

MB2181SS1W03-CC Datasheet



DiGi Electronics Part Number	MB2181SS1W03-CC-DG
Manufacturer	NKK Switches
Manufacturer Product Number	MB2181SS1W03-CC
Description	SWITCH PUSHBUTTON 4PDT 6A 125V
Detailed Description	Pushbutton Switch 4PDT Standard Panel Mount, Rear

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Manufacturer Product Number:

MB2181SS1W03-CC

Series:

MB2000

Mounting Type:

Panel Mount, Rear

Circuit:

4PDT

Current Rating (Amps):

6A (AC), 3A (DC)

Voltage Rating - DC:

30 V

Actuator Marking:

No Marking

Illumination Type, Color:

-

Termination Style:

PC Pin

Features:

Epoxy Sealed Terminals

Operating Temperature:

-30°C ~ 85°C

Electrical Life:

25,000 Cycles

Manufacturer:

NKK Switches

Product Status:

Obsolete

Type:

Standard

Switch Function:

On-Mom

Voltage Rating - AC:

125 V

Actuator Type:

Round, Button

Color - Actuator/Cap:

Red

Illumination Voltage (Nominal):

-

Ingress Protection:

-

Panel Cutout Dimensions:

Circular - 6.50mm Dia

Mechanical Life:

100,000 Cycles

Base Product Number:

MB2181S

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8536.50.9035

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

General Specifications

Electrical Capacity (Resistive Load)

Power Level (silver):	6A @ 125V AC & 3A @ 250V AC or 3A @ 30V DC
Logic Level (gold):	0.4VA maximum @ 28V AC/DC maximum (Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V)
Logic/Power Level: (gold over silver)	Combines silver & gold ratings

Note: Find additional explanation dual rating & operating range in Supplement section.

Other Ratings

Contact Resistance:	10 milliohms maximum for silver; 20 milliohms maximum for gold
Insulation Resistance:	1,000 megohms minimum @ 500V DC
Dielectric Strength:	1,000V AC minimum between contacts for 1 minute minimum; 1,500V AC minimum between contacts & case for 1 minute minimum
Mechanical Life:	50,000 operations minimum for splashproof models; 100,000 for all other models
Electrical Life:	25,000 operations minimum for silver; 50,000 operations minimum for gold 50,000 operations minimum for silver at 3A @ 125V AC

Nominal Operating Force: Momentary Action: 1-pole 9.32N; 2-pole 16.18N; 4-pole 25.54N;
Alternate Action: 1-pole 4.41N; 2-pole 7.06N; 4-pole 11.77N

Contact Timing:	Slow make, slow break		
Plunger Travel:	Screw-on Cap (Mom.)	Screw-on Cap (Alt.)	Snap-on Cap (Mom. & Alt.)
Pretravel:	.028" (0.71mm)	.110" (2.80mm)	.125" (3.19mm)
Overtravel:	.043" (1.09mm)	.043" (1.09mm)	.050" (1.26mm)
Total Travel	.071" (1.80mm)	.153" (3.90mm)	.175" (4.45mm)

Materials & Finishes

Plunger:	Brass w/nickel plating; polyacetal w/B1 bushing	Bushing:	Brass with nickel plating
Frame:	Stainless steel	Case:	Diallyl phthalate resin (UL94V-0)
Movable Contactor:	Phosphor bronze with silver or gold plating		
Movable Contacts:	Silver alloy (code W); copper with gold plating (code G); or silver alloy with gold plating (code A)		
Stationary Contacts:	Silver with silver plating (code W); copper or brass with gold plating (code G); or silver with gold plating (code A)		
Terminals:	Copper or brass with silver plating; copper or brass with gold plating		

Environmental Data

Operating Temp Range:	-30°C through +85°C (-22°F through +185°F)
Humidity:	90 ~ 95% humidity for 96 hours @ 40°C (104°F)
Vibration:	10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours
Shock:	50G (490m/s ²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)
Sealing:	B3 & D3 bushing options equivalent to IP67

Installation

Mounting Torque:	1.5Nm (13.0 lb•in) for double nut; 0.7Nm (6.0 lb•in) for single nut
Cap Installation Force:	80.0N (18.0 lbf) maximum downward force on actuator
Soldering Time & Temp:	Wave Soldering (PC version): See Profile A in Supplement section. Manual Soldering: See Profile A in Supplement section.
Process Seal:	These devices are not process sealed. Hand clean locally using alcohol based solution.

Standards & Certifications

Flammability Standards:	UL94V-0 case
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. All models recognized at 6A @ 125V AC or 3A @ 250V AC or 0.4VA max. @ 28V DC max.
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. All models certified at 6A @ 125V AC or 3A @ 250V AC or 0.4VA max. @ 28V max.

Distinctive Characteristics

Guide interlocked with actuator block prevents window locking and maintains correct plunger alignment to assure contact stability.

Employs an over-center actuator mechanism, which diminishes sparking and increases operating life in AC circuits.

High torque bushing construction prevents rotation or separation from frame during installation.

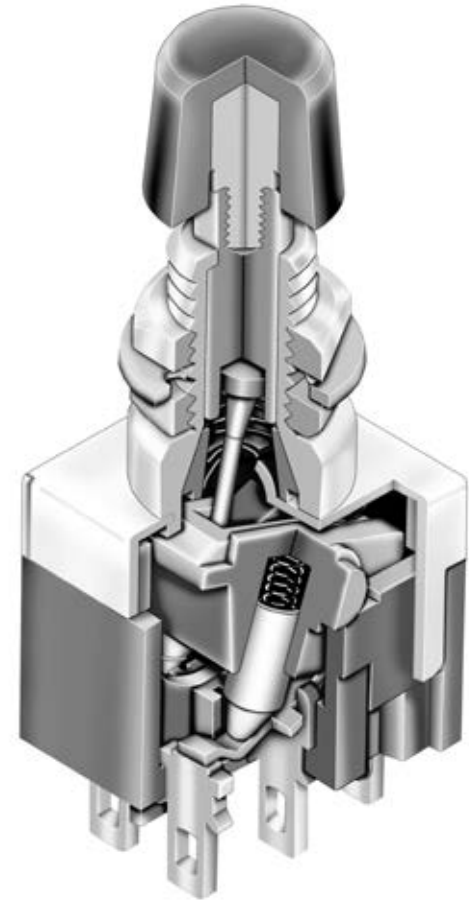
Splashproof option (D3 and B3 bushing codes) features an o-ring within the bushing and one under the face nut to protect from splashed, sprayed, or spilled liquids. Splashproof models meet IP67 of IEC 60529 Standards at front panel (dust tight and water protected from effects of temporary immersion).

High insulating barriers, formed in the molded diallyl phthalate case, increase isolation of circuits in multipole devices.

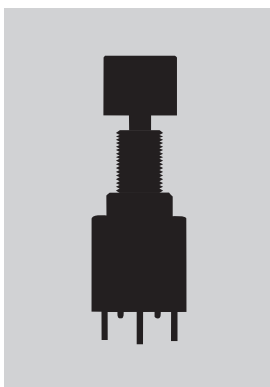
Prominent external insulating barriers increase insulation resistance and dielectric strength.




Epoxy sealed terminals prevent entry of solder flux and other contaminants.

Clinching of the frame to the case well above the base and terminals provides 1,500V dielectric strength.



Actual Size



	Bushing Mount	Page C74
	Bracket PC Mount	Page C80
	Large Bushing	Page C87

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

Series MB2000

Bushing Mount Miniature Pushbuttons

TYPICAL SWITCH ORDERING EXAMPLE

MB **2011** **S** **S1** **W** **01** — **C** **A**

Poles & Circuits			
2011	SPDT	ON	(ON)
2065	SPDT	ON	ON
2061	DPDT	ON	(ON)
2085	DPDT	ON	ON
2181	4PDT	ON	(ON)
2185	4PDT	ON	ON

() = Momentary

Contact Materials & Ratings	
W	Silver Rated 6A @ 125V AC & 3A @ 250V AC
G	Gold Rated 0.4VA max @ 28V AC/DC max
A	Gold over Silver Rated 6A @ 125V AC & 0.4VA max @ 28V AC/DC max

Caps	
B	.315" (8.0mm) Diameter
C	.394" (10.0mm) Diameter

Cap Colors	
A	Black
B	White
C	Red
E	Yellow
F	Green
G	Blue
H	Gray

Plunger Types	
S	Plunger for Screw-on Caps
L	Plunger for Snap-on Caps

Bushings	
S1	.335" (8.5mm) Threaded with Keyway
S2	.335" (8.5mm) Smooth with Keyway
S4	.335" (8.5mm) Metric Threaded with Keyway
D1	.335" (8.5mm) Threaded with D-Flat
D3	.335" (8.5mm) Threaded Splashproof without Keyway

Terminals	
01	Solder Lug
02	Quick Connect
03	.250" (6.35mm) Straight PC
05	.425" (10.8mm) Wirewrap
06	.750" (19.05mm) Wirewrap
07	.964" (24.5mm) Wirewrap
08	1.062" (27.0mm) Wirewrap

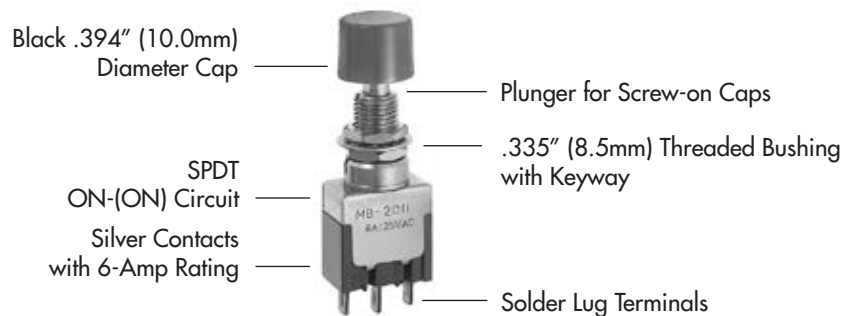
IMPORTANT:

Switches are supplied without UL, cULus & CSA marking unless specified. **UL, cULus & CSA 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






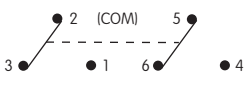
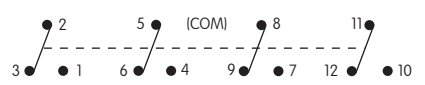
MB2011SS1W01-CA



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

Bushing Mount Miniature Pushbuttons

Series MB2000

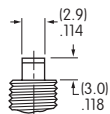
POLES & CIRCUITS						
Pole	Model	Plunger Position () = Momentary		Connected Terminals		Throw & Switch Schematics
		Normal  Keyway	Down 	Normal  Keyway	Down 	
SP	MB2011	ON	(ON)	2-3	2-1	SPDT 
	MB2065	ON	ON			
DP	MB2061	ON	(ON)	2-3 5-6	2-1 5-4	DPDT 
	MB2085	ON	ON			
4P	MB2181	ON	(ON)	2-3 5-6 8-9 11-12	2-1 5-4 8-7 11-10	4PDT 
	MB2185	ON	ON			

PLUNGER TYPES

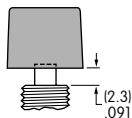
On alternate action models, after transferring circuit, the plunger returns to its original position and does not latch down.



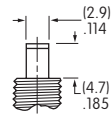
Plunger for Screw-on Caps



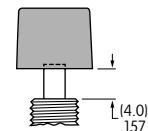
Momentary Plunger Length



Momentary Cap Location



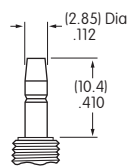
Alternate Plunger Length



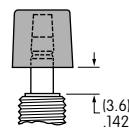
Alternate Cap Location



Plunger for Snap-on Caps



Momentary & Alternate Plunger Length



Momentary & Alternate Cap Location

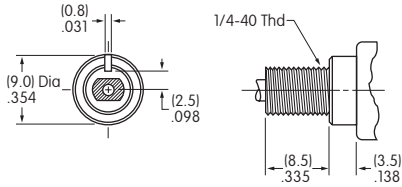
Toggles
 Rockers
 Pushbuttons
 Illuminated PB
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 Keylocks
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 Slides
 Tactiles
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 Accessories
 Supplement

Series MB2000

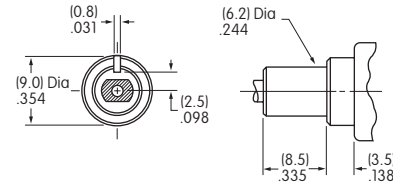
Bushing Mount Miniature Pushbuttons

BUSHINGS

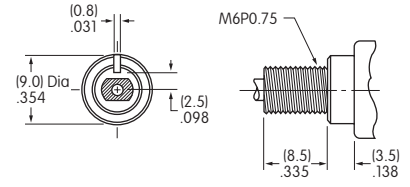
S1 .335" (8.5mm)
Threaded with Keyway



S2 .335" (8.5mm)
Smooth with Keyway



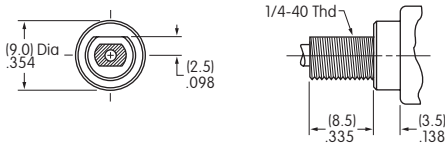
S4 .335" (8.5mm) Metric
Threaded with Keyway



Maximum Panel Thickness with
Standard Hardware: .154" (3.9mm)

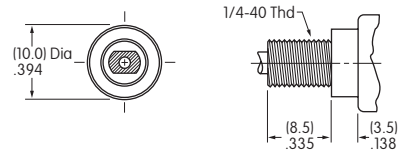
Maximum Panel Thickness with
Standard Hardware: .154" (3.9mm)

D1 .335" (8.5mm)
Threaded with D Flat



Maximum Panel Thickness with
Standard Hardware: .154" (3.9mm)

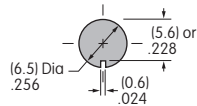
D3 .335" (8.5mm)
Threaded Splashproof without Keyway



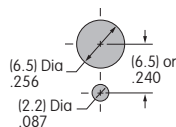
Maximum Panel Thickness with
Standard Hardware: .240" (6.1mm)

Panel Cutouts

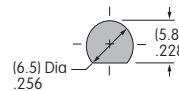
For S1, S2, or S4 Bushing
with
Keyway



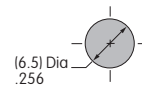
For S1 or S4 Bushing
with
Optional Locking Ring



For D1 Bushing
with
D Flat



For D3 Bushing
without
Keyway



Standard hardware for bushings S1, S4, & D1 includes 2 hex nuts & 1 lockwasher; D3 bushing has 1 hex nut & 1 o-ring.
Standard & optional hardware are illustrated following the Typical Switch Dimension drawings.

CONTACT MATERIALS & RATINGS

W Silver over Silver **Power Level** 6A @ 125V AC & 3A @ 250V AC

G Gold over Brass or Copper **Logic Level** 0.4VA maximum @ 28V AC/DC maximum
Note: Complete explanation of operating range in Supplement section.

A Gold over Silver **Power Level or Logic Level** 6A @ 125V AC & 3A @ 250V AC or 0.4VA maximum @ 28V AC/DC maximum

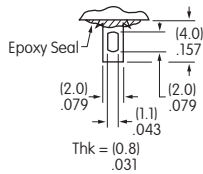
Note: This dual rated option is suitable when two or more identical switches are used in logic and in power circuits within the same application. See Supplement section for complete explanation of dual rating and operating range.

Bushing Mount Miniature Pushbuttons

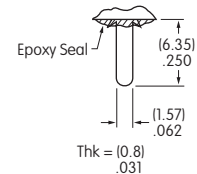
Series MB2000

TERMINALS

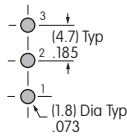
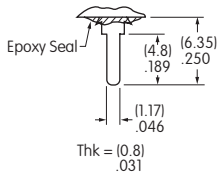
01 Solder Lug



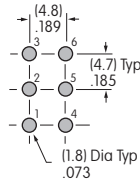
02 .062" (1.57mm) Wide Quick Connect



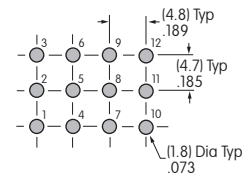
03 .250" (6.35mm) Straight PC



Single Pole



Double Pole



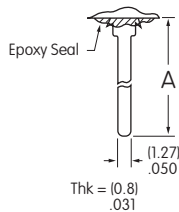
Four Pole

05 .425" (10.8mm) Wirewrap or Extended PC

06 .750" (19.05mm) Wirewrap or Extended PC

07 .964" (24.5mm) Wirewrap or Extended PC

08 1.062" (27.0mm) Wirewrap or Extended PC



If using as extended PC terminal, refer to the above footprints.

Dimension A = terminal lengths as shown beside the terminal codes at the left.

CAPS & CAP COLORS

B AT413
.315" (8.0mm) Diameter
Screw-on Cap

AT443
.315" (8.0mm) Diameter
Snap-on Cap

C AT407
.394" (10.0mm) Diameter
Screw-on Cap

AT442
.394" (10.0mm) Diameter
Snap-on Cap

For use with Plunger Code S

For use with Plunger Code L

For use with Plunger Code S

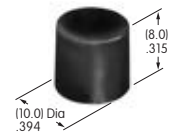
For use with Plunger Code L

Cap Material: PBT
Finish: Glossy

Cap Material: Polycarbonate
Finish: Glossy

Cap Material: PBT
Finish: Glossy

Cap Material: Polycarbonate
Finish: Glossy



Cap Colors Available:

- A** Black
- B** White
- C** Red
- E** Yellow
- F** Green
- G** Blue
- H** Gray

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

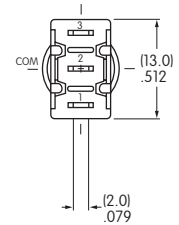
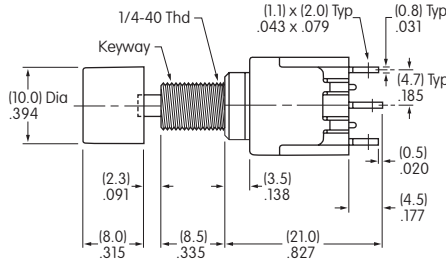
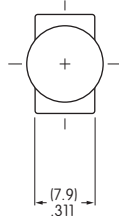
Series MB2000

Bushing Mount Miniature Pushbuttons

TYPICAL SWITCH DIMENSIONS

Solder Lug

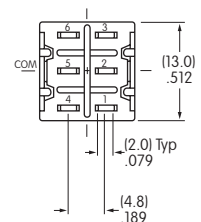
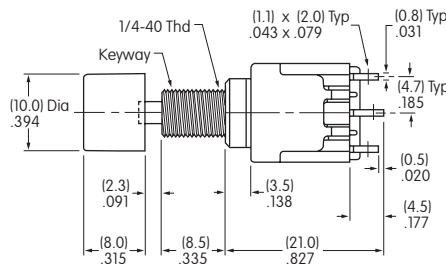
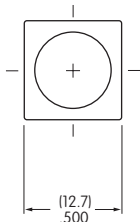
Single Pole



MB2011SS1W01-CA

Solder Lug

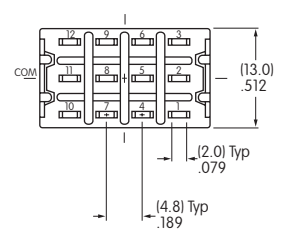
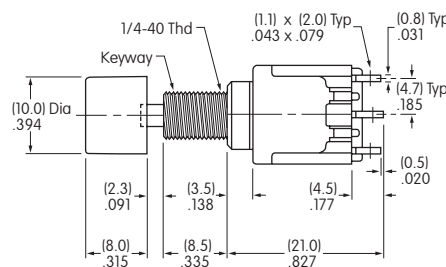
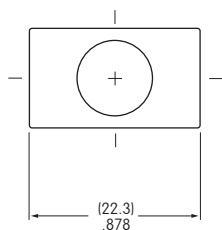
Double Pole



MB2061SS1W01-CA

Solder Lug

Four Pole



MB2181SS1W01-CA

Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

Bushing Mount Miniature Pushbuttons

Series MB2000

HARDWARE

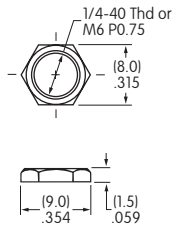
Standard Hardware

Optional Hardware

AT513H for Inch AT513M for Metric Hexagon Nut

2 included with each switch
(1 with splashproof models)

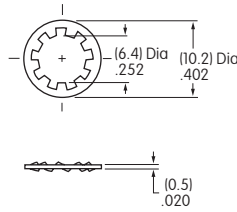
Material:
Brass with Nickel plating



AT509 Lockwasher

1 included with each switch
(not with splashproof models)

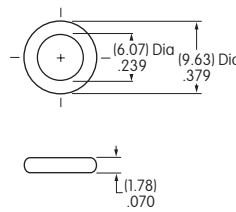
Material:
Steel with Zinc/Chromate



AT516 O-ring for Splashproof Bushing

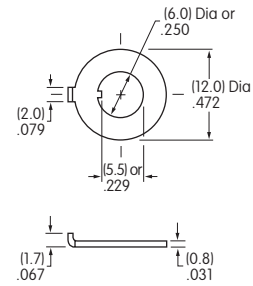
1 included with
each splashproof model

Material:
Nitrile butadiene rubber



AT507H for Inch AT507M for Metric Locking Ring

Material:
Steel with Zinc/Chromate

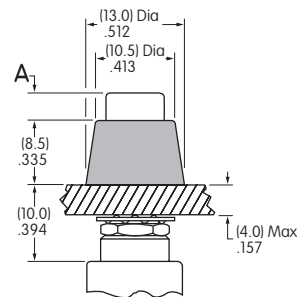


Optional Mounting Collars/Conical Nuts

Optional Splashproof Boots for S Plunger

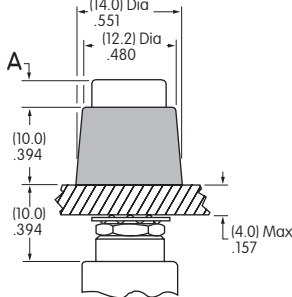
AT512H for Inch AT512M for Metric Conical Nut

Used with .315" (8.0mm)
Diameter Cap (cap code B)
Material:
Brass with chrome plating



AT512CH for Inch AT512CM for Metric Conical nut

Used with .394" (10.0mm)
Diameter Cap (cap code C)
Material:
Brass with chrome plating



AT4041H for Inch AT4041M for Metric Boot for Momentary

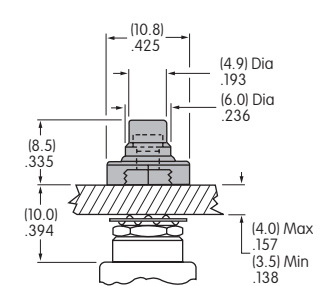
Material:
Silicone rubber



Operating Life 100,000

AT4042H for Inch AT4042M for Metric Boot for Alternate

Material:
Silicone rubber



Operating Life 30,000

Boots for momentary devices
are accompanied by a threaded
adaptor which extends the length
of the plunger.

Dimension A = Cap Height

- .091" (2.3mm) for Momentary with Plunger Code S
- .157" (4.0mm) for Alternate with Plunger Code S
- .142" (3.6mm) for Momentary & Alternate with Plunger Code L

Optional Conical Nuts fit with all 8.5mm bushing options except the D3 & S2 bushings.

Series MB2000

Bracket PC Mount Miniature Pushbuttons

TYPICAL SWITCH ORDERING EXAMPLE

MB

2011

S

S2

G

13

C

A

Poles & Circuits

2011	SPDT	ON	(ON)
2065	SPDT	ON	ON
2061	DPDT	ON	(ON)
2085	DPDT	ON	ON
2181	4PDT	ON	(ON)
2185	4PDT	ON	ON

() = Momentary

4-pole not for use with right angle terminals

Contact Materials & Ratings

W	Silver Rated 6A @ 125V AC & 3A @ 250V AC
G	Gold Rated 0.4VA max @ 28V AC/DC max
A	Gold over Silver Rated 6A @ 125V AC & 0.4VA max @ 28V AC/DC max

Caps

B	.315" (8.0mm) Diameter
C	.394" (10.0mm) Diameter

Cap Colors

A	Black
B	White
C	Red
E	Yellow
F	Green
G	Blue
H	Gray

Plunger Type

S	Plunger for Screw-on Caps
----------	---------------------------

Bushings

S2	.335" (8.5mm) Smooth with Keyway
S1	.335" (8.5mm) Threaded with Keyway
A2	.200" (5.08mm) Smooth with Keyway Only Available in Part Numbers MB2011SA2G31 & MB2011SA2W31

Terminals

13	.250" (6.35mm) Straight PC with Bracket
40	.150" (3.81mm) Vertical PC
45	.100" (2.54mm) Vertical PC
30	Right Angle PC with .646" (16.4mm) Support to Terminals Available in 1- & 2-pole only
31	Right Angle PC with .500" (12.7mm) Support to Terminals Available in 1-pole only

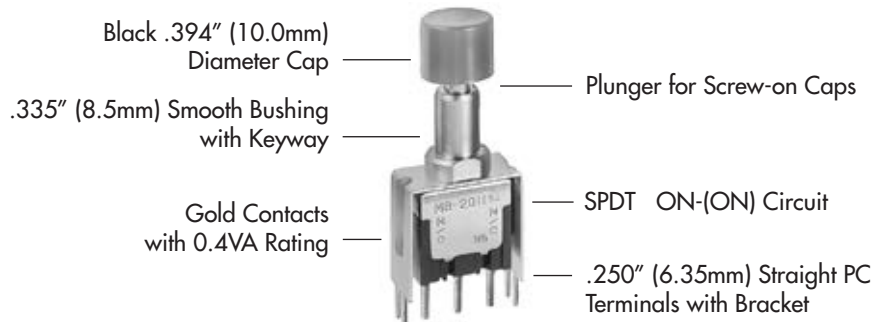
IMPORTANT:

Switches are supplied without UL, cULus & CSA marking unless specified.
UL, cULus & CSA 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

MB2011SS2G13-CA



Bracket PC Mount Miniature Pushbuttons

Series MB2000

POLES & CIRCUITS

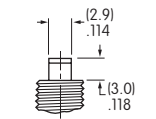
Pole	Model	Plunger Position () = Momentary		Connected Terminals		Throw & Switch Schematics
		Normal	Down	Normal	Down	
						Note: Terminal numbers are not actually on the switch.
SP	MB2011 MB2065	ON	(ON)	2-3	2-1	SPDT
DP	MB2061 MB2085	ON	(ON)	2-3 5-6	2-1 5-4	DPDT
4P	MB2181 MB2185	ON	(ON)	2-3 5-6 8-9 11-12	2-1 5-4 8-7 11-10	4PDT

PLUNGER TYPE

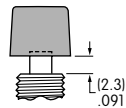
On alternate action models, after transferring circuit, the plunger returns to its original position and does not latch down.

S

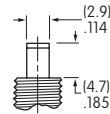
Plunger for Screw-on Caps



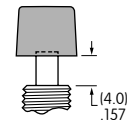
Momentary Plunger Length



Momentary Cap Location



Alternate Plunger Length

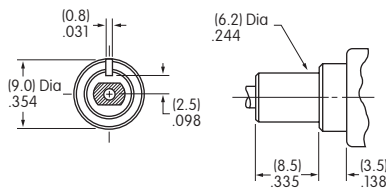


Alternate Cap Location

BUSHINGS

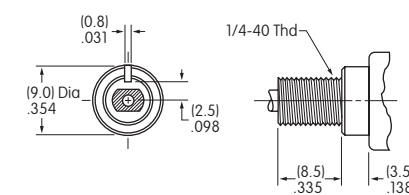
S2

.335" (8.5mm)
Smooth with Keyway



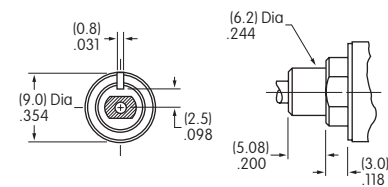
S1

.335" (8.5mm)
Threaded with Keyway



A2

.200" (5.08mm)
Smooth with Keyway

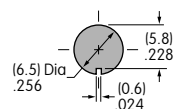


Standard hardware: 2 hex nuts (AT513H)
& 1 lockwasher (AT509)
Optional hardware: Locking ring (AT507)

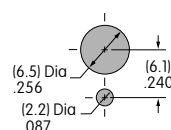
Only available in part numbers
MB2011SA2W31 & MB2011SA2G31

Panel Cutouts

For S2, S1, or A2 Bushing
with Keyway



With Optional
Locking Ring



Maximum Panel Thickness with
Standard Hardware: .154" (3.9mm)

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

Series MB2000

Bracket PC Mount Miniature Pushbuttons

CONTACT MATERIALS & RATINGS

W	Silver over Silver	Power Level	6A @ 125V AC & 3A @ 250V AC
G	Gold over Brass or Copper	Logic Level	0.4VA maximum @ 28V AC/DC maximum Note: Complete explanation of operating range in Supplement section.
A	Gold over Silver	Power Level or Logic Level	6A @ 125V AC & 3A @ 250V AC or 0.4VA maximum @ 28V AC/DC maximum Note: This dual rated option is suitable when two or more identical switches are used in logic and in power circuits within the same application. See Supplement section for complete explanation of dual rating and operating range.

TERMINALS

13	.250" (6.35mm) Straight PC with Bracket	40	.150" (3.81mm) Vertical PC	45	.100" (2.54mm) Vertical PC
30	Right Angle PC with .646" (16.4mm) Support to Terminal	31	Right Angle PC with .500" (12.7mm) Support to Terminal		

Only Available in 1 & 2 Pole

Note: Full dimensioned drawings appear on the following pages.

CAPS & CAP COLORS

B	AT413 .315" (8.0mm) Diameter Screw-on Cap		C	AT407 .394" (10.0mm) Diameter Screw-on Cap	
Cap Material: PBT Finish: Glossy			Cap Material: PBT Finish: Glossy		

Cap Colors Available: **A** Black **B** White **C** Red **E** Yellow **F** Green **G** Blue **H** Gray

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

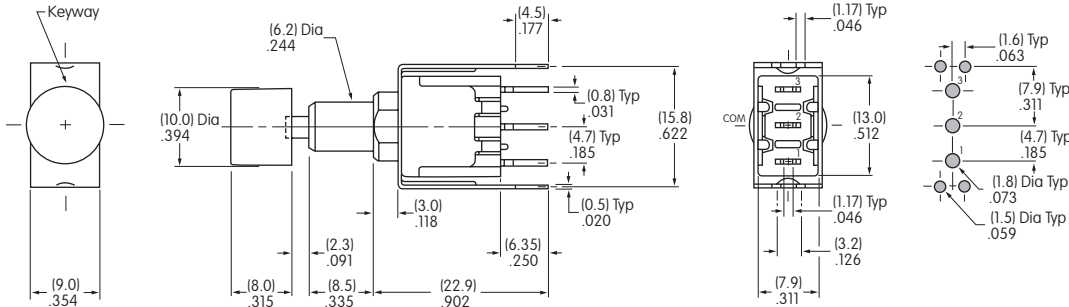
Bracket PC Mount Miniature Pushbuttons

Series MB2000

TYPICAL SWITCH DIMENSIONS

Single Pole

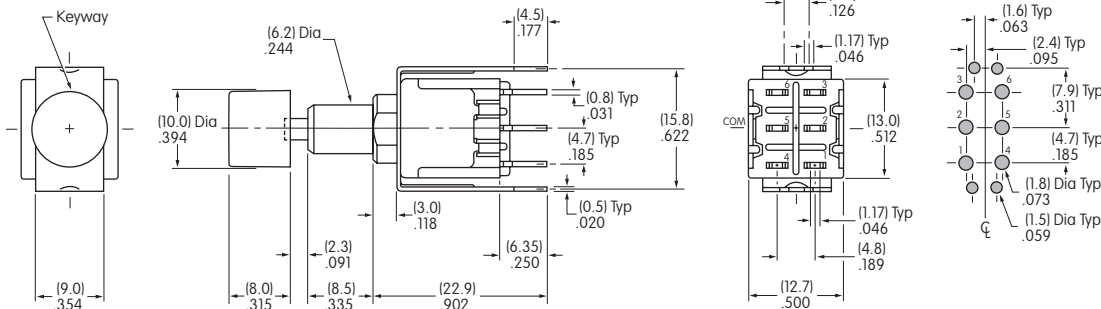
Straight PC with Bracket



MB2011SS2G13-CA

Double Pole

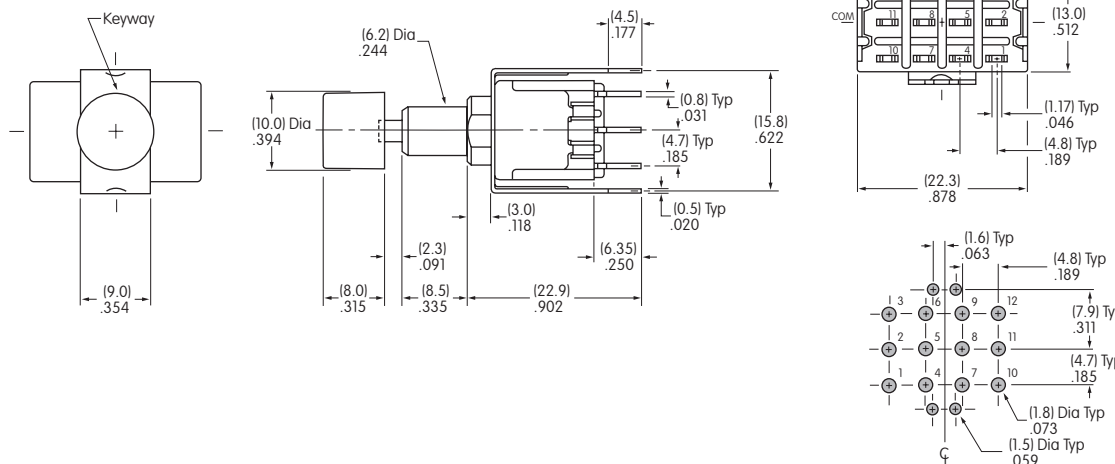
Straight PC with Bracket



MB2061SS2G13-CA

Four Pole

Straight PC with Bracket



MB2181SS2G13-CA

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

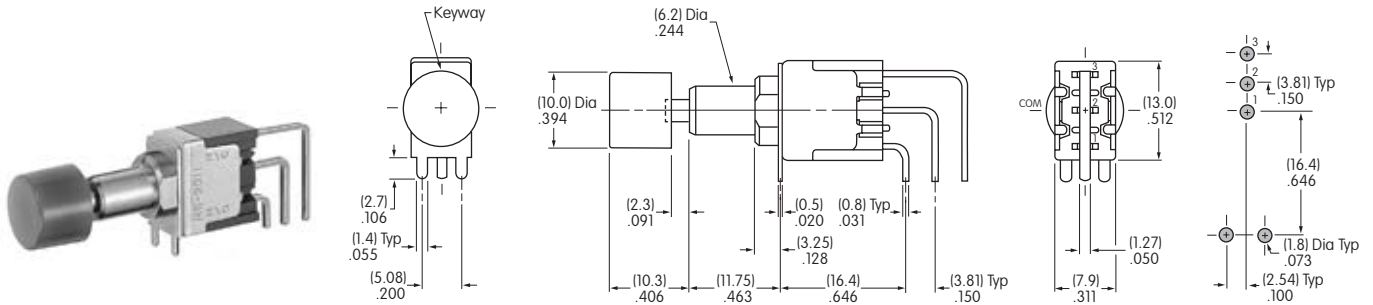
Series MB2000

Bracket PC Mount Miniature Pushbuttons

TYPICAL SWITCH DIMENSIONS

.150" (3.81mm) Vertical PC

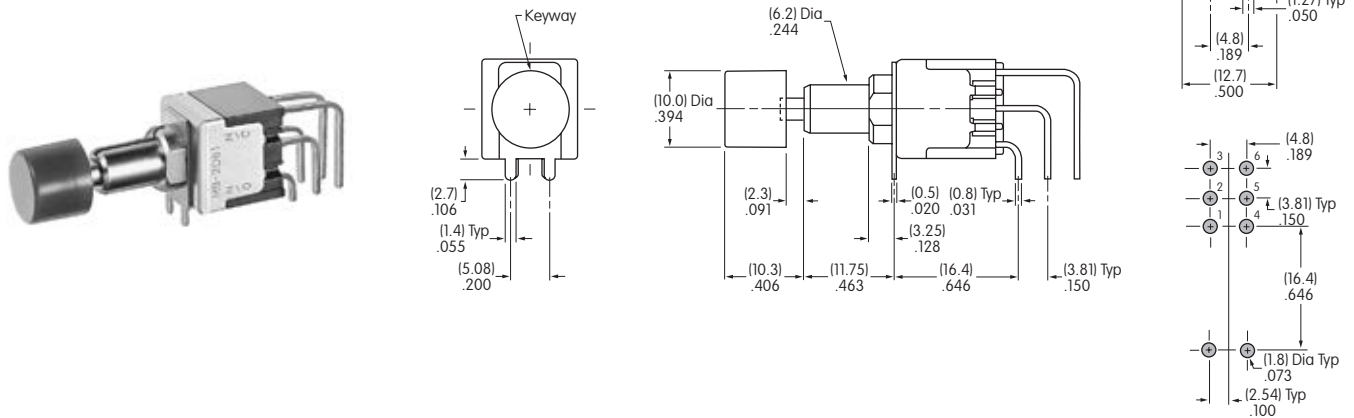
Single Pole



MB2011SS2G40-CA

.150" (3.81mm) Vertical PC

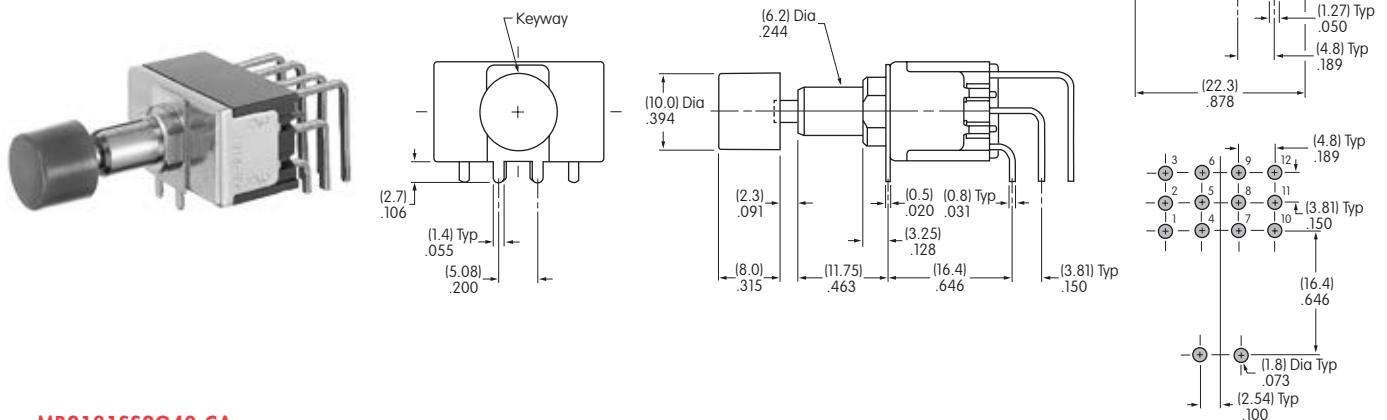
Double Pole



MB2061SS2G40-CA

.150" (3.81mm) Vertical PC

Four Pole



MB2181SS2G40-CA

Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

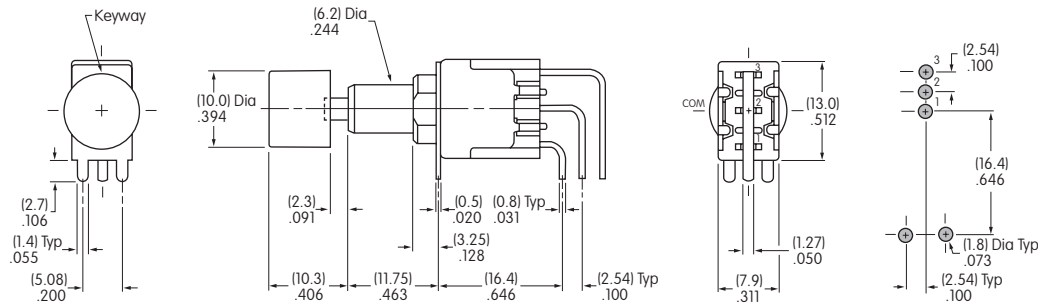
Bracket PC Mount Miniature Pushbuttons

Series MB2000

TYPICAL SWITCH DIMENSIONS

Single Pole

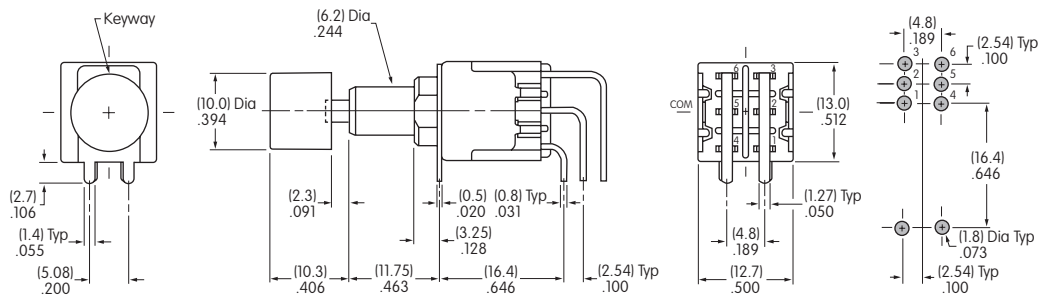
.100" (2.54mm) Vertical PC



MB2011SS2G45-CA

Double Pole

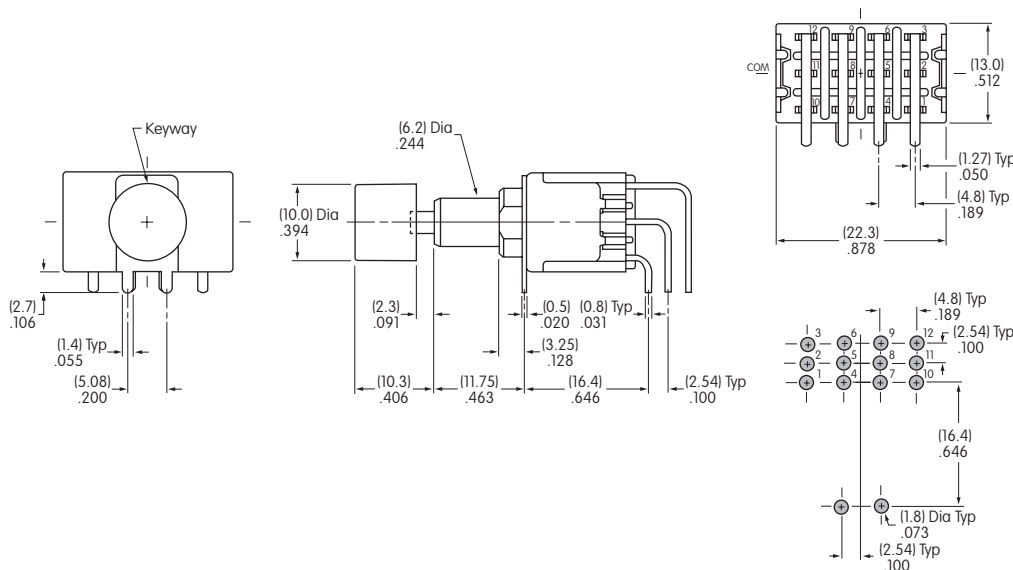
.100" (2.54mm) Vertical PC



MB2061SS2G45-CA

Four Pole

.100" (2.54mm) Vertical PC



MB2181SS2G45-CA

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

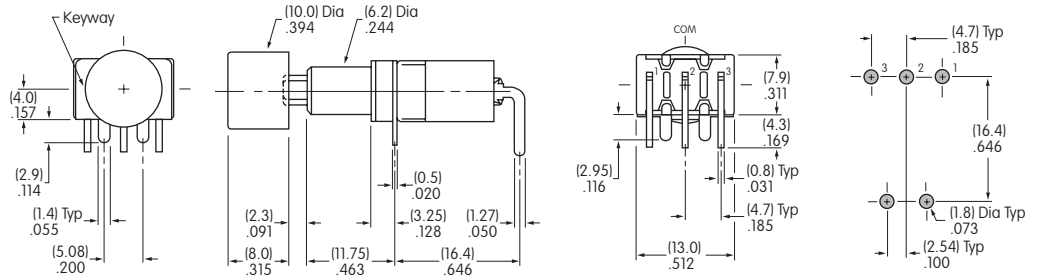
Series MB2000

Bracket PC Mount Miniature Pushbuttons

TYPICAL SWITCH DIMENSIONS

Right Angle PC

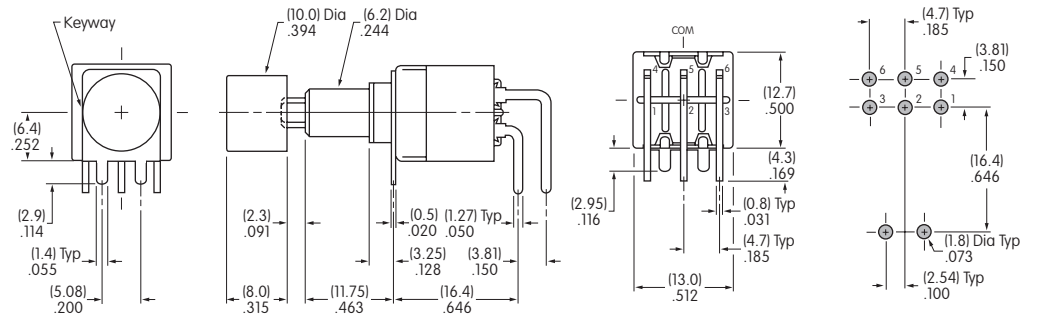
Single Pole



MB2011SS2G30-CA

Right Angle PC

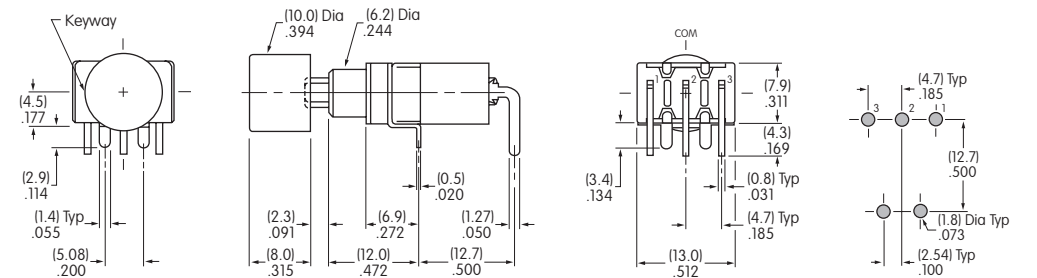
Double Pole



MB2061SS2G30-CA

Right Angle PC with .500" (12.7mm) Support to Terminal

Single Pole



MB2011SA2G31-CA

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

Large Bushing Miniature Pushbuttons

Series MB2000

TYPICAL SWITCH ORDERING EXAMPLE

MB 2011 S B1 W 01 — D A

Poles & Circuits			
2011	SPDT	ON	(ON)
2065	SPDT	ON	ON
2061	DPDT	ON	(ON)
2085	DPDT	ON	ON
2181	4PDT	ON	(ON)
2185	4PDT	ON	ON

() = Momentary

Contact Materials & Ratings	
W	Silver Rated 6A @ 125V AC & 3A @ 250V AC
G	Gold Rated 0.4VA max @ 28V AC/DC max

Caps	
B	.315" (8.0mm) Diameter
C	.394" (10.0mm) Diameter
D	.520" (13.2mm) Diameter
E	.748" (19.0mm) Diameter

Plunger Type	
S	Plunger for Screw-on Caps

Terminals	
01	Solder Lug
02	Quick Connect
03	.250" (6.35mm) Straight PC
05	.425" (10.8mm) Wirewrap
06	.750" (19.05mm) Wirewrap
07	.964" (24.5mm) Wirewrap
08	1.062" (27.0mm) Wirewrap

Bushings	
B1	.472" (12.0mm) Threaded with Keyway
B3	.472" (12.0mm) Threaded w/Splashproof

Cap Colors	
A	Black
B	White
C	Red
*D	Amber
*E	Yellow
F	Green
*G	Blue
**H	Gray

* Not available with Cap Code E
** Not available with Cap Codes D or E

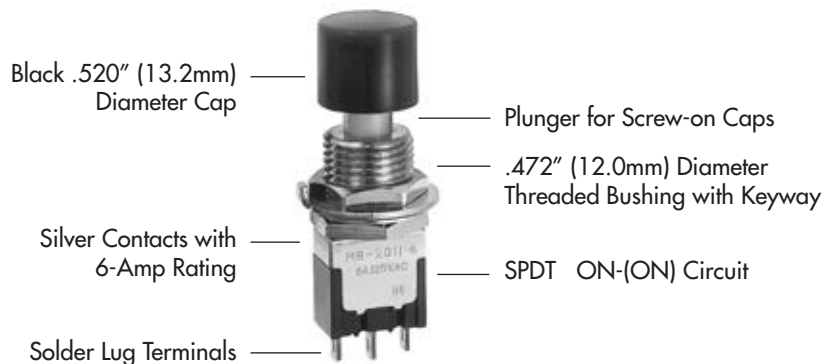
IMPORTANT:



Switches are supplied without UL, cULus & CSA marking unless specified. **UL, cULus & CSA 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

MB2011SB1W01-DA



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

Series MB2000

Large Bushing Miniature Pushbuttons

Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt






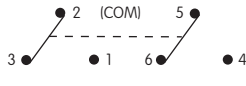
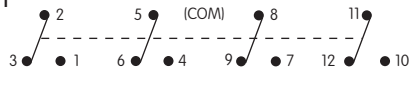
Touch

Indicators

Accessories

Supplement

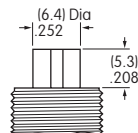
POLES & CIRCUITS

		Plunger Position () = Momentary		Connected Terminals		Throw & Switch Schematics
Pole	Model	Normal 	Down 	Normal 	Down 	Note: Terminal numbers are not actually on the switch.
SP	MB2011 MB2065	ON	(ON)	2-3	2-1	SPDT 
DP	MB2061 MB2085	ON	(ON)	2-3 5-6	2-1 5-4	DPDT 
4P	MB2181 MB2185	ON	(ON)	2-3 5-6 8-9 11-12	2-1 5-4 8-7 11-10	4PDT 

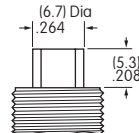
PLUNGER TYPE

S

Plunger for Screw-on Caps
Plunger is plastic for B1 bushing.



Plunger is metal for B3 bushing.



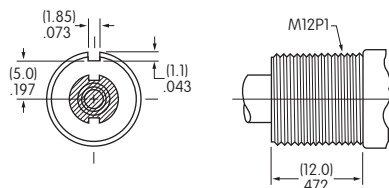
On alternate action models, after transferring circuit, the plunger returns to its original position, and does not latch down.

BUSHINGS

B1

.472" (12.0mm) Diameter Threaded with Keyway

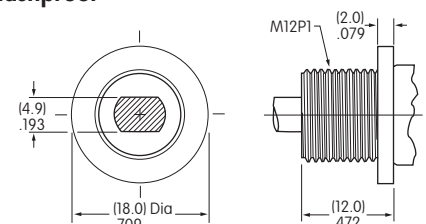
Maximum Panel Thickness with Standard Hardware: .217" (5.5mm)



B3

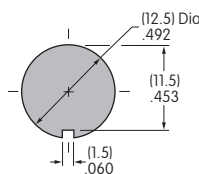
.472" (12.0mm) Diameter Threaded Splashproof

Maximum Panel Thickness with Standard Hardware: .217" (5.5mm)

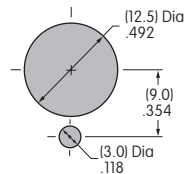


Panel Cutouts

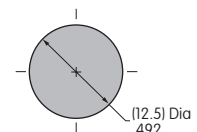
For B1 Bushing with Keyway



For B1 Bushing with Locking Ring



For B3 Bushing without Keyway



CONTACT MATERIALS & RATINGS

W

Silver over Silver

Power Level

6A @ 125V AC & 3A @ 250V AC

G

Gold over Brass or Copper

Logic Level

0.4VA maximum @ 28V AC/DC maximum

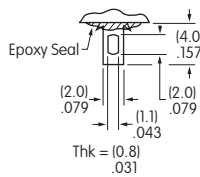
Note: Complete explanation of operating range in Supplement section.

Large Bushing Miniature Pushbuttons

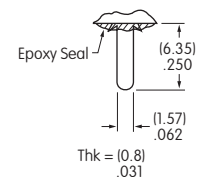
Series MB2000

TERMINALS

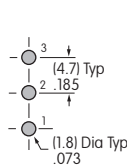
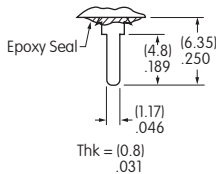
01 Solder Lug



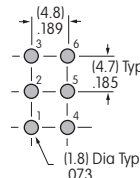
02 .062" (1.57mm) Wide Quick Connect



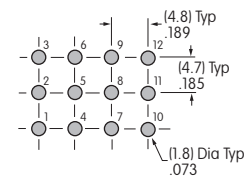
03 .250" (6.35mm) Straight PC



Single Pole



Double Pole



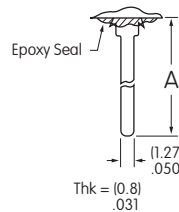
Four Pole

05 .425" (10.8mm) Wirewrap or Extended PC

06 .750" (19.05mm) Wirewrap or Extended PC

07 .964" (24.5mm) Wirewrap or Extended PC

08 1.062" (27.0mm) Wirewrap or Extended PC



If using as extended PC terminal, refer to the above footprints.

Dimension A = terminal lengths as shown beside the terminal codes at the left.

CAPS & CAP COLORS

B AT078
.315" (8.0mm)
Diameter Screw-on Cap

C AT079
.394" (10.0mm)
Diameter Screw-on Cap

D AT414
.520" (13.2mm)
Diameter Screw-on Cap

E AT412
.748" (19.0mm)
Diameter Screw-on Cap

Material:
Polystyrene
Finish:
Glossy



Material:
Polystyrene
Finish:
Glossy



Material:
PBT
Finish:
Glossy



Material:
Polystyrene
Finish:
Glossy

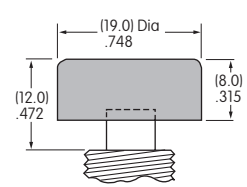
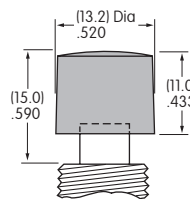
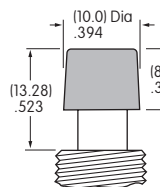
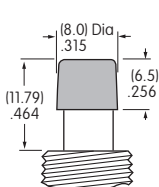


Colors Available:
A B C E F G H

Colors Available:
A B C E F G H

Colors Available:
A B C D E F G

Colors Available:
A B C F



Cap Color Codes:

- A** Black
- B** White
- C** Red
- D** Amber
- E** Yellow
- F** Green
- G** Blue
- H** Gray

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

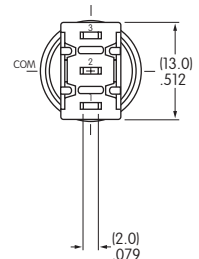
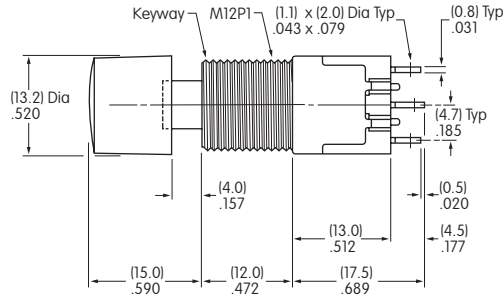
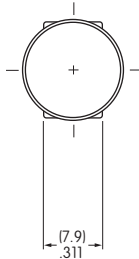
Series MB2000

Large Bushing Miniature Pushbuttons

TYPICAL SWITCH DIMENSIONS

Solder Lug

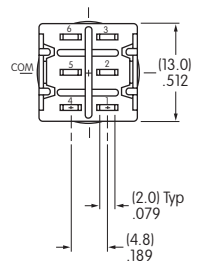
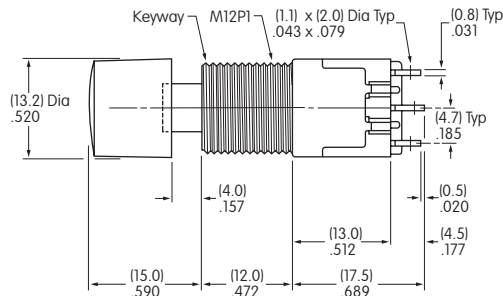
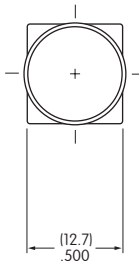
Single Pole



MB2011SB1W01-DA

Solder Lug

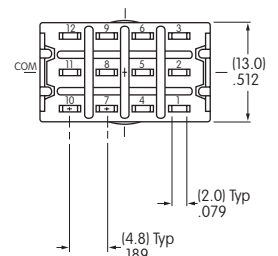
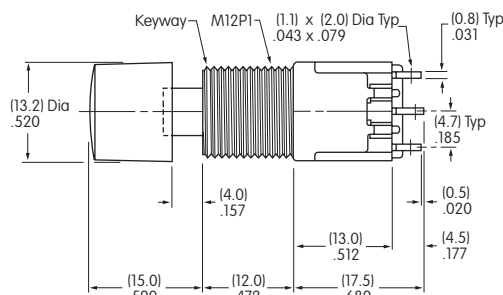
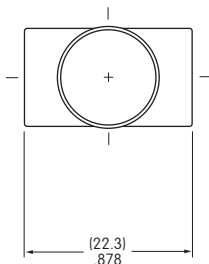
Double Pole



MB2061SB1W01-DA

Solder Lug

Four Pole



MB2181SB1W01-DA

Toggle

Rockers

Pushbuttons

Programmable Illuminated PB

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

Large Bushing Miniature Pushbuttons

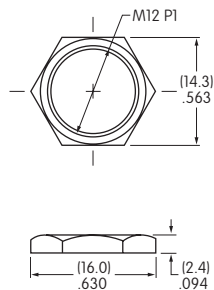
Series MB2000

HARDWARE

Standard Hardware for B1 Bushing

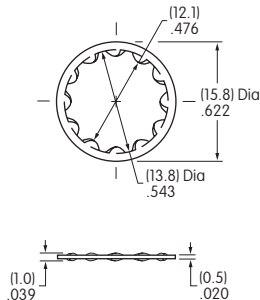
AT503M Hex Face Nut

Material:
Brass with Chrome plating



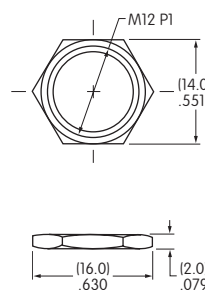
AT508 Lockwasher

Material:
Steel with Zinc/Chromate



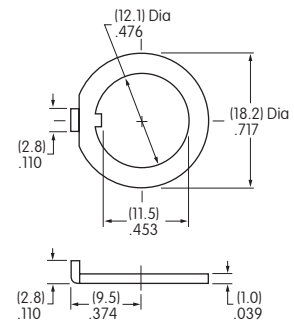
AT527M Hex Nut

Material:
Steel with Nickel plating



AT506M Locking Ring

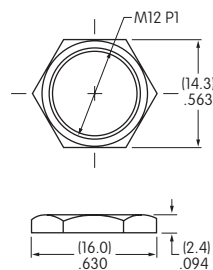
Material:
Steel with Zinc/Chromate



Standard Hardware for B3 Bushing

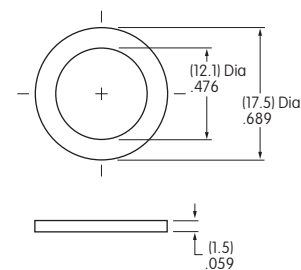
AT503M Hex Face Nut

Material:
Brass with Chrome plating



AT401P O-ring

Material:
Nitrile butadiene rubber

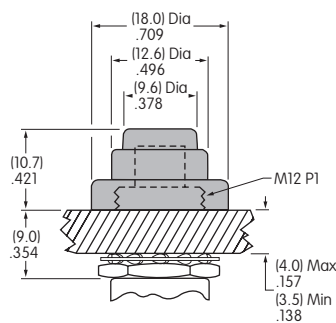


Optional Splashproof Boot for B1 Bushing

AT4043 Splashproof Boot

Material: Silicone Rubber
Operating Life: 100,000 for momentary
50,000 for alternate action

When using a splashproof boot, no cap is required.



Series MB2000

Large Bushing Miniature Pushbuttons

CUSTOM ASSEMBLY ORDERING EXAMPLE

The MB2000 pushbutton series offers flexibility to accommodate a variety of applications. Using a basic large bushing model, different accessories can be assembled onto the switch to achieve the mounting variations shown on the following two pages.

- These switches have:
- 12mm diameter threaded bushing with keyway
 - Silver contacts
 - 6-Amp rating
 - Solder lug terminals

Other 12mm bushing options can be used; see details in preceding Large Bushing Ordering tables.

MB2011

SB1W01

4

C

A

Poles & Circuits			
2011	SPDT	ON	(ON)
2065	SPDT	ON	ON
2061	DPDT	ON	(ON)
2085	DPDT	ON	ON
4-pole available			
() = Momentary			

Mounter Shapes For Shroud	
4	Round
5	Rectangular

Cap Colors For Shroud	
A	Black
B	White
C	Red
F	Green
G	Blue
H	Gray

Mounter Colors For Shroud	
A	Black
B	White
H	Gray

Cap Colors For Snap-In	
A	Black
B	White
C	Red
F	Green



Round Shroud
MB2011SB1W01-4C-A



Rectangular Shroud
MB2011SB1W01-5C-A

See custom assemblies on following pages.

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

Large Bushing Miniature Pushbuttons

Series MB2000

MOUNTER SHAPES FOR SHROUDS

4 AT455 Round

Material: Polycarbonate
Colors: A B H



5 AT453 Rectangular

Material: Polycarbonate
Colors: A B H



CAPS & CAP COLORS FOR SHROUDS

AT454 Round
Insert Cap

Material: Polycarbonate
Colors: A B C F G H



AT452 Rectangular
Insert Cap

Material: Polycarbonate
Colors: A B C F G H



AT080 Screw Adaptor for Insert Caps

Material: Brass



Color Codes:

- A** Black
- B** White
- C** Red
- F** Green
- G** Blue
- H** Gray

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

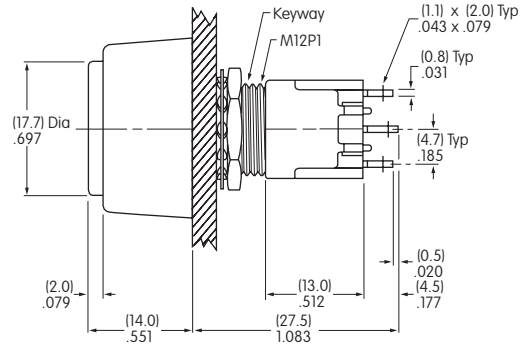
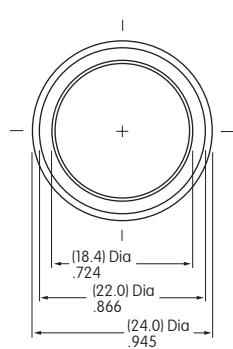
Series MB2000

Large Bushing Miniature Pushbuttons

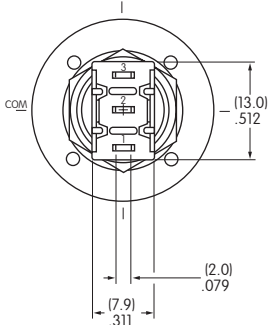
CUSTOM ASSEMBLY WITH ROUND SHROUD



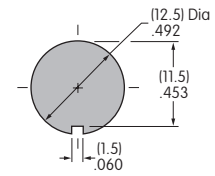
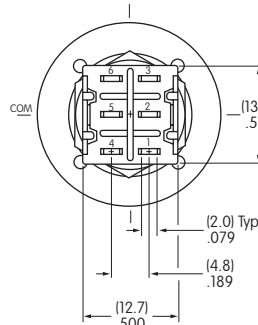
MB2011SB1W01-4C-A



Single Pole



Double Pole

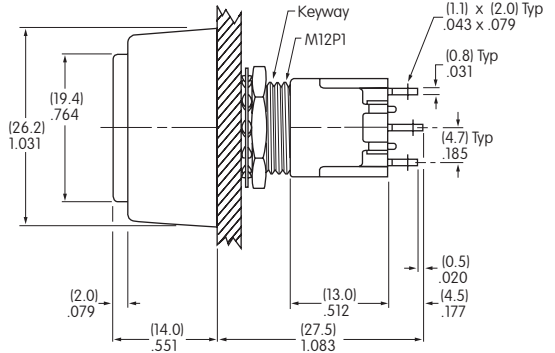
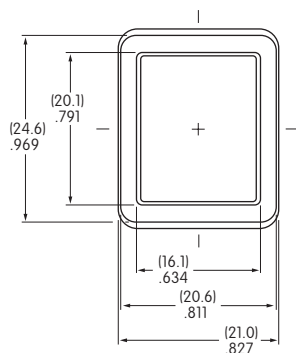


Effective Panel Thickness:
.217" (5.5mm) maximum

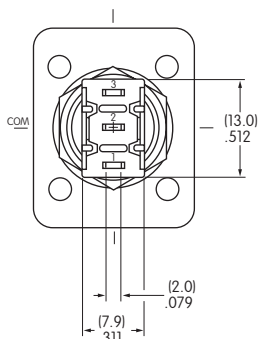
CUSTOM ASSEMBLY WITH RECTANGULAR SHROUD



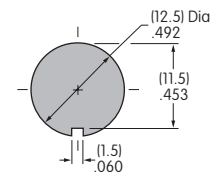
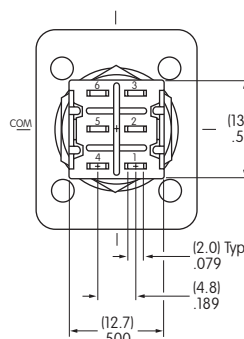
MB2011SB1W01-5C-A



Single Pole



Double Pole



Effective Panel Thickness:
.217" (5.5mm) maximum

Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we strictly control the quality of products and services. Welcome your RFQ to

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Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

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