Position Interlock Switches

Safety Limit Switches











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 the most confined spaces.

Guardmaster limit switches can be used in other applications other than guard doors, for example on moving machine beds, crane arms,

Operation of these limit switches is achieved by the sliding action of the guard or other moving object deflecting the plunger or lever. It is important that upon actuation, the guard or other moving objects should not pass completely over the switch and allow the plunger or lever to return to its original position.

Features

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

5	p	е	CI	Ħ	C	а	tı	0	n	S
	٠.									

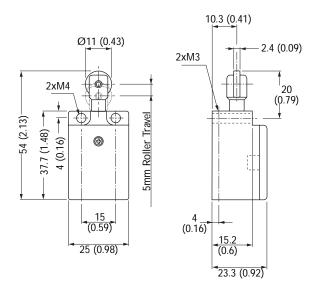
Standards EN954-1, ISO13849-1, IEC/EN60204-1, NFPA79, EN1088, ISO14119, IEC/ EN60947-5-1, ANSI B11.19, AS4024.1 Category Cat. 1 Device per EN954-1 Dual channel interlocks suitable for Cat. 3 or 4 systems Approvals CE marked for all applicable directives and CSA NRTL/C Safety Contacts 1 N.C. positive break Utilization Category AC 15 AC (Ue) 500V 250V 100V (le) 1A 2A 5A DC 250V 0.5A, 24V 2A Max. Switched Current/ Voltage/Load Thermal Current (Ith) Minimum Current Safety Contact Gap >2 x 2mm (0.079in) Rtd. Insulation Voltage (Ui) 500V Rtd. Impulse Withstand Voltage Auxiliary Contacts 1 N.O. Pollution Degree 3 Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuation Speed Max. Actuation Frequency Case Material Protection IP30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting PRed Colour Red		1			
EN60947-5-1, ANSI B11.19, AS4024.1 Category Cat. 1 Device per EN954-1 Dual channel interlocks suitable for Cat. 3 or 4 systems CE marked for all applicable directives and CSA NRTL/C Safety Contacts 1 N.C. positive break Utilization Category AC 15 AC (Ue) 500V 250V 100V (le) 1A 2A 5A DC 250V 0.5A, 24V 2A Max. Switched Current/ Voltage/Load Thermal Current (Ith) 10A Minimum Current 5V 5mA DC Safety Contact Gap >2 x 2mm (0.079in) Rtd. Insulation Voltage (Ui) 500V Rtd. Impulse Withstand Voltage Auxiliary Contacts 1 N.O. Pollution Degree 3 Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuator Travel Maximum Actuation Speed Max. Actuation Frequency Case Material Protection UL approved glass filled polyester Actuator Material Protection Conduit Entry Operating Temperature 2 x M3 front or 2 x M4 top Mechanical Life 10,000,000 operations	Standards	EN954-1, ISO13849-1, IEC/EN60204-1,			
Category Cat. 1 Device per EN954-1 Dual channel interlocks suitable for Cat. 3 or 4 systems CE marked for all applicable directives and CSA NRTL/C Safety Contacts 1 N.C. positive break Utilization Category AC 15 AC (Ue) 500V 250V 100V (le) 1A 2A 5A DC 250V 0.5A, 24V 2A Max. Switched Current/ Voltage/Load Thermal Current (Ith) 10A Minimum Current SV 5mA DC Safety Contact Gap Rtd. Insulation Voltage Rtd. Impulse Withstand Voltage Auxiliary Contacts 1 N.O. Pollution Degree 3 Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuator Travel Maximum Actuation Speed Max. Actuation Frequency Case Material Protection IP30 Conduit Entry 3x break-outs Operating Temperature Mochanical Life 10,000,000 operations Electrical Life 1,000,000 operations					
Dual channel interlocks suitable for Cat. 3 or 4 systems CE marked for all applicable directives and CSA NRTL/C Safety Contacts 1 N.C. positive break Utilization Category AC 15 AC (Ue) 500V 250V 100V (le) 1A 2A 5A DC 250V 0.5A, 24V 2A Max. Switched Current/ 500V/500VA Woltage/Load Thermal Current (Ith) 10A Minimum Current 5V 5mA DC Safety Contact Gap >2 x 2mm (0.079in) Rtd. Insulation Voltage (Ui) 500V Rtd. Impulse Withstand Voltage Auxiliary Contacts 1 N.O. Pollution Degree 3 Actuator Travel for Positive Opening Break Contact Min. Force 10N (2.25lb) Maximum Actuator Travel Maximum Actuation Speed 160mm (6.29in) per sec Max. Actuation Frequency 2 Cycle per sec Case Material 10 Light proved glass filled polyester Actuator Material Acetal Protection 1P30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting 2 x M3 front or 2 x M4 top Mechanical Life 10,000,000 operations Electrical Life 1,000,000 operations					
Approvals CE marked for all applicable directives and CSA NRTL/C Safety Contacts Utilization Category AC 15 AC (Ue) (le) 1A 2A 5A DC 250V 0.5A, 24V 2A Max. Switched Current/ Voltage/Load Thermal Current (Ith) Minimum Current 5V 5mA DC Safety Contact Gap Rtd. Insulation Voltage (Ui) 500V Rtd. Impulse Withstand Voltage Auxiliary Contacts Pollution Degree 3 Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuation Speed Maximum Actuation Frequency Case Material Protection IP30 Conduit Entry Operating Temperature Mechanical Life 1,000,000 operations Little Tax I N.C. Pollution Degree Actuator Travel Smm (0.098in) Operating Temperature Acetal Protection IP30 Conduit Entry 3x break-outs Operating Temperature Mechanical Life 1,000,000 operations	Category				
Approvals CE marked for all applicable directives and CSA NRTL/C Safety Contacts Utilization Category AC 15 AC (Ue) (le) 1A 2A 5A DC 250V 0.5A, 24V 2A Max. Switched Current/ Voltage/Load Thermal Current (Ith) Minimum Current 5V 5mA DC Safety Contact Gap Rtd. Insulation Voltage Rtd. Impulse Withstand Voltage Auxiliary Contacts 1 N.O. Pollution Degree 3 Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuation Speed Maximum Actuation Frequency Case Material Protection Conduit Entry Operating Temperature Mechanical Life 1,000,000 operations Logov 2 x M4 top Mechanical Life 1,000,000 operations					
and CSA NRTL/C Safety Contacts Utilization Category AC 15 AC (Ue) (le) 1A 2A 5A DC 250V 0.5A, 24V 2A Max. Switched Current/ Voltage/Load Thermal Current (Ith) Minimum Current 5V 5mA DC Safety Contact Gap Rtd. Insulation Voltage (Ui) 500V Rtd. Impulse Withstand Voltage Auxiliary Contacts Pollution Degree 3 Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuation Speed Max. Actuation Frequency Case Material Protection Conduit Entry Operating Temperature Mechanical Life 1,000,000 operations Invo. 1 N.C. positive break 1 N.C. positive converses 1 N.C. polluton Degree 3 Actuator Travel for Positive Opening Break Contact Min. Force 10N (2.25lb) Maximum Actuation Speed Max. Actuation Frequency 2 Cycle per sec Case Material Acetal Protection IP30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting Mechanical Life 1,000,000 operations		,			
Safety Contacts Utilization Category AC (Ue) (le) TA 2A 5A DC 250V 0.5A, 24V 2A Max. Switched Current/ Voltage/Load Thermal Current (Ith) Minimum Current Sv 5mA DC Safety Contact Gap Rtd. Insulation Voltage Auxiliary Contacts Pollution Degree Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuation Frequency Case Material Protection Conduit Entry Mechanical Life Invo. Positive break 1 N.C. positive break Ac 15 AC 15 500V 250V 100V (Uim) 10A Minimum Current 5V 5mA DC 5V	Approvals				
Utilization Category AC (Ue) 500V 250V 100V (le) 1A 2A 5A DC 250V 0.5A, 24V 2A Max. Switched Current/ Voltage/Load Thermal Current (Ith) Minimum Current SV 5mA DC Safety Contact Gap Rtd. Insulation Voltage (Ui) 500V Rtd. Impulse Withstand Voltage Auxiliary Contacts Pollution Degree 3 Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuation Frequency Case Material Protection Conduit Entry Operating Temperature Mounting YAC 15 SOOV 250V 100V (Uimp) 250 SmA DC SmA Clustor Travel for Positive Opening Sma (0.098in) Oconduit Geyin) per sec Sma (0.197in) Maximum Actuation Speed Max. Actuation Frequency Sma (0.079in) Maximum Actuation Frequency Sma (0.079in) Maximum Actuation Frequency Sma (0.079in) Maximum Actuation Frequenc					
AC (Ue) (le) (le) (le) (le) (le) (le) (le) (le) (le) (la) (la	Safety Contacts				
(le) 1A 2A 5A DC 250V 0.5A, 24V 2A Max. Switched Current/ Voltage/Load Thermal Current (lth) 10A Minimum Current 5V 5mA DC Safety Contact Gap >2 x 2mm (0.079in) Rtd. Insulation Voltage (Ui) 500V Rtd. Impulse Withstand (Uimp) 2500V Voltage Auxiliary Contacts 1 N.O. Pollution Degree 3 Actuator Travel for Positive Opening Break Contact Min. Force 10N (2.25lb) Maximum Actuator Travel 5mm (0.197in) Maximum Actuation Speed 160mm (6.29in) per sec Max. Actuation Frequency 2 Cycle per sec Case Material UL approved glass filled polyester Actuator Material Acetal Protection IP30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting 2 x M3 front or 2 x M4 top Mechanical Life 1,000,000 operations	Utilization Category				
DC 250V 0.5A, 24V 2A Max. Switched Current/ Voltage/Load Thermal Current (Ith) 10A Minimum Current 5V 5mA DC Safety Contact Gap >2 x 2mm (0.079in) Rtd. Insulation Voltage (Ui) 500V Rtd. Impulse Withstand (Uimp) 2500V Voltage Auxiliary Contacts 1 N.O. Pollution Degree 3 Actuator Travel for Positive Opening Break Contact Min. Force 10N (2.25lb) Maximum Actuator Travel 5mm (0.197in) Maximum Actuation Speed 160mm (6.29in) per sec Max. Actuation Frequency 2 Cycle per sec Case Material UL approved glass filled polyester Actuator Material Acetal Protection IP30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting 2 x M3 front or 2 x M4 top Mechanical Life 1,000,000 operations	AC (Ue)	500V 250V 100V			
Max. Switched Current/ Voltage/Load Thermal Current (Ith) Minimum Current Sov 5mA DC Safety Contact Gap Rtd. Insulation Voltage Rtd. Impulse Withstand Voltage Auxiliary Contacts Pollution Degree Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuator Travel Maximum Actuation Speed Max. Actuation Frequency Case Material Actuator Material Protection Conduit Entry Mechanical Life 100A 1000,000 operations 100A 100A 100A 100A 100A 1000,000 operations 100A 100A 100A 100A 100A 100A 1000,000 1009in) 1000,000 operations	(le)	1A 2A 5A			
Voltage/Load Thermal Current (Ith) Minimum Current Solv 5mA DC Safety Contact Gap Rtd. Insulation Voltage Rtd. Impulse Withstand Voltage Auxiliary Contacts Pollution Degree Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuator Travel Maximum Actuation Speed Max. Actuation Frequency Case Material Actuator Material Protection Protection IP30 Conduit Entry Mechanical Life Inonogony IV 5mA DC Som (0.079in) INO. Pollution Degree 3 Actuator Travel for Positive 2.5mm (0.098in) Opening Break Contact Min. Force 10N (2.25lb) Smm (0.197in) Maximum Actuation Speed Max. Actuation Frequency 2 Cycle per sec Case Material Actuator Material Protection IP30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting Mechanical Life 10,000,000 operations	DC	250V 0.5A, 24V 2A			
Thermal Current (Ith) Minimum Current Safety Contact Gap Rtd. Insulation Voltage Rtd. Impulse Withstand Voltage Auxiliary Contacts Pollution Degree Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuator Travel Maximum Actuation Speed Max. Actuation Frequency Case Material Actuator Material Protection Conduit Entry Mechanical Life India 5V 5mA DC 5v 5mA DC 5v 2x 2mm (0.079in) 1000 (Uimp) 2500V (Uimp) 2	Max. Switched Current/	500V/500VA			
Minimum Current Safety Contact Gap Rtd. Insulation Voltage Rtd. Impulse Withstand Voltage Auxiliary Contacts Pollution Degree Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuator Travel Maximum Actuation Speed Max. Actuation Frequency Case Material Actuator Material Protection Protection IP30 Conduit Entry Mechanical Life Ivin 500V (Uimp) 2500V (Uimp) 2500V (Uimp) 2500V (Uimp) 2500V (Uimp) 2500V (Uimp) 2500V (Uimp) 2500V (Uimp) 2500V (Uimp) 2500V (Uimp) 2500V (Uimp) 2500V (Uimp) 2500V (Uimp) 2500V (2.25lb) Smm (0.098in) 5mm (0.197in) Maximum Actuation Speed Max. Actuation Frequency 2 Cycle per sec Case Material Actuator Material Protection IP30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting Mechanical Life 10,000,000 operations	Voltage/Load				
Safety Contact Gap	Thermal Current (Ith)	10A			
Rtd. Insulation Voltage Rtd. Impulse Withstand Voltage Auxiliary Contacts Pollution Degree Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuator Travel Maximum Actuation Speed Max. Actuation Frequency Case Material Actuator Material Protection Protection Conduit Entry Mounting Mechanical Life Voltage (Ui) 500V (Uimp) 2500V (Uimp) 2500V (Uimp) 2500V (5V 5mA DC			
Rtd. Impulse Withstand Voltage Auxiliary Contacts Pollution Degree Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuator Travel Maximum Actuation Speed Max. Actuation Frequency Case Material Actuator Material Protection Protection Conduit Entry Operating Temperature Mechanical Life Life Life Life Life Life Life Life		>2 x 2mm (0.079in)			
Voltage Auxiliary Contacts Pollution Degree 3 Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuator Travel Maximum Actuation Speed Max. Actuation Frequency Case Material Actuator Material Protection Urapproved glass filled polyester Actuator Material Protection Conduit Entry Operating Temperature Mechanical Life 1,000,000 operations 1 N.O. 2.5mm (0.098in) 5mm (0.197in) 5mm (0.197in) 5mm (6.29in) per sec 2 Cycle per sec 2 Cycle per sec 4 Cetal Protection Urapproved glass filled polyester Actuator Material Acetal Protection P30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting Acetal P10,000,000 operations Electrical Life 1,000,000 operations		(Ui) 500V			
Auxiliary Contacts Pollution Degree 3 Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuator Travel Maximum Actuation Speed Max. Actuation Frequency Case Material Actuator Material Protection Conduit Entry Operating Temperature Mechanical Life Plotted To Material Protection IP30 Conduit Entry Conduit Entry Mounting Actuation Frequency Case Material Protection IP30 Conduit Entry Coperating Temperature Actuator Material Protection IP30 Conduit Entry Coperating Temperature Actuator Material Protection IP30 Conduit Entry Actuator Material Act	•	(Uimp) 2500V			
Pollution Degree 3 Actuator Travel for Positive Opening 2.5mm (0.098in) Break Contact Min. Force 10N (2.25lb) Maximum Actuator Travel 5mm (0.197in) Maximum Actuation Speed 160mm (6.29in) per sec Max. Actuation Frequency 2 Cycle per sec Case Material UL approved glass filled polyester Actuator Material Acetal Protection IP30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting 2 x M3 front or 2 x M4 top Mechanical Life 1,000,000 operations Electrical Life 1,000,000 operations					
Actuator Travel for Positive Opening Break Contact Min. Force Maximum Actuator Travel Maximum Actuation Speed Max. Actuation Frequency Case Material Actuator Material Protection Conduit Entry Operating Temperature Mechanical Life Lossing Sembles 2.5mm (0.098in) 2.5mm (0.098in) 5mm (0.197in) 5mm (0.197in) 5mm (0.197in) 6.29in) per sec 2 Cycle per sec 2 Cycle per sec 4 Catal 4 Acetal 4 Acetal 4 Acetal 4 Conduit Entry As break-outs 6 Operating Temperature Actuator Material Acetal 7 25°C to +80°C (-13°F to +176°F) 7 2 x M3 front or 2 x M4 top 7 3 Mechanical Life Acetal Acetal 7 10,000,000 operations 8 10,000,000 operations					
Opening Break Contact Min. Force Maximum Actuator Travel Maximum Actuation Speed Max. Actuation Frequency Case Material Actuator Material Protection Conduit Entry Operating Temperature Mechanical Life Lower Material Lower Material Max. Actuation Frequency 2 Cycle per sec 2 Cycle per sec UL approved glass filled polyester Actuator Material Acetal Protection IP30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting 10,000,000 operations Electrical Life 10,000,000 operations					
Break Contact Min. Force Maximum Actuator Travel Maximum Actuation Speed Max. Actuation Frequency Case Material Actuator Material Protection Conduit Entry Operating Temperature Max. Actuation Frequency 2 Cycle per sec UL approved glass filled polyester Acetal Protection IP30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting 2 x M3 front or 2 x M4 top Mechanical Life 1,000,000 operations Electrical Life 1,000,000 operations	Actuator Travel for Positive	2.5mm (0.098in)			
Maximum Actuator Travel 5mm (0.197in) Maximum Actuation Speed 160mm (6.29in) per sec Max. Actuation Frequency 2 Cycle per sec Case Material UL approved glass filled polyester Actuator Material Acetal Protection IP30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting 2 x M3 front or 2 x M4 top Mechanical Life 10,000,000 operations Electrical Life 1,000,000 operations					
Maximum Actuation Speed Max. Actuation Frequency Case Material Actuator Material Protection Conduit Entry Operating Temperature Max. Actuation Frequency 2 Cycle per sec 2 Cycle per sec UL approved glass filled polyester Actuator Material Acetal Protection IP30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting 2 x M3 front or 2 x M4 top Mechanical Life 10,000,000 operations Electrical Life 1,000,000 operations					
Max. Actuation Frequency Case Material Actuator Material Protection Conduit Entry Operating Temperature Mechanical Life Actuator Material Acetal Protection IP30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting 10,000,000 operations Electrical Life 1,000,000 operations					
Case Material Actuator Material Protection Conduit Entry Operating Temperature Mechanical Life UL approved glass filled polyester Acetal Protection IP30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting 2 x M3 front or 2 x M4 top Mechanical Life 10,000,000 operations Electrical Life 1,000,000 operations	Maximum Actuation Speed				
Actuator Material Acetal Protection IP30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting 2 x M3 front or 2 x M4 top Mechanical Life 10,000,000 operations Electrical Life 1,000,000 operations					
Protection IP30 Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting 2 x M3 front or 2 x M4 top Mechanical Life 10,000,000 operations Electrical Life 1,000,000 operations					
Conduit Entry 3x break-outs Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting 2 x M3 front or 2 x M4 top Mechanical Life 10,000,000 operations Electrical Life 1,000,000 operations					
Operating Temperature -25°C to +80°C (-13°F to +176°F) Mounting 2 x M3 front or 2 x M4 top Mechanical Life 10,000,000 operations Electrical Life 1,000,000 operations	Protection	IP30			
Mounting 2 x M3 front or 2 x M4 top Mechanical Life 10,000,000 operations Electrical Life 1,000,000 operations					
Mechanical Life 10,000,000 operations Electrical Life 1,000,000 operations		-25°C to +80°C (-13°F to +176°F)			
Electrical Life 1,000,000 operations					
Colour Red	Electrical Life				
	Colour	Red			



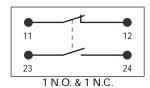
Product Selection

Operator Type		Contact		Contact Action ☐ Contact Open ☐ Contact Closed	Conduit	Туре	Catalogue Number
Roller Top Pus Cross	Top Push Roller	Slow break	1 N.O. & 1 N.C.	0mm 1 5 11/12 23/24 2.5	3x breakouts	Imp 1 (roller parallel to switch front)	440P-M18001
	Top Push Cross Roller	before make				Imp 2 (roller perpendicular to switch front)	440P-M18002

Dimensions—mm (inches)



Connections



7-19