

**Safety Switches**  
**IEC Style Switches**  
**15 mm Plastic Body**



Imp 1



Imp 2

**Description**

The Imp offers safety switch performance of bigger units in the most compact case available. Designed with two mounting hole options and a choice of actuator positions, the Imp will fit in most confined spaces.

**Features**

- Positive operation, forced disconnection of contacts
- Contacts 1 N.C. + 1 N.O.

**Specifications**

Safety Ratings	
Standards	EN 954-1, ISO 13849-1, IEC/EN 60204-1, NFPA 79, EN 1088, ISO 14119, IEC/ EN 60947-5-1, ANSI B11.19, AS 4024.1
Safety Classification	Cat. 1 Device per EN954-1 Dual channel limit switch suitable for Cat. 3 or 4 systems
Functional Safety Data * Note: For up-to-date information, visit <a href="http://www.ab.com/Safety/">http://www.ab.com/Safety/</a>	B10d: > 2 x 10 <sup>6</sup> operations at min. load PFH <sub>D</sub> : > 3 x 10 <sup>-7</sup> MTTFd: > 385 years Dual channel limit switch may be suitable for performance levels Pl <sub>e</sub> or Pl <sub>d</sub> (according to ISO 13849-1:2006) and for use in SIL2 or SIL3 systems (according to IEC 62061) depending on application characteristics
Certifications	CE Marked for all applicable directives and CSA NRTL/C
Outputs	
Safety Contacts *	1 N.C. positive break
Auxiliary Contacts	1 N.O.
Thermal Current/ <i>I<sub>th</sub></i>	10 A (I <sub>th</sub> )
Rated Insulation Voltage	(U <sub>i</sub> ) 500V
Switching Current @ Voltage, Min.	25 mA @ 5V DC
Utilization Category	
AC-15	(U <sub>e</sub> ) 500V    250V    100V (I <sub>e</sub> ) 1 A        2 A        5 A
DC	(U <sub>e</sub> ) 250V    24V (I <sub>e</sub> ) 0.5 A    2 A
Operating Characteristics	
Actuation Speed, Max.	160 mm (6.29 in.)/s
Actuation Speed, Min.	100 mm (3.93 in.)/min
Actuator Travel, Max.	5 mm (0.20 in.)
Actuation Frequency, Max.	2 cycles/s
Mechanical Life	10,000,000 operations
Electrical Life	1,000,000 operations
Mechanical Life	10,000,000 operations
Environmental	
Enclosure Type Rating	IP30
Operating Temperature [C (F)]	-25...80° (-13...176°)
Pollution Degree	3
Physical Characteristics	
Housing Material	UL Approved glass-filled PBT
Actuator Material	Stainless steel
Mounting	2 x M4 front or 2 x M3 top
Vibration	10...55 Hz
Shock	11 ms @ 30 g
Conduit Entry	3x break-outs
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-Limit Switches**

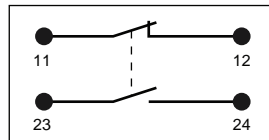
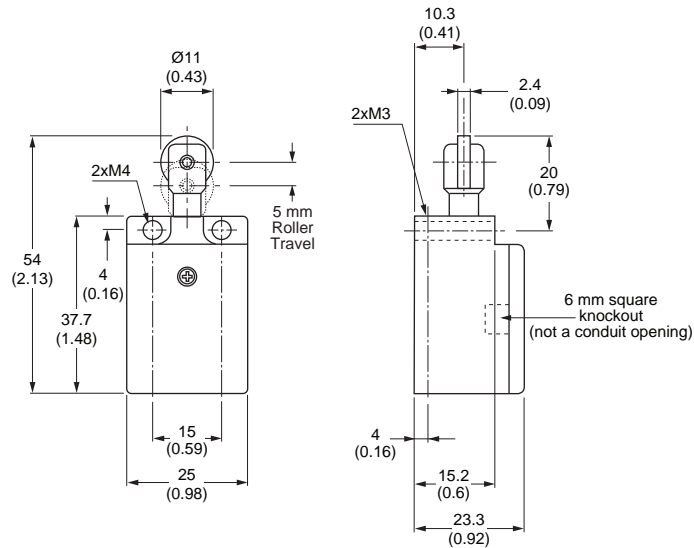
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**Product Selection**

Actuator Type	Contact		Contact Action	Conduit	Type	Cat. No.
			<input type="checkbox"/> Open <input checked="" type="checkbox"/> Closed ⊕ Positive Opening Point			
Top push roller	Slow break before make	1 N.C. & 1 N.O.		3 x breakouts	Imp 1 (roller parallel to switch front)	<b>440P-M18001</b>
Top push cross roller					Imp 2 (roller perpendicular to switch front)	<b>440P-M18002</b>

**Approximate Dimensions [mm (in.)]**

Dimensions are not intended to be used for installation purposes.



3-Limit Switches

**Wiring Diagrams**