

# MSR330P

## Description

The MSR330P is an output expansion module for the modular Minotaur MSR300 family of monitoring safety relays. Up to six MSR330P output modules and 18 N.O. safety outputs, can be connected to one base unit by simply removing the terminator, included with each base unit, and connecting the ribbon cables of the neighboring module. The six MSR330P output modules can be used in any combination and order when connected to the MSR300 system. The connecting ribbon cable provides power to the MSR330P as well as a check on its status. The terminator must be inserted into the final output module.

The MSR330P has three safety-rated outputs and one auxiliary output controlled by the base unit. There are three different MSR330P modules, one for each group. In most instances, the output group module is not specific to each application. The exceptions are robot cell applications and logic or functions which correspond with group three outputs. The safety outputs have independent and redundant internal contacts to help support the safety function.



## Features

- Category 4 per EN 954-1
- SIL3 IEC 61508
- Stop category 0
- Three N.O. safety outputs
- One N.C. auxiliary output
- Three group modules available
- Two Diagnostic LEDs
- 22.5 mm DIN Rail housing
- Removable terminals

## Specifications

Safety Ratings	
Standards	IEC/EN 60204-1, ISO TR 12100, EN 61508, ISO 13849-1 (EN 954-1)
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 <a href="http://www.ab.com/safety/">http://www.ab.com/safety/</a>	PFH <sub>D</sub> : < 2.3 x 10 <sup>-10</sup> MTTF <sub>d</sub> : > 454 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, c-Tick, and TÜV
Power Supply	
Input Power Entry	24V DC from the base unit
Power Consumption	1.5 W
Inputs	
Reset	Selected on base module
Response Time	Does not add additional response time to base module
Outputs	
Safety Contacts	3 N.O.
Auxiliary Contacts	1 N.C.
Thermal Current $I_{Tth}$	2 x 6 A or 3 x 5 A
Rated Impulse withstand Voltage	2500V
Switching Current @ Voltage, Min.	10 mA @ 10V
Fuses, Output	External 6 A slow blow or 10 A quick blow
Mechanical Life	2,000,000 cycles
Utilization Category	
UL	B300, P300, 2 x 6 A or 3 x 5 A/250V AC, 24V DC
Environmental and Physical Characteristics	
Enclosure Type Rating/ Terminal Protection	IP40 (NEMA 1)/ 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)]	190 (0.42)
Conductor Size, Max.	0.2...2.5 mm <sup>2</sup> (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

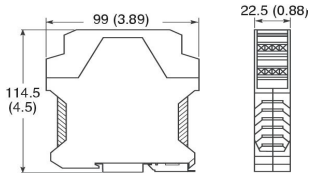
Group No.	Safety Outputs	Auxiliary Outputs	Terminals	Reset Type	Power Supply	Cat. No.
1	3 N.O.	1 N.C.	Removable	Selected on base module	24V DC	440R-W23221
2						440R-W23222
3						440R-W23223

## Accessories

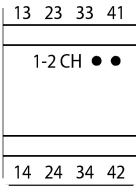
Description	Cat. No.
Bag of 4, 4-Pin Screw Terminal Blocks	440R-A23209
Bag of 4, 4-Pin Spring Clamp Terminal Blocks	440R-A23228

## Approximate Dimensions

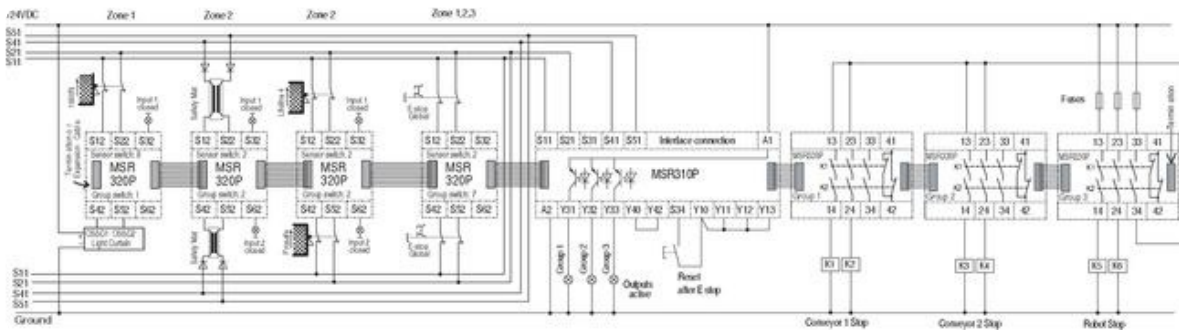
Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.



## Block Diagram



## Typical Wiring Diagrams



Zone 1 inputs shut down conveyor 1 and zone 2 inputs shut down conveyor 2, global e-stops shut down the complete line and require a reset.