



Description

The MSR221P is an input expansion module for the modular Minotaur MSR200 family of monitoring safety relays. It can be connected to either the MSR210P or MSR211P to provide additional inputs.

Up to ten input modules can be connected to a base unit by simply removing the terminator, included with each base unit, and connecting the ribbon cables of the neighboring module. The connecting ribbon cable provides power to the MSR220P as well as a check on its status. The terminators must be inserted into the final output module. The input modules to a base unit can be either MSR220P or MSR221P in any combination or order.

The MSR221P has two independent inputs, which can be wired in one of three ways: one normally closed, two normally closed, or a light curtain. When connected in the two normally closed configuration, the MSR221P does not perform cross fault monitoring (i.e., checks for shorts between the two inputs).

Four LEDs provide status information on the inputs. Green indicates the input is closed and red indicates the input is open.

Features

- 17.5 mm DIN Rail housing
- Two input circuits: gate, E-stop or light curtains
- Four diagnostic LEDs
- Removable terminals

LED Indicators

Green	Input 1 Closed
Red	Input 1 Open
Green	Input 2 Closed
Red	Input 2 Open

Specifications

Safety Ratings	
Standards	IEC/EN 60204-1, ISOTR 121100, ISO 13849-1 (EN 954-1), 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 *	PFH _D : < 3.7 x 10 ⁻¹⁰ MTTF _D : > 825 years Note: For up-to-date information, visit http://www.ab.com/Safety/ Suitable for performance levels Pl _e (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 TÜV
Power Supply	
Input Power Entry	24V DC from the base unit
Power Consumption	2 W
Inputs	
Safety Inputs	1 N.C. or 2 N.C. or LC
Input Simultaneity	Infinite
Input Resistance, Max.	1300 Ω
Reset	See base unit
Power On Delay/Recovery Time	See base unit
Response Time	See base unit
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 (lbs)]	90 (0.20)
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

Product Selection

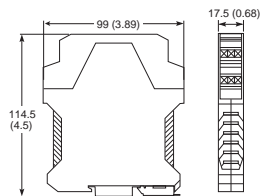
Inputs	Safety Outputs	Auxiliary Outputs	Terminals	Reset Type	Power Supply	Cat. No.
Two Independent Inputs: 1 N.C., 2 N.C., or LC	—	—	Removable	—	24V DC from the base unit	440R-H23179

Accessories

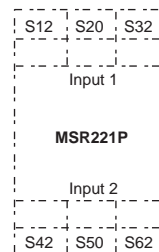
Description	Cat. No.
Bag of 4, 3-Pin Screw Terminal Blocks	440R-A23210
Bag of 4, 3-Pin Spring Clamp Terminal Blocks	440R-A23229

Approximate Dimensions

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



Block Diagram



Typical Wiring Diagrams

