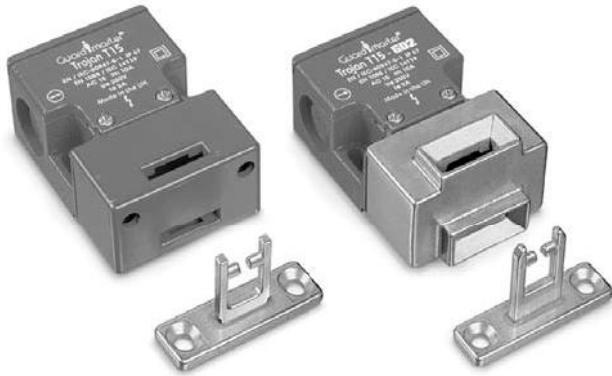


Safety Switches  
**Tongue Switches**  
Trojan™ T15



**Description**

The Trojan T15 is a compact universal tongue-operated (or key-operated) safety interlock switch designed to fit at the leading edge of sliding, hinged or lift-off guards. With its dual entry slots and rotatable head, movable only by releasing the cover screws, the Trojan T15 can offer four different options for actuator entry.

The Trojan T15 features a compact housing, only 75 x 52 x 32 mm (2.95 x 2.04 x 1.25 in.) and includes direct opening action contacts and a tamper-resistant mechanism. The Trojan T15 has 2 N.C. safety contacts or 1 N.C. safety contact and 1 N.O. auxiliary contact. The unit is sealed to IP67 and has three M20 conduit entries.

Operation of the switch is achieved by the insertion of the specially-profiled stainless-steel actuator which should be permanently fixed to the leading edge of the guard door. The standard T15 incorporates actuator retention force of 30N. An optional catch mechanism helps keep doors shut on vibrating machinery.

**Features**

- Compact size, 75 x 52 x 32 mm (2.95 x 2.05 x 1.26 in.) case
- 30 N actuator retention force
- Strong and versatile, can be used in most applications
- Contacts: 2 N.C. safety or 1 N.C. safety & 1 N.O. auxiliary
- GD2 style available for demanding applications

**Specifications**

Safety Ratings	
Standards	EN954-1, ISO13849-1, IEC/EN60204-1, NFPA79, EN1088, ISO14119, IEC/EN60947-5-1, ANSI B11.19, AS4024.1
Safety Classification	Cat. 1 device per EN 954-1 dual channel interlocks suitable for Cat. 3 or 4 systems
Certifications	CE Marked for all applicable directives, cULus, TÜV, and CCC

Outputs	
Safety Contacts * Direct Opening Action	2 N.C.                      1 N.C.
Auxiliary Contacts	None                        1 N.O.
Thermal Current <sub>I<sub>th</sub></sub>	10 A
Rated Insulation Voltage	(Ui) 500V
Switching Current @ Voltage, Min.	5 mA @ 5V DC

Utilization Category					
A600/AC-15 (Ue)	(Ue)	600V	500V	240V	120V
(Ie)	(Ie)	1.2 A	1.4 A	3.0 A	6.0 A
DC-13 (Ue)	(Ue)	24V			
(Ie)	(Ie)	2 A			

Operating Characteristics	
Break Contact Force, Min.	30 N (6.70 lbf)
Actuation Speed, Max.	160 mm (6.29 in.)/s
Actuation Frequency, Max.	2 cycles/s
Operating Radius, Min	175 mm (6.89 in.) [60 mm (2.36 in.) with flexible actuator]
Operating Life @ 100 mA load	1 x 10 <sup>6</sup> operations

Environmental	
Enclosure Type Rating	IP67
Operating Temperature [C (F)]	-20...+80° (-4...+176°)

Physical Characteristics	
Housing Material	UL Approved glass-filled PBT
Actuator Material	Stainless Steel
Weight [g (lb)]	120 (0.265)
Color	Red

- \* Usable for ISO 13849-1:2006 and IEC 62061. Data other than B10d is based on:
  - Usage rate of 1op/10 mins., 24 hrs/day, 360 days/year, representing 51840 operations per year
  - Mission time/Proof test interval of 38 years
- ⊛ The safety contacts are described as normally closed (N.C.) i.e., with the guard closed, actuator in place (where relevant) and the machine able to be started.

3-Interlock Switches

**Product Selection**

Type	Contact		Contact Action	Actuator Type	Cat. No.			
	Safety	Auxiliary			M20 Conduit		Connector§	
					M20	1/2 inch NPT Adaptor	Connect to Distribution Box 4-Pin Micro (M12)	Connect to ArmorBlock Guard I/O 5-Pin Micro (M12)
Trojan T15 Standard	2 N.C.	—	—	Standard	440K-T11303	440K-T11267	440K-T11307	440K-V2NNSPS
				Fully-Flex	440K-T11395	440K-T11273	440K-T11384	440K-V2NNBPS
				—	<b>440K-T11269</b>	—	440K-T11385	—
	1 N.C.	1 N.O.	BBM	Standard	440K-T11305	440K-T11268	440K-T11386	—
				Fully-Flex	440K-T11396	440K-T11276	440K-T11387	—
				—	440K-T11270	—	440K-T11388	—
Trojan T15 GD2	2 N.C.	—	—	GD2 Standard	440K-T11463	440K-T11288	440K-T11389	440K-V2NNGPS-NG
				Fully-Flex	440K-T11397	440K-T11287	440K-T11390	—
				—	440K-T11280	—	440K-T11391	—
	1 N.C.	1 N.O.	BBM	GD2 Standard	440K-T11398	440K-T11284	440K-T11392	—
				Fully-Flex	440K-T11399	440K-T11283	440K-T11393	—
				—	440K-T11279	—	440K-T11394	—

§ For connector ratings see page 3-9.

**Recommended Logic Interfaces**

Description	Safety Outputs	Auxiliary Outputs	Terminals	Reset Type	Power Supply	Cat. Page No.	Cat. No.
<b>Single-Function Safety Relays for 2 N.C. Contact Switch</b>							
MSR127RP	3 N.O.	1 N.C.	Removable (Screw)	Monitored Manual	24V AC/DC	5-24	440R-N23135
MSR127TP	3 N.O.	1 N.C.	Removable (Screw)	Auto./Manual	24V AC/DC	5-24	440R-N23132
MSR30RT	2 N.O. Solid State	1 N.O. Solid State	Removable	Auto./Manual or Monitored Manual	24V DC	5-16	440R-N23198
<b>Single-Function Safety Relays for 1 N.C. &amp; 1 N.O. Contact Switch</b>							
MSR9T	2 N.O.	1 N.C.	Fixed	Auto./Manual	24V AC/DC	5-14	440R-F23027
MSR33RT	2 N.O. Solid State	1 N.O.	Removable	Auto. or Monitored Manual	24V DC SELV	5-18	440R-F23200
<b>Modular Safety Relays</b>							
MSR210P Base 2 N.C. only	2 N.O.	1 N.C. and 2 PNP Solid State	Removable	Auto./Manual or Monitored Manual	24V DC from the base unit	5-74	440R-H23176
MSR220P Input Module	—	—	Removable	—	24V DC	5-78	440R-H23178
MSR310P Base	MSR300 Series Output Modules	3 PNP Solid State	Removable	Auto./Manual Monitored Manual	24V DC	5-94	440R-W23219
MSR320P Input Module	—	2 PNP Solid State	Removable	—	24V DC from the base unit	5-98	440R-W23218

**Note:** For additional Safety Relays connectivity, see the Safety Relays section (page 5-8) of this catalog.  
For additional Safety I/O and Safety PLC connectivity, see the Programmable Safety System section (page 5-107) of this catalog.  
For application and wiring diagrams, see the Safety Applications section (page 10-1) of this catalog.


**Connection Systems**

Description	Connection to Distribution Box 4-Pin Micro (M12)		Connection to ArmorBlock Guard I/O 5-Pin Micro (M12)
	2 N.C.	1 N.C. & 1 N.O.	2 N.C.
Cordset	889D-F4AC-*	889D-F4AC-*	—
Patchcord	889D-F4ACDM-*	889D-F4ACDM-*	889D-F5ACDM-*
Distribution Box	898D-4†LT-DM4	898D-P4‡KT-DM4	—
Shorting Plug	898D-41LU-DM	898D-41KU-DM	—
T-Port	898D-43LY-D4	898D-43KY-D4	—

\* Replace symbol with 2 (2 m), 5 (5 m), or 10 (10 m) for standard cable lengths.  
\* Replace symbol with 1 (1 m), 2 (2 m), 3 (3 m), 5 (5 m), or 10 (10 m) for standard cable lengths.  
‡ Replace symbol with 4 or 8 for number of ports.  
**Note:** For additional information, see the Safety Connection System section (page 7-1) of this catalog.

Safety Switches  
**Tongue Switches**  
Trojan™ T15

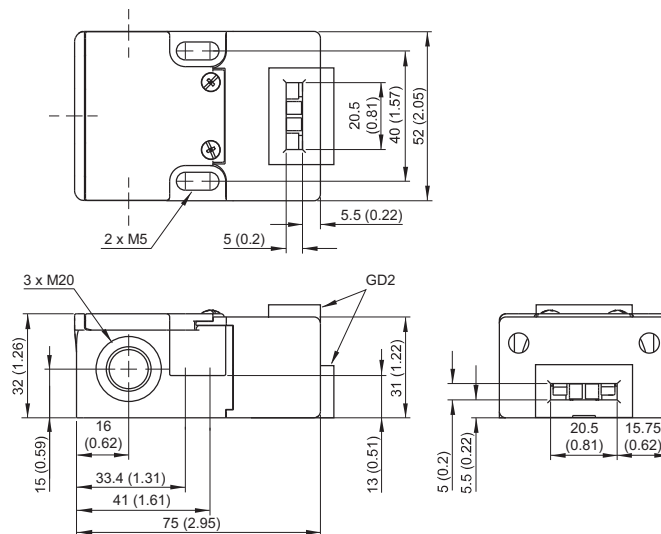
Accessories

	Description	To Be Used With:	Dimensions	Cat. No.
	Standard actuator	Trojan T15 Standard Models Only	3-51	440K-A11238
	GD2 standard actuator	Trojan GD2 Models Only	3-50	<b>440G-A27011</b>
	GD2 flat actuator	Trojan GD2 Models Only	3-51	<b>440K-A11112</b>
	Alignment guide with semi-flexible actuator	Discard Alignment Guide for GD2 Models		440K-A11144
	Alignment guide with fully-flexible actuator	Discard Alignment Guide for GD2 Models		440K-A27010
	Sliding bolt actuator	Trojan GD2 Models Only	3-55	440G-A27163
	Catch and Retainer Kit	Trojan T15 Standard Models Only	3-50	440K-A11094
	Replacement Cover	All Models	—	440A-A11499
	Dust Cover	All Models	—	440K-A17180

3-Interlock Switches

Approximate Dimensions

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



**Note:** 2D, 3D and electrical drawings are available on [www.ab.com](http://www.ab.com).

**Typical Wiring Diagrams**

Description	1 N.C. & 1 N.O.	2 N.C.								
Contact Configuration 										
Contact Action <input type="checkbox"/> Open <input checked="" type="checkbox"/> Closed										
4-Pin Micro (M12)										
5-Pin Micro (M12) For ArmorBlock Guard I/O	—									
Cordset 889D-F4AC-*	<table border="1"> <tr><td>Brown</td><td rowspan="2" style="text-align: center;">Safety A</td></tr> <tr><td>Blue</td></tr> <tr><td>White</td><td rowspan="2" style="text-align: center;">Aux A</td></tr> <tr><td>Black</td></tr> </table>	Brown	Safety A	Blue	White	Aux A	Black	<table border="1"> <tr><td>Safety A</td></tr> <tr><td>Safety B</td></tr> </table>	Safety A	Safety B
Brown	Safety A									
Blue										
White	Aux A									
Black										
Safety A										
Safety B										

\* Replace symbol with 2 (2 m), 5 (5 m) or 10 (10 m) for standard cable lengths.