**MSR127RP/TP**

**Description**

The MSR127RTP can be connected in three different input wiring configurations: one normally closed, two normally closed, or with two PNP connections from a light curtain. When connected in the two normally closed fashion, the MSR127RTP checks for cross faults across the two inputs. When connected to light curtains, the light curtain must perform the cross fault detection.

The MSR127RP has a monitored manual reset. The MSR127TP has an automatic/manual reset. Models with automatic/manual reset can have the reset jumpered or can be converted to an unmonitored manual reset by adding a normally open switch in the monitoring loop. Models with monitored manual reset provide checking of the output monitoring circuit.

The outputs include three normally open safety-rated outputs as well as one normally closed auxiliary output. The safety outputs have independent and redundant internal contacts to support the safety function. The auxiliary output is a nonsafety output intended to provide an external signal about the status of the safety outputs.

**Features**

- Category 4 per EN 954-1
- Stop category 0
- Three safety contacts
- One auxiliary contact
- Cross fault monitoring
- Monitored or automatic reset
- Removable terminals
- Light curtain, E-stop or safety gate applications

**LED Indicators**

- Green Power On
- Green CH1 Closed
- Green CH2 Closed

**Specifications**
Safety Ratings

Standards
- EN 954-1, ISO 13849-1, IEC/EN 60204-1, IEC 60947-5-1, ANSI B11.19, AS4024.1

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<sub>D</sub>: < 1.45 x 10<sup>-9</sup>

MTTFd: > 398 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 and BG

Power Supply

Input Power Entry
- 24V AC/DC, 115V AC or 230V AC 50/60 Hz

Power Consumption
- 2 W

Inputs

Safety Inputs
- 1 N.C. or 2 N.C. or LC

Input Simultaneity
- Infinite (ch2 before ch1) with Auto Reset

Input Resistance, Max.
- 110

Reset
- Auto./Manual or Monitored Manual

Power On Delay/Recovery Time
- 1 second/100 ms

Response Time
- 15 ms

Outputs

Safety Contacts
- 3 N.O.

Auxiliary Contacts
- 1 N.C.

Thermal Current<sub>ILth</sub>
- Units with 24V AC/DC supply: 3 x 4 A or 2 x 5 A nonswitching
- Units with 115/230V AC supplies: 3 x 3 A or 2 x 4 A or 1 x 5 A nonswitching

Rated Impulse withstand Voltage
- 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 cos φ = 1...0.1 M
- 250V AC/2.5 A/625VA cos φ = 1...0.5 M
- 250V AC/1.5 A/375VA cos φ = 0.35...0.3 M
- 250V AC/5 A/1250VA cos φ = 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
- UL: B300, R300 5 A/250V AC, 24V DC
- Resistive: AC-1
  - 5 A/250V AC
- Resistive: DC-1
  - 5 A/24V DC
- Inductive: AC-15
  - 5 A/250V AC
- Inductive: DC-13
  - 3 A/24V DC

Environmental and Physical Characteristics

Enclosure Type Rating/Terminal Protection
- IP40 (NEMA 1)/IP20

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)]
- 24V DC: 210 (0.46), 115/230V AC: 260 (0.57)

Conductor Size, Max.
- 0.2...4 mm² (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

Product Selection
Inputs | Safety Outputs | Auxiliary Outputs | Terminals | Reset Type | Power Supply | Cat. No.  
--- | --- | --- | --- | --- | --- | ---  
1 N.C., 2 N.C., Light Curtain | 3 N.O. | 1 H.C. | Fixed | Auto./Manual | 24V AC/DC | 440R-N23126  
| | | | Monitored Manual | | | 440R-N23129  
| | | | Auto./Manual | 115V AC | | 440R-N23125  
| | | | Monitored Manual | | | 440R-N23128  
| | | | Auto./Manual | 230V AC | | 440R-N23124  
| | | | Monitored Manual | | | 440R-N23127  
Removable (Screw) | Auto./Manual | 24V AC/DC | Monitored Manual | 440R-N23132  
| | | | | | 440R-N23135  
Removable (Spring Clamp) | Auto./Manual | 24V AC/DC | Monitored Manual | 440R-N23132S  
| | | | | | 440R-N23135S  
Removable (Screw) | Auto./Manual | 115V AC | Monitored Manual | 440R-N23131  
| | | | | | 440R-N23134  
| | | | Auto./Manual | 230V AC | | 440R-N23130  
| | | | Monitored Manual | | | 440R-N23133  

**Approximate Dimensions**

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

![Block Diagram](image_url)

**Typical Wiring Diagrams**

- **Light Curtain, Monitored Manual Reset, Monitored Output**
- **Single Channel E-Stop, Automatic Reset, No Output Monitoring**
- **Dual Channel E-Stop, Monitored Manual Reset, Monitored Output**
- **Dual Channel Safety Gates, Automatic Reset, Monitored Output**