

## SERIES 30

### SPST, 1 and 5 Amp

#### FEATURES

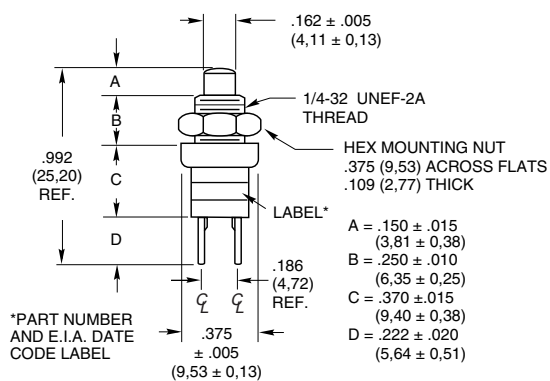
- Reliable
- Economical
- Large Selection
- UL Recognized
- CSA Certified
- Sealed Bushing and Pushbutton Option



#### DIMENSIONS In Inches (and millimeters)

##### Normally Open-SPST Standard, Economy and UL Recognized

30-1  
30-1UL  
30-3  
30-3UL  
30-601\*



##### Standard

Rating at 115 Vac Resistive	Rating at 220 Vac Resistive	Operations at Rated Load	Part Number	Button Color
1 Amp	0.5 Amp	1,000,000	30-1 30-3	Red Black
Action	Total Travel	Actuating Force (oz.)	Mtg. Hole	
Momentary	$.062 \pm .010$ (1,57 $\pm$ 0,25)	10 $\pm$ 4	17/64" (6,75)	

##### Economy Version

Electrical Ratings		Operations at Rated Load	*Complete Part Number	Button Color
At 5 Vdc 150 mA	At 20 Vdc 20 mA	1,000,000	30-601 RED 30-601 BLK	Red Black
Action	Total Travel	Actuating Force (oz.)	Mtg. Hole	
Momentary	$.062 \pm .010$ (1,57 $\pm$ 0,25)	10 $\pm$ 4	17/64" (6,75)	

##### UL Recognized

Rating at 120 Vac Resistive	Rating at 220 Vac Resistive	Operations at Rated Load	Part Number	Button Color
5 Amp	2.5 Amp	6,000	30-1UL 30-3UL	Red Black
Action	Total Travel	Actuating Force (oz.)	Mtg. Hole	
Momentary	$.062 \pm .010$ (1,57 $\pm$ 0,25)	10 $\pm$ 4	17/64" (6,75)	

### Normally Closed–SPST and UL Recognized

Technical drawing of a mounting nut assembly. The drawing shows a side view of the assembly with various dimensions and labels.

**Dimensions and Tolerances:**

- Top diameter:  $.162 \pm .005$  (4,11  $\pm$  0,13) DIA.
- Section A:  $.150 \pm .015$  (3,81  $\pm$  0,38)
- Section B:  $.250 \pm .010$  (6,35  $\pm$  0,25)
- Section C:  $.375 \pm .015$  (9,53  $\pm$  0,38)
- Section D:  $.230 \pm .020$  (5,84  $\pm$  0,51)
- Bottom diameter:  $.375 \pm .005$  (9,53  $\pm$  0,13)
- Bottom section:  $.230$  REF. (5,8)
- Overall height: 1.005 (25,53) REF.

**Labels and Features:**

- 1/4-32 UNEF-2A THREAD
- HEX MOUNTING NUT
- .375 (9,53) ACROSS FLATS
- .109 (2,77) THICK
- LABEL\*

**Notes:**

- \*PART NUMBER AND E.I.A. DATE CODE LABEL

Rating at 115 Vac Resistive	Rating at 220 Vac Resistive	Operations at Rated Load	Part Number	Button Color
1 Amp	1/2 Amp	1,000,000	30-2 30-6	Black Red

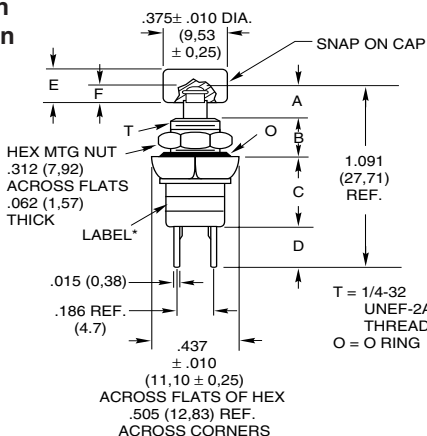
Action	Total Travel	Actuating Force (oz.)	Mtg. Hole
Momentary	.065 + .010/ - .015 (1,65 + 0,25/ - 0,38)	8 ± 4	17/64" (6,75)

Rating at 120 Vac Resistive	Rating at 220 Vac Resistive	Operations at Rated Load	Part Number	Button Color
5 Amp	—	6,000	30-2UL 30-6UL	Black Red

Action	Total Travel	Actuating Force (oz.)	Mtg. Hole
Momentary	.065 + .010/ - .015 (.1,65 + 0,25/ - 0,38)	8 ± 4	17/64" (6,75)

## 30-251\*

A = .209 ± .015  
(5,31 ± 0,38)  
B = .250 ± .010  
(6,35 ± 0,25)  
C = .410 ± .015  
(10,41 ± 0,38)  
D = .222 ± .020  
(5,64 ± 0,51)  
E = .187 ± .010  
(4,75 ± 0,25)  
F = .100 ± .010  
(2,54 ± 0,25)



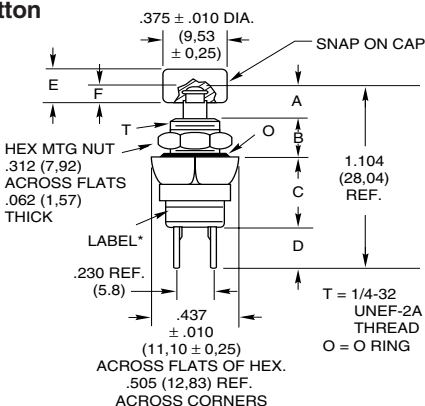
\*PART NUMBER  
AND E.I.A. DATE  
CODE LABEL

Rating at 115 Vac Resistive	Rating at 220 Vac Resistive	Operations at Rated Load	*Complete Part Number	Button Color
1 Amp	1/2 Amp	250,000	30-251 RED 30-251 BLK	Red Black

Action	Total Travel	Actuating Force (oz.)	Mtg. Hole
Momentary	.062 ± .020 (1,57 ± 0,51)	30 ± 8	17/64" (6,75)

## 30-252\*

A = .209 ± .015  
(5,31 ± 0,38)  
B = .250 ± .010  
(6,35 ± 0,25)  
C = .415 ± .015  
(10,54 ± 0,38)  
D = .230 ± .015  
(5,84 ± 0,38)  
E = .187 ± .010  
(4,75 ± 0,25)  
F = .100 ± .010  
(2,54 ± 0,25)



\*PART NUMBER  
AND E.I.A. DATE  
CODE LABEL

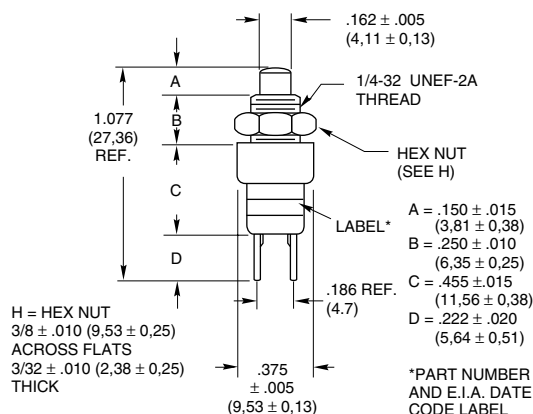
Rating at 115 Vac Resistive	Rating at 220 Vac Resistive	Operations at Rated Load	*Complete Part Number	Button Color
1 Amp	½ Amp	250,000	30-252 RED 30-252 BLK	Red Black

Action	Total Travel	Actuating Force (oz.)	Mtg. Hole
Momentary	.065 ± .010 (.65 ± 0.25)	12 ± 4	17/64" (.675)

# **DIMENSIONS** In Inches (and millimeters)

## **Normally Open-SPST With Overtravel**

30-15  
30-37

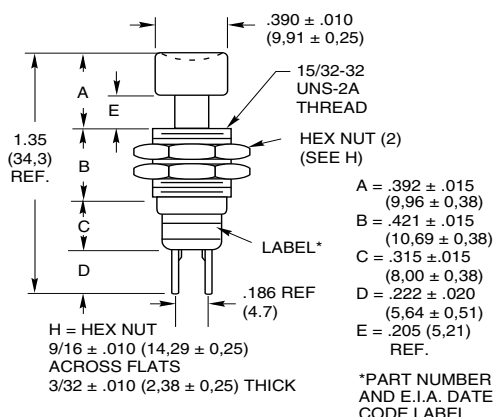


Rating at 115 Vac Resistive	Rating at 220 Vac Resistive	Operations at Rated Load	Part Number	Button Color
1 Amp	1/2 Amp	500,000	30-15 30-37	Red Black

Action	Total Travel	Actuating Force (oz.)	Mtg. Hole
Momentary .020" Overtravel	.125 ± .020 / - .010 (3,18 ± 0,51 / - 0,25)	8 ± 4	17/64" (6,75)

## **Normally Open-SPST With Positive Feel**

30-17\*

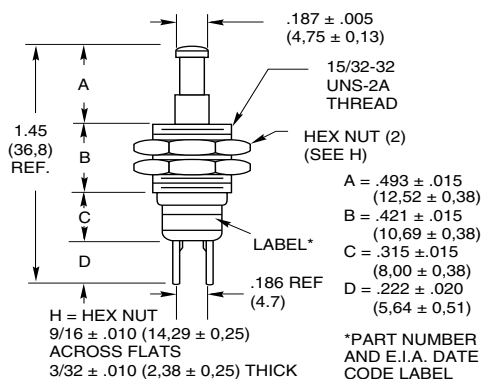


Rating at 115 Vac Resistive	Rating at 220 Vac Resistive	Operations at Rated Load	*Complete Part Number	Button Color
1 Amp	1/2 Amp	200,000	30-17 RED 30-17 BLK	Red Black

Action	Total Travel	Over Travel	Actuating Force (oz.)	Mtg. Hole
Momentary Pos. Feel	.156 ± .015 (3,96 ± 0,38)	.046 (1,17) Min.	18 ± 4	31/64" (12,30)

## **Normally Open-SPST With Push-Pull**

30-16\*

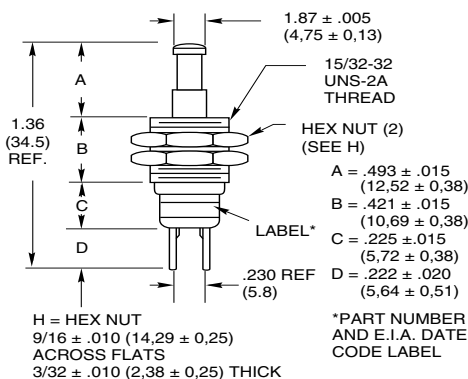


Rating at 115 Vac Resistive	Rating at 220 Vac Resistive	Operations at Rated Load	*Complete Part Number	Button Color
1 Amp	1/2 Amp	100,000	30-16 RED 30-16 BLK	Red Black

Action	Total Travel	Actuating Force (oz.)	Mtg. Hole
Push-to-Make	.145 ± .015 (3,68 ± 0,38)	56 ± 16	31/64" (12,30)

## DIMENSIONS In Inches (and millimeters)

### Normally Closed-SPST With Push-Pull 30-32



Rating at 115 Vac Resistive	Rating at 220 Vac Resistive	Operations at Rated Load	Part Number	Button Color
1 Amp	1/2 Amp	100,000	30-32 RED 30-32 BLK	Red Black
Action	Total Travel	Actuating Force (oz.)	Mtg. Hole	
Pull-to-Make	.145 ± .015 (3,68 ± 0,38)	56 ± 16	31/64" (12,30)	

## SPECIFICATIONS

### Rating Criteria

For UL recognized switches, see individual switch chart. File number is E35289.

**Contact Resistance:** 25 milliohms maximum on a new switch

**Voltage Breakdown:** 1,000 Vac between mutually insulated parts

**Insulation Resistance:** 1,000 megohms minimum

**Operating Temperature:** -40° to +85°C

**Mounting Torque:** 2 inch-pounds

### Switch Materials and Finishes

**Mounting Nut and Cover Bushing:** Brass, tin zinc

**Base:** Thermoset plastic

**Button:** Polyester for 30-16 and 30-32; Phenolic for 30-17, 30-1UL, 30-2, 30-2UL, 30-3UL, 30-6 and 30-6UL; Polycarbonate for all others.

**Shorting Bar:** Brass with gold over nickel plating for 30-601; brass with fine silver contact surface for all others.

**Terminals:** Brass with gold over nickel plating for 30-601; commercial brass with fine silver contact surface and silver-plated for all others.

**Spring:** Tinned music wire

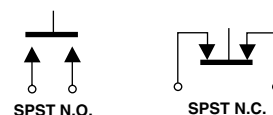
**Button Cap:** Nylon for 30-17; Polyethylene for 30-251 and 30-252.

**Detent Balls:** Carbon steel, nickel-plated

**Terminal Type:** Solder lug

**O-Ring Seal:** (30-251, 30-252) Nitrile per MIL-P-5516

## CIRCUITRY



## ORDERING INFORMATION

Part Number	Description and Button Color
30-1*	N.O., Standard, Red
30-2*	N.C., Standard, Black
30-3*	N.O., Black
30-6*	N.C., Red
30-15	N.O., Overtravel, Red
30-16 BLK	Push to Make, Black
30-16 RED	Push to Make, Red
30-17 BLK	N.O., Positive Feel, Black
30-17 RED	N.O., Positive Feel, Red
30-32 BLK	Pull to Make, Black
30-32 RED	Pull to Make, Red
30-37 BLK	N.O., Overtravel, Black
30-251 BLK	N.O., Sealed, Black
30-251 RED	N.O., Sealed, Red
30-252 BLK	N.C., Sealed, Black
30-252 RED	N.C., Sealed, Red
30-601 BLK	N.O., Economy, Black
30-601 RED	N.O., Economy, Red

## ACCESSORIES



### Decorative Mounting Nuts

Part Number 30C1023-1 is made for switches with 1/4" (6,35) inch diameter bushings. It may be used with the following Series 30 switches: 30-1, 30-1 UL, 30-2, 30-2 UL, 30-3, 30-6, 30-15, 30-37, 30-251 BLK, 30-251 RED, 30-252 BLK, 30-252 RED, 30-601 BLK and 30-601 RED.

Part Number 07C1040-1 is made for switches with 15/32" (11,91) inch diameter bushings. It may be used with the following Series 30 switches: 30-16 BLK, 30-16 RED, 30-17 BLK, 30-17 RED, 30-32 BLK and 30-32 RED.

**For the dimensions, materials and finishes of these decorative mounting nuts, see page E-36.**

## STANDARD OPTIONS

Decorative mountings, see pages E-24 to E-26.

### Button Cap and Guard

The button cap is available in 3 colors: part number 30B1012-5 is red; part number 30B1012-8 is white; and part number 30B1012-9 is black. It may be fastened to the button with adhesive. It may be used with the following Series 30 switches: 30-1, 30-1UL, 30-2, 30-2UL, 30-3, 30-3UL, 30-15, 30-37, 30-601 BLK, and 30-601 RED.

The button guard, part number 10C1015-1 is made to be used with 15/32" (11,91) inch diameter switches to prevent unintentional actuation. It may be used with the following Series 30 switches: 30-16 BLK, 30-16 RED, 30-17 BLK, 30-17 RED, 30-32 BLK, and 30-32 RED.

**For the dimensions, materials and finishes of the button cap and guard, see page E-36.**

Accessory Part Number	Description
30B1012-5	Accessory Cap, Red
30B1012-8	Accessory Cap, White
30B1012-9	Accessory Cap, Black
30C1023-1	Accessory Nut
07C1040-1	Accessory Nut
10C1015-1	Button Guard

\*Add "UL" suffix to part number for UL recognized switches.

**Available from your local Grayhill Distributor.**  
For prices and discounts, contact a local Sales Office, an authorized local Distributor or Grayhill.