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 radius days interval a status to halve support the 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			
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	100,000 operations 500,000 operations 300,000 operations 100,000 operations 1,000,000 operations 2,000,000 operations			
Mechanical Life	2,000,000 operations			
Vibration	10-55Hz, 0.35mm			
Shock 10g, 16ms, 100 shocks				
See Output Ratings on page 1-29 for a	dotails Consult factory for ratings not			

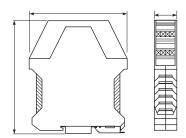
 $[\]ensuremath{\bullet}$ See Output Ratings on page 1-29 for details. Consult factory for ratings not

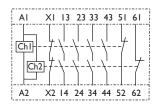


Product Selection

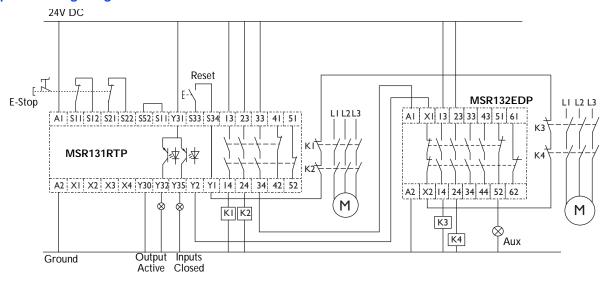
Inputs	Safety Outputs	Auxiliary Outputs	Supply	Terminals	Time Delay	Catalogue Number
1 N.C. + 2 N.C. 4 N.O. 2			24V AC/DC		0s	440R-E23191
					0.5s	440R-E23192
		24V DC	Fixed	1s	440R-E23193	
				2s	440R-E23194	
				3s	440R-E23195	
	4 N.O.	2 N.C.	24V AC/DC		0s	440R-E23097
		24V DC	Removable	0.5s	440R-E23159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



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