

Toggles
A

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

M20

2

2

S

S2

Poles

| | |
|---|--------------|
| 1 | SPDT |
| 2 | DPDT SP3T |

Circuits

| | | | |
|----|------|------|------|
| 2 | ON | NONE | ON |
| 3 | ON | OFF | ON |
| 5 | ON | NONE | (ON) |
| 8 | (ON) | OFF | (ON) |
| 9 | ON | OFF | (ON) |
| *4 | ON | ON | ON |
| *6 | (ON) | ON | (ON) |
| *7 | ON | ON | (ON) |

() = Momentary
* 3-ON circuits

Small Toggles

| | |
|----|------------------------|
| S | .413" (10.5mm) Bat |
| S2 | .200" (5.08mm) Bat |
| S3 | .256" (6.5mm) Bat |
| E | .450" (11.4mm) Flatted |
| E2 | .256" (6.5mm) Flatted |
| E4 | .840" (21.3mm) Flatted |
| Q | .550" (14.0mm) Cone |
| Q2 | .640" (16.26mm) Cone |
| Q4 | .840" (21.3mm) Cone |

Toggle dimensions are based on use with a .350" (8.9mm) bushing; add .070" (1.78mm) to toggle length when combining with a .280" (7.1mm) bushing

Locking Lever

| | |
|---|----------------------------------|
| L | .201" (5.1mm) Dia. Locking Lever |
|---|----------------------------------|

Small Bushings

| | |
|----|------------------------------------|
| A2 | .280" (7.1mm) Smooth with Keyway |
| S2 | .350" (8.9mm) Smooth with Keyway |
| A1 | .280" (7.1mm) Threaded with Keyway |
| S1 | .350" (8.9mm) Threaded with Keyway |

Deduct bracket thickness of .020" (0.51mm) from above dimensions

Bushing For Locking Levers

| | |
|----|-----------------------------------|
| L2 | Smooth with Keyway for Lever Lock |
|----|-----------------------------------|

Standard Toggle & Bushing Combinations:

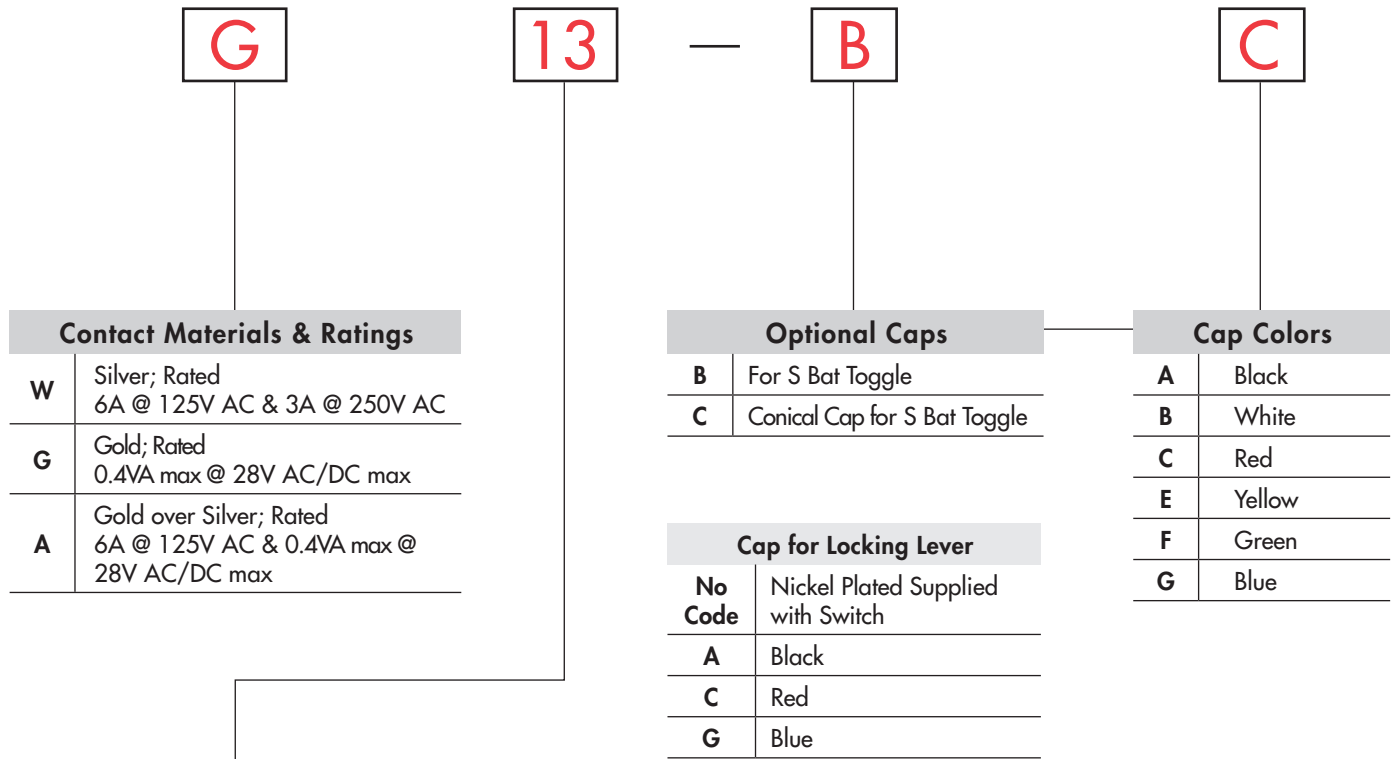
SS2 & S2A2

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.

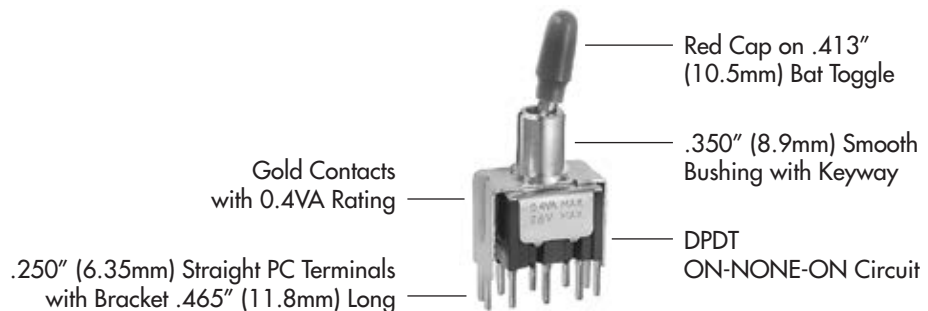
ORDERING EXAMPLE










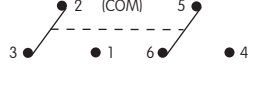
| Terminals | |
|-------------------------|--|
| With Bracket | |
| 13 | .250" (6.35mm) Straight PC with .465" (11.8mm) Bracket |
| 15 | .425" (10.8mm) Straight PC with .630" (16.0mm) Bracket |
| 17 | .964" (24.5mm) Straight PC with 1.150" (29.2mm) Bracket |
| With Reinforced Bracket | |
| 23 | .250" (6.35mm) Straight PC with .465" (11.8mm) Bracket |
| 25 | .425" (10.8mm) Straight PC with .630" (16.0mm) Bracket |
| 26 | .750" (19.05mm) Straight PC with .953" (24.2mm) Bracket |

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

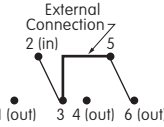
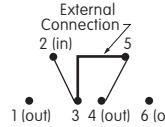
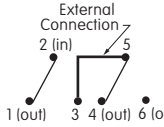
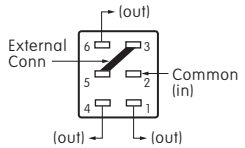
M2022SS2G13-BC



POLES & CIRCUITS

| Pole | Model | Toggle Position () = Momentary | | | Connected Terminals | | | Throw & Schematics |
|------|---|---|---|---|---|---|--|---|
| | | Down  | Center  | Up  | Down  | Center  | Up  | |
| SP | M2012 M2013 M2015 M2018 M2019 | ON ON ON (ON) ON | NONE OFF NONE OFF OFF | ON ON (ON) (ON) (ON) | 2-3 | OPEN | 2-1 | SPDT  |
| DP | M2022 M2023 M2025 M2028 M2029 | ON ON ON (ON) ON | NONE OFF NONE OFF OFF | ON ON (ON) (ON) (ON) | 2-3 5-6 | OPEN | 2-1 5-4 | DPDT  |

For 3 Throw (3-On)

| Pole | Model | Connected Terminals & Schematics | | | External Connection |
|------|-------------------------|--|--|--|--|
| | | Down | Center | Up | |
| SP | M2024 M2026 M2027 | ON (ON) ON  | ON ON ON  | ON (ON) (ON)  | The SP3T model utilizes a double pole base. External connection must be made during field installation.  |

SMALL TOGGLES

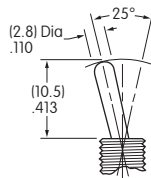
Important:

Toggle length changes based on bushing selected. All illustrations are shown with .350" (8.9mm) long bushing. When using a .280" (7.1mm) long bushing, toggle length increases .070" (1.78mm).

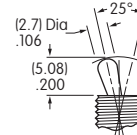
Standard Material & Finish:

Brass with Bright Chrome
Contact factory for optional finishes.

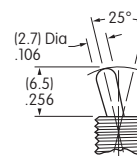
S .413" (10.5mm) Bat



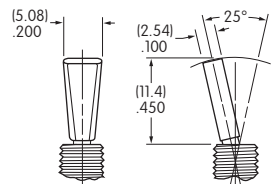
S2 .200" (5.08mm) Bat



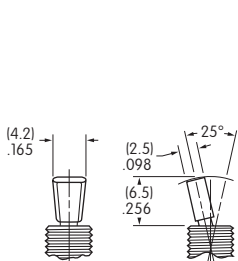
S3 .256" (6.5mm) Bat



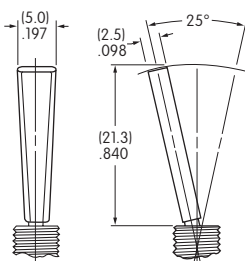
E .450" (11.4mm) Flatted



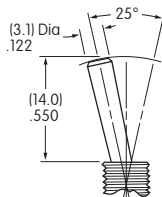
E2 .256" (6.5mm) Flatted



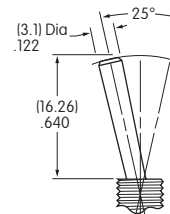
E4 .840" (21.3mm) Flatted



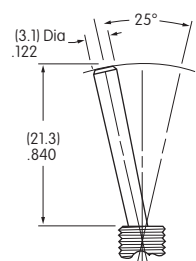
Q .550" (14.0mm) Cone



Q2 .640" (16.26mm) Cone

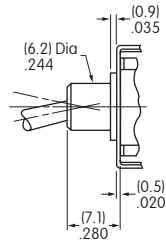
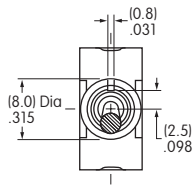


Q4 .840" (21.3mm) Cone

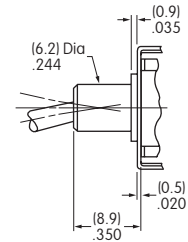
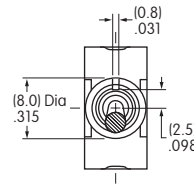


SMALL BUSHINGS

A2 .280" (7.1mm)
Smooth with Keyway

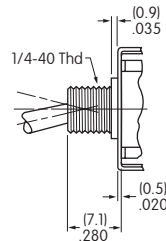
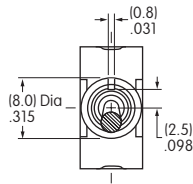


S2 .350" (8.9mm)
Smooth with Keyway

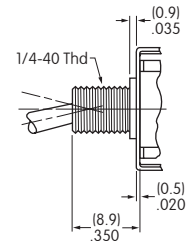
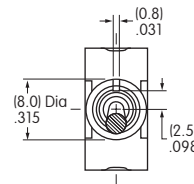


When using this bushing, toggle length is increased by .070" (1.78mm).

A1 .280" (7.1mm)
Threaded with Keyway



S1 .350" (8.9mm)
Threaded with Keyway

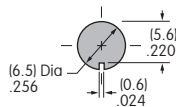


When using this bushing, toggle length is increased by .070" (1.78mm). Maximum Panel Thickness with Standard Hardware: .031" (0.8mm)

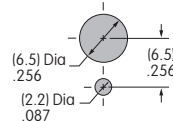
Maximum Panel Thickness with Standard Hardware: .102" (2.6mm)

Panel Cutouts

For A2, S2, A1, or S1 Bushing with Keyway



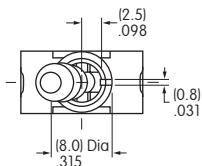
For A1 or S1 Bushing with Locking Ring



Standard Hardware:
2 Hex Nuts (AT513H)
1 Lockwasher (AT509)
1 Locking Ring (AT507H)
For dimensions, see Accessories & Hardware section.

LOCKING LEVER & BUSHING

LL2 Smooth with Keyway



Locking Mechanism

on-none-on



2 positions lock

on-none-(on)



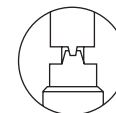
1 position locks

on-off-(on)
on-on-(on)



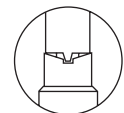
2 positions lock

on-off-on
on-on-on



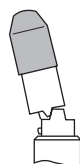
3 positions lock

(on)-off-(on)
(on)-on-(on)



1 position locks

No Code



Cap for Locking Lever
Supplied with Cap AT427
Material & Finish:
Brass with Nickel Plating
Lever Material & Finish:
Brass with Chrome Plating

Color Codes for Optional Anodized Aluminum Caps

A Black

C Red

G Blue

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: See Supplement section to find complete explanation of operating range.

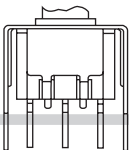
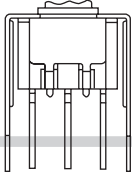
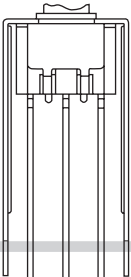
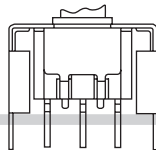
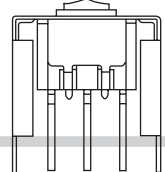
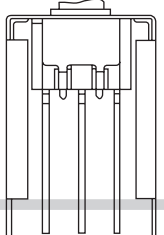
A Gold over Silver Power Level or Logic Level 6A @ 125V AC or 0.4VA maximum @ 28V AC/DC maximum

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 to find complete explanation of dual rating and operating range.

TERMINALS

Straight PC Mount with Bracket

Straight PC Mount with Reinforced Bracket

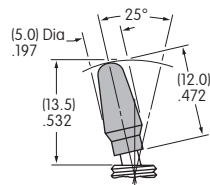
| | | | | | |
|---|---|---|---|---|---|
| 13 | 15 | 17 | 23 | 25 | 26 |
| .250" (6.35mm) Terminal with .465" (11.8mm) Bracket | .425" (10.8mm) Terminal with .630" (16.0mm) Bracket | .964" (24.5mm) Terminal with 1.150" (29.2mm) Bracket | .250" (6.35mm) Terminal with .465" (11.8mm) Bracket | .425" (10.8mm) Terminal with .630" (16.0mm) Bracket | .750" (19.05mm) Terminal with .953" (24.2mm) Bracket |
|  |  |  |  |  |  |

PCB footprints are on the following Typical Switch Dimension page.

OPTIONAL CAPS & CAP COLORS

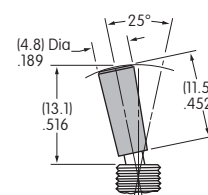
B * AT415
for S Bat Toggle

Material:
Polyethylene



C * AT444
Conical Cap for
S Bat Toggle

Material:
Polyethylene



* AT415 and AT444 for use with S toggles only, not S2 or S3 toggles.

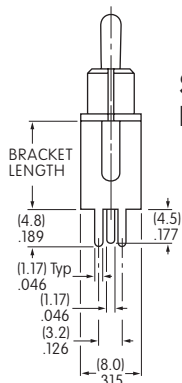
Cap Colors
Available:

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

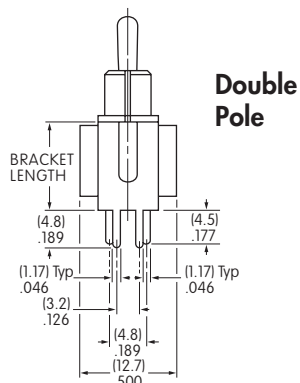
Toggles A
 Rockers
 Pushbuttons
 Illuminated PB
 Programmable
 Keylocks
 Rotaries
 Slides
 Tactiles
 Tilt
 Touch
 Indicators
 Accessories
 Supplement

TYPICAL SWITCH DIMENSIONS

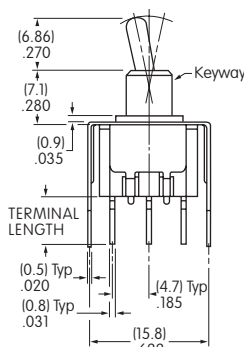
Straight PC • Bracket



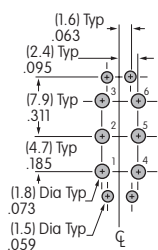
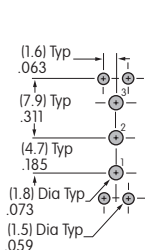
Single Pole



Double Pole

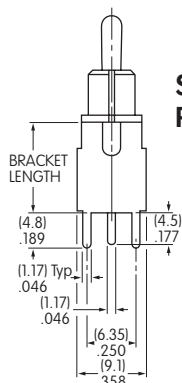


M2012S2A2G13

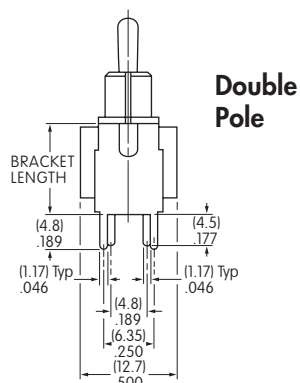


| Terminal Code: | Terminal Length: | Bracket Length: |
|----------------|------------------|-----------------|
| 13 | .250" (6.35mm) | .465" (11.8mm) |
| 15 | .425" (10.8mm) | .630" (16.0mm) |
| 17 | .964" (24.5mm) | 1.150" (29.2mm) |

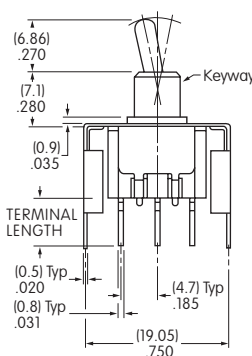
Straight PC • Reinforced Bracket



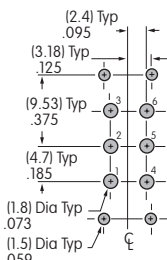
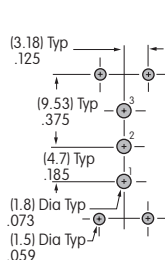
Single Pole



Double Pole



M2012S2A2G23



| Terminal Code: | Terminal Length: | Bracket Length: |
|----------------|------------------|-----------------|
| 23 | .250" (6.35mm) | .465" (11.8mm) |
| 25 | .425" (10.8mm) | .630" (16.0mm) |
| 26 | .750" (19.05mm) | .953" (24.2mm) |

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Toggle Switches](#) category:

Click to view products by [NKK Switches](#) manufacturer:

Other Similar products are found below :

[8928K478](#) [020017-13](#) [60012L](#) [6006L](#) [CS115W](#) [CS120W](#) [637H/25](#) [6663](#) [7101SPDV30BE](#) [7103SDV30BE](#) [7105D](#) [7108P3YAV2BE](#)
[71YY50282](#) [7300K36](#) [7301K38](#) [7306K36](#) [7310K36](#) [7506K4](#) [7592K6](#) [7660K12](#) [7691K14](#) [7700K1](#) [8391K108](#) [8396K108](#) [8811K17](#)
[8824K14](#) [8828K13](#) [8835K3](#) [8858K44](#) [PS83-121G](#) [1-1825192-0](#) [A201SCWZB04](#) [A207SYCB04](#) [A208J61ZQ0004](#) [A221T1TCQ](#)
[A323S1CWZQ](#) [A423S1CWZG-M8](#) [1201W](#) [12156AX408](#) [12147AGKX679](#) [12246X778](#) [12TW49-3D](#) [130312](#) [13037L](#) [13001X](#)
[AE101MD1W4B04](#) [AE208SD1W4B04](#) [MS24659-22D](#) [MS27407-5](#) [1520230-9](#)