

Safety Relays
Expansion Units
Minotaur MSR122E



Description

The MSR122E is designed to be an expansion relay for use with the Minotaur safety relays. The MSR122E is typically used in safety system applications where additional outputs switching connections are needed to help shut down a manufacturing process, properly and safely.

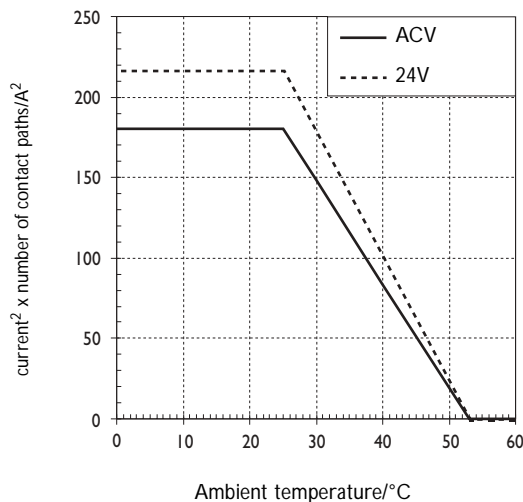
The MSR122E can be connected as a single channel (1 N.C.) or dual channel (2 N.C.) input configuration.

The outputs include 6 normally open safety rated outputs used to shut down the manufacturing system and 1 normally closed auxiliary output to indicate the status of the MSR122E. One additional normally closed output is available to allow the host relay to monitor the status of the MSR122E. The safety, auxiliary and monitoring outputs have independent and redundant internal contacts to help ensure the safety function.

Features

- Safety category according to wiring
- 6 Safety contacts
- 1 Auxiliary contact
- 1 Monitoring contact

Contact Current Limit Curve



Specifications

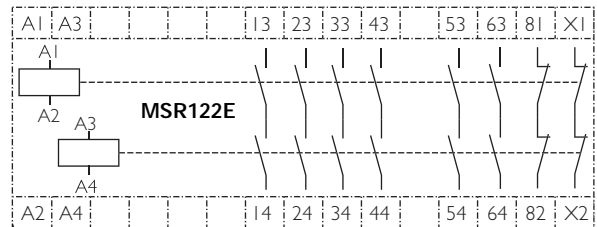
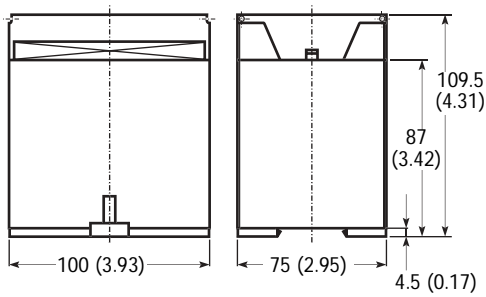
Standards	EN 954-1, ISO 13849-1, IEC/EN 60204-1, IEC 60947-5-1, ANSI B11.19, AS4024.1
Category	Cat. 3 per EN 954-1 (ISO13849-1)
Approvals	C-Tick, CE marked for all applicable directives, cULus and BG
Power Supply	24V AC/DC, 115V AC or 230V AC 0.8 to 1.1 x rated voltage, 50/60 Hz (0.85 to 1.1 x 24V DC)
Power Consumption	3W
Safety Inputs	1 N.C. or 2 N.C.
Input Simultaneity	Infinite
Maximum Input Resistance	160 ohms
Outputs	6 N.O. Safety 1 N.C. Auxiliary 1 N.C. Monitoring
Output Utilization per IEC 60947-4-1 (Resistive)	AC-1: 10A/250V AC DC-1: 10A/24V DC
① Output Utilization per IEC 60947-5-1 N.O. (Inductive) N.C.	A300, AC-15 5A/250V AC, 5A/125V AC 2A/250V AC, 2A/125V AC N300, DC-13 4A/24V DC 10A/24V DC @ 6 ops/min
Thermal Current (non switching)	See limit curve Max 10A in one current path
Fuses Output (external)	6A Slow Blow or 10A Quick Blow
Min. Switched Current/Voltage	10mA/10V
Contact Material	AgSnO ₂ + 0.5μAu
Response Time	30ms
Indication LEDs	Green = CH1 Closed Green = CH2 Closed
Impulse Withstand Voltage	2500V
Pollution Degree	2
Operating Temperature	-5°C to +50°C (+23°F to 122°F)
Enclosure Protection	IP40 (NEMA 1)
Terminal Protection	IP20
Conductor Size	0.2–4mm ² (24-12AWG)
Torque Settings—term. screws	0.4Nm (3.54 lb•in)
Mounting	35mm DIN rail
Weight	550g (1.21lbs)
Electrical Life (w/Surge Supp.)	250V AC/10A/2500VA cosφ=1 300,000 operations 250V AC/5A/1250VA cosφ=1 700,000 operations 250V AC/5A/1250VA cosφ=0.35 350,000 operations 250V AC/5A/1250VA cosφ=0.6 500,000 operations 24V DC/2A/48W 1,000,000 operations 10V DC/0.01A/0.1W 2,000,000 operations
Mechanical Life	5,000,000 operations
Vibration	10-55 Hz, 0.35mm
Shock	10g, 16ms, 100 shocks

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

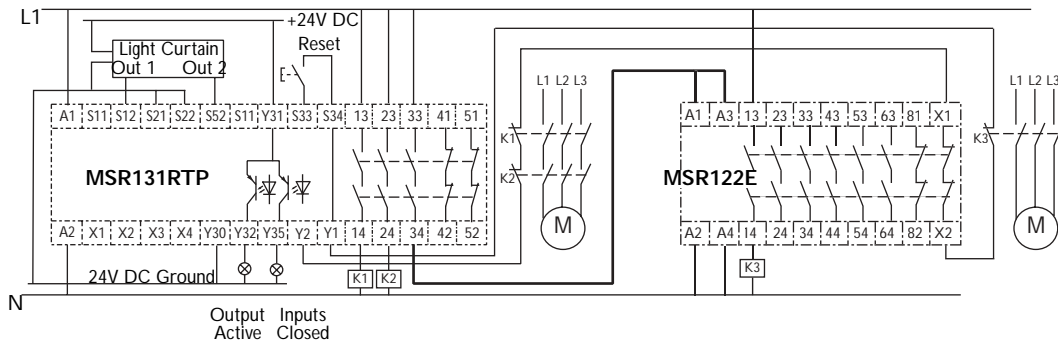
Product Selection

Inputs	Safety Outputs	Auxiliary Outputs	Power Supply	Catalogue Number
1 N.C. or 2 N.C.	6 N.O.	1 N.C.	24V AC/DC	440R-E21358
			115V AC	440R-E21357
			230V AC	440R-E21356

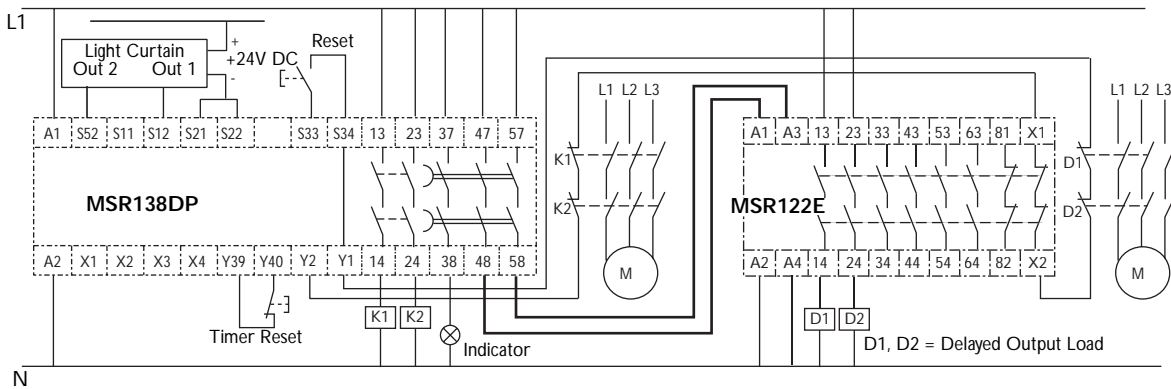
Dimensions—mm (inches) Block Diagram



Typical Wiring Diagrams



120/230V AC Host (MSR131) with Dual Channel Light Curtain Input and Single Channel Expansion (MSR122) with Monitoring



120/230V AC Host (MSR138) with Dual Channel Light Curtain Input and Dual Channel Delayed Expansion (MSR122) with Monitoring