

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 four normally open safety rated outputs used to shut down the manufacturing system and two 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 support the safety function.

A delayed output version is also available (MSR132ED) that have off-delayed outputs with a fixed time without the need for an auxiliary supply during the off-delay time.



Features

- Category 4/3 per EN 954-1
- Stop Category 0 or 1
- Four safety contacts N.O.
- Two auxiliary contacts N.C.
- One monitoring contact N.C.
- Single channel input

LED Indicators

| | |
|-------|-----------|
| Green | K1 Closed |
| Green | K2 Closed |

Specifications

| Safety Ratings | |
|---|---|
| Standards | EN 954-1, ISO 13849-1, IEC/EN 60204-1, 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 : < 0.46 x 10 ⁻⁹ MTTF _d : > 417 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 50/60 Hz or 24V DC 0.8...1.1 |
| Power Consumption | 1.5 W |
| Inputs | |
| Safety Inputs | 1 N.C. or 2 N.C. |
| Reset | Automatic |
| Power On Delay/ Recovery Time | 100 ms/100 ms |
| Response Time | 50 ms |
| Outputs | |
| Safety Contacts | 4 N.O. |
| Auxiliary Contacts | 2 N.C. |
| Thermal Current I _{th} | 2 x 6 A or 3 x 5 A or 4 x 4 A nonswitching |
| Rated Impulse withstand Voltage I _{th} | 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 A/500VA cosφ = 1...0.5 M 250V AC/4 A/1000VA cosφ = 0.35...0.3 M 250V AC/1.5 A/1000VA 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 | |
| Resistive: AC-1 | 6 A @ 250V AC |
| Resistive: DC-1 | 3 A @ 24V DC |
| Inductive: AC-15 | 6 A @ 250V AC |
| Inductive: DC-13 | 3 A @ 24V DC |
| UL: | B300, R300, 6 A/250V AC, 3 A/24V DC |
| 6 A @ 125V AC | |
| 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)] | 215 (0.474) |
| Conductor Size, Max. | 0.2...4 mm ² (24...12 AWG) |

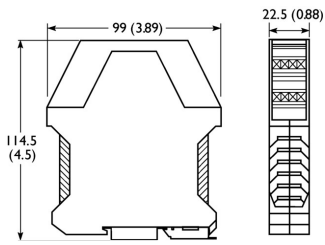
* Usable for ISO 13849-1:2006 and IEC 62061. Data is based on the following assumptions:
- Mission time/Proof test interval of 20 years
- Functional test at least once within six-month period

Accessories

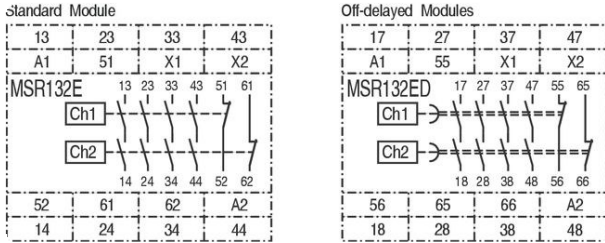
| Description | Cat. No. |
|--|-------------|
| Bag of 4, 4-Pin Screw Terminal Blocks | 440R-A23209 |
| Bag of 4, 4-Pin Spring Clamp Terminal Blocks | 440R-A23228 |

Approximate Dimensions

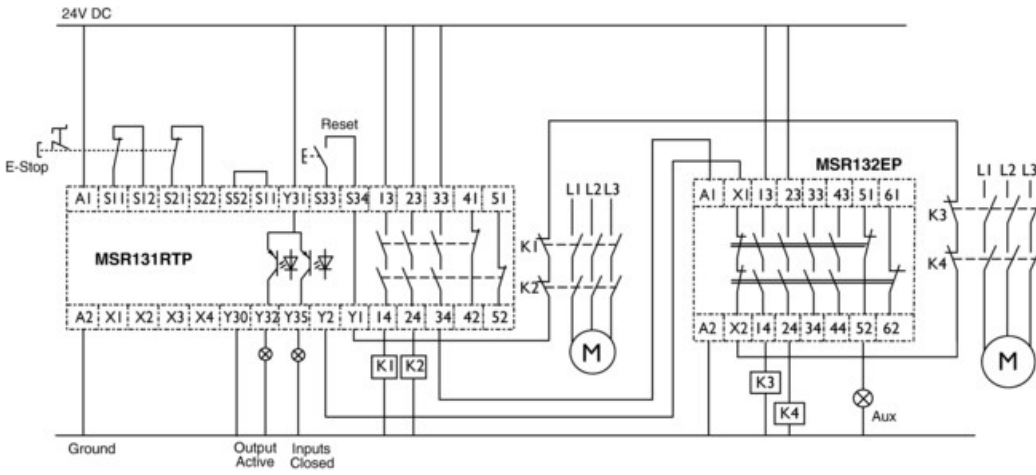
Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.



Block Diagram



Typical Wiring Diagrams



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