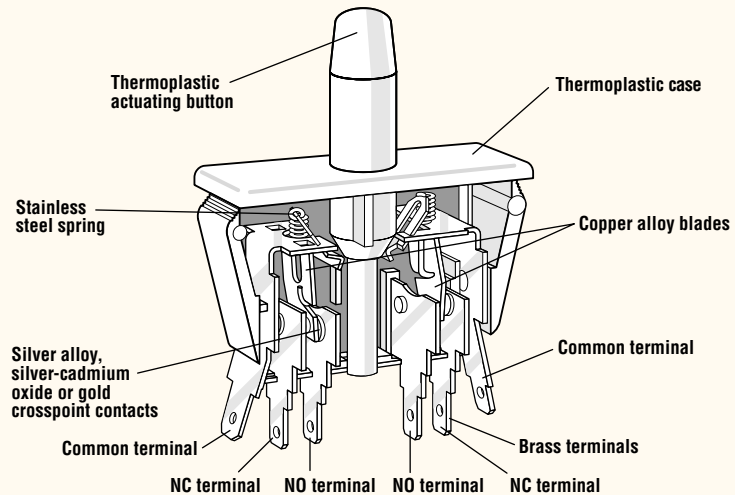


## PANEL MOUNT PUSHBUTTON — SINGLE & DOUBLE POLE

# ES

### Features

- Choice of Momentary, Push-Pull (reset) and Cheat Interlock switches
- Snap-in panel mounting
- Long-life coil spring, snap-action mechanism
- Agency approved extended-life versions available
- VDE approval available on select models (F Series)
- Various terminal forms available (consult factory)



### Electrical Rating

Switch Series	EN61058 Rating	UL1054 Rating	Electrical Life at Rated Load	
			According to VDE (Min. Operations)	According to UL (Min. Operations)
E65	N/A	16A, 125/250VAC; 1/3HP, 125/250VAC	N/A	6,000
E/F68	0.1(0.05)A, 125VAC	0.1A, 125VAC	50,000	6,000*
E/F69	10(4)A, 250VAC	10A, 125/250VAC; 1/3HP, 125/250VAC	50,000	6,000*
E/F77	0.1(0.05)A, 125VAC 10(4)A, 250VAC	0.1A, 125VAC; 10A, 1/3HP, 125/250VAC	50,000	6,000*
E/F78	0.1(0.05)A, 125VAC	0.1A, 125VAC	50,000	6,000*
E/F79	10(4)A, 250VAC	10A, 125/250VAC; 1/3HP, 125/250VAC	50,000	6,000*
E75	N/A	16A, 125/250VAC; 1/3HP, 125/250VAC	N/A	6,000

\*Indicates 100K life available.

### Specifications

#### Electrical

Temperature Rating: -40° to +85°C

Flammability Rating: UL94V-O

#### Materials

Case: Thermoplastic Polyester (*Valox used on International versions*)

Actuating Button: Thermoplastic Acetal (*Valox used on International versions*)

Terminals\*: Brass

Moving Blade: Beryllium Copper

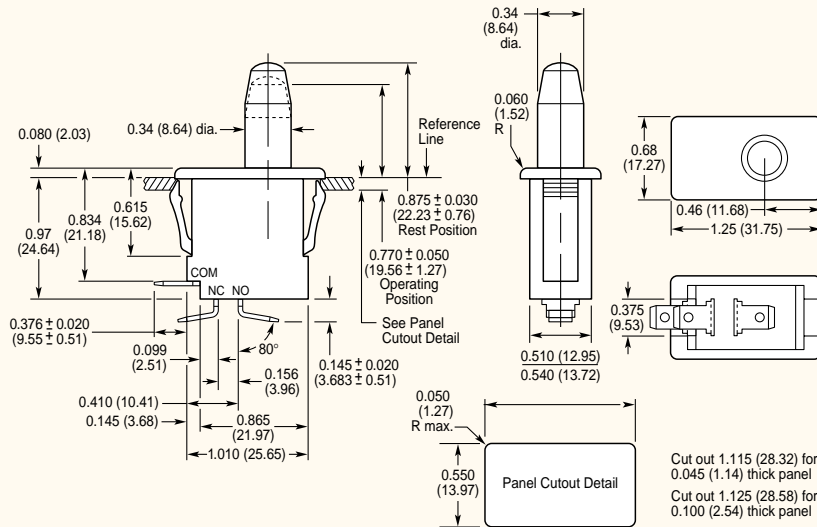
Spring: Stainless Steel

Contacts: Silver Alloy (*E65, E/F69*)  
Silver-Cadmium Oxide (*E75, E/F77, E/F79*)  
Gold Crosspoint (*E/F68, E/F77*)

\*Common terminals are plated — the remaining two terminals are not plated.



**D** — Single Pole inches (mm)



**Ae** — Single Pole

Actuator Type	Switch Type	Rest Position inches (mm)	Maximum Pre-Travel inches (mm)	Operating Point* inches (mm)	Minimum Over-Travel inches (mm)	Max. Movement Differential inches (mm)	Maximum Operating Force** (g)	Maximum Full Overtravel Position inches (mm)
<i>Basic Momentary Action</i>								
-00A		0.845–0.905 (21.46–22.99)	0.125 (3.18)	0.720–0.820 (18.29–20.83)	0.375 (9.53)	0.045 (1.14)	425	0.400 (10.16)
<i>Push-Pull (Reset)</i>								
-20A		0.920–0.980 (22.37–24.89)	0.150 (3.81)	0.800–0.900 (20.32–22.86)	0.300 (7.62)	0.045 (1.14)	285	0.500 (12.70)
<i>Momentary</i>								
-30A <sup>†</sup>		0.730–0.790 (18.54–20.07)	0.125 (3.18)	0.610–0.710 (15.49–18.03)	0.100 (2.54)	0.045 (1.14)	475	0.520 (13.21)
<i>“Cheat Interlock” (Pull out to lock)</i>								
		0.730–0.790 (18.54–20.07)	0.125 (3.18)	0.800–0.900 (20.32–22.86)	0.050 (1.27)	0.060 (1.52)	385	0.980 (24.89)
<i>Short Button Momentary</i>								
-40A		0.420–0.480 (10.67–12.19)	0.125 (3.18)	0.300–0.400 (7.62–10.16)	0.175 (4.45)	0.045 (1.14)	425	0.125 (3.18)
<i>For Auxiliary Push Button</i>								
-50A		0.420–0.480 (10.67–12.19)	0.125 (3.18)	0.300–0.400 (7.62–10.16)	0.175 (4.45)	0.045 (1.14)	425	0.125 (3.18)

\*Measured above reference line. Refer to dimensional drawing above.  
 \*\*Operating Forces listed above are for E68/E69 switches only. E65 Operating Force: 708 grams max. for momentary switches.  
<sup>†</sup>Dual function switch: Push in to operate in normal momentary mode and pull out for maintained action.

**O** — Single Pole

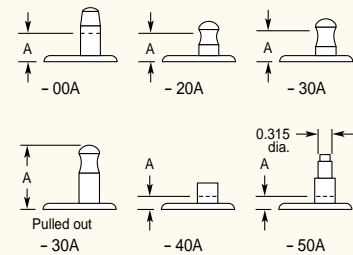
Select the current rating you need.  
 Combine the corresponding Series/Prefix number with the appropriate suffix number for the switch type, circuitry and terminals you require. Example: SPDT: E68–30A, SPST NO: E68–31A, SPST NC: E68–32A.

**A** **B** — Single Pole

–50A has button with special shaft to accept auxiliary push buttons for manual actuation. Consult factory for auxiliary buttons.

**B** **D** — Single Pole

"A" dimension (full overtravel position)



**O** — Single Pole

Double throw or single throw versions available.

Single Pole Series:  
 E65, E68/F68, E69/F69

**T** — Single Pole

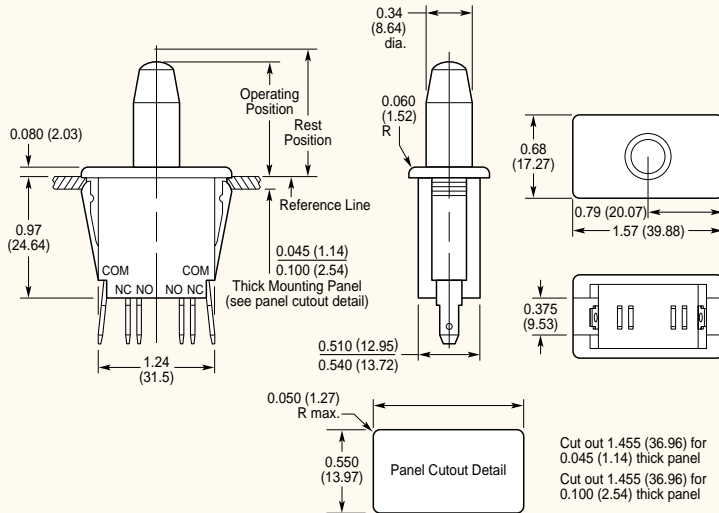
This switch series has 0.187" x 0.020" (4.75mm x 0.51mm) as standard for up to 10 amps and 0.250" x 0.032" (6.35mm x 0.81mm) for 16 amps.

Consult factory for non-standard terminal options.

**I** **a V** — Single Pole

For VDE applications, standard terminals are 0.187" x 0.032" (4.75mm x 0.81mm). Switch prefix must be "F" for VDE approved switches. Example: F68–30A was E68–30A.

### D — Double Pole inches (mm)



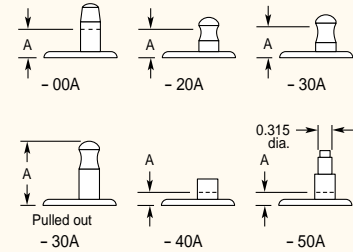
### A — Double Pole

### A B — Double Pole

–50A has button with special shaft to accept auxiliary push buttons for manual actuation. Consult factory for auxiliary buttons.

### B D — Double Pole

"A" dimension (full overtravel position)



### O — Double Pole

Double throw or single throw versions available.

Double Pole Series:  
E77/F77, E78/F78, E79/F79, E75

Actuator Type	Switch Type	Rest Position inches (mm)	Maximum Pre-Travel inches (mm)	Operating Point* inches (mm)	Minimum Overtravel inches (mm)	Max. Movement Differential inches (mm)	Maximum Operating Force** (g)	Max. Full Over-Travel Position inches (mm)
<i>Basic Momentary Action</i>								
-00A		0.845–0.905 (21.46–22.99)	0.125 (3.18)	0.720–0.820 (18.29–20.83)	0.375 (9.53)	0.075 (1.91)	680	0.400 (10.16)
<i>Push-Pull (Reset)</i>								
-20A		0.920–0.980 (23.37–24.89)	0.150 (3.81)	0.800–0.900 (20.32–22.86)	0.300 (7.62)	0.075 (1.91)	510	0.500 (12.70)
<i>Momentary</i>								
-30A†		0.730–0.790 (18.54–20.07)	0.125 (3.18)	0.610–0.710 (15.49–18.03)	0.100 (2.54)	0.075 (1.91)	757	0.520 (13.21)
<i>"Cheat Interlock" (Pull out to lock)</i>								
		0.730–0.790 (18.54–20.07)	0.155 (3.94)	0.800–0.900 (20.32–22.86)	0.030 (0.76)	0.090 (2.29)	567	0.980 (24.89)
<i>Short Button Momentary</i>								
-40A		0.420–0.480 (10.67–12.19)	0.125 (3.18)	0.300–0.400 (7.62–10.16)	0.175 (4.45)	0.075 (1.91)	680	0.125 (3.18)
<i>For Auxiliary Push Button</i>								
-50A		0.420–0.480 (10.67–12.19)	0.125 (3.18)	0.300–0.400 (7.62–10.16)	0.175 (4.45)	0.075 (1.91)	680	0.125 (3.18)

\*Measured above reference line. Refer to dimensional drawing above.  
\*\*Operating Forces listed above are for E78/E79 switches only. E75 Operating Force: 921 grams max. for momentary switches.  
†Dual function switch: Push in to operate in normal momentary mode and pull out for maintained action.

### O — Double Pole

Select the current rating you need.  
Combine the corresponding Series/Prefix number with the appropriate suffix number for the switch type, circuitry and terminals you require. Example: DPDT: E78–30A, DPST NO: E78–31A, DPST NC: E78–32A.

### T — Double Pole

This switch series has 0.187" x 0.020" (4.75mm x 0.51mm) as standard for up to 10 amps and 0.250" x 0.032" (6.35mm x 0.81mm) for 16 amps.

Consult factory for non-standard terminal options.

### I at a V — Double Pole

For VDE applications, standard terminals are 0.187" x 0.032" (4.75mm x 0.81mm).

Switch prefix must be "F" for VDE approved switches. Example: F78–30A was E68–30A.