



Safety Ratings	
Standards	EN 954-1, ISO13849-1, IEC/EN 60204-1, IEC 60947-5-1, ANSI B11.19, AS4024.1, EN 574
Safety Classification	Cat. 4 per EN 954-1 (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> : < 2.5 x 10 <sup>-9</sup> MTTFd: > 45662 years Suitable for performance levels Pl <sub>e</sub> (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 & TÜV
Power Supply	
Input Power Entry	—
Power Consumption	3.6 W @ 24V AC/DC 6.1 VA, 5.7 W @ 120V/240V AC
Inputs	
Safety Inputs	1 N.C. or 1 N.C. & 1 N.O. or 2 N.C.
Input Simultaneity	0.5 seconds
Input Resistance, Max.	100 Ω
Reset	—
Power On Delay/Recovery Time	—/—
Response Time	—
Outputs	
Safety Contacts	
Auxiliary Contacts	
Thermal Current $I_{Tth}$	1 x 8 A, 2 x 7 A, 3 x 5.5 A, 4 x 5 A, or 5 x 4.5 A (nonswitching)
Rated Impulse withstand Voltage $I_{Tth}$	3000V
Switching Current @ Voltage, Min.	20 mA @ 24V AC/DC
Fuses, Output (External)	1.6 slow blow (external)
Electrical Life (Operations)	220V AC/4A/880VA cosφ = 0.35 - 100,000 operations 220V AC/1.7A/375VA cosφ = 0.6 - 500,000 operations 30V DC/2A/60W - 1,000,000 operations 10V DC/0.01A/0.1W - 2,000,000 operations
Mechanical Life	5,000,000 operations
Utilization Category	
C300/AC-15	0.75 A @ 250V AC
Q300/DC-13	2 A @ 24V DC
1.5 A @ 120V AC	
Environmental	
Enclosure Type Rating/ Terminal Protection	—/ IP20, DIN 0470
Operating Temperature [C (F)]	-25...55° (-13...131°)
Vibration	0.75 mm (0.30 in.) peak, 10...55 Hz
Shock	5 g, 11 ms half-sine
Physical Characteristics	
Mounting	35 mm DIN Rail
Weight [g (lb)]	—
Conductor Size, Max.	—

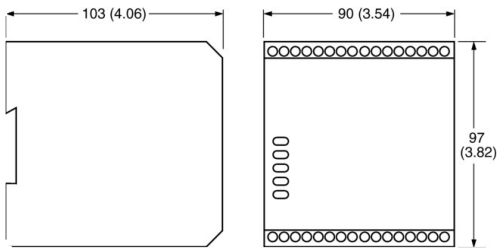
\* Usable for ISO 13849-1:2006 and IEC 62061. Data is based on the following assumptions:  
- Mission time/Proof test interval of 20 years  
- Power cycled once per 8 hrs

## Product Selection

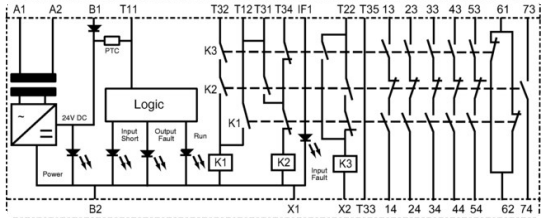
Inputs	Safety Outputs	Auxiliary Outputs	Terminals	Reset Type	Power Supply	Cat. No.
1 N.C., 1 N.C. & 1 N.O., 2 N.C.	5 N.O.	2 N.C.	Fixed	Automatic/Manual or Monitored/Manual	24V AC/DC and 120V AC	440R-ZBR520AZ1
					24V AC/DC and 240V AC	440R-ZBR520AZ2

## Approximate Dimensions

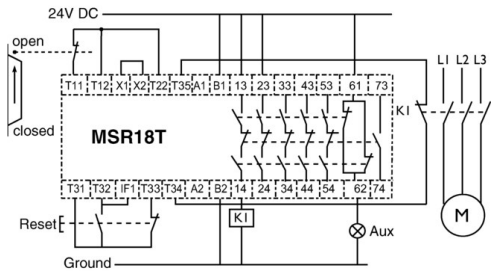
Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.



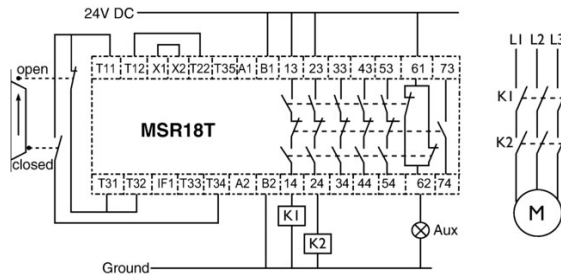
### Block Diagram



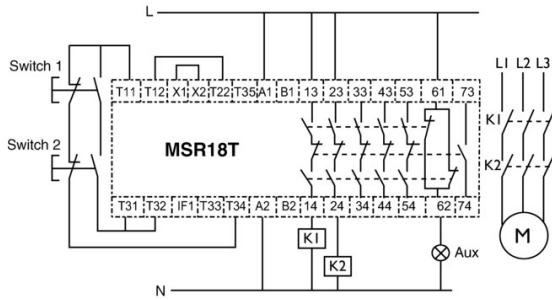
### Typical Wiring Diagrams



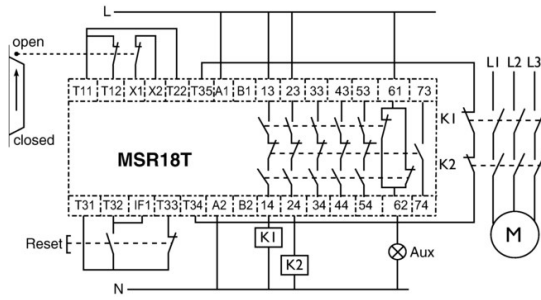
Single-Channel Input, Monitored Manual Reset,  
Single-Channel Output, Monitored Output



Dual-Channel Input 1 N.O. & 1 N.C., Automatic Reset,  
Dual-Channel Output, No Monitored Outputs



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



Dual-Channel (2 N.C.), Monitored Manual Reset,  
Dual-Channel Output, Monitored Output

Note: EN 574 Cat. 3B