

GENERAL SPECIFICATIONS FOR S301 ~ S339

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:	6,000 operations minimum for S331F; 15,000 operations minimum for all other S331s; 25,000 operations minimum for all others
Angle of Throw (α):	Shown on following tables

Materials & Finishes

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

- UL:** File No. E44145 - Recognized only when ordered with marking on switch.
 Add "/U" or "/CUL" to end of part number to order UL recognized switch.
 UL or cULus recognition designated beside part numbers on following pages.
 See Supplement section to find UL or cULus rating details.
- CSA:** File No. 023535_0_000 - Certified only when ordered with marking on switch.
 Add "/C" to end of part number to order CSA certified switch.
 CSA certification designated beside part numbers on following pages.
 See Supplement section to find CSA rating details

SINGLE POLE WITH SOLDER LUG *

* UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs)				Toggle Position/Connected Terminals () = Momentary				Electrical Capacity				
Model	* Approvals			Pole & Throw	Down Keyway	Center	Up	Resistive			Inductive	Angle of Throw
								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			
				SPST		INTERNAL CONNECTION		SPDT				

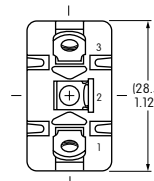
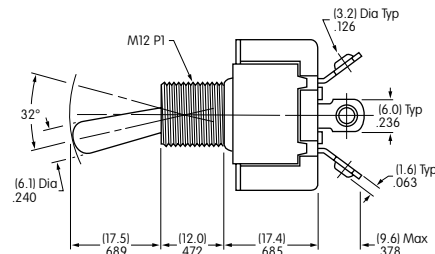
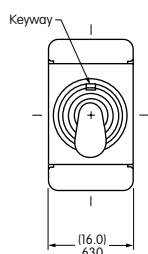
Throw & Schematics:



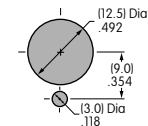
Note: Terminal numbers are actually on the switch

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.

* Wire harness & cable assemblies offered only in Americas.



S301 does not have terminal 2



Maximum Panel Thickness: .185" (4.7mm)

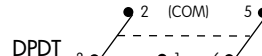
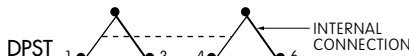


S301

DOUBLE POLE WITH SOLDER LUG *

* UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs)					Toggle Position/Connected Terminals () = Momentary					Electrical Capacity				
Model	* Approvals			Pole & Throw	Down 	Center 	Up 	Resistive			Inductive	α = Angle of Throw		
					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°		

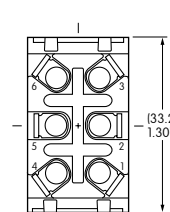
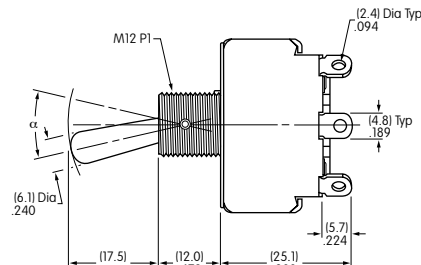
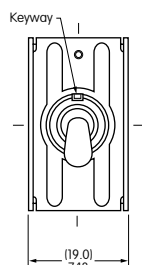
Throw & Schematics:



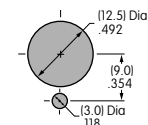
Note: Terminal numbers are actually on the switch

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.

* 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 *

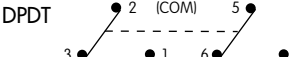
* UL & cULus recognized only when ordered with marking on switch (see General Specs)					Toggle Position/Connected Terminals () = Momentary					Electrical Capacity				
Model	* Approvals			Pole & Throw	Down	Center	Up	Resistive			Inductive	α = Angle of Throw		
								AC 125V	AC 250V	DC 30V	AC 125V PF 0.6			
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:

DPST



INTERNAL CONNECTION



Note: Terminal numbers are actually on the switch

Throw & Schematics:



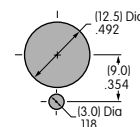
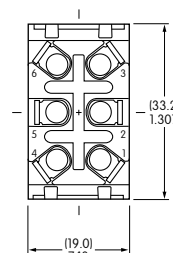
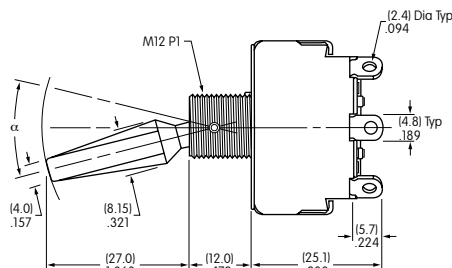
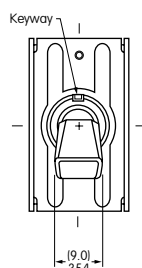
Note: Terminal numbers are actually on the switch

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

* Wire harness & cable assemblies offered only in Americas.



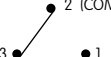
S331R



S331R does not have terminals 2 & 5

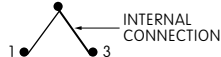
Maximum Panel Thickness: .220" (5.6mm)

SINGLE POLE WITH SCREW LUG

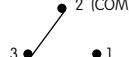
* UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs)				Toggle Position/Connected Terminals () = Momentary					Electrical Capacity				
Model	* Approvals			Pole & Throw	Down 		Center 	Up 	Resistive			Inductive	α = Angle of Throw
					AC 125V	AC 250V	DC 30V	AC 125V 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:									Note: Terminal numbers are actually on the switch				
SPST  SPDT 													

Throw & Schematics:

SPST

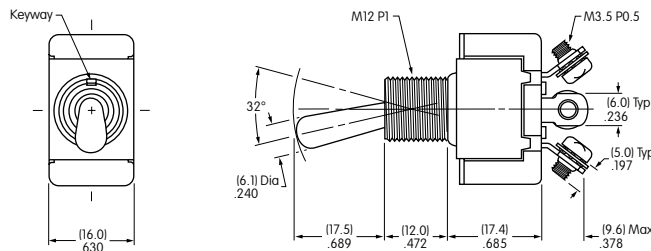


SPDT

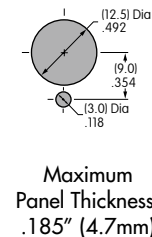


Note: Terminal numbers are actually on the switch

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.



S301T does not have terminal 2



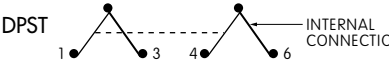
S301T

DOUBLE POLE WITH SCREW LUG

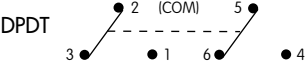
* UL & cULus recognized only when ordered with marking on switch (see General Specs)				Toggle Position/Connected Terminals () = Momentary					Electrical Capacity				α = Angle of Throw
Model	* Approvals			Pole & Throw	Down 		Center 	Up 	Resistive			Inductive	
					AC 125V	AC 250V	DC 30V	AC 125V PF 0.6					
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



DPDT



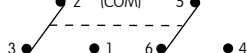
Note: Terminal numbers are actually on the switch

Throw & Schematics:

DPST

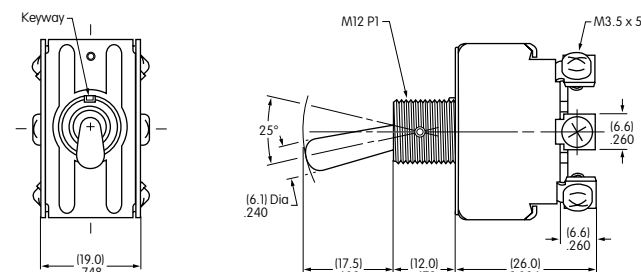


DPDT

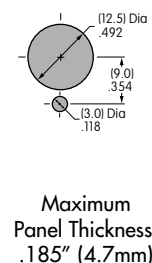


Note: Terminal numbers are actually on the switch

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.



S331T does not have terminals 2 & 5



S331T

SINGLE POLE WITH QUICK CONNECT

* UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs)					Toggle Position/Connected Terminals			Electrical Capacity				
Model	* Approvals			Pole & Throw	Down	Center	Up	Resistive			Inductive	α = Angle of Throw
					 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



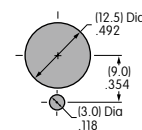
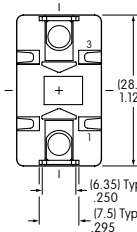
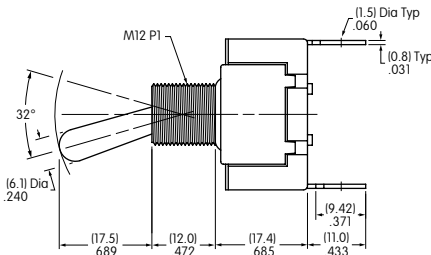
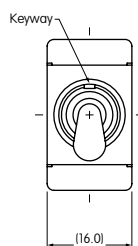
INTERNAL CONNECTION

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.



S301F



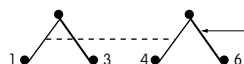
Maximum
Panel Thickness:
.185" (4.7mm)

DOUBLE POLE WITH QUICK CONNECT

* UL & cULus recognized only when ordered with marking on switch (see General Specs)				Toggle Position/Connected Terminals () = Momentary				Electrical Capacity				
Model	* Approvals			Pole & Throw	Down	Center	Up	Resistive			Inductive	α = Angle of Throw
								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°

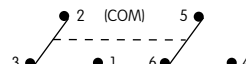
Throw & Schematics:

DPST



INTERNAL CONNECTION

DPDT

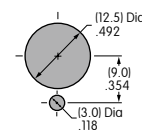
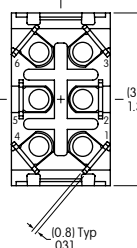
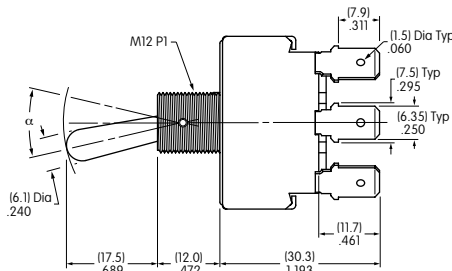
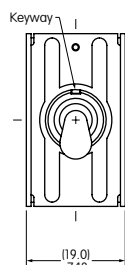


Note: Terminal numbers are actually on the switch

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.



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 (α): 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 - Recognized only when ordered with marking on switch.
 Add "/U" or "/CUL" to end of part number to order UL recognized switch.
 UL or cULus recognition designated beside part numbers on following pages.
 See Supplement section to find UL or cULus rating details.

CSA: File No. 023535_0_000 - Certified only when ordered with marking on switch.
 Add "/C" to end of part number to order CSA certified switch.
 CSA certification designated beside part numbers on following pages.
 See Supplement section to find CSA rating details.

A
Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

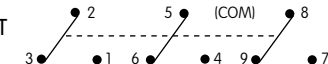
Indicators

Accessories

Supplement

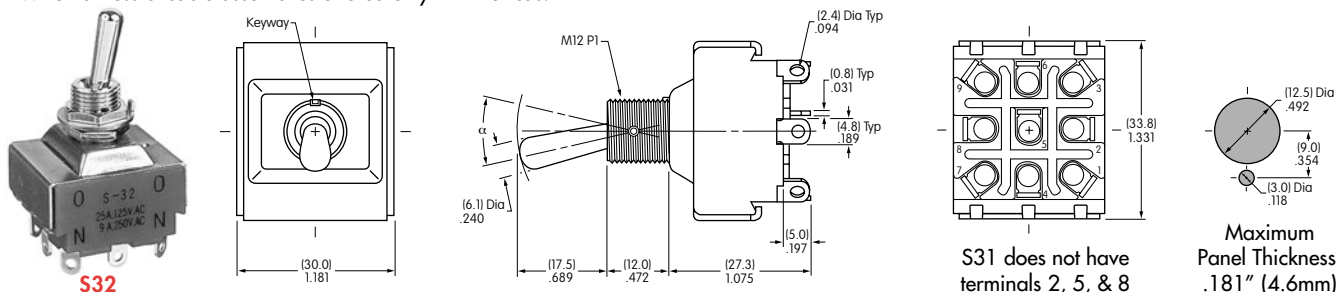
THREE POLE WITH SOLDER LUG *

* UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs)					Toggle Position/Connected Terminals () = Momentary					Electrical Capacity					α = Angle of Throw
Model	* Approvals			Pole & Throw	Down Keyway 		Center 	Up 		Resistive			Inductive		
								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: 3PST  INTERNAL CONNECTION 3PDT  Note: Terminal numbers are on the switch

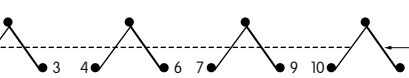
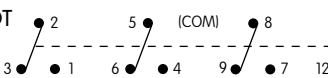
Notes: Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section. Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.

* Wire harness & cable assemblies offered only in Americas.



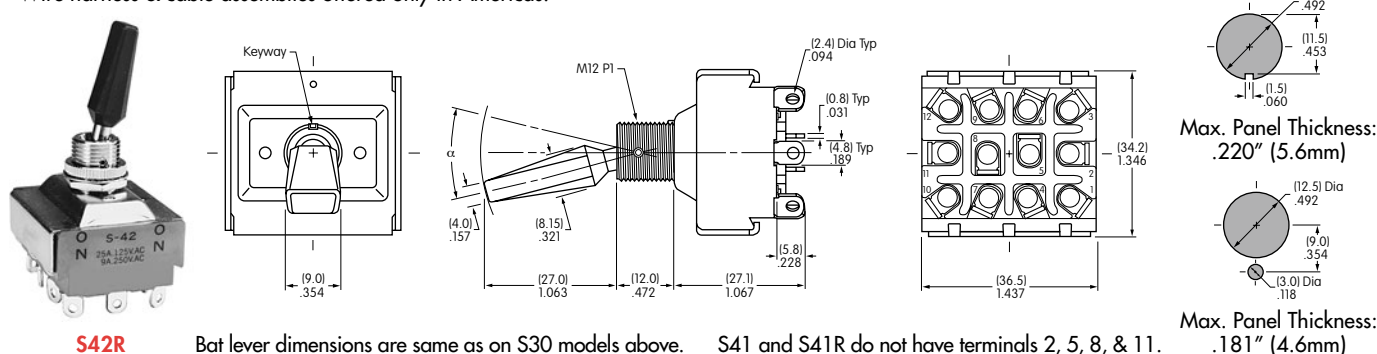
FOUR POLE WITH SOLDER LUG *

* UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs)				Toggle Position/Connected Terminals () = Momentary							Electrical Capacity						
Model Suffix R = Flatted Lever	* Approvals			Pole & Throw	Down 			Center 	Up 			Resistive			Inductive	α = Angle of Throw	
					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: 4PST  INTERNAL CONNECTION 4PDT  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.



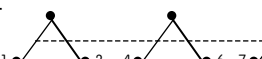
Bat lever dimensions are same as on S30 models above. S41 and S41R do not have terminals 2, 5, 8, & 11.

THREE POLE WITH SCREW LUG

* UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs)				Toggle Position/Connected Terminals				Electrical Capacity					
Model	* Approvals			Pole & Throw	Down 	Center 	Up 	Resistive			Inductive		α = Angle of Throw
								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°

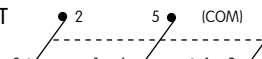
Throw & Schematics:

3PST



INTERNAL CONNECTION

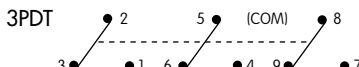
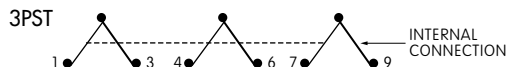
3PDT



(COM)

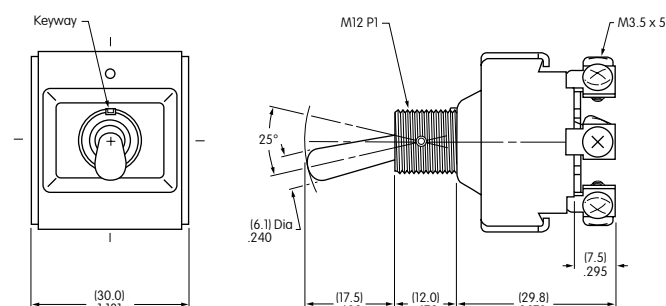
Note: Terminal numbers are on the switch

Throw & Schematics:



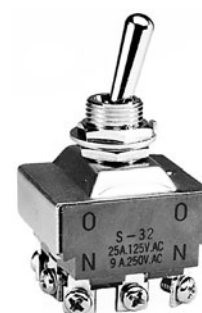
Note: Terminal numbers are on the switch

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)



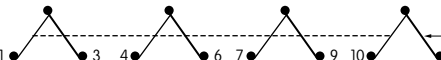
S32T

FOUR POLE WITH SCREW LUG

* UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs)				Toggle Position/Connected Terminals							Electrical Capacity					α = Angle of Throw					
Model	* Approvals			Pole & Throw	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°

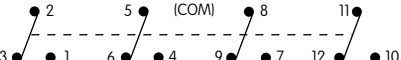
Throw & Schematics:

4PST



INTERNAL CONNECTION

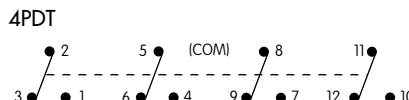
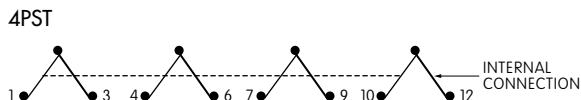
4PDT



(COM)

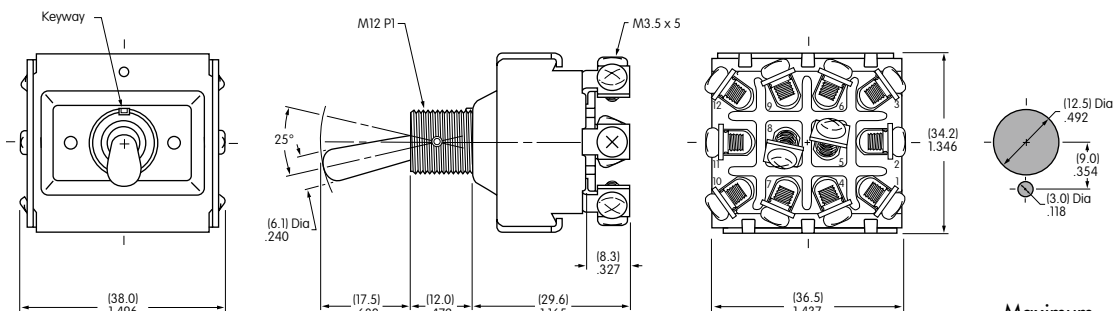
Note:
Terminal numbers are on the switch

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

THREE POLE WITH QUICK CONNECT

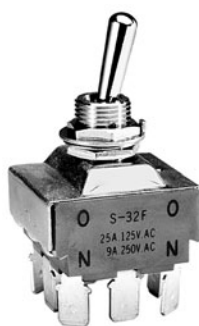
* UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs)				Toggle Position/Connected Terminals				Electrical Capacity				
Model	* Approvals			Pole & Throw	Down	Center	Up	Resistive			Inductive	α = Angle of Throw
								AC 125V	AC 250V	DC 30V	AC 125V PF 0.6	
S31F	✓	✓	✓	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:

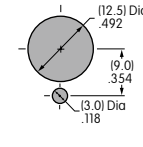
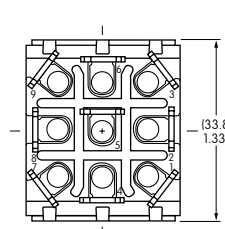
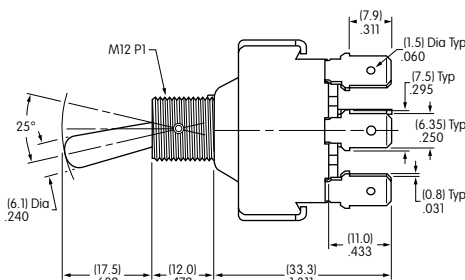
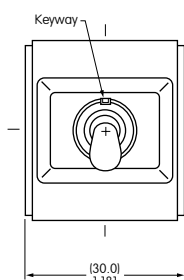


Note: Terminal numbers are on the switch

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



Maximum Panel Thickness: .181" (4.6mm)

S31F does not have terminals 2, 5, & 8

FOUR POLE WITH QUICK CONNECT

* UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs)					Toggle Position/Connected Terminals							Electrical Capacity						
Model	* Approvals			Pole & Throw	Down				Center	Up				Resistive			Inductive	α = Angle of Throw
								AC 125V	AC 250V	DC 30V	AC 125V PF 0.6							
								ON 1-3 4-6 7-9 10-12	NONE	OFF	—	25A	9A	20A	10A			
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:

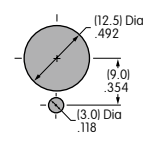
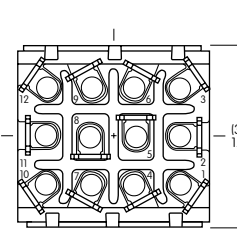
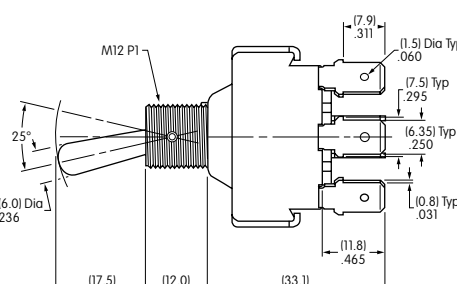
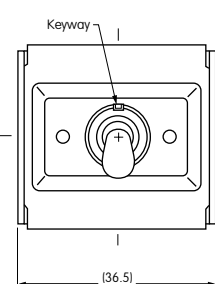


Note: Terminal numbers are on the switch

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



Maximum Panel Thickness: .181" (4.6mm)

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

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 (α):	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 Contact:	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 $+70^{\circ}\text{C}$ ($+14^{\circ}\text{F}$ through $+158^{\circ}\text{F}$)

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

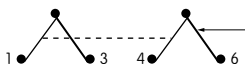
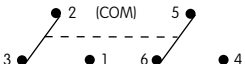
Touch

Indicators

Accessories

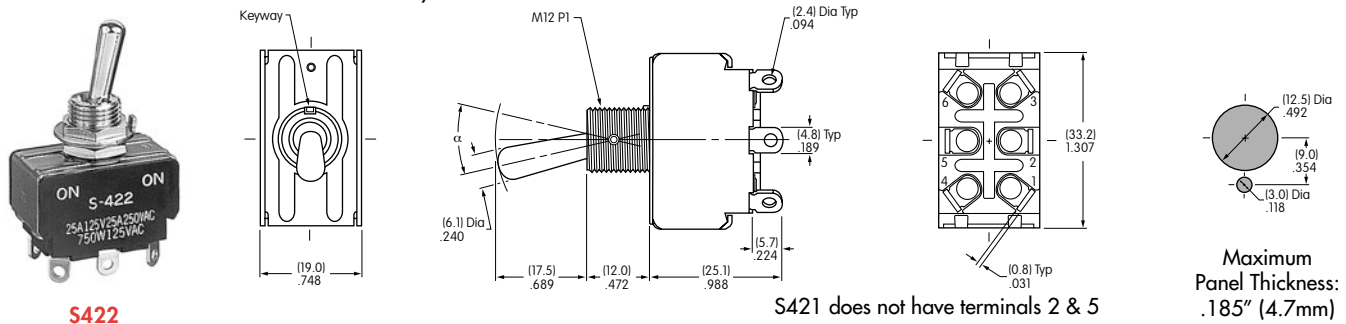
Supplement

DOUBLE POLE WITH SOLDER LUG *

			Toggle Position/Connected Terminals () = Momentary					Electrical Capacity								
Model	Approvals		Pole & Throw	Down 		Center 		Up 		Resistive		Inductive		Motor Load	α = Angle of Throw	
									AC 125V	AC 250V	PF 0.75 - 0.8		AC 125V			
											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						DPDT						Note: Terminal numbers are on the switch	

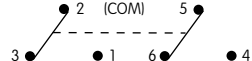
Notes: Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section. Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.

* Wire harness & cable assemblies offered only in Americas.

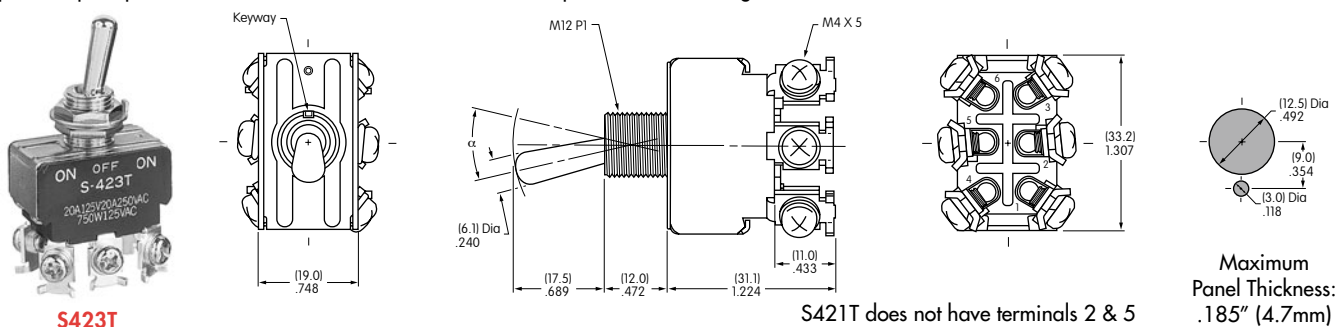


S421 does not have terminals 2 & 5

DOUBLE POLE WITH SCREW LUG

			Toggle Position/Connected Terminals () = Momentary					Electrical Capacity								
Model	Approvals		Pole & Throw	Down 		Center 	Up 		Resistive		Inductive		Motor Load	α = Angle of Throw		
									AC 125V	AC 250V	PF 0.75 - 0.8		AC 125V			
											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						DPDT						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.



S421T does not have terminals 2 & 5

Mouser Electronics

Authorized Distributor

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NKK Switches:

[S339-RO](#) [S43F-RO](#) [S333T-RO](#) [S339T-RO](#) [S45-RO](#) [S305T-RO](#) [S303T-RO](#) [S309T-RO](#) [S308-RO](#) [S338T-RO](#)
[S33-RO](#) [S35-RO](#) [S309-RO](#) [S308T-RO](#) [S43](#) [S301T](#) [S309T](#) [S305T](#) [S308T](#) [S49R](#) [S41R](#) [S31](#) [S31T](#) [S301](#) [S333](#)
[S309](#) [S308](#) [S302-RO](#) [S42-RO](#) [S303-RO](#) [S41F-RO](#) [S31-RO](#) [S42F-RO](#) [S32-RO](#) [S31F-RO](#) [S32F-RO](#) [S333-RO](#)
[S338F](#) [S301F-RO](#) [S333F-RO](#) [S308/328-RO](#) [S331F/U-RO](#) [S333F/U](#) [S331F/C-UL-RO](#) [S305-RO](#) [S302T-RO](#) [S33F-](#)
[RO](#) [S338-RO](#) [S335-RO](#) [S335T-RO](#) [S43-RO](#) [S331T-RO](#) [S332T-RO](#) [S301F/CUL](#) [S32/CUL](#) [S335/U](#) [S43/CUL](#) [S48-](#)
[RO](#) [S338R-RO](#) [S332-RO](#) [S428T-RO](#) [S422T-RO](#) [S43T-RO](#) [S38-RO](#) [S331R-RO](#) [S421-RO](#) [S42R-RO](#) [S339R-RO](#)
[S333R-RO](#) [S41-RO](#) [S423-RO](#) [S41T-RO](#) [S39-RO](#) [S423T-RO](#) [S32T-RO](#) [S332F-RO](#) [S33T-RO](#) [S49-RO](#) [S332R-RO](#)
[S42T-RO](#) [S331-RO](#) [S421T-RO](#) [S331F](#) [S301T/UC-RO](#) [S302F](#) [S331F-RO](#) [S332/U-RO](#) [S335F-RO](#) [S331F/CUL](#)
[S33F/CUL](#) [S42F/CUL](#) [S31F/CUL](#) [S32F/CUL](#) [S41/CUL](#) [S33/CUL](#) [S42/CUL](#) [S31/CUL](#) [S41F/CUL](#) [S43F/CUL](#) [S331R](#)