

Safety Relays

Modular Monitoring Safety Relays

Minotaur MSR220P



Description

The MSR220P 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 10 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 MSR220P has two independent inputs, which can be wired in one of five ways: 1N.C., 2 N.C., 3 N.C., 1 N.C. and 1 N.O. or a safety mat. When used with the MSR210 base unit, the inputs to the MSR220 are continuously pulse-checked for shorts to power, ground and across inputs. Connecting a single device (must be at least dual channel) to each input meets the requirements of category 4 per EN594-1.

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

Features

- Category 4 per EN 954-1
- Stop category 0
- 17.5mm DIN rail housing
- 2 Input circuits: gate, e-stop or safety Mat
- 4 Diagnostic LEDs
- Removable terminals

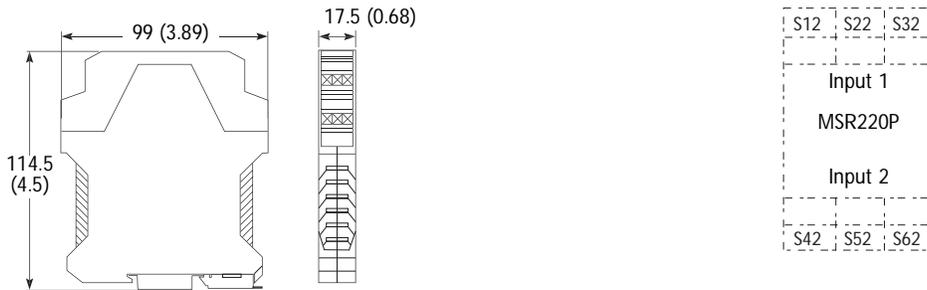
Specifications

Standards	EN 954-1, ISO 13849-1, IEC/EN 60204-1, IEC 60947-4-1, IEC 60947-5-1, ANSI B11.19, AS4024.1
Approvals	C-Tick, CE marked for all applicable directives, cULus and BG
Category	Cat. 4 per EN954-1 (ISO13849-1)
Power Supply	24V DC from the base unit
Power Consumption	2W
Safety Inputs	1 N.C., 2 N.C., or 3 N.C. 1 N.C. and 1 N.O. or Mat
Input Simultaneity	Infinite
Maximum Input Resistance	1300ohms
Indication LEDs	Green = Input 1 Closed Red = Input 1 Open Green = Input 2 Closed Red = Input 2 Open
Impulse Withstand Voltage	2500V
Pollution Degree	2
Operating Temperature	-5°C to +55°C (+23°F to 131°F)
Humidity	90%RH
Enclosure Protection	IP40 (NEMA 1)
Terminal Protection	IP20
Conductor Size	0.2–4mm ² (24–12 AWG)
Torque Settings—terminal screws	0.4–0.5 Nm (3.54–4.43lb•in)
Case Material	Polyamide PA 6.6
Mounting	35mm DIN rail
Weight	95g (0.21lbs)
Vibration	10-55 Hz, 0.35mm
Shock	10g, 16ms, 100 shocks

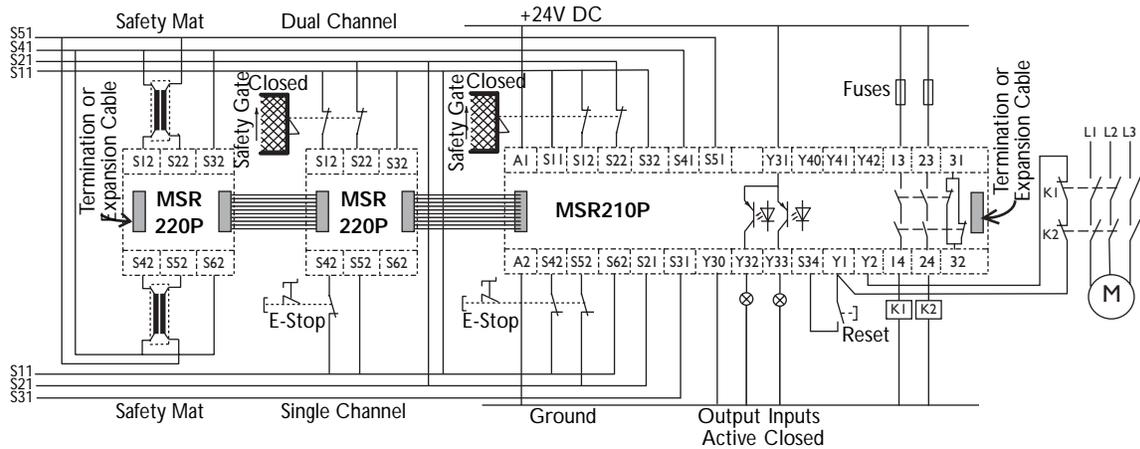
Product Selection

Inputs	Catalogue Number
Two Independent Inputs, 1 N.C., 2 N.C., 3 N.C., 1 N.C. and 1 N.O. or Safety Mat	440R-H23178

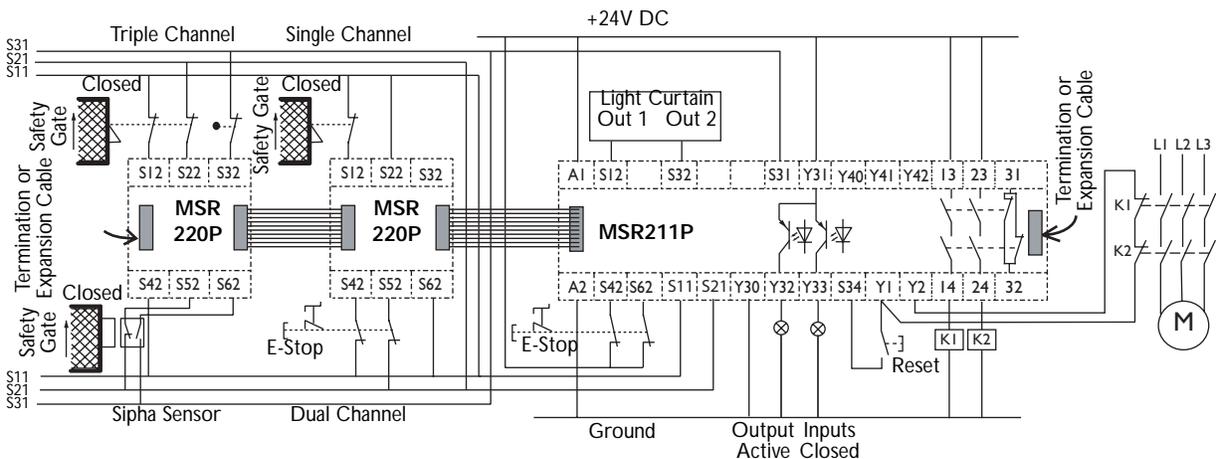
Dimensions—mm (inches) Block Diagram



Typical Wiring Diagrams



MSR220P Expanding an MSR210P



MSR220P Expanding an MSR211P