

E49 Compact Metal Switches



### E49 Compact Metal Switches

#### Product Description

E49 Compact Metal Switches by Eaton’s electrical sector are designed with high mechanical strength for harsh environments. The rugged aluminum die cast construction provides reliable, oil-tight, waterproof and dustproof sealing for a variety of applications. Snap action 1NO-1NC contacts provide flexibility in design.

#### Features

- Rigid die cast switch housing
- High mechanical strength
- Oil-tight, waterproof and dustproof construction

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 Drawings Online

For the most current information on this product, visit our Web site: [www.eaton.com](http://www.eaton.com)

#### Standards and Certifications

- UL Listed, E170645
- UL tested to Canadian safety standards
- RoHS Compliant



#### 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 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

E49 Compact Metal Switches

Operating Head Type	Travel to Operate Contacts	Travel to Reset Contacts	Total Travel	Force to Operate Contacts (Maximum)	Minimum Return Force	Assembled Unit (Switch Body and Head) 1NO-1NC Contacts Catalog Number
<b>Roller Lever</b> 	20°	12°	50°	2.99 lbs	0.50 lb	<b>E49M11AP1</b>
<b>Top Push</b> 	0.067 in (1.7 mm)	0.04 in (1.0 mm)	—	6.02 lbs	2.01 lbs	<b>E49M11BP1</b>
<b>Top Push Roller</b> 	0.067 in (1.7 mm)	0.04 in (1.0 mm)	0.25 in (6.5 mm)	6.02 lbs	2.01 lbs	<b>E49M11CP1</b> (as pictured)  <b>E49M11CP2</b> 90° Cross Roller
<b>Rod Lever</b> 	20°	12°	50°	0.31 lb	0.06 lb	<b>E49M11DP1</b>
<b>Adjustable Roller Lever</b> 	20°	12°	50°	2.99 lbs	0.50 lb	<b>E49M11UP1</b>

#### E49 Compact Metal Switches, continued

Operating Head Type	Travel to Operate Contacts	Travel to Reset Contacts	Total Travel	Force to Operate Contacts (Maximum)	Minimum Return Force	Assembled Unit (Switch Body and Head) 1NO-1NC Contacts Catalog Number
<b>Wobble</b>	<b>Wobble</b>					
	1.10 in (28 mm)	N/A	N/A	0.33 lb	N/A	<b>E49M11VP1</b>
<b>Cat Whisker</b>	<b>Cat Whisker</b>					
	1.10 in (28 mm)	N/A	N/A	0.064 lb	N/A	<b>E49M11XM1</b>

### Technical Data and Specifications

#### E49 Compact Metal Switches

Description	Specification
Operating speed	1 mm to 2m/sec
Operating frequency	Mechanically: 120 operations/min.; Electronically: 30 operations/min.
Contact resistance	15M ohms max. (initial)
Insulation resistance	100M ohms min. (at 500 Vdc)
Dielectric strength	1000 Vac, 50/60 Hz for 1 minute between non-continuous terminals; 2200 Vac, 50/60 Hz for 1 minute between each terminal and non-current carrying metal part and between each terminal and ground
Vibration	Malfunction durability: approx. 1000 m/sec <sup>2</sup> (approx. 100 Gs); Malfunction durability: approx. 300/sec <sup>2</sup> (30 Gs)
Ambient operating temperature	14° to 176°F (-10° to 80°C)
Humidity	95% RH max.
Service life	Mechanically: 15,000,000 operations/minute; Electronically: 500,000 operations/minute

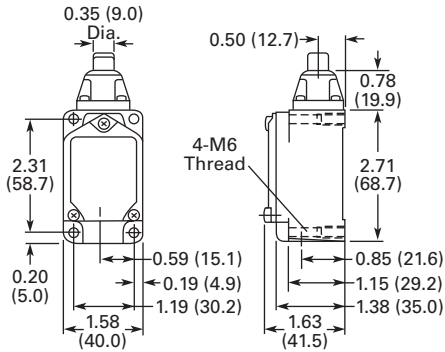
#### Maximum Ampere Ratings—Isolated Contacts, No Polarity Restriction

NEMA A600 (AC-15) 50 or 60 Hz						NEMA R300 (DC-13)	
Rated Voltage	Current			Voltamperes		Rated Voltage	Current
	Continuous	Make	Break	Make	Break		
24 Vac	10A	60A	6.0A	7200 VA	720 VA	24 Vdc	1.5A
120 Vac	10A	60A	6.0A	7200 VA	720 VA	120 Vdc	0.22A
250 Vac	10A	30A	3.0A	7200 VA	720 VA	250 Vdc	0.11A
480 Vac	10A	15A	1.5A	7200 VA	720 VA		
600 Vac	10A	12A	1.2A	7200 VA	720 VA		

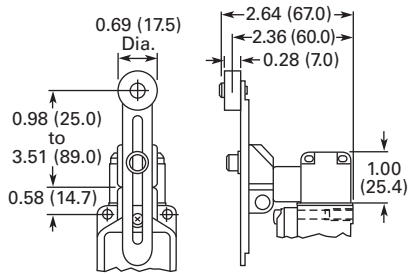
**Dimensions**

Approximate Dimensions in Inches (mm)

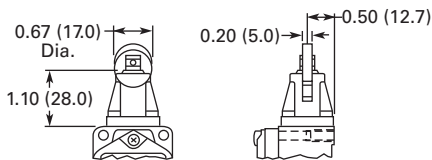
**Switch Body with E49M11BP1**



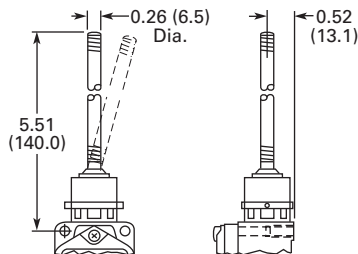
**E49M11UP1**



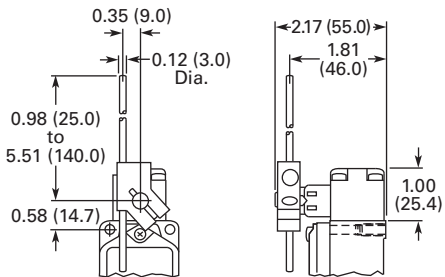
**E49M11CP1/E49M11CP2**



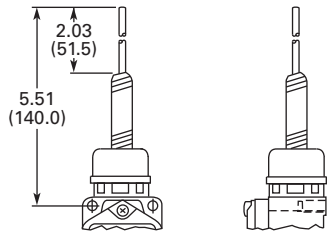
**E49M11VP1**



**E49M11DP1**



**E49M11XM1**



**E49M11AP1**

