

Safety Relays

Monitoring Safety Relays with Delayed Outputs

Minotaur MSR15D



Description

The MSR15D has 2 N.C. dual channel input for use with gate interlocks and emergency stop buttons in higher risk applications.

The MSR15D has output monitoring that can accommodate an automatic/manual reset. Automatic/manual reset can use a jumper or can be used to check operation of the contacts.

The MSR15D has 3 N.O. safety outputs, 1 N.C. auxiliary output and 1 N.O. delayed safety output. The delay is set by an internal potentiometer. The safety outputs have independent and redundant internal contacts to help ensure the safety function. The auxiliary contact is a nonsafety output intended to provide an external signal about the status of the safety outputs.

Features

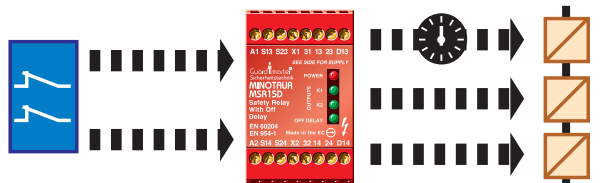
- Safety category 3
- Stop category 0 and 1
- 2 N.C. dual channel input
- 2 N.O. safety outputs
- 1 N.O. safety delayed output
- 1 N.C. auxiliary output
- Automatic/manual reset
- 45mm wide housing

Specifications

| | |
|---|---|
| Standards | EN 954-1, ISO13849-1, IEC/EN 60204-1, IEC 60947-5-1, ANSI B11.19, AS4024.1 |
| Category | Cat. 3 per EN 954-1 (ISO 13849-1) |
| Approvals | C-Tick, CE marked for all applicable directives, cULus & TÜV |
| Power Supply | 24V AC/DC |
| Power Consumption | <4VA |
| Safety Inputs | 2 N.C. |
| Input Simultaneity | 0.5s |
| Maximum Input Resistance | 500 Ω |
| Reset | Automatic/Manual |
| Outputs | 2 N.O. Safety; 1 N.C. Auxiliary |
| ● Output Utilization per IEC 60947-5-1 (Inductive) | B300, AC-15 4A/250V AC, 4A/125V AC P300, DC-13; 2A/24V DC |
| Thermal Current (non switching) | 4A |
| Fuses Input (internal, replace.) Output (external) | 500mA time lag 5A quick acting |
| Min. Switched Current/Voltage | 10mA/10V |
| Maximum Dropout Time | 90ms |
| Indication LEDs | Red = Power On Green = K1 Closed Green = K2 Closed |
| Impulse Withstand Voltage | 2500V |
| Installation Group | C in accordance with VDE 0110 |
| Pollution Degree | 3 |
| Operating Temperature | -10°C to +55°C (+14°F to +131°F) |
| Humidity | 90% RH |
| Enclosure Protection | IP40, (NEMA 1), DIN 0470 |
| Terminal Protection | IP20, DIN 0470 |
| Conductor Size | 1 x 2.5mm ² (14AWG) stranded, 1 x 4mm ² (12AWG) solid |
| Torque Settings—terminal screws | 1N·m (8.85lb·in) |
| Case Material | Red Polycarbonate |
| Mounting | 35mm DIN rail |
| Weight | 230g (.51lbs) |
| Electrical Life | 220V AC/4A/880VA cosφ=0.35 220V AC/1.7A/375VA cosφ=0.6 30V DC/2A/60W 10V DC/0.01A/0.1W |
| Mechanical Life | 2,000,000 operations |
| Vibration | 0.75mm (0.30in) peak, 10-55Hz |
| Shock | 30g, 11ms half sine |

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

The safety function is ensured by the Minotaur



Switch circuit MSR15D monitors for any single fault that may cause a danger.

MSR15D monitors itself for any internal fault.

Contacts: Provides contactor monitoring if two or more contactors are used in series.

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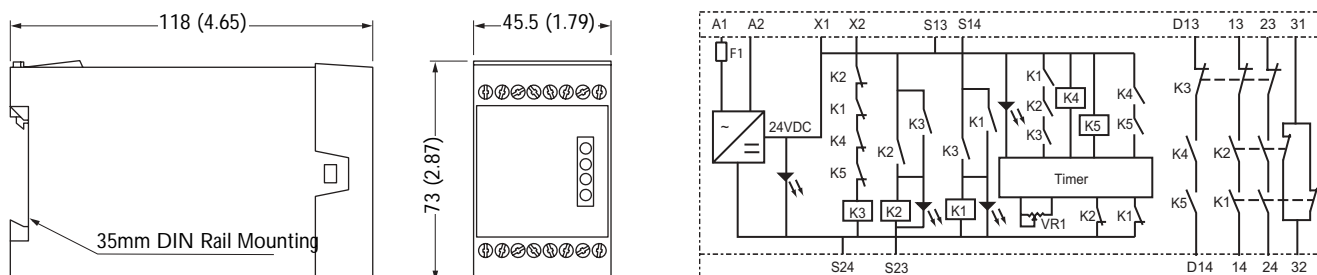
Product Selection

| Inputs | Safety Outputs | Auxiliary Outputs | Power Supply | Delay Timing | Catalogue Number |
|--------|----------------------|-------------------|--------------|-------------------|------------------|
| 2 N.C. | 2 N.O. Instantaneous | 1 N.C. | 24V AC/DC | 0.1 to 10 seconds | 440R-M23048 |
| | 1 N.O. Delayed | | | 1 to 35 seconds | 440R-M23057 |

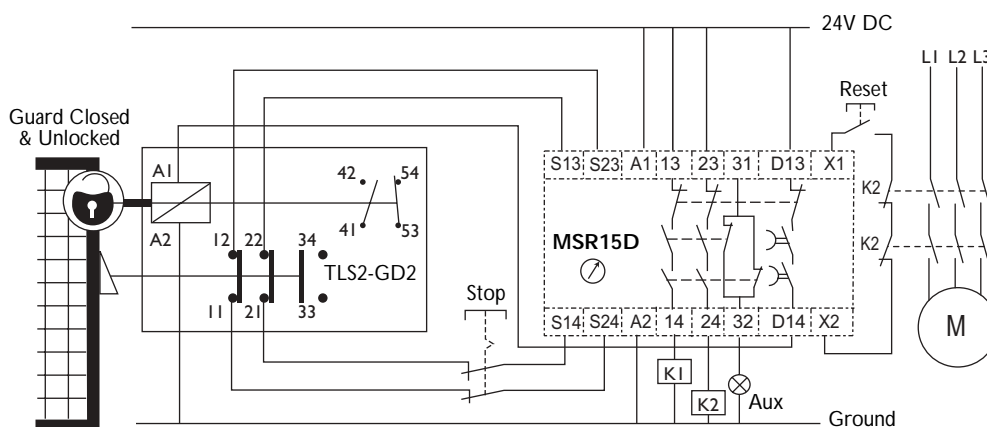
Accessories

| Description | Page Number | Catalogue Number |
|-------------|-------------|------------------|
| 500mA Fuse | 14-6 | 440R-A31562 |

Dimensions—mm (inches) Block Diagram



Typical Wiring Diagrams



Dual Channel Guardlocking Safety Gate, Delayed Gate Release, Manual Reset, Dual Channel Output, Monitored Output

Application Details

