

MSR125H/HP

Description

The Allen-Bradley Guardmaster Minotaur MSR125H/HP is a logic unit for monitoring and interfacing two-hand control devices with a safety-related circuit. The MSR125H/HP is for use with mechanical switches and the Rockwell Automation Bulletin 800Z Zero-Force Touch Buttons.

The MSR125H/HP has two normally open safety outputs. The safety outputs have independent and redundant internal contacts to support the safety function.

The MSR125H/HP requires the two switches to be operated within 0.5 seconds of each other and will only authorize the ON state while both switches are held down. If one of the switches is released, the output goes to the OFF state and the machine cannot be restarted until both buttons are released and then operated simultaneously.

The MSR125H/HP conforms to EN 574 Category IIIC, which gives specific requirements for two-hand control units and logic devices.

The MSR125H has fixed terminals and the MSR125HP has removable terminals.



Features

- Category 4 per EN 954-1
- Safety category IIIC per EN 574
- Two-hand control unit
- Two N.O. safety outputs
- Fixed or removable terminals
- 22.5 mm wide housing

LED Indicators

| | |
|-------|-------------------|
| Green | Power on |
| Green | CH1 Output Active |
| Green | CH2 Output Active |

Specifications

| Safety Ratings | | |
|---|---|------------------------|
| Standards | EN 574, EN 954-1, ISO 13849-1, IEC/EN 60204-1, IEC 60947-4-1, IEC 60947-5-1, ANSI B11.19, AS 4024.1 | |
| Safety Classification | Cat. 4 per EN 954-1 (ISO 13849-1), SIL CL3 per EN IEC 62061, PLe per ISO 13849-1 | |
| Functional Safety Data * Note: For up-to-date information, visit http://www.ab.com/safety/ | PFH _D : < 1.44 x 10 ⁻⁹ MTTF _d : > 385 years Suitable for performance levels PLe (according to ISO 13849-1:2006) and for use in SIL3 systems (according to IEC 62061) depending on the architecture and application characteristics | |
| Certifications | CE Marked for all applicable directives, cULus, c-Tick, and BG | |
| Power Supply | | |
| Input Power Entry | 24V DC, 24V AC, 115V AC, 230V AC | |
| Power Consumption | 2 W | |
| Inputs | | |
| Safety Inputs | 1 N.C. + 1 N.O. | |
| Input Simultaneity | <0.5 sec | |
| Input Resistance, Max. | 40 Ω | |
| Reset | Automatic | |
| Power On Delay/ Recovery Time | 1 second/500 ms | |
| Response Time | 20 ms | |
| Outputs | | |
| Safety Contacts | 2 N.O. | |
| Thermal Current I _{th} | 1 x 6 A or 2 x 4 A nonswitching | |
| Rated Impulse withstand Voltage | 2500V | |
| Switching Current @ Voltage, Min. | 10 mA/10V | |
| Fuses, Output | External 6 A slow blow or 10 A fast acting | |
| Electrical Life (Operations) | (With surge suppression) 250V AC/6 A/1500VA cosφ = 0.35...0.1 M 250V AC/2.5 A/625VA cosφ = 0.6...0.5 M 250V AC/1.5 A/375VA cosφ = 0.35...0.3 M 250V AC/5 A/1250VA cosφ = 0.6...0.1 M 24V DC/2 A/48 W = 1 M 10V DC/0.01 A/0.1 W = 2 M | |
| Mechanical Life | 2,000,000 operations | |
| Utilization Category | | |
| Resistive: AC-1 | 8 A @ 250V AC | |
| Resistive: DC-1 | 6 A/24V DC | |
| Inductive: AC-15 | 6 A @ 250V AC | 6 A @ 125V AC |
| Inductive: DC-13 | 3 A/24V DC | 6 A/24V DC @ 6 ops/min |
| Resistive UL: | B300, R300, 8 A/250V AC, 6 A/24V DC, 30V DC Resistive | |
| Environmental and Physical Characteristics | | |
| Enclosure Type Rating/ Terminal Protection | IP40 (NEMA 1), DIN 0470/ IP20, DIN 0470 | |
| Operating Temperature [C (F)] | -5...+55 ° (23...131 °) | |
| Vibration | 10...55 Hz, 0.35 mm | |
| Shock | 10 g, 16 ms, 100 shocks | |
| Mounting | 35 mm DIN Rail | |
| Weight [g (lb)] | 24V DC: 210 (0.46); 115/230V AC: 260 (0.57) | |
| Conductor Size, Max. | 0.2...4 mm ² (24...12 AWG) | |

* Usable for ISO 13849-1:2006 and IEC 62061. Data is based on the following assumptions:
- Mission time/Proof test interval of 20 years

Product Selection

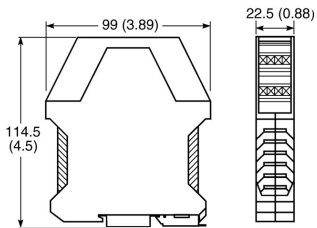
| Inputs | Button Type | Safety Outputs | Terminals | Reset Type | Power Supply | Cat. No. |
|------------------------------------|-----------------------------|----------------|----------------------|------------|--------------|-------------|
| 1 N.C. + 1 N.O. (Two-Hand Control) | Mechanical or Bulletin 800Z | 2 N.O. | Removable (MSR125HP) | Automatic | 24V DC | 440R-D23171 |
| | | | | | 24V AC | 440R-D23170 |
| | | | | | 115V AC | 440R-D23169 |
| | | | | | 230V AC | 440R-D23168 |
| | | | Fixed (MSR125H) | | 24V DC | 440R-D23166 |
| | | | | | 115V AC | 440R-D23164 |
| | | | | | 230V AC | 440R-D23163 |

Accessories

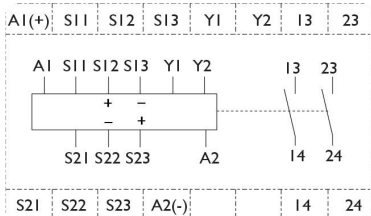
| Description | Cat. No. |
|--|-------------|
| Bag of 4, 4-Pin Screw Terminal Blocks | 440R-A23209 |
| Bag of 4, 4-Pin Spring Clamp Terminal Blocks | 440R-A23228 |

Approximate Dimensions

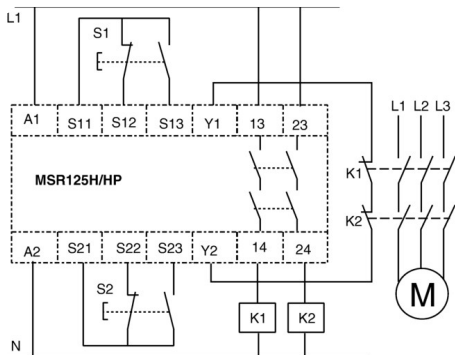
Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.



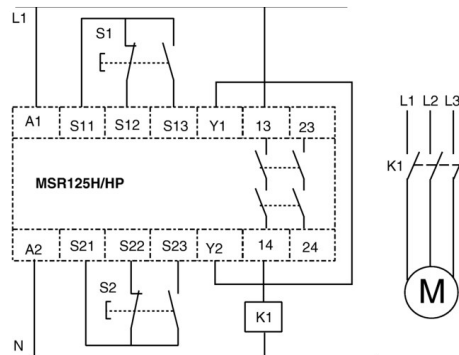
Block Diagram



Typical Wiring Diagrams



Two-Hand Control, Dual Channel, Auto Reset, Output Monitoring



Two-Hand Control, Dual Channel, Auto Reset, No Output Monitoring

