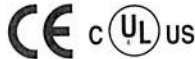


Safety Relays  
**Expansion Units**  
**Minotaur MSR19E**



**Description**

The Minotaur MSR19E is a monitoring safety expansion relay unit with dual channel input. It is designed to be operated as an "extension" of a "master" safety relay. When wired properly, the outputs of the MSR19E will mimic the outputs of the master relay.

With its 8 safety outputs, the MSR19E can be used to drive multiple safety circuits. Two auxiliary normally closed contacts are available to provide indication of the status of the MSR19E, which would reflect the status of the master safety relay.

**Features**

- Safety category according to wiring
- Dual channel inputs
- 8 N.O. safety outputs
- 2 N.C. auxiliary outputs

**Specifications**

Standards	EN 954-1, ISO 13849-1, IEC/EN 60204-1, IEC 60947-5-1, ANSI B11.19, AS4024.1
Category	Cat. 4 per EN 954-1 (ISO 13849-1)
Approvals	CE marked for all applicable directives and cULus
Power Supply	AZI and AZ2 AZ1 AZ2 24V AC/DC -20%, +10% 120V AC -15%, +10% 240V AC -15%, +10%
Power Consump.	24V AC/DC 120V and 240V AC 3.6W 6.1VA, 5.7W
Safety Inputs	1 N.C. or 2 N.C.
Input Simultaneity	0.5s
Maximum Input Resistance	100Ω
Reset	Automatic
Outputs	8 N.O. Safety; 2 N.C. Auxiliary
① Output Utilization per IEC 60947-5-1 (Inductive)	C300, AC-15 0.75A/240V AC, 1.5A/120V AC Q300, DC-13; 2A/24V DC
Thermal Current (non switching)	1x8A, 2x7A, 4x6A, 6x5A, 8x4.5A
Fuses	Input (internal elect.) Output (external) 20s reset time 1.6 slow blow
Min. Switched Current/Voltage	24V AC/DC, 20mA
Maximum Dropout Time	20ms
Indication LEDs	Red = Input Short Green = Power Green = K1 Green = K2
Impulse Withstand Voltage	3000V
Installation Group	C in accordance with VDE 0110
Pollution Degree	2
Operating Temperature	-25°C to +55°C (-13°F to +131°F)
Humidity	95% RH
Enclosure Protection	IP40, (NEMA 1), DIN 0470
Terminal Protection	IP20, DIN 0470
Conductor Size	1 x 2.5mm <sup>2</sup> (14AWG)
Torque Settings—term. screws	0.8N·m (7lb·in)
Case Material	Red Polyester PBT
Mounting	35mm DIN rail
Weight	630g (1.4lbs)
Electrical Life	222V 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	10,000,000 operations
Vibration	0.75mm (0.30in) peak, 10-55Hz
Shock	10g, 11ms half sine

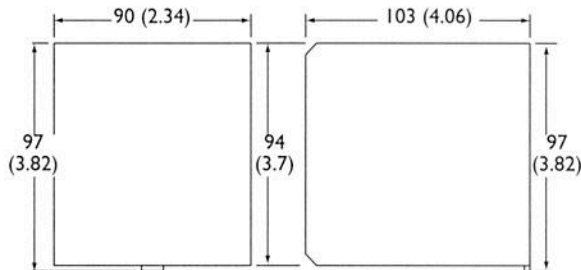
① See Output Ratings on page I-29 for details. Consult factory for ratings not shown.

4-Safety Relays

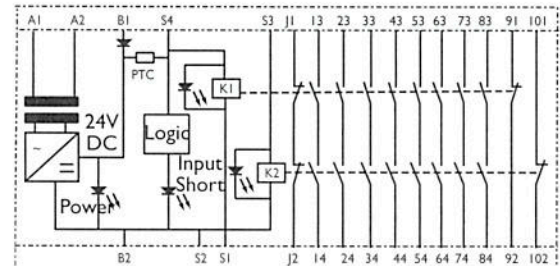
**Product Selection**

Inputs	Safety Outputs	Auxiliary Output	Power Supply	Catalogue Number
1 N.C. or 2 N.C.	8 N.O.	2 N.C.	24V AC/DC and 120V AC	<b>440R-ZBE820AZ1</b>
			24V AC/DC and 240V AC	<b>440R-ZBE820AZ2</b>

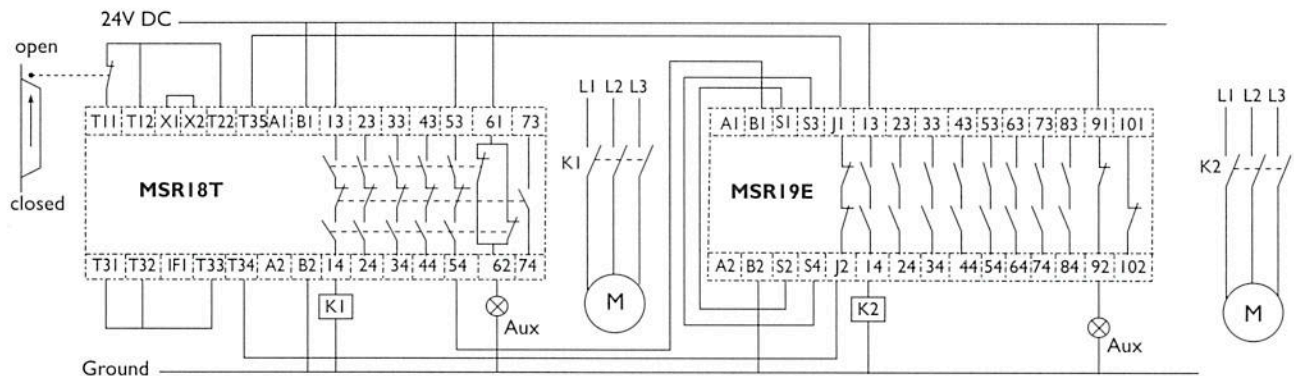
**Dimensions—mm (inches)**



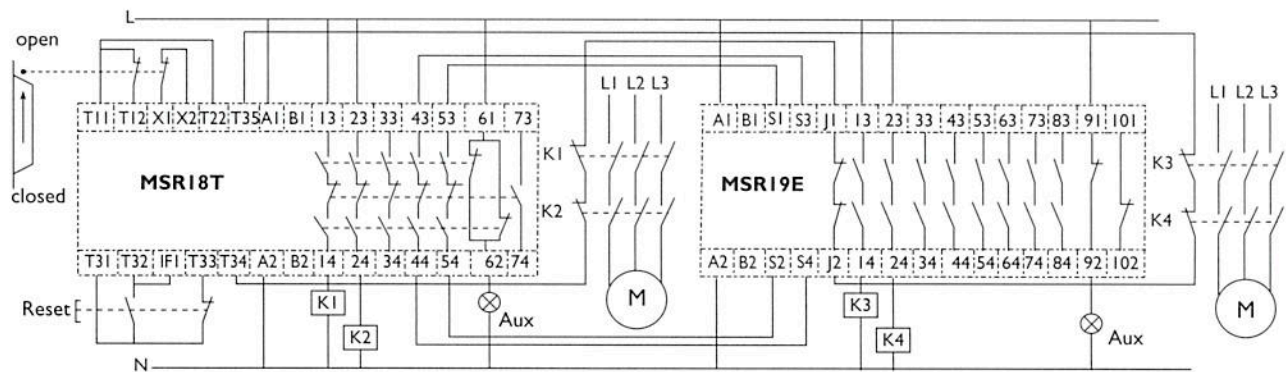
**Block Diagram**



**Typical Wiring Diagrams**



*Single Channel Gate Input, Single Channel Expansion, Single Channel Output  
 Automatic Reset, Expansion Monitoring, No Monitored Output*



*Dual Channel Gate Input, Dual Channel Expansion, Dual Channel Output  
 Monitored Manual Reset, Expansion Monitoring, Monitored Output*

**4-Safety Relays**