

General Specifications

Electrical Capacity (Resistive Load)

Power Level: 10A @ 125V AC or 6A @ 250V AC or 10A @ 30V DC

Other Ratings

| | |
|-------------------------------|---|
| Contact Resistance: | 10 milliohms maximum for solder lug & screw terminal models; 30 milliohms maximum for wire lead terminal models |
| Insulation Resistance: | 200 megohms minimum @ 500V DC |
| Dielectric Strength: | 1,500V AC minimum for 1 minute minimum |
| Mechanical Life: | 50,000 operations minimum for On-None-Off, On-None-On, & On-Off-On models 30,000 operations minimum for all other models |
| Electrical Life: | 15,000 operations minimum |
| Angle of Throw: | 24° |

Materials & Finishes

| | |
|----------------------------------|---|
| Toggle: | Brass with chrome plating |
| Bushing & Outer Case: | Glass fiber reinforced polyamide (UL94V-0) |
| Inner Case: | Melamine |
| Inner Sealing Ring: | Nitrile butadiene rubber for On-None-Off, On-None-On, & On-Off-On models; silicone rubber for all other models |
| Outer Sealing Ring: | Nitrile butadiene rubber |
| Movable Contactor: | Copper with silver plating |
| Movable Contacts: | Silver alloy plus copper with silver plating |
| Stationary Contacts: | Silver alloy plus copper with silver plating |
| Terminals: | Brass with tin plating |
| Wire Lead Covers: | Heat resistant polyvinyl chloride (Leads are AWG 16) |

Environmental Data

| | |
|------------------------------|---|
| Operating Temp Range: | -30°C through +70°C (-22°F through +158°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) |
| Front Panel Seal: | IP67 of IEC60529, dust tight & water protected during temporary immersion for all models; optional toggle boot AT401 for additional protection (details at end of WT section) |
| Behind Panel Seal: | IP60 of IEC60529, dust tight but not water protected for solder lug & screw terminal models IP67 of IEC60529, dust tight & water protected during temporary immersion for wire lead models |

Installation

| | |
|-----------------------------------|--|
| Soldering Time & Temp: | Manual Soldering: See Profile A in Supplement section. |
| Mounting Torque: | 1.47Nm (13 lb•in) |

Standards & Certifications

| | |
|-----------------------------------|---|
| Flammability Standards: | UL94V-0 outer case |
| Wiring Material Standards: | UL AWM 1015 Recognized at Flammability VW-1; Temperature Range -20°C ~ +105°C; Maximum Load 600V; AWG 16. CSA TEW 105 Certified at Temperature Range -20°C ~ +105°C; Maximum Load 600V |

Distinctive Characteristics

Sealing for wire lead models meets IP67 of IEC60529 Standards at front and back panel.

Sealing for solder lug or screw lug models meets IP67 at front panel and IP60 at back panel.

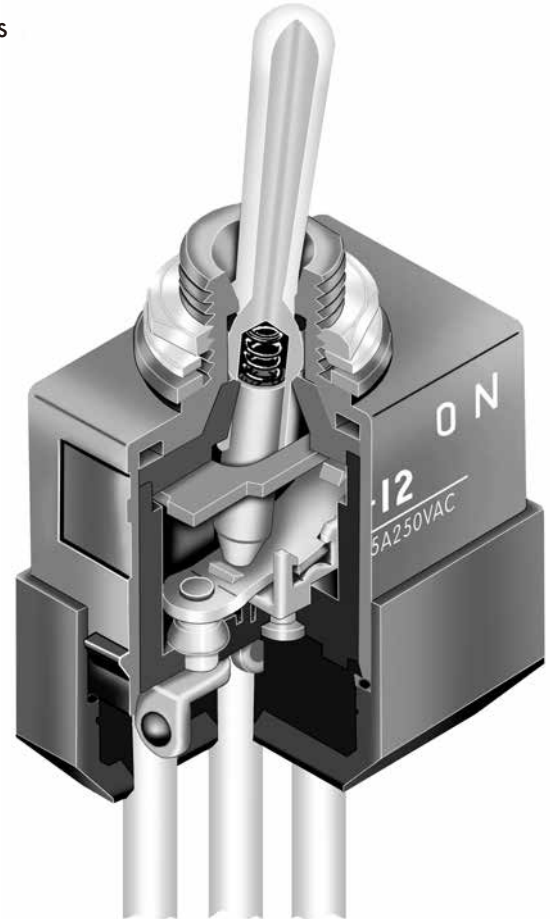
Single unit construction of bushing and case gives added protection from environmental elements.

Epoxy sealed base covered by outer case doubles protection from dust and water (not operable under water or oil).

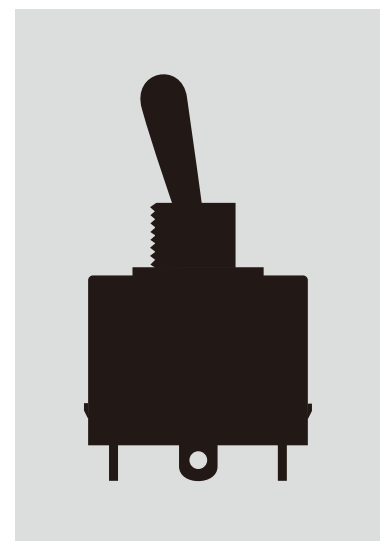
Specially designed contact mechanism that breaks light contact welds for circuits 11, 12, 21 and 22.

Interlocked movable contact mechanism provides highly reliable switching by minimizing contact bounce over center contact.

Heat resistant resin used for outer housing meets UL94V-0 flammability standard and provides high arc and tracking resistance.



Actual Size



A
Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

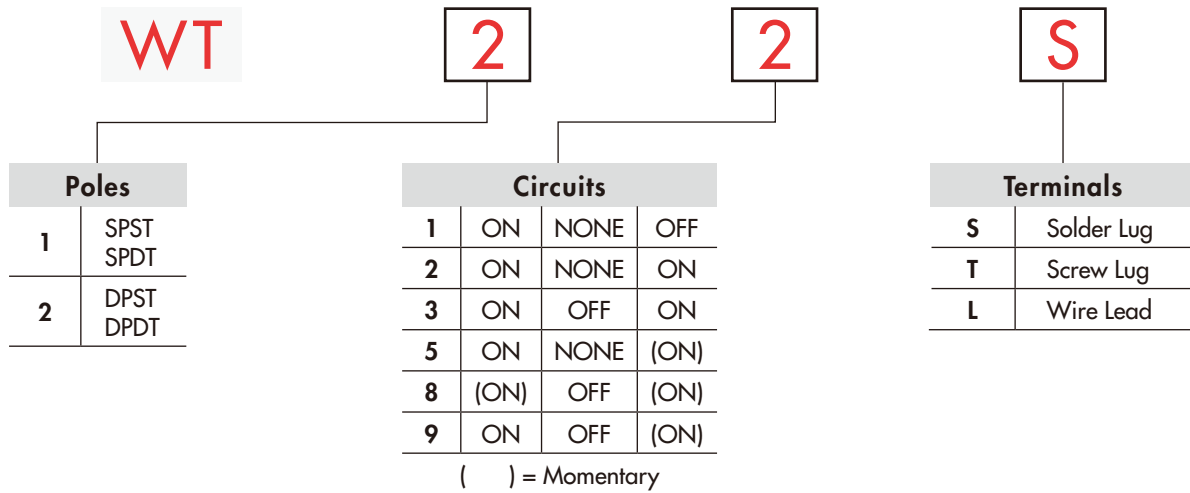
Indicators

Accessories

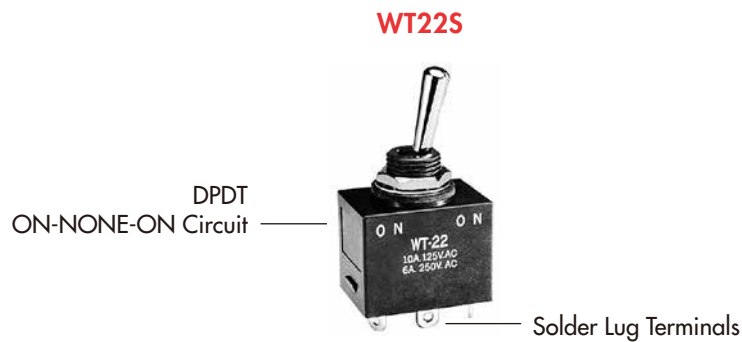
Supplement

Toggles
 A
 Rockers
 Pushbuttons
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 Indicators
 Accessories
 Supplement

TYPICAL SWITCH ORDERING EXAMPLE



DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

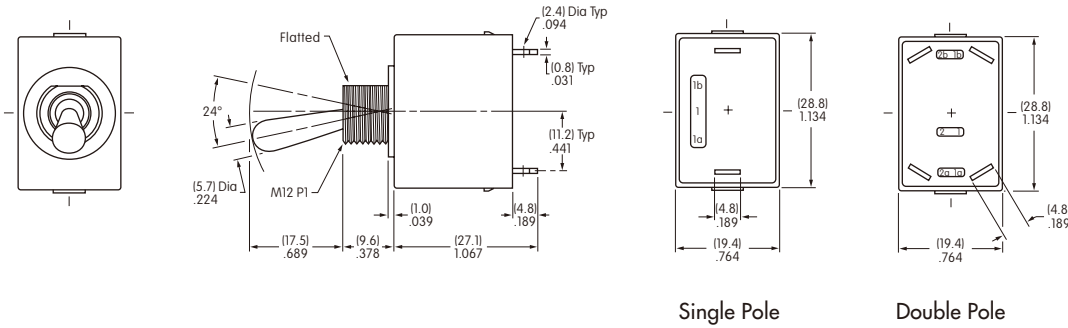


POLES & CIRCUITS

| | | Toggle Position () = Momentary | | | Connected Terminals | | | Throw & Schematics | |
|------|--------------------------------------|------------------------------------|-----------------------------------|----------------------------------|-----------------------------|--------|--------------|--|--|
| Pole | Model | Down <small>Flat</small> | Center | Up | Down <small>Flat</small> | Center | Up | Note: Terminal numbers are not actually on wire lead models. | |
| SP | WT11 | ON | NONE | OFF | 1a-1b | OPEN | OPEN | SPST | |
| SP | WT12 WT13 WT15 WT18 WT19 | ON ON ON (ON) ON | NONE OFF NONE OFF OFF | ON ON (ON) (ON) (ON) | 1-1b | OPEN | 1-1a | SPDT | |
| DP | WT21 | ON | NONE | OFF | 1a-1b 2a-2b | OPEN | OPEN | DPST | |
| DP | WT22 WT23 WT25 WT28 WT29 | ON ON ON (ON) ON | NONE OFF NONE OFF OFF | ON ON (ON) (ON) (ON) | 1-1b 2-2b | OPEN | 1-1a 2-2a | DPDT | |

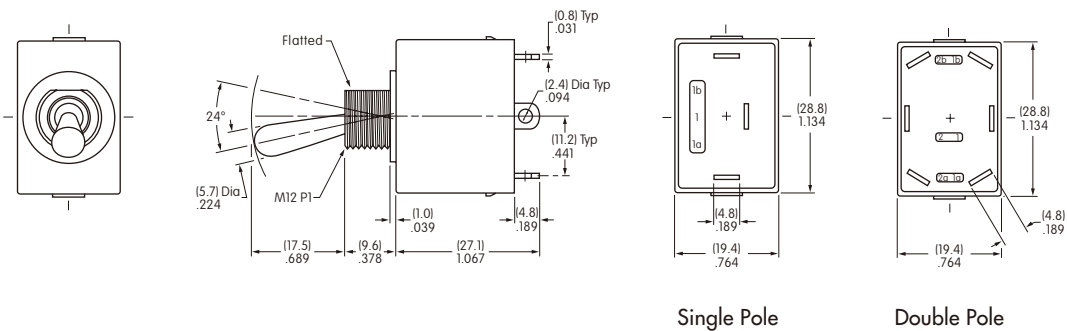
TYPICAL SWITCH DIMENSIONS

Single Throw • Solder Lug



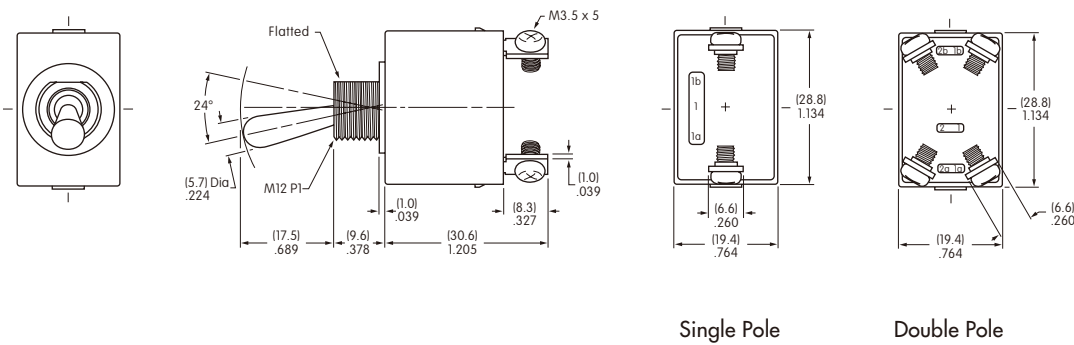
WT11S

Double Throw • Solder Lug



WT22S

Single Throw • Screw Lug



WT12T

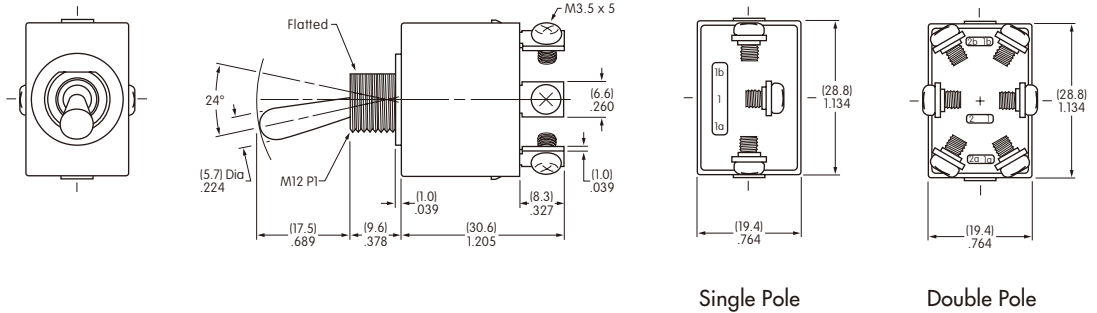
Toggles
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TYPICAL SWITCH DIMENSIONS

Double Throw • Screw Lug



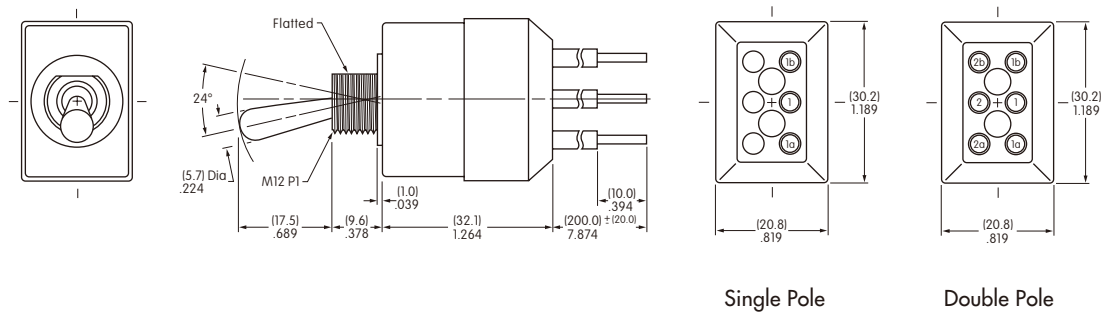
WT22T



Single & Double Pole • Wire Lead



WT22L

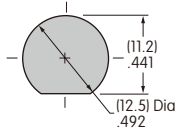


STANDARD WIRE COLOR SCHEME

Wire leads are covered with heat resistant vinyl in accordance to UL 1015 and CSA TEW 105 Standards for Appliance Wiring Material (AWM).

| | Terminal Numbers & Wire Colors | | | | | |
|----------------|--------------------------------|-------|-------|--------|------|--------|
| | 1a | 1 | 1b | 2a | 2 | 2b |
| WT11 | Black | | White | | | |
| WT12-19 | White | Black | Red | | | |
| WT21 | Black | | White | Blue | | Yellow |
| WT22-29 | White | Black | Red | Yellow | Blue | Green |

PANEL CUTOUT & THICKNESS



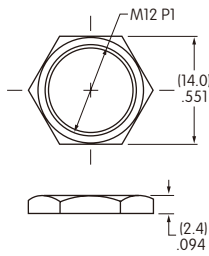
Maximum Effective Panel Thickness

With Standard Hardware: .157" (4.0mm)
 With optional Boot Assembly AT401A/H/S: .063" (1.6mm)
 With optional Boot Assembly AT4181: .083" (2.1mm)

STANDARD HARDWARE

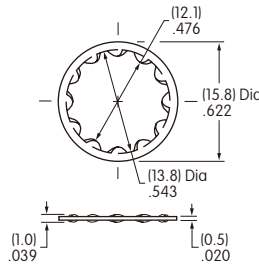
AT503M Hex Face Nut

Material: Brass with Chrome Plating
 1 supplied with each switch



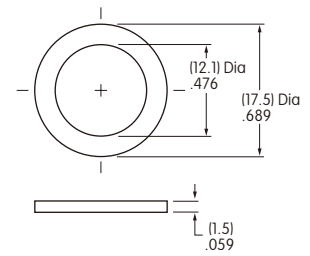
AT508 Internal Tooth Lockwasher

Material: Steel with Zinc/Chromate
 1 supplied with each switch



AT401P O-ring

Material: Nitrile butadiene rubber
 1 supplied with each switch



OPTIONAL ACCESSORIES

Boot Assemblies for High Particulate Contamination Applications

AT401A for Oil Resistance

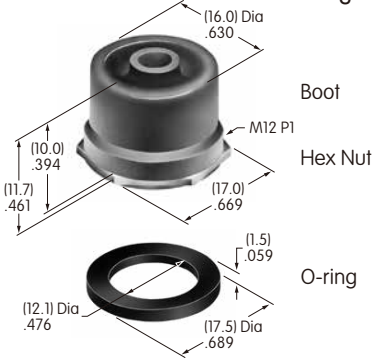
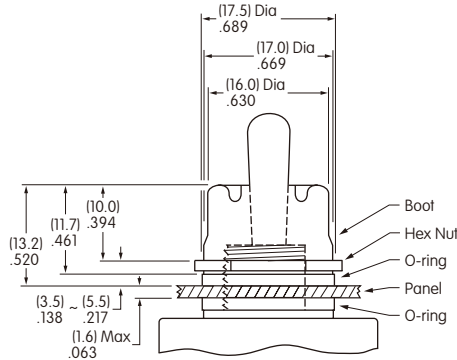
Boot Material: Black nitrile butadiene rubber
 Hex Nut Material & Finish: Nickel plated brass
 O-ring Material: Nitrile butadiene rubber

AT401H for Dust & Ozone Resistance

Boot Material: Gray ethylene propylene rubber
 Hex Nut Material & Finish: Nickel plated brass
 O-ring Material: Nitrile butadiene rubber

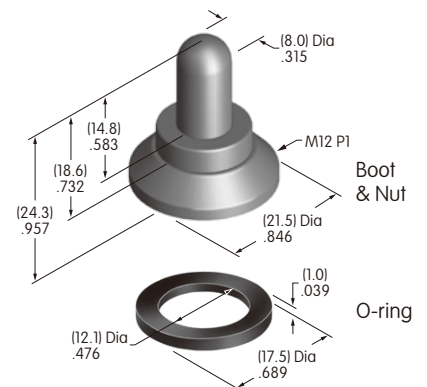
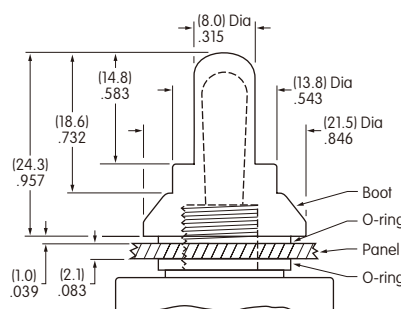
AT401S for Retention of Flexibility, Resilience & Tensile Strength Over Wide Temperature Range

Boot Material: Black silicone rubber
 Hex Nut Material & Finish: Nickel plated brass
 O-ring Material: Nitrile butadiene rubber



AT4181 Splashproof Boot Assembly

Boot Material: Black Silicon rubber
 Nut Material & Finish: Nickel plated brass
 O-ring Material: Nitrile butadiene rubber



Note: When using boot assemblies AT401A/H/S or AT4181, also use o-ring AT401P from the standard hardware supplied. Hex face nut AT503M and lockwasher AT508 are not used with these boot assemblies.

