

Isolated Barrier | Signal Conditioner | SPD | Safety Relay

# Configurable Safety Control Unit

## CZSR Smart Series

Smart Configuration | Varieties of safety device input  
SIL3 PLe Cat.4 | TÜV Rheinland Certification | G3 anti-corrosion  
(2022)

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



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



Lean Production  
**10+**  
Years' experience



Input Devices	Model	Power Supply	Reset Mode	Safety Input	Relay Output		Semiconductor Output	
	CZSR8901-2A	24V DC	Universal	3	2	(2)	-	-
	CZSR8901-2A4S	24V DC	Universal	6	2	(2)	4	(4)

Features	CZSR8901-2A	CZSR8901-2A4S
<b>Power data</b>		
Supply voltage	20V~30V DC	20V~30V DC
Current consumption	≤100mA (24V DC)	≤110mA (24V DC)
<b>Input data</b>		
Input current	≤50mA (24V DC)	≤50mA (24V DC)
Cable resistance	≤15Ω	≤15Ω
Input devices	E-stop buttons, Safety gates, Light beam devices, Safety mats, Two-hand control buttons, Magnetic switches	
<b>Relay output data</b>		
Number of contacts	<b>2NO</b>	<b>2NO</b>
Contact material	AgSnO <sub>2</sub>	AgSnO <sub>2</sub>
External contact fuse protection	10A fast; 6A slow	10A quickly; 6A slowly
Utilisation category	5A/230V AC; 5A/24V DC	5A/250V AC; 5A/24V DC
<b>Semiconductor output data</b>		
Number of semi-output	-	<b>4SO</b>
Driving ability	-	2A (24V DC)
<b>Time data</b>		
Switch-on delay	≤100ms	≤100ms
Delay-on de-energisation	≤30ms	≤30ms
Recovery time	Trigger operation: ≤30ms Power failure: ≤1000ms	Trigger operation: ≤30ms Power failure: ≤1000ms
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	
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%
<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



# CZSR Smart Series Safety Control Unit

SIL3 PLe Cat.4 | TÜV Rheinland Certification | Configurable Control Logic

Varieties of safety device input | 5 years warranty



**PLe Cat.4**

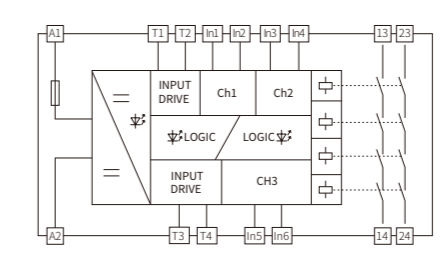


### Products show

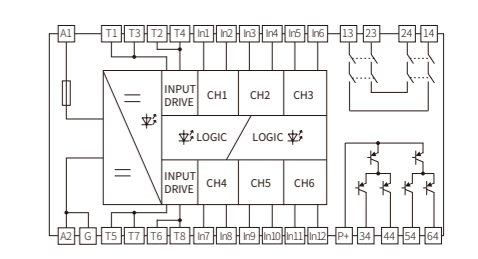
114.5mm×99.0mm×22.5mm CZSR8901-2A  
114.5mm×99.0mm×45.0mm CZSR8901-2A4S



### Block diagram

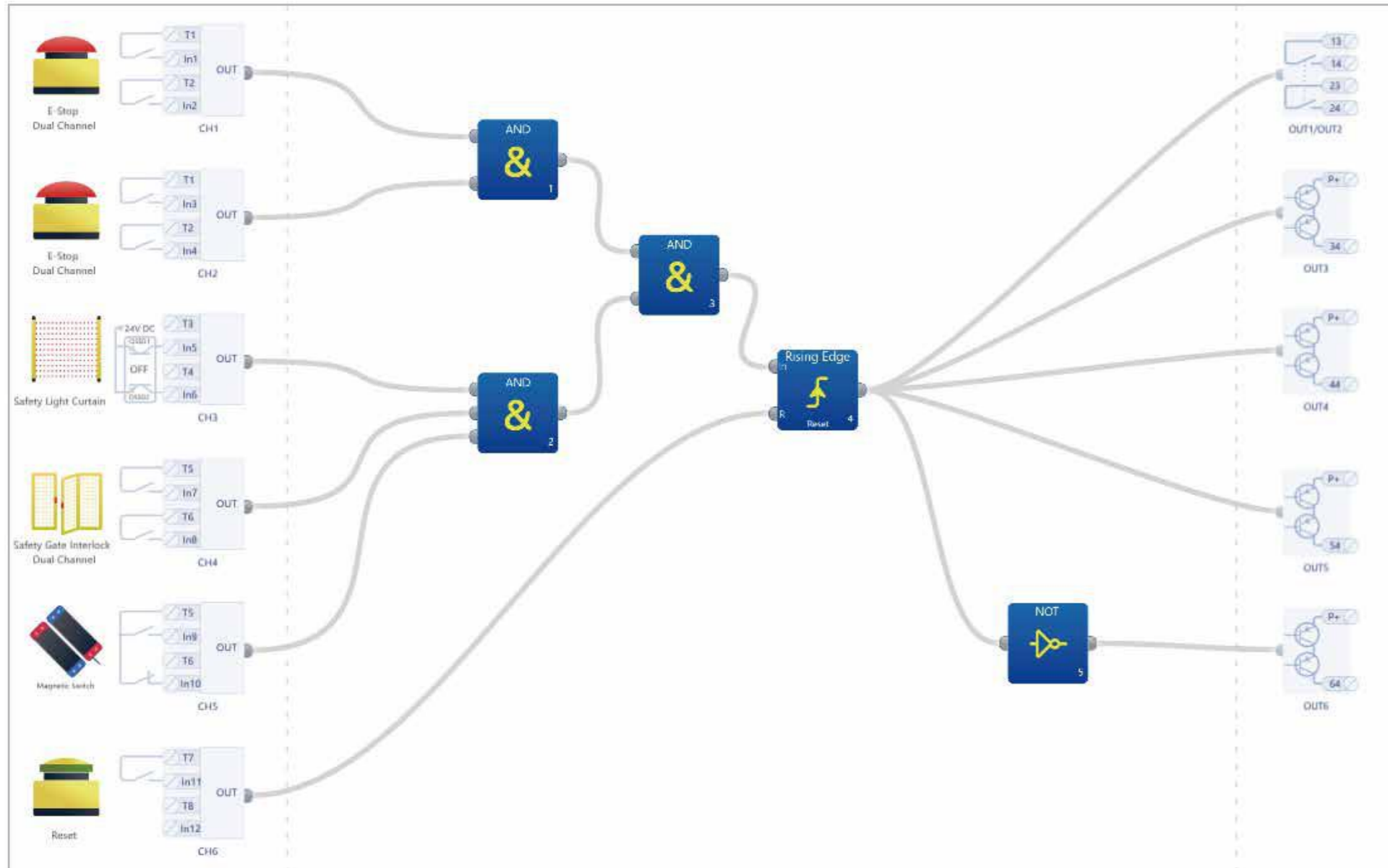


CZSR8901-2A



CZSR8901-2A4S

## ► SafConfig Main Screen



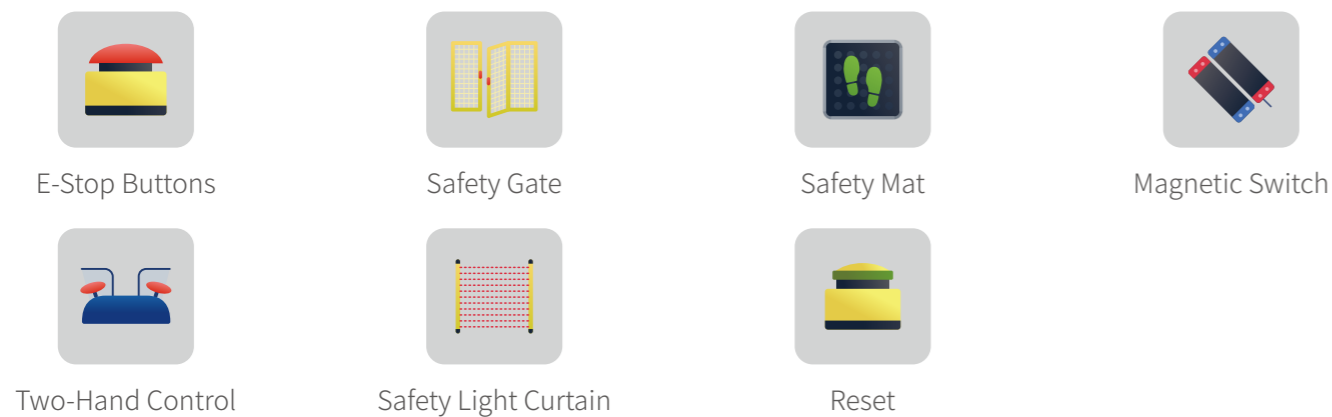
## ► SafConfig Login Screen



## ► SafConfig Software Features

- ◆ Online remote upgrade
- ◆ Drag-and-drop configuration
- ◆ Limit of function blocks:  $\leq 18$
- ◆ Simulation without hardware
- ◆ Running state monitoring
- ◆ Configure safety input type and safety output with delay

## ► Configurable Safety Input Signals

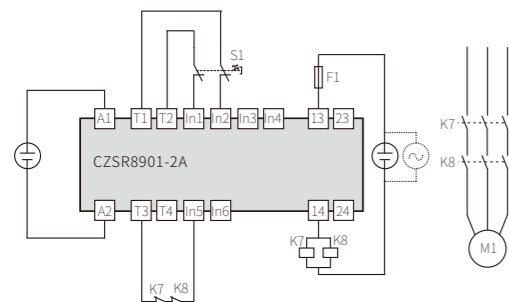


## ► Configurable Logic Blocks

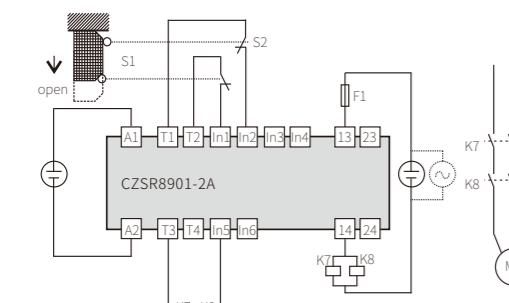


## CZSR8901-2A

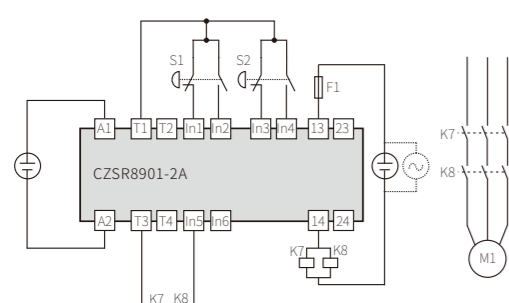
### Application of CZSR8901-2A



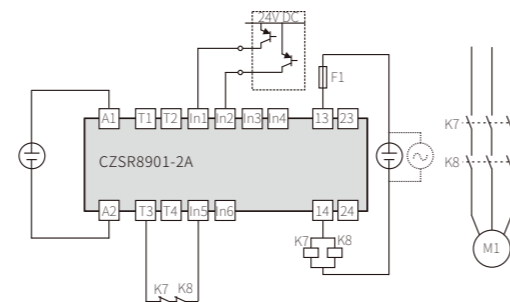
- E-stop buttons input
- Auto reset
- With EDM
- Up to Cat.4



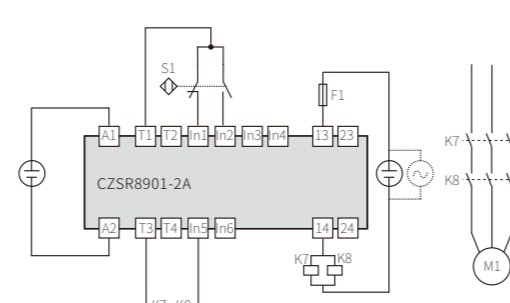
- Safety gates input
- Auto reset
- With EDM
- Up to Cat.4



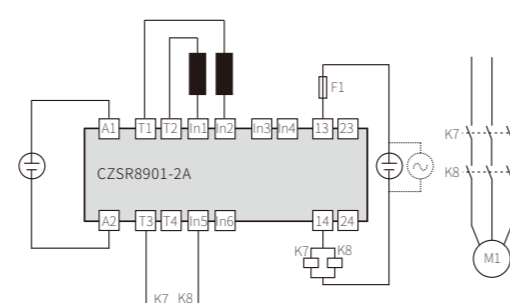
- Two-hand control buttons input
- Auto reset
- With EDM
- Up to Cat.4



- Light beam devices input
- Auto reset
- With EDM
- Up to Cat.4



- Magnetic switches input
- Auto reset
- With EDM
- Up to Cat.4

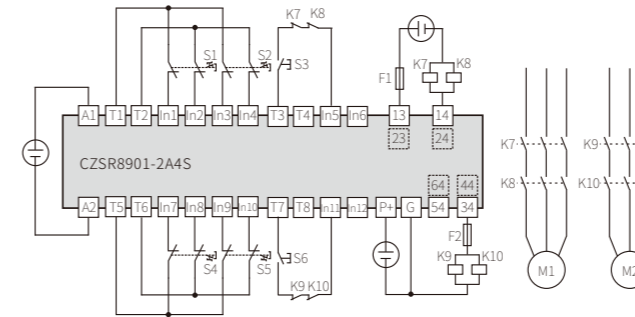


- Safety mats input
- Auto reset
- With EDM
- Up to Cat.4

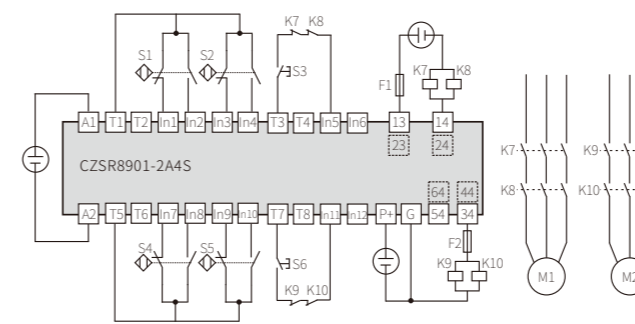
S1, S2: Various input devices  
K7, K8: Contactors  
F1: External fuse protection  
M1: Motor

## CZSR8901-2A4S

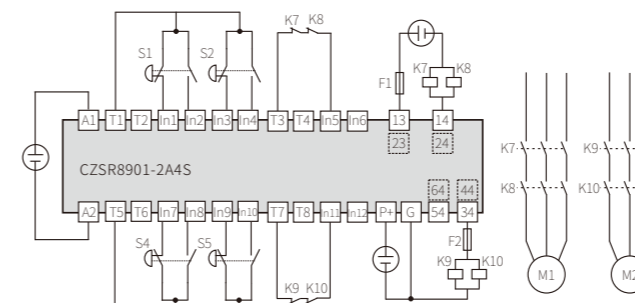
### Application of CZSR8901-2A4S



- E-stop buttons input
- Manual reset
- With EDM
- Up to Cat.4



- Magnetic switches input
- Manual reset
- With EDM
- Up to Cat.4



- Two-hand control buttons input
- Auto reset
- With EDM
- Up to Cat.4

S1, S2, S4, S5: Various input devices  
S3, S6: Reset buttons  
K7, K8, K9, K10: Contactors  
F1, F2: External fuse protection  
M1, M2: Motors





Application



Car



Food & Beverage



Rubber Plastic



Semiconductors



Printing



Packaging



Material Transfer



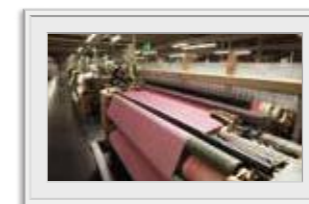
Wood processing



Robots



Machining



Textile



Special vehicles