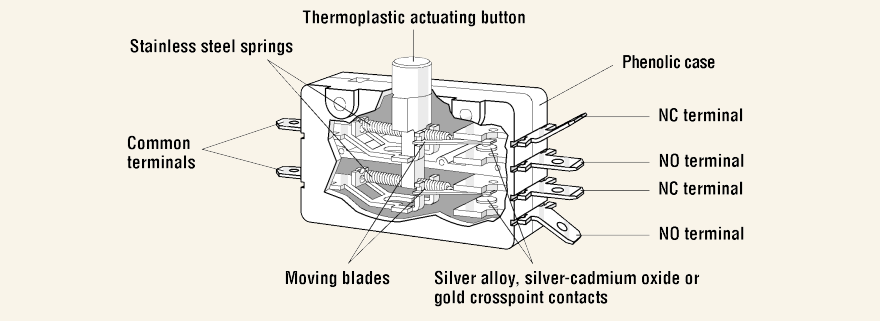
GENERAL PURPOSE — SINGLE & DOUBLE POLE

E Series

Features

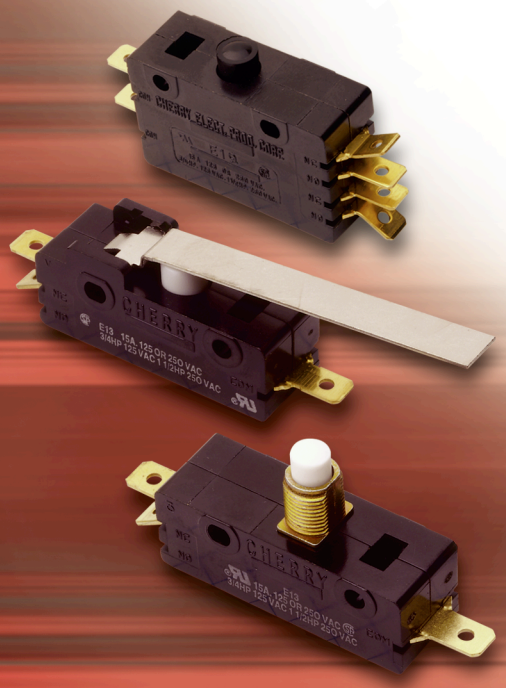
- 5 current ratings
- Choice of actuator styles
- 3 terminal types (optional screw terminals available — consult factory)
- 3 contact arrangements
- Long-life coil spring mechanism
- High-temperature 150°C and 200°C available on select models (consult factory)



Electrical Ratings

Switch Series	EN61058 Rating	UL1054 Rating	Electrical Life at Rated Load According to VDE (Min. Operations)	Electrical Life at Rated Load According to UL (Min. Operations)
E13/E19	N/A	15A, 125/250VAC; 3/4HP, 125VAC 1-1/2HP, 250VAC; 2A, 48 VDC *(E13 Only)***	N/A	6,000*
E19A *(mixed ratings)*	N/A	15A, 125/250VAC; 3/4HP, 125VAC; 1-1/2HP, 250VAC 0.1A, 125VAC	N/A	6,000
E14/E25	N/A	25A, 125/250VAC; 1HP, 125VAC 2HP, 250VAC; 2A, 48VDC *(E14 Only)***	N/A	6,000
E20	N/A	20A, 125/250VAC; 1HP, 125VAC 2HP, 250VAC	N/A	6,000
E28/E29	N/A	30.1A, 125/250/277VAC *(UL Approved Only — Resistive Load Only)*	N/A	6,000
E30	N/A	30.1A, 125/250VAC; 1HP, 125VAC 2HP, 250VAC *(UL Only)*	N/A	6,000
G13/G20	N/A	0.1A, 125VAC 0.1A, 30VDC *(G13 Only)*	N/A	6,000*

*Indicates 100K life available.
**100K Hi-temp not available



Specifications

Electrical

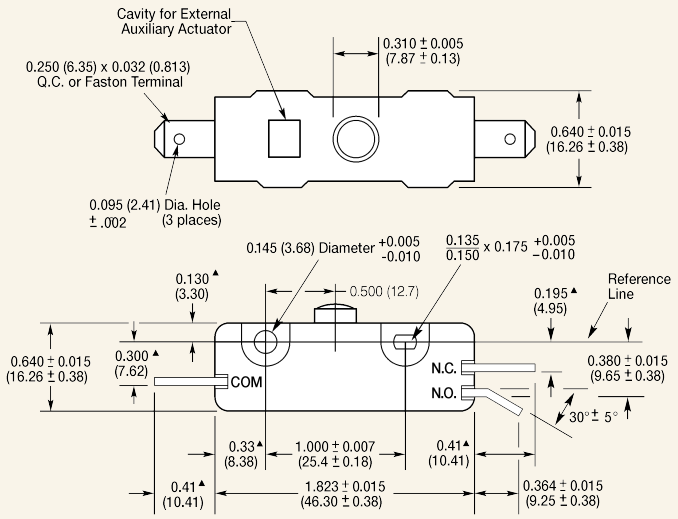
Temperature Rating:	105°C Std. *(150°C and 200°C optional — E13, E14, E19, E20, G13)* 85°C Std. *(E28 and E29),* 85°C Std. *(150°C optional) E25*
Flammability Rating:	UL94HB

Materials

Case:	General Purpose Phenolic
Actuating Button:	Thermoplastic Nylon
Common Terminals:	Brass *(E13, E19, E19A, G13, G20),* Silver-Plated Brass *(E14, E20), Silver-Plated Copper (E28, E29, E30)*
NO and NC Terminals:	Brass *(E13, E19, E19A, G13, G20)* Copper *(E14, E20, E28, E29, E30)*
Moving Blade:	Brass *(E13, E19, E19A, G13, G20)* Silver-Plated Beryllium Copper *(E14, E20, E28, E29, E30)*
Spring:	Stainless Steel
Auxiliary Actuators:	Cold-Rolled Steel (Nickel-Plated)
Roller:	Sintered Stainless Steel
Contacts:	Gold Crosspoint *(G13, G20, E19A)* Silver-Cadmium Oxide *(E13, E14, E19, E19A, E20, E28, E29, E30)* Silver Alloy *(E19A, E29, E30)*

c US *(T200: E13, G13, E14, E19 and E20)*

Dimensions — Single Pole inches (mm)



▲ (All tolerance ± .015)

Actuator Specifications — Single Pole

Series/ Prefix	Actuator Type	Switch Type	Maximum Operating Force (g)	Maximum Pre-Travel inches (mm)	Operating Point* inches (mm)	Minimum Over-Travel inches (mm)	Max. Movement Differential inches (mm)	Actuation Length** inches (mm)
E13/G13	–00E		425	0.050 (1.27)	0.285±0.020♦ (7.24±0.51)	0.100 (2.54)	0.015 (0.38)	—
E14/E29/E30	–00A		850	0.100 (2.54)	0.248±0.026♦ (6.30±0.66)	0.050 (1.27)	0.015 (0.38)	—
E13/G13	–00J		425	0.050 (1.27)	0.670±0.030 (17.02±0.76)	0.108 (2.74)	0.015 (0.38)	—
E14/E29/E30			850	0.100 (2.54)	0.633±0.030 (16.08±0.76)	0.050 (1.27)	0.015 (0.38)	—
E13/G13	–00M		425	0.050 (1.27)	0.812±0.030 (20.63±0.76)	0.218 (5.54)	0.015 (0.38)	—
E14/E29/E30			850	0.100 (2.54)	0.775±0.030 (19.69±0.76)	0.168 (4.27)	0.015 (0.38)	—
E13/G13	–00H		100	0.250 (6.35)	0.312±0.062 (7.93±1.57)	0.187 (4.75)	0.093 (2.36)	1.500 (38.10)
E14/E29/E30†			285	0.312 (7.93)	0.468±0.062 (11.89±1.57)	0.105 *** (2.67)	0.050 (1.27)	0.821 (20.85)
E13/G13	–50H		65	0.343 (8.71)	0.281±0.062 (7.14±1.57)	0.187 (4.75)	0.140 (3.56)	1.750 (44.45)
E14/E29/E30†			170	0.525 (13.34)	0.437±0.062 (11.10±1.57)	0.218 (5.54)	0.080 (2.03)	1.071 (27.20)
E13/G13	–00K		100	0.250 (6.35)	0.718±0.062 (18.24±1.57)	0.187 (4.75)	0.093 (2.36)	1.391 (35.33)
E14/E29/E30†			285	0.348 (8.84)	0.860±0.062 (21.84±1.57)	0.130 (3.30)	0.045 (1.14)	0.688 (17.47)
E13/G13	–50K		63	0.403 (10.24)	0.687±0.062 (17.45±1.57)	0.187 (4.75)	0.093 (2.36)	1.625 (41.28)
E14/E29/E30†			211	0.483 (12.27)	0.828±0.062 (21.03±1.57)	0.218 (5.54)	0.073 (1.85)	0.943 (23.95)

* Measured above reference line. Refer to dimensional drawing above. **Actuator tolerance ±0.031 inches (0.79mm).
†E14, E29 and E30 actuators are shorter and formed up 11° at the button.
*** E30 minimum over-travel is 0.150 (3.81). ♦ G13 and E30 have operating point tolerances of ± 0.30.

Ordering Information

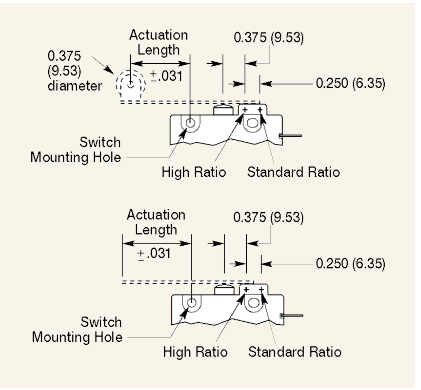
Select the current rating you need. Combine the corresponding Series/Prefix number with the appropriate suffix number for the switch you need.

Mounting — Single Pole

Recommended mounting screw: #6-32 round head. Recommended torque on screw: 6 inch lbs. max. Recommended maximum torque for ferrule: 20 inch pounds

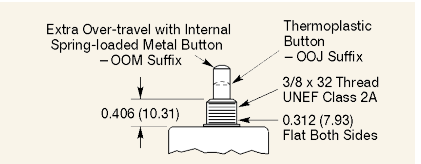
Actuators — Single Pole

Standard type integral hinged lever and roller actuators are available in choice of two mounting positions. Actuation lengths are dimensioned from centerline of switch mounting hole as shown.



"J" & "M" Type Optional Hardware — Single Pole

Brass Hex Nut	0012-0023
Brass Knurled Nut	0012-0025
Brass Hex Nut *(Nickel-Plated)*	0012-0028
Brass Knurled Nut *(Nickel-Plated)*	0012-0026
Star Washer *(Lockwasher)*	0012-0073



Circuitry — Single Pole

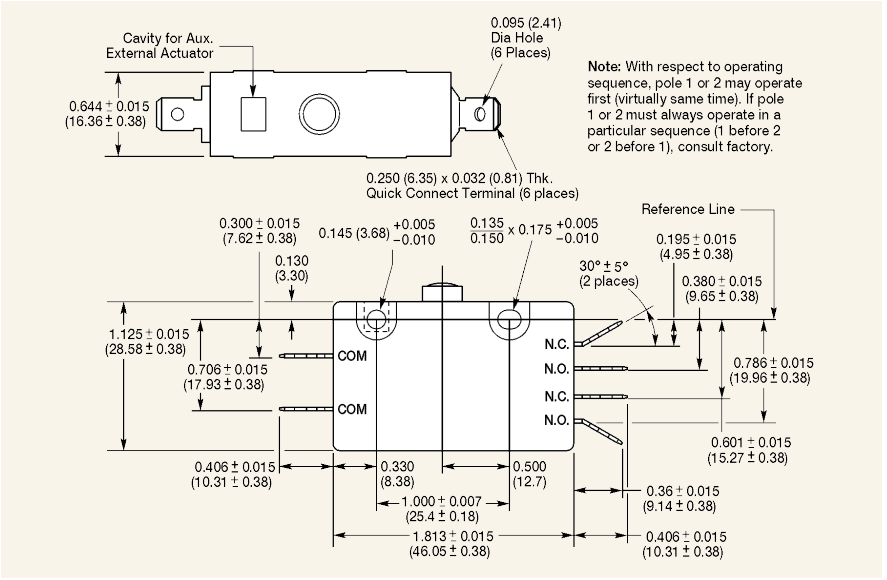
Contact arrangement available in choice of single pole double throw or single pole single throw, either normally open or normally closed. In general, normally open may be specified by changing suffix number from 00 to 01 and normally closed by changing suffix number to 02.

Example: E13-00E is double throw, E13-01E is normally open, and E13-02E is normally closed.

Terminals — Single Pole

Standard 0.250″ x 0.032″ (6.35mm x 0.81mm) [Optional 0.187″ x 0.032″ (4.75mm x 0.81mm)] QC terminals can be furnished with angle formed up or down. Forms include straight 30°, 45°, 85° up or down. Other forms can be provided.

Dimensions — Double Pole inches (mm)



Actuator Specifications — Double Pole

Series/ Prefix	Actuator Type	Switch Type	Maximum Operating Force (g)	Maximum Pretravel inches (mm)	Operating Point* inches (mm)	Minimum Overtravel inches (mm)	Each Pole Max. Movement Differential inches (mm)	Actuation Length inches (mm)
E19/G20	–00A		850	0.050 (1.27)	0.285±0.030 (7.24±0.76)	0.080 (2.03)	0.015 (0.38)	—
E20/E28			1280	0.100 (2.54)	0.248±0.030 (6.30±0.76)	0.050 (1.27)	0.015 (0.38)	—
E19/G20	–-00J		850	0.050 (1.27)	0.670±0.030 (17.02±0.76)	0.080 (2.03)	0.015 (0.38)	—
E20/E28†			1280	0.100 (2.54)	0.630±0.030 (16.00±0.76)	0.050 (1.27)	0.015 (0.38)	—
E19/G20	–00M		850	0.050 (1.27)	0.812±0.030 (20.62±0.76)	0.218 (5.54)	0.015 (.038)	—
E20/E28†			1280	0.100 (2.54)	0.774±0.030 (19.66±0.76)	0.188 (4.78)	0.015 (0.38)	—
E19/G20	–00H		205	0.275 (6.99)	0.312±0.062 (7.92±1.57)	0.187 (4.75)	0.093 (2.36)	1.500 (38.10)
E20/E28†			425	0.330 (8.38)	0.468±0.062 (11.89±1.57)	0.156 (3.96)	0.050 (1.27)	0.821 (20.85)
E19/G20	–50H		130	0.400 (10.16)	0.281±0.062 (7.14±1.57)	0.187 (4.75)	0.140 (3.56)	1.750 (44.45)
E20/E28†			285	0.600 (15.24)	0.437±0.062 (11.10±1.57)	0.156 (3.96)	0.080 (2.03)	1.071 (27.20)
E19/G20	–00K		212	0.250 (6.35)	0.718±0.062 (18.24±1.57)	0.187 (4.75)	0.093 (2.36)	1.391 (35.33)
E20/E28†			425	0.348 (8.84)	0.860±0.062 (21.84±1.57)	0.156 (3.96)	0.045 (1.14)	0.688 (17.48)
E19/G20	–50K		150	0.312 (7.92)	0.687±0.062 (17.45±1.57)	0.187 (4.75)	0.140 (3.56)	1.625 (41.28)
E20/E28†			312	0.525 (13.34)	0.828±0.062 (21.03±1.57)	0.146 (3.71)	0.075 (1.91)	0.943 (23.95)

* Measured above reference line. Refer to dimensional drawing above. **Actuator tolerance ±.0.031 inches (0.79mm).
†E20 and E28 actuators are shorter and formed up 15° at the button.
Contact factory for E25 specifications.

Ordering Information

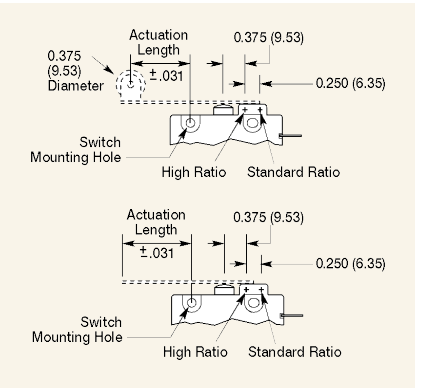
Select the current rating you need. Combine the corresponding Series/Prefix number with the appropriate suffix number for the switch you need. Note: Consult factory for part number when ordering E19A switches.

Mounting — Double Pole

Recommended mounting screw: #6-32 round head. Recommended torque on screw: 6 inch lbs. max. Recommended maximum torque for ferrule: 20 inch pounds.

Actuators — Double Pole

Standard type integral hinged lever and roller actuators are available in choice of two mounting positions. Actuation lengths are dimensioned from centerline of switch mounting hole as shown.



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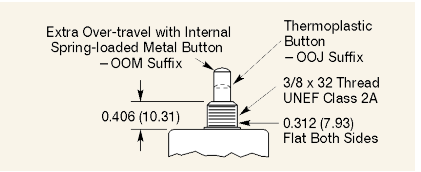
Star Washer *(Lock Washer)*	0012-0073



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Example: E19-00A is double throw, E19-01A is normally open, and E19-02A is normally closed.

Terminals — Double Pole

Standard 0.250″ x 0.032″ (6.35mm x 0.81mm) [Optional 0.187″ x 0.032″ (4.75mm x 0.81mm)] QC terminals can be furnished with angle formed up or down on common as well as open or closed terminal. Forms include straight 30°, 45°, 85° up or down. Other forms can be provided.

Specifications subject to change without notice.