

# MSR5T

## Description

The MSR5T has 1 N.C. single channel input for use with gate interlocks and emergency stop buttons in lower risk applications.

The MSR5T has output monitoring that can accommodate an automatic/manual reset function. Automatic/manual reset can use a jumper or can be used to check operation of the contacts.

The MSR5T 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.

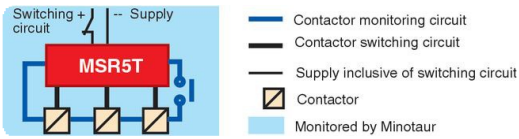
The Minotaur power supply converts either 110V AC or 230V AC to 24V DC. It is intended to be used with an MSR5T or a Ferrotek noncontact interlock. When used with the MSR5T, the Minotaur power supply acts like a 110V AC (230V AC) input module allowing a single channel 110V AC (230V AC) circuit to be wired directly into a safety circuit.



## Features

- Category 4 per EN 954-1
- Stop category 0
- Single channel input
- Three N.O. safety outputs
- One N.C. auxiliary output
- 22.5 mm wide housing
- Optional 110/230V AC input module

## Applications



## Specifications

Safety Ratings	
Standards	IEC 60204-1, ISO 13849-1, (EN 954-1)
Safety Classification	Category 4, PL e per EN ISO 13849
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> : 7.80E-10 MTTF <sub>d</sub> : 900 years Suitable for performance levels Pl e (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, TÜV, and CCC
Power Supply	
Input Power Entry	—
Power Consumption	<4V A
Inputs	
Safety Inputs	1 N.C.
Encoders Supported ‡	
Input Simultaneity	Infinite
Input Resistance, Max.	200 Ω
Reset	Auto/Manual or Manual Monitored
Power ON Delay Time	—
Motor Voltage, Max.	—
Outputs	
Safety Contacts 5 (Immediate)	
Safety Contacts (Delayed)	
Auxiliary Contacts (Immediate)	

Auxiliary Contacts (Delayed)	
Timed Off-Delay ‡	
Timed On-Delay ‡	
Timed One Shot ‡	
Thermal Current $I_{th}$	10 A
Rated Impulse withstand Voltage	2500V
Rated Insulation Voltage	(Ui) 500V
Switching Current @ Voltage, Min.	5 mA @ 5V DC
Contact Material	—
Switched Current/Voltage/Load, Min.	=1,1061191
Fuses, Output (External)	5 A quick acting
Electrical Life	220V AC/4A/880VA $\cos\phi = 0.35$ - 100,000 operations 220V AC/1.7A/375VA $\cos\phi = 0.6$ - 500,000 operations 30V DC/2A/60W - 1,000,000 operations 10V DC/0.01A/0.1W - 2,000,000 operations
Mechanical Life	2,000,000 operations

#### Utilization Category

A600/AC-15	(Ue)	600V	500V	240V	120V
	(Ie)	1.2 A	1.4 A	3 A	6 A
N600/DC-13	(Ue)	600V	500V	250V	120V
	(Ie)	0.4 A	0.55 A	1.1 A	2.2 A

#### Operating Characteristics

Response Time	—
Recovery Time	—
Status Indicator	Green = Output

#### Environmental

Enclosure Type Rating	IP20
Terminal Protection	IP20, DIN 0470
Relative Humidity	90%
Pollution Degree	3
Operating Temperature [C (F)]	-20...+80° (-4...+176°)
Vibration	0.75 mm (0.30 in.) peak, 10...55 Hz
Shock	30 g, 11 ms half-sine
Installation Group	C in accordance with VDE 0110

#### Physical Characteristics

Mounting	35 mm DIN Rail
Weight [g (lb)]	520 (1.15)
Conductor Size, Max.	—
Torque Settings, Max. (Terminal Screws)	1 N•m (8.85 lb•in)

\* Usable for ISO 13849-1:2006 and IEC 62061. Data is based on the following assumptions:

- Usage rate of 1op/10 mins., 24 hrs/day, 360 days/year, representing 51840 operations per year
- Mission time/Proof test interval of 20 years—actual values to be decided
- Power cycled once per 8 hrs

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## Product Selection

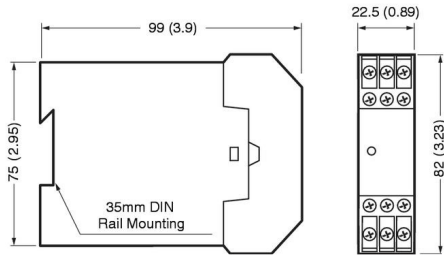
Inputs	Safety Outputs	Auxiliary Outputs	Power Supply	Cat. No.
1 N.C.	3 N.O.	1 N.C.	24V AC/DC ±15% 50/60 Hz	440R-B23020

## Accessories

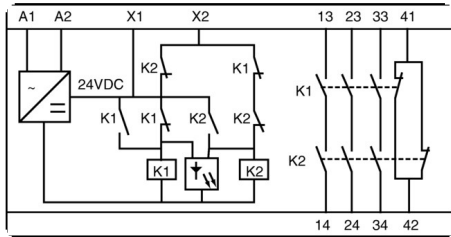
Description	Page Number	Cat. No.
110/230V AC to 24V DC Power Supply	Power Supply Unit	440R-A32003

## Approximate Dimensions

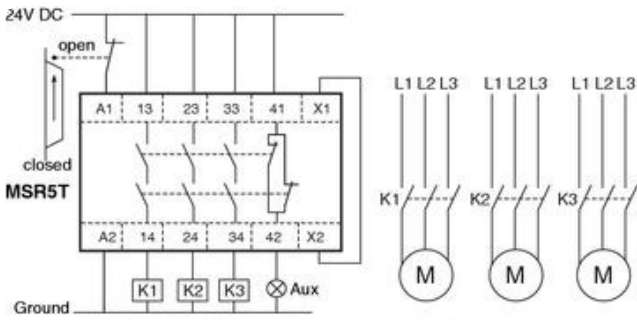
Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.



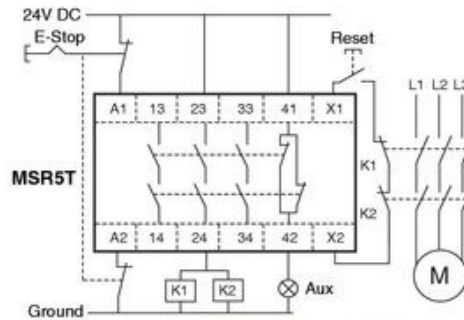
## Block Diagram



## Typical Wiring Diagrams



Single-Channel Gate Interlock, Automatic Reset,  
Single-Channel Output, No Monitored Output



Dual-Channel E-Stop, Manual Reset,  
Dual-Channel Output, Monitored Output