

# Value packed in a durable, compact and rugged design



The E49 Mini Metal line is built tough—like our industry-standard E50 line—but are more compact and priced competitively with plastic IEC DIN switches.

Eaton E49 Mini Metal limit switches have a rugged design that can endure the harshest environments. The small size, metal body and long mechanical life enables this product to meet switching requirements in a variety of applications. The E49 Mini Metal is the ideal switch for those who need a robust, cost-effective, compact solution, but do not want to sacrifice durability. Because of its small size, these switches can be used for most space-restricted machinery OEM applications.

#### Small and less expensive

The E49 Mini Metal is smaller in size and priced competitively when compared with plastic IEC DIN switches. Designed with the machinery OEM in mind, these switches can be integrated into most applications where larger, more cumbersome switches are currently applied.

#### Designed to last

Many OEMs are changing from heavy-duty NEMA®-style switches to plastic IEC models in an effort to cut costs. As a result, reliability is sacrificed. The E49 Mini Metal line provides a solution to customers looking for a highly affordable switch without compromising long-term performance or durability. Designed with a metallic base, head and lever, E49 Mini Metal switches can operate in applications that plastic IEC switches cannot tolerate. The modular heads can be oriented in four different directions with ten different head designs.

The device comes standard with a flexible cable gland that eliminates the cost and hassle of conduit adapters. And with a mechanical life rating of at least 10 million operations, this switch is designed to deliver in the toughest of applications—for a long time.

#### The switch for your application

The E49 Mini Metal is not a modular product, so there is no ordering or stocking its various component parts. Instead, these switches are ordered as a complete unit, by model number. Choose the model with the operating head that meets your application needs: fixed or adjustable side rotary lever, pushbutton, push roller, rotated push roller, adjustable rod lever, and a variety of different nylon or metal wobble sticks.

#### Quality and support

Eaton's quality, reliability and performance can be found in the E49 Mini Metal limit switch family. All models are UL® listed and CE compliant, and are backed by Eaton's world-class sensor application engineers, on call five days a week to provide assistance with the specifying, installing, troubleshooting and servicing of Eaton limit switch and sensor products.

#### Key product 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

#### Approvals

- UL listed
- CE
- RoHS compliant

#### Market applications

- Packaging
- Material handling
- Elevators and lifts
- Electronic assembly equipment
- Injection molding
- Auto-vending machines



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## Specifications

Description	Specification
Operating speed	0.19 in (5 mm) to 19.7 in/s (50 cm/s)
Operating frequency	120 operations per minute
Contact resistance	25M ohms (initial)
Insulation resistance	100M ohms minimum (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 <sup>2</sup> (approx. 30 Gs)
Ambient operating temperature	-5°C to +65°C
Humidity	95% RH maximum
Service life	Mechanical: 10,000,000 operations minimum Electrical: 500,000 operations minimum
Weight	Approx. 130 to 190g
Degree of protection	IEC: IP65
Construction material	Shaft: stainless SUS303 Arm: stainless SUS304 Head and body: zinc alloy Terminal cover: PC/ABS plastic Rubber grommet: NBR rubber
Approvals	UL recognized; CE

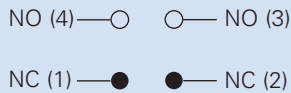
## Ratings

Rated Voltage	Non-Inductive Load				Inductive Load ①			
	Resistive Load		Lamp Load ②		Inductive Load		Motor Load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 Vac	5	5	1.5	0.7	3	3	2	1
250V 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	—	—	—	—	—	—

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.

## Terminal configuration



## CAUTION

**UNLESS OTHERWISE NOTED, THE PRODUCTS CONTAINED IN THIS DOCUMENT ARE NOT DESIGNED FOR USE IN HUMAN SAFETY APPLICATIONS.**

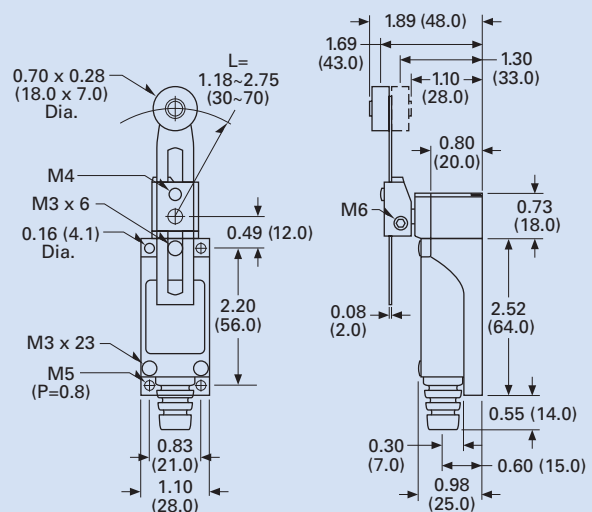
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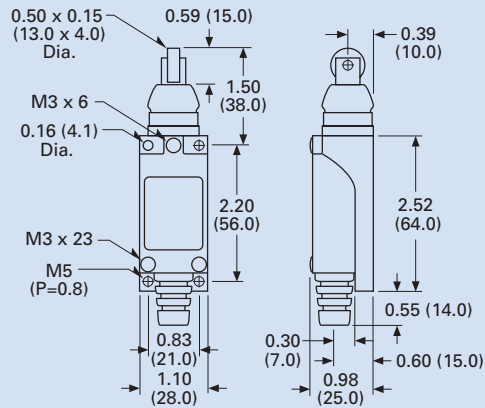
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## Dimensions

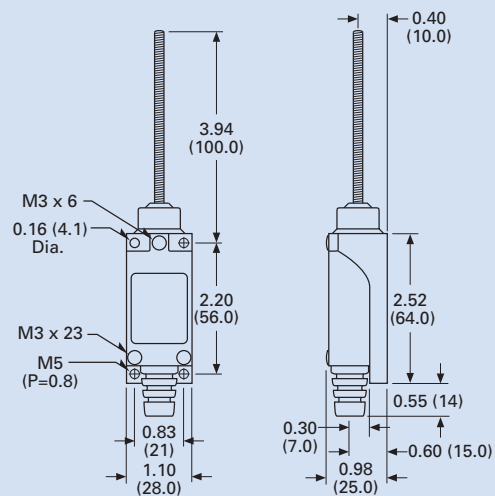
Approximate dimensions in inches (mm)



### E49G31UP3



### E49G31C1P3



### E49G31VP3

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