

Safety Relays
Expansion Units
Minotaur MSR132E



Description

The Minotaur MSR132E is a monitoring safety expansion relay unit with single or dual channel input and either immediate or timed off-delay outputs. It is designed to be operated as an “extension” of a “master” safety relay. When wired properly, the outputs of the MSR132E will mimic the outputs of the master relay.

The outputs include 4 normally open safety rated outputs used to shut down the manufacturing system and 2 normally closed auxiliary outputs to indicate status of the MSR132E. One additional normally closed output is available to allow the host relay to monitor the status of the MSR132E. The safety, auxiliary and monitoring outputs have independent and redundant internal contacts to help ensure the safety function.

Features

- Category 4/3 per EN 954-1
- Stop Category 0 or 1
- 4 Safety contacts N.O.
- 2 Auxiliary contacts N.C.
- 1 Monitoring contact N.C.
- Single channel input

Specifications

Standards	EN 954-1, ISO 13849-1, IEC/EN 60204-1, IEC 60947-5-1, ANSI B11.19, AS4024.1
Category Instantaneous/Delayed	Cat. 4/Cat. 3 per EN 954-1
Approvals	C-Tick, CE marked for all applicable directives, cULus and BG
Power Supply	24V AC/DC 50/60Hz or 24VDC 0.85 to 1.1
Power Consumption	1.5W
Safety Inputs	1 N.C.
Outputs	4 N. O. Safety, 2 N.C. Aux, 1 N.C. Monitoring
Output Utilization per IEC 60947-4-1 (Resistive)	AC-1: 6A/250V AC DC-1: 3A/24V DC
① Output Utilization per IEC 60947-5-1 (Inductive)	B300, AC-15 6A/250V AC, 6A/125VAC P300, DC-13 3A/24V DC
Thermal Current (non switching)	2x6A, 3x5A, 4x 4A
Fuses, output external	6A slow blow or 10A quick blow
Minimum Switched Current/ Voltage	10mA/10V
Contact Material	AgSnO ₂ + 2μAu
Power On Delay	100ms
Response Time	50ms
Recovery Time	100ms
Indication LEDs	Green = K1 Closed Green = K2 Closed
Impulse Withstand Voltage	2500V
Operating Temperature	-5°C to +55°C (+14° to +131°F)
Humidity	90% RH
Enclosure Protection	IP40 (NEMA 1), DIN 0470
Terminal Protection	IP20, DIN 0470
Pollution Degree	2
Conductor size	0.2 - 4mm ² (24 - 12AWG)
Mounting	35mm DIN rail
Weight	215g (0.474 lbs)
Electrical Life (w/Surge Supp.)	250V AC/6A/1250VA cosφ=1 250V AC/2A/500VA cosφ=1 250V AC/4A/1000VA cosφ=0.35 250V AC/1.5A/1000VA cosφ=0.6 24V DC/2A/48W 10V DC/0.01A/0.1W
Mechanical Life	2,000,000 operations
Vibration	10-55Hz, 0.35mm
Shock	10g, 16ms, 100 shocks

① See Output Ratings on page 1-29 for details. Consult factory for ratings not shown.

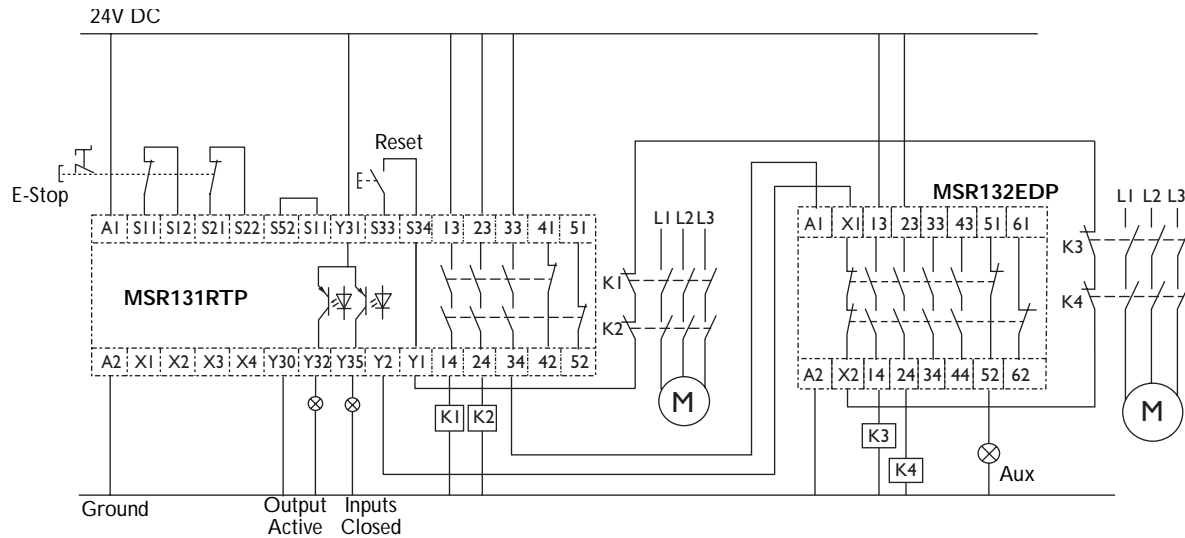
Product Selection

Inputs	Safety Outputs	Auxiliary Outputs	Supply	Terminals	Time Delay	Catalogue Number
1 N.C. + 2 N.C.	4 N.O.	2 N.C.	24V AC/DC	Fixed	0s	440R-E23191
			24V DC		0.5s	440R-E23192
					1s	440R-E23193
					2s	440R-E23194
					3s	440R-E23195
			24V AC/DC	Removable	0s	440R-E23097
			24V DC		0.5s	440R-E23159
					1s	440R-E23160
					2s	440R-E23098
					3s	440R-E23161
			4s	440R-E23162		

Dimensions—mm (inches) Block Diagram



Typical Wiring Diagrams



*Dual Channel E-Stop, Monitored Manual Reset, Dual Channel Output,
 Single Channel Delayed Expansion, Monitored Output*