

»Description

The EFM series have been tested and approved to meet the requirements of the Low Voltage directive and positive opening safety contacts per IEC/EN 60947-5-1-3.

Typical applications for these switches would use the roller plunger in conjunction with cams on doors with hinges .

A rang of panel mounting or top mounting versions are also available to ensure that the switch can be simply installed in small space or difficult mounting.

»Features

- Conforms to EN (TUV) standards corresponding to the CE marking
- Positive opening operation of NC (Normally Closed) contacts conforming to IEC /EN 60947-5-1
- Wide standard operating temperature range: -25°C to 70°C
- Full range of actuator heads and levers suitable for safety applications
- Sealing up to IP 67
- International conduit sizes



»Specifications

Electrical Characteristics						
Standards Rating	TUV (EN60947-5-1), UKCA(BS EN60947-5-1)					
	Utilization category		AC-15		DC-13	
	Rated operating current (Ie)		3A		0.27A	
	Rated operating voltage (Ue)		240V		240V	
	AC-15/B300 Maximum AC Contact Rating Per Pole (50/60Hz)-Same Polarity					
	Rated Voltage	Carry Current	Current (A)		Volt-amperes(VA)	
			Make	Break	Make	Break
	120 VAC	5A	30	3.0	3600	360
	240 VAC		15	1.5		
	DC-13/Q300 Maximum DC Contact Rating Per Pole					
Rated Voltage	Carry Current	Current (A)		Volt-amperes(VA)		
		Make	Break	Make	Break	
240 VAC	2.5A	0.27	0.27	69	69	
Contact resistance	Initial value 25mΩ max.					
Min Current	5VDC 5mA					
Rated Insulation Voltage	600V					
Thermal Current (Ith)	10A					
Insulation Resistance	Class II (double insulation).					
Protection Against Electric Shock	100M Ω min. at 500VDC.					
Dielectric strength	2,500V 50/60Hz for 1 minute.					
Rated frequency	50/60 Hz.					

Mechanical Characteristics	
Electrical durability	150,000 Cycles Min.
Mechanical durability	10,000,000 Cycles Min.
Vibration durability	IEC 68-2-6,10-55Hz±1 HZ,Excursion: 0.35mm,1 octave/min
Shock durability	1000 m/s² min.
Max Switching Speed	100 tomm/s.

Climatic Characteristics	
Degree of Protection	IP66 and IP67
Operating Humidity	95% max. (for 5°C to 40°C)
Operating Temperature	2°C ~ +70°C

»Product Selection

EFM-□-□-□
1 2 3

1. CABLE ENTRY

L:Cable on the side

V:Cable on the bottom

2. CONTACT TYPES

3:1NC/1NO SNAP ACTION

3. HEAD AND ACTUATOR

20 : Short Lever type

31 : Dome plunger type

32 : Roller plunger type

321: Cross roller plunger type

51 : Panel mount dome plunger type

52 : Panel mount roller plunger type

521: Panel mount cross roller plunger type

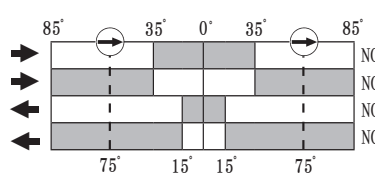
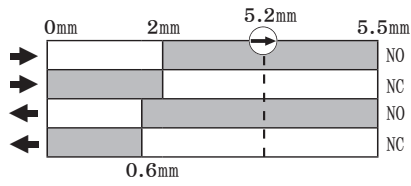
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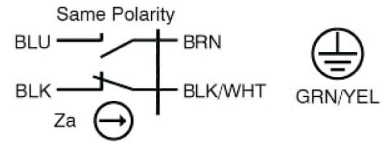
Design, specifications are subject to change without notice.

»Contact Block Form

□ Oper ■ Closed
 ⊕ Positive Opening Point



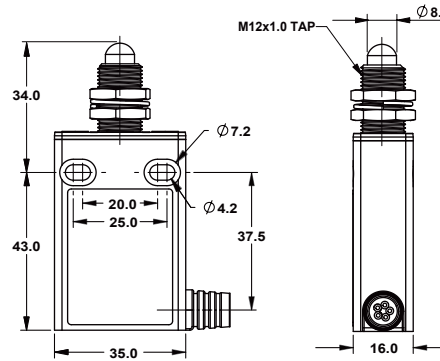
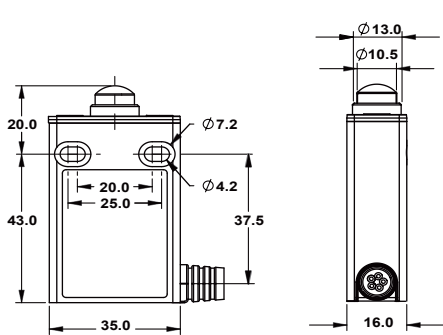
»Wiring Diagram



»Operating Characteristics

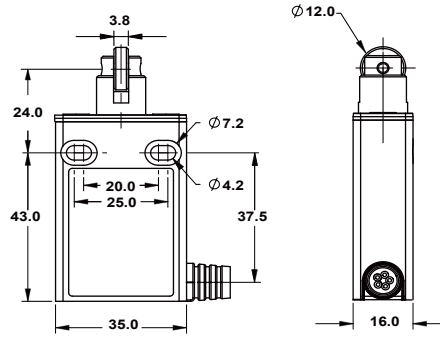
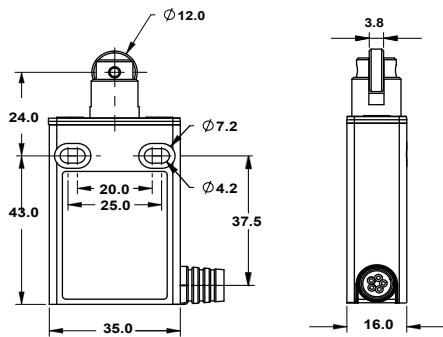
Actuator Type EFM-□-3-31 Dome Plunger

EFM-□-3-51 Panel Mount Dome Plunger



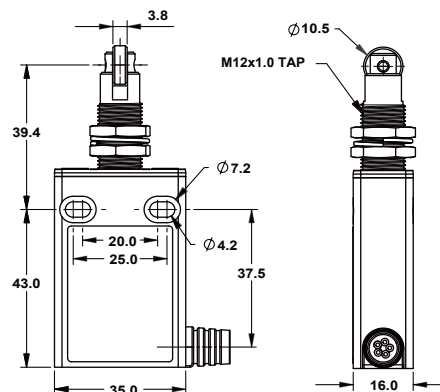
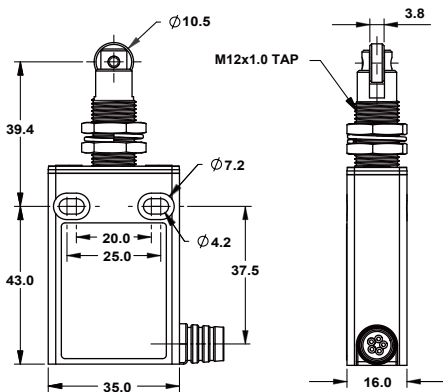
Actuator Type EFM-□-3-32 Roller Plunger

EFM-□-3-321 Cross Roller Plunger



Actuator Type EFM-□-3-52 Panel Mount Roller Plunger

EFM-□-3-521 Panel Mount Cross Roller Plunger



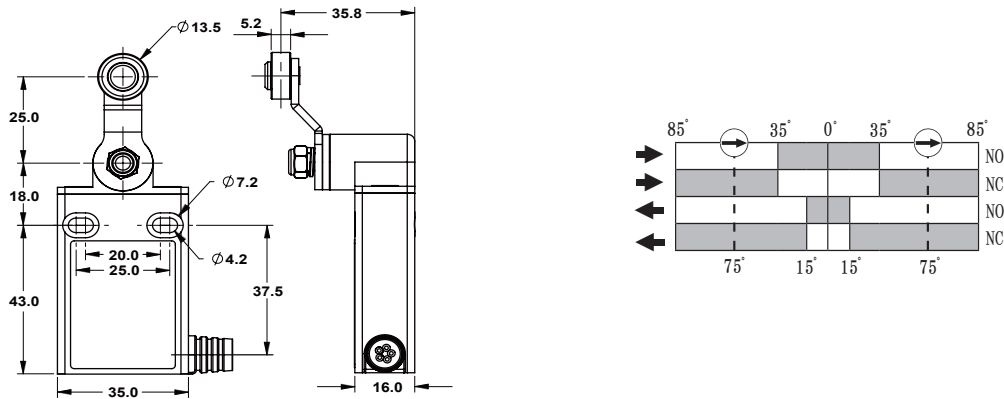
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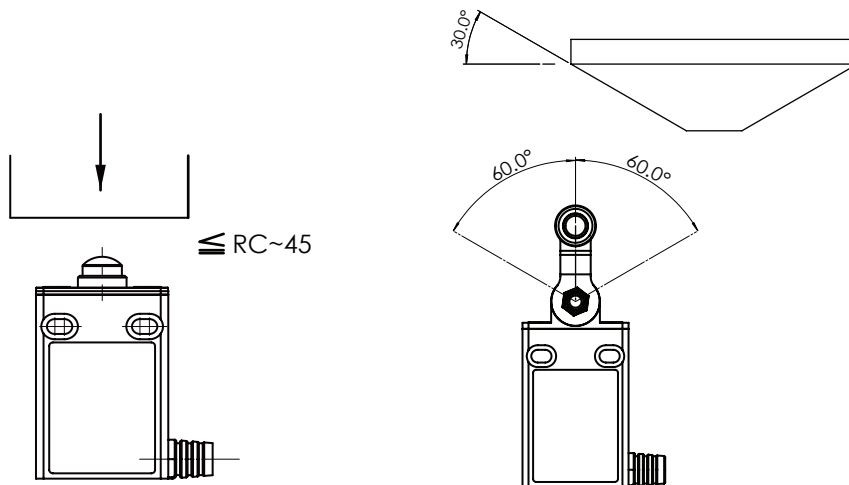
» Operating Characteristics

Actuator Type EFM-□-3-20 Short Lever



» Actuation Guidelines

The method of actuation and over travel has significant influence on the service life of the limit switch. To maximize the service life, it is recommended to provide an actuator with a 30° pressure angle and a surface hardness of Rc~45 max.



» Bottom Cable Style

Two, 4.2(0.165)dia.

Holes countersink: 7.2(0.28)dia.

Depth: 4.2(0.165)

