



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Safety Control Relay HR1S-AC

- 1NC or 2NC safety input type, such as E-Stops or Interlock Switches
- EN ISO 13849-1 PLe, Safety Cat 3 compliant, and EN 62061 SIL 3
- Fault diagnosis function with dual safety circuits.
- Internal relay operations can be monitored with LED Indicator.
- Finger-safe protection
- 22.5mm wide, 35mm DIN rail mounting
- UL listed, CSA certified, TÜV NORD approved



Part Numbers

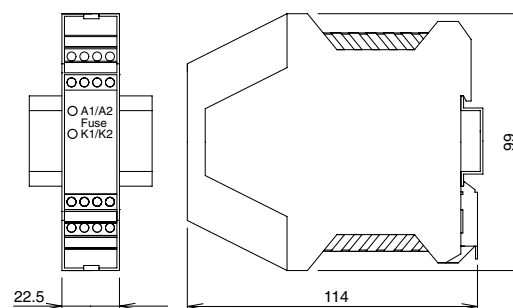
| Part Numbers | Terminal Style |
|--------------|---------------------------|
| HR1S-AC5121 | Integrated Terminal Block |
| HR1S-AC5121P | Removable Terminal Block |

Specifications

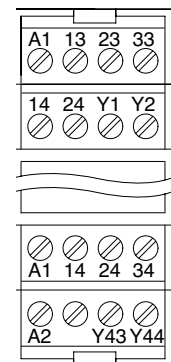
| | | |
|------------------------------|--|----------------------------------|
| Operating Temperature | -10 to 55°C (no freezing) | |
| Degree of Protection | Terminal: IP20, Housing: IP40 | |
| Rated Power Voltage | 24V AC (-20 to +10%) 50/60 Hz 24V DC (±20%) | |
| Power Consumption | AC: 2.2 VA (24V AC) maximum DC: 1.2W (24V DC) maximum | |
| Overcurrent Protection | Electronic | |
| Control Circuit Voltage | 24V | |
| Performance Level (PL) | e (EN ISO 13849-1) | |
| Safety Category | 3 (EN 954-1) | |
| Safety Integrity Level (SIL) | 3 (EN 62061) | |
| Response Time | 100ms maximum | |
| Input Synchronization Time | Unlimited | |
| Overvoltage Category | III | |
| Pollution Degree | 2 | |
| Rated Insulation Voltage | 300V | |
| Safety Outputs | Instantaneous (Stop Cat 0) | 3NO |
| | Auxiliary Contact | 1NO (transistor, PNP) |
| Output Contact Ratings | Safety Circuit | AC-15 C300: Ue= 240VAC, Ie=0.75A |
| | | DC-13 Ue=24VDC, Ie=2A |
| | Transistor Circuit | 24V/20mA |
| | Minimum Applicable Load | 17V/10mA (initial value) |
| Operation Frequency | 1200 operations/h maximum | |
| Rated Current | Safety circuit output total: 10.5A maximum | |
| Wire Size | HR1S-AC5121: 1 × 2.5mm ² , 2 × 0.75mm ² maximum HR1S-AC5121P: 1 × 2.5mm ² , 2 × 1.5mm ² maximum | |
| Weight | 160g | |

Use a 4A fuse (Type gL) for power fuse protection.
Use a 4A (Type gL) or a 6A fast blow fuse for output fuse protection.

Dimensions (mm)

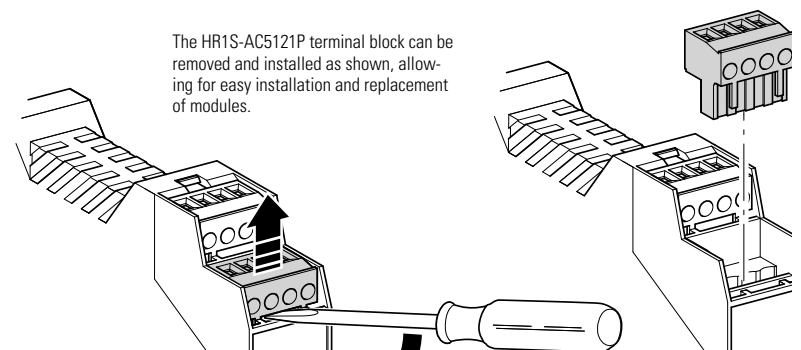


Terminal Arrangement



LED Indicator

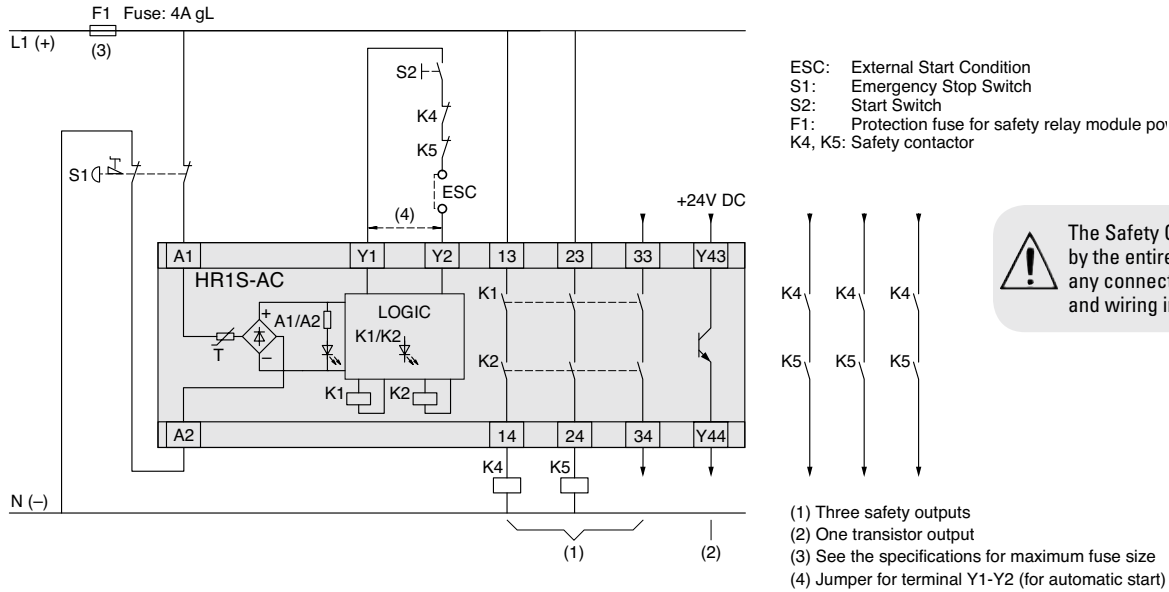
- A1/A2 Fuse: Turns on when power circuit is normal. Turns off when power is interrupted or the electronic fuse blows.
- K1: Turns on when K1 relay operates.
- K2: Turns on when K2 relay operates.



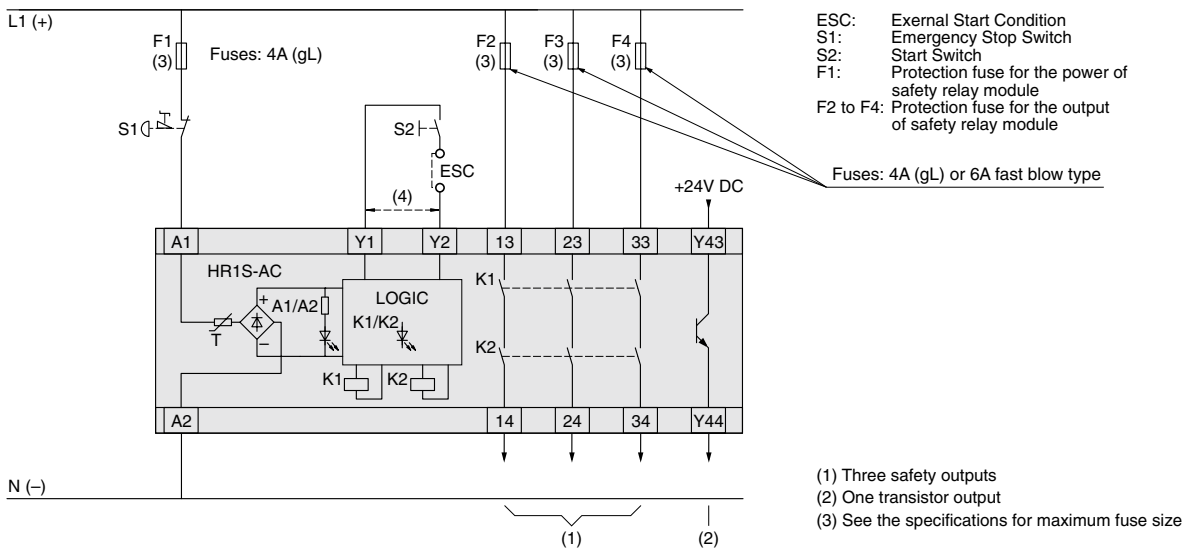
The HR1S-AC5121P terminal block can be removed and installed as shown, allowing for easy installation and replacement of modules.

HR1S-AC Wiring Diagram

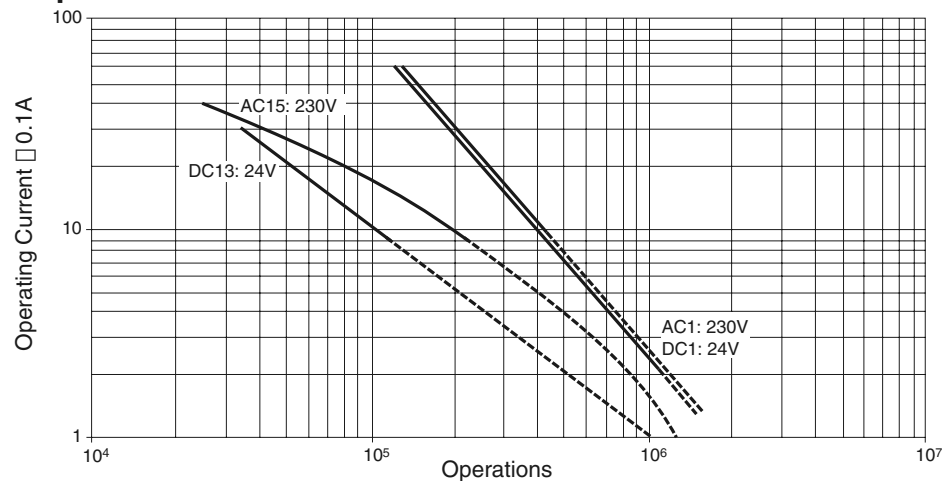
Safety Category 3 Example Circuit (using an emergency stop switch with 2NC contacts)



Safety Category 1 Example Circuit (using an emergency stop switch with 1NC contact)

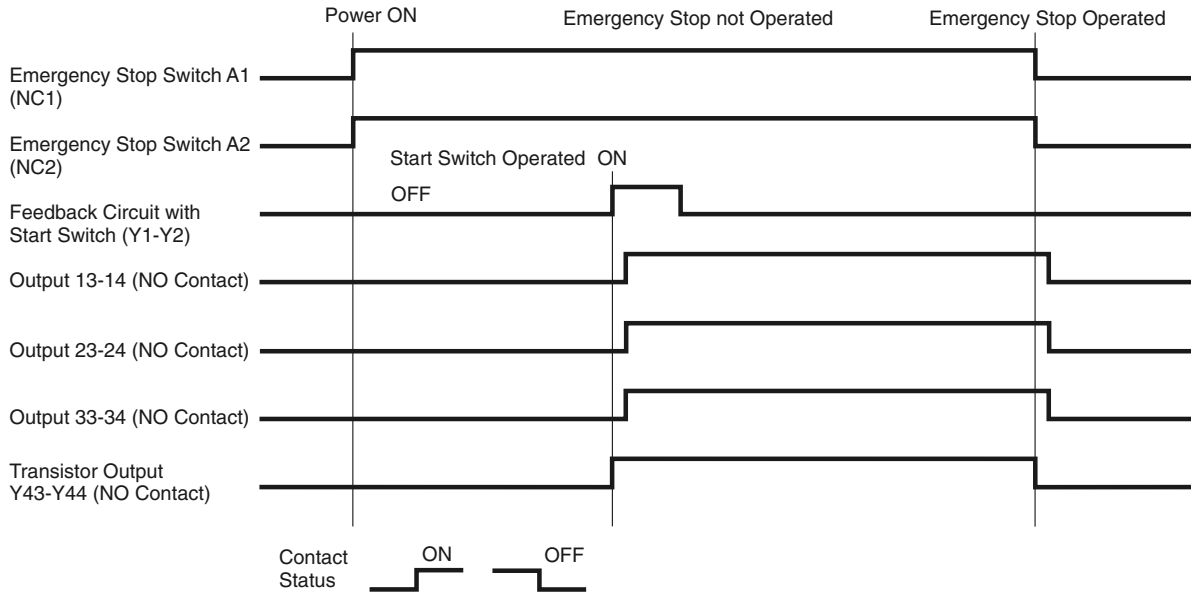


Output Contact Electrical Life

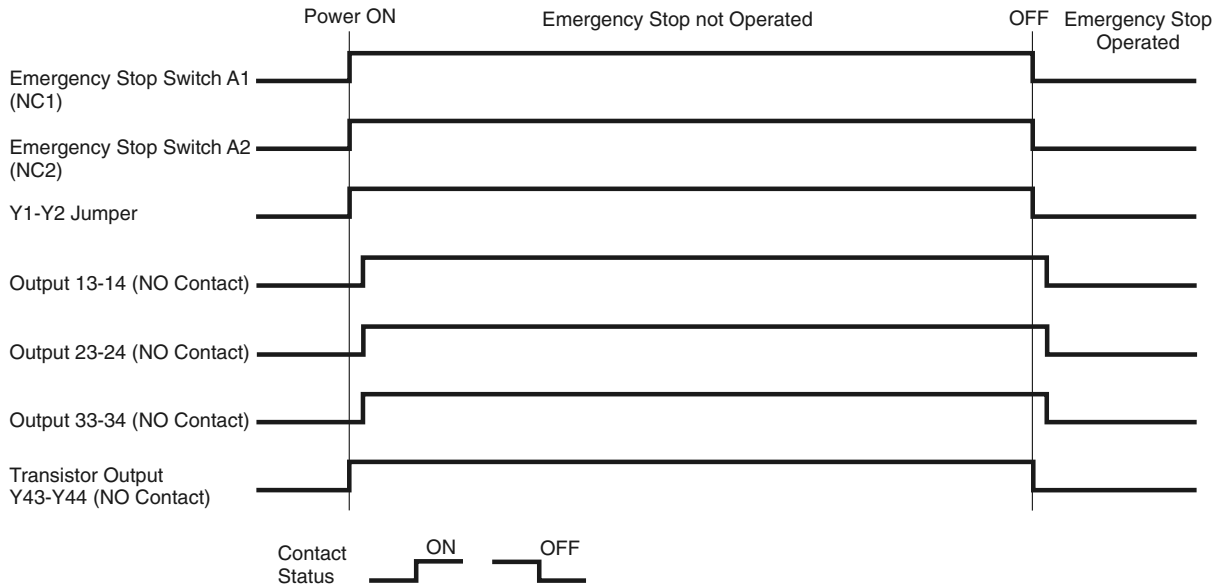


HR1S-AC Safety Relay Module Operation Chart

When Using a Start Switch



When not Using the Start Switch



Specifications and other descriptions in this document are subject to change without notice.

