

## 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

Black: Phenolic resin  
 Red: Urea formaldehyde 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.

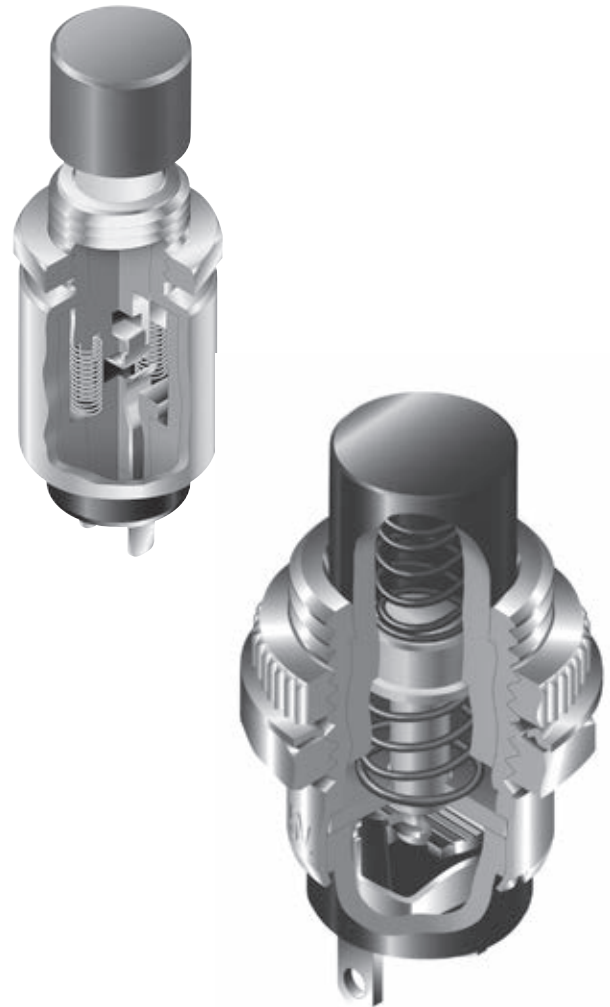
Internal anti-jamming feature to protect the contacts from damage due to excessive force on the plunger.

Self-cleaning contacts make FB models highly reliable.

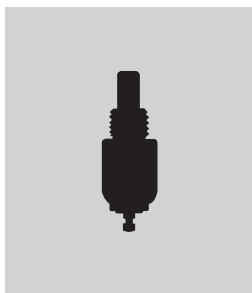
Low cost device of rugged one-piece bushing and housing construction.

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

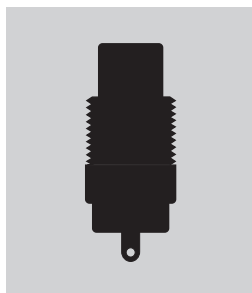
Epoxy sealed terminals.



Actual Size FB



Actual Size SB



FB Bushing Mount

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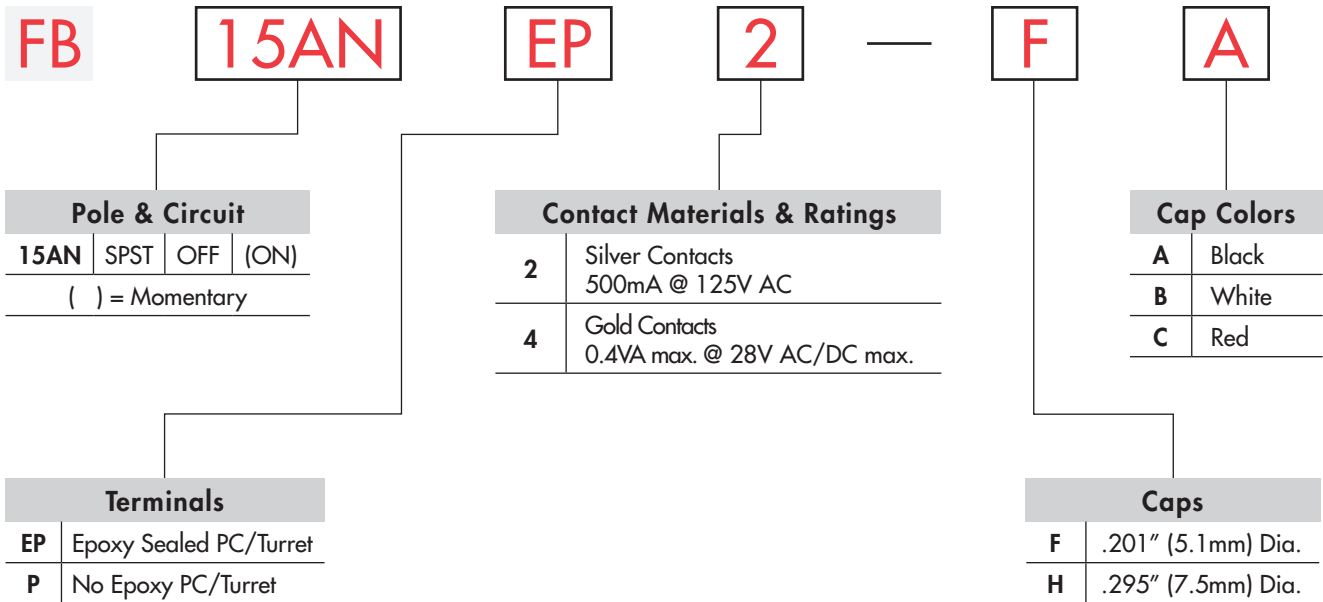


SB Bushing Mount

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

### TYPICAL SWITCH ORDERING EXAMPLE



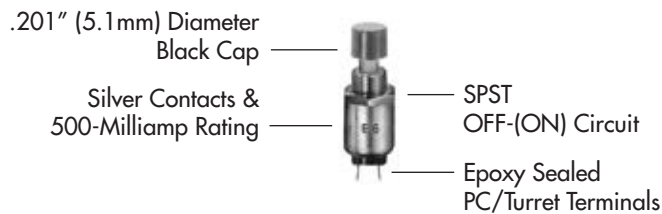
#### IMPORTANT:



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

		Plunger Position ( ) = Momentary		Connected Terminals		Throw & Switch Schematics
Pole	Model	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

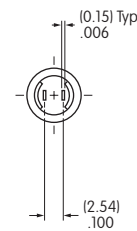
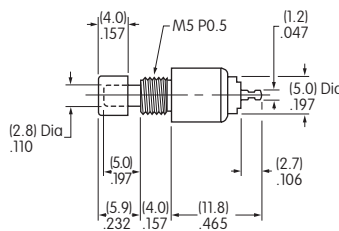
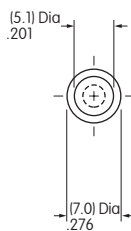
**4** Gold Contacts

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.

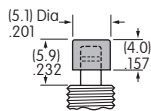
**FB15ANEP2-FA**

## SLIP-ON CAPS & COLORS

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

Material: Polyamide

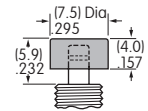
Finish: Glossy



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

Material: Polyamide

Finish: Glossy



Colors Available:

**A** Black

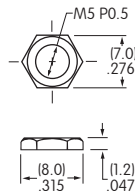
**B** White

**C** Red

## STANDARD HARDWARE & PANEL CUTOUT

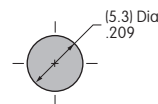
**AT536 Hex Nut**

Material:  
Brass with nickel plating



**Panel Thickness:**

.110" (2.8mm) maximum



### TYPICAL SWITCH ORDERING EXAMPLE

**SB40**    **11NO**    **M**    **C**    **G**    **2A**

Pole & Circuits			
Normally Open			
<b>11NO</b>	SPST	OFF	(ON)
Normally Closed			
<b>11NC</b>	SPST	ON	(OFF)
( ) = Momentary			

Plunger Colors	
No Code	Black
<b>C</b>	Red

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

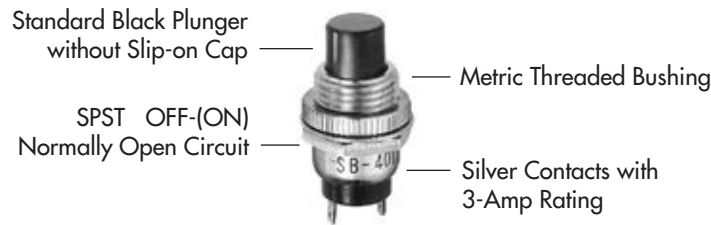
Bushings	
<b>M</b>	Metric Threaded M12 P1
<b>H</b>	Inch Threaded 15/32-32 NS

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

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### DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

#### SB4011NOM

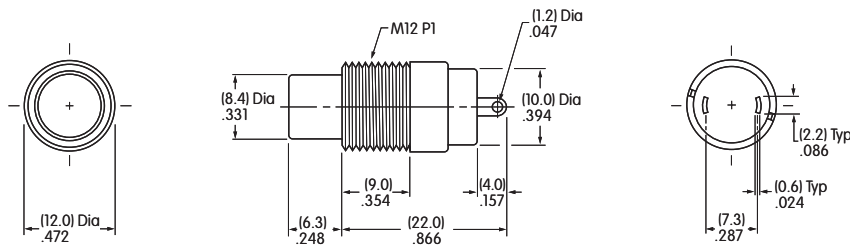


### POLE & CIRCUITS

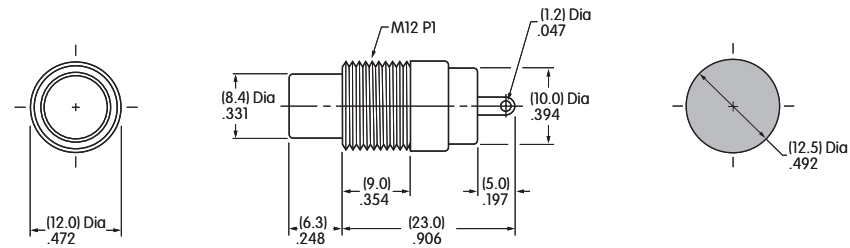
		Plunger Position ( ) = Momentary		Connected Terminals		Throw & Switch Schematics
		Normal	Down	Normal	Down	
Pole	Model					Note: Terminal numbers are not actually on the switch.
SP	<b>SB4011NO</b> <b>SB4011NC</b>	OFF ON	(ON) (OFF)	OPEN 1-2	1-2 OPEN	
						SPST NO  NC

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

## TYPICAL SWITCH DIMENSIONS



**SB4011NOM**



**SB4011NCM**

### Metric Bushing

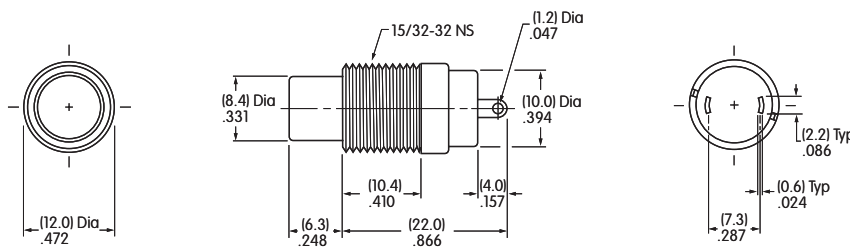


**SB4011NOM**

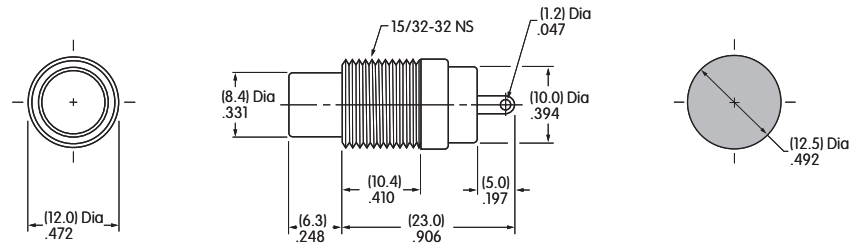
Hardware provided:  
 1 AT504 Knurled Face Nut  
 1 AT508 Lockwasher  
 1 AT527M Hex Mounting Nut

Panel Thickness:  
 .157" (4.0mm)

Details in Hardware & Accessories section.



**SB4011NOH**



**SB4011NCH**

### Inch Bushing



**SB4011NCH**

Hardware provided:  
 2 AT503H Hex Mounting Nuts  
 1 AT508 Lockwasher

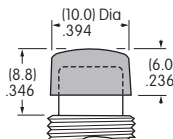
Panel Thickness:  
 .157" (4.0mm)

Details in Hardware & Accessories section.

## SLIP-ON CAP & COLORS

**AT422**  
 .394" (10.0mm) Diameter Cap

Material: Polyethylene  
 Finish: Matte



- |                 |                  |                 |
|-----------------|------------------|-----------------|
| <b>2A</b> Black | <b>2C</b> Red    | <b>2F</b> Green |
| <b>2B</b> White | <b>2E</b> Yellow | <b>2G</b> Blue  |

Toggles  
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**Pushbuttons**  
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