

E49 Mini Metal Switches



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E49 Mini Metal Switches

Product Description

E49 Mini Metal Limit Switches from Eaton’s electrical sector are designed small and tough, with machinery OEMs in mind. The small size, metal body and mechanical life make this product perfect for switching applications in packaging, material handling, elevators and lifts, electronic assembly equipment, injection molding machinery, and auto-vending machines. The E49 Mini Metal is the ideal switch for those who need a cost-effective, compact solution, but don’t want to sacrifice durability in the process.

Features

- Long life—rated for 10 million operations
- Pre-wired units with custom cable lengths available for high volume customers
- “Fingerproof” terminals protect against accidental shock
- Double-spring mechanism for contact reliability
- Grounding terminal included
- Captive screws on enclosure cover make wiring hassle-free
- SPDT double break

Standards and Certifications

- UL Recognized
- CE
- RoHS



⚠ DANGER

THIS SENSOR IS NOT A SAFETY DEVICE AND IS NOT INTENDED TO BE USED AS A SAFETY DEVICE. This sensor is designed only to detect and read certain data in an electronic manner and perform no use apart from that, specifically no safety-related use. This sensor product does not include self-checking redundant circuitry, and the failure of this sensor product could cause either an energized or de-energized output condition, which could result in death, serious bodily injury, or property damage.

For the most current information on this product, visit our Web site: www.eaton.com

For Customer Service in the U.S. call 1-877-ETN CARE (386-2273), in Canada call 1-800-268-3578. For Application Assistance in the U.S. and Canada call 1-800-426-9184.

Product Selection

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E49 Mini Metal Switches

<i>Operating Head Type</i>	Travel to Operate Contacts	Travel to Reset Contacts	Total Travel	Force to Operate Contacts	Minimum Return Force	Assembled Unit (Switch Body and Head) 1NO-1NC Contacts Catalog Number
Side Rotary Lever 	Side Rotary Lever					
	20°	12°	70°	750g	100g	E49G31AP3
Adjustable Side Rotary Lever 	Adjustable Side Rotary Lever					
	20°	12°	70°	750g	100g	E49G31UP3
Top Pushbutton 	Top Pushbutton					
	0.06 in (1.5 mm)	0.04 in (1 mm)	0.22 in (5.5 mm)	900g	150g	E49G31BP3
Top Push Roller 	Top Push Roller					
	0.06 in (1.5 mm)	0.04 in (1 mm)	0.22 in (5.5 mm)	900g	150g	E49G31CP3
Top Push Roller (90° Roller) 	Top Push Roller (90° Roller)					
	0.06 in (1.5 mm)	0.04 in (1 mm)	0.22 in (5.5 mm)	900g	150g	E49G31C1P3
Adjustable Rod Lever 	Adjustable Rod Lever					
	20°	12°	70°	750g	100g	E49G31DP3

E49 Mini Metal Switches, continued

<i>Operating Head Type</i>	Travel to Operate Contacts	Travel to Reset Contacts	Total Travel	Force to Operate Contacts	Assembled Unit (Switch Body and Head) 1NO-1NC Contacts Catalog Number
Wobble Stick (Nylon Coil) 	Wobble Stick (Nylon Coil)				
	1.18 in (30 mm)	—	—	150g	E49G31NP3
Wobble Stick (Metal Coil) 	Wobble Stick (Metal Coil)				
	1.18 in (30 mm)	—	—	150g	E49G31VP3
Wobble Stick (Metal Rod) 	Wobble Stick (Metal Rod)				
	1.18 in (30 mm)	—	—	150g	E49G31MP3
Wobble Stick (Whisker) 	Wobble Stick (Whisker)				
	1.18 in (30 mm)	—	—	150g	E49G31XM3

Technical Data and Specifications

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E49 Mini Metal Switches

Description	Specification
Operating speed	0.19 in (5 mm) to 19.7 in/s (50 cm/s)
Operating frequency	120 operations/min
Contact resistance	25M ohms (initial)
Insulation resistance	100M ohms min (at 500 Vdc)
Dielectric strength	1000 Vac, 50/60 Hz for one minute between non-continuous terminals
	1500 Vac, 50/60 Hz for one minute between current-carrying and non-current-carrying parts and between each terminal and ground
Vibration	10 to 55 Hz, 1.5 mm double amplitude
Shock	Approx. 300 m/s ² (approx. 30Gs)
Ambient operating temperature	23° to 149°F (–5° to 65°C)
Humidity	95% RH max.
Service life	Mechanical: 10,000,000 operations min.
	Electrical: 500,000 operations min.
Weight	Approx. 130 to 190g
Degree of protection	IEC: IP65
Material of construction	Shaft: stainless SUS303 Arm: stainless SUS304 Head and body: zinc alloy Terminal cover: PC/ABS plastic Rubber grommet: NBR rubber

Maximum Ampere Ratings

Rated Voltage	Non-Inductive Load (A)		Lamp Load ^②		Inductive Load (A) ^①		Motor Load	
	Resistive Load		NC	NO	Inductive Load		NC	NO
	NC	NO			NC	NO		
125 Vac	5	5	1.5	0.7	3	3	2	1
250 Vac	5	5	1	0.5	3	3	1.5	0.8
8 Vdc	5	5	3	3	5	4	3	3
14 Vdc	5	5	3	3	4	4	3	3
30 Vdc	5	5	3	3	4	4	3	3
125 Vdc	0.4	0.4	—	—	—	—	—	—
250 Vdc	0.2	0.2	—	—	—	—	—	—

Terminal Configuration

NO (4) —○ ○— NO (3)

NC (1) —● ●— NC (2)

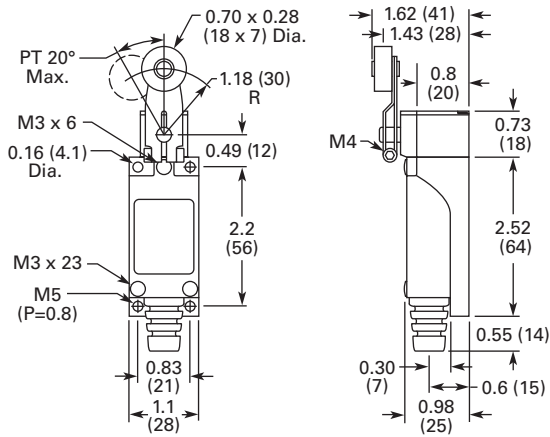
Notes

- ^① Inductive load has a power factor of 0.4 min. (AC) and a time constant of 7 msec. max. (DC).
^② Lamp load has an inrush current of ten times the steady-state current, while motor load has an inrush current of six times the steady-state current.

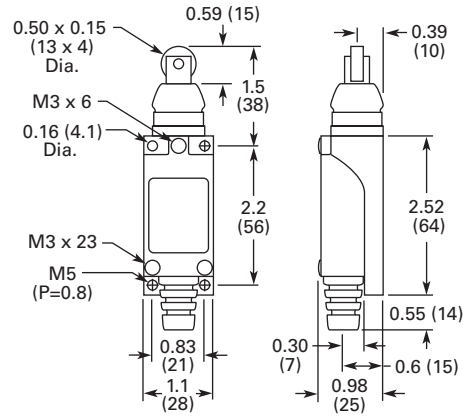
Dimensions

Approximate Dimensions in Inches (mm)

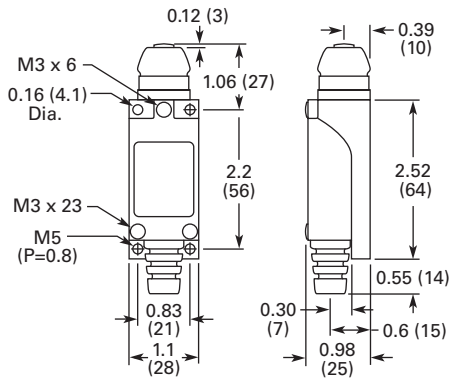
E49G31AP3



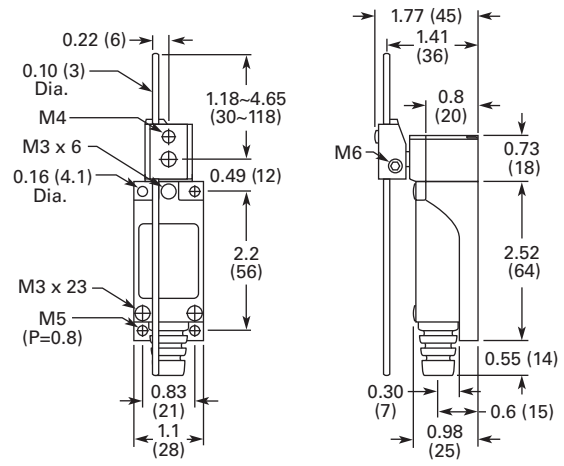
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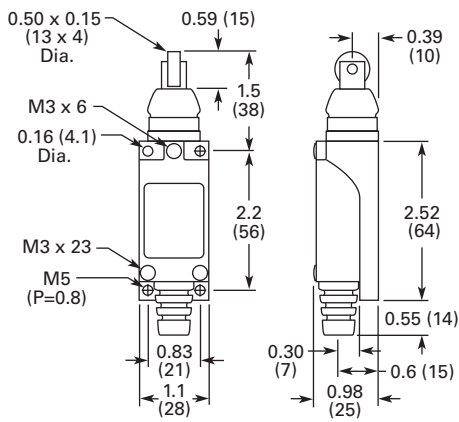
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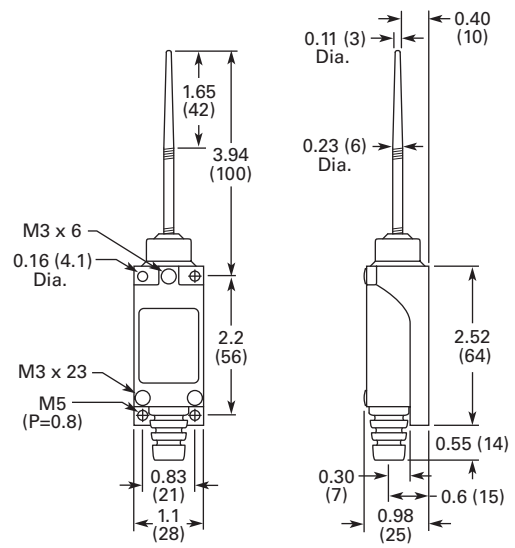
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E49G31C1P3



E49G31MP3



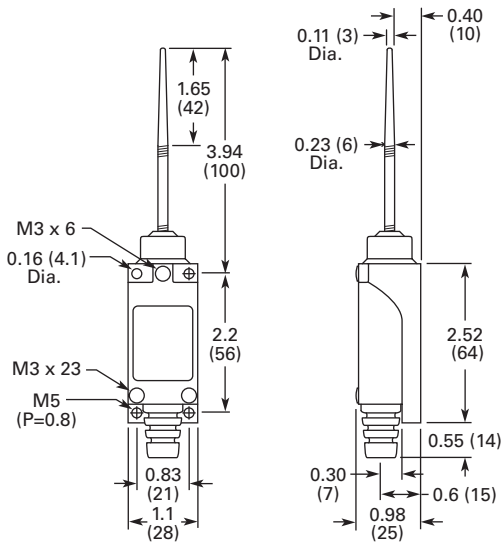
2.4

Limit Switches

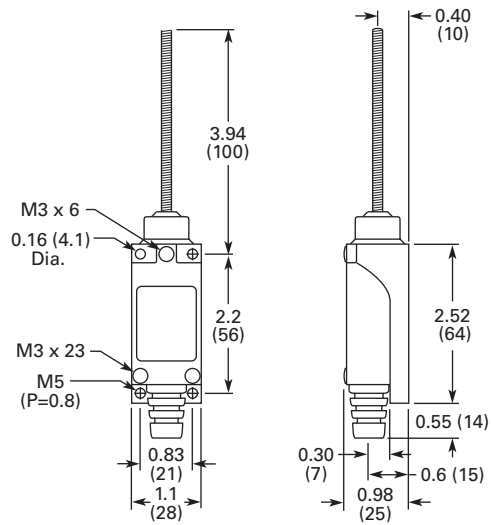
E49 Mini Metal Switches

Approximate Dimensions in Inches (mm)

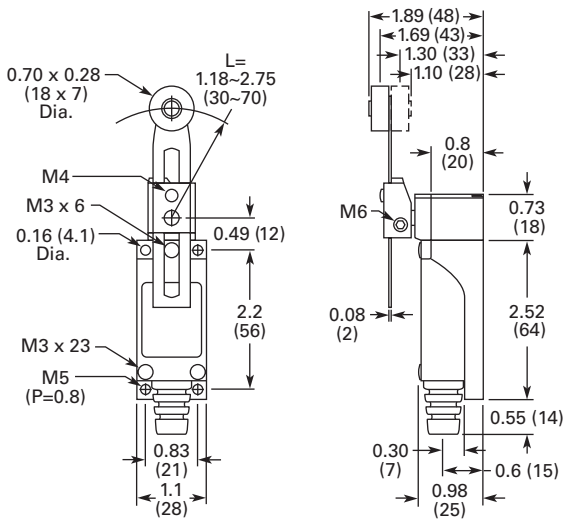
E49G31NP3



E49G31VP3



E49G31UP3



E49G31XM3

