

General Specifications

FB Series

SB Series

Electrical Capacity (Resistive Load)

Power Level: 500mA @ 125V AC for silver
Logic Level: 0.4VA max. @ 28V AC/DC max. for gold
 (Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V)
 Note: Find additional explanation in Supplement section.

3A @ 125V AC or 2A @ 250V AC or
 2A @ 30V DC for silver
 0.4VA max. @ 28V AC/DC max. for gold
 (Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V)
 Note: Find explanation of operating range in Supplement section.

Other Ratings

Contact Resistance: 30 milliohms maximum for silver;
 30 milliohms maximum for gold
Insulation Resistance: 100 megohms minimum @ 500V DC
Dielectric Strength: 1,000V AC minimum between contacts &
 between contacts & case for 1 minute minimum
Mechanical Life: 50,000 operations minimum
Electrical Life: 50,000 operations minimum
Nominal Operating Force: 2.16N
Travel: Pretravel .043" (1.1mm)
 Overtravel .022" (0.57mm)
 Total Travel .065" (1.67mm)

10 milliohms maximum for silver;
 20 milliohms maximum for gold
 200 megohms minimum @ 500V DC
 1,000V AC minimum between contacts
 & between contacts & case for 1 minute minimum
 30,000 operations minimum
 10,000 operations minimum
 4.90N
 Normally Open
 Total Travel .088" (2.24mm)
 Normally Closed
 Total Travel .088" (2.24mm)

Materials & Finishes

Plunger: Polyacetal
Bushing: Brass with nickel plating
Case: Phenolic resin
Movable Contactor: Copper with silver or gold plating
Stationary Contacts: Phosphor bronze with silver or gold plating
Terminals: Phosphor bronze with silver or gold plating

Phenolic resin
 Brass with nickel plating
 Phenolic resin
 Copper with silver or gold plating
 Copper with silver or gold plating
 Copper with silver or gold plating

Environmental & Installation Data

Operating Temp Range: -10°C through +70°C (+14°F through +158°F)
Soldering Time & Temperature: Manual Soldering:
 See Profile A in Supplement section.

-10°C through +70°C (+14°F through +158°F)
 Manual Soldering:
 See Profile A in Supplement section.

Standards & Certifications

UL: File No. E44145 - Recognized only when ordered with marking on switch.
 Add "/U" or "/CUL" before dash in part number to order UL recognized switch.
 Models rated 0.5A @ 125V AC Single pole;
 Momentary action circuit with solder lug terminations.

File No. E44145 - Recognized only when ordered with marking on switch.
 Add "/U" or "/CUL" before dash in part number to order UL recognized switch.
 Models rated 3A @ 125V AC & 2A @ 250V AC.
 Single pole: Momentary action circuit with solder lug terminations.

CSA:

File No. 023535_0_000 - Certified only when ordered with marking on switch.
 Add "/C" before dash in part number to order CSA certified switch.
 SB series rated 3A @ 125V AC & 2A @ 250V AC.
 Single pole: Momentary action circuit with solder lug terminations.

Distinctive Characteristics

Optional caps in different colors to vary appearance as needed.

Low operating force for ease of actuation.

Rear panel bushing mount with compact behind panel dimension.

Internal antijamming feature to protect the contacts from damage due to excessive force on the plunger.

Self-cleaning contacts make FB models highly reliable.

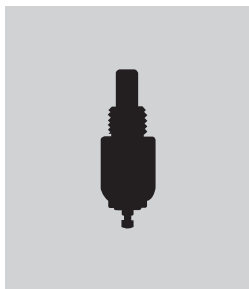
Low cost device of rugged one-piece bushing and housing construction.

Reliability of construction with an internal guide to maintain contact alignment.

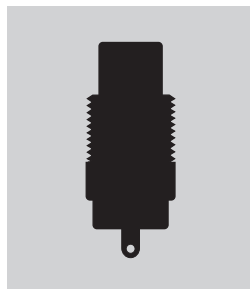
Epoxy sealed terminals.



Actual Size FB



Actual Size SB



FB Bushing Mount

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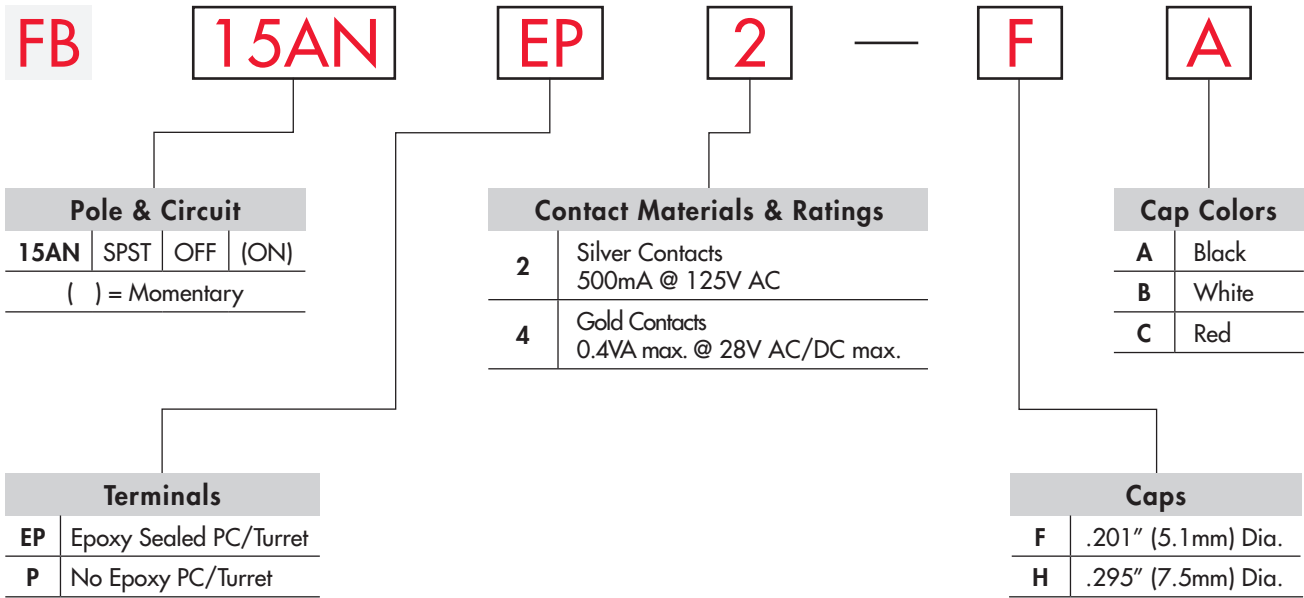


SB Bushing Mount

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- Toggle
- Rockers
- Pushbuttons**
- Illuminated PB
- Programmable
- Keylocks
- Rotaries
- Slides
- Tactiles
- Tilt
- Touch
- Indicators
- Accessories
- Supplement

TYPICAL SWITCH ORDERING EXAMPLE



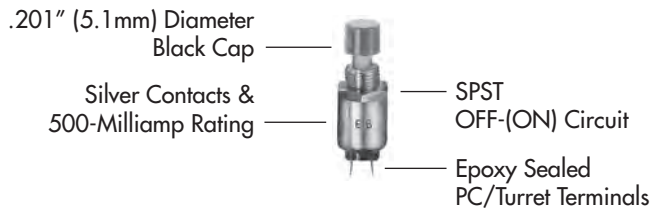
IMPORTANT:



Switches are supplied without UL & cULus marking unless specified.
UL & cULus recognized only when ordered with marking on the switch.
 Specific models, ratings, & ordering instructions are noted on the General Specifications page.

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

FB15ANEP2-FA



POLE & CIRCUIT

| Pole | Model | Plunger Position () = Momentary | | Connected Terminals | | Throw & Switch Schematics |
|------|--------|-------------------------------------|------|---------------------|------|---------------------------|
| | | Normal | Down | Normal | Down | |
| SP | FB15AN | OFF | (ON) | OPEN | 1-2 | SPST |

Note: Terminal numbers are not actually on the switch.

Toggles
Rockers
Pushbuttons
Illuminated PB
Programmable
Keylocks
Rotaries
Slides
Tactiles
Tilt
Touch
Indicators
Accessories
Supplement

TERMINALS

EP Epoxy Sealed
PC/Turret Terminals

P No Epoxy
PC/Turret Terminals

CONTACT MATERIALS & RATINGS

2 Silver Contacts

Power Level

500mA @ 125V AC

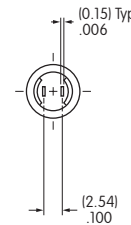
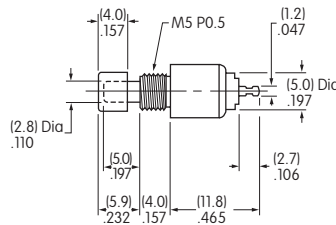
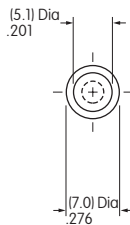
4 Gold Contacts

Logic Level

0.4VA maximum @ 28V AC/DC maximum

Complete explanation of operating range in Supplement section.

TYPICAL SWITCH DIMENSIONS



PC/Turret



Plunger is white polyacetal.

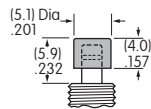
FB15ANEP2-FA

SLIP-ON CAPS & COLORS

F **AT475**
.201" (5.1mm) Diameter

Material: Polyamide

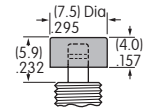
Finish: Glossy



H **AT496**
.295" (7.5mm) Diameter

Material: Polyamide

Finish: Glossy



Colors Available:

A Black

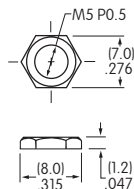
B White

C Red

STANDARD HARDWARE & PANEL CUTOUT

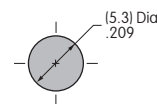
AT536 Hex Nut

Material:
Brass with nickel plating



Panel Thickness:

.110" (2.8mm) maximum



TYPICAL SWITCH ORDERING EXAMPLE

SB40 **11NO** **M** **C** **G** **M12 P1**

| Pole & Circuits | | | |
|-----------------|------|-----|-------|
| Normally Open | | | |
| 11NO | SPST | OFF | (ON) |
| Normally Closed | | | |
| 11NC | SPST | ON | (OFF) |
| () = Momentary | | | |

| Plunger Colors | |
|----------------|-------|
| No Code | Black |
| C | Red |

| Contact Materials & Ratings | |
|-----------------------------|---|
| No Code | Silver Contacts 3A @ 125V AC or 2A @ 250V DC |
| G | Gold Contacts 0.4VA max. @ 28V AC/DC max. |

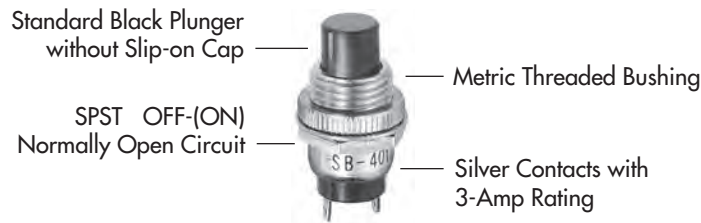
| Bushings | |
|----------|---------------------------|
| M | Metric Threaded M12 P1 |
| H | Inch Threaded 15/32-32 NS |

| Slip-On Cap & Colors | |
|----------------------|-------------|
| No Code | Without Cap |
| 2A | Black |
| 2B | White |
| 2C | Red |
| 2E | Yellow |
| 2F | Green |
| 2G | Blue |

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UL, cULus & CSA recognized only when ordered with marking on the switch.
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DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

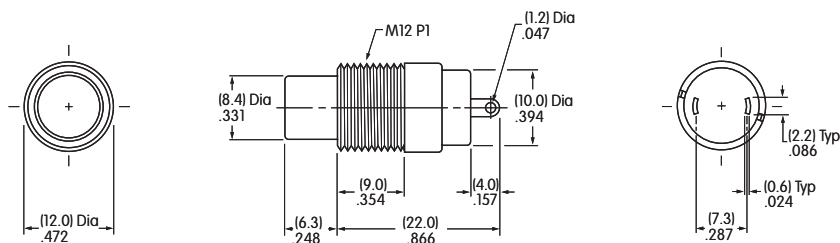
SB4011NOM



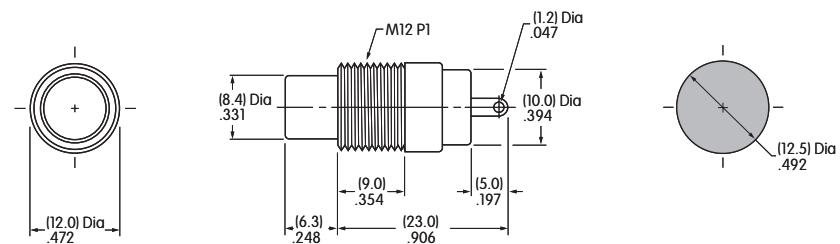
POLE & CIRCUITS

| Pole | Model | Plunger Position () = Momentary | | Connected Terminals | | Throw & Switch Schematics |
|------|-----------------|-------------------------------------|-------|---------------------|------|---|
| | | Normal | Down | Normal | Down | |
| SP | SB4011NO | OFF | (ON) | OPEN | 1-2 | Note: Terminal numbers are not actually on the switch. SPST NO NC |
| | SB4011NC | ON | (OFF) | 1-2 | OPEN | |

TYPICAL SWITCH DIMENSIONS



SB4011NOM



SB4011NCM

Panel Thickness:
.157" (4.0mm)

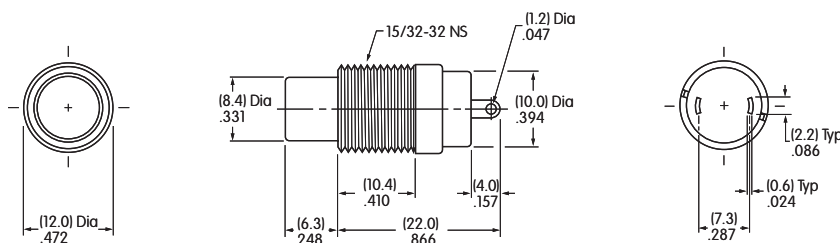
Metric Bushing



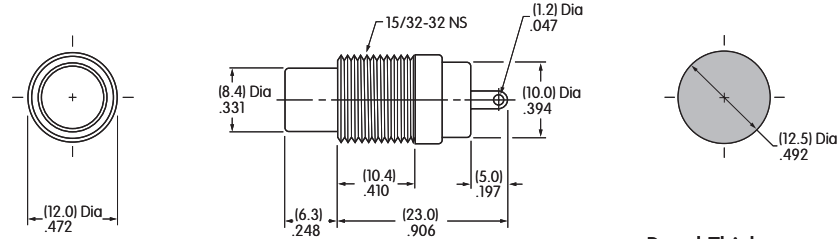
SB4011NOM

Hardware provided:
1 AT504 Knurled Face Nut
1 AT508 Lockwasher
1 AT527M Hex Mounting Nut

Details in Hardware & Accessories section.



SB4011NOH



SB4011NCH

Panel Thickness:
.157" (4.0mm)

Inch Bushing



SB4011NCH

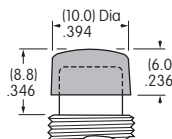
Hardware provided:
2 AT503H Hex Mounting Nuts
1 AT508 Lockwasher

Details in Hardware & Accessories section.

SLIP-ON CAP & COLORS

AT422
.394" (10.0mm) Diameter Cap

Material: Polyethylene
Finish: Matte



| | | | | | |
|-----------|-------|-----------|--------|-----------|-------|
| 2A | Black | 2C | Red | 2F | Green |
| 2B | White | 2E | Yellow | 2G | Blue |