

# 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:** Acrylonitrile butadiene rubber

**Outer Sealing Ring:** Nitrile butadiene rubber

**Movable Contact:** 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<sup>2</sup>) 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.

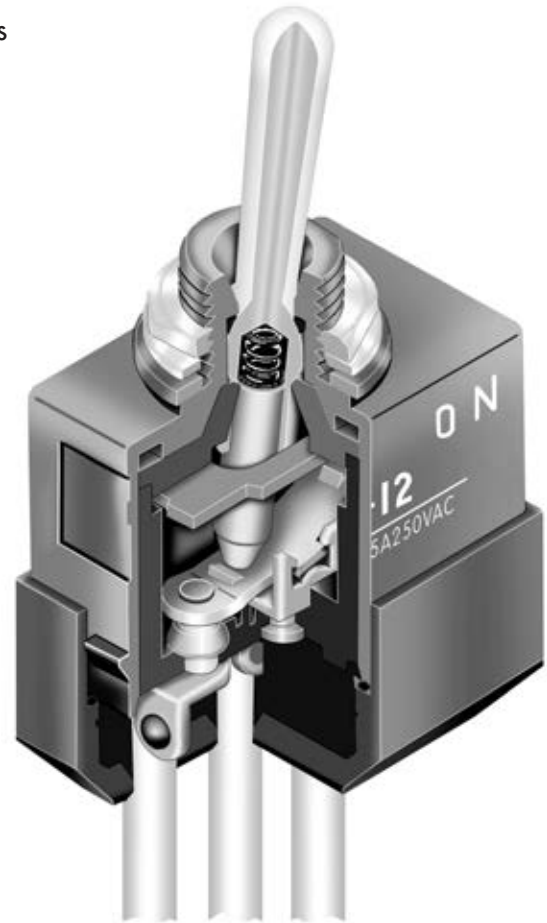
Single unit construction of bushing and case gives added protection from environmental elements.

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

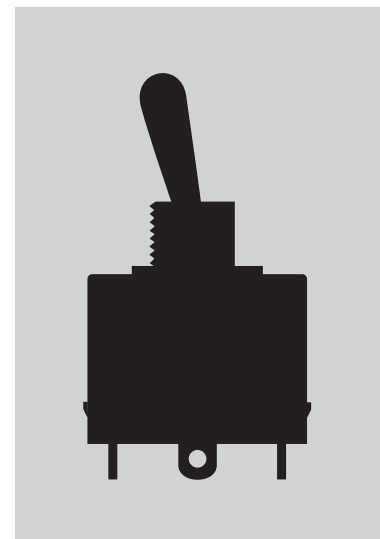
Specially designed contact mechanism that breaks light contact welds for circuits 11, 12, 21 and 22.

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

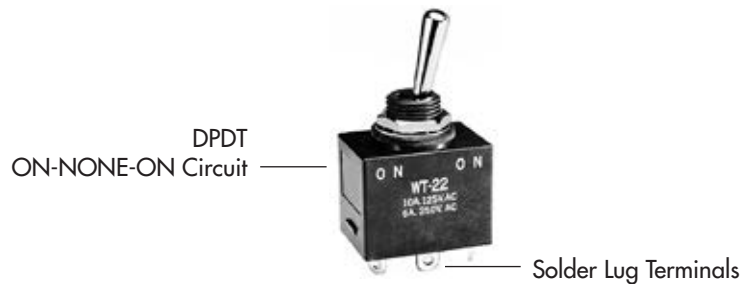
Supplement

## TYPICAL SWITCH ORDERING EXAMPLE

<b>WT</b>		<b>2</b>	<b>2</b>	<b>S</b>
<b>Poles</b>		<b>Circuits</b>		<b>Terminals</b>
1	SPST SPDT	1	ON NONE OFF	S Solder Lug
2	DPST DPDT	2	ON NONE ON	T Screw Lug
		3	ON OFF ON	L Wire Lead
		5	ON NONE (ON)	
		8	(ON) OFF (ON)	
		9	ON OFF (ON)	
		( ) = Momentary		

## DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

WT22S

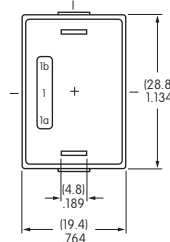
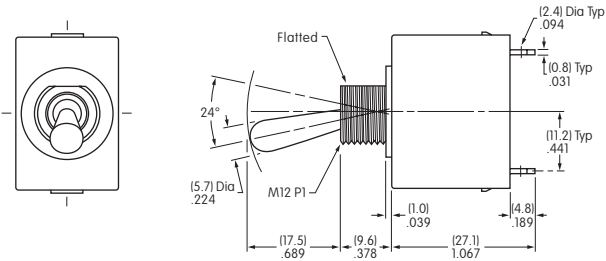


## POLES &amp; CIRCUITS

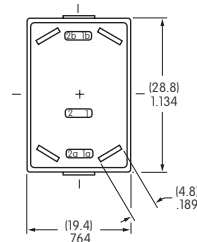
		Toggle Position ( ) = Momentary			Connected Terminals			Throw & Schematics
Pole	Model	Down 	Center 	Up 	Down 	Center 	Up 	Note: Terminal numbers are not actually on wire lead models.
SP	WT11	ON	NONE	OFF	1a-1b	OPEN	OPEN	SPST 
SP	WT12 WT13 WT15 WT18 WT19	ON ON ON (ON) ON	NONE OFF NONE OFF OFF	ON ON (ON) (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



Single Pole

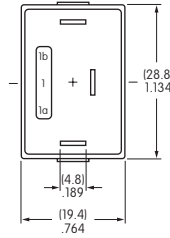
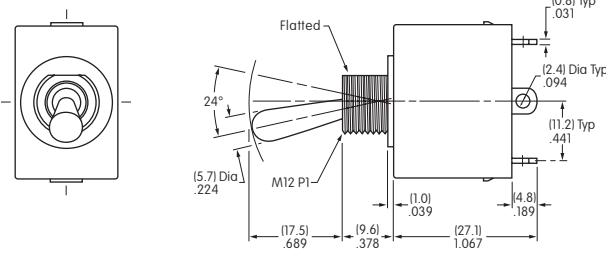


Double Pole

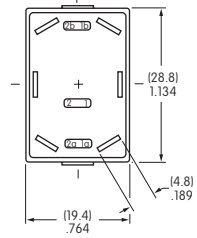


WT11S

### Double Throw • Solder Lug



Single Pole

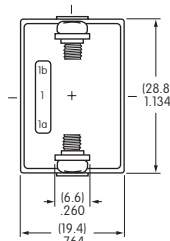
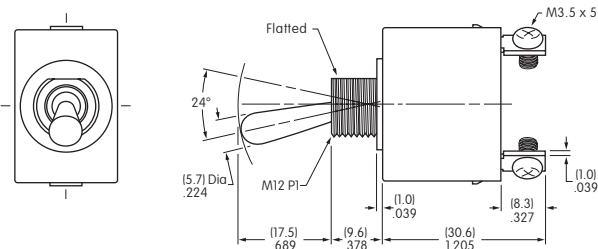


Double Pole

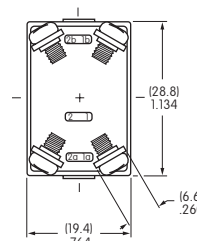


WT22S

### Single Throw • Screw Lug



Single Pole



Double Pole



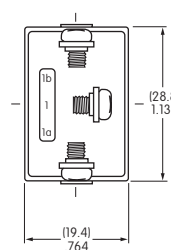
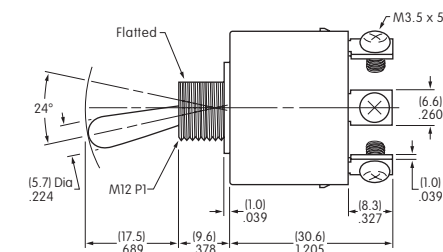
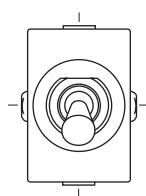
WT21T

### TYPICAL SWITCH DIMENSIONS

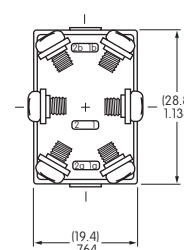
#### Double Throw • Screw Lug



WT22T



Single Pole

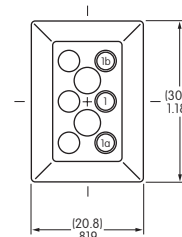
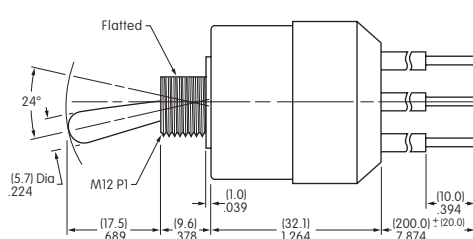
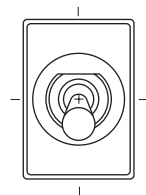


Double Pole

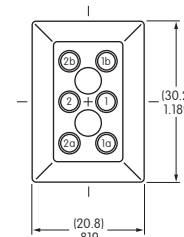
#### Single & Double Pole • Wire Lead



WT22L



Single Pole



Double Pole

### 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

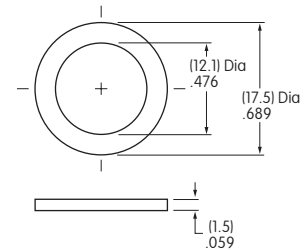
## At Toggles



## Rockets

## Pushbuttons

Programmable Illuminated PB

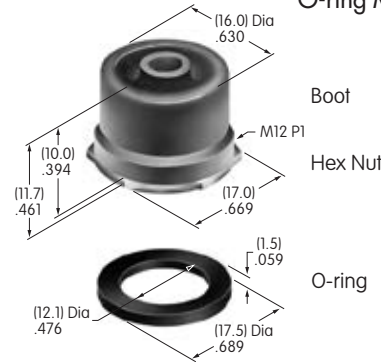


## Keylocks

## Rotaries

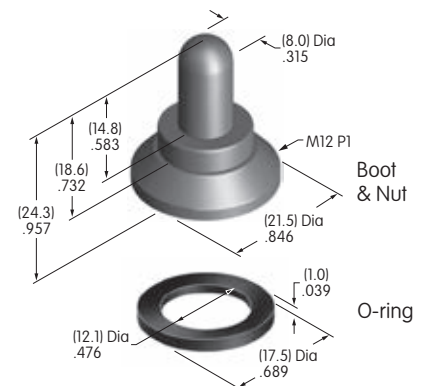
## Slides

## Tactiles



## 三

Touch



## Indicators



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[WT23T](#) [WT29S](#) [WT13T](#) [WT13S](#) [WT13L](#) [WT11T](#) [WT11L](#) [WT18S](#) [WT25T](#) [WT22L](#) [WT25S](#) [WT28S](#) [WT28T](#)  
[WT12T](#) [WT11S](#) [WT21T](#) [WT18L](#) [WT15T](#) [WT19S](#) [WT19T](#) [WT15L](#)