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### 产品选型手册

Products Catalogue

( 2018 )

安全继电器 Safety Relay

CZSR CLASSIC / CZSR SMART



## 上海辰竹仪表有限公司

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# Technology secures a safe future

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愿 景：科技保障企业安全

理 念：品质成就未来 服务感动终生

价 值 观：责任 诚信 公平 包容

追 求：精致工作 精彩生活

使 命：为了生产安全 社会和谐

## 公司简介 Company Profile

上海辰竹仪表有限公司，成立于2002年4月  
由上海工业自动化仪表研究院九·五国家重点科技攻关项目转制而来  
主营隔离式安全栅、隔离器、电涌保护器、安全继电器等安全接口产品  
集产品研发、生产及销售于一体为用户现场的安全回路设计提供专业解决方案

Shanghai Chenzhu Instrument Co. Ltd, was founded in April, 2002.  
Who was originaled from Shanghai Institute of Process Automation Instrumentation.  
CHENZHU is a professional company with core expertise of R&D, production 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.

## 六大技术强项 Six R&D Strengths

- 功能安全 Function safety
- 防雷保护 Surge protective
- 本安防爆 Intrinsic safety explosion-proof
- 机械安全 Machinery safety
- 信号隔离 Signal interference preventing
- 控制安全 Control safety



辰竹实验室符合ISO/IEC 17025体系要求，并取得德国莱茵TÜV集团颁发的体系认可证书。  
Laboratory of CHENZHU meets the requirements of ISO/IEC 17025, and has been certificated by TÜV Rheinland.

## 八大管理体系 8 Management Systems



Local production license

ISO9001

ISO14001

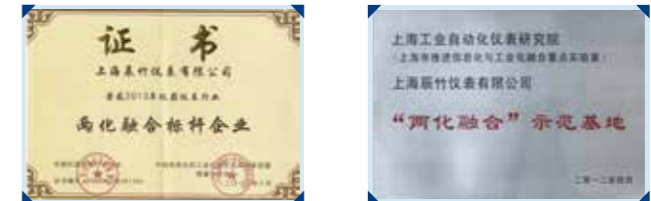
OHSAS18001

IECEX Ex

ATEX Ex

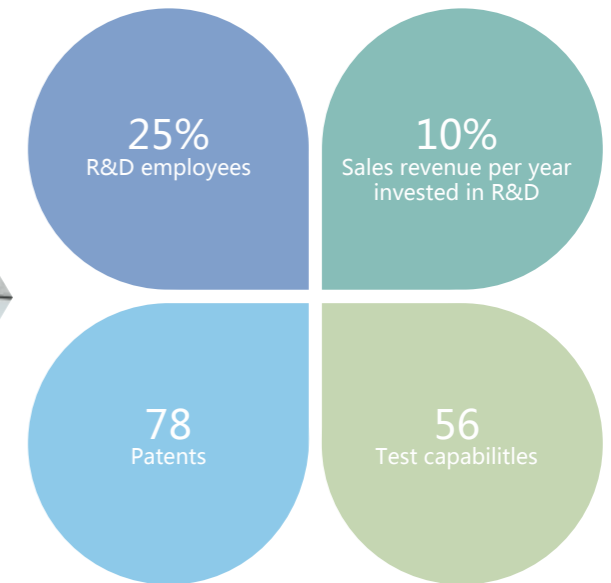
Safety production certification

Integration of informatization and industrialization



国家工信部仪器仪表行业两化融合标杆企业  
Commendation of smart factory by local government

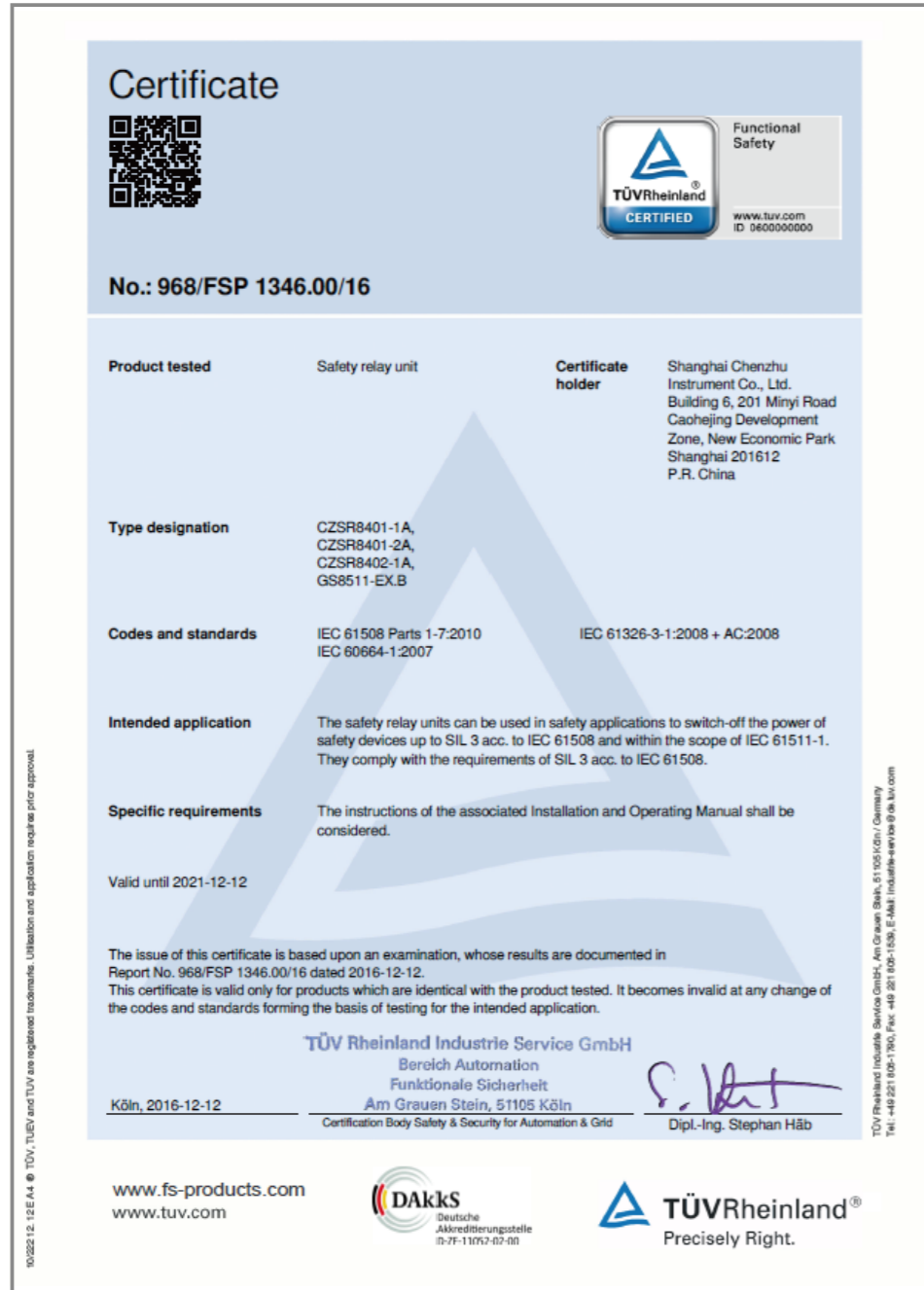
## 研发实力 R&D Capability



## 制造实力 Smart Factory



我们有自主开发的精益化生产和过程质量控制的信息化管理系统，确保每一件产品都是精品。  
All the production data is recorded and tracked by material or QR code of our database.



认证依据 : IEC 61508 电气/电子/可编程电子安全相关系统的功能安全  
Standards : IEC 61508 Functional safety of electrical/electronic/programmable electronic safety-related systems



认证指令 : 欧盟机械指令 2006/42/EC  
Directive : Machinery Directive (2006/42/EC)

功能安全级别 Safety Integrity Level : **SIL3**  
IEC61508  
 性能等级 Performance Level : **PLe**  
 安全等级 Safety Category : **Cat.4**

■ 支持多种设备输入 Multiple Input Devices

急停按钮 E-stop buttons  
 安全门 Safety gates  
 安全光幕 Light beam devices  
 双手按钮 Two-hand control buttons  
 安全地毯 Safety mats  
 磁性开关 Magnetic switches

■ 智能组态 Smart Configuration

可便捷进行多种组态  
 Easy configuration of multiple items  
 输入设备、控制逻辑、输出延时  
 input device, control logic, output delay

■ 功能全面 Comprehensive Functions

单/双通道操作  
 Single/dual channel operation  
 自动/手动复位  
 Auto/manual reset  
 监控输入设备状态  
 Input devices state monitoring

■ 安装便捷 Easy Mounting

35mm标准导轨安装 35mm DIN guide rail  
 可插拔接线端子 Removable terminal block

■ 符合安全仪表电磁兼容性特性  
 EMC Characteristics of Safety Instruments  
 IEC61326-3-1

安全元件 Safety Components	型号 Model	电源 Power Supply	复位方式 Reset Mode	继电器输出 Relay Output		半导体输出 Semiconductor Output		页码 Page
				安全输出	辅助输出	安全输出	辅助输出	
	CZSR8001-3A1B	24V AC/DC	自动 / 手动 Automatic / Manual	3	-	1	-	8
	CZSR8001-2A2B	24V AC/DC	自动 / 手动 Automatic / Manual	2	-	2	-	-
	CZSR8001-3A1B(M)	24V AC/DC	受监控的手动 Monitored manual	3	-	1	-	9
	CZSR8001-2A2B(M)	24V AC/DC	受监控的手动 Monitored manual	2	-	2	-	-
	CZSR8002-2A2AT	24V DC	自动 / 手动 Automatic / Manual	2	2	-	-	10
	CZSR8002-2A2AT(M)	24V DC	受监控的手动 Monitored manual	2	2	-	-	-
	CZSR8003-3A1B	220V AC	自动 / 手动 Automatic / Manual	3	-	1	-	11
	CZSR8003-2A2B	220V AC	自动 / 手动 Automatic / Manual	2	-	2	-	-
	CZSR8001-3A1B-P	24V DC	自动 / 手动 Automatic / Manual	3	-	1	-	12
	CZSR8001-2A2B-P	24V DC	自动 / 手动 Automatic / Manual	2	-	2	-	-
	CZSR8101-3A1B-N	24V DC	自动 / 手动 Automatic / Manual	3	-	1	-	13
	CZSR8101-2A2B-N	24V DC	自动 / 手动 Automatic / Manual	2	-	2	-	-
	CZSR8201-3A1B	24V AC/DC	自动 Automatic	3	-	1	-	14
	CZSR8201-2A2B	24V AC/DC	自动 Automatic	2	-	2	-	-
	CZSR8301-3A1B	24V AC/DC	自动 / 手动 Automatic / Manual	3	-	1	-	15
	CZSR8301-2A2B	24V AC/DC	自动 / 手动 Automatic / Manual	2	-	2	-	-
	CZSR8301-3A1B(M)	24V AC/DC	受监控的手动 Monitored manual	3	-	1	-	16
	CZSR8301-2A2B(M)	24V AC/DC	受监控的手动 Monitored manual	2	-	2	-	-
	CZSR8302-3A1B	24V AC/DC	自动 / 受监控的手动 Auto / Monitored	3	-	1	-	17
	CZSR8302-2A2B	24V AC/DC	自动 / 受监控的手动 Auto / Monitored	2	-	2	-	-
	CZSR8303-3A1B	220V AC	自动 / 受监控的手动 Auto / Monitored	3	-	1	-	18
	CZSR8303-2A2B	220V AC	自动 / 受监控的手动 Auto / Monitored	2	-	2	-	-
	CZSR8401-1A	24V DC	自动 Automatic	1	-	-	-	19
	CZSR8401-2A	24V DC	自动 Automatic	2	-	-	-	-
	CZSR8402-1A	24V DC	自动 Automatic	1	-	-	-	20

# CZSR SMART 产品选型一览表 Products List

安全元件 Safety Components	型号 Model	电源 Power Supply	复位方式 Reset Mode	继电器输出 Relay Output		半导体输出 Semiconductor Output		页码 Page	
				安全输出	辅助输出	安全输出	辅助输出		
	CZSR8901-2A	24V DC	自动 / 手动 / 监控 Auto / Manual / Monitored	2	(2)	-	-	-	21
	CZSR8901-2A4S	24V DC	自动 / 手动 / 监控 Auto / Manual / Monitored	2	(2)	-	4 (4)	-	

# 急停按钮，安全门输入 E-Stop Buttons, Safety Gates Input

## 产品特征 Features

支持单、双通道操作 Single or dual channels  
支持自动复位和手动复位 Manual or automatic reset  
通道间短路监控 Short circuit monitoring

**CZSR8001-3A1B**

**CZSR8001-2A2B**

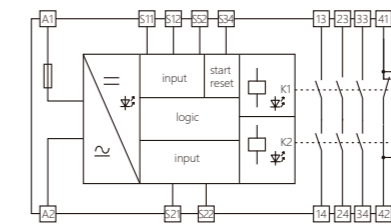
电源特性	Power data		
供电电压	Supply voltage	24V DC/AC	24V DC/AC
电压容差	Voltage tolerance	0.85 ~ 1.1	0.85 ~ 1.1
电流损耗	Current consumption	≤90mA (24V DC) / ≤240mA (24V AC)	≤90mA (24V DC) / ≤240mA (24V AC)
输入特性	Input data		
输入电流	Input current	≤50mA (24V DC)	≤50mA (24V DC)
导线电阻	Cable resistance	≤15Ω	≤15Ω
输入设备	Input devices	E-Stop Buttons, Safety Gates	E-Stop Buttons, Safety Gates
输出特性	Output data		
触点数量	Number of contacts	<b>3NO+1NC</b>	<b>2NO+2NC</b>
触点材料	Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
触点熔丝保护	External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)	
切换容量	Utilisation category	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V	
时间特性	Time data		
吸合缓冲时间	Switch-on delay	≤300ms	≤300ms
释放缓冲时间	Delay-on de-energisation	≤30ms	≤30ms
恢复时间	Recovery time	≤100ms	≤100ms
电源短时中断	Supply short interruption	20ms	20ms
环境特性	Environmental data		
电磁兼容	EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
振动	Vibration	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm	
使用温度	Ambient temperature	-20°C ~ +60°C	-20°C ~ +60°C
储存温度	Storage temperature	-40°C ~ +85°C	-40°C ~ +85°C
相对湿度	Relative humidity	10% ~ 90%	10% ~ 90%
绝缘特性	Insulation data		
过压等级	Overvoltage category	III	III
污染等级	Pollution degree	2	2
额定绝缘电压	Rated insulation voltage	250V AC	250V AC
额定冲击电压	Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
绝缘强度	Dielectric strength	1500V AC, 1min	1500V AC, 1min
电气间隙和爬电距离	Clearance and creepage distance	In accordance with EN 60947-1	In accordance with EN 60947-1
认证	Certification		
安全完整性等级	Safety integrity level	SIL3	SIL3
性能等级	Performance level	PLe	PLe
安全类别	Category	Cat.4	Cat.4

## 外观图 Products show

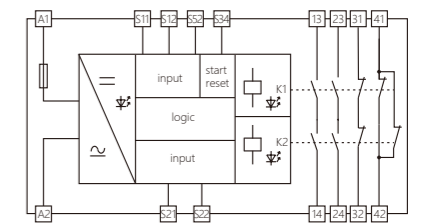
114.5mm×99.0mm×22.5mm



## 功能框图 Block diagram



CZSR8001-3A1B



CZSR8001-2A2B

产品特征 Features

支持单、双通道输入 Single or dual channels  
支持受监控的手动复位 Monitored manual reset  
通道间短路监控 Short circuit monitoring

CZSR8001-3A1B(M)

CZSR8001-2A2B(M)

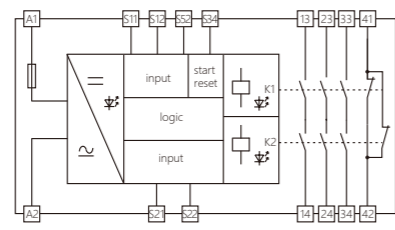
电源特性	Power data		
供电电压	Supply voltage	24V DC/AC	24V DC/AC
电压容差	Voltage tolerance	0.85 ~ 1.1	0.85 ~ 1.1
电流损耗	Current consumption	≤90mA (24V DC) / ≤240mA (24V AC)	≤90mA (24V DC) / ≤240mA (24V AC)
输入特性	Input data		
输入电流	Input current	≤50mA (24V DC)	≤50mA (24V DC)
导线电阻	Cable resistance	≤15Ω	≤15Ω
输入设备	Input devices	E-Stop Buttons, Safety Gates	E-Stop Buttons, Safety Gates
输出特性	Output data		
触点数量	Number of contacts	<b>3NO+1NC</b>	<b>2NO+2NC</b>
触点材料	Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
触点熔丝保护	External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)	
切换容量	Utilisation category	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V	
时间特性	Time data		
吸合缓冲时间	Switch-on delay	≤150ms	≤150ms
释放缓冲时间	Delay-on de-energisation	≤30ms	≤30ms
恢复时间	Recovery time	≤100ms	≤100ms
电源短时中断	Supply short interruption	20ms	20ms
环境特性	Environmental data		
电磁兼容	EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
振动	Vibration	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm	
使用温度	Ambient temperature	-20°C ~ +60°C	-20°C ~ +60°C
储存温度	Storage temperature	-40°C ~ +85°C	-40°C ~ +85°C
相对湿度	Relative humidity	10% ~ 90%	10% ~ 90%
绝缘特性	Insulation data		
过压等级	Overvoltage category	III	III
污染等级	Pollution degree	2	2
额定绝缘电压	Rated insulation voltage	250V AC	250V AC
额定冲击电压	Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
绝缘强度	Dielectric strength	1500V AC, 1min	1500V AC, 1min
电气间隙和爬电距离	Clearance and creepage distance	In accordance with EN 60947-1	
认证	Certification		
安全完整性等级	Safety integrity level	SIL3	SIL3
性能等级	Performance level	PLe	PLe
安全类别	Category	Cat.4	Cat.4

外观图 Products show

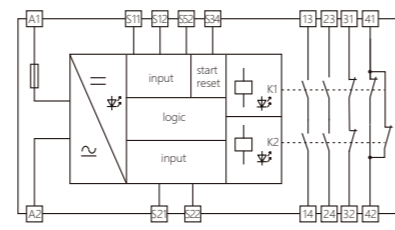
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功能框图 Block diagram



CZSR8001-3A1B(M)



CZSR8001-2A2B(M)

产品特征 Features

支持延时/非延时输出 Instantaneous or delayed output  
支持自动复位和手动复位 Manual or automatic reset  
通道间短路监控 Short circuit monitoring

CZSR8002-2A2AT

CZSR8001-2A2AT(M)

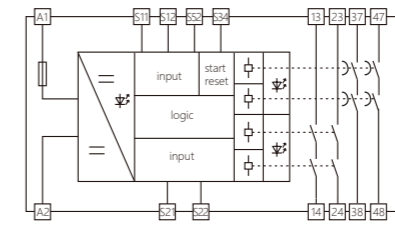
电源特性	Power data		
供电电压	Supply voltage	24V DC	24V DC
电压容差	Voltage tolerance	0.85 ~ 1.1	0.85 ~ 1.1
电流损耗	Current consumption	≤130mA (24V DC)	≤130mA (24V DC)
输入特性	Input data		
输入电流	Input current	≤50mA (24V DC)	≤50mA (24V DC)
导线电阻	Cable resistance	≤15Ω	≤15Ω
输入设备	Input devices	E-Stop Buttons, Safety Gates	E-Stop Buttons, Safety Gates
输出特性	Output data		
触点数量	Number of contacts	<b>2NO+2NO(t)</b>	<b>2NO+2NO(t)</b>
触点材料	Contact material	AgSnO <sub>2</sub>	AgSnO <sub>2</sub>
触点熔丝保护	External contact fuse protection	10A gL/gG NEOZED (NO)	
切换容量	Utilisation category	In accordance with EN60947-5-1: AC-15, 3A/230V; DC-13, 3A/24V	
时间特性	Time data		
吸合缓冲时间	Switch-on delay	≤300ms	≤150ms
释放缓冲时间	Delay-on de-energisation	≤30ms (instantaneous); 0.1s ~ 3s (delayed, factory set as 3s)	
恢复时间	Recovery time	≤100ms	≤100ms
电源短时中断	Supply short interruption	20ms	20ms
环境特性	Environmental data		
电磁兼容	EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
振动	Vibration	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm	
使用温度	Ambient temperature	-20°C ~ +60°C	-20°C ~ +60°C
储存温度	Storage temperature	-40°C ~ +85°C	-40°C ~ +85°C
相对湿度	Relative humidity	10% ~ 90%	10% ~ 90%
绝缘特性	Insulation data		
过压等级	Overvoltage category	III	III
污染等级	Pollution degree	2	2
额定绝缘电压	Rated insulation voltage	250V AC	250V AC
额定冲击电压	Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
绝缘强度	Dielectric strength	1500V AC, 1min	1500V AC, 1min
电气间隙和爬电距离	Clearance and creepage distance	In accordance with EN 60947-1	
认证	Certification		
安全完整性等级	Safety integrity level	SIL3	SIL3
性能等级	Performance level	PLe	PLe
安全类别	Category	Cat.4	Cat.4

外观图 Products show

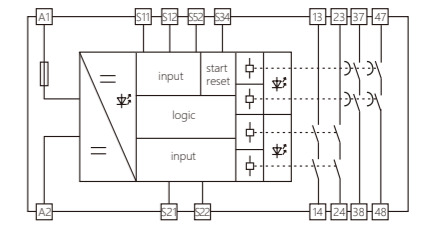
114.5mm×99.0mm×22.5mm



功能框图 Block diagram



CZSR8002-2A2AT



CZSR8001-2A2AT(M)

产品特征 Features

支持单、双通道输入 Single or dual channels  
支持自动复位和手动复位 Manual or automatic reset  
通道间短路监控 Short circuit monitoring

CZSR8003-3A1B

CZSR8003-2A2B

电源特性	Power data		
供电电压	Supply voltage	100V ~ 230V AC	100V ~ 230V AC
电流损耗	Current consumption	≤7 VA (220V AC)	≤7 VA (220V AC)
输入特性	Input data		
输入电流	Input current	≤50mA (220V AC)	≤50mA (220V AC)
导线电阻	Cable resistance	≤15Ω	≤15Ω
输入设备	Input devices	E-Stop Buttons, Safety Gates	E-Stop Buttons, Safety Gates
输出特性	Output data		
触点数量	Number of contacts	<b>3NO+1NC</b>	<b>2NO+2NC</b>
触点材料	Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
触点熔丝保护	External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)
切换容量	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
时间特性	Time data		
吸合缓冲时间	Switch-on delay	≤300ms	≤300ms
释放缓冲时间	Delay-on de-energisation	≤30ms	≤30ms
恢复时间	Recovery time	≤500ms	≤500ms
电源短时中断	Supply short interruption	20ms	20ms
环境特性	Environmental data		
电磁兼容	EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
振动	Vibration	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm
使用温度	Ambient temperature	-20°C ~ +60°C	-20°C ~ +60°C
储存温度	Storage temperature	-40°C ~ +85°C	-40°C ~ +85°C
相对湿度	Relative humidity	10% ~ 90%	10% ~ 90%
绝缘特性	Insulation data		
过压等级	Overvoltage category	II	II
污染等级	Pollution degree	2	2
额定绝缘电压	Rated insulation voltage	250V AC	250V AC
额定冲击电压	Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
绝缘强度	Dielectric strength	1500V AC, 1min	1500V AC, 1min
电气间隙和爬电距离	Clearance and creepage distance	In accordance with EN 60947-1	In accordance with EN 60947-1
认证	Certification		
安全完整性等级	Safety integrity level	SIL3	SIL3
性能等级	Performance level	PLe	PLe
安全类别	Category	Cat.4	Cat.4

产品特征 Features

支持PNP型安全光幕 PNP type light beam devices  
支持双通道输入 Dual channels  
支持自动复位和手动复位 Manual or automatic reset

CZSR8001-3A1B-P

CZSR8001-2A2B-P

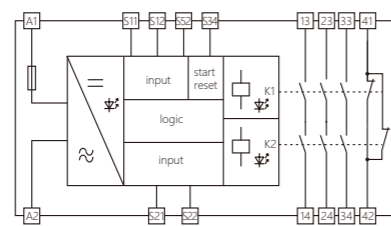
电源特性	Power data		
供电电压	Supply voltage	24V DC/AC	24V DC/AC
电压容差	Voltage tolerance	0.85 ~ 1.1	0.85 ~ 1.1
电流损耗	Current consumption	≤90mA (24V DC) / ≤240mA (24V AC)	≤90mA (24V DC) / ≤240mA (24V AC)
输入特性	Input data		
输入电流	Input current	≤50mA (24V DC)	≤50mA (24V DC)
导线电阻	Cable resistance	≤15Ω	≤15Ω
输入设备	Input devices	E-Stop Buttons, Safety Gates, PNP type Light beam devices	E-Stop Buttons, Safety Gates, PNP type Light beam devices
输出特性	Output data		
触点数量	Number of contacts	<b>3NO+1NC</b>	<b>2NO+2NC</b>
触点材料	Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
触点熔丝保护	External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)
切换容量	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
时间特性	Time data		
吸合缓冲时间	Switch-on delay	≤300ms	≤300ms
释放缓冲时间	Delay-on de-energisation	≤30ms	≤30ms
恢复时间	Recovery time	≤100ms	≤100ms
电源短时中断	Supply short interruption	20ms	20ms
环境特性	Environmental data		
电磁兼容	EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
振动	Vibration	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm
使用温度	Ambient temperature	-20°C ~ +60°C	-20°C ~ +60°C
储存温度	Storage temperature	-40°C ~ +85°C	-40°C ~ +85°C
相对湿度	Relative humidity	10% ~ 90%	10% ~ 90%
绝缘特性	Insulation data		
过压等级	Overvoltage category	III	III
污染等级	Pollution degree	2	2
额定绝缘电压	Rated insulation voltage	250V AC	250V AC
额定冲击电压	Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
绝缘强度	Dielectric strength	1500V AC, 1min	1500V AC, 1min
电气间隙和爬电距离	Clearance and creepage distance	In accordance with EN 60947-1	In accordance with EN 60947-1
认证	Certification		
安全完整性等级	Safety integrity level	SIL3	SIL3
性能等级	Performance level	PLe	PLe
安全类别	Category	Cat.4	Cat.4

外观图 Products show

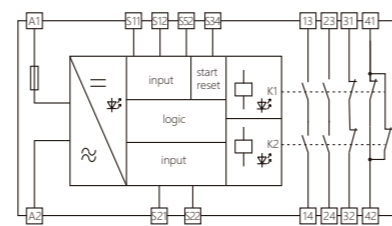
114.5mm×99.0mm×22.5mm



功能框图 Block diagram



CZSR8003-3A1B



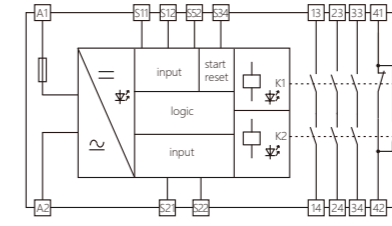
CZSR8003-2A2B

外观图 Products show

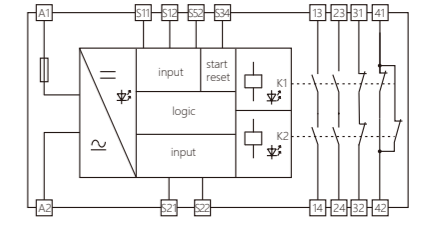
114.5mm×99.0mm×22.5mm



功能框图 Block diagram



CZSR8001-3A1B-P



CZSR8001-2A2B-P



## 产品特征 Features

支持NPN型安全光幕 NPN type light beam devices  
支持双通道输入 Dual channels  
支持自动复位和手动复位 Manual or automatic reset

**CZSR8101-3A1B-N**

**CZSR8101-2A2B-N**

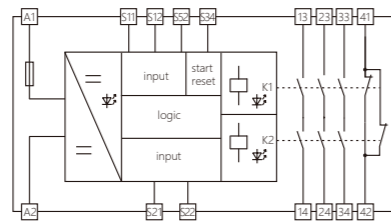
电源特性	Power data		
供电电压	Supply voltage	24V DC	24V DC
电压容差	Voltage tolerance	0.85 ~ 1.1	0.85 ~ 1.1
电流损耗	Current consumption	≤90mA (24V DC)	≤90mA (24V DC)
输入特性	Input data		
输入电流	Input current	≤50mA (24V DC)	≤50mA (24V DC)
导线电阻	Cable resistance	≤15Ω	≤15Ω
输入设备	Input devices	NPN type light beam devices	NPN type light beam devices
输出特性	Output data		
触点数量	Number of contacts	<b>3NO+1NC</b>	<b>2NO+2NC</b>
触点材料	Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
触点熔丝保护	External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)	
切换容量	Utilisation category	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V	
时间特性	Time data		
吸合缓冲时间	Switch-on delay	≤300ms	≤300ms
释放缓冲时间	Delay-on de-energisation	≤30ms	≤30ms
恢复时间	Recovery time	≤100ms	≤100ms
电源短时中断	Supply short interruption	20ms	20ms
环境特性	Environmental data		
电磁兼容	EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
振动	Vibration	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm	
使用温度	Ambient temperature	-20°C ~ +60°C	-20°C ~ +60°C
储存温度	Storage temperature	-40°C ~ +85°C	-40°C ~ +85°C
相对湿度	Relative humidity	10% ~ 90%	10% ~ 90%
绝缘特性	Insulation data		
过压等级	Overvoltage category	III	III
污染等级	Pollution degree	2	2
额定绝缘电压	Rated insulation voltage	250V AC	250V AC
额定冲击电压	Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
绝缘强度	Dielectric strength	1500V AC, 1min	1500V AC, 1min
电气间隙和爬电距离	Clearance and creepage distance	In accordance with EN 60947-1	
认证	Certification		
安全完整性等级	Safety integrity level	SIL3	SIL3
性能等级	Performance level	PLe	PLe
安全类别	Category	Cat.4	Cat.4

## 外观图 Products show

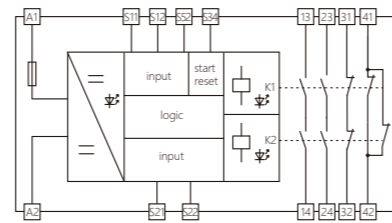
114.5mm×99.0mm×22.5mm



## 功能框图 Block diagram



CZSR8101-3A1B-N



CZSR8101-2A2B-N

## 产品特征 Features

双通道输入 Dual channels  
自动复位 Automatic reset  
符合EN 574 Type IIIC要求 Accord with EN 574 Type IIIC

**CZSR8201-3A1B**

**CZSR8201-2A2B**

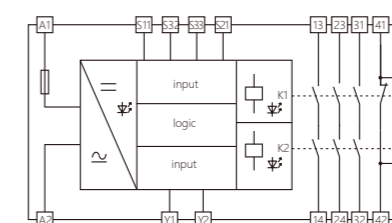
电源特性	Power data		
供电电压	Supply voltage	24V DC/AC	24V DC/AC
电压容差	Voltage tolerance	0.85 ~ 1.1	0.85 ~ 1.1
电流损耗	Current consumption	≤60mA (24V DC) / ≤140mA (24V AC)	≤60mA (24V DC) / ≤140mA (24V AC)
输入特性	Input data		
输入电流	Input current	≤50mA (24V DC)	≤50mA (24V DC)
导线电阻	Cable resistance	≤15Ω	≤15Ω
输入设备	Input devices	Two-hand control buttons	Two-hand control buttons
输出特性	Output data		
触点数量	Number of contacts	<b>3NO+1NC</b>	<b>2NO+2NC</b>
触点材料	Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
触点熔丝保护	External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)	
切换容量	Utilisation category	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V	
时间特性	Time data		
吸合缓冲时间	Switch-on delay	≤30ms	≤30ms
释放缓冲时间	Delay-on de-energisation	≤15ms	≤15ms
同步时间	Simultaneity	≤500ms	≤500ms
恢复时间	Recovery time	≤250ms	≤250ms
电源短时中断	Supply short interruption	20ms	20ms
环境特性	Environmental data		
电磁兼容	EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
振动	Vibration	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm	
使用温度	Ambient temperature	-20°C ~ +60°C	-20°C ~ +60°C
储存温度	Storage temperature	-40°C ~ +85°C	-40°C ~ +85°C
相对湿度	Relative humidity	10% ~ 90%	10% ~ 90%
绝缘特性	Insulation data		
过压等级	Overvoltage category	III	III
污染等级	Pollution degree	2	2
额定绝缘电压	Rated insulation voltage	250V AC	250V AC
额定冲击电压	Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
绝缘强度	Dielectric strength	1500V AC, 1min	1500V AC, 1min
电气间隙和爬电距离	Clearance and creepage distance	In accordance with EN 60947-1	
认证	Certification		
安全完整性等级	Safety integrity level	SIL3	SIL3
性能等级	Performance level	PLe	PLe
安全类别	Category	Cat.4	Cat.4

## 外观图 Products show

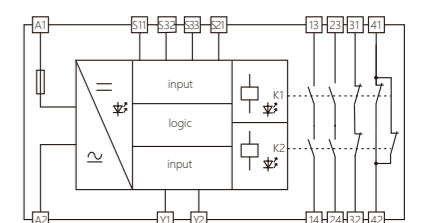
114.5mm×99.0mm×22.5mm



## 功能框图 Block diagram



CZSR8201-3A1B



CZSR8201-2A2B

## 产品特征 Features

支持四线制安全地毯输入 4-wire safety mats  
支持自动复位和手动复位 Manual or automatic reset

**CZSR8301-3A1B**

**CZSR8301-2A2B**

电源特性	Power data		
供电电压	Supply voltage	24V DC/AC	24V DC/AC
电压容差	Voltage tolerance	0.85 ~ 1.1	0.85 ~ 1.1
电流损耗	Current consumption	≤90mA (24V DC) / ≤240mA (24V AC)	≤90mA (24V DC) / ≤240mA (24V AC)
输入特性	Input data		
输入电流	Input current	≤50mA (24V DC)	≤50mA (24V DC)
导线电阻	Cable resistance	≤15Ω	≤15Ω
输入设备	Input devices	Safety mats (4-wire)	Safety mats (4-wire)
输出特性	Output data		
触点数量	Number of contacts	<b>3NO+1NC</b>	<b>2NO+2NC</b>
触点材料	Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
触点熔丝保护	External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)
切换容量	Utilisation category	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V	
时间特性	Time data		
吸合缓冲时间	Switch-on delay	≤300ms	≤300ms
释放缓冲时间	Delay-on de-energisation	≤30ms	≤30ms
恢复时间	Recovery time	≤300ms	≤300ms
电源短时中断	Supply short interruption	20ms	20ms
环境特性	Environmental data		
电磁兼容	EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
振动	Vibration	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm	
使用温度	Ambient temperature	-20°C ~ +60°C	-20°C ~ +60°C
储存温度	Storage temperature	-40°C ~ +85°C	-40°C ~ +85°C
相对湿度	Relative humidity	10% ~ 90%	10% ~ 90%
绝缘特性	Insulation data		
过压等级	Overvoltage category	III	III
污染等级	Pollution degree	2	2
额定绝缘电压	Rated insulation voltage	250V AC	250V AC
额定冲击电压	Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
绝缘强度	Dielectric strength	1500V AC, 1min	1500V AC, 1min
电气间隙和爬电距离	Clearance and creepage distance	In accordance with EN 60947-1	
认证	Certification		
安全完整性等级	Safety integrity level	SIL3	SIL3
性能等级	Performance level	PLe	PLe
安全类别	Category	Cat.4	Cat.4

## 产品特征 Features

支持四线制安全地毯输入 4-wire safety mats  
支持受监控的手动复位 Monitored manual reset

**CZSR8301-3A1B(M)**

**CZSR8301-2A2B(M)**

电源特性	Power data		
供电电压	Supply voltage	24V DC/AC	24V DC/AC
电压容差	Voltage tolerance	0.85 ~ 1.1	0.85 ~ 1.1
电流损耗	Current consumption	≤90mA (24V DC) / ≤240mA (24V AC)	≤90mA (24V DC) / ≤240mA (24V AC)
输入特性	Input data		
输入电流	Input current	≤50mA (24V DC)	≤50mA (24V DC)
导线电阻	Cable resistance	≤15Ω	≤15Ω
输入设备	Input devices	Safety mats (4-wire)	Safety mats (4-wire)
输出特性	Output data		
触点数量	Number of contacts	<b>3NO+1NC</b>	<b>2NO+2NC</b>
触点材料	Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
触点熔丝保护	External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)
切换容量	Utilisation category	In accordance with EN60947-5-1: AC-15, 5A/230V; DC-13, 5A/24V	
时间特性	Time data		
吸合缓冲时间	Switch-on delay	≤150ms	≤150ms
释放缓冲时间	Delay-on de-energisation	≤30ms	≤30ms
恢复时间	Recovery time	≤300ms	≤300ms
电源短时中断	Supply short interruption	20ms	20ms
环境特性	Environmental data		
电磁兼容	EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
振动	Vibration	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm	
使用温度	Ambient temperature	-20°C ~ +60°C	-20°C ~ +60°C
储存温度	Storage temperature	-40°C ~ +85°C	-40°C ~ +85°C
相对湿度	Relative humidity	10% ~ 90%	10% ~ 90%
绝缘特性	Insulation data		
过压等级	Overvoltage category	III	III
污染等级	Pollution degree	2	2
额定绝缘电压	Rated insulation voltage	250V AC	250V AC
额定冲击电压	Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
绝缘强度	Dielectric strength	1500V AC, 1min	1500V AC, 1min
电气间隙和爬电距离	Clearance and creepage distance	In accordance with EN 60947-1	
认证	Certification		
安全完整性等级	Safety integrity level	SIL3	SIL3
性能等级	Performance level	PLe	PLe
安全类别	Category	Cat.4	Cat.4

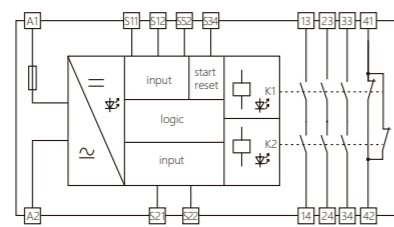
## 外观图 Products show

114.5mm×99.0mm×22.5mm

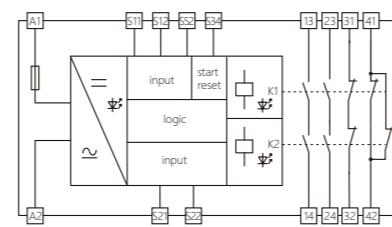


SIL3 IEC61508  
PLe Cat.4 IEC61508  
CE

## 功能框图 Block diagram



CZSR8301-3A1B



CZSR8301-2A2B

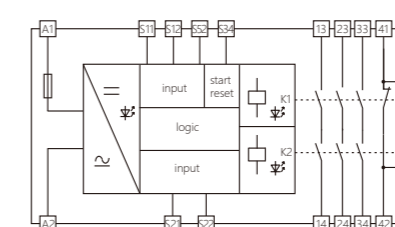
## 外观图 Products show

114.5mm×99.0mm×22.5mm

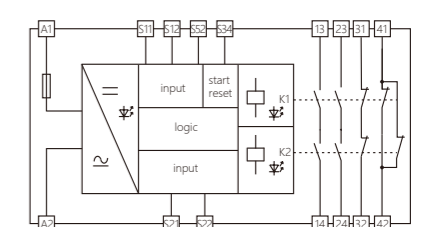


SIL3 IEC61508  
PLe Cat.4 IEC61508  
CE

## 功能框图 Block diagram



CZSR8301-3A1B(M)



CZSR8301-2A2B(M)

产品特征 Features

支持二线制安全地毯 2-wire safety mats  
支持自动复位 Automatic reset  
支持受监控的手动复位 Monitored manual reset

CZSR8302-3A1B

CZSR8302-2A2B

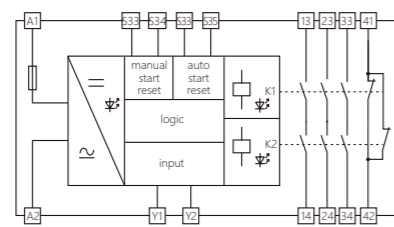
电源特性	Power data		
供电电压	Supply voltage	24V DC/AC	24V DC/AC
电压容差	Voltage tolerance	0.85 ~ 1.1	0.85 ~ 1.1
电流损耗	Current consumption	≤95mA (24V DC) / ≤240mA (24V AC)	≤95mA (24V DC) / ≤240mA (24V AC)
输入特性	Input data		
输入电流	Input current	≤10mA (24V DC)	≤10mA (24V DC)
导线电阻	Cable resistance	≤15Ω	≤15Ω
输入设备	Input devices	Safety mats (2-wire)	Safety mats (2-wire)
输出特性	Output data		
触点数量	Number of contacts	<b>3NO+1NC</b>	<b>2NO+2NC</b>
触点材料	Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
触点熔丝保护	External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)
切换容量	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
时间特性	Time data		
吸合缓冲时间	Switch-on delay	≤300ms	≤300ms
释放缓冲时间	Delay-on de-energisation	≤30ms	≤30ms
恢复时间	Recovery time	≤100ms	≤100ms
电源短时中断	Supply short interruption	20ms	20ms
环境特性	Environmental data		
电磁兼容	EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
振动	Vibration	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm
使用温度	Ambient temperature	-20°C ~ +60°C	-20°C ~ +60°C
储存温度	Storage temperature	-40°C ~ +85°C	-40°C ~ +85°C
相对湿度	Relative humidity	10% ~ 90%	10% ~ 90%
绝缘特性	Insulation data		
过压等级	Overvoltage category	III	III
污染等级	Pollution degree	2	2
额定绝缘电压	Rated insulation voltage	250V AC	250V AC
额定冲击电压	Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
绝缘强度	Dielectric strength	1500V AC, 1min	1500V AC, 1min
电气间隙和爬电距离	Clearance and creepage distance	In accordance with EN 60947-1	In accordance with EN 60947-1
认证	Certification		
安全完整性等级	Safety integrity level	SIL3	SIL3
性能等级	Performance level	PLe	PLe
安全类别	Category	Cat.4	Cat.4

外观图 Products show

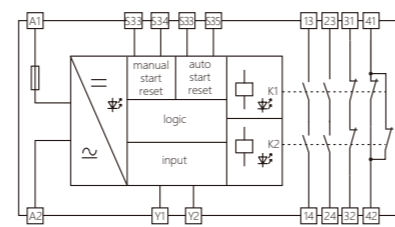
114.5mm×99.0mm×22.5mm



功能框图 Block diagram



CZSR8302-3A1B



CZSR8302-2A2B

产品特征 Features

支持二线制安全地毯 2-wire safety mats  
支持自动复位 Automatic reset  
支持受监控的手动复位 Monitored manual reset

CZSR8303-3A1B

CZSR8303-2A2B

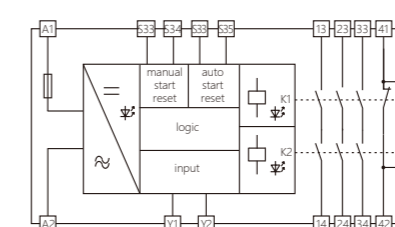
电源特性	Power data		
供电电压	Supply voltage	100V ~ 230V AC	100V ~ 230V AC
电流损耗	Current consumption	≤7 VA (220V AC)	≤7 VA (220V AC)
输入特性	Input data		
输入电流	Input current	≤10mA (220V AC)	≤10mA (220V AC)
导线电阻	Cable resistance	≤15Ω	≤15Ω
输入设备	Input devices	Safety mats (2-wire)	Safety mats (2-wire)
输出特性	Output data		
触点数量	Number of contacts	<b>3NO+1NC</b>	<b>2NO+2NC</b>
触点材料	Contact material	AgSnO <sub>2</sub> + 0.2 μm Au	AgSnO <sub>2</sub> + 0.2 μm Au
触点熔丝保护	External contact fuse protection	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)	10A gL/gG NEOZED (NO); 6A gL/gG NEOZED (NC)
切换容量	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
时间特性	Time data		
吸合缓冲时间	Switch-on delay	≤300ms	≤300ms
释放缓冲时间	Delay-on de-energisation	≤30ms	≤30ms
恢复时间	Recovery time	≤500ms	≤500ms
电源短时中断	Supply short interruption	20ms	20ms
环境特性	Environmental data		
电磁兼容	EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
振动	Vibration	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm
使用温度	Ambient temperature	-20°C ~ +60°C	-20°C ~ +60°C
储存温度	Storage temperature	-40°C ~ +85°C	-40°C ~ +85°C
相对湿度	Relative humidity	10% ~ 90%	10% ~ 90%
绝缘特性	Insulation data		
过压等级	Overvoltage category	III	III
污染等级	Pollution degree	2	2
额定绝缘电压	Rated insulation voltage	250V AC	250V AC
额定冲击电压	Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
绝缘强度	Dielectric strength	1500V AC, 1min	1500V AC, 1min
电气间隙和爬电距离	Clearance and creepage distance	In accordance with EN 60947-1	In accordance with EN 60947-1
认证	Certification		
安全完整性等级	Safety integrity level	SIL3	SIL3
性能等级	Performance level	PLe	PLe
安全类别	Category	Cat.4	Cat.4

外观图 Products show

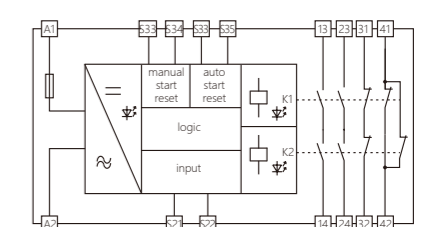
114.5mm×99.0mm×22.5mm



功能框图 Block diagram



CZSR8303-3A1B



CZSR8303-2A2B

产品特征 Features

支持单、双通道输入 Single or dual channels  
三重冗余 Triple redundancy  
内部触点熔丝保护 Internal contact fuse protection

CZSR8401-1A

CZSR8401-2A

电源特性	Power data		
供电电压	Supply voltage	16V ~ 35V DC	16V ~ 35V DC
电流损耗	Current consumption	≤60mA (24V DC)	≤60mA (24V DC)
输入特性	Input data		
输入电流	Input current	≤60mA (24V DC)	≤60mA (24V DC)
导线电阻	Cable resistance	≤15Ω	≤15Ω
输入设备	Input devices	Safety switches, Contact switches	Safety switches, Contact switches
输出特性	Output data		
触点数量	Number of contacts	<b>1NO</b>	<b>2NO</b>
触点材料	Contact material	AgSnO <sub>2</sub> + 0.3 μm Au	AgSnO <sub>2</sub> + 0.3 μm Au
触点熔丝保护	Contact fuse protection	2.5A (Internal)	2.5A (Internal)
切换容量	Utilisation category	2A/230V AC; 2A/40V DC	2A/230V AC; 2A/40V DC
时间特性	Time data		
吸合缓冲时间	Switch-on delay	≤10ms	≤10ms
释放缓冲时间	Delay-on de-energisation	≤10ms	≤10ms
恢复时间	Recovery time	≤100ms	≤100ms
电源短时中断	Supply short interruption	20ms	20ms
环境特性	Environmental data		
电磁兼容	EMC	EN60947, EN61000-6-2, EN61000-6-4	EN60947, EN61000-6-2, EN61000-6-4
振动	Vibration	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm
使用温度	Ambient temperature	-20°C ~ +60°C	-20°C ~ +60°C
储存温度	Storage temperature	-40°C ~ +85°C	-40°C ~ +85°C
相对湿度	Relative humidity	10% ~ 90%	10% ~ 90%
绝缘特性	Insulation data		
过压等级	Overvoltage category	III	III
污染等级	Pollution degree	2	2
额定绝缘电压	Rated insulation voltage	250V AC	250V AC
额定冲击电压	Rated impulse voltage	6000V (1.2/50us)	6000V (1.2/50us)
绝缘强度	Dielectric strength	1500V AC, 1min	1500V AC, 1min
电气间隙和爬电距离	Clearance and creepage distance	In accordance with EN 60947-1	In accordance with EN 60947-1
认证	Certification		
安全完整性等级	Safety integrity level	SIL3	SIL3

产品特征 Features

支持单通道输入 Single channels  
自动复位 Automatic reset  
适用于防爆电梯 Application of explosion-proof lift

CZSR8402-1A

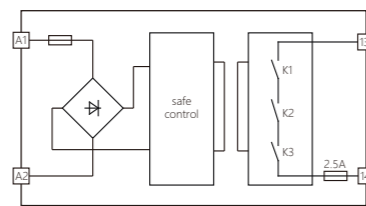
电源特性	Power data	
供电电压	Supply voltage	16V ~ 35V DC
电流损耗	Current consumption	≤80mA (24V DC)
输入特性	Input data	
输入电流	Input current	≤8mA (24V DC)
导线电阻	Cable resistance	≤15Ω
输入设备	Input devices	Safety switches
输出特性	Output data	
触点数量	Number of contacts	<b>1NO</b>
触点材料	Contact material	AgSnO <sub>2</sub>
触点熔丝保护	External contact fuse protection	10A gL/gG NEOZED (NO)
切换容量	Utilisation category	AC-15,3A/230V; DC-13,3A/24V
时间特性	Time data	
吸合缓冲时间	Switch-on delay	≤100ms
释放缓冲时间	Delay-on de-energisation	≤30ms
恢复时间	Recovery time	≤30ms
电源短时中断	Supply short interruption	20ms
环境特性	Environmental data	
电磁兼容	EMC	EN60947, EN61000-6-2, EN61000-6-4
振动	Vibration	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm
使用温度	Ambient temperature	-20°C ~ +60°C
储存温度	Storage temperature	-40°C ~ +85°C
相对湿度	Relative humidity	10% ~ 90%
绝缘特性	Insulation data	
过压等级	Overvoltage category	III
污染等级	Pollution degree	2
额定绝缘电压	Rated insulation voltage	250V AC
额定冲击电压	Rated impulse voltage	6000V (1.2/50us)
绝缘强度	Dielectric strength	1500V AC, 1min
电气间隙和爬电距离	Clearance and creepage distance	In accordance with EN 60947-1
认证	Certification	
安全完整性等级	Safety integrity level	SIL3
防爆认证	Explosion-proof certification	[Ex ia Ga] IIC
特种设备型式试验	Type tests certificate for special equipment (lift)	In accordance with GB 7588-2003, EN 81-1 + A3

外观图 Products show

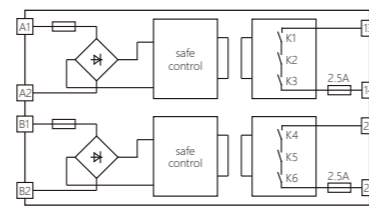
114.5mm×99.0mm×22.5mm



功能框图 Block diagram



CZSR8401-1A



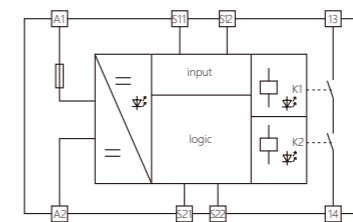
CZSR8401-2A

外观图 Products show

114.5mm×99.0mm×22.5mm



功能框图 Block diagram



CZSR8402-1A

## 产品特征 Features

支持多种输入设备 Multiple input devices  
控制逻辑可组态 Configurable control logic  
多种安全功能 Multiple safety functions

### CZSR8901-2A

### CZSR8901-2A4S

电源特性	Power data	
供电电压	Supply voltage	20V ~ 30V DC
电流损耗	Current consumption	≤100mA (24V DC)
输入特性	Input data	
输入电流	Input current	≤50mA (24V DC)
导线电阻	Cable resistance	≤15Ω
输入设备	Input devices	E-Stop buttons, safety gates, light beam devices, safety mats, two-hand control buttons, magnetic switches
继电器输出特性	Relay output data	
触点数量	Number of contacts	<b>2NO</b>
触点材料	Contact material	AgSnO <sub>2</sub>
触点熔丝保护	External contact fuse protection	10A quickly; 6A slowly
切换容量	Utilisation category	5A/250V AC; 5A/24V DC
半导体输出特性	Semiconductor output data	
输出数量	Number of semi-output	-
驱动能力	Driving ability	2A (24V DC)
时间特性	Time data	
吸合缓冲时间	Switch-on delay	≤100ms
释放缓冲时间	Delay-on de-energisation	≤30ms
恢复时间	Recovery time	≤100ms
电源短时中断	Supply short interruption	20ms
环境特性	Environmental data	
电磁兼容	EMC	EN60947, EN61000-6-2, EN61000-6-4
振动	Vibration	Vibration frequency: 10Hz ~ 55Hz; Vibration amplitude: 0.35mm
使用温度	Ambient temperature	-20°C ~ +60°C
储存温度	Storage temperature	-40°C ~ +85°C
相对湿度	Relative humidity	10% ~ 90%
绝缘特性	Insulation data	
过压等级	Overvoltage category	III
污染等级	Pollution degree	2
额定绝缘电压	Rated insulation voltage	250V AC
额定冲击电压	Rated impulse voltage	6000V (1.2/50us)
绝缘强度	Dielectric strength	1500V AC, 1min
电气间隙和爬电距离	Clearance and creepage distance	In accordance with EN 60947-1
认证	Certification	
安全完整性等级	Safety integrity level	SIL3
性能等级	Performance level	PLe
安全类别	Category	Cat.4

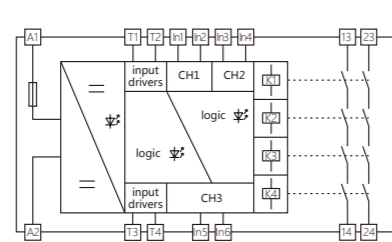
## 外观图 Products show

114.5mm×99.0mm×22.5mm  
114.5mm×99.0mm×45mm

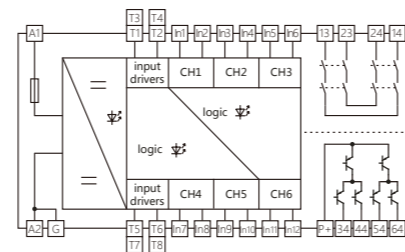
CZSR8901-2A  
CZSR8901-2A4S



## 功能框图 Block diagram



CZSR8901-2A



CZSR8901-2A4S

## 型号 Model

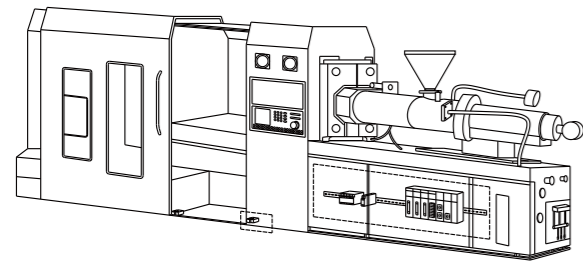
## 依据EN ISO13849

## 依据IEC 61508

型号 Model	依据EN ISO13849					依据IEC 61508				
	(PL) 性能等级	(Cat.) 安全类别	(T <sub>M</sub> ) 任务时间	(CCF) 共因失效	(DC/DC <sub>avg</sub> ) 性能等级	(SIL) 完整性等级	(HFT) 硬件故障裕度	(PFH) 危险失效概率	(MTTF <sub>d</sub> ) 平均危险失效时间	(SFF) 安全失效分数
CZSR8001-3A1B	e	4	20 Years	≥65	99%	3	1	3.09E-10	188 Years	≥99%
CZSR8001-2A2B	e	4	20 Years	≥65	99%	3	1	3.09E-10	188 Years	≥99%
CZSR8001-3A1B-P	e	4	20 Years	≥65	99%	3	1	3.09E-10	188 Years	≥99%
CZSR8001-2A2B-P	e	4	20 Years	≥65	99%	3	1	3.09E-10	188 Years	≥99%
CZSR8001-3A1B(M)	e	4	20 Years	≥65	99%	3	1	3.09E-10	188 Years	≥99%
CZSR8001-2A2B(M)	e	4	20 Years	≥65	99%	3	1	3.09E-10	188 Years	≥99%
CZSR8002-2A2AT	e	4	20 Years	≥65	99%	3	1	3.10E-10	188 Years	≥99%
CZSR8002-2A2AT(M)	e	4	20 Years	≥65	99%	3	1	3.10E-10	188 Years	≥99%
CZSR8003-3A1B	e	4	20 Years	≥65	99%	3	1	3.09E-10	Years	≥99%
CZSR8003-2A2B	e	4	20 Years	≥65	99%	3	1	3.09E-10	Years	≥99%
CZSR8101-3A1B-N	e	4	20 Years	≥65	99%	3	1	3.10E-10	Years	≥99%
CZSR8101-2A2B-N	e	4	20 Years	≥65	99%	3	1	3.10E-10	188 Years	≥99%
CZSR8201-3A1B	e	4	20 Years	≥65	99%	3	1	3.06E-10	190 Years	≥99%
CZSR8201-2A2B	e	4	20 Years	≥65	99%	3	1	3.06E-10	190 Years	≥99%
CZSR8301-3A1B	e	4	20 Years	≥65	99%	3	1	3.10E-10	188 Years	≥99%
CZSR8301-2A2B	e	4	20 Years	≥65	99%	3	1	3.10E-10	188 Years	≥99%
CZSR8301-3A1B(M)	e	4	20 Years	≥65	99%	3	1	3.10E-10	188 Years	≥99%
CZSR8301-2A2B(M)	e	4	20 Years	≥65	99%	3	1	3.10E-10	188 Years	≥99%
CZSR8302-3A1B	e	4	20 Years	≥65	99%	3	1	3.09E-10	Years	≥99%
CZSR8302-2A2B	e	4	20 Years	≥65	99%	3	1	3.09E-10	Years	≥99%
CZSR8303-3A1B	e	4	20 Years	≥65	99%	3	1	3.09E-10	Years	≥99%
CZSR8303-2A2B	e	4	20 Years	≥65	99%	3	1	3.09E-10	Years	≥99%
CZSR8401-1A	-	-	-	-	-	3	1	1.00E-09	Years	≥99%
CZSR8401-2A	-	-	-	-	-	3	1	1.00E-09	Years	≥99%
CZSR8402-1A	-	-	-	-	-	3	1	2.03E-10	Years	≥99%
CZSR8901-2A	e	4	20 Years	≥65	99%	3	1	1.78E-09	663 Years	≥90%
CZSR8902-2A4S	e	4	20 Years	≥65	99%	3	1	1.86E-09	352 Years	≥90%

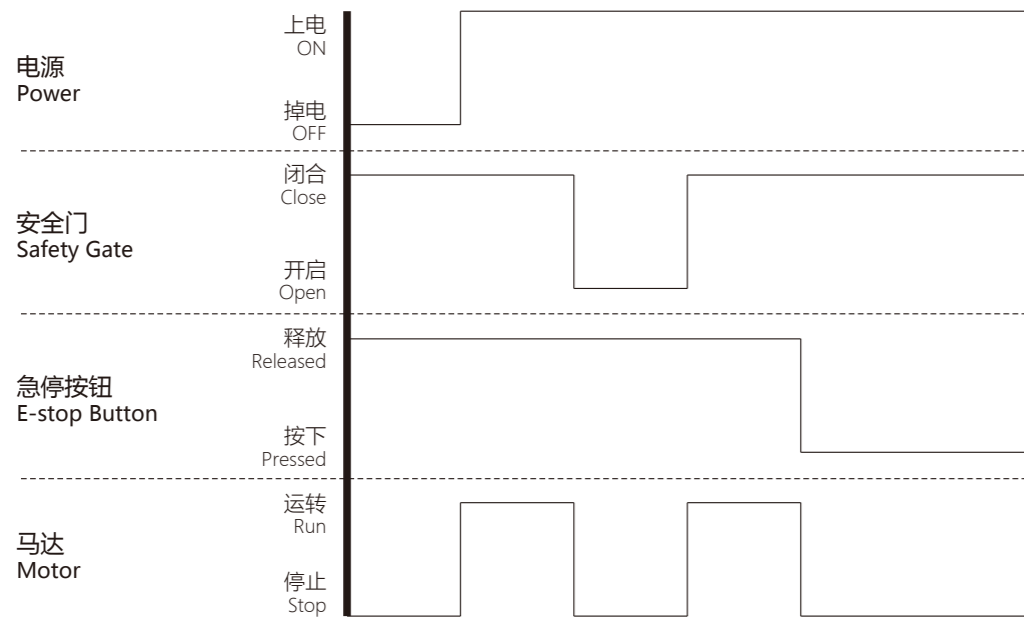
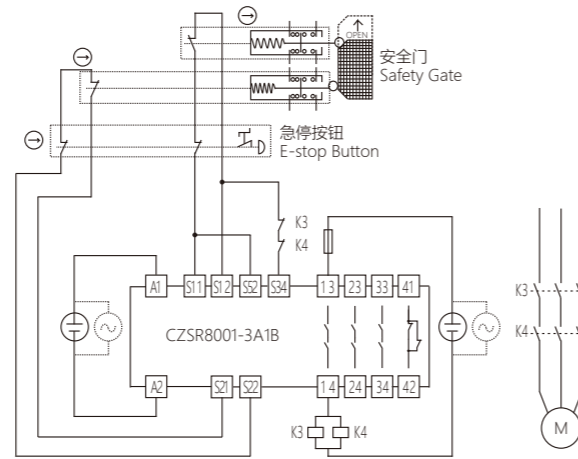
应用一：注塑机

Application I: Injection Moulding Machine



接线示意

Wiring Instructions

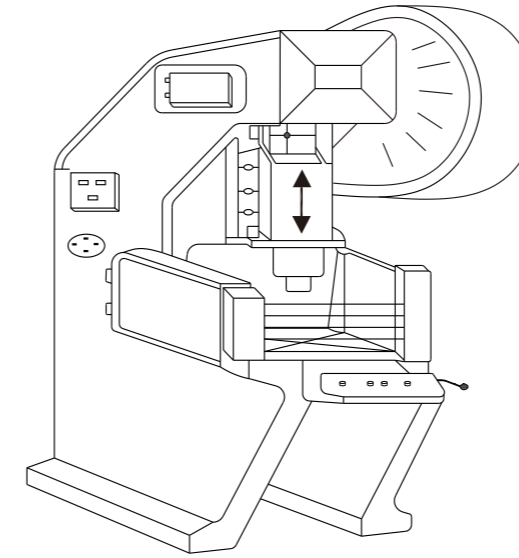


注塑机械安全控制系统一般由安全门、急停按钮、安全继电器等设备构成。危险主要来自于合模的挤压动作，通过安全门隔离操作人员与危险区域，当安全门闭合时，合模动作开启（马达运转），当安全门开启时，合模动作停止（马达停止）。

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).

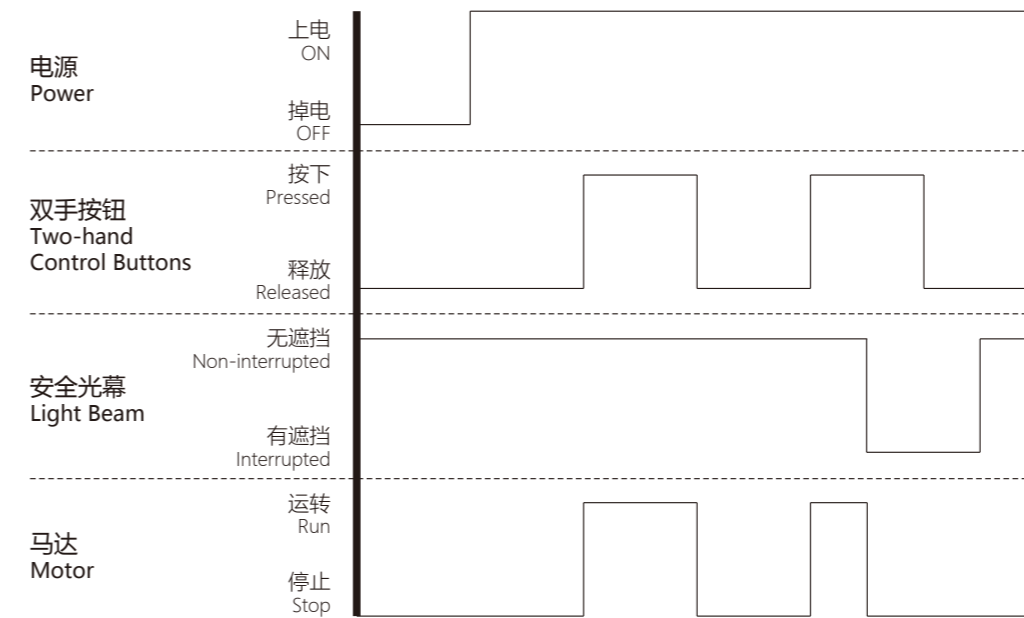
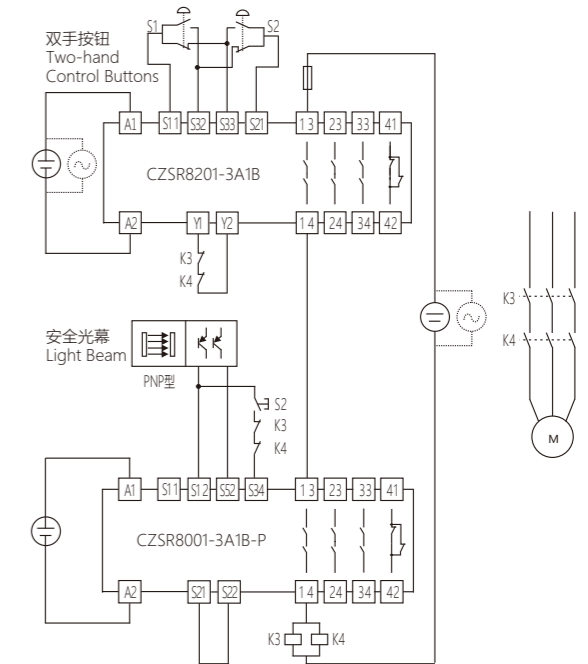
应用二：冲床

Application II: Punch Machine



接线示意

Wiring Instructions



冲床机械安全控制系统一般由双手按钮、安全光幕、安全继电器构成。危险主要来自于冲击危险，操作人员需通过双手操作才能启动冲压操作（马达运转），并通过安全光幕使得操作人员肢体进入冲床工作区域时，机器停止冲压工作（马达停止）。

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.