

October 2009

**Limit Switches
E49 Compact Metal**

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Cutler-Hammer® E49 Compact Metal Switches by Eaton’s electrical business are designed with high mechanical strength for robust environments. The rugged aluminum die cast construction provides reliable, oil-tight, waterproof and dustproof sealing for a variety of applications. Snap action 1N.O./1N.C. contacts provide flexibility in design.

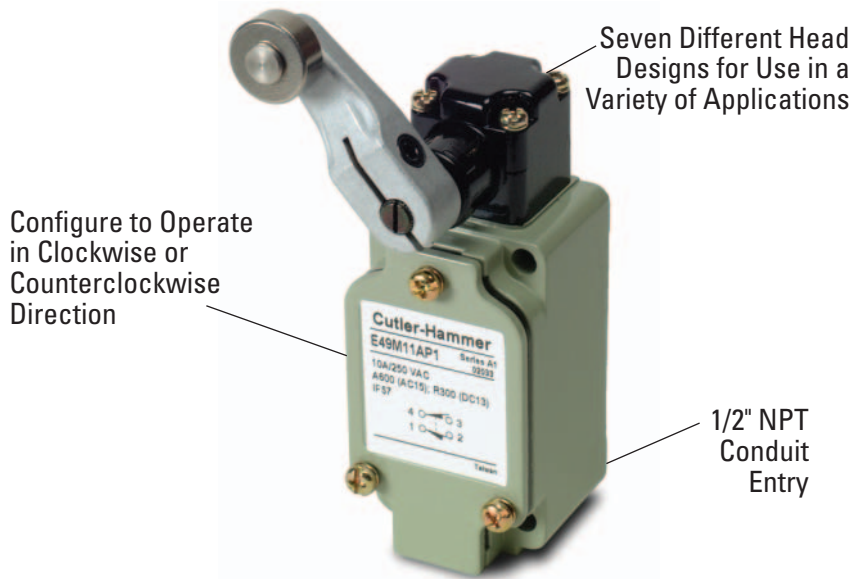
Ratings and Approvals

- cULus
- NEMA A600 (AC-15)
- NEMA R300 (DC-13)
- IP67



Unless otherwise noted, the products contained in this document are not designed or intended for use in human safety applications.

Compact Size, Metallic Limit Switches Feature 1N.O./1N.C. Contacts for High Reliability in OEM Sensing Applications




Product Features

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

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**.

Model Selection — E49 Compact Metal Limit Switches

Operating Head Type	Specifications					Catalog Numbers
	Travel to Operate Contacts	Travel to Reset Contacts	Total Travel	Force to Operate Contacts (Maximum)	Minimum Return Force	Assembled Unit (Switch Body and Head)
	1N.O.-1N.C. Contacts					
Roller Lever 	20°	12°	50°	2.99 lb	0.50 lb	E49M11AP1
Top Push 	0.067 in (1.7 mm)	0.04 in (1.0 mm)	—	6.02 lb	2.01 lb	E49M11BP1
Top Push Roller 	0.067 in (1.7 mm)	0.04 in (1.0 mm)	0.25 in (6.5 mm)	6.02 lb	2.01 lb	E49M11CP1 (As pictured)
						E49M11CP2 (90° Roller)
Rod Lever 	20°	12°	50°	0.31 lb	0.06 lb	E49M11DP1
Adjustable Roller Lever 	20°	12°	50°	2.99 lb	0.50 lb	E49M11UP1
Wobble 	1.10 in (28 mm)	N/A	N/A	0.33 lb	N/A	E49M11VP1
Cat Whisker 	1.10 in (28 mm)	N/A	N/A	0.064 lb	N/A	E49M11XM1

 Stocked product, typical order quantities guaranteed in stock.

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Specifications

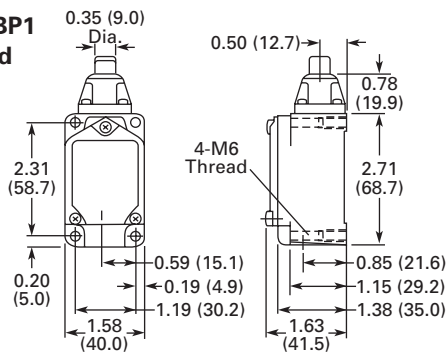
Operating Speed	1 mm to 2 m/sec
Operating Frequency	Mechanically: 120 operations/min.; Electronically: 30 operations/min.
Contact Resistance	15 mΩ max. (initial)
Insulation Resistance	100 MΩ min. (at 500V DC)
Dielectric Strength	1,000V AC, 50/60 Hz for 1 minute between non-continuous terminals; 2,200V AC, 50/60 Hz for 1 minute between each terminal and non-current carrying metal part and between each terminal and ground
Temperature Rise	50 degrees max.
Vibration	Malfunction durability: approx. 1,000 m/sec ² (approx. 100 Gs); Malfunction durability: approx. 300/sec ² (30 Gs)
Ambient Temperature	Operating: -10 to 80°C
Humidity	95% RH max.
Service Life	Mechanically: 15,000,000 operations/minute; Electronically: 500,000 operations/minute

Ratings — Isolated Contacts, No Polarity Restriction

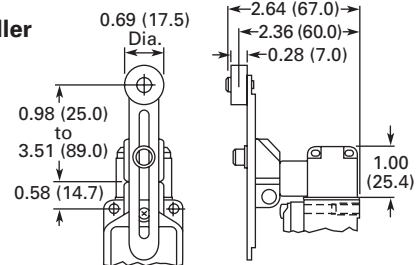
NEMA A600 (AC-15) 50 or 60 Hz						NEMA R300 (DC-13)	
Rated Voltage	Current			Voltagperes		Rated Voltage	Current
	Continuous	Make	Break	Make	Break		
24V AC	10A	60A	6.0A	7200 VA	720 VA	24V DC	1.5A
120V AC	10A	60A	6.0A	7200 VA	720 VA	120V DC	0.22A
250V AC	10A	30A	3.0A	7200 VA	720 VA	250V DC	0.11A
480V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

Approximate Dimensions in Inches (mm)

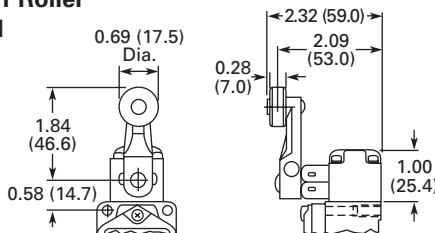
Switch Body with E49M11BP1 Top Push Head



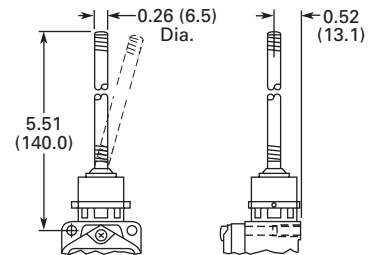
E49M11UP1 Adjustable Roller Lever Head



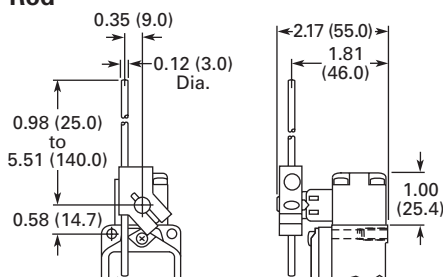
E49M11AP1 Roller Lever Head



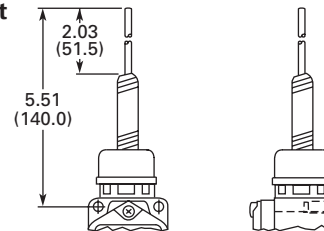
E49M11VP1 Wobble Head



E49M11DP1 Rod Lever Head



E49M11XM1 Cat Whisker Head



E49M11CP1/E49M11CP2 Top Push Roller Head

