

## GENERAL SPECIFICATIONS FOR S301 ~ S339

Toggles  
A

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

## Electrical Capacity (Resistive &amp; Inductive Load)

**Power Level:** Shown in the following tables

## Other Ratings

<b>Contact Resistance:</b>	10 milliohms maximum
<b>Insulation Resistance:</b>	1,000 megohms minimum @ 500V DC
<b>Dielectric Strength:</b>	2,000V AC minimum for 1 minute minimum
<b>Mechanical Life:</b>	50,000 operations minimum
<b>Electrical Life:</b>	6,000 operations minimum for S331F; 15,000 operations minimum for all other S331s; 25,000 operations minimum for all others
<b>Angle of Throw (<math>\alpha</math>):</b>	Shown on following tables

## Materials &amp; Finishes

<b>Toggle:</b>	PBT for flatted lever; brass with chrome plating for all others
<b>Bushing:</b>	Brass with chrome plating
<b>Case:</b>	Melamine phenol
<b>Case Cover:</b>	Steel with zinc plating
<b>Movable Contactor:</b>	Copper with silver plating
<b>Movable &amp; Stationary Contacts:</b>	Silver alloy capped on copper with silver plating
<b>Terminals:</b>	Brass with tin plating

## Environmental Data

**Operating Temperature Range:**  $-10^{\circ}\text{C} \sim +70^{\circ}\text{C}$  ( $+14^{\circ}\text{F} \sim +158^{\circ}\text{F}$ )

## Installation

**Mounting Torque:** 2.94Nm (26 lb•in) for double nut; 1.47Nm (13 lb•in) for single nut  
**Soldering Time & Temperature:** Manual Soldering: See Profile A in Supplement section.

## Standards &amp; Certifications

<b>UL:</b>	File No. E44145 UL or cULus recognition designated beside part numbers on following pages. Add "/U" to end of part number to order UL mark on switch. Add "/CUL" to end of part number to order cULus mark on switch.
<b>CSA:</b>	File No. 023535_0_000 CSA certification designated beside part numbers on following pages. Add "/C" to end of part number to order CSA mark on switch.

## SINGLE POLE WITH SOLDER LUG \*

Model	* Approvals UL cULus SF			Pole & Throw	Toggle Position/Connected Terminals ( ) = Momentary				Electrical Capacity				Angle of Throw
					Down Keyway	Center	Up	Resistive			Inductive		
								AC 125V	AC 250V	DC 30V	AC 125V PF 0.6		
S301	✓	✓	✓	SPST	ON 1-3	NONE	OFF —	15A	6A	20A	10A	32°	
S302	✓	✓	✓	SPDT	ON 2-3	NONE	ON 2-1	15A	6A	20A	10A	32°	
S303	✓	✓	✓	SPDT	ON 2-3	OFF	ON 2-1	15A	6A	20A	10A	32°	
S305	—	—	✓	SPDT	ON 2-3	NONE	(ON) 2-1	15A	6A	20A	8A	32°	
S308	—	—	✓	SPDT	(ON) 2-3	OFF	(ON) 2-1	15A	6A	20A	8A	32°	
S309	—	—	✓	SPDT	ON 2-3	OFF	(ON) 2-1	15A	6A	20A	8A	32°	

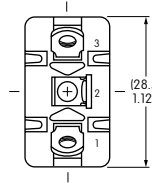
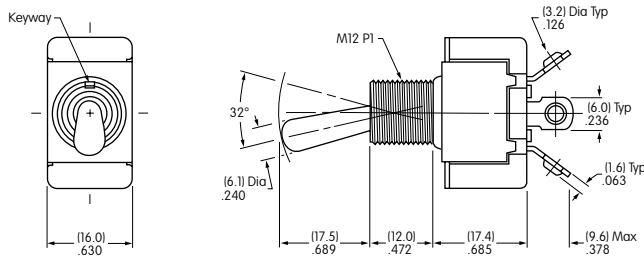
Throw & Schematics:



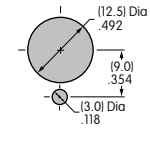
Note: Terminal numbers are actually on the switch

**Notes:** Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section. Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.

- \* See General Specifications page for approval marking.
- \* Wire harness & cable assemblies offered only in Americas.



S301 does not have terminal 2



Maximum Panel Thickness: .185" (4.7mm)



S301

## DOUBLE POLE WITH SOLDER LUG \*

Model	* Approvals UL cULus SF			Pole & Throw	Toggle Position/Connected Terminals ( ) = Momentary				Electrical Capacity				$\alpha$ = Angle of Throw
					Down Keyway	Center	Up	Resistive			Inductive		
								AC 125V	AC 250V	DC 30V	AC 125V PF 0.6		
S331	✓	✓	✓	DPST	ON 1-3 4-6	NONE	OFF —	25A	25A	25A	10A	25°	
S332	✓	✓	✓	DPDT	ON 2-3 5-6	NONE	ON 2-1 5-4	25A	15A	25A	10A	25°	
S333	✓	✓	✓	DPDT	ON 2-3 5-6	OFF	ON 2-1 5-4	25A	15A	25A	10A	30°	
S335	✓	✓	✓	DPDT	ON 2-3 5-6	NONE	(ON) 2-1 5-4	15A	6A	20A	8A	25°	
S338	✓	✓	—	DPDT	(ON) 2-3 5-6	OFF	(ON) 2-1 5-4	15A	6A	20A	8A	25°	
S339	✓	✓	—	DPDT	ON 2-3 5-6	OFF	(ON) 2-1 5-4	15A	6A	20A	8A	25°	

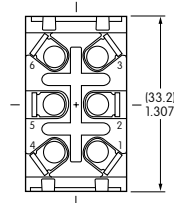
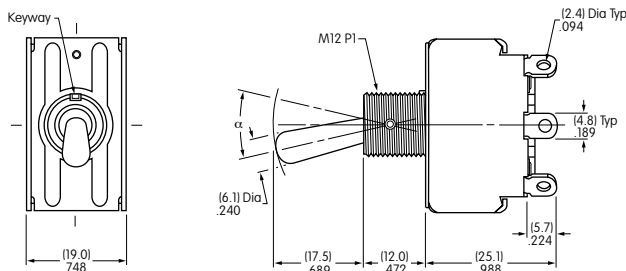
Throw & Schematics:



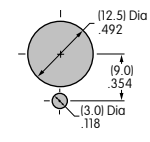
Note: Terminal numbers are actually on the switch

**Notes:** Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section. Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.

- \* See General Specifications page for approval marking.
- \* Wire harness & cable assemblies offered only in Americas.



S331 does not have terminals 2 & 5






Maximum Panel Thickness: .185" (4.7mm)



S331

### DOUBLE POLE WITH SOLDER LUG & FLATTED LEVER \*

Model	* Approvals			Pole & Throw	Toggle Position/Connected Terminals ( ) = Momentary					Electrical Capacity				$\alpha$ = Angle of Throw
	UL	cULus	CS		Down 	Center 	Up 	Resistive			Inductive AC 125V PF 0.6			
								AC 125V	AC 250V	DC 30V				
S331R	✓	✓	—	DPST	ON 1-3 4-6	NONE	OFF —	25A	25A	25A	10A	25°		
S332R	✓	✓	—	DPDT	2-3 5-6	NONE	ON 2-1 5-4	25A	15A	25A	10A	25°		
S333R	✓	✓	—	DPDT	ON 2-3 5-6	OFF	ON 2-1 5-4	25A	15A	25A	10A	30°		
S338R	✓	✓	—	DPDT	(ON) 2-3 5-6	OFF	(ON) 2-1 5-4	15A	6A	20A	8A	25°		
S339R	✓	✓	—	DPDT	ON 2-3 5-6	OFF	(ON) 2-1 5-4	15A	6A	20A	8A	25°		

Throw & Schematics:



Note: Terminal numbers are actually on the switch

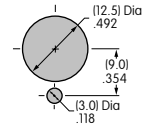
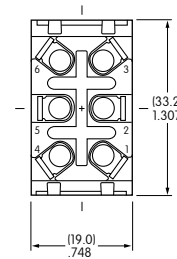
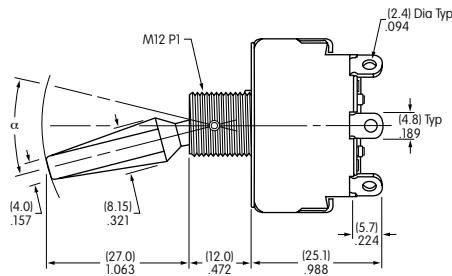
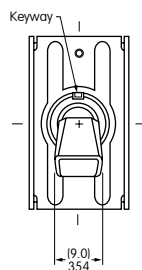
Notes: Standard Hardware: AT504M Knurled Nut, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section.

\* See General Specifications page for approval marking.

\* Wire harness & cable assemblies offered only in Americas.






S331R





S331R does not have terminals 2 & 5

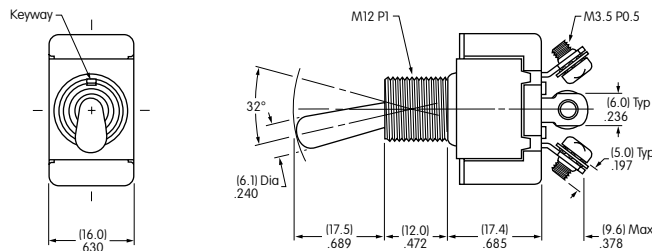
Maximum Panel Thickness: .220" (5.6mm)

## SINGLE POLE WITH SCREW LUG

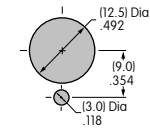
Model	*Approvals UL cULus CE			Pole & Throw	Toggle Position/Connected Terminals ( ) = Momentary			Electrical Capacity				$\alpha$ = Angle of Throw
					Down 	Center 	Up 	Resistive			Inductive	
								AC 125V	AC 250V	DC 30V	AC 125V PF 0.6	
S301T	✓	✓	✓	SPST	ON 1-3	NONE	OFF —	15A	6A	20A	10A	32°
S302T	✓	✓	✓	SPDT	ON 2-3	NONE	ON 2-1	15A	6A	20A	10A	32°
S303T	✓	✓	✓	SPDT	ON 2-3	OFF	ON 2-1	15A	6A	20A	10A	32°
S305T	—	—	✓	SPDT	ON 2-3	NONE	(ON) 2-1	15A	6A	20A	8A	32°
S308T	—	—	✓	SPDT	(ON) 2-3	OFF	(ON) 2-1	15A	6A	20A	8A	32°
S309T	—	—	✓	SPDT	ON 2-3	OFF	(ON) 2-1	15A	6A	20A	8A	32°

**Throw & Schematics:** SPST  INTERNAL CONNECTION  Note: Terminal numbers are actually on the switch

**Notes:** Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section.  
 Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.  
 \* See General Specifications page for approval marking.



S301T does not have terminal 2






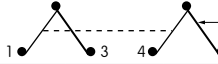
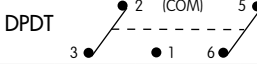
Maximum Panel Thickness: .185" (4.7mm)



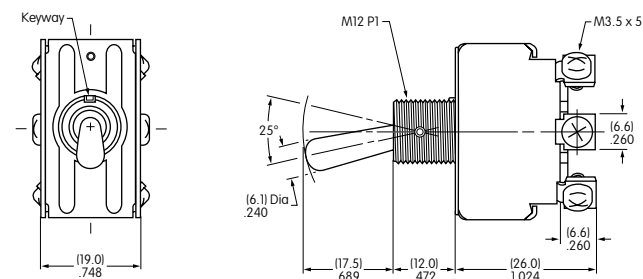
**S301T**

## DOUBLE POLE WITH SCREW LUG

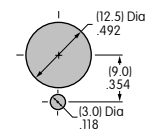
Model	*Approvals UL cULus CE			Pole & Throw	Toggle Position/Connected Terminals ( ) = Momentary			Electrical Capacity				$\alpha$ = Angle of Throw
					Down 	Center 	Up 	Resistive			Inductive	
								AC 125V	AC 250V	DC 30V	AC 125V PF 0.6	
S331T	✓	✓	—	DPST	ON 1-3 4-6	NONE	OFF —	15A	15A	15A	10A	25°
S332T	✓	✓	—	DPDT	ON 2-3 5-6	NONE	ON 2-1 5-4	15A	15A	15A	10A	25°
S333T	✓	✓	—	DPDT	ON 2-3 5-6	OFF	ON 2-1 5-4	15A	15A	15A	10A	30°
S335T	✓	✓	—	DPDT	ON 2-3 5-6	NONE	(ON) 2-1 5-4	15A	6A	20A	8A	25°
S338T	✓	✓	—	DPDT	(ON) 2-3 5-6	OFF	(ON) 2-1 5-4	15A	6A	20A	8A	25°
S339T	✓	✓	—	DPDT	ON 2-3 5-6	OFF	(ON) 2-1 5-4	15A	6A	20A	8A	25°

**Throw & Schematics:** DPST  INTERNAL CONNECTION  Note: Terminal numbers are actually on the switch

**Notes:** Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section.  
 Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.  
 \* See General Specifications page for approval marking.



S331T does not have terminals 2 & 5



Maximum Panel Thickness: .185" (4.7mm)



**S331T**

Toggles  
A

Rockers

Pushbuttons

Illuminated PB

Programmable PB

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

### SINGLE POLE WITH QUICK CONNECT

Model	* Approvals			Pole & Throw	Toggle Position/Connected Terminals				Electrical Capacity				$\alpha =$ Angle of Throw
	UL	cULus	CS		Down	Center	Up	Resistive			Inductive		
					Keyway	Keyway	Keyway	AC 125V	AC 250V	DC 30V	AC 125V PF 0.6		
S301F	✓	✓	✓	SPST	ON 1-3	NONE	OFF -	15A	6A	20A	10A	32°	

Throw & Schematics:

SPST



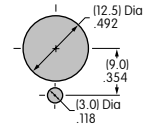
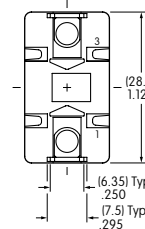
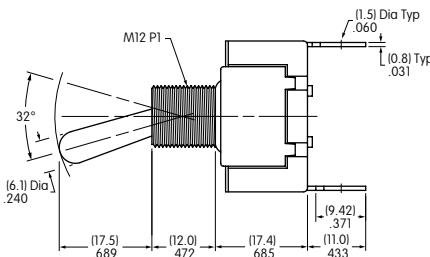
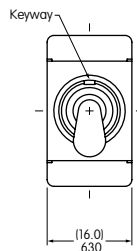
Note: Terminal numbers are actually on the switch

**Notes:** Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section. Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.

\* See General Specifications page for approval marking.



S301F



Maximum Panel Thickness: .185" (4.7mm)

### DOUBLE POLE WITH QUICK CONNECT

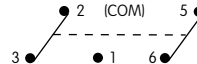
Model	* Approvals			Pole & Throw	Toggle Position/Connected Terminals ( ) = Momentary				Electrical Capacity				$\alpha =$ Angle of Throw
	UL	cULus	CS		Down	Center	Up	Resistive			Inductive		
					Keyway	Keyway	Keyway	AC 125V	AC 250V	DC 30V	AC 125V PF 0.6		
S331F	✓	✓	—	DPST	ON 1-3 4-6	NONE	OFF -	25A	25A	25A	10A	25°	
S332F	✓	✓	—	DPDT	ON 2-3 5-6	NONE	ON 2-1 5-4	25A	15A	25A	10A	25°	
S333F	✓	✓	—	DPDT	ON 2-3 5-6	OFF	ON 2-1 5-4	25A	15A	25A	10A	30°	
S335F	✓	✓	—	DPDT	ON 2-3 5-6	NONE	(ON) 2-1 5-4	15A	6A	20A	8A	25°	

Throw & Schematics:

DPST



DPDT



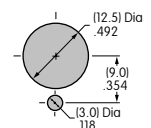
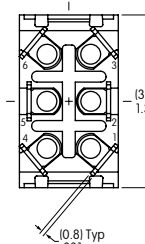
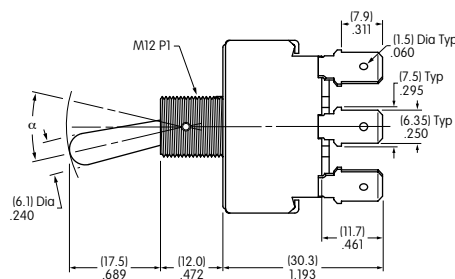
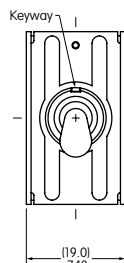
Note: Terminal numbers are actually on the switch

**Notes:** Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section. Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.

\* See General Specifications page for approval marking.



S332F



Maximum Panel Thickness: .185" (4.7mm)

S331F does not have terminals 2 & 5

## GENERAL SPECIFICATIONS FOR S31 ~ S49

### Electrical Capacity (Resistive & Inductive Load)

**Power Level:** Shown in the following tables

### Other Ratings

**Contact Resistance:** 10 milliohms maximum  
**Insulation Resistance:** 1,000 megohms minimum @ 500V DC  
**Dielectric Strength:** 2,000V AC minimum for 1 minute minimum  
**Mechanical Life:** 50,000 operations minimum  
**Electrical Life:** 25,000 operations minimum  
**Angle of Throw ( $\alpha$ ):** Shown on following tables

### Materials & Finishes

**Toggle:** PBT resin for flatted lever; brass with chrome plating for all others  
**Bushing:** Brass with chrome plating  
**Case:** Phenolic resin  
**Case Cover:** Steel with chromate plating over zinc plating  
**Movable Contactor:** Copper with silver plating  
**Movable Contacts:** Silver alloy capped on copper with silver plating  
**Stationary Contacts:** Silver alloy capped on copper with silver plating  
**Terminals:** Brass with tin plating

### Environmental Data

**Operating Temp Range:** -10°C through +70°C (+14°F through +158°F)

### Installation

**Mounting Torque:** 2.94Nm (26 lb•in) for double nut  
**Maximum Panel Thickness:** Shown beneath panel cutout in switch dimension drawings  
**Soldering Time & Temperature:** Manual Soldering: See Profile A in Supplement section.

### Standards & Certifications

**UL:** File No. E44145  
 UL or cULus recognition designated beside part numbers on following pages.  
 See Supplement section to find UL or cULus rating details.  
 Add "/U" to end of part number to order UL mark on switch.  
 Add "/CUL" to end of part number to order cULus mark on switch.  
**CSA:** File No. 023535\_0\_000  
 CSA certification designated beside part numbers on following pages.  
 See Supplement section to find CSA rating details.  
 Add "/C" to end of part number to order CSA mark on switch.

A  
Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

Toggles **A**

### THREE POLE WITH SOLDER LUG \*

Model	*Approvals			Pole & Throw	Toggle Position/Connected Terminals ( ) = Momentary						Electrical Capacity				$\alpha$ = Angle of Throw
	UL	cULus	CS		Down	Center	Up	Resistive			Inductive				
					Keyway			AC 125V	AC 250V	DC 30V	AC 125V PF 0.6				
S31	✓	✓	✓	3PST	ON	1-3 4-6 7-9	NONE	OFF	—	25A	9A	20A	10A	25°	
S32	✓	✓	✓	3PDT	ON	2-3 5-6 8-9	NONE	ON	2-1 5-4 8-7	25A	9A	20A	10A	25°	
S33	✓	✓	✓	3PDT	ON	2-3 5-6 8-9	OFF	ON	2-1 5-4 8-7	25A	9A	20A	10A	30°	
S35	✓	✓	✓	3PDT	ON	2-3 5-6 8-9	NONE	(ON)	2-1 5-4 8-7	15A	6A	20A	8A	25°	
S38	✓	✓	✓	3PDT	(ON)	2-3 5-6 8-9	OFF	(ON)	2-1 5-4 8-7	15A	6A	15A	8A	25°	
S39	✓	✓	✓	3PDT	ON	2-3 5-6 8-9	OFF	(ON)	2-1 5-4 8-7	15A	6A	15A	8A	25°	

Throw & Schematics:



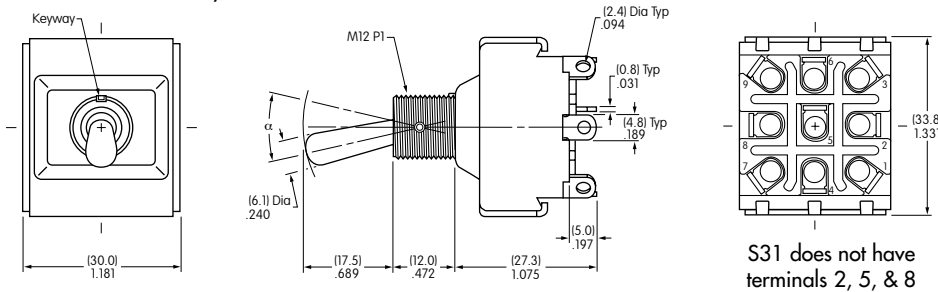
Note: Terminal numbers are on the switch

Notes: Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section. Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.

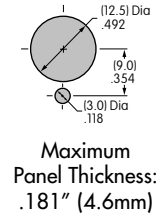
\* Wire harness & cable assemblies offered only in Americas.



S32



S31 does not have terminals 2, 5, & 8



Maximum Panel Thickness: .181" (4.6mm)

### FOUR POLE WITH SOLDER LUG \*

Model Suffix R = Flatted Lever	*Approvals			Pole & Throw	Toggle Position/Connected Terminals ( ) = Momentary						Electrical Capacity				$\alpha$ = Angle of Throw
	UL	cULus	CS		Down	Center	Up	Resistive			Inductive				
					Keyway			AC 125V	AC 250V	DC 30V	AC 125V PF 0.6				
S41/S41R	✓	✓	✓	4PST	ON	1-3 4-6 7-9 10-12	NONE	OFF	—	25A	9A	20A	10A	25°	
S42/S42R	✓	✓	✓	4PDT	ON	2-3 5-6 8-9 11-12	NONE	ON	2-1 5-4 8-7 11-10	25A	9A	20A	10A	25°	
S43/S43R	✓	✓	✓	4PDT	ON	2-3 5-6 8-9 11-12	OFF	ON	2-1 5-4 8-7 11-10	25A	9A	20A	10A	30°	
S45	—	✓	—	4PDT	ON	2-3 5-6 8-9 11-12	NONE	(ON)	2-1 5-4 8-7 11-10	15A	6A	20A	8A	25°	
S48/S48R	✓	✓	—	4PDT	(ON)	2-3 5-6 8-9 11-12	OFF	(ON)	2-1 5-4 8-7 11-10	15A	6A	20A	8A	25°	
S49/S49R	✓	✓	—	4PDT	ON	2-3 5-6 8-9 11-12	OFF	(ON)	2-1 5-4 8-7 11-10	15A	6A	20A	8A	25°	

Throw & Schematics:



Note: Terminal numbers are on the switch

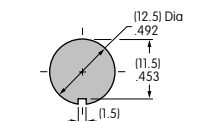
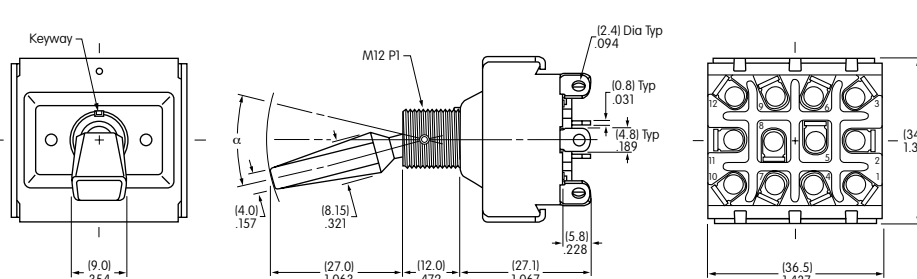
Notes: Standard Hardware for **Bat Lever**: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut; for **Flatted Lever (R)**: AT504M Knurled Face Nut, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section. Optional Splashproof Boot Assemblies (only for bat lever models): AT401 & AT4181 boots plus hex nut and o-ring. See Accessories & Hardware section.

\* Wire harness & cable assemblies offered only in Americas.

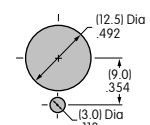


S42R

Bat lever dimensions are same as on S30 models above. S41 and S41R do not have terminals 2, 5, 8, & 11.



Max. Panel Thickness: .220" (5.6mm)



Max. Panel Thickness: .181" (4.6mm)

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch




Indicators

Accessories

Supplement

## THREE POLE WITH SCREW LUG

\*See Supplement section for CSA detail & General Specs. page for approval marks

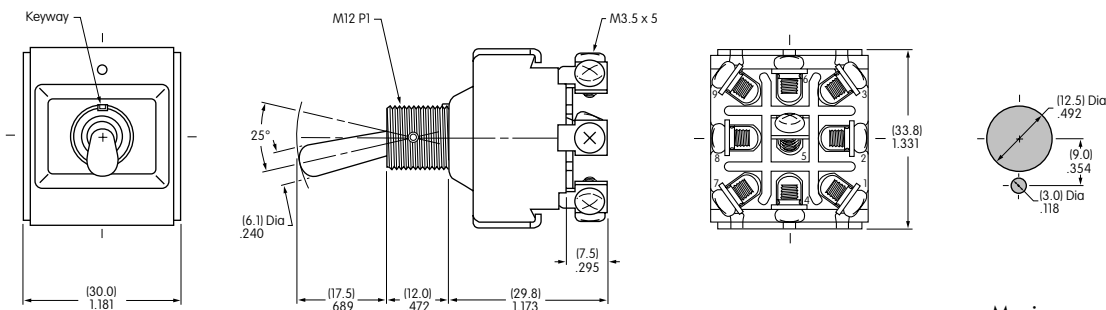
Model	*Approvals			Pole & Throw	Toggle Position/Connected Terminals			Electrical Capacity					$\alpha =$ Angle of Throw		
	UL	cULus	CSA		Down 	Center 	Up 	Resistive			Inductive				
								AC 125V	AC 250V	DC 30V	AC 125V PF 0.6	AC 250V PF 0.6			
S31T	✓	✓	✓	3PST	ON	1-3 4-6 7-9	NONE	OFF	—	25A	9A	20A	10A	5A	25°
S32T	✓	✓	✓	3PDT	ON	2-3 5-6 8-9	NONE	ON	2-1 5-4 8-7	25A	9A	20A	10A	5A	25°
S33T	✓	✓	✓	3PDT	ON	2-3 5-6 8-9	OFF	ON	2-1 5-4 8-7	25A	9A	20A	10A	5A	30°

Throw & Schematics:



Note: Terminal numbers are on the switch

**Notes:** Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section. Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.



S31T does not have terminals 2, 5, & 8




Maximum Panel Thickness: .181" (4.6mm)



**S32T**

## FOUR POLE WITH SCREW LUG

\*See Supplement section for CSA detail & General Specs. page for approval marks

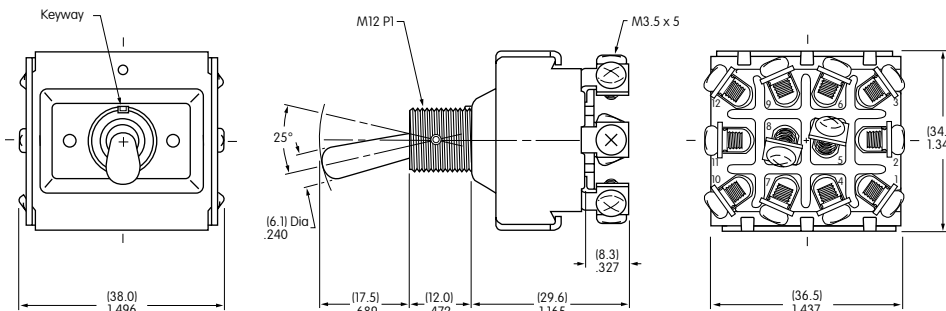
Model	*Approvals			Pole & Throw	Toggle Position/Connected Terminals			Electrical Capacity					$\alpha =$ Angle of Throw		
	UL	cULus	CSA		Down 	Center 	Up 	Resistive			Inductive				
								AC 125V	AC 250V	DC 30V	AC 125V PF 0.6	AC 250V PF 0.6			
S41T	✓	✓	✓	4PST	ON	1-3 4-6 7-9 10-12	NONE	OFF	—	25A	9A	20A	10A	5A	25°
S42T	✓	✓	✓	4PDT	ON	2-3 5-6 8-9 11-12	NONE	ON	2-1 5-4 8-7 11-10	25A	9A	20A	10A	5A	25°
S43T	✓	✓	✓	4PDT	ON	2-3 5-6 8-9 11-12	OFF	ON	2-1 5-4 8-7 11-10	25A	9A	20A	10A	5A	30°

Throw & Schematics:



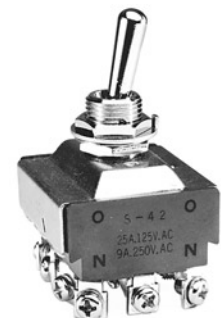
Note: Terminal numbers are on the switch

**Notes:** Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section. Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.



S41T does not have terminals 2, 5, 8, & 11

Maximum Panel Thickness: .181" (4.6mm)






**S42T**



Toggles **A**

### THREE POLE WITH QUICK CONNECT

\*See Supplement section for UL detail & General Specs. page for approval marks

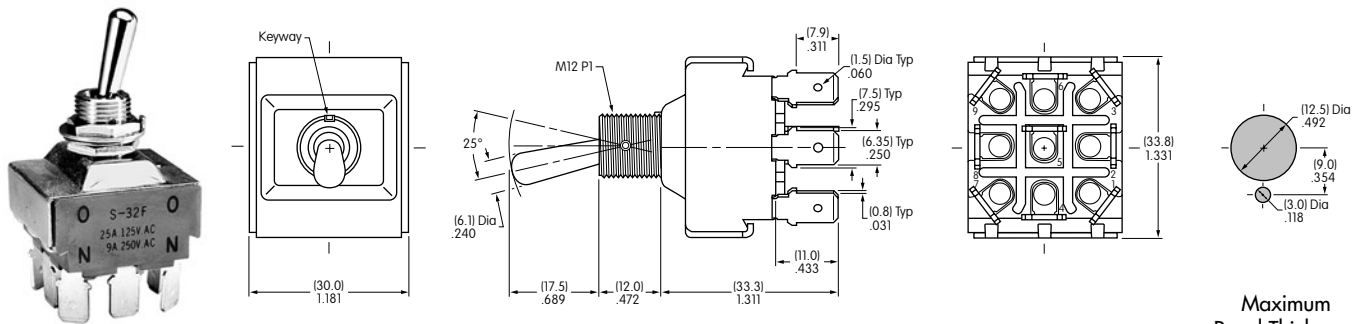
Model	*Approvals			Pole & Throw	Toggle Position/Connected Terminals			Electrical Capacity				$\alpha$ = Angle of Throw	
	UL	cULus	CS		Down	Center	Up	Resistive			Inductive		
					Keyway 			AC 125V	AC 250V	DC 30V	AC 125V PF 0.6		
S31F	✓	✓	✓	3PST	ON 1-3 4-6 7-9	NONE	OFF	—	25A	9A	20A	10A	25°
S32F	✓	✓	✓	3PDT	ON 2-3 5-6 8-9	NONE	ON 2-1 5-4 8-7	—	25A	9A	20A	10A	25°
S33F	✓	✓	✓	3PDT	ON 2-3 5-6 8-9	OFF	ON 2-1 5-4 8-7	—	25A	9A	20A	10A	30°

Throw & Schematics:



Note: Terminal numbers are on the switch

Notes: Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section. Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.






S32F

S31F does not have terminals 2, 5, & 8

Maximum Panel Thickness: .181" (4.6mm)

### FOUR POLE WITH QUICK CONNECT

\*See Supplement section for UL detail & General Specs. page for approval marks

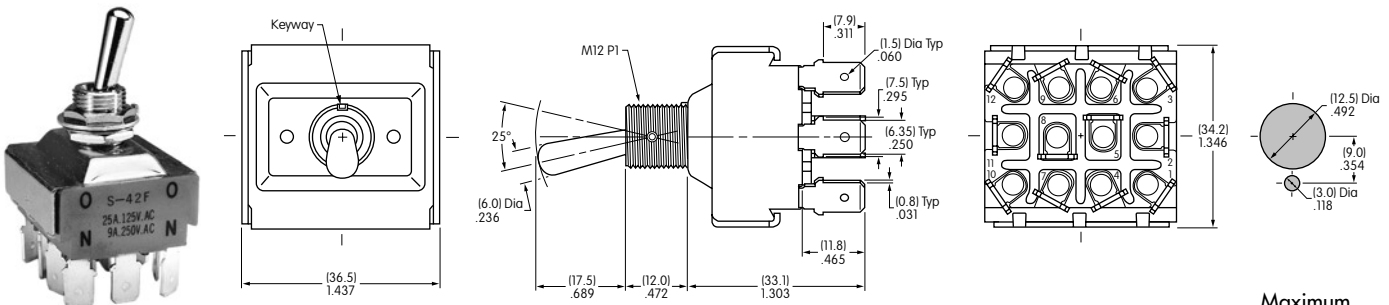
Model	*Approvals			Pole & Throw	Toggle Position/Connected Terminals			Electrical Capacity				$\alpha$ = Angle of Throw	
	UL	cULus	CS		Down	Center	Up	Resistive			Inductive		
					Keyway 			AC 125V	AC 250V	DC 30V	AC 125V PF 0.6		
S41F	✓	✓	✓	4PST	ON 1-3 4-6 7-9 10-12	NONE	OFF	—	25A	9A	20A	10A	25°
S42F	✓	✓	✓	4PDT	ON 2-3 5-6 8-9 11-12	NONE	ON 2-1 5-4 8-7 11-10	—	25A	9A	20A	10A	25°
S43F	✓	✓	✓	4PDT	ON 2-3 5-6 8-9 11-12	OFF	ON 2-1 5-4 8-7 11-10	—	25A	9A	20A	10A	30°

Throw & Schematics:



Note: Terminal numbers are on the switch

Notes: Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section. Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.



S42F

S41F does not have terminals 2, 5, 8, & 11

Maximum Panel Thickness: .181" (4.6mm)

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

## GENERAL SPECIFICATIONS FOR S421 ~ S429

A  
Toggles

### Electrical Capacity (Resistive & Inductive Load)

**Power Level:** Shown in the following tables

### Other Ratings

**Contact Resistance:** 10 milliohms maximum  
**Insulation Resistance:** 1,000 megohms minimum @ 500V DC  
**Dielectric Strength:** 2,000V AC minimum for 1 minute minimum  
**Mechanical Life:** 50,000 operations minimum  
**Electrical Life:** 15,000 operations minimum  
**Angle of Throw ( $\alpha$ ):** Shown in tables on following pages

### Materials & Finishes

**Toggle:** Brass with chrome plating  
**Bushing:** Brass with chrome plating  
**Case:** Melamine phenol  
**Case Cover:** Steel with chromate plating over zinc plating  
**Movable Contactor:** Copper with silver plating  
**Movable Contacts:** Silver alloy capped on copper with silver plating  
**Stationary Contacts:** Silver alloy capped on copper with silver plating  
**Terminals:** Brass with tin plating

### Environmental Data

**Operating Temp Range:** -10°C through +70°C (+14°F through +158°F)

### Installation

**Mounting Torque:** 2.94Nm (26 lb·in) for double nut  
**Maximum Panel Thickness:** Shown beneath panel cutout in switch dimension drawings  
**Soldering Time & Temperature:** Manual Soldering: See Profile A in Supplement section.

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch




Indicators


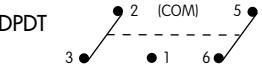
Accessories

Supplement

Toggles  
A

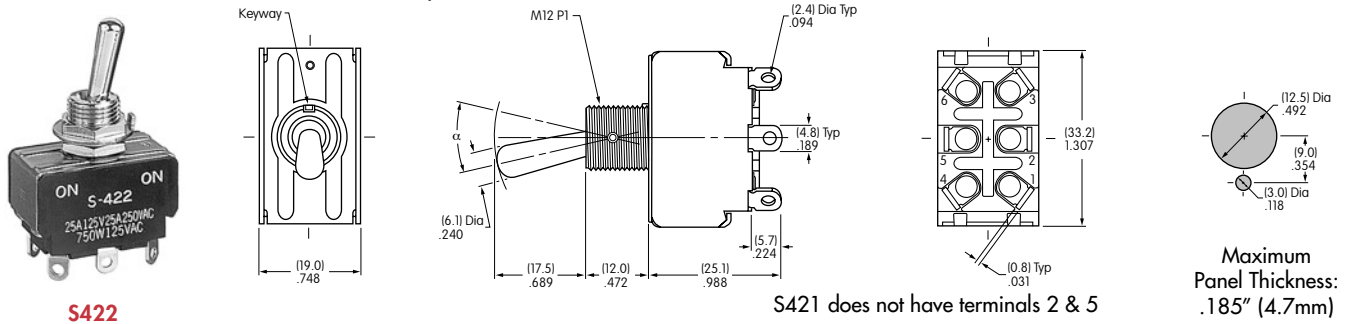
### DOUBLE POLE WITH SOLDER LUG \*

Model	Approvals		Pole & Throw	Toggle Position/Connected Terminals ( ) = Momentary						Electrical Capacity				
	UL	CS		Down 	Center 	Up 	Resistive		Inductive		Motor Load AC 125V	$\alpha$ = Angle of Throw		
							AC 125V	AC 250V	PF 0.75 - 0.8 AC 125V	AC 250V				
S421	—	—	DPST	ON	1-3 4-6	NONE	OFF	—	25A	25A	25A	25A	750W	24°
S422	—	—	DPDT	ON	2-3 5-6	NONE	ON	2-1 5-4	25A	25A	25A	25A	750W	24°
S423	—	—	DPDT	ON	2-3 5-6	OFF	ON	2-1 5-4	25A	25A	25A	25A	750W	28°
S425	—	—	DPDT	ON	2-3 5-6	NONE	(ON)	2-1 5-4	15A	15A	15A	15A	400W	24°
S428	—	—	DPDT	(ON)	2-3 5-6	OFF	(ON)	2-1 5-4	15A	15A	15A	15A	400W	24°
S429	—	—	DPDT	ON	2-3 5-6	OFF	(ON)	2-1 5-4	15A	15A	15A	15A	400W	24°

**Throw & Schematics:** DPST  INTERNAL CONNECTION  Note: Terminal numbers are on the switch




**Notes:** Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section. Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.

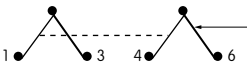
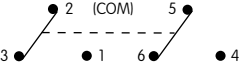
\* Wire harness & cable assemblies offered only in Americas.



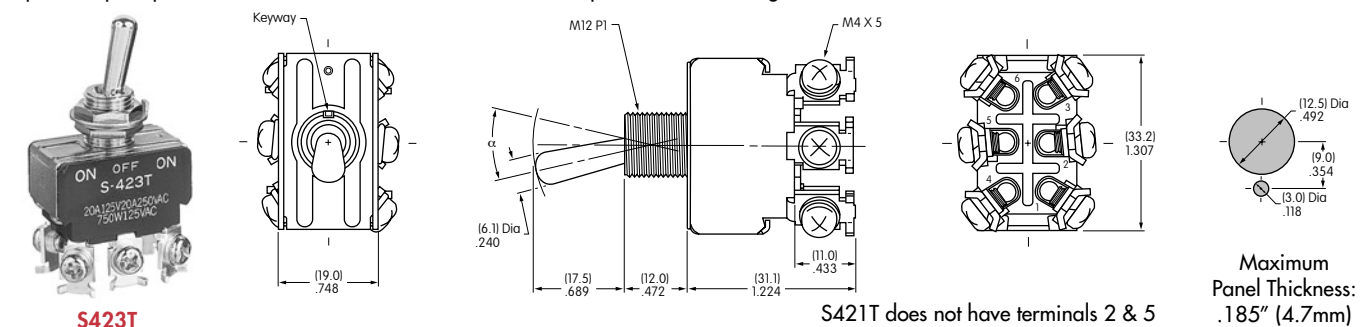
S422

### DOUBLE POLE WITH SCREW LUG

Model	Approvals		Pole & Throw	Toggle Position/Connected Terminals ( ) = Momentary						Electrical Capacity				
	UL	CS		Down 	Center 	Up 	Resistive		Inductive		Motor Load AC 125V	$\alpha$ = Angle of Throw		
							AC 125V	AC 250V	PF 0.75 - 0.8 AC 125V	AC 250V				
S421T	—	—	DPST	ON	1-3 4-6	NONE	OFF	—	20A	20A	20A	20A	750W	24°
S422T	—	—	DPDT	ON	2-3 5-6	NONE	ON	2-1 5-4	20A	20A	20A	20A	750W	24°
S423T	—	—	DPDT	ON	2-3 5-6	OFF	ON	2-1 5-4	20A	20A	20A	20A	750W	28°
S425T	—	—	DPDT	ON	2-3 5-6	NONE	(ON)	2-1 5-4	15A	15A	15A	15A	400W	24°
S428T	—	—	DPDT	(ON)	2-3 5-6	OFF	(ON)	2-1 5-4	15A	15A	15A	15A	400W	24°
S429T	—	—	DPDT	ON	2-3 5-6	OFF	(ON)	2-1 5-4	15A	15A	15A	15A	400W	24°

**Throw & Schematics:** DPST  INTERNAL CONNECTION  Note: Terminal numbers are on the switch

**Notes:** Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section. Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.



S423T

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement