZSR8302-2AT1BT1S

Features

- Separate two channels
- Fault diagnosis contact

	CZSR8801-4A2B	CZSR8801-8A4B
<b>Power data</b>		
Supply voltage	20V~30V DC	20V~30V DC
Current consumption	≤50mA (24V DC)	≤50mA (24V DC, for each channel)
<b>Input data</b>		
Number of channels	1	2
Input current	≤50mA (24V DC)	≤50mA (24V DC)
Cable resistance	≤15Ω	≤15Ω
Input devices	Safety switches, Contact switches	Safety switches, Contact switches
<b>Relay output data</b>		
Number of contacts	4NO+2NC	8NO+4NC (4NO+2NC for each channel)
Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)
Mechanical endurance of contacts	10 <sup>7</sup> 次以上	10 <sup>7</sup> 次以上
Utilisation category	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V
<b>Time data</b>		
Switch-on delay	≤30ms	≤30ms
Delay-on de-energisation	≤20ms	≤20ms
Recovery time	≤100ms	≤100ms
Supply short interruption	20ms	20ms
<b>Environmental data</b>		
EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
Vibration	Vibration frequency: 10Hz~55Hz; Vibration amplitude: 0.35mm	Vibration frequency: 10Hz~55Hz; Vibration amplitude: 0.35mm
Ambient temperature	-20°C~+60°C	-20°C~+60°C
Storage temperature	-40°C~+85°C	-40°C~+85°C
Relative humidity	10%~90%	10%~90%
Elevation	≤2000m	≤2000m
<b>Insulation data</b>		
Overvoltage category	III	III
Pollution degree	2	2
Rated insulation voltage	250V AC	250V AC
Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
Dielectric strength	1500V AC, 1min	1500V AC, 1min
Clearance and creepage distance	In accordance with EN 60947-1	In accordance with EN 60947-1
<b>Certification</b>		
Safety integrity level	SIL3	SIL3
Performance level	PLe	PLe
Category	Cat.4	Cat.4

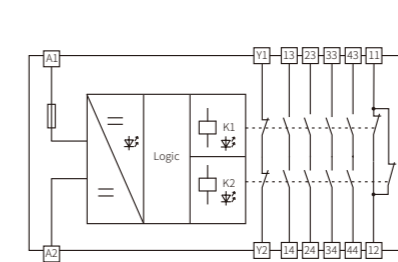
Products show

114.5mm × 99.0mm × 22.5mm  
114.5mm × 99.0mm × 45.0mm

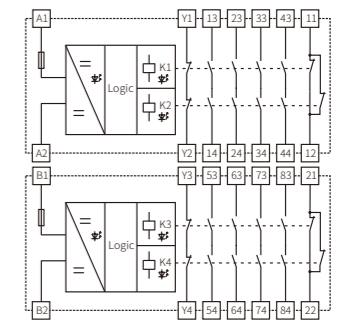


SIL3 IEC61508  
PLe Cat.4 EN1813949  
CE

Block diagram



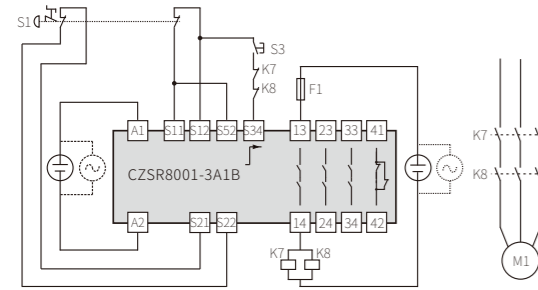
CZSR8801-4A2B



CZSR8801-8A4B



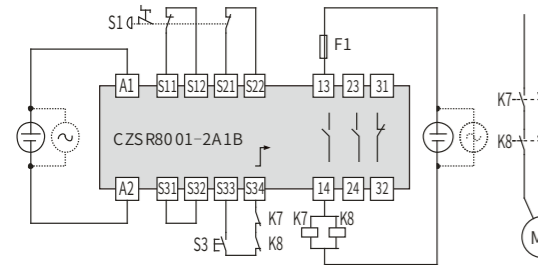
**CZSR8001-3A1B**



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

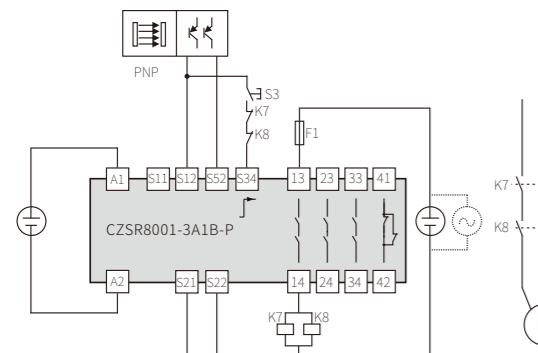
**CZSR8001-2A1B**

Newly released



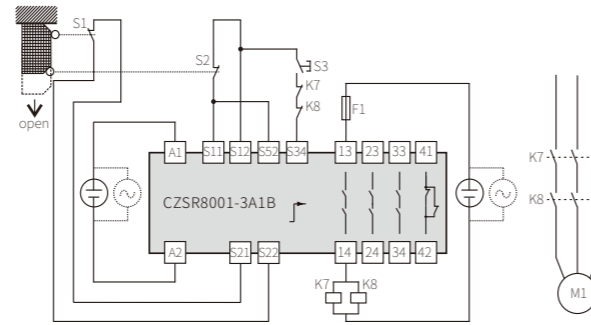
- Dual channel E-stop buttons input
- Short circuit monitoring
- Manual reset
- Output with EDM
- Up to Cat.4

**CZSR8001-3A1B-P**



- Dual channel PNP type light beam devices input
- Manual reset
- Output with EDM
- Up to Cat.4

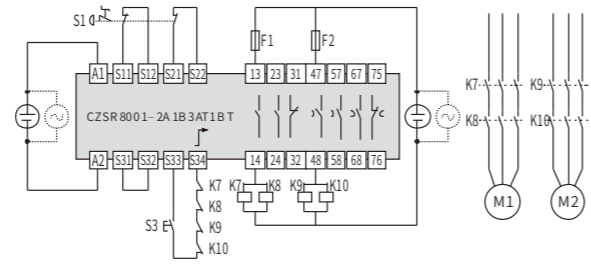
**CZSR8001-3A1B**



- Dual channel safety gates input
- Short circuit monitoring
- Manual reset
- Output with EDM
- Up to Cat.4

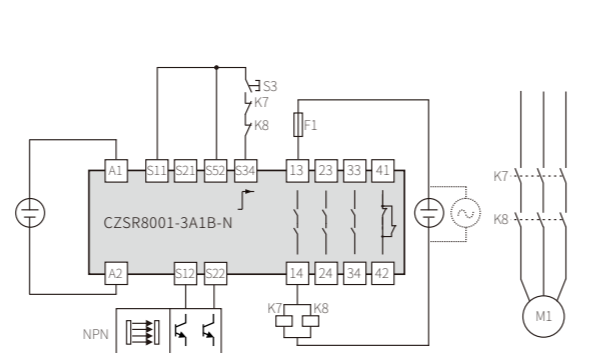
**CZSR8001-2A1B3AT1BT**

Newly released



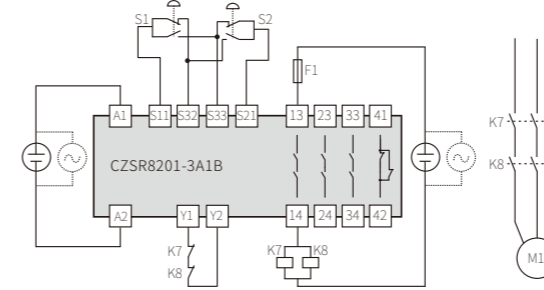
- Dual channel E-stop buttons input
- Short circuit monitoring
- Manual reset
- 4 delay-on contact
- Output with EDM
- Up to Cat.4

**CZSR8101-3A1B-N**



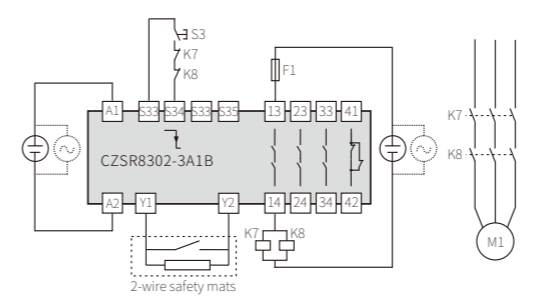
- Dual channel NPN type light beam devices input
- Manual reset
- Output with EDM
- Up to Cat.4

**CZSR8201-3A1B**



- Two-hand control buttons input
- In accord with EN574 type IIIC
- Output with EDM
- Up to Cat.4

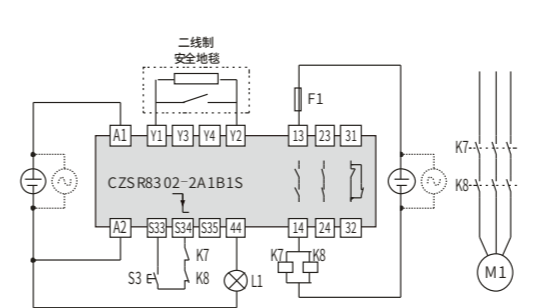
**CZSR8302-3A1B**



- 2-wire safety mats input
- Monitored manual reset
- Output with EDM
- Up to Cat.4

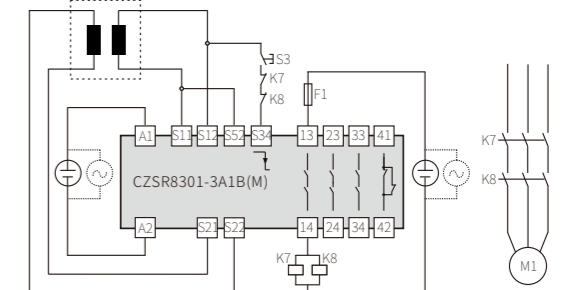
**CZSR8302-2A1B1S**

Newly released



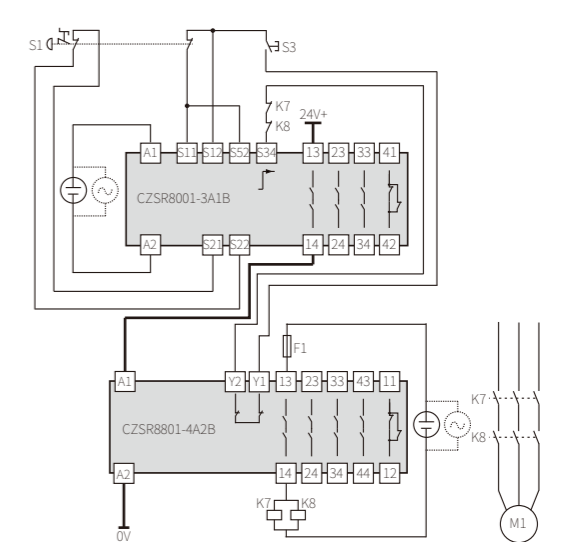
- 2-wire safety mats input
- Monitored manual reset
- Output with EDM
- Up to Cat.4
- 1 delay-on auxiliary output contact of semiconductor

**CZSR8301-3A1B(M)**



- 4-wire safety mats input
- Monitored manual reset
- Output with EDM
- Up to Cat.4

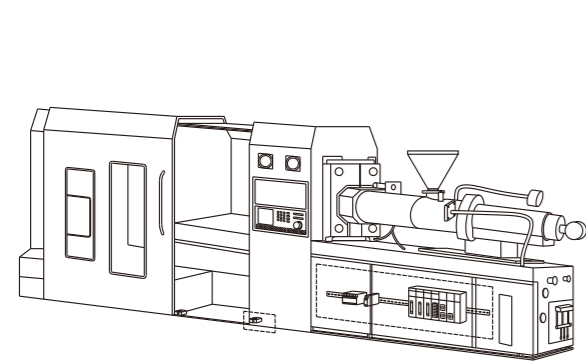
**CZSR8801-4A2B**



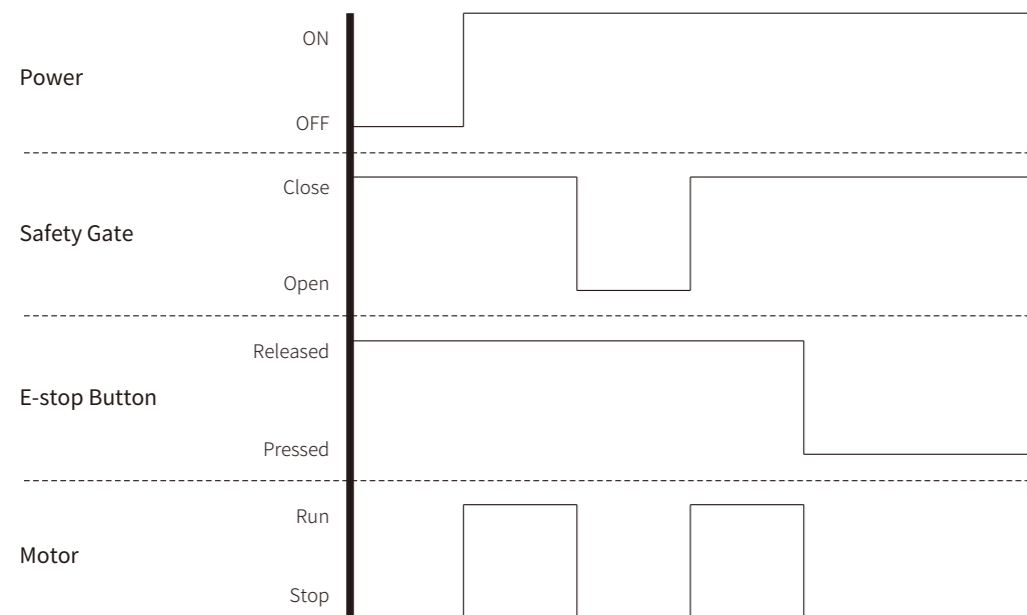
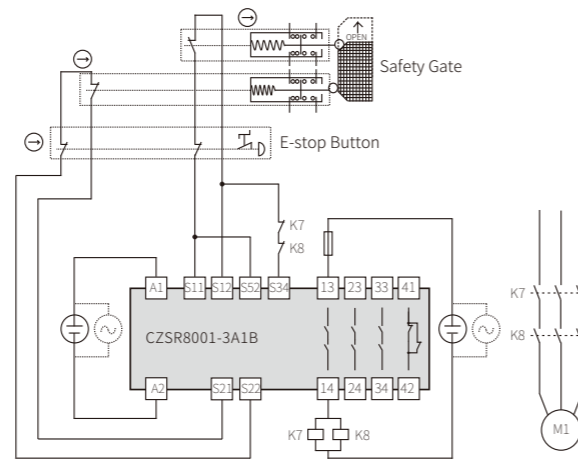
- Output extension (CZSR8001-3A1B used as main controller)
- Manual reset
- Output with EDM
- Up to Cat.4

S3:Reset buttons  
K7,K8,K9,K10:Contactors  
F1,F2:External protective fuse  
M1,M2:Motor

Wiring diagram I : Injection Moulding Machine

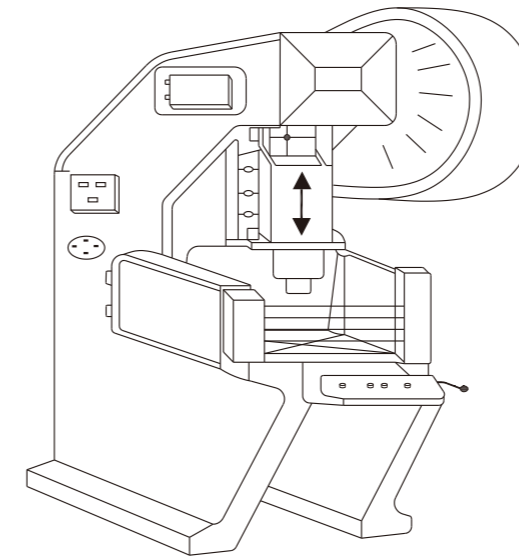


Wiring Instructions

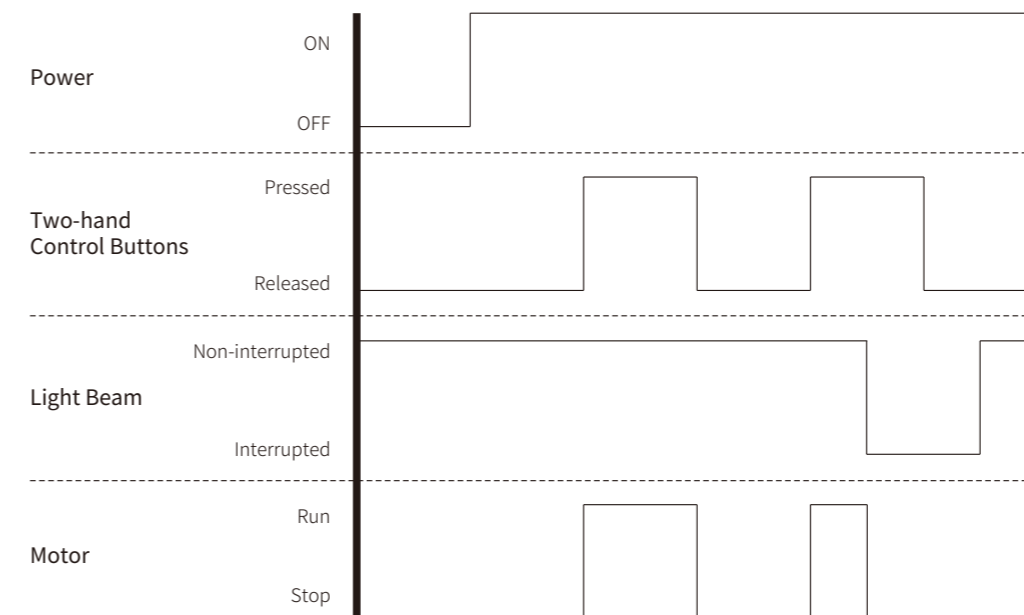
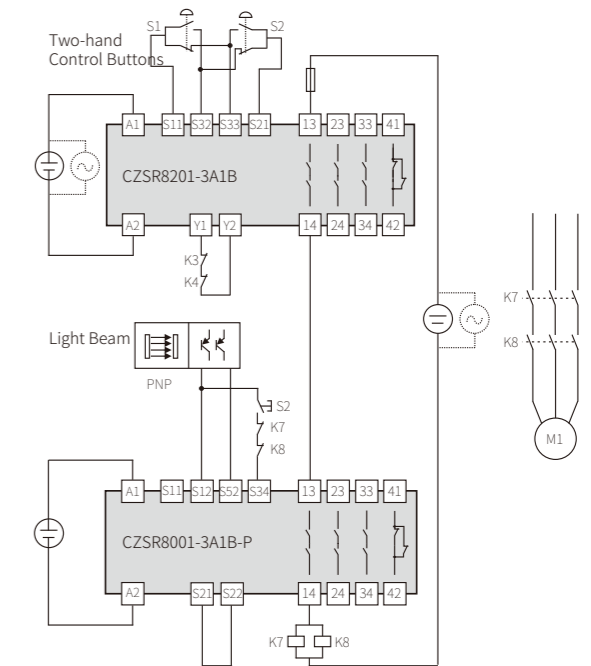


The safety control system of injection moulding machine is consisted of safety gate, E-stop button and safety relay. The hazard is mainly from the squeeze of mould-shutting action. The hazard area is isolated from the operators via safety gate. When the safety gate is closed, the mould-shutting action starts (motor runs). Once the safety gate is opened, the mould-shutting action stops (motor stops).

Application II : Punch Machine



Wiring Instructions



The safety control system of punch machine is consisted of two-hand control buttons, light beam and safety relay. The hazard is mainly from the punching action. The operator activate the punching operation via two-hand control buttons. The light beam is used to prevent the human body from entering the action area of the punch machine.