MSR30RT/RTP

Description

The Minotaur MSR30RT/RTP is a microprocessor based, monitoring safety relay, with safety-rated, solid-state outputs.

The versatility of the MSR30RT/RTP inputs allows it to be connected to gate interlocks, e-stop devices and four-wire safety mats. The gate interlocks and e-stops can be either single channel or dual channel normally-closed circuits.

The reset capability of the MSR30RT/RTP allows it to set up for manual or automatic start and restart.

The outputs include two normally-open safety-rated outputs that can be connected to loads up to 2 A at 24V DC. These outputs can be used to send a safety stop signal to a machine or manufacturing system.

The MSR30RT/RTP also has one solid-state normally-closed auxiliary output, which must only be used to indicate the status of the MSR30RT/ RTP.

Features

- Category 4 per EN954-1
- Stop Category 0
- Two solid-state safety outputs
- One solid-state auxiliary output
- One N.C., two N.C or safety mat input
- Monitored manual or automatic/manual reset

LED Indicators

Green	Power (Pwr)
Green	K1 Closed
Green	K2 Closed

Specifications

Safety Ratings	
Standards	EN 954-1, ISO 13849-1, IEC EN 60204-1, ANSI B11.19, AS 4024.5
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: < 9.2 x 10-10 MTTFd: > 631 years Suitable for performance levels Ple (according to ISO 13849-1:2006) and for use in SIL CL3 systems (according to IEC 62061) depending on the architecture and application characteristics
Certifications	**CE Marked for all applicable directives, cULus, c-Tick, and TÜV**
Power Supply	
Input Power Entry	24V DC SELV
Power Consumption	3 W
Inputs	
Safety Inputs	1 N.C., 2 N.C.
Input Simultaneity	Infinite
Input Resistance, Max.	200 Ω
Reset	Auto./Manual or Monitored Manual
Power On Delay/ Recovery Time	3 seconds/20 ms
Response Time	15 ms
Outputs	
Safety Contacts	2 N.O. Solid State
Auxiliary Contacts	1 N.O. Solid State
Fuses, Output	External 6 A slow blow or 10 A fast acting
Power LED Diagnostics	3 s Blink: Initialization Constant: Normal Operation 2 Blinks: Configuration change during operation 3 Blinks: Cross-fault after reset 4 Blinks: Solid-state output switch fault Continuous blinking: Internal fault 5 Blinks: Reset switch closed after reset
Utilization Category	
DC-13	2 A @ 24V DC
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)]	130 (0.287)
Conductor Size, Max.	0.2...2.5 mm2 (24...14 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

Wiring Terminations

|	
S11 & S21	Pulse train output
S12 & S22	Input contacts
A1 - S34	Reset switch
S11 - S34	Automatic reset, start-up test disabled
S21 - S34	Automatic reset, start-up test enabled
A1 - Y2	Monitoring circuit
A1 - Y41	Cross-fault monitoring disabled

Product Selection

| Inputs	Safety Outputs	Auxiliary Outputs	Terminals	Reset Type	Power Supply	Cat. No.
1 N.C., 2 N.C.	2 N.O. Solid State	1 N.O. Solid State	Fixed	Auto./Manual or Monitored Manual	24V DC SELV	440R-N23197
			Removable		24V DC	440R-N23198

Accessories

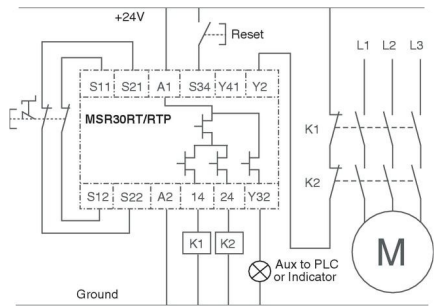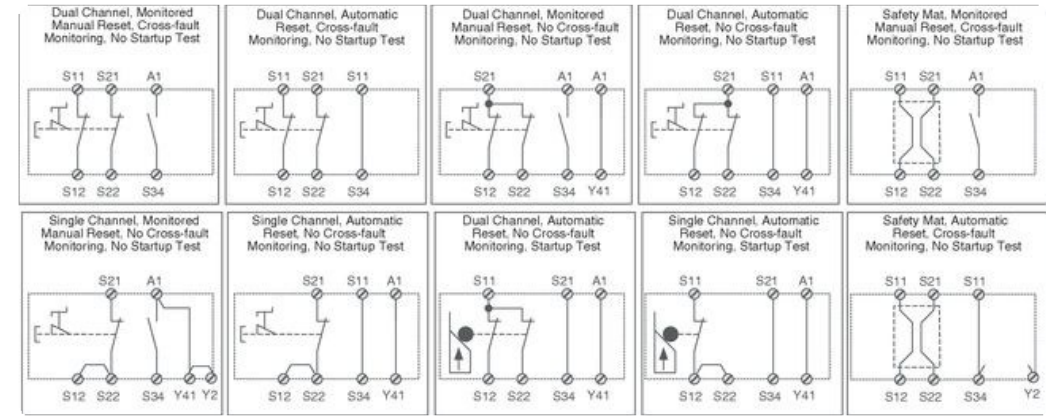| Description	Cat. No.
Bag of 4, 4-Pin Screw Terminal Blocks	440R-A23209
Bag of 4, 4-Pin Spring Clamp Terminal Blocks	440R-A23228

Approximate Dimensions

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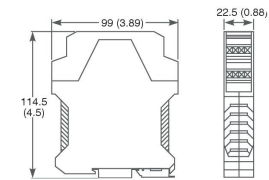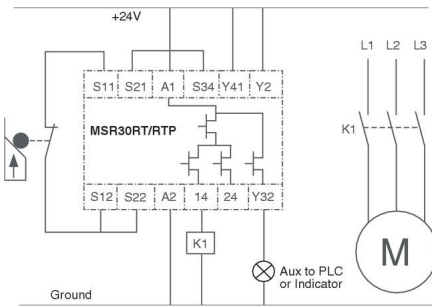

Block Diagram
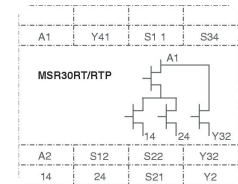
Typical Wiring Diagrams

Dual Channel E-Stop, Dual Channel Outputs,
Monitored Manual Reset, Output Monitoring

Single Channel Gate Interlock, Single Channel Output,
Automatic Reset, No Output Monitoring