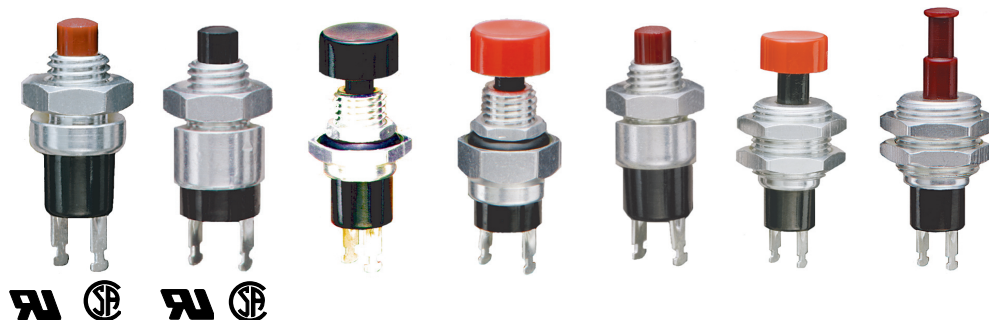


SERIES 30

SPST, 1 and 5 Amp

FEATURES

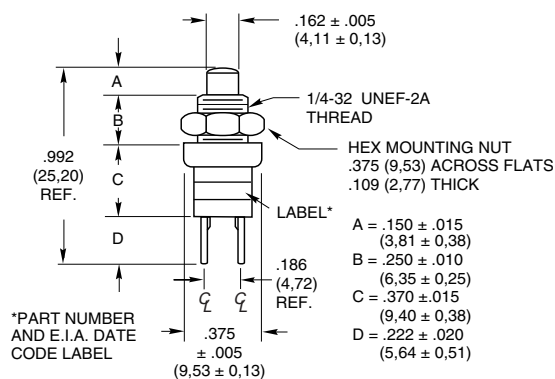
- Reliable
- Economical
- Large Selection
- UL Recognized
- CSA Certified
- Sealed Bushing and Pushbutton Option



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 | | 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 ± 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 ± 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 | — | 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 ± 4 | $17/64"$ $(6,75)$ | |

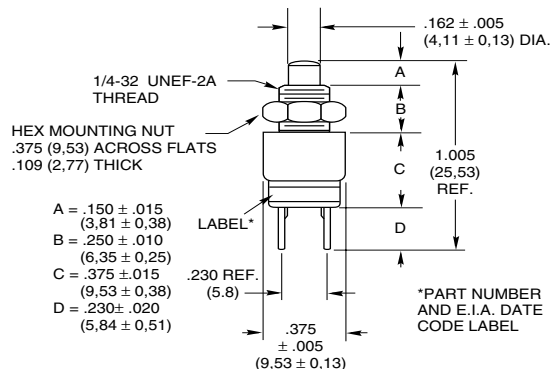


Butt Contact Pushbutton Switches

DIMENSIONS in inches (and millimeters)

Normally Closed–SPST and UL Recognized

30-2
30-2UL
30-6
30-6UL



Normally Closed–SPST

| 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) |

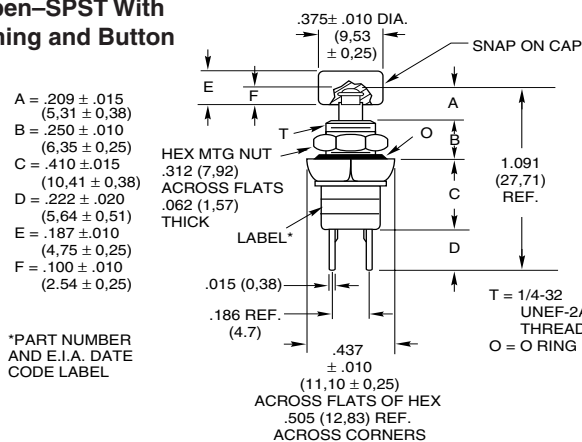
UL Recognized

| 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) |

Normally Open–SPST With Sealed Bushing and Button

30-251*

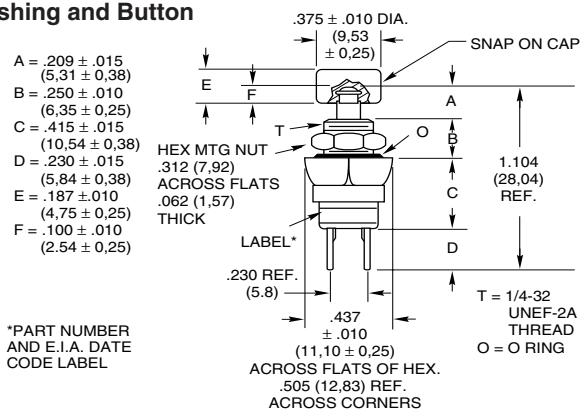


| Rating at 115 Vac Resistive | Rating at 220 Vac Resistive | Operations at Rated Load | *Complete Part Number | Button Color |
|-----------------------------|-----------------------------|--------------------------|--------------------------|--------------|
| 1 Amp | 1/2 Amp | 250,000 | 30-251 RED 30-251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

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

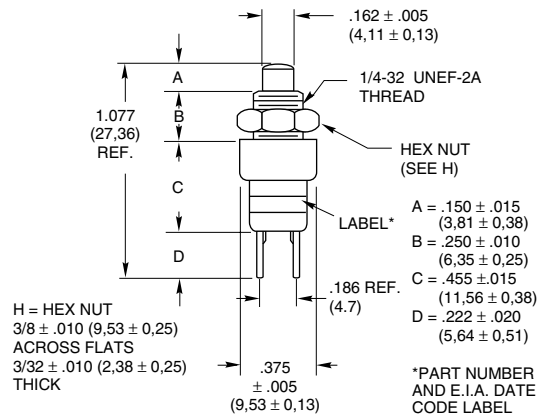
Normally Closed–SPST With Sealed Bushing and Button

30-252*



| 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 | 30-252 RED 30-252 BLK | Red Black |

| Action | Total Travel | Actuating Force (oz.) | Mtg. Hole |
|-----------|------------------------------|-----------------------|------------------|
| Momentary | .065 ± .010 (1,65 ± 0,25) | 12 ± 4 | 17/64" (6,75) |

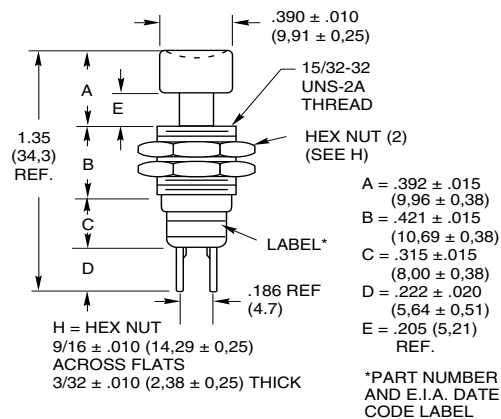
DIMENSIONS in inches (and millimeters)**Normally Open–SPST With Overtravel**30-15
30-37

| 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*

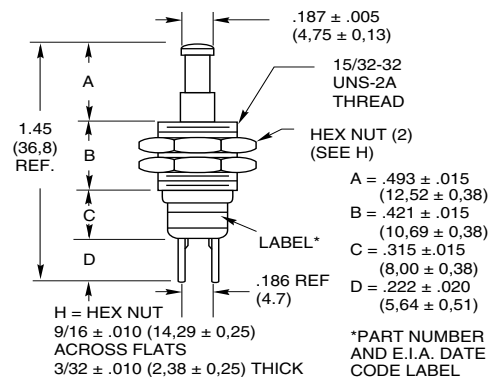


| Rating at 115 Vac Resistive | Rating at 220 Vac Resistive | Operations at Rated Load | *Complete Part Number | Button Color |
|-----------------------------|-----------------------------|--------------------------|------------------------|--------------|
| 1 Amp | 1/2 Amp | 200,000 | 30-17 RED 30-17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

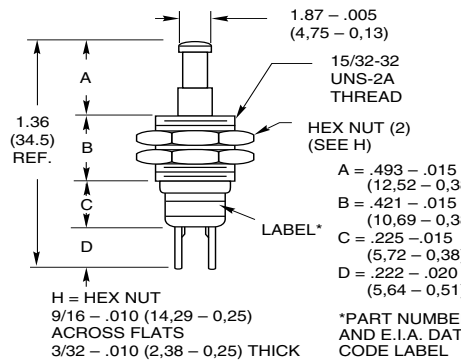


Butt Contact Pushbutton Switches

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

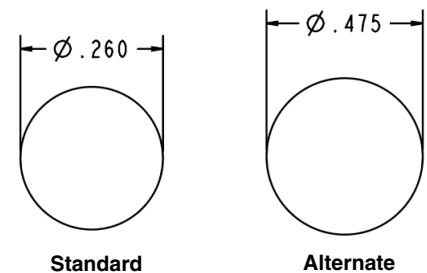
Button Cap: Nylon for 30-17; Polyethylene for 30-251 and 30-252.

Detent Balls: Carbon steel, nickel-plated

Terminal Type: Solder lug

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

RECOMMENDED PANEL CUTOUT



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.

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.

CIRCUITRY



| 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.



Pushbutton Engineering Information

Pushbutton switches are selected not only by their ratings, but also by their contact type. While nearly all rotary switches and DIP switches have wiping contacts, pushbutton switches may have either wiping or butt contacts (see internal views below).

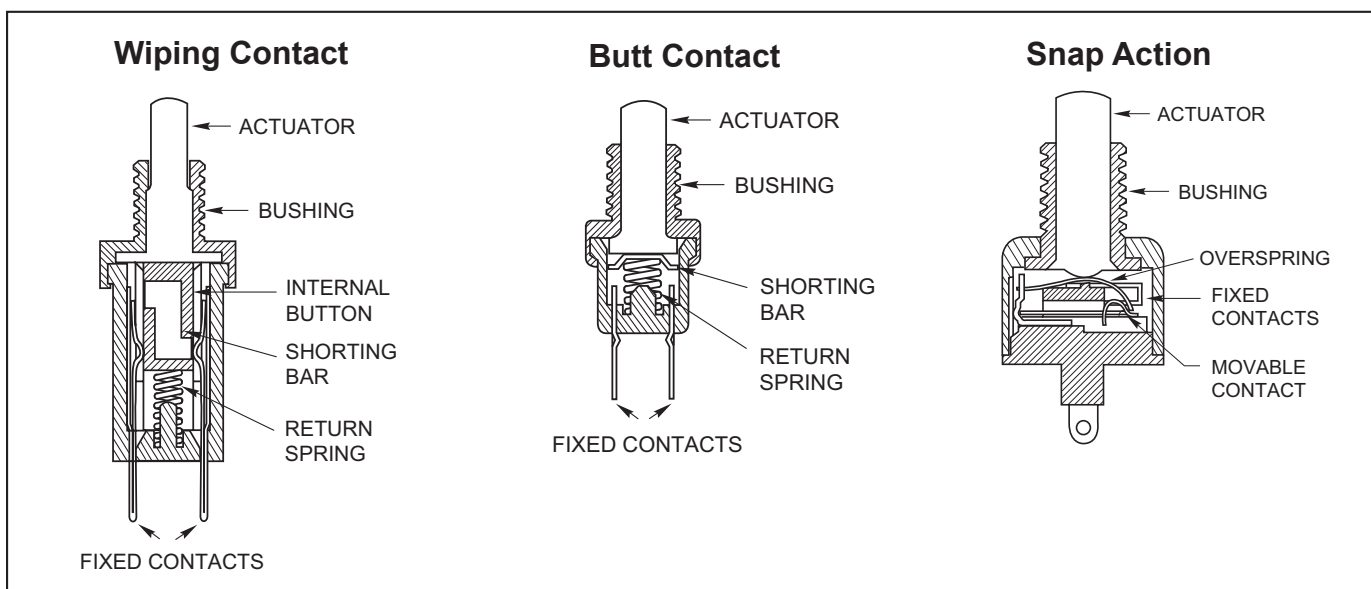
Wiping Contacts are self-cleaning and usually provide a low resistance in circuits where contact resistance is critical. However, the wiping action creates mechanical wear and conductive wear products.

Butt Contacts have less wear than wiping contacts and therefore, have a longer life. They are also smaller. Butt contacts are not self-cleaning, so their contact resistance can vary from operation to operation.

Snap Action switches are basically butt contact switches with a spring mechanism which provides the make and break. The mechanism controls both the operating point and the rate of operation, but adds to the wear of

the switch. The rapid rate of make and break means that these switches are appropriate for high current loads. They usually have a slight wiping action and contact surfaces made of precious metals to minimize their disadvantages.

Internal Views of Pushbutton Switches



Switch Terminology

Actuator: The part of the switch to which an external force is applied to operate the switch.

Alternate Action (Push-Push) Switch: A switch in which the operable position is maintained after the first actuation, and then disengaged with the second operation.

Break-Before-Make Switch (BBM): A double throw switch in which the moving contact breaks the connection with the first circuit before making contact with the second; also called non-shorting switch.

Double Throw Switch: A switch which has a normally open as well as a normally closed circuit per pole.

Joystick Action Switch: (From Joystick, the control for an airplane). A lever switch which operates with momentary action in 4 directions, and is disengaged in the upright position.

Make-Before-Break Switch (MBB): A double throw switch in which the contacts makes connection with the second circuit before breaking contact with the first; also called shorting switch.

Maintained Contact Switch: A switch in which the actuator remains in a position until it is actuated to another position where it also remains until actuated. Example: Push-Pull Switch.

Momentary Contact Switch: A switch in which the shorting bar returns from its operated position to its normal or free position when the actuating force is removed.

Operating Position or Point: The position of the actuator when the desired electrical action (make or break of contact) occurs.

N.C., Normally Closed: Switch in which the circuit is closed without actuation (with actuator in the "normal" position).

N.O., Normally Open: Switch in which the circuit is open without actuation (with actuator in the "normal" position).

Overtravel: The distance or angle between the operating position and the extreme position to which the actuator may be moved.

Pole: An electrically isolated circuit within a switch; a common terminal and all the selected terminals to which it connects.

Pretravel: The distance or angle through which the actuator moves from its free position to its electrical operating position.

Single Throw Switch: A switch which has only one normally open or one normally closed circuit per pole.

Throw: See Single Throw and Double Throw.



| Circuitry* | Rating (Amps at 115 Vac Res.) | Operations At Rating | Maximum Width*** inch (mm) | Features | Series |
|------------|-------------------------------------|-------------------------|----------------------------------|----------|--------|
|------------|-------------------------------------|-------------------------|----------------------------------|----------|--------|

Butt Contact

| | | | | | | |
|-------------|--------------|--------------|-----------|---------------|--|----|
| SPST | N.O. or N.C. | 5 | 6,000 | 3/8 (9,53) | UL Listed | 30 |
| | N.O. or N.C. | 1 | 1,000,000 | 3/8 (9,53) | Momentary, Terminal Seal, (Wire Leads Optnl.) | 30 |
| | N.O. | 1 | 500,000 | 3/8 (9,53) | Overtravel, Terminal Seal, (Wire Leads Optnl.) | 30 |
| | N.O. | 1 | 200,000 | 11/16 (17,46) | Positive Feel, Overtravel, Terminal Seal, (Wire Leads Optional) | 30 |
| | On or Off | 1 | 100,000 | 11/16 (17,46) | Push/Pull Action (Maintained) | 30 |
| | N.O. or N.C. | 1 | 250,000 | 1/2 (12,7) | Watertight, Terminal Seal, (Wire Leads Optnl.) | 30 |
| | N.O. | 1 | 1,000,000 | 11/16 (17,46) | Square & Round Bezels | 30 |
| | N.O. or N.C. | 1 | 1,000,000 | 1+ (25,4) | Square Bezel Panel Mount | 30 |
| | N.O. | 1 | 200,000 | 11/16 (17,46) | Pos. Feel, Overtravel, Square & Round Bezels | 30 |
| | N.O. | 1 | 200,000 | 11/16 (17,46) | Pos. Feel, Overtravel, Sq. Bezel Panel Mount | 30 |
| | N.O. | .020** | 80,000 | 5/16+ (8,13) | Miniature, Surface Mount | 38 |
| | N.O. | .020** | 80,000 | 5/16+ (8,13) | Miniature, Horizontal PC Mount | 38 |
| | N.O. | .020** | 80,000 | 5/16+ (8,13) | Miniature, Vertical to PC Mount | 38 |
| | N.O. or N.C. | .250 | 100,000 | 1/4 (6,35) | Sealed Plunger, Stackable with LEDs | 32 |
| | N.O. | .500 | 1,000,000 | 1/4 (6,35) | Miniature | 39 |
| | N.O. | .500 | 500,000 | 1/2 (12,7) | Overtravel, Miniature Limit Switch, (Wire Leads Optional) | 39 |
| | N.O. | .500 | 100,000 | 1/2 (12,7) | Overtravel, Miniature, (Wire Leads Optional) | 39 |
| | N.O. | .500 | 250,000 | 5/16 (7,94) | Watertight Seal, Miniature, (Wire Leads Optional) | 39 |
| | N.C. | .250 | 250,000 | 1/4 (6,35) | Miniature (Wire Leads Optional) | 39 |
| | N.C. | .250 | 100,000 | 5/16 (7,94) | Watertight Seal, Miniature, (Wire Leads Optnl.) | 39 |
| | N.C. | .250 | 100,000 | 1/2 (12,7) | Actuator Seal, Miniature Limit Switch (Wire Leads Optional) | 39 |
| | N.O. | .150** | 1,000,000 | 1/4 (6,35) | PC Mount, Miniature, Sealed | 39 |
| | N.O. | .150** | 1,000,000 | 1/4 (6,35) | PC Mount, Miniature, Right Angle, Cap Seal | 39 |
| | N.O. | .150** | 100,000 | 1/4 (6,35) | PC Mount, Miniature, Overtravel | 39 |
| | N.O. | .020, .150** | 1,000,000 | 3/8 (9,53) | Economical Contact Plating | 30 |
| | N.O. | .020, .150** | 1,000,000 | 3/8 (9,53) | Econ. Plating, Square Bezel Panel Mount | 30 |
| | N.O. | .020, .150** | 1,000,000 | 1/4 (6,35) | Economical Contact Plating | 39 |
| | N.O. | .020, .150** | 100,000 | 1/2 (12,7) | Actuator Seal, Overtravel, Miniature Limit Switch, (Wire Leads Optional) | 39 |
| SPDT | BBM | .250 | 100,000 | 1/4 (6,35) | SPST AND SPDT, Stackable w/LEDs | 32 |
| | BBM | .250 | 500,000 | 1/2 (12,7) | PC Mount, 2 Circuits, Right Angle, Total Seal | 39 |
| | BBM | .020** | 80,000 | 5/16 (8,13) | Miniature, Surface Mount | 38 |

Wiping Contact

| | | | | | | |
|-------------|--------------|------|---------|---------------|--|---------|
| SPST | N.O. or N.C. | 3 | 6,000 | 13/16 (20,6) | Decorator Line | 4000/10 |
| | N.O. or N.C. | 1 | 100,000 | 13/16 (20,6) | Momentary Action & Positive Feel Types | 4000/10 |
| | N.O. | .250 | 100,000 | 1/2 (12,7) | Momentary Action & Terminal Seal Types | 23 |
| | N.O. | .4VA | 40,000 | .177 (4,5) | Process Sealed, Subminiature | 49 |
| SPDT | BBM or MBB | .250 | 250,000 | 7/16 (11,11) | Momentary Action | 46 |
| | BBM or MBB | .250 | 250,000 | 1+ (25,4+) | Square Bezel Panel Mount | 46 |
| | BBM or MBB | .250 | 100,000 | 1/2 (12,7) | Watertight Seal | 46 |
| | BBM | .250 | 250,000 | 11/16 (17,46) | Square & Round Bezels | 46 |
| | BBM | .250 | 250,000 | 11/16 (17,46) | Alternate Action, Square & Round Bezels | 46 |
| | BBM | .250 | 250,000 | 1+ (25,4+) | Alternate Action, Square Bezel Panel Mount | 46 |
| | N.O. | .4VA | 40,000 | .177 (4,5) | Process Sealed, Subminiature | 49 |
| DPDT | BBM or MBB | .250 | 100,000 | 5/8 (15,88) | Momentary Action | 46 |
| | BBM | .250 | 250,000 | 13/16 (20,6) | Environmental Seal/Wire Leads | 46 |
| | BBM or MBB | .250 | 100,000 | 11/16 (17,46) | Watertight Seal | 46 |
| | BBM | .250 | 250,000 | 11/16 (17,46) | Square & Round Bezel & Positive Feel Types | 46 |
| | BBM | .250 | 250,000 | 11/16 (17,46) | Alternate Action, Square & Round Bezels | 46 |
| | BBM or MBB | .250 | 250,000 | 1+ (25,4+) | Alternate Action, Square Bezel Panel Mount | 46 |

Snap Action Contact

| | | | | | | |
|-------------|--------------|-------|--------|-------------|-------------------|---------|
| SPST | N.O. or N.C. | 1, 3 | 25,000 | 7/8 (22,23) | SPST, 1 and 3 Amp | 4000/10 |
| SPDT | BBM | 5, 10 | 25,000 | 7/8 (22,23) | Audible Click | 2000/7 |

* BBM is Break-Before-Make (Non-Shorting). MBB is Make-Before-Break (Shorting).

** Rated for 28 Vdc and/or 5 Vdc (.150 A) and 20 Vdc (.020 A).

*** Maximum width behind panel or above PC board rounded to next highest 1/16" (1,59 mm).



Pushbutton Options and Accessories

SEALED TERMINAL AND WIRE LEAD OPTIONS OPTION -E AND -EW

FEATURES

- 1/4, 1/2, and 1 Amp
- Limit, Overtravel, or Panel Seal
- Butt or Wiping Contact
- Normally Open or Normally Closed
- Momentary or Push/Pull
- Series 23, 30, 39 and 46



Option -E
Epoxy-Sealed
Terminals



Option -EW,
Potted Base & 6"
Wire Leads

SPECIFICATIONS

Rating Criteria

Make and Break Current Rating: See page for standard part number

Contact Resistance: 25 milliohms maximum on a new switch. Less than 4 milliohms per inch of wire for wire lead option styles.

Insulation Resistance: 1,000 megohms minimum between mutually insulated parts

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

Materials and Finishes

Potting Sleeve (Series 39): Thermoset Plastic

Wire Leads: #26AWG, (.99mm diameter) insulated Teflon, Copper stranded wire, per MIL-W-16878, Type E. Ends are stripped 0.250" (6.35) and solder dipped. For other specifications, see Page References.

| Standard Part Number Red Button | Standard Part Number Black Button | Choices of Suffix | Length Behind Panel In inches (and millimeters) | |
|---------------------------------------|---|-------------------------|--|-------------------|
| | | | Standard Switch & Terminals | -EW Style Body |
| 23-1 | 23-4 | -E | 0.665 (16,89) | — |
| 30-1 | 30-3 | -E, -EW | 0.592 (15,04) | 0.645 (16,38) |
| 30-15 | 30-37 | -E, -EW | 0.679 (17,25) | 0.728 (18,49) |
| 30-17 RED | 30-17 BLK | -E, -EW | 0.958 (24,33) | 1.007 (25,58) |
| 30-16 RED | 30-16 BLK | -E, -EW | 0.958 (24,33) | 1.007 (25,58) |
| 30-251 RED | 30-251 BLK | -E, -EW | 0.632 (16,05) | 0.685 (17,40) |
| 30-252 RED | 30-252 BLK | -E, -EW | 0.645 (16,38) | 0.700 (17,78) |
| 30-32 RED | 30-32 BLK | -E, -EW | 0.867 (22,02) | 0.896 (22,76) |
| 30-6 | 30-2 | -E, -EW | 0.605 (15,37) | 0.640 (16,26) |
| 30-601 RED | 30-601 BLK | -E, -EW | 0.592 (15,04) | 0.645 (16,38) |
| 39-1* | 39-3* | -EW** | 0.315 (8,00) | 0.440 (11,18) |
| 39-12* | 39-2 | -E, -EW | 0.490 (12,45) | 0.575 (14,61) |
| 39-101 | 39-24* | -EW** | 0.455 (11,56) | 0.575 (14,61) |
| 39-351 RED | 39-351 BLK | -EW** | 0.650 (16,51) | 0.775 (19,69) |
| 39-352 RED* | 39-352 BLK* | -E, -EW | 0.350 (8,89) | 0.450 (11,43) |
| 39-601 RED | 39-601 BLK | -E, -EW | 0.529 (13,44) | 0.630 (16,00) |
| 39-701*** | — | -EW* | 0.315 (8,00) | 0.440 (11,18) |
| 39-702*** | — | -EW** | 0.800 (20,32) | 0.925 (23,50) |
| 46-101 RED | 46-101 BLK | -E, -EW | 0.510 (12,95) | 0.750 (19,05) |
| 46-102 RED | 46-102 BLK | -E, -EW | 0.890 (22,61) | 0.957 (24,31) |
| 46-110 RED | 46-110 BLK | -E, -EW | 0.890 (22,61) | 0.957 (24,31) |
| 46-111 RED | 46-111 BLK | -E, -EW | 0.890 (22,61) | 0.957 (24,31) |
| 46-150 RED | 46-150 BLK | -E, -EW | 0.890 (22,61) | 0.957 (24,31) |
| 46-151 RED | 46-151 BLK | -E, -EW | 0.957 (24,31) | 1.024 (26,01) |
| 46-200 RED | 46-200 BLK | -E | 0.957 (24,31) | 1.024 (26,01) |
| 46-201 RED | 46-201 BLK | -E | 0.921 (23,39) | — |
| 46-270 RED | 46-270 BLK | -E | 0.921 (23,39) | — |
| 46-271 RED | 46-271 BLK | -E | 0.957 (24,31) | — |

*Epoxy potting sleeve enlarges the diameter of the -EW style to 0.300 (7,62).

**Sealed terminal (-E) option is not necessary; terminals have sealed construction.

***Natural Color Button

†Adjustable from 1.214 (30,84) to 1.334 (33,88) dependent on button height, see switch pages.

ORDERING INFORMATION

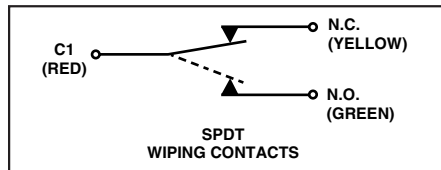
Use the Selector Charts at the beginning of the section to select a series. Use the pages listed there or referenced here to select a switch.

To order epoxy sealed terminals, add the suffix -E to the selected part number as allowed in the chart. **Example:** 30-1-E.

To order the epoxy-potted version with 6-inch wire leads, use the suffix -EW as allowed in the chart. **Example:** 39-1-EW

Available From Your Local Grayhill Distributors. For prices and discounts, contact a local Sales Office, an authorized local Distributor or Grayhill.

CIRCUITRY: Series 46



| Standard Part Number Without Options Choice of Button Color (see switch pages) | Standard Part Number Choice of Button Color (see switch pages) | Choices of Options | Length Behind Panel In inches (and millimeters) | |
|--|--|--------------------------|--|-------------------|
| | | | Standard Switch & Terminals | -EW Style Body |
| — | 30-001-A-XX | -E, -EW | 1.119 (28,42) | 1.172 (29,77) |
| — | 30-002-A-XX | -E, -EW | 1.132 (28,75) | 1.167 (29,64) |
| — | 30-015-A-XX | -E, -EW | 1.204 (30,58) | 1.253 (31,83) |
| — | 30-017-A-XX | -E, -EW | Adjustable† | Adjustable† |
| 30-01-01-500-XX | 30-1-1-50-XX | -E, -EW | 1.100 (27,94) | 1.153 (29,29) |
| 30-01-04-500-XX | 30-1-4-50-XX | -E, -EW | 1.257 (31,93) | 1.310 (33,27) |
| 30-05-01-502-XX | 30-5-1-52-XX | -E, -EW | 0.930 (23,62) | 0.983 (24,97) |
| 30-05-04-502-XX | 30-5-4-52-XX | -E, -EW | 1.130 (28,70) | 1.183 (30,05) |
| — | 30-601-A-XX | -E, -EW | 1.119 (28,42) | 1.172 (29,77) |
| 46-01-07-500-XX | 46-1-7-50-XX | -E, -EW | 1.451 (36,86) | 1.518 (38,56) |
| 46-01-08-500-XX | 46-1-8-50-XX | -E | 1.381 (35,08) | — |
| 46-01-09-500-XX | 46-1-9-50-XX | -E | 1.381 (35,08) | — |
| 46-05-05-502-XX | 46-5-5-52-XX | -E, -EW | 1.179 (29,95) | 1.246 (31,65) |
| 46-05-07-502-XX | 46-5-7-52-XX | -E, -EW | 1.465 (37,21) | 1.532 (38,91) |
| 46-05-08-502-XX | 46-5-8-52-XX | -E | 1.188 (30,18) | — |
| 46-05-09-502-XX | 46-5-9-52-XX | -E | 1.317 (33,45) | — |
| — | 46-102-A-XX | -E, -EW | 1.417 (35,99) | 1.484 (37,69) |
| — | 46-111-A-XX | -E, -EW | 1.417 (35,99) | 1.484 (37,69) |
| — | 46-200-A-XX | -E | 1.448 (36,78) | — |
| — | 46-201-A-XX | -E | 1.448 (36,78) | — |

*Epoxy potting sleeve enlarges the diameter of the -EW style to 0.300 (7,62).

**Sealed terminal (-E) option is not necessary; terminals have sealed construction.

***Natural Color Button

†Adjustable from 1.214 (30,84) to 1.334 (33,88) dependent on button height, see switch pages.



Pushbutton Options and Accessories

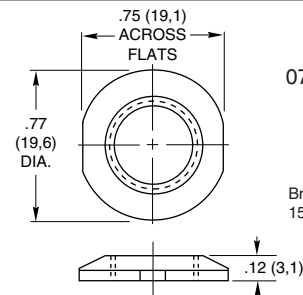
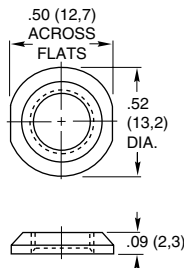
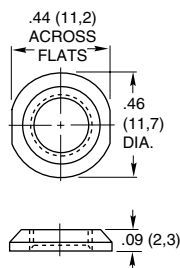
ACCESSORIES

For Pushbutton Switches

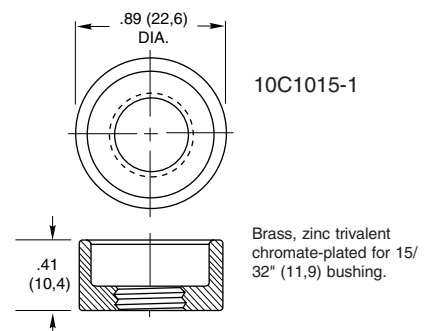
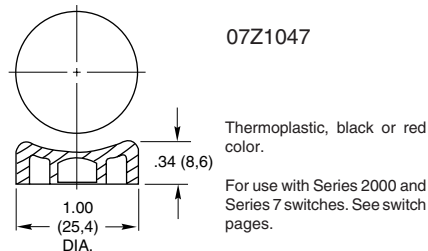
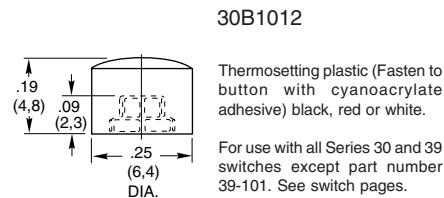


DIMENSIONS In Inches (and millimeters)

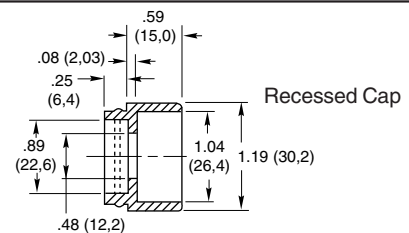
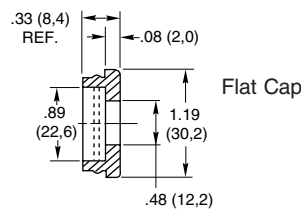
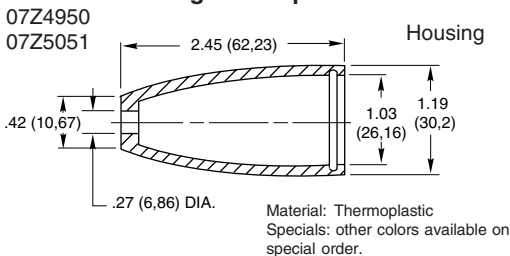
Decorative Mounting Nuts



Button Caps and Guard



Remote Switching Accessories Pendant Housing and Caps



Application:
All grayhill pushbutton switches with 15/32-32 bushings: catalog numbers 2201, 2202, 07-7, 07-8, 07-21, 07-22, 07-26, 4001, 4002, 10-9, 10-10, 10-100, 10-101, 30-16, 30-17 and 30-32. any other switch with 15/32-32 bushing if it fits housing.

ORDERING INFORMATION:

Mounting Nuts, Button Caps, and Guards

| Part Number | Color |
|---------------|------------------|
| 07C1040-1 | Decorative Nut |
| 23C1024 | Decorative Nut |
| 30C1023-1 | Decorative Nut |
| 07Z1047-1 BLK | Black Button Cap |
| 07Z1047-2 RED | Red Button Cap |
| 10C1015-1 | Button Guard |
| 30B1012-5 | Red Cap |
| 30B1012-8 | White Cap |
| 30B1012-9 | Black Cap |

Pendant Housing and Caps

| Part Number | Description |
|-------------|---------------------------|
| 07Z4950 RED | Red Flat Cap & Housing |
| 07Z4950 BLK | Black Flat Cap & Housing |
| 07Z5051 RED | Red Rcstd Cap & Housing |
| 07Z5051 BLK | Black Rcstd Cap & Housing |

Sold only as sets of one housing and one cap.

Available from your local Grayhill Distributor.

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