MSR126R/T

Description

The Allen-Bradley Guardmaster Minotaur MSR126R/T is a safety monitoring relay that provides the very basics for safety control systems in a 22.5 mm package.

The MSR126R/T is designed for connection to a single channel safety gate, a single channel e-stop or a light curtain that provides cross fault detection. The MSR126.1R/T is designed for connection to a dual channel safety gate or e-stop, as it performs cross fault detection across the inputs.

The MSR126R and MSR126.1R are designed for applications where a monitored manual reset is required. Monitored manual reset requires the use of a momentary normally open switch to activate the outputs.

The MSR126T and MSR126.1T are designed for applications where automatic/manual reset is required.

The outputs are only two normally open safety-rated outputs. The safety outputs have independent and redundant internal contacts to support the safety function.

Features

- Category 4 per EN 954-1
- Stop category 0
- Two safety contacts N.O.
- Single/dual channel operation
- Cross fault monitoring
- Monitored or automatic reset
- E-stop, safety gate or light curtain applications

LED Indicators

Green	Power On
Green	K1 Closed
Green	K2 Closed

Specifications

Safety Ratings		
Standards	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: < 1.45 x 10-9 MTTFd: > 398 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, 115/230V AC	
Power Consumption	4 W	
Inputs		
Safety Inputs	1 N.C., 2 N.C., or LC	
Input Simultaneity	Infinite	
Input Resistance, Max.	90 Ω	
Reset	Auto./Manual or Monitored Manual	
Power On Delay/ Recovery Time	300 ms/100 ms	
Response Time	15 ms	
Outputs		
Safety Contacts	2 N.O.	
Thermal Current/$_{Ith}$	Max 6 A in one current path (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 = 1...0.1 M 250V AC/2.5 A/625VA cosϕ = 1...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	UL: B300, 5 A/250V AC, 24V AC, 6 A/24V DC	
Resistive: AC-1	6 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
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: 160 (0.35); 115/230V AC: 215 (0.47)	
Conductor Size, Max.	0.2...4 mm2 (24...12 AWG)	

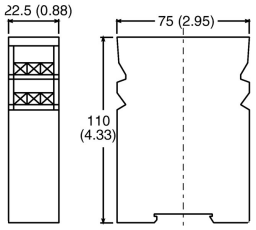
⋆ Usable for ISO 13849-1:2006 and IEC 62061. Data is based on the following assumptions:
- Mission time/Proof test interval of 20 years
- Functional test at least once within six-month period

Product Selection

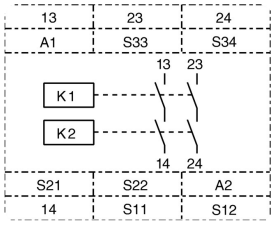
Inputs	Safety Outputs	Auxiliary Outputs	Terminals	Reset Type	Power Supply	Cat. No.
Light Curtain or Single Channel (MSR126T)	2 N.O.	None	Fixed	Auto./Manual	24V AC/DC	440R-N23117
					115V AC	440R-N23116
					230V AC	440R-N23115
Dual Channel 2 N.C. (MSR126.IT)					24V AC/DC	440R-N23114
					115V AC	440R-N23113
					230V AC	440R-N23112
Light Curtain or Single Channel (MSR126R)				Monitored Manual	24V AC/DC	440R-N23123
					115V AC	440R-N23122
					230V AC	440R-N23121
Dual Channel 2 N.C. (MSR126.IR)					24V AC/DC	440R-N23120
					115V AC	440R-N23119
					230V AC	440R-N23118

Approximate Dimensions

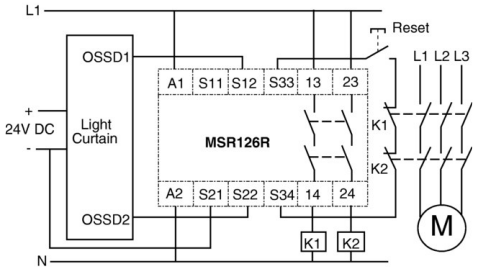
Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.



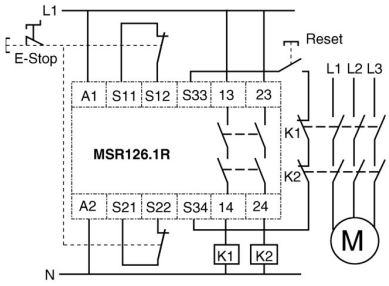
Block Diagram



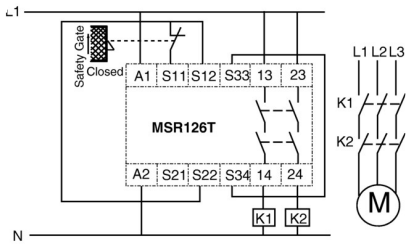
Typical Wiring Diagrams



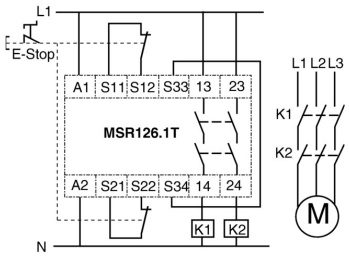
115/230V Supply, 24V DC Light Curtain,
Monitored Manual Reset, Monitored Output



Dual Channel E-Stop Input,
Monitored Manual Reset, Monitored Output



Single Channel Safety Gate,
Automatic Reset, No Output Monitoring



Dual Channel E-Stop, Automatic Reset,
No Output Monitoring