

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,<br>2 N.C. Aux,<br>1 N.C. Monitoring  |
| Output Utilization per IEC 60947-4-1 (Resistive)   | AC-1: 6A/250V AC<br>DC-1: 3A/24V DC  |
| ① Output Utilization per IEC 60947-5-1 (Inductive) | B300, AC-15<br>6A/250V AC, 6A/125VAC<br>P300, DC-13<br>3A/24V DC   |
| Thermal Current (non switching)                    | 2x6A, 3x5A, 4x 4A  |
| Fuses, output external                             | 6A slow blow or 10A quick blow   |
| Minimum Switched Current/<br>Voltage               | 10mA/10V   |
| Contact Material                                   | AgSnO <sub>2</sub> + 2μAu  |
| Power On Delay                                     | 100ms  |
| Response Time                                      | 50ms   |
| Recovery Time                                      | 100ms  |
| Indication LEDs                                    | Green = K1 Closed<br>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 <sup>2</sup> (24 - 12AWG)  |
| Mounting   | 35mm DIN rail  |
| Weight   | 215g (0.474 lbs)   |
| Electrical Life (w/Surge Supp.)                    | 250V AC/6A/1250VA cosφ=1<br>250V AC/2A/500VA cosφ=1<br>250V AC/4A/1000VA cosφ=0.35<br>250V AC/1.5A/1000VA cosφ=0.6<br>24V DC/2A/48W<br>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.

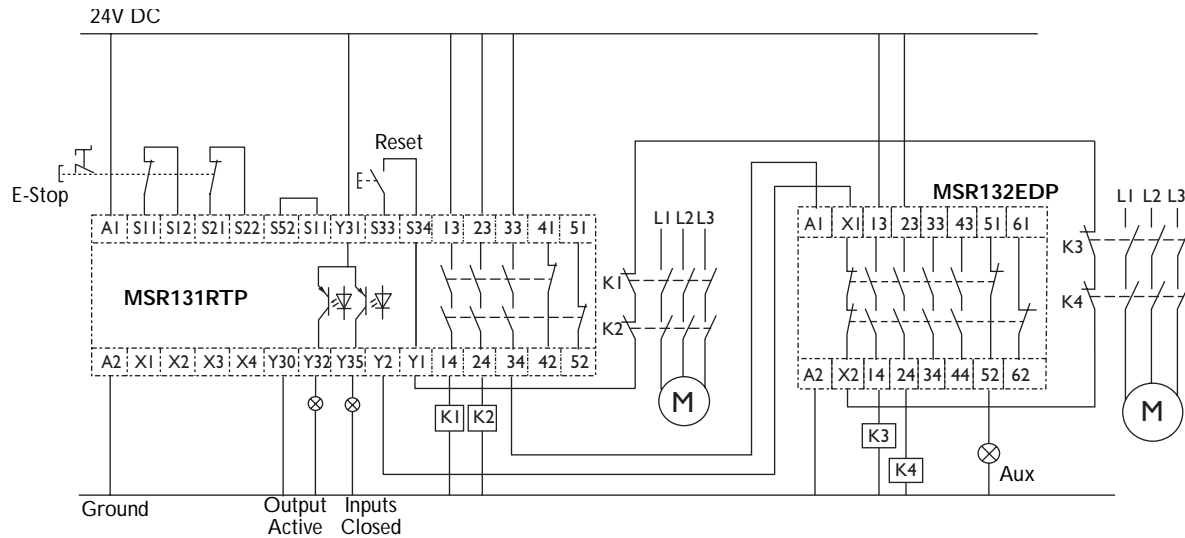
**Product Selection**

| 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*