General Specifications

Electrical Capacity (Resistive Load)

Power Level (silver): 6A @ 125V AC & 3A @ 250V AC

Other Ratings

Contact Resistance: 10 milliohms maximum
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 and case for 1 minute minimum
Mechanical Life: 100,000 operations minimum
Electrical Life: 25,000 operations minimum; 50,000 operations minimum for 3A @ 125V AC
Angle of Throw: 25°

Materials & Finishes

	Gold Actuator	Black Actuator
Toggle:	Brass with gold plating	Brass with black chrome plating
Bushing:	Brass with gold plating	Brass with black chrome plating
Frame:	Stainless steel	Stainless steel
Support Bracket:	Brass with tin plating	Brass with tin plating
Case:	Diallyl phthalate resin (UL94V–0)	Diallyl phthalate resin (UL94V–0)
Movable Contactor:	Phosphor bronze with silver plating	Phosphor bronze with silver plating
Movable Contacts:	Silver alloy	Silver alloy
Stationary Contacts:	Silver with silver plating	Silver with silver plating
Terminals:	Copper or brass with silver plating	Copper or brass with silver 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)

Installation

Mounting Torque: 3.0Nm (26.55 lb•in) double nut

Processing

Soldering: Manual Soldering: 350°C for 3 seconds, 1 cycle
Note: Lever must be in center position while soldering.
Cleaning: These devices are not process sealed. Hand clean locally using alcohol based solution.

Standards & Certifications

Flammability Standards: UL94V–0 for case

Distinctive Characteristics

Rich, lustrous gold tone over a large actuator and bushing, or the understated black matte large actuator and bushing (.453″/11.5mm toggle with .472″/12.0mm threaded bushing). Both sleek designs deliver the same functionality and reliability.

Actuation administers distinctive tactile feedback.

Antirotation design, standard on noncylindrical levers, mates toggle and bushing; bottom of toggle has two flatted sides which fit into a complementary opening inside bushing.

Antijamming design protects contacts from damage due to excessive downward force on actuator.

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

Molded diallyl phthalate case meets flammability standards for UL94V-0.

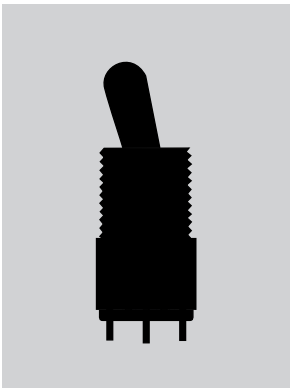
Increased insulation resistance and dielectric strength due to prominent external insulating barriers.

Interlocked actuator block, lever, and interior guide prevent switch failure due to biased lever movement.

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

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

Actual Size



SWITCH PART NUMBER & DESCRIPTION

Part Number	Toggle & Bushing	Switch Description
M2024BB1UW01 (Gold)	.453″ (11.5mm) Large Bat Toggle .472″ (12.0mm) Large Threaded Bushing with Keyway Gold Plated Toggle & Bushing Gold Plated Hex Face Nut & Locking Ring	Silver Contacts; Single Pole 3 Throw (3-On) Solder Lug Terminals
M2024BB1AW01 (Black)	.453″ (11.5mm) Large Bat Toggle .472″ (12.0mm) Large Threaded Bushing with Keyway Black Chrome Plated Toggle & Bushing Black Chrome Plated Hex Face Nut	Silver Contacts; Single Pole 3 Throw (3-On) Solder Lug Terminals

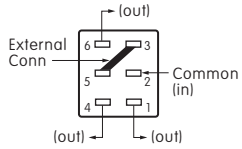
POLE & CIRCUIT

For 3 Throw (3-On)

Pole	Model	Toggle Position			Connected Terminals & Schematics		
		Down	Center	Up	Down	Center	Up
SP	M2024	Keyway ON	ON	ON	External Connection 2 (in) 5 1 (out) 3 4 (out) 6 (out) 2-3 5-6	External Connection 2 (in) 5 1 (out) 3 4 (out) 6 (out) 2-3 5-4	External Connection 2 (in) 5 1 (out) 3 4 (out) 6 (out) 2-1 5-4

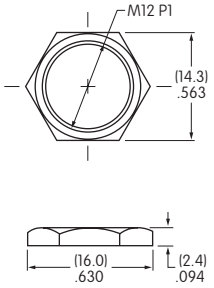
The SP3T model utilizes a double pole base.

External connection must be made during field installation.

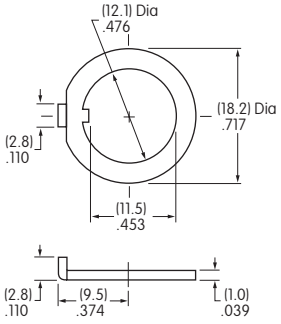


STANDARD HARDWARE FOR GOLD TOGGLE

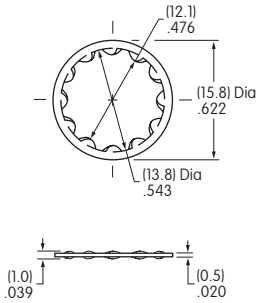
Hex Face Nut
Brass with
Gold Plating



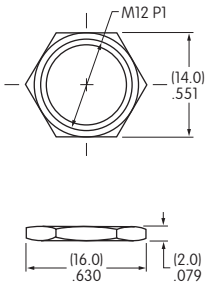
Locking Ring
Brass with
Gold Plating



AT508 Lockwasher
Steel with
Zinc/Chromate

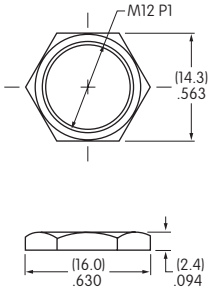


AT527M Hex Nut
Steel with
Nickel Plating

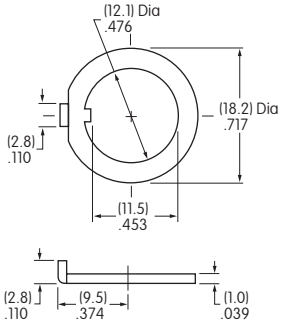


STANDARD HARDWARE FOR BLACK TOGGLE

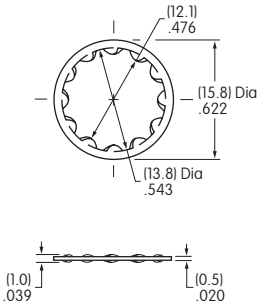
Hex Face Nut
Brass with
Black Chrome Plating



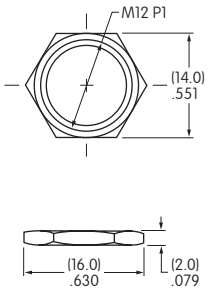
AT506M Locking Ring
Steel with
Zinc/Chromate



AT508 Lockwasher
Steel with
Zinc/Chromate



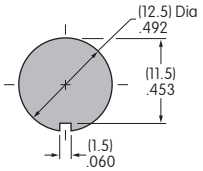
AT527M Hex Nut
Steel with
Nickel Plating



PANEL CUTOUTS

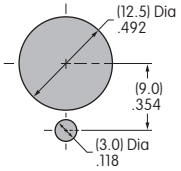
For Bushing with Keyway

Maximum Panel Thickness with Standard Hardware: .216" (5.5mm)



For Bushing with Locking Ring

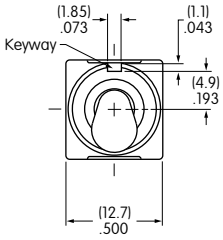
Maximum Panel Thickness with Standard Hardware: .216" (5.5mm)

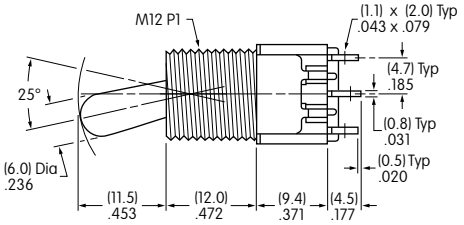


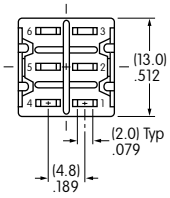
TYPICAL SWITCH DIMENSIONS FOR GOLD OR BLACK TOGGLE

Solder Lug

Gold Toggle



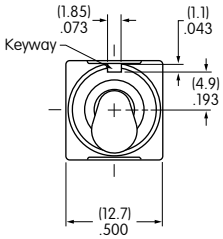


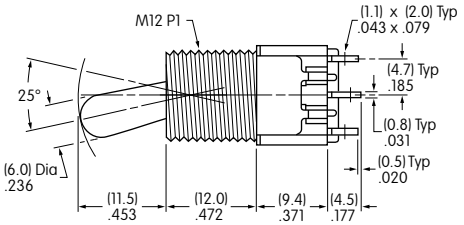


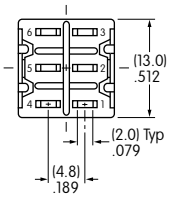
M2024BB1UW01

Solder Lug

Black Toggle



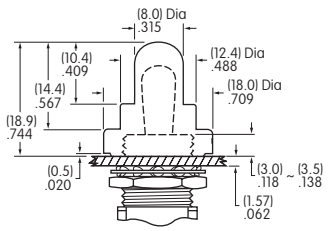




M2024BB1AW01

OPTIONAL SPLASHPROOF BOOT FOR GOLD OR BLACK TOGGLE

AT402S
.567" (14.4mm)
Boot for B Toggle
Silicon Rubber



Various optional nuts and ON-OFF plates are available; dimensions are shown in the Accessories & Hardware section.