

Logic
Specialty Safety Relays
 MSR125H/HP Two-Hand Control



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	—
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 _p : < 3,3 x 10 ⁻⁹ MTTFd: > 34592 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 AC/DC, 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
Inductive: DC-13	3 A/24V DC
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/ —
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 (lbs)	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
 - Functional test at least once within six-month period

Product Selection

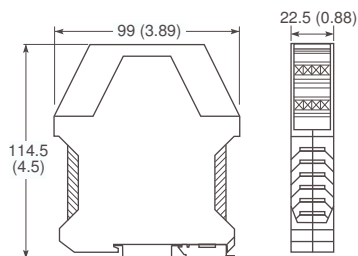
Inputs	Button Type	Safety Outputs	Terminals	Reset Type	Power Supply	Cat. No.
1 N.C. + 1 N.O. (Two-Hand Control)	Mechanical or Bulletin 800Z	2 N.O.	Removable (MSR125HP)	Automatic	24V AC/DC	440R-D23171
					24V AC	440R-D23170
					115V AC	440R-D23169
			230V AC		440R-D23168	
			24V DC		440R-D23166	
		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

Accessories

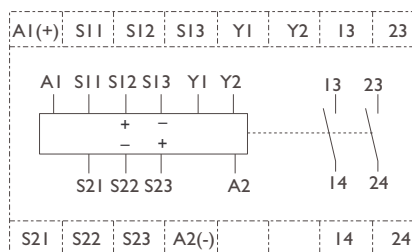
Description	Cat. No.
Bag of 4, 4-Pin Screw Terminal Blocks	440R-A23209
Bag of 4, 4-Pin Spring Clamp Terminal Blocks	440R-A23228

Approximate Dimensions—mm (inches)

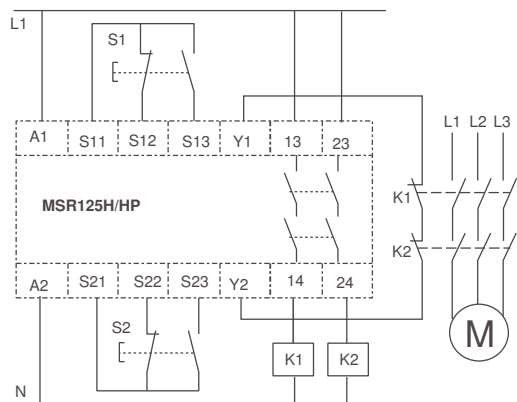
Dimensions are not intended to be used for installation purposes.



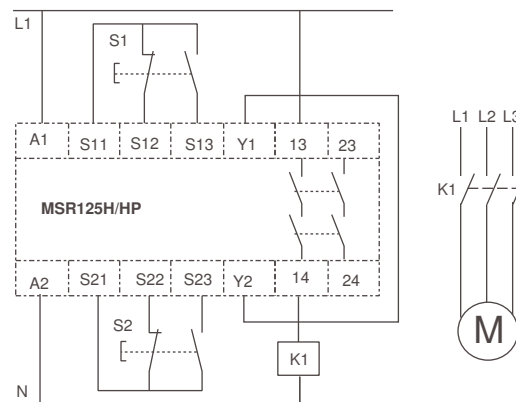
Block Diagram



Typical Wiring Diagrams



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



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