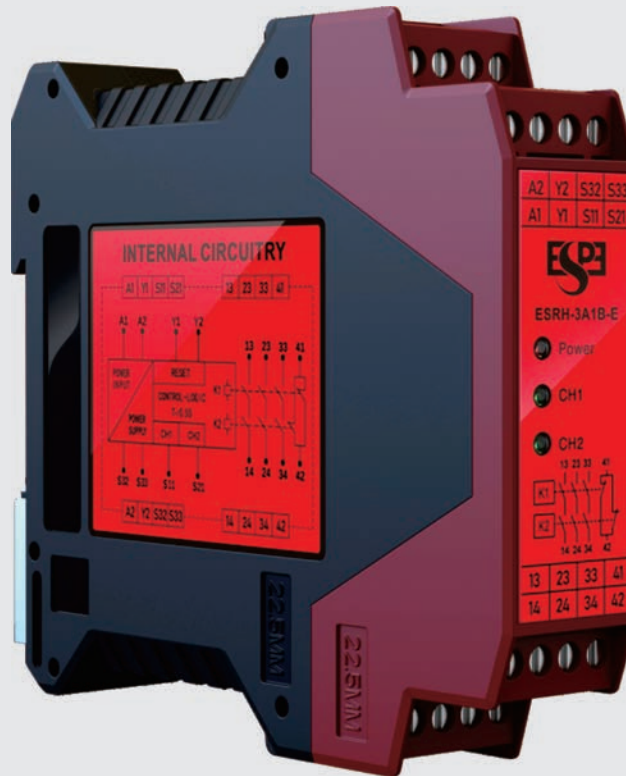


ESRH-3A1B

Two Hand Button Control Module



Product Introduction

ESRH two hand button control module meets PLe safety requirement of ISO 13849-1 and is suitable for monitoring two hand button in industrial sites with high safety requirements. It adopts dual-channel input mode and has detection ability with dual-channel synchronization time not exceeding 0.5s; It has a two-hand button control module with 3 NO safety output contacts, and 1 NC auxiliary output contact.

Product Feature

- Designed according to ISO13849-1 (Category 4, PL e).
- Relay output: 3NO and 1 NC auxiliary contacts.
- Inside circuit with cross-diagnose monitoring function.
- Input power overvoltage protection.
- Power supply reverse polarity protection.
- Visualized status indicator for easy diagnoses.
- Detectable terminal for easy maintenance.
- Standard 35mm DIN rail for mounting design.

Two Hand Button Control Module

Product Parameter

Standard Level	
Reference Standard	ISO 13849-1
Safety Level	ISO 13849-1 Category 4/ PL e
Electric Parameter	
Power Supply	DC24V±10%
Consumption	<3W
Response Time	<20ms
Suction Buffer Time	<100ms
Power-on Restart Time	<1s
Protective Circuit	Overvoltage protection, reverse polarity protection
Safety Input	Two hand button signal
Input Synchronization	≤500ms (Typical data200ms)
Safety Output	3NO contacts, and 1 NC auxiliary contacts
B10 Data	Rated load: 400,000 times, low load: 2,000,000 times
Contact Capacity	AC15:5A/250V; DC13:6A/24V
Electric Lifetime	≥100,000 times (1NO: 5A 250VAC, Resistive load)
Mechanical Lifetime	≥10,000,000 times
Environment	
Vibration Resistance	Frequency 10Hz-55Hz, amplitude 0.35±0.05mm, 20 times each in X,Y and Z direction
Impact Resistance	Acceleration 10g, pulse duration 16ms, 1000 times each in X, Y and Z direction
Working Temperature	-10~+55°C
Storage Temperature	-40~+85°C
Protection Level	Enclosure: IP40 Terminal: IP20
Installation/ Structure	
Mounting	35mm DIN rail
Wire Size	0.2~2.5mm ²
Hardware Size	117mm x 100.6mm x 22.5mm

Model Selection (e.g.:ESR□-3A1B-E)

Product Series

ESR

Input Type



H: two hand button

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Output Method

3A1B

3A1B: 3NO+1NC

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E

E: English

Panel Function

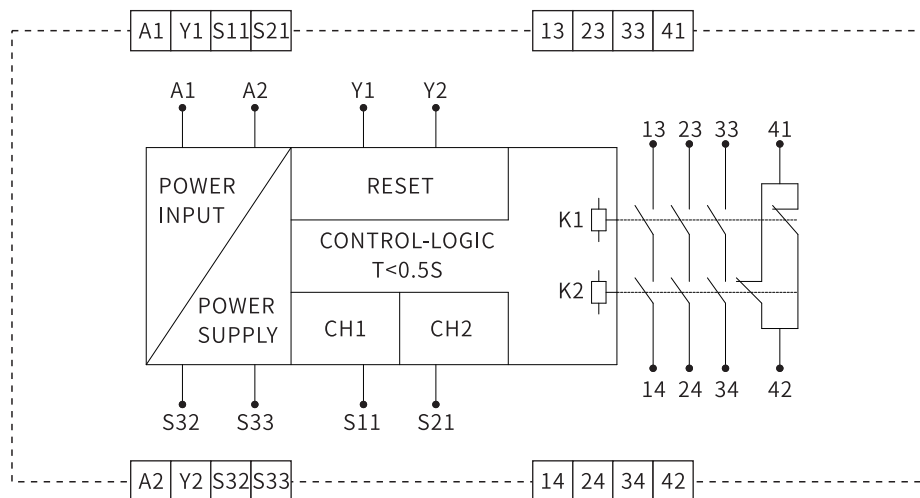
- Power: power indicator, ON after power on.
- CH1: channel 1 indicates that relay 1 is on when work and off when disconnect.
- CH2: channel 2 indicates that relay 2 is on when work and off when disconnect.
- A1/A2: DC24V power input/ output terminal.
- S11: two hand button input 1 terminal.
- S21: two hand button input 2 terminal.
- Y1-Y2: connect with Y1, Y2 to automatic reset.
- 13/14, 23/24, 33/34: 3 loop safety contacts output (NO) terminal.
- 41/42: 1 NC auxiliary contacts terminal.



Application Details

Two hand button control module ESRH-3A1B supply 3 safety contacts output and 1 auxiliary contacts output in loop. Connect the A1 terminal to positive of DC24V power supply, A2 terminal to the negative of power supply, when the signal of input loop S11 S21 is correct and reset loop active, the two hand button control module works.

Functional diagram



Automatic reset

ESRH-3A1B: connect Y1-Y2.

When input loop S11 and S21 input active signal, component start to work.

- Input loop keep close (Input loop give active signal to the relay module), reset loop active, the K1, K2 of relay keep connecting, indicator CH1, CH2 light on, safety contacts 13-14/ 23-24/ 33-34 close, auxiliary 41-42 disconnected.

Input loop

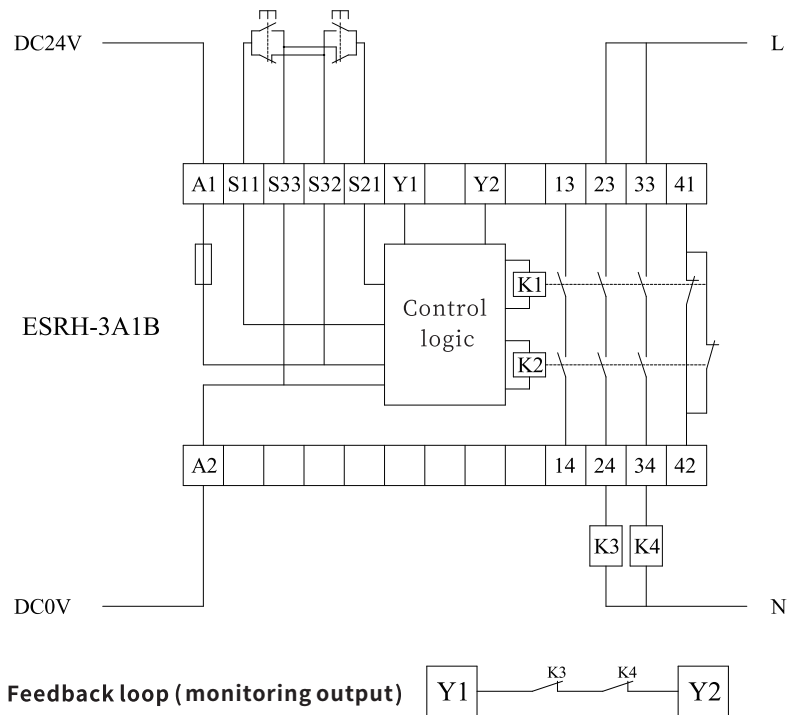
Dual-channel input, connect S11 & S21 of relay to two hand button respectively, at the mean time connect NO/NC of two hand button as diagram.

- Input loop disconnect (Input loop without active signal to ESRH-3A1B), reset loop active, the K1 & K2 of relay get disconnected, indicator CH1, CH2 light off, safety contacts 13-14/23-24/33-34 get disconnected, auxiliary 41-42 close.

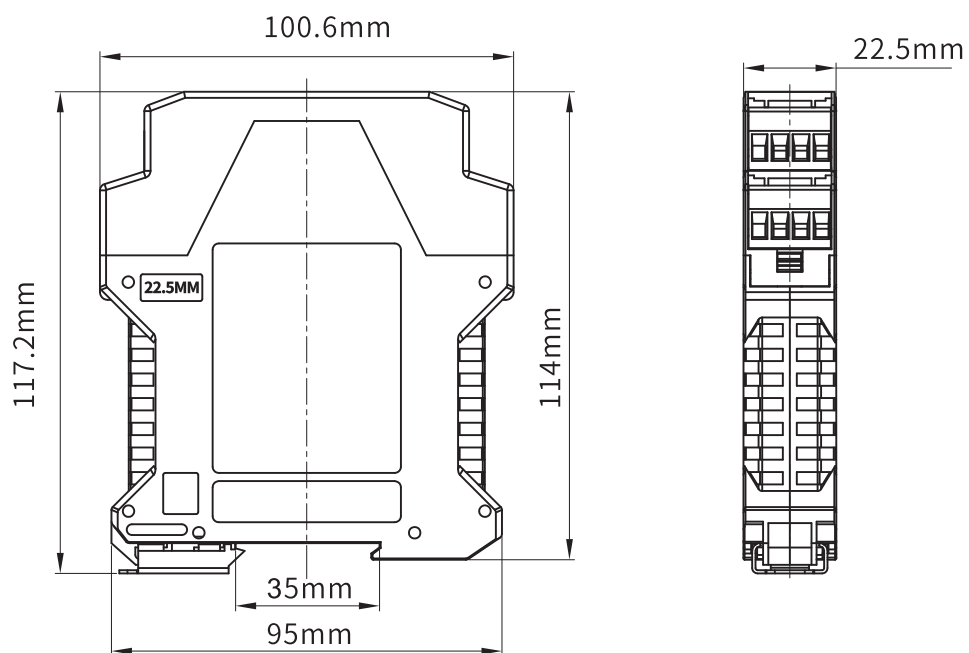
Two Hand Button Control Module

Wiring Diagram

ESRH-3A1B-E

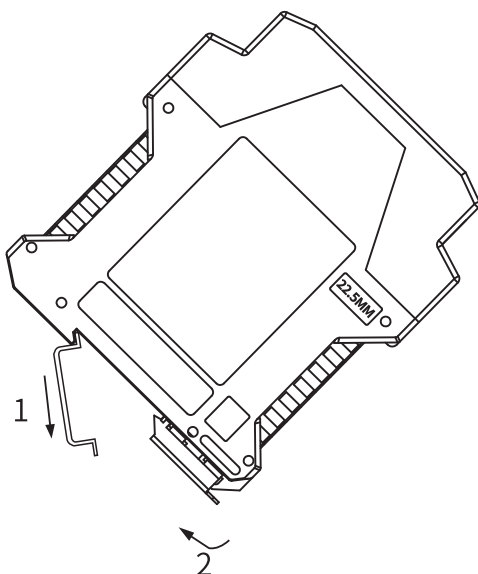


Product Size

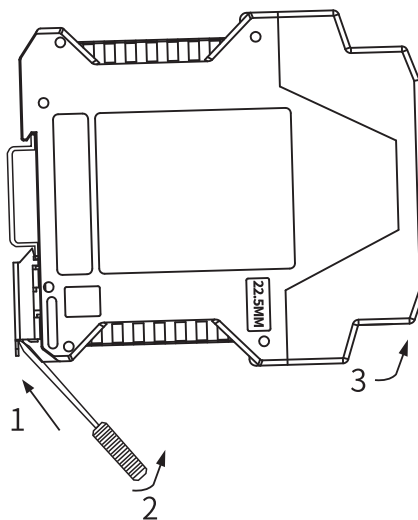


Product Installation

- Please cut off the power supply when mounting, and ensure no dangerous voltage of machine, except the lighting device and spare sockets; Clip the product directly onto 35mm rail inside the equipment cabinet. Before powering on, please check to ensure cable connection is correct and the product is fastened to the mounting rail. Before disassembling the product, you must cut off the power supply to the machine, then loosen the locking screws or remove terminals.



Installation diagram



Disassembly diagram



Carefully read the manual before installation, and ensure power supply is cut off when wiring. Wiring with power is prohibited.