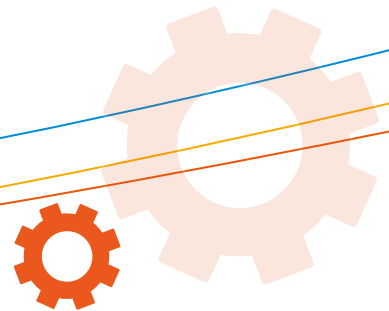


Focus on Industrial Safety



**SHENZHEN TONGCHUANG MECHATRONICS CO.,LTD.**





# COMPANY PROFILE



SHENZHEN TONGCHUANG MECHATRONICS TECHNOLOGY CO., LTD. was founded in 2006, is a national high-tech enterprise and Shenzhen high-tech enterprise integrating research and development, design, production and sales, all the products developed and produced have independent intellectual property rights. The company specializes in industrial safety system, research and development and production of safety grating, safety switch, safety relay module, safety door lock, safety laser scanner, door control unit and other products, to provide customers with professional safety system solutions.

The most important thing about the service and quality of the company's SLC range of products is that customers can use them with confidence. The company is committed to providing a safer workplace for every user. With a professional technology development team, the SLC series of safety products developed and produced by the company have passed the national standard certification, CE certification and the U.S. FCC certification.

Efforts to provide customers with a safer workplace is the company's continued pursuit of the goal under the guidance of this goal, the company's staff will make every effort to provide customers with satisfactory products, quality service, and look forward to working with customers to create a safe industrial production environment and win a better future.







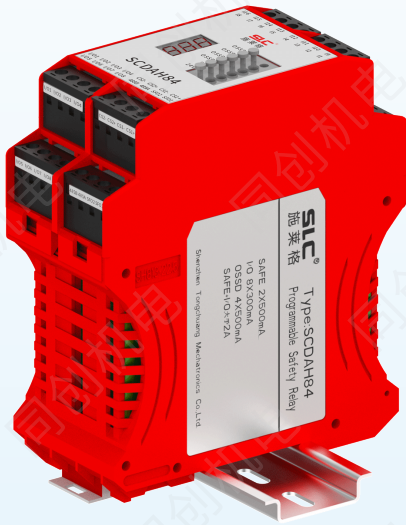
# HONORARY CERTIFICATE







# SCDAH84 Programmable safety relays



## Product overview

SCDAH84 safety relay integrated multiple safety inputs and safety outputs; The input signal can be a passive switching signal or an OSSD-type transistor signal;

A variety of logic combinations such as and or can be easily realized through the PC software;

Flexible application for independent multi-zone safety control.

## Product features

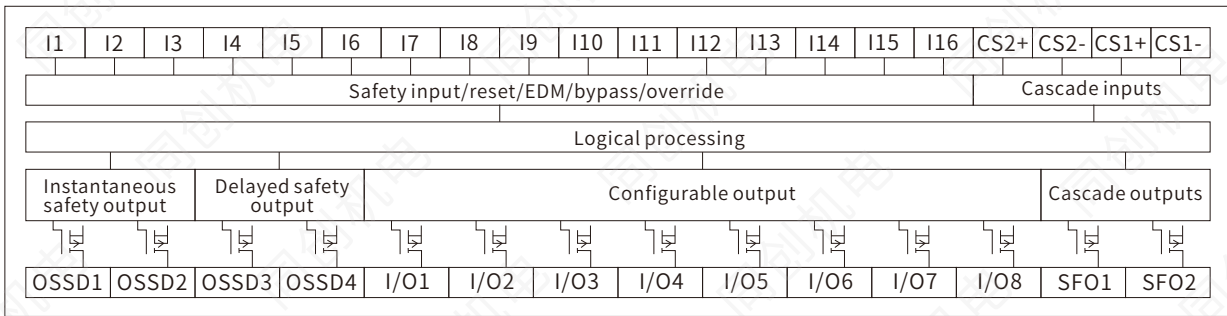
- ◆ 16 safe input channels
- ◆ 8 channels can be configured with safe input or safety output
- ◆ 4 OSSD safety outputs, of which 2 can be configured with delay safety outputs
- ◆ 2 cascade inputs and 2 cascade outputs
- ◆ 485 communication PC software programmable function
- ◆ Multi-region independent security control

## Technical parameters

<b>Security level</b>	
Standard	ISO 13849-1
Security classification	Conform to ISO 13849-1 PLe/Cat.4
<b>Electrical parameters</b>	
Power supply	24VDC±15%
Power consumption (without load)	9W
Response time	<10ms
Input high	11~27.6V
Input low	0~5V
Incoming current	<4mA
Safe output current	0.5A
The total output current can be configured safely	2A
Safe output conduction voltage	<2V
Safe output turns off leakage current	<10μA
Safe output capacitive load	1μF (capacity)
Output mode	Transistor output
Safety output short circuit protection	Have
Reverse polarity protection	Have
<b>Environmental and physical characteristics</b>	
Protection	IP40/IP20
Operating temperature	-5...+55°C
Vibration resistance	10...55Hz,0.35mm
Impact resistance	10g,16ms,100 impacts
Installation	35mmDIN rail
Weight (g)	150g
Maximum conductor specifications	0.2...4mm <sup>2</sup>

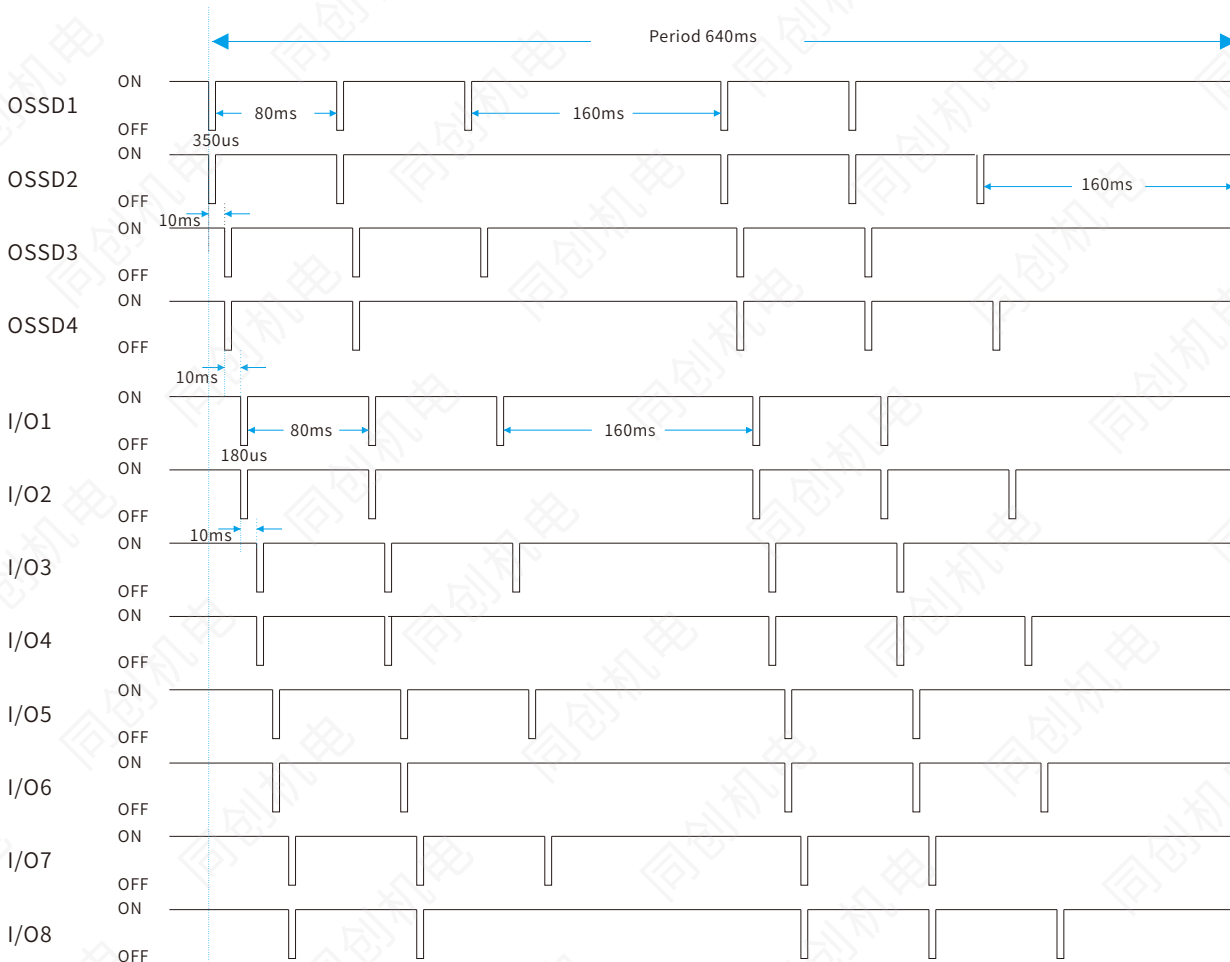
※Affected by product configuration and manufacturing process, the actual product size, weight may be different, please refer to the actual product

## SCDAH84 block diagram



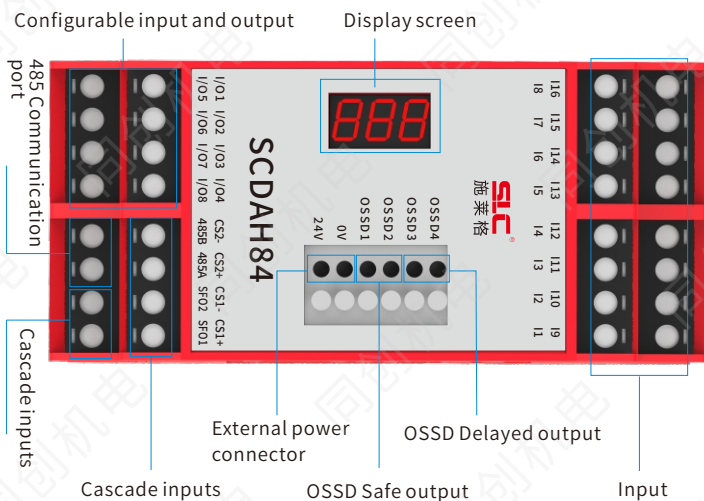
## OSSD output and configurable output self-diagnostic function

The SCDAH84 security module has OSSD output and configurable output self-diagnostics. During the OSSD output or configurable output on-period, the internal control timing control of the security module actively turns off the OSSD1 ~OSSD4, I/O1 ~ I/O8 output sequentially. In the self-diagnosis sequence of the corresponding output, the internal control unit of the safety module detects the level state and overload state of the corresponding output, and if the detected level state or overload state is inconsistent with the expected, the corresponding output has a fault, and the system will immediately shut down the corresponding output to ensure functional safety. The following figure is the timing diagram of the self-diagnostic output waveform of the safety module:





## Panel description



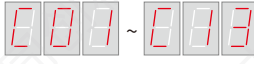
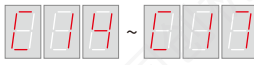


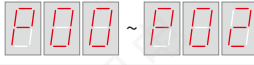







## Interface definition

Signal	Instructions
+24V	Power input 24V
0V	Power input 0V
OSSD1, OSSD2	OSSD Safe output
OSSD3, OSSD4	OSSD Delayed output
I1, I2, I3, I4, I5 I6, I7, I8, I9, I10 I11, I12, I13, I14 I15, I16	1-16 channel inputs
CS2-, CS2+, CS1-, CS1+	Cascade inputs
I/O1, I/O2, I/O3 I/O4, I/O5, I/O6 I/O7, I/O8	Configurable input and output
485A, 485B	485 Communication Port
SFO1, SFO2	Cascade inputs

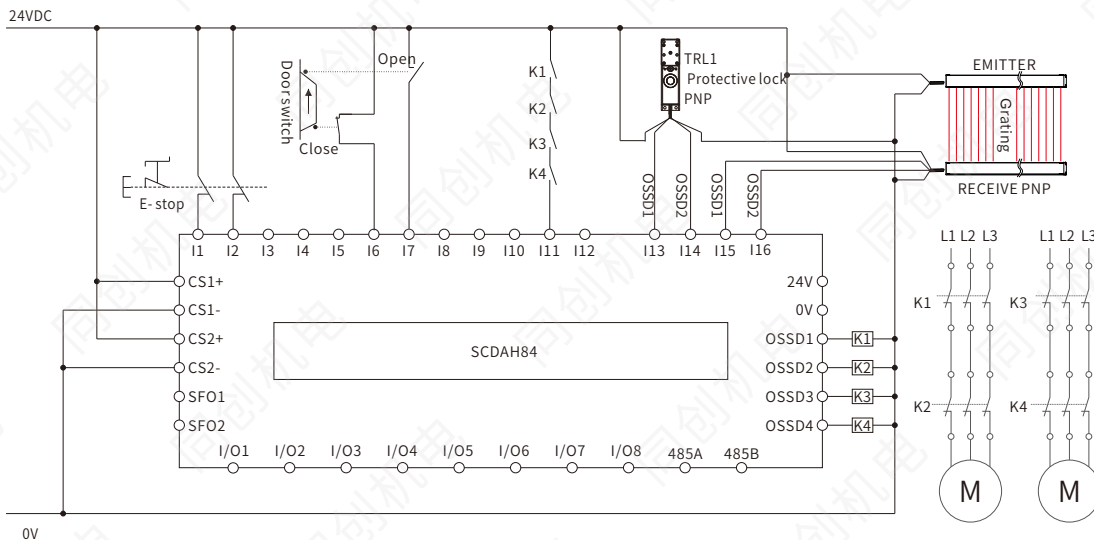
## Display and common troubleshooting

SCDAH84 adopts a seven-segment digital tube display, which displays rich content and is convenient for troubleshooting. When both input and output are working normally, "on" is displayed; If the input or output is abnormal, the system detects the fault and displays the fault code to facilitate troubleshooting during field wiring and commissioning. When there are multiple channels in the input or output abnormality, the channel with the low channel serial number is displayed first, and the displayed channel fault can be checked by line when troubleshooting.

Display	Cause of the failure	Exclusion method
	Normal working, there is output	N/A
	Works normally. The next two digits after the partial output open state display the output open port	N/A  Note: In normal operation, when part of the output is opened, the corresponding diagram between the position and the output is displayed: 
	The single-channel input is invalid, in order: I1~I16, I/O1~I/O8, CS1~CS2	Check the cables to the input channel
	The two-channel input is invalid, in order: I1-I2 ..... I15-I16, I/O1-I/O2 ..... I/O7-I/O8, CS1-CS2	Check the two-channel input cable
	Passive switch input is invalid (passive switch 1, 2, 3, 4, in order)	Check the corresponding passive switch input wiring

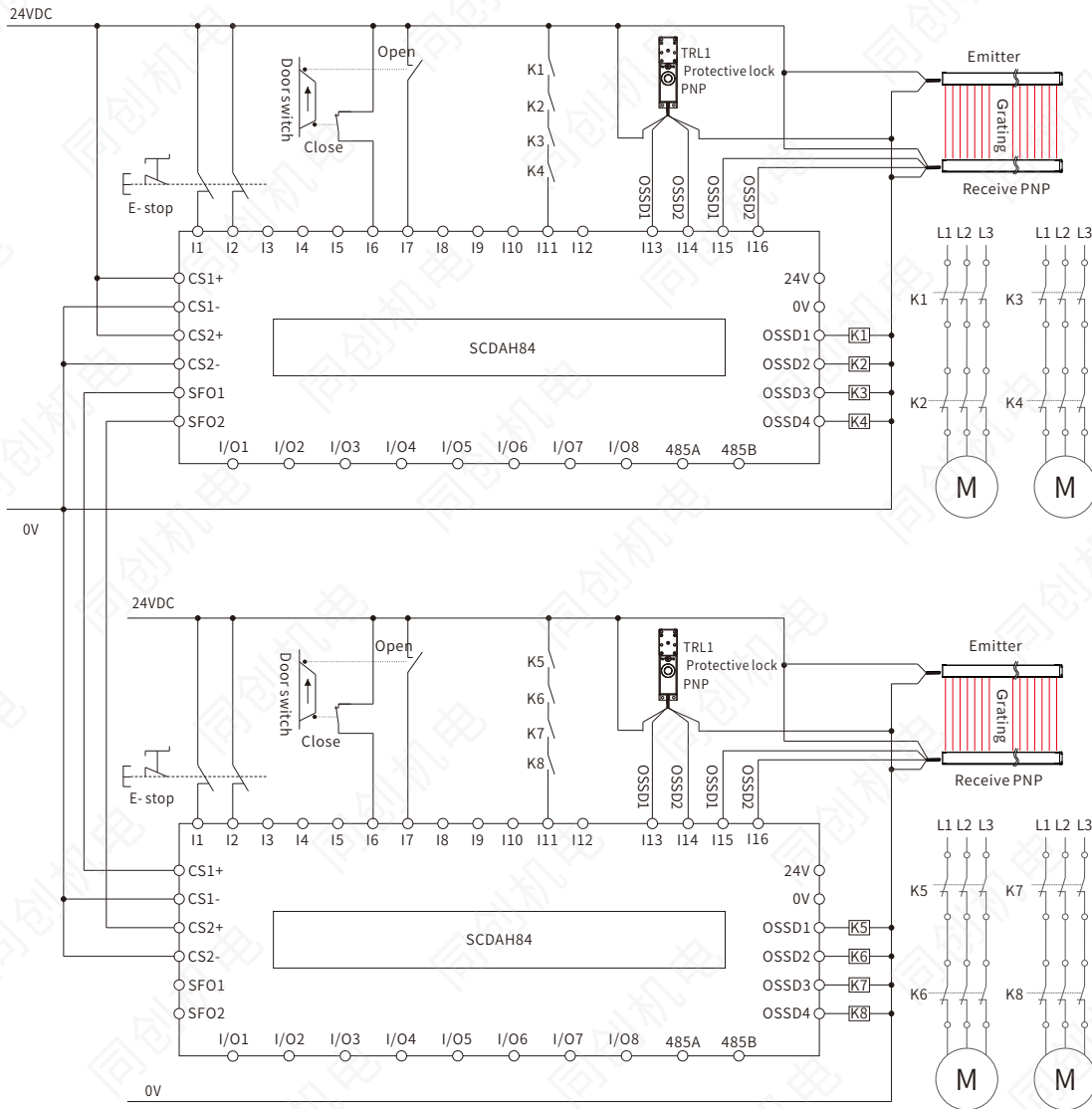
Display	Cause of the failure	Exclusion method
 1HZ flicker	The two-channel input is not synchronized	If the input difference time of the two channels times out, disable the input to rectify the fault
 1HZ flicker	The input of the passive switch is not synchronized or incorrect	If the input difference time of the passive switch times out or an input error occurs, disable the input to rectify the fault
	Output overload errors (in order:OSSD1-4、I/O1-8、SFO1-2)	Check the corresponding output wiring and load, and power off and restart
	Output terminal voltage/self check error (in order:OSSD1-4、I/O1-8、SFO1-2)	Check the corresponding output wiring and load, and power off and restart
	Power error	Check the power supply amplitude and wiring
	Waiting for manual reset	Check the manual reset wiring and input a valid reset signal
	Bypass status	Check the bypass input wiring
	Override state	Check the wiring of the override input
	Reopen output error when output is not fully closed	When the delayed output is not closed, the output is reopened, and closing the input can eliminate the fault
	Upper computer communication error	Check 485 communication wiring and power off and restart
	EDM fault	Check EDM wiring
	Hardware error	Depot repair

## SLC series with a single set of SCDAH84 application wiring diagrams

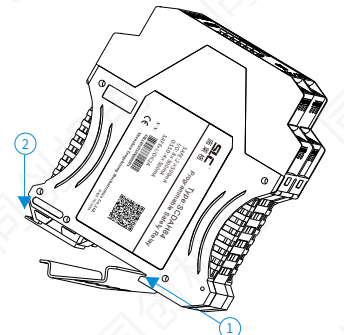
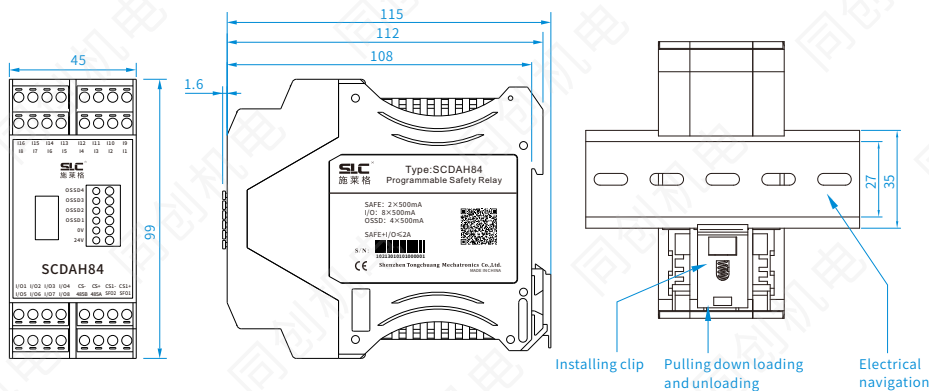




▶ SLC series with multiple sets of SCDAH84 application wiring diagrams



▶ Installation dimension diagram



1. Insert the SCDAH84 fixed plastic clamp diagonally into one side of the installation guide rail;
2. Lower and press SCDAH84 towards the guide rail to make its hardware movable buckle snap onto the other side of the guide rail.



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