

Safety Relays

Two Hand Relays

Minotaur MSR7R & MSR7C



Description

The Allen-Bradley Guardmaster Minotaur MSR7R & MSR7C are logic units for monitoring and interfacing two hand control devices with a safety related circuit. The MSR7R is for use with mechanical switches and the Allen-Bradley Bulletin 800Z Zero Force Touch Buttons. The MSR7C is for use with electronic-sensing (for example, capacitive or photoelectric) palm buttons because the MSR7C will not turn its output ON if a power interruption occurs while a person's hands are on the buttons.

The MSR7 has 3 N.O. safety outputs and 1 N.C. auxiliary output. The safety outputs have independent and redundant internal contacts to help ensure the safety function. The auxiliary contact is a nonsafety output intended to provide an external signal about the status of the safety outputs.

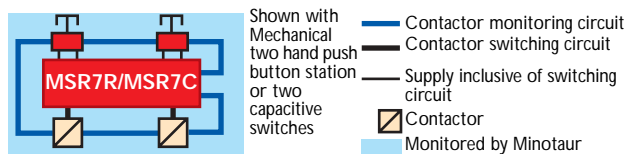
The MSR7 requires the two switches to be operated within 0.5 seconds of each other and will only authorize the ON state while both switches are held down. If one of the switches is released, the output goes to the OFF state and the machine cannot be restarted until both buttons are released and then operated simultaneously.

The MSR7 conforms to EN574 which gives specific requirements for two hand control units and logic devices. Categories IIIB or IIIC are achieved depending upon the wiring.

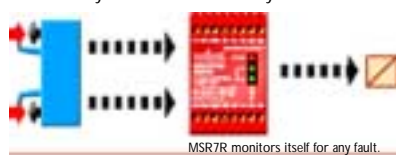
Features

- Safety category 3 per EN 954-1
- Safety category IIb per EN 574
- Two-hand control unit
- 3 N.O. safety outputs
- 1 N.C. auxiliary output
- 45mm wide housing

Applications



Switch Circuit: MSR7R monitors for single fault that may cause a danger.



Contactors: Provides contactor monitoring if two or more contactors are used in series.

Specifications

Standards	EN574, EN954-1, ISO13849-1, IEC/EN60204-1, IEC60947-5-1, ANSI B11.19, AS4024.1
Category	Cat. 3 per EN 954-1 (ISO 13849-1) Cat. IIb per EN 574
Approvals	C-Tick, CE marked for all applicable directives, cULus & TÜV
Power Supply	24V AC/DC, 110V AC or 230V AC
Power Consumption	<4VA
Safety Inputs	1 N.C. & 1 N.O.
Input Simultaneity	0.5s
Maximum Input Resistance	500 W
Reset	Automatic
Outputs	3 N.O. Safety; 1 N.C. Auxiliary
● Output Utilization per IEC 60947-5-1 (Inductive)	B300, AC-15 4A/250V AC, 4A/125V AC P300, DC-13; 2A/24V DC
Thermal Current (non switching)	4A
Fuses Input (Internal, replace.) Output (external)	500mA time lag 5A quick acting
Min. Switched Current/Voltage	10mA/10V
Maximum Dropout Time	50ms
Indication LEDs	Red = Power On Green = K1 Closed Green = K2 Closed
Impulse Withstand Voltage	2500V
Installation Group	C in accordance with VDE 0110
Pollution Degree	3
Operating Temperature	-10°C to +55°C (+14°F to +131°F)
Humidity	90% RH
Enclosure Protection	IP40, (NEMA 1), DIN 0470
Terminal Protection	IP20, DIN 0470
Conductor Size	1 x 2.5mm ² (14AWG) stranded, 1 x 4mm ² (12AWG) solid
Torque Settings—terminal screws	1N·m (8.85lb·in)
Case Material	Red Polycarbonate
Mounting	35mm DIN rail
Weight	510g (1.12lbs)
Electrical Life	220V AC/4A/880VA cosφ=0.35 220V AC/1.7A/375VA cosφ=0.6 30V DC/2A/60W 10V DC/0.01A/0.1W
	100,000 operations 500,000 operations 1,000,000 operations 2,000,000 operations
Mechanical Life	2,000,000 operations
Vibration	0.75mm (0.30in) peak, 10-55Hz
Shock	30g, 11ms half sine

● See Output Ratings on page 1-29 for details. Consult factory for ratings not shown.

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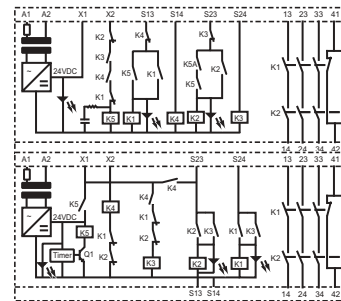
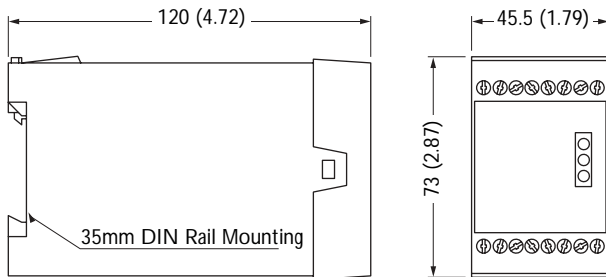
Product Selection

Minotaur	Inputs	Safety Outputs	Auxiliary Outputs	Input Buttons	Power Supply	Catalogue Number
MSR7R	1 N.C. & 1 N.O.	3 N.O.	1 N.C.	Mechanical or Bulletin 800Z	24V AC/DC	440R-D23021
					110V AC	440R-D23022
					230V AC	440R-D23023
MSR7C	1 N.C. & 1 N.O.	3 N.O.	1 N.C.	Capacitive or Photoelectric	24V AC/DC	440R-D23024
					110V AC	440R-D23025
					230V AC	440R-D23026

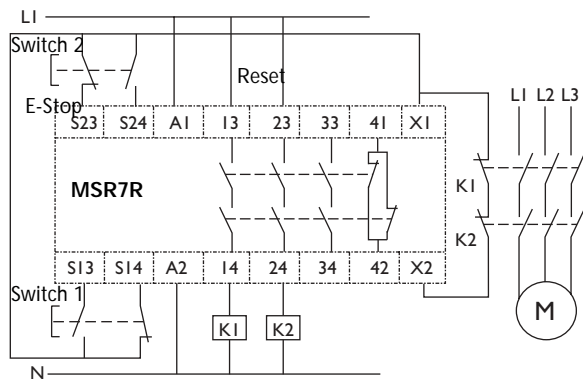
Accessories

Description	Page Number	Catalogue Number
500mA Fuse	14-6	440R-A31562

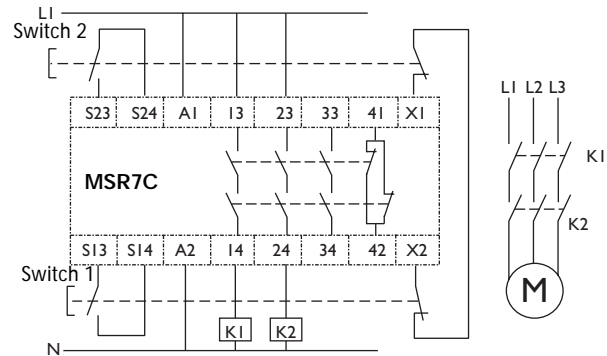
Dimensions—mm (inches) Block Diagram



Typical Wiring Diagrams



Dual Channel Two-Hand Control, Automatic Reset, Dual Channel Output, Monitored Output



Dual Channel Two-Hand Control, Automatic Reset, Dual Channel Output, No Monitored Output

Application Details

