

# Contents for Standard Size Toggles



## Medium Capacity ..... Page A101

15~20A Power Level  
Solder Lug, Quick Connect Terminals  
Bushing Mount  
Single & Double Pole



## Medium Capacity ..... Page A106

15~20A Power Level  
Solder Lug, Screw Lug, Quick Connect Terminals  
Bushing Mount  
One through Four Pole



## High Capacity ..... Page A117

30A Power Level  
Screw Lug Terminals  
Bushing Mount or Mounting Screws  
Double Pole & Three Pole



GENERAL SPECIFICATIONS FOR S1 ~ S29

|   |                |
|---|----------------|
| A | Toggles        |
|   | Rockers        |
|   | Pushbuttons    |
|   | Illuminated PB |
|   | Programmable   |
|   | Keylocks       |
|   | Rotaries       |
|   | Slides         |
|   | Tactiles       |
|   | Tilt           |
|   | Touch          |
|   | Indicators     |
|   | Accessories    |
|   | Supplement     |

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: 30,000 operations minimum for S5AW, S8AW, S9AW, S25AW, S28AW, S29AW  
50,000 operations minimum for all other models
- Electrical Life: 25,000 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: Phenolic resin
- Case Cover: Steel with 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: -30°C through +70°C (-22°F through +158°F) for Splashproof models;  
-10°C through +70°C (+14°F through +158°F) for all other models
- Sealing: Splashproof and lever lock panel seal models meet IP67 of IEC 60529 Standards

Installation

- Mounting Torque: 1.47Nm (13 lb•in) for single nut on AW & AL models  
2.94Nm (26 lb•in) for double nut on other models
- 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.



Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

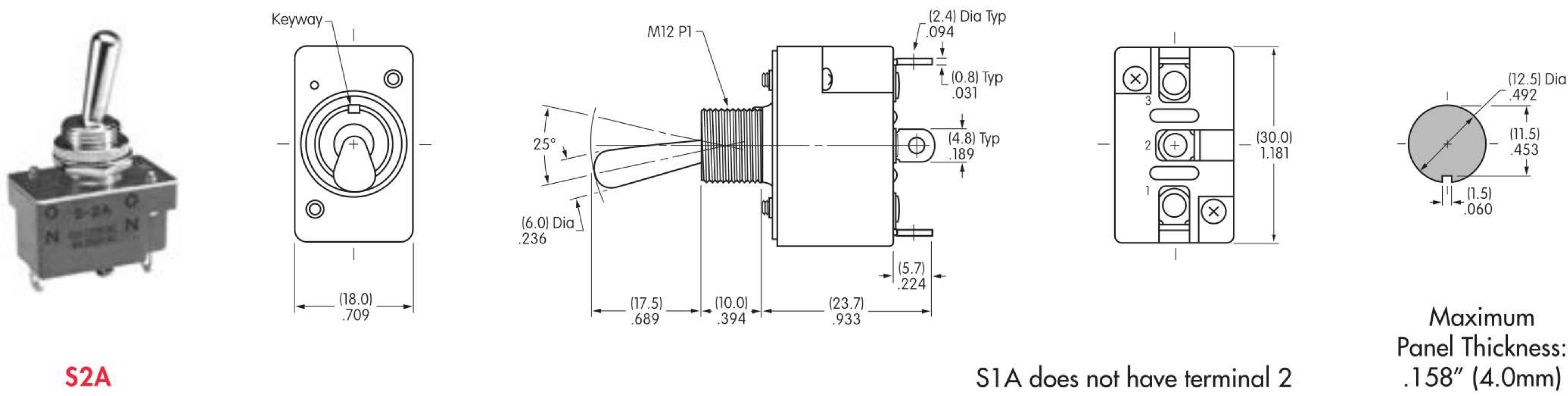
Accessories

Supplement

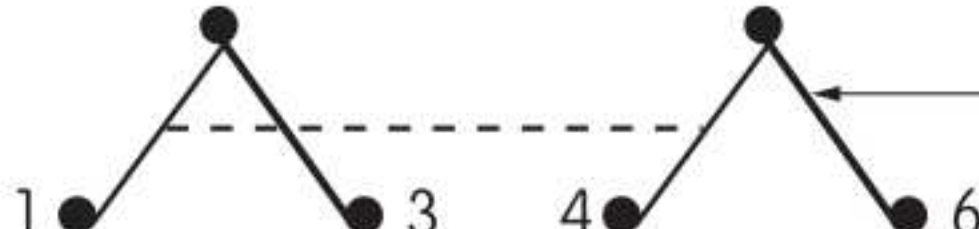
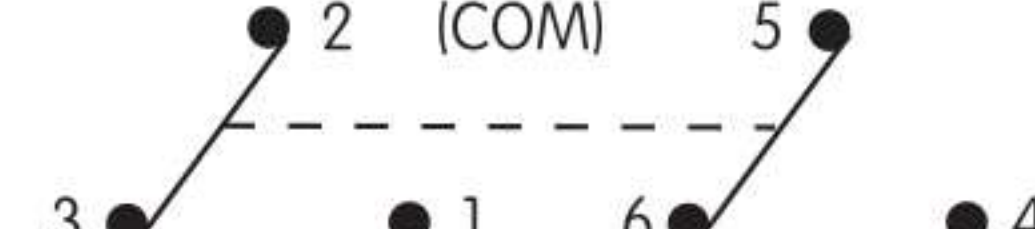
SINGLE POLE WITH SOLDER LUG

| * UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs)                                                                                                                |                                                                                   |                                                                                   |                                                                                   | Toggle Position/Connected Terminals<br>NONE = No Position |                                                                                   |                                                                                    |                                                                                     | Electrical Capacity |                                                   |        |                |                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|--------|----------------|----------------|
| Model                                                                                                                                                                                                    | * Approvals                                                                       |                                                                                   |                                                                                   | Pole & Throw                                              | Down                                                                              | Center                                                                             | Up                                                                                  | Resistive           |                                                   |        | Inductive      | Angle of Throw |
|                                                                                                                                                                                                          |  |  |  |                                                           |  |  |  | AC 125V             | AC 250V                                           | DC 30V | AC 125V PF 0.6 |                |
| S1A                                                                                                                                                                                                      | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | SPST                                                      | ON 1-3                                                                            | NONE                                                                               | OFF —                                                                               | 15A                 | 6A                                                | 20A    | 8A             | 25°            |
| S2A                                                                                                                                                                                                      | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | SPDT                                                      | ON 2-3                                                                            | NONE                                                                               | ON 2-1                                                                              | 15A                 | 6A                                                | 20A    | 8A             | 25°            |
| S3A                                                                                                                                                                                                      | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | SPDT                                                      | ON 2-3                                                                            | OFF                                                                                | ON 2-1                                                                              | 15A                 | 6A                                                | 20A    | 8A             | 25°            |
| Throw & Schematics:                                                                                                                                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                           |                                                                                   |                                                                                    |                                                                                     |                     | Note: Terminal numbers are actually on the switch |        |                |                |
| SPST  INTERNAL CONNECTION      SPDT  |                                                                                   |                                                                                   |                                                                                   |                                                           |                                                                                   |                                                                                    |                                                                                     |                     |                                                   |        |                |                |

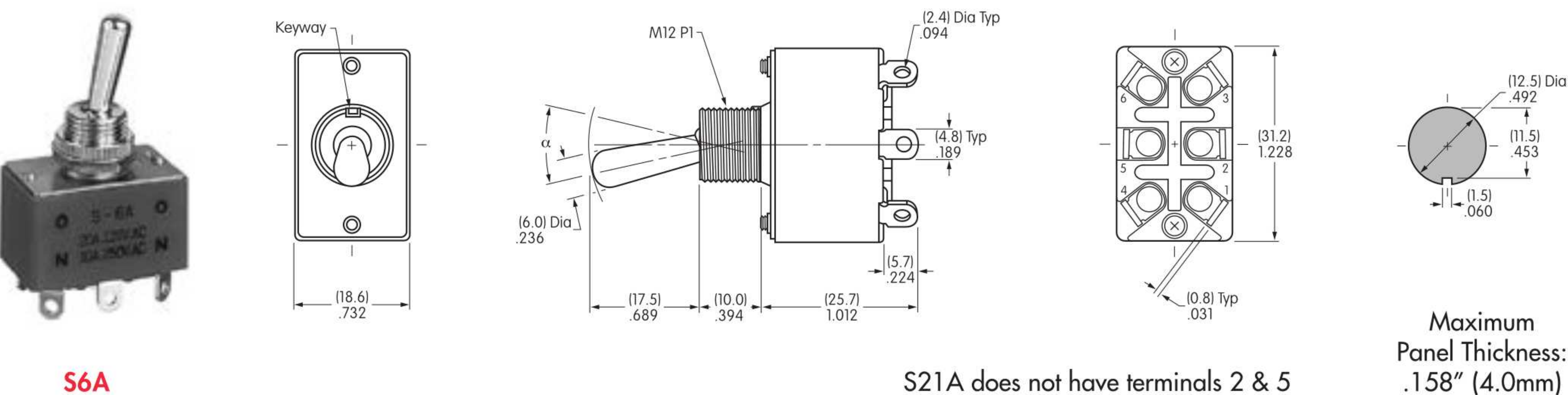
Notes: Standard Hardware: AT504M Knurled Nut, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section. Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.



DOUBLE POLE WITH SOLDER LUG

| * UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs)                                                                                                                                                       |                                                                                     |                                                                                     |                                                                                     | Toggle Position/Connected Terminals<br>NONE = No Position |                                                                                     |                                                                                      |                                                                                       |                                                   | Electrical Capacity |        |                |                           |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------|---------------------|--------|----------------|---------------------------|--|
| Model                                                                                                                                                                                                                                           | * Approvals                                                                         |                                                                                     |                                                                                     | Pole & Throw                                              | Down                                                                                | Center                                                                               | Up                                                                                    | Resistive                                         |                     |        | Inductive      | $\alpha$ = Angle of Throw |  |
|                                                                                                                                                                                                                                                 |  |  |  |                                                           |  |  |  | AC 125V                                           | AC 250V             | DC 30V | AC 125V PF 0.6 |                           |  |
| S21A                                                                                                                                                                                                                                            | —                                                                                   | —                                                                                   | —                                                                                   | DPST                                                      | ON 1-3 4-6                                                                          | NONE                                                                                 | OFF —                                                                                 | 15A                                               | 15A                 | 15A    | 8A             | 21°                       |  |
| S6A                                                                                                                                                                                                                                             | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   | DPDT                                                      | ON 2-3 5-6                                                                          | NONE                                                                                 | ON 2-1 5-4                                                                            | 20A                                               | 10A                 | 20A    | 8A             | 21°                       |  |
| S7A                                                                                                                                                                                                                                             | —                                                                                   | —                                                                                   | ✓                                                                                   | DPDT                                                      | ON 2-3 5-6                                                                          | OFF                                                                                  | ON 2-1 5-4                                                                            | 20A                                               | 10A                 | 20A    | 8A             | 28°                       |  |
| Throw & Schematics:                                                                                                                                                                                                                             |                                                                                     |                                                                                     |                                                                                     |                                                           |                                                                                     |                                                                                      |                                                                                       | Note: Terminal numbers are actually on the switch |                     |        |                |                           |  |
| <div><div>DPST</div><div>INTERNAL CONNECTION</div><div>DPDT</div></div> |                                                                                     |                                                                                     |                                                                                     |                                                           |                                                                                     |                                                                                      |                                                                                       |                                                   |                     |        |                |                           |  |

Notes: Standard Hardware: AT504M Knurled Nut, 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.



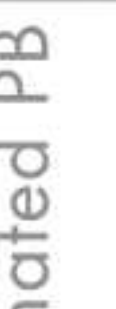


## Series S

## A Toggles

Rockets

## Buttons



## immable

ks  
Pro

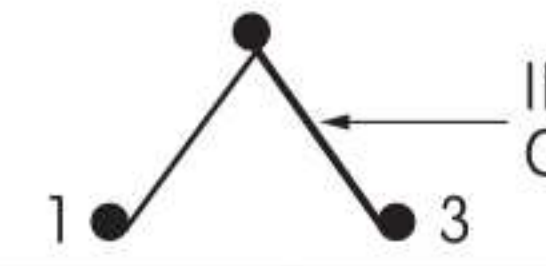
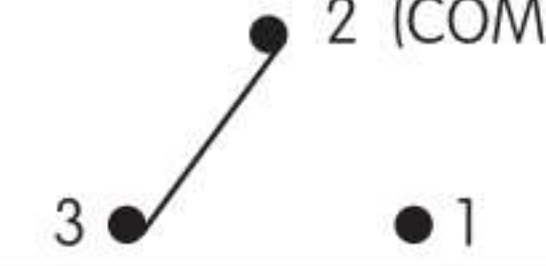
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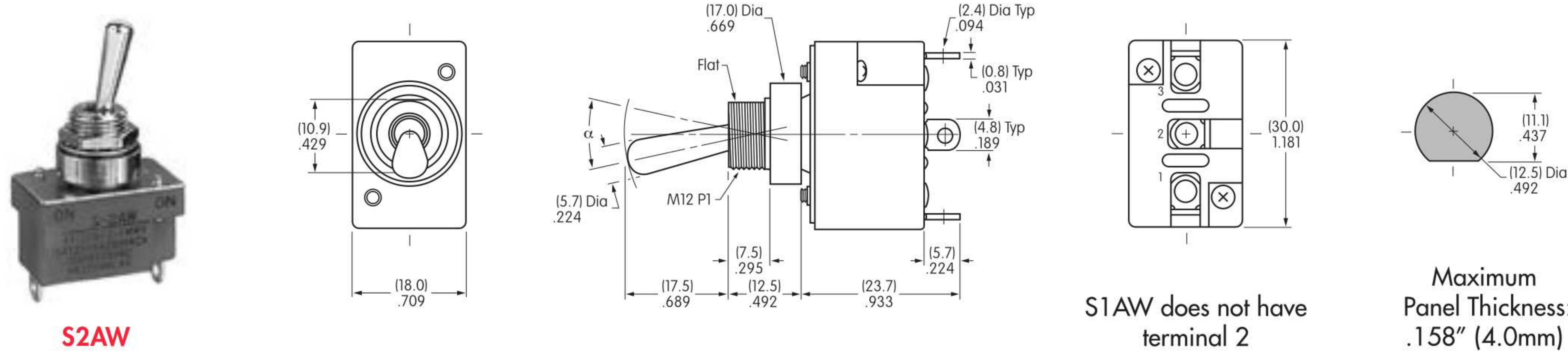


Toggles  
A  
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Programmable  
Keylocks  
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Tilt  
Touch  
Indicators  
Accessories  
Supplement

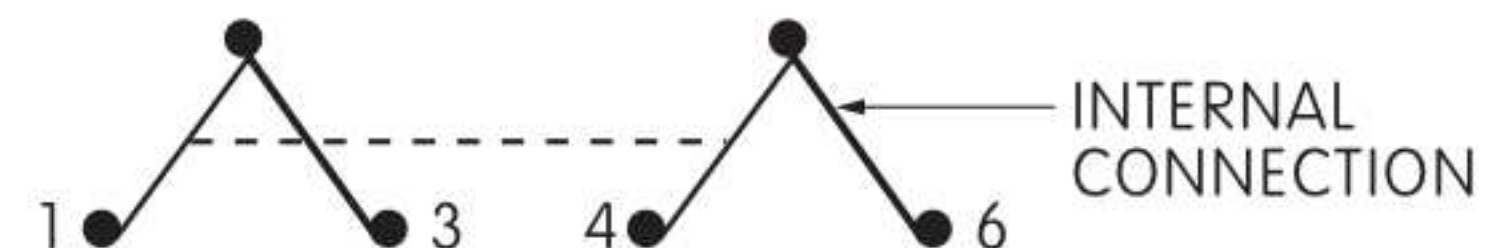
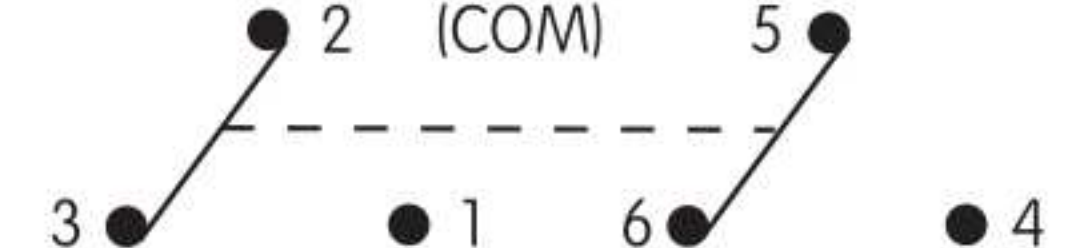
SINGLE POLE SOLDER LUG WITH PANEL SEAL

|                     |                                                                                   |                                                                                   | Toggle Position/Connected Terminals<br>NONE = No Position ( ) = Momentary |                                                                                   |                                                                                    |                                                                                     | Electrical Capacity |         |        |                                                                                     |  |                                                   |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------|---------|--------|-------------------------------------------------------------------------------------|--|---------------------------------------------------|
| Model               | Approvals                                                                         |                                                                                   | Pole & Throw                                                              | Down                                                                              | Center                                                                             | Up                                                                                  | Resistive           |         |        | $\alpha$ =<br>Angle of Throw                                                        |  |                                                   |
|                     |  |  |                                                                           |  |  |  | AC 125V             | AC 250V | DC 30V |                                                                                     |  |                                                   |
| S1AW                | —                                                                                 | —                                                                                 | SPST                                                                      | ON 1-3                                                                            | NONE                                                                               | OFF —                                                                               | 15A                 | 6A      | 20A    | 24°                                                                                 |  |                                                   |
| S2AW                | —                                                                                 | —                                                                                 | SPDT                                                                      | ON 2-3                                                                            | NONE                                                                               | ON 2-1                                                                              | 15A                 | 6A      | 20A    | 24°                                                                                 |  |                                                   |
| S3AW                | —                                                                                 | —                                                                                 | SPDT                                                                      | ON 2-3                                                                            | OFF                                                                                | ON 2-1                                                                              | 15A                 | 6A      | 20A    | 28°                                                                                 |  |                                                   |
| S5AW                | —                                                                                 | —                                                                                 | SPDT                                                                      | ON 2-3                                                                            | NONE                                                                               | (ON) 2-1                                                                            | 15A                 | 6A      | 20A    | 20°                                                                                 |  |                                                   |
| S8AW                | —                                                                                 | —                                                                                 | SPDT                                                                      | (ON) 2-3                                                                          | OFF                                                                                | (ON) 2-1                                                                            | 15A                 | 6A      | 20A    | 24°                                                                                 |  |                                                   |
| S9AW                | —                                                                                 | —                                                                                 | SPDT                                                                      | ON 2-3                                                                            | OFF                                                                                | (ON) 2-1                                                                            | 15A                 | 6A      | 20A    | 24°                                                                                 |  |                                                   |
| Throw & Schematics: |                                                                                   |                                                                                   | SPST                                                                      |  |                                                                                    |                                                                                     | SPDT                |         |        |  |  | Note: Terminal numbers are actually on the switch |

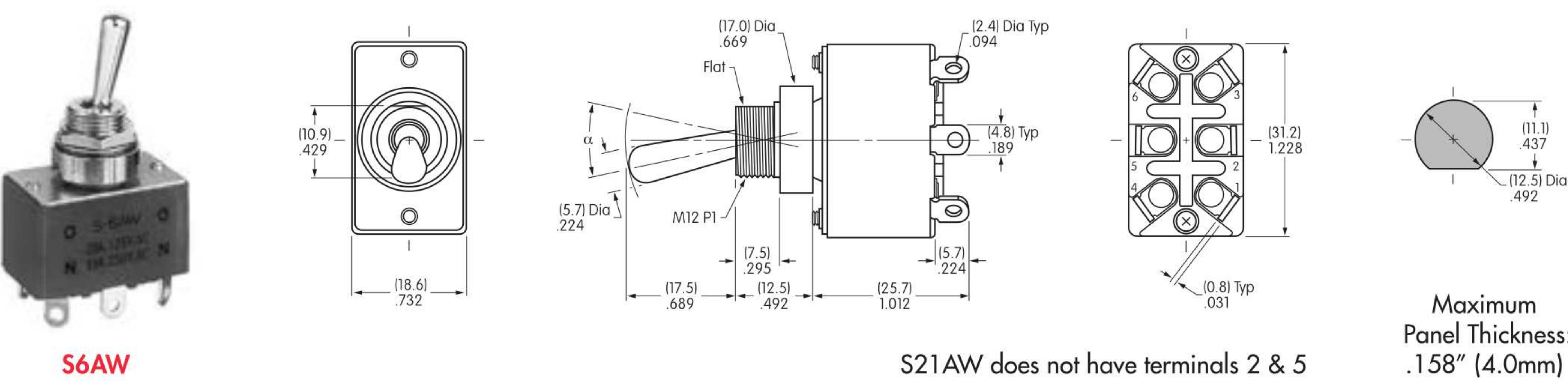
Notes: Standard Hardware: AT503M Face Hex Nut, Lockwasher, AT537 O-ring. See Accessories & Hardware section. For .250" Quick Connect terminals, add "F" to end of part number. See Quick Connect terminal dimensions on previous page. For further information, contact factory. Panel Seal models meet IP67 of IEC 60529 Standards at front panel (dust tight and water protected from effects of temporary immersion).



DOUBLE POLE SOLDER LUG WITH PANEL SEAL

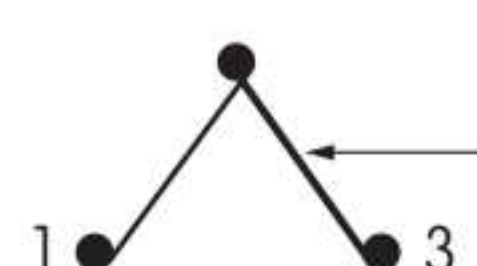
|                     |                                                                                     |                                                                                     | Toggle Position/Connected Terminals<br>NONE = No Position ( ) = Momentary           |                                                                                     |                                                                                      |                                                                                       | Electrical Capacity                                                                   |         |        |                              |
|---------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------|--------|------------------------------|
| Model               | Approvals                                                                           |                                                                                     | Pole & Throw                                                                        | Down                                                                                | Center                                                                               | Up                                                                                    | Resistive                                                                             |         |        | $\alpha$ =<br>Angle of Throw |
|                     |  |  |                                                                                     |  |  |  | AC 125V                                                                               | AC 250V | DC 30V |                              |
| S21AW               | —                                                                                   | —                                                                                   | DPST                                                                                | ON 1-3 4-6                                                                          | NONE                                                                                 | OFF —                                                                                 | 15A                                                                                   | 15A     | 15A    | 22°                          |
| S6AW                | —                                                                                   | —                                                                                   | DPDT                                                                                | ON 2-3 5-6                                                                          | NONE                                                                                 | ON 2-1 5-4                                                                            | 20A                                                                                   | 10A     | 20A    | 22°                          |
| S7AW                | —                                                                                   | —                                                                                   | DPDT                                                                                | ON 2-3 5-6                                                                          | OFF                                                                                  | ON 2-1 5-4                                                                            | 20A                                                                                   | 10A     | 20A    | 28°                          |
| S25AW               | —                                                                                   | —                                                                                   | DPDT                                                                                | ON 2-3 5-6                                                                          | NONE                                                                                 | (ON) 2-1 5-4                                                                          | 15A                                                                                   | 6A      | 20A    | 20°                          |
| S28AW               | —                                                                                   | —                                                                                   | DPDT                                                                                | (ON) 2-3 5-6                                                                        | OFF                                                                                  | (ON) 2-1 5-4                                                                          | 15A                                                                                   | 6A      | 20A    | 22°                          |
| S29AW               | —                                                                                   | —                                                                                   | DPDT                                                                                | ON 2-3 5-6                                                                          | OFF                                                                                  | (ON) 2-1 5-4                                                                          | 15A                                                                                   | 6A      | 20A    | 22°                          |
| Throw & Schematics: |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | Note: Terminal numbers are actually on the switch                                     |         |        |                              |
| DPST                |                                                                                     |                                                                                     |  |                                                                                     |                                                                                      |                                                                                       |                                                                                       |         |        |                              |
|                     |                                                                                     |                                                                                     | DPDT                                                                                |                                                                                     |                                                                                      |                                                                                       |  |         |        |                              |

Notes: Standard Hardware: AT503M Face Hex Nut, Lockwasher, AT537 O-ring. See Accessories & Hardware section. For .250" Quick Connect terminals, add "F" to end of part number. See Quick Connect terminal dimensions on previous page. For further information, contact factory. Panel Seal models meet IP67 of IEC 60529 Standards at front panel (dust tight and water protected from effects of temporary immersion).

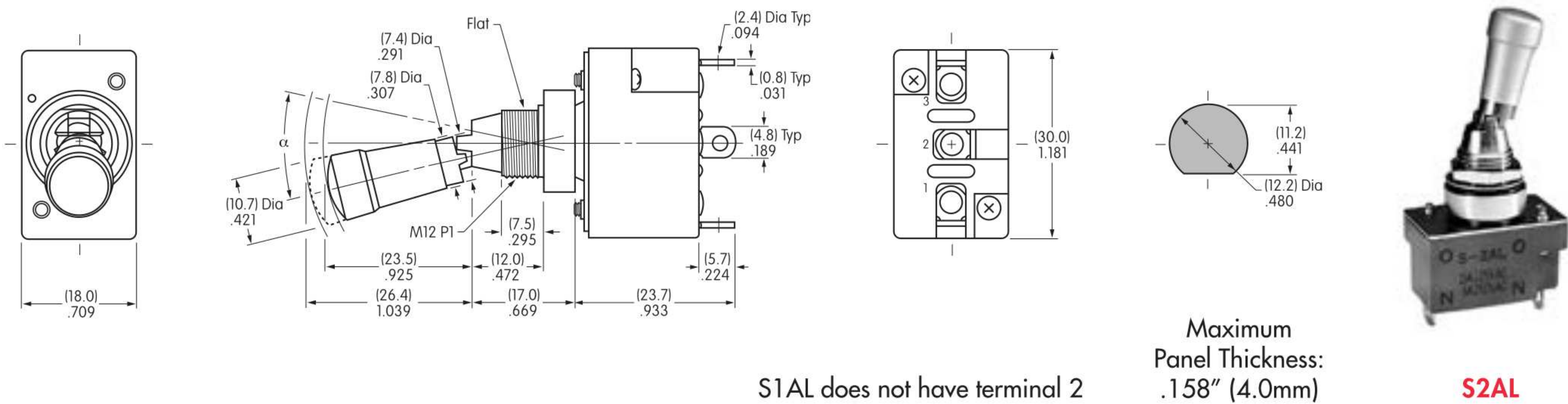




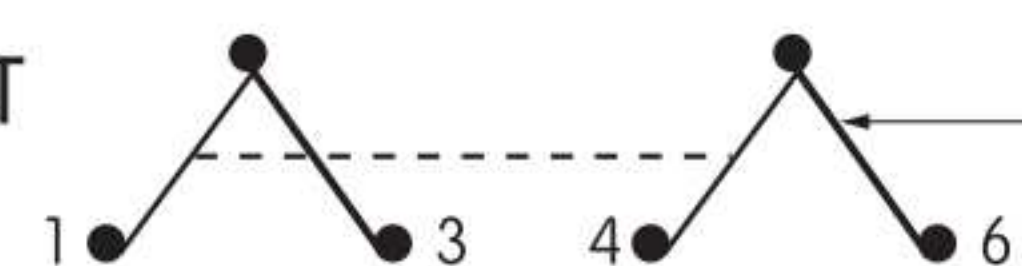
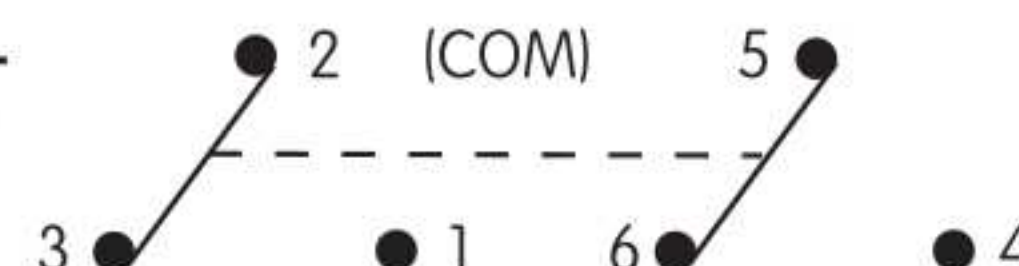
SINGLE POLE SOLDER LUG WITH LOCKING LEVER & PANEL SEAL

|                     |                                                                                                                                                                                  |              | Toggle Position/Connected Terminals<br>NONE = No Position                                                  |                                                                                             |                                                                                           | Electrical Capacity                                                                              |         |        |                                                   |                              |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------|--------|---------------------------------------------------|------------------------------|
| Model               | Approvals<br>  | Pole & Throw | Down<br>                  | Center<br> | Up<br> | Resistive                                                                                        |         |        | Inductive                                         | $\alpha$ =<br>Angle of Throw |
|                     |                                                                                                                                                                                  |              |                                                                                                            |                                                                                             |                                                                                           | AC 125V                                                                                          | AC 250V | DC 30V | AC 125V PF 0.6                                    |                              |
| S1AL                | — —                                                                                                                                                                              | SPST         | ON 1-3                                                                                                     | NONE                                                                                        | OFF —                                                                                     | 15A                                                                                              | 6A      | 20A    | 8A                                                | 24°                          |
| S2AL                | — —                                                                                                                                                                              | SPDT         | ON 2-3                                                                                                     | NONE                                                                                        | ON 2-1                                                                                    | 15A                                                                                              | 6A      | 20A    | 8A                                                | 24°                          |
| S3AL                | — —                                                                                                                                                                              | SPDT         | ON 2-3                                                                                                     | OFF                                                                                         | ON 2-1                                                                                    | 15A                                                                                              | 6A      | 20A    | 8A                                                | 28°                          |
| Throw & Schematics: |                                                                                                                                                                                  |              | SPST  INTERNAL CONNECTION |                                                                                             |                                                                                           | SPDT  2 (COM) |         |        | Note: Terminal numbers are actually on the switch |                              |

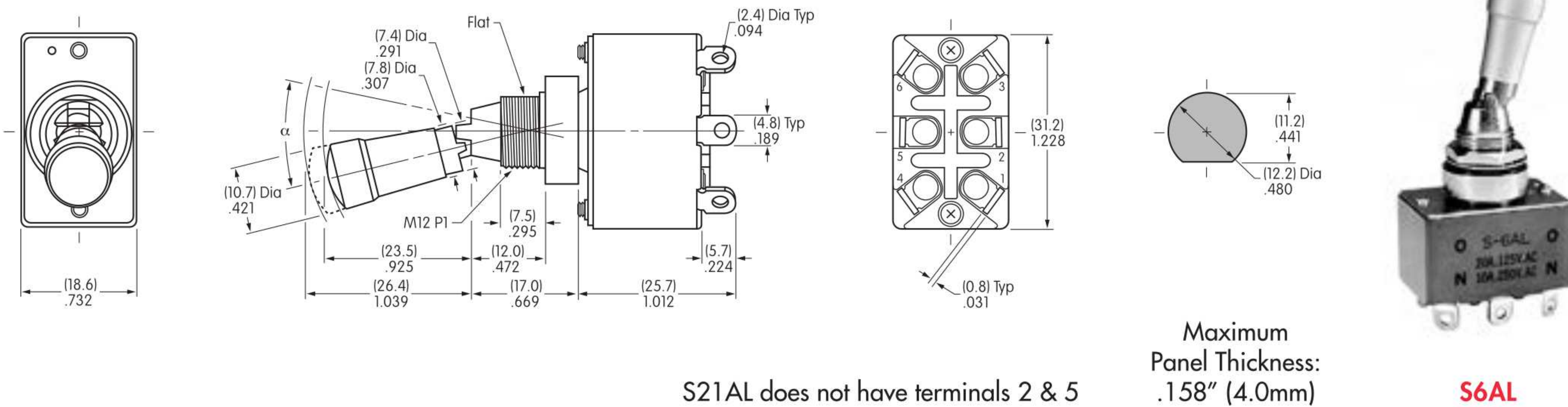
Notes: Standard Hardware: AT503M Face Hex Nut, Lockwasher, AT537 O-ring. See Accessories & Hardware section. Locking Lever & Panel Seal models meet IP67 of IEC 60529 Standards at front panel (dust tight and water protected from effects of temporary immersion).



DOUBLE POLE SOLDER LUG WITH LOCKING LEVER & PANEL SEAL

| * UL & cULs recognized only when ordered with marking on switch (see General Specs)                                            |                                                                                                                                                                                        |              | Toggle Position/Connected Terminals<br>NONE = No Position                                   |                                                                                               |                                                                                             |            | Electrical Capacity                                                                   |        |                                                   |                              |     |
|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------|---------------------------------------------------------------------------------------|--------|---------------------------------------------------|------------------------------|-----|
| Model                                                                                                                          | * Approvals<br>  | Pole & Throw | Down<br> | Center<br> | Up<br> | Resistive  |                                                                                       |        | Inductive                                         | $\alpha$ =<br>Angle of Throw |     |
|                                                                                                                                |                                                                                                                                                                                        |              |                                                                                             |                                                                                               |                                                                                             | AC 125V    | AC 250V                                                                               | DC 30V | AC 125V PF 0.6                                    |                              |     |
| S21AL                                                                                                                          | —                                                                                                                                                                                      | —            | DPST                                                                                        | ON 1-3 4-6                                                                                    | NONE                                                                                        | OFF —      | 15A                                                                                   | 15A    | 15A                                               | 8A                           | 22° |
| S6AL                                                                                                                           | ✓                                                                                                                                                                                      | ✓            | DPDT                                                                                        | ON 2-3 5-6                                                                                    | NONE                                                                                        | ON 2-1 5-4 | 20A                                                                                   | 10A    | 20A                                               | 8A                           | 22° |
| S7AL                                                                                                                           | —                                                                                                                                                                                      | —            | DPDT                                                                                        | ON 2-3 5-6                                                                                    | OFF                                                                                         | ON 2-1 5-4 | 20A                                                                                   | 10A    | 20A                                               | 8A                           | 28° |
| Throw & Schematics:<br> INTERNAL CONNECTION |                                                                                                                                                                                        |              |                                                                                             |                                                                                               |                                                                                             |            |  |        | Note: Terminal numbers are actually on the switch |                              |     |

Notes: Standard Hardware: AT503M Face Hex Nut, Lockwasher, AT537 O-ring. See Accessories & Hardware section. Locking Lever & Panel Seal models meet IP67 of IEC 60529 Standards at front panel (dust tight and water protected from effects of temporary immersion).





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°C ~ +70°C (+14°F ~ +158°F)

Installation

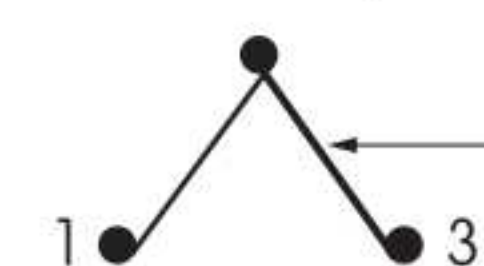
- Mounting Torque: 2.94Nm (26 lb•in) for double nut; 1.47Nm (13 lb•in) for single nut
- Soldering Time & Temperature: Manual Soldering: See Profile A in Supplement section.

Standards & Certifications

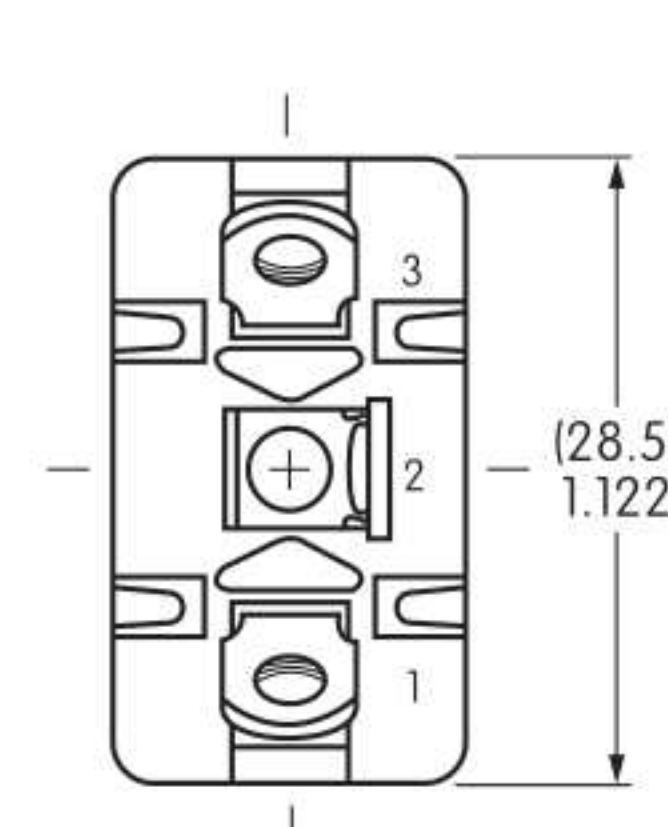
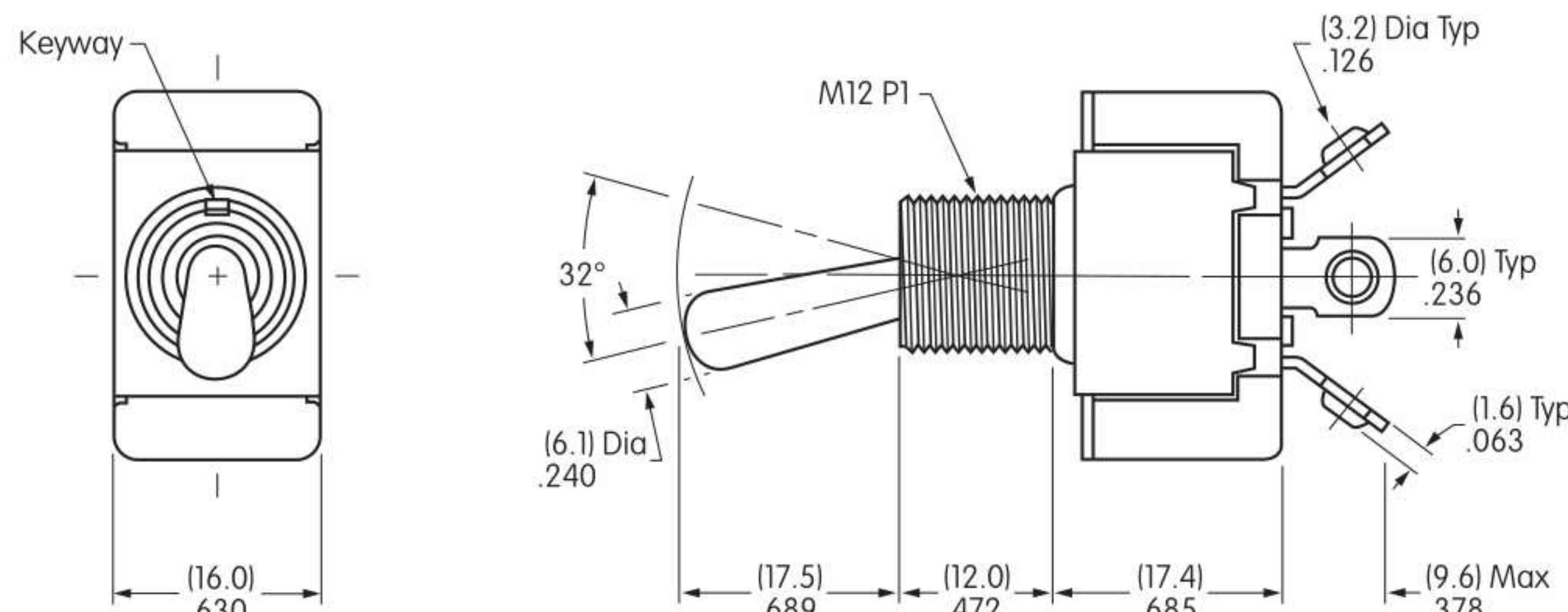
- UL: File No. E44145 - Recognized only when ordered with marking on switch. Add "/U" or "/CUL" to end of part number to order UL recognized switch. UL or cULus recognition designated beside part numbers on following pages. See Supplement section to find UL or cULus rating details.
- CSA: File No. 023535\_0\_000 - 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



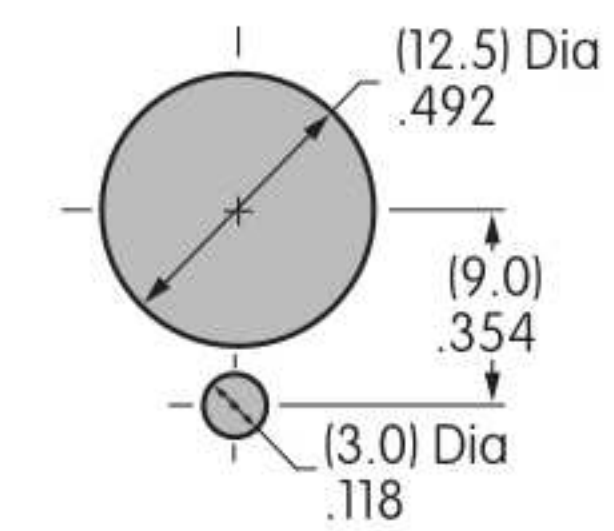
SINGLE POLE WITH SOLDER LUG

| * UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs)                                                                                                                                                      |                                                                                   |                                                                                   |                                                                                   | Toggle Position/Connected Terminals<br>NONE = No Position ( ) = Momentary |                                                                                                                    |     |                                                                                              |                                                                                           | Electrical Capacity                               |        |                |           |                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------|--------|----------------|-----------|----------------|
| Model                                                                                                                                                                                                                                          | * Approvals                                                                       |                                                                                   |                                                                                   | Pole & Throw                                                              | Down<br><small>Keyway</small><br> |     | Center<br> | Up<br> | 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 |        |                |           |                |
| <div><div>SPST</div><div></div></div> <div><div>SPDT</div><div></div></div> |                                                                                   |                                                                                   |                                                                                   |                                                                           |                                                                                                                    |     |                                                                                              |                                                                                           |                                                   |        |                |           |                |

**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.



S301 does not have terminal 2

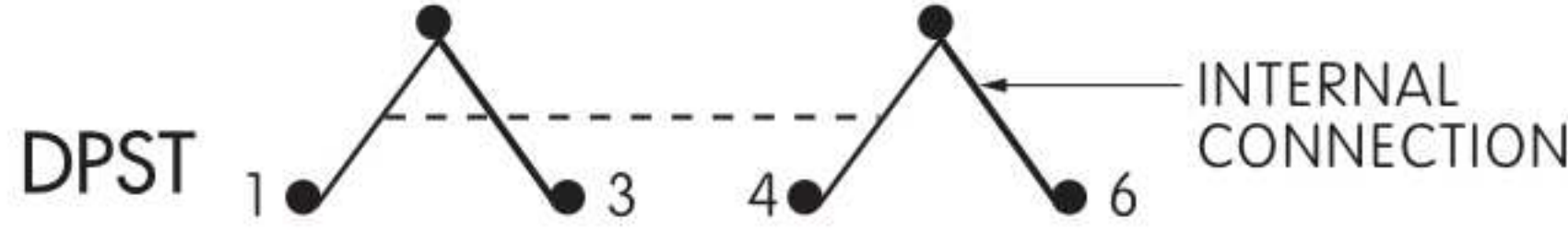
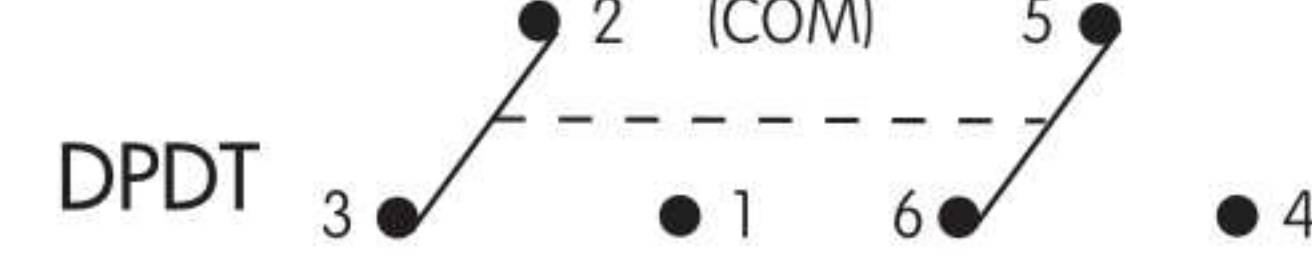


Maximum Panel Thickness: .185" (4.7mm)

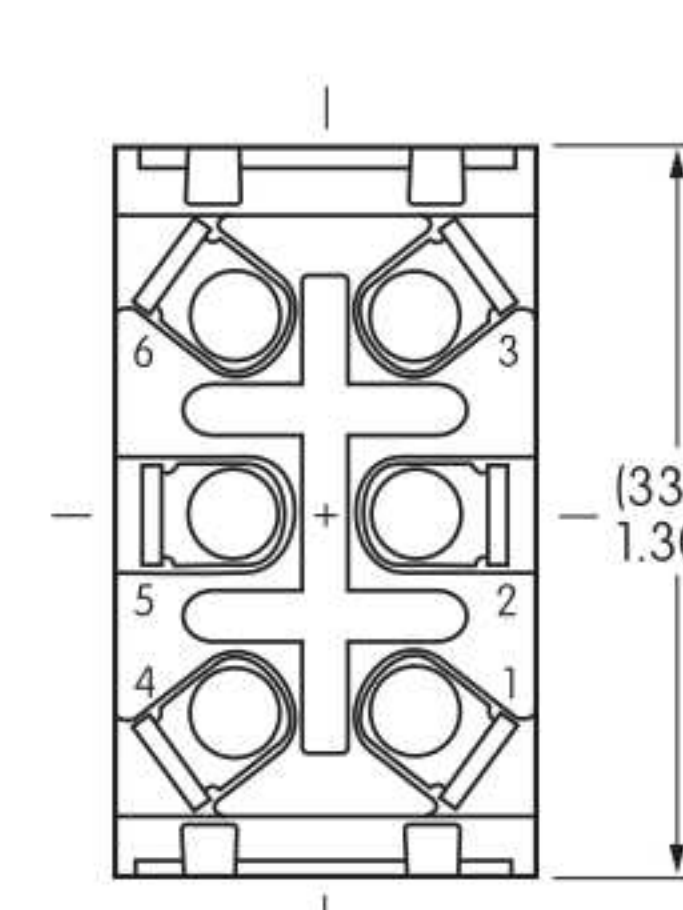
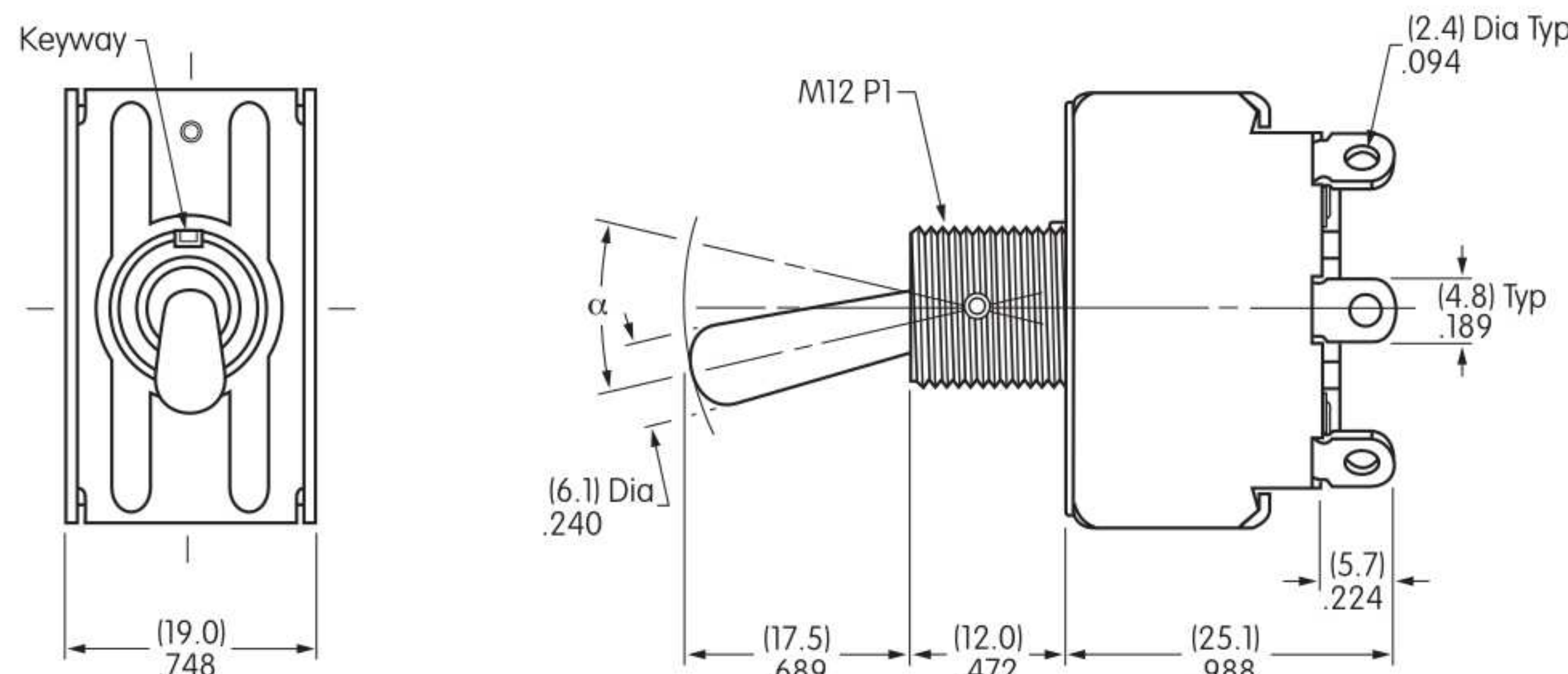


S301

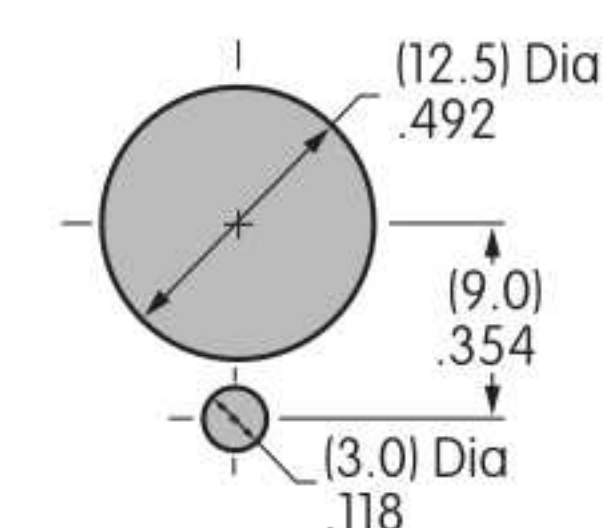
DOUBLE POLE WITH SOLDER LUG

| * UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs)                                                                                                                               |                                                                                     |                                                                                     |                                                                                     | Toggle Position/Connected Terminals<br>NONE = No Position ( ) = Momentary |                                                                                     |                                                                                      |                                                                                       |                                                   | Electrical Capacity |        |                |                              |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------|---------------------|--------|----------------|------------------------------|--|
| Model                                                                                                                                                                                                                   | * Approvals                                                                         |                                                                                     |                                                                                     | Pole & Throw                                                              | Down                                                                                | Center                                                                               | Up                                                                                    | Resistive                                         |                     |        | Inductive      | $\alpha$ =<br>Angle of Throw |  |
|                                                                                                                                                                                                                         |  |  |  |                                                                           |  |  |  | AC 125V                                           | AC 250V             | DC 30V | AC 125V PF 0.6 |                              |  |
| S331                                                                                                                                                                                                                    | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   | DPST                                                                      | ON 1-3 4-6                                                                          | NONE                                                                                 | OFF —                                                                                 | 20A                                               | 20A                 | 20A    | 10A            | 25°                          |  |
| S332                                                                                                                                                                                                                    | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   | DPDT                                                                      | ON 2-3 5-6                                                                          | NONE                                                                                 | ON 2-1 5-4                                                                            | 20A                                               | 15A                 | 20A    | 10A            | 25°                          |  |
| S333                                                                                                                                                                                                                    | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   | DPDT                                                                      | ON 2-3 5-6                                                                          | OFF                                                                                  | ON 2-1 5-4                                                                            | 20A                                               | 15A                 | 20A    | 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°                          |  |
| <b>Throw &amp; Schematics:</b><br> DPST<br> 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.



S331 does not have terminals 2 & 5



Maximum Panel Thickness: .185" (4.7mm)



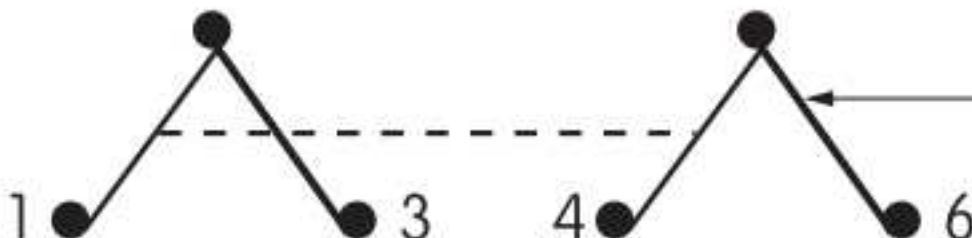
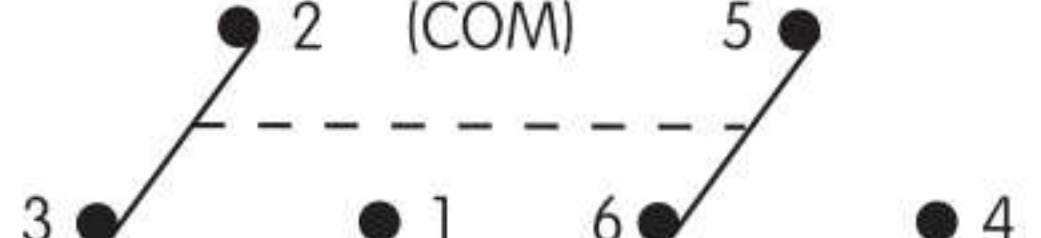
S331



Series S

Medium Capacity Standard Size Toggles

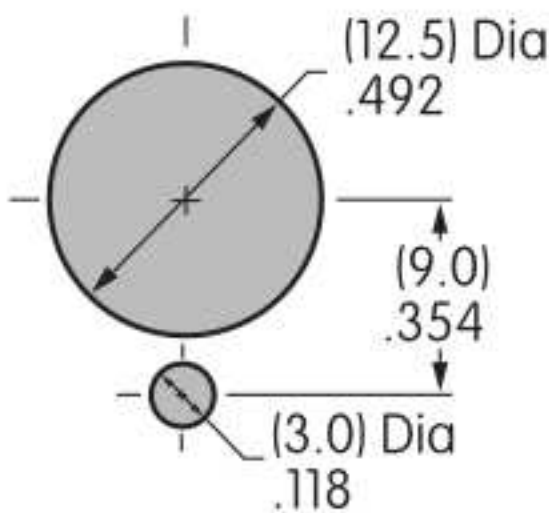
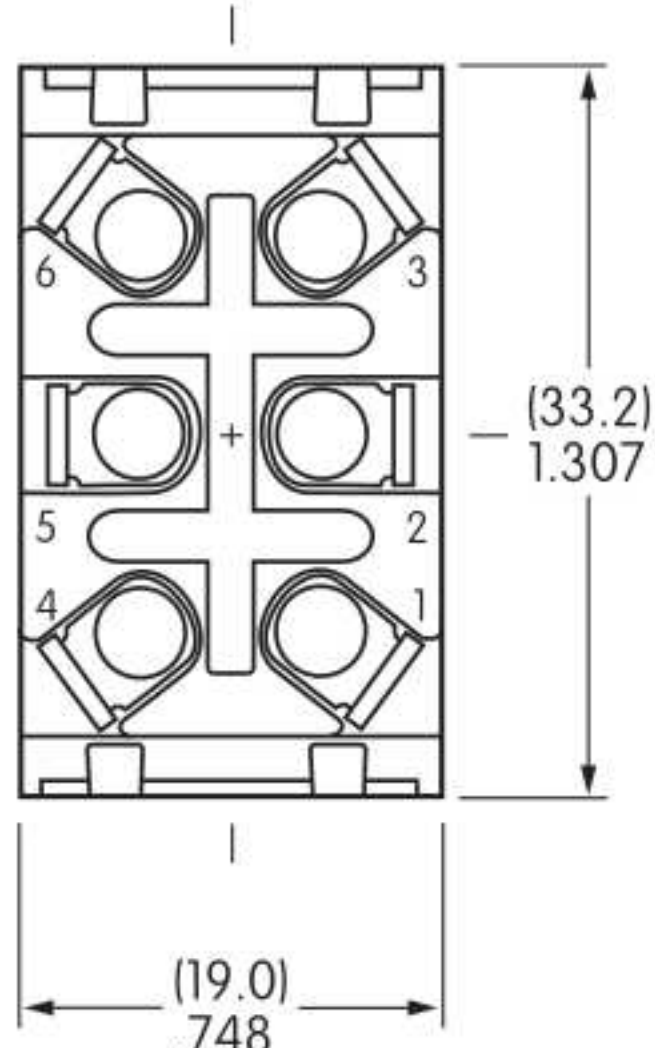
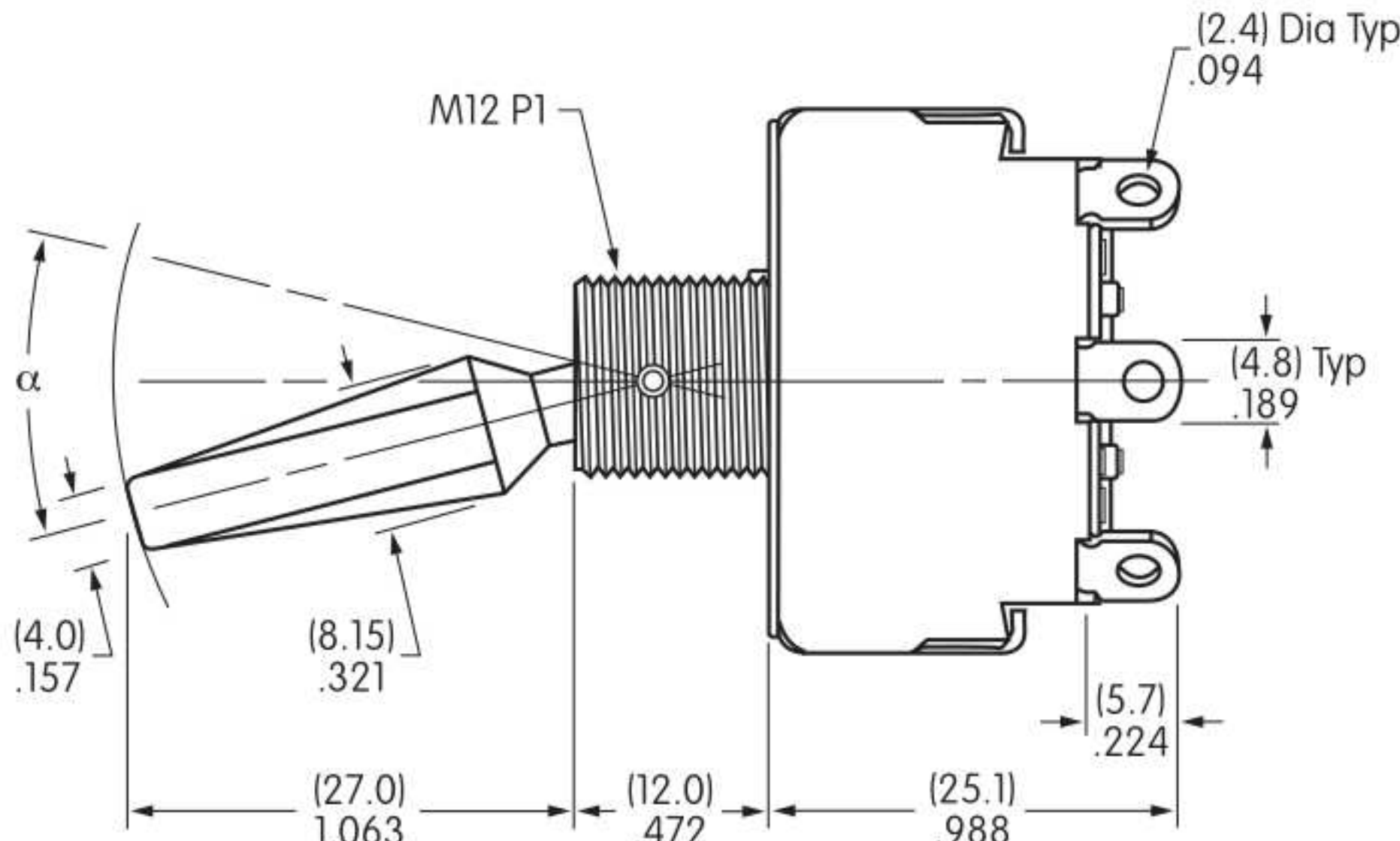
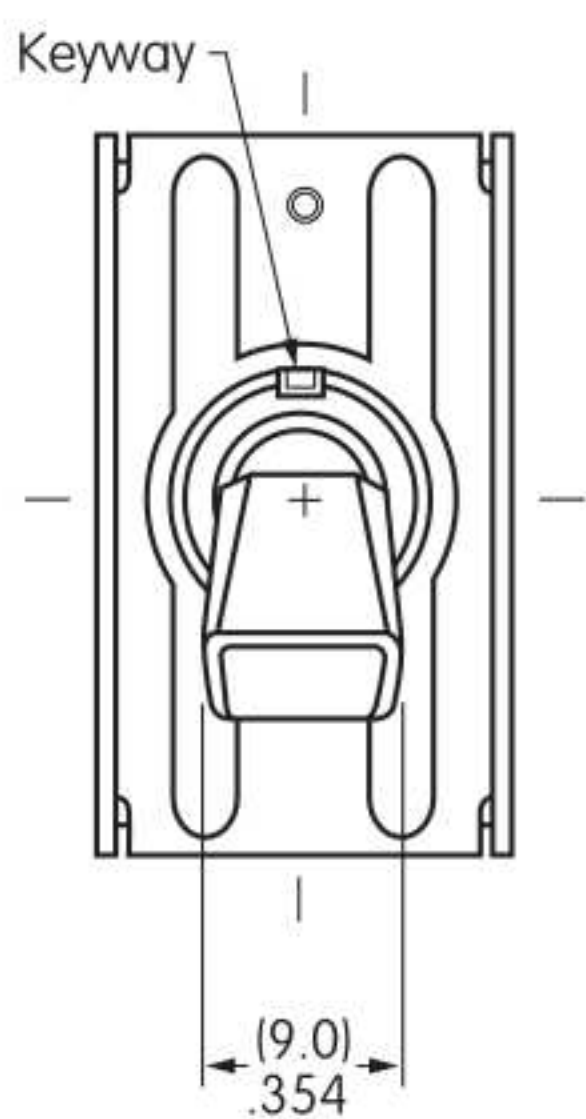
DOUBLE POLE WITH SOLDER LUG & FLATTED LEVER

| * UL & cULus recognized only when ordered with marking on switch(see General Specs)                                                                                                                                       |                                                                                   |                                                                                   |                                                                                   | Toggle Position/Connected Terminals<br>NONE = No Position ( ) = Momentary |                                                                                   |                                                                                    |                                                                                     |           | Electrical Capacity                               |        |                |                       |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------|---------------------------------------------------|--------|----------------|-----------------------|--|
| Model                                                                                                                                                                                                                     | * Approvals                                                                       |                                                                                   |                                                                                   | Pole & Throw                                                              | Down                                                                              | Center                                                                             | Up                                                                                  | Resistive |                                                   |        | Inductive      | α =<br>Angle of Throw |  |
|                                                                                                                                                                                                                           |  |  |  |                                                                           |  |  |  | AC 125V   | AC 250V                                           | DC 30V | AC 125V PF 0.6 |                       |  |
| S331R                                                                                                                                                                                                                     | ✓                                                                                 | ✓                                                                                 | —                                                                                 | DPST                                                                      | ON 1-3 4-6                                                                        | NONE                                                                               | OFF —                                                                               | 20A       | 20A                                               | 20A    | 10A            | 25°                   |  |
| S332R                                                                                                                                                                                                                     | ✓                                                                                 | ✓                                                                                 | —                                                                                 | DPDT                                                                      | ON 2-3 5-6                                                                        | NONE                                                                               | ON 2-1 5-4                                                                          | 20A       | 15A                                               | 20A    | 10A            | 25°                   |  |
| S333R                                                                                                                                                                                                                     | ✓                                                                                 | ✓                                                                                 | —                                                                                 | DPDT                                                                      | ON 2-3 5-6                                                                        | OFF                                                                                | ON 2-1 5-4                                                                          | 20A       | 15A                                               | 20A    | 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 |        |                |                       |  |
| <div>DPST  INTERNAL CONNECTION</div> <div>DPDT </div> |                                                                                   |                                                                                   |                                                                                   |                                                                           |                                                                                   |                                                                                    |                                                                                     |           |                                                   |        |                |                       |  |

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



S331R

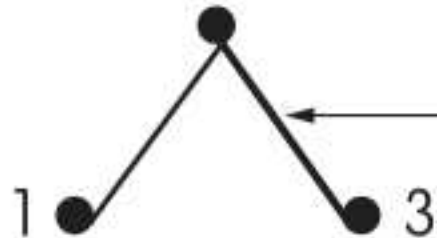
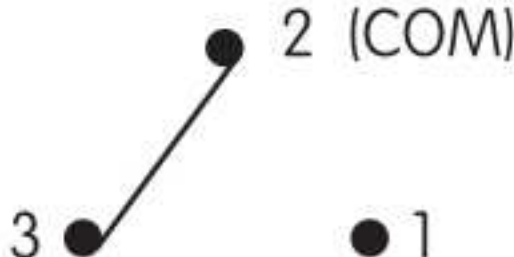


S331R does not have terminals 2 & 5

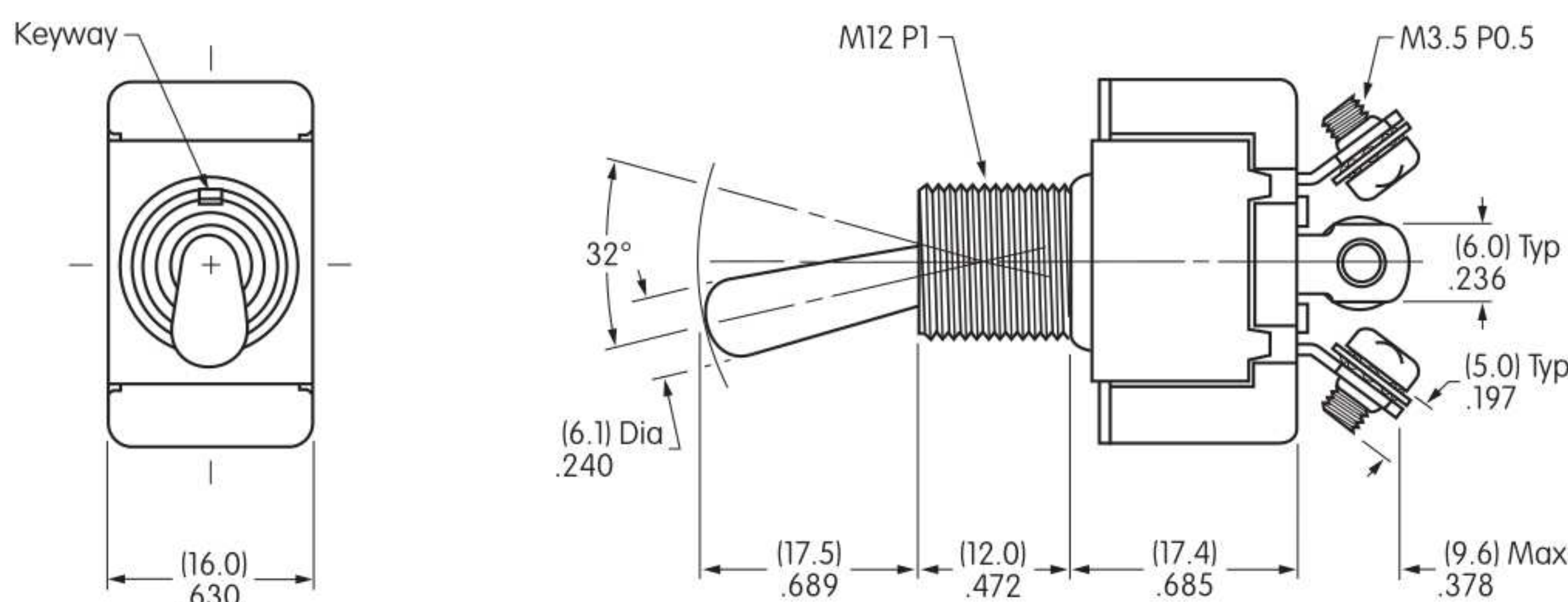
Maximum Panel Thickness: .220" (5.6mm)



SINGLE POLE WITH SCREW LUG

| * UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs)                                                                                                             |                                                                                   |                                                                                   |                                                                                   | Toggle Position/Connected Terminals<br>NONE = No Position ( ) = Momentary |                                                                                           |     |                                                                                              |                                                                                           | Electrical Capacity                               |        |                |           |                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------|--------|----------------|-----------|------------------------------|
| Model                                                                                                                                                                                                 | * Approvals                                                                       |                                                                                   |                                                                                   | Pole & Throw                                                              | Down<br> |     | Center<br> | Up<br> | Resistive                                         |        |                | Inductive | $\alpha$ =<br>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 |        |                |           |                              |
| <div><div></div><div></div></div> |                                                                                   |                                                                                   |                                                                                   |                                                                           |                                                                                           |     |                                                                                              |                                                                                           |                                                   |        |                |           |                              |

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.



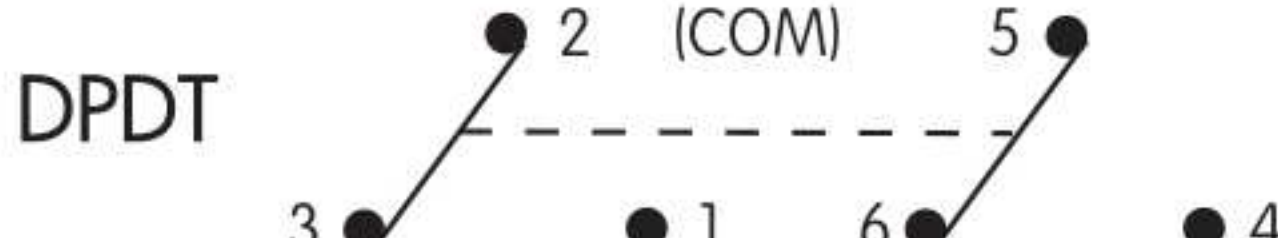
S301T does not have terminal 2

Maximum Panel Thickness: .185" (4.7mm)

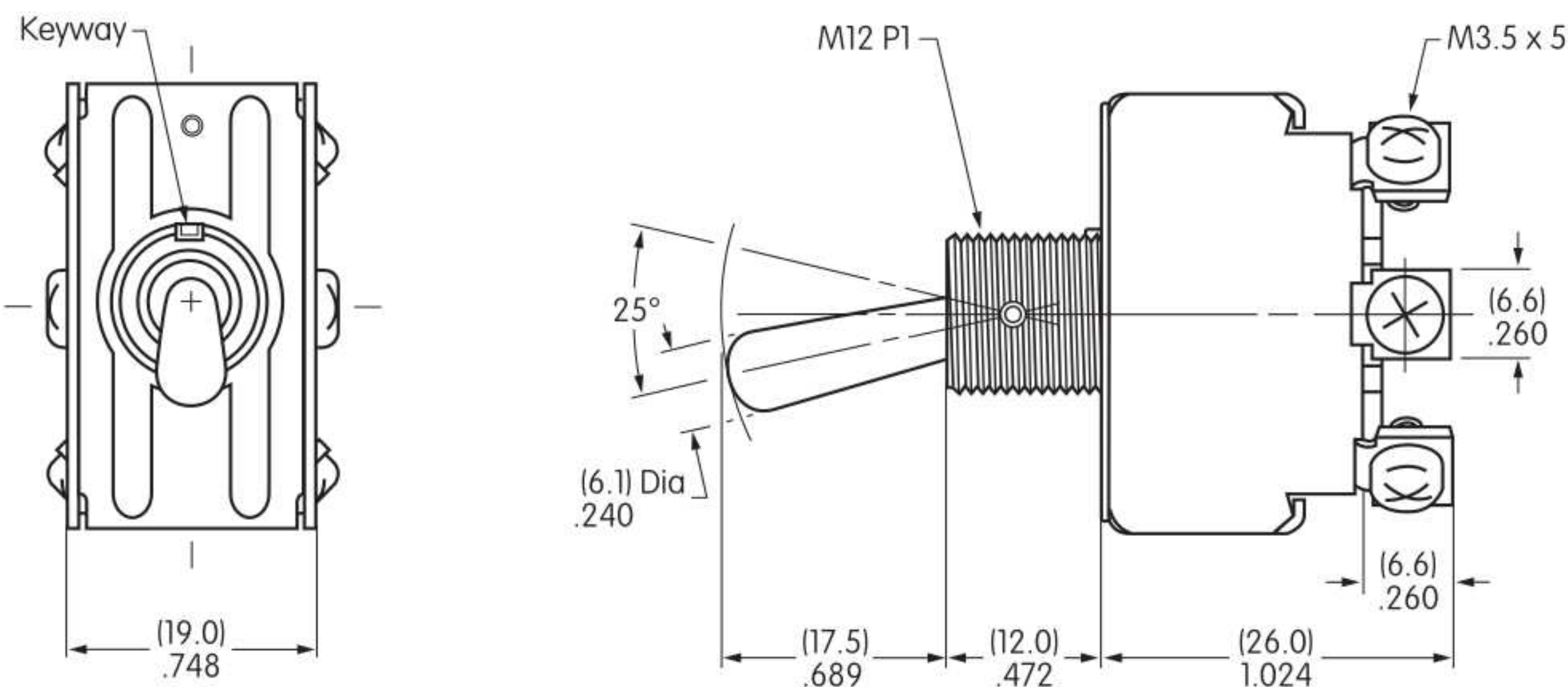


S301T

DOUBLE POLE WITH SCREW LUG

| * UL & cULus recognized only when ordered with marking on switch (see General Specs) |                                                                                     |                                                                                     |                                                                                     | Toggle Position/Connected Terminals<br>NONE = No Position ( ) = Momentary |                                                                                             |         |                                                                                                |                                                                                             |         | Electrical Capacity                                                                 |                |     |           |                              |                                                                                       |  |  |  |  |                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------|----------------|-----|-----------|------------------------------|---------------------------------------------------------------------------------------|--|--|--|--|---------------------------------------------------|
| Model                                                                                | * Approvals                                                                         |                                                                                     |                                                                                     | Pole & Throw                                                              | Down<br> |         | Center<br> | Up<br> |         | Resistive                                                                           |                |     | Inductive | $\alpha$ =<br>Angle of Throw |                                                                                       |  |  |  |  |                                                   |
|                                                                                      |  |  |  |                                                                           |                                                                                             |         |                                                                                                | 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:                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                           |                                                                                             |         |                                                                                                |                                                                                             |         |  |                |     |           |                              |  |  |  |  |  | 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

Maximum Panel Thickness: .185" (4.7mm)



S331T



Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

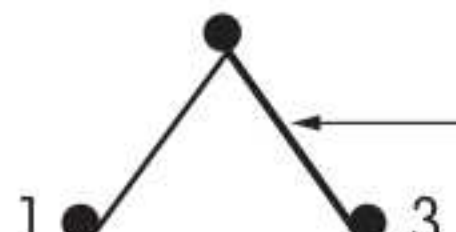
Touch

Indicators

Accessories

Supplement

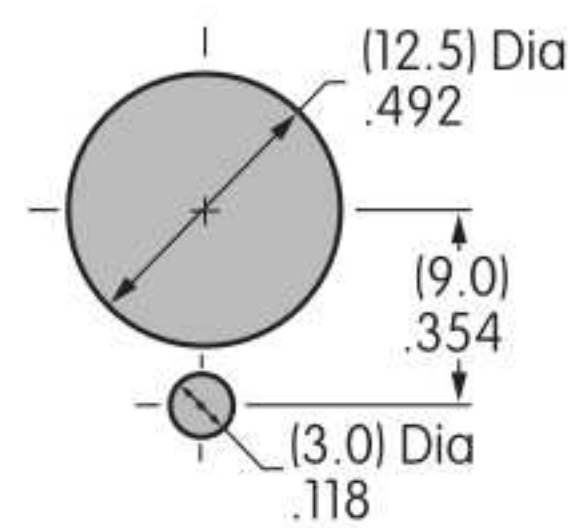
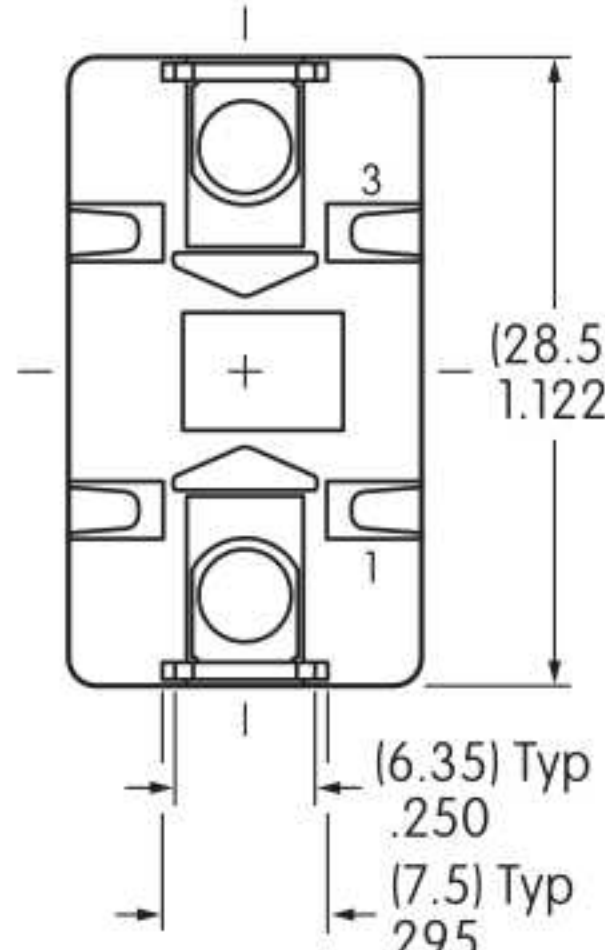
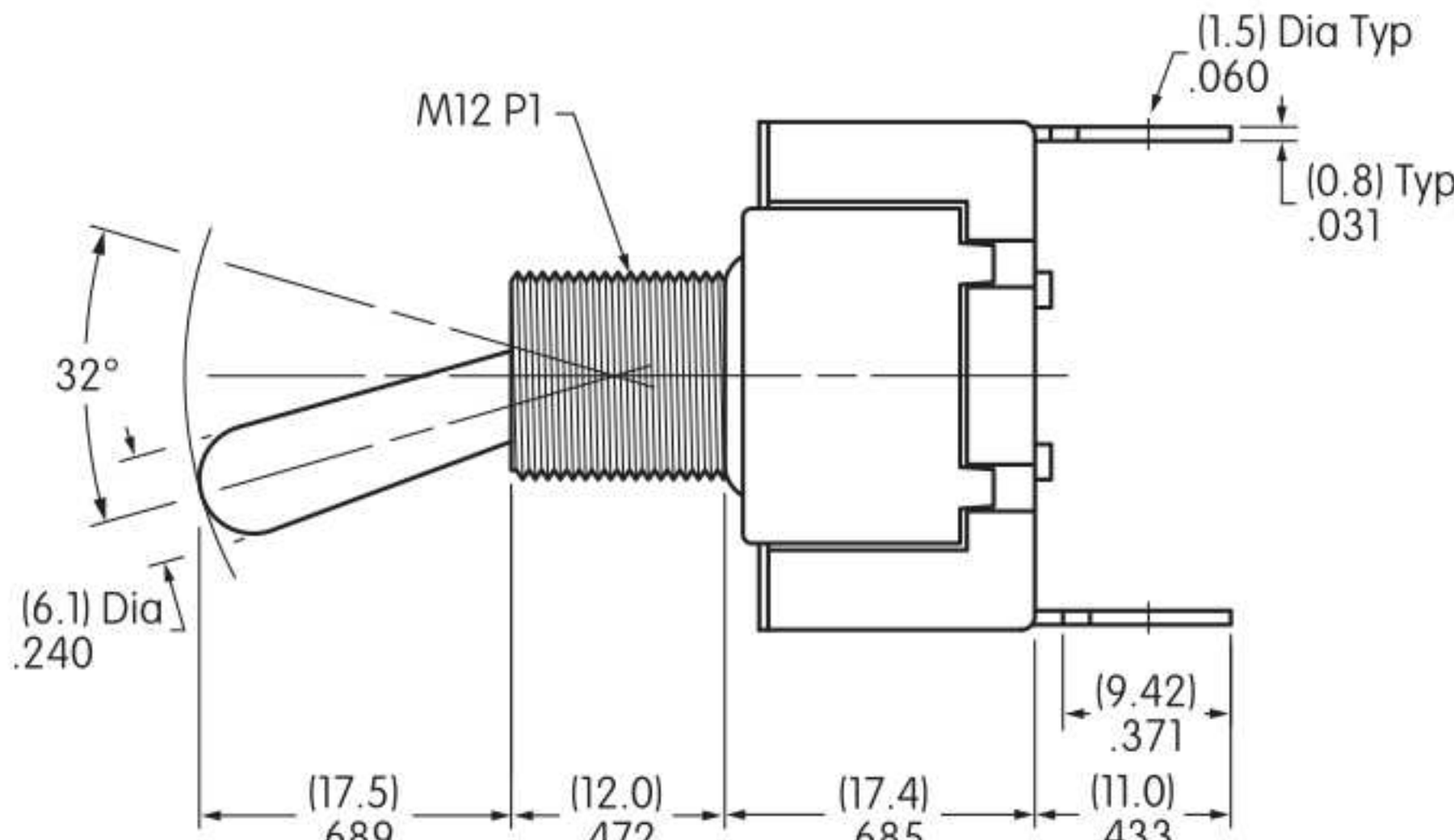
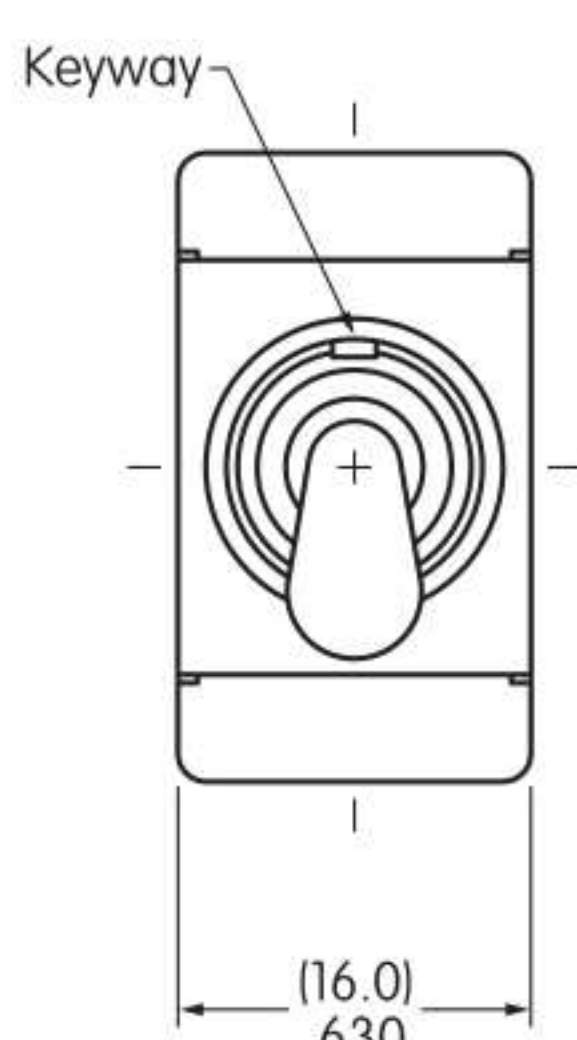
SINGLE POLE WITH QUICK CONNECT

| * UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs) |                                                                                   |                                                                                   |                                                                                   | Toggle Position/Connected Terminals<br>NONE = No Position |                                                                                   |                                                                                    |                                                                                     | Electrical Capacity                               |         |        |                |                              |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------|---------|--------|----------------|------------------------------|
| Model                                                                                     | * Approvals                                                                       |                                                                                   |                                                                                   | Pole & Throw                                              | Down                                                                              | Center                                                                             | Up                                                                                  | Resistive                                         |         |        | Inductive      | $\alpha$ =<br>Angle of Throw |
|                                                                                           |  |  |  |                                                           |  |  |  | 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:                                                                       |                                                                                   |                                                                                   |                                                                                   |                                                           |                                                                                   |                                                                                    |                                                                                     | Note: Terminal numbers are actually on the switch |         |        |                |                              |
|                                                                                           |                                                                                   |                                                                                   |                                                                                   | SPST                                                      |  |                                                                                    |                                                                                     |                                                   |         |        |                |                              |

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.

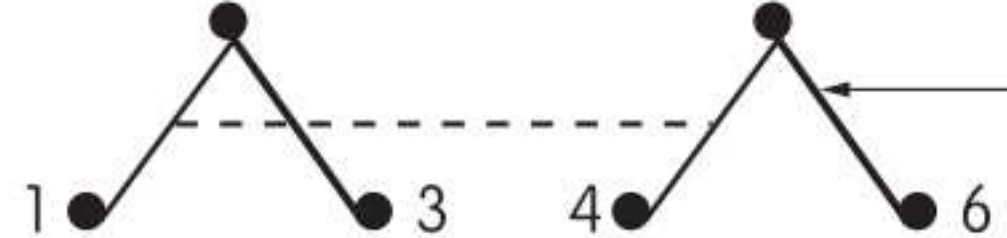
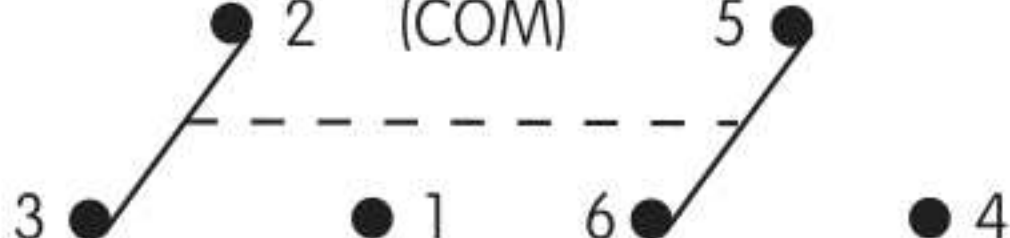


S301F



Maximum  
Panel Thickness:  
.185" (4.7mm)

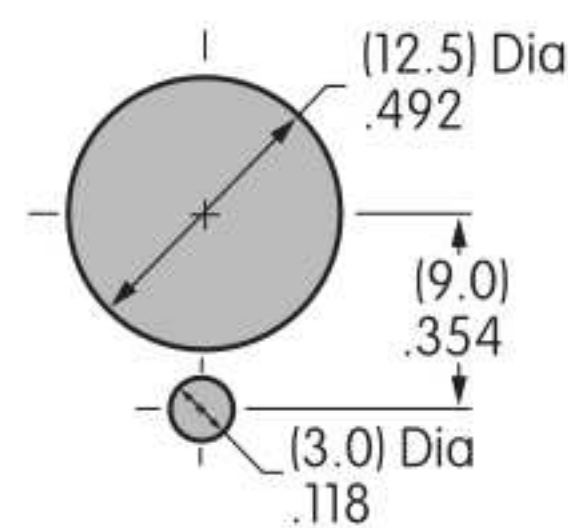
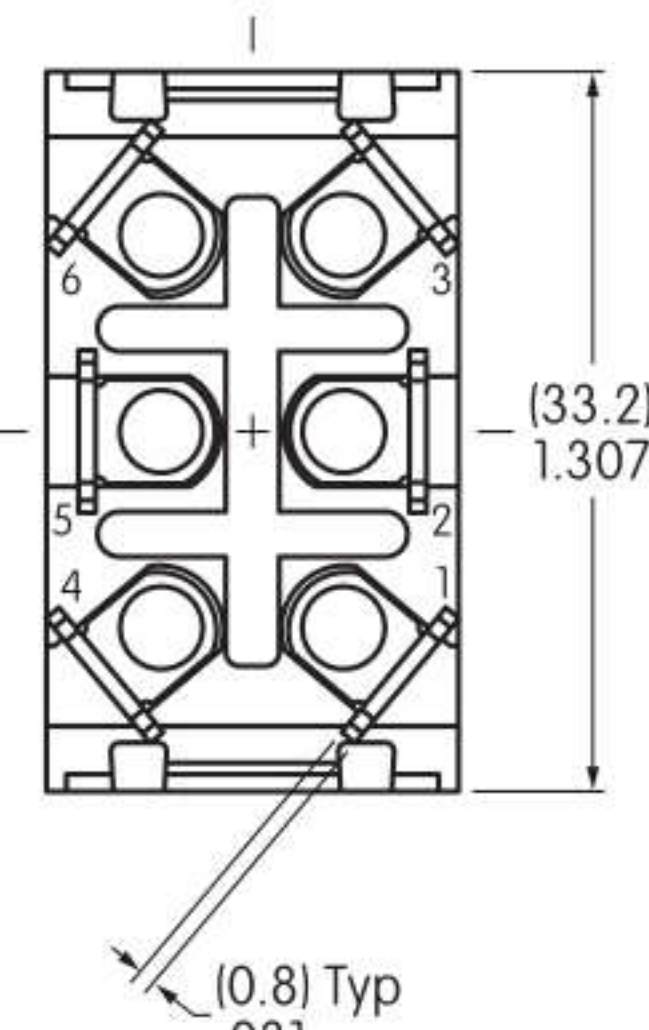
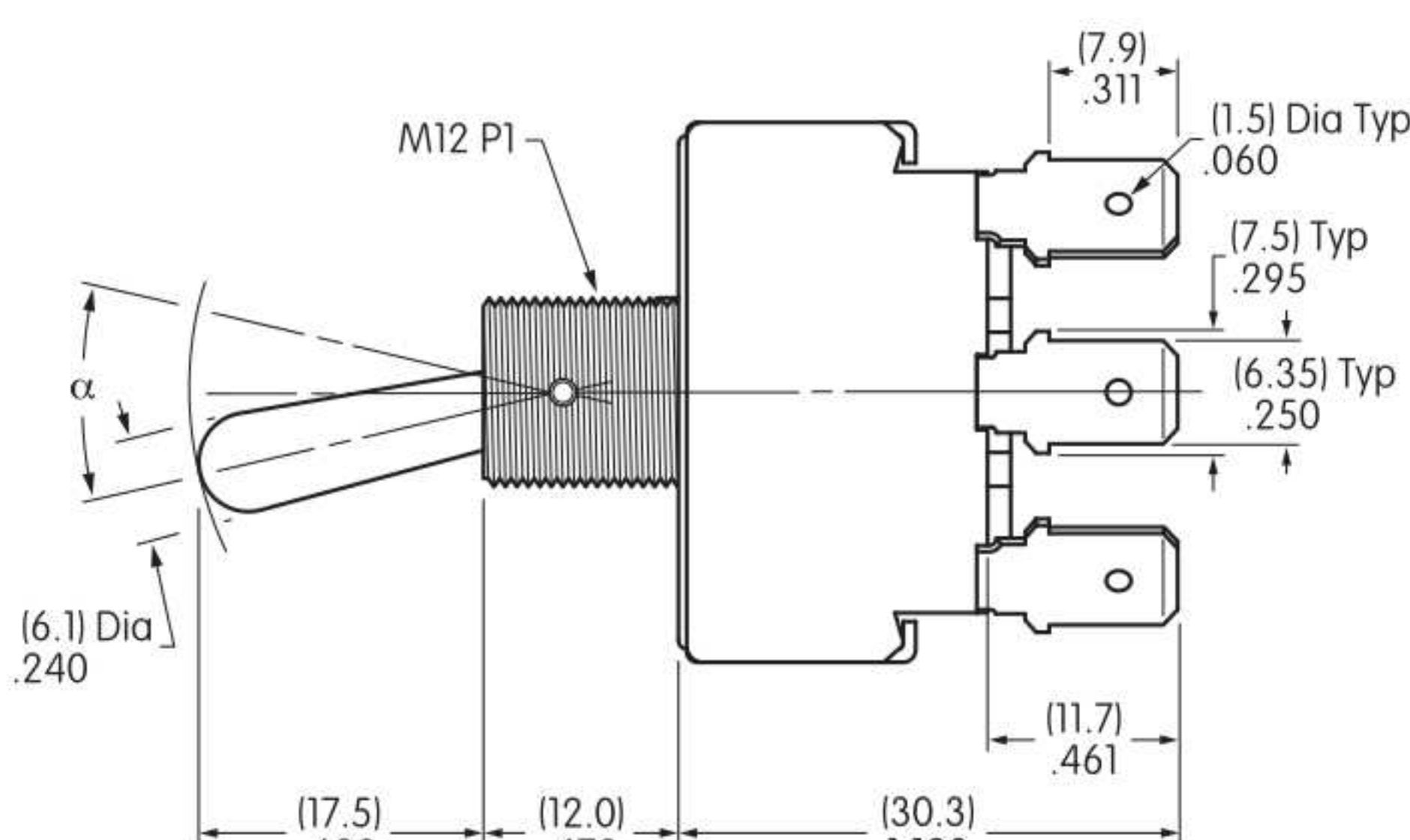
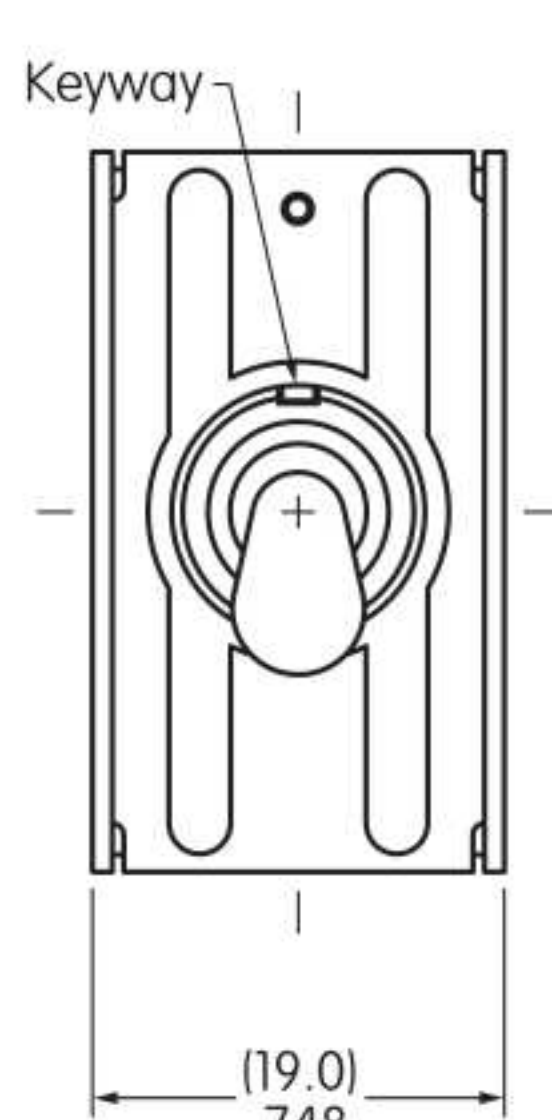
DOUBLE POLE WITH QUICK CONNECT

| * UL & cULus recognized only when ordered with marking on switch (see General Specs)                                                                                                                                                                      |                                                                                     |                                                                                     |                                                                                     | Toggle Position/Connected Terminals<br>NONE = No Position ( ) = Momentary |                                                                                             |         |                                                                                                |                                                                                             |         | Electrical Capacity |                                                   |     |           |                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------|---------------------|---------------------------------------------------|-----|-----------|------------------------------|
| Model                                                                                                                                                                                                                                                     | * Approvals                                                                         |                                                                                     |                                                                                     | Pole & Throw                                                              | Down<br> |         | Center<br> | Up<br> |         | Resistive           |                                                   |     | Inductive | $\alpha$ =<br>Angle of Throw |
|                                                                                                                                                                                                                                                           |  |  |  |                                                                           |                                                                                             |         |                                                                                                | AC 125V                                                                                     | AC 250V | DC 30V              | AC 125V PF 0.6                                    |     |           |                              |
| S331F                                                                                                                                                                                                                                                     | ✓                                                                                   | ✓                                                                                   | —                                                                                   | DPST                                                                      | ON                                                                                          | 1-3 4-6 | NONE                                                                                           | OFF                                                                                         | —       | 20A                 | 20A                                               | 20A | 10A       | 25°                          |
| S332F                                                                                                                                                                                                                                                     | ✓                                                                                   | ✓                                                                                   | —                                                                                   | DPDT                                                                      | ON                                                                                          | 2-3 5-6 | NONE                                                                                           | ON                                                                                          | 2-1 5-4 | 20A                 | 15A                                               | 20A | 10A       | 25°                          |
| S333F                                                                                                                                                                                                                                                     | ✓                                                                                   | ✓                                                                                   | —                                                                                   | DPDT                                                                      | ON                                                                                          | 2-3 5-6 | OFF                                                                                            | ON                                                                                          | 2-1 5-4 | 20A                 | 15A                                               | 20A | 10A       | 30°                          |
| S335F                                                                                                                                                                                                                                                     | —                                                                                   | —                                                                                   | —                                                                                   | DPDT                                                                      | ON                                                                                          | 2-3 5-6 | NONE                                                                                           | (ON)                                                                                        | 2-1 5-4 | 15A                 | 6A                                                | 20A | 8A        | 25°                          |
| Throw & Schematics:                                                                                                                                                                                                                                       |                                                                                     |                                                                                     |                                                                                     |                                                                           |                                                                                             |         |                                                                                                |                                                                                             |         |                     | Note: Terminal numbers are actually on the switch |     |           |                              |
| <div><div>DPST<br/></div><div>INTERNAL CONNECTION</div><div>DPDT<br/></div></div> |                                                                                     |                                                                                     |                                                                                     |                                                                           |                                                                                             |         |                                                                                                |                                                                                             |         |                     |                                                   |     |           |                              |

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

A  
Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

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 for all models (Resistive Load)  
6,000 operations minimum for S31, S32, S33, S31F, S32F, S33F, S31T, S32T, S33T;  
S41/S41R, S42/S42R, S43/S43R, S41F, S42F, S43F, S41T, S42T, S43T  
(Inductive Load)
- 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.



Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

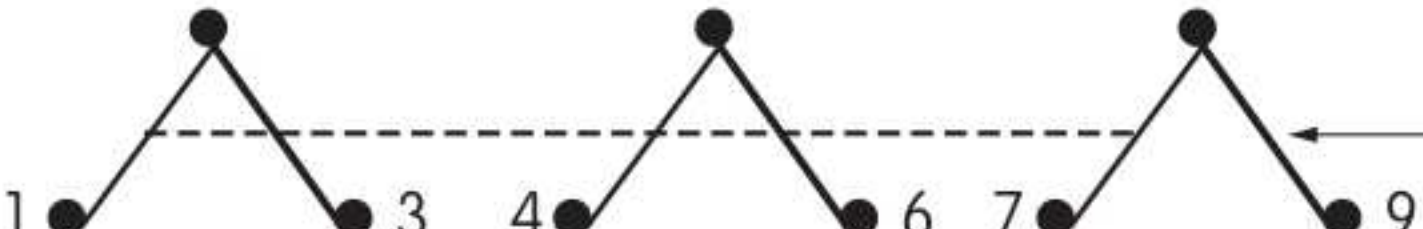
Supplement

THREE POLE WITH SOLDER LUG

| * UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs) |                                                                                   |                                                                                   |                                                                                   | Toggle Position/Connected Terminals<br>NONE = No Position ( ) = Momentary |                                                                                           |                                                                                              |                                                                                           |           |         | Electrical Capacity |                |                              |  |  |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----------|---------|---------------------|----------------|------------------------------|--|--|
| Model                                                                                     | * Approvals                                                                       |                                                                                   |                                                                                   | Pole & Throw                                                              | Down<br> | Center<br> | Up<br> | Resistive |         |                     | Inductive      | $\alpha$ =<br>Angle of Throw |  |  |
|                                                                                           |  |  |  |                                                                           |                                                                                           |                                                                                              |                                                                                           | AC 125V   | AC 250V | DC 30V              | AC 125V PF 0.6 |                              |  |  |
| S31                                                                                       | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | 3PST                                                                      | ON 1-3 4-6 7-9                                                                            | NONE                                                                                         | OFF —                                                                                     | 20A       | 9A      | 20A                 | 10A            | 25°                          |  |  |
| S32                                                                                       | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | 3PDT                                                                      | ON 2-3 5-6 8-9                                                                            | NONE                                                                                         | ON 2-1 5-4 8-7                                                                            | 20A       | 9A      | 20A                 | 10A            | 25°                          |  |  |
| S33                                                                                       | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | 3PDT                                                                      | ON 2-3 5-6 8-9                                                                            | OFF                                                                                          | ON 2-1 5-4 8-7                                                                            | 20A       | 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

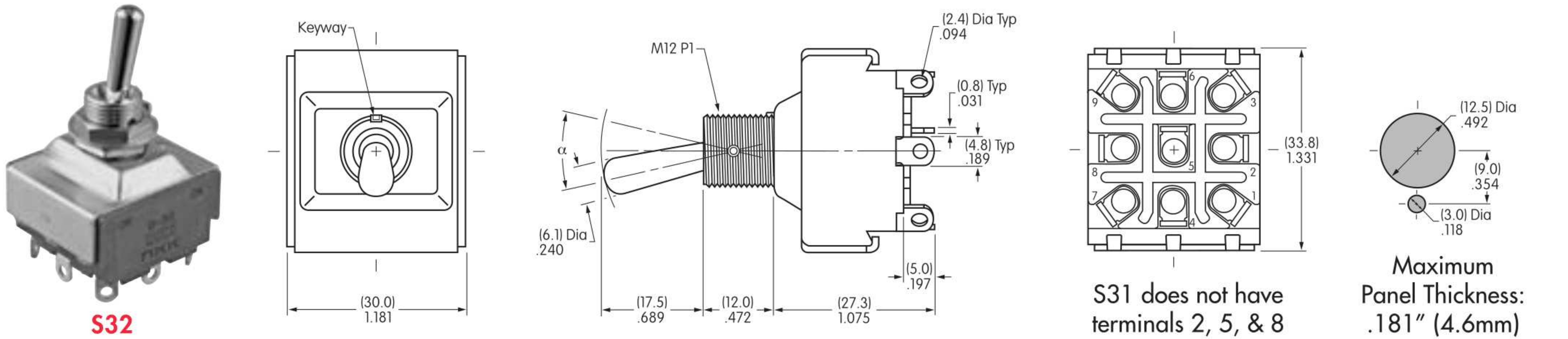
3PDT



(COM)

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.

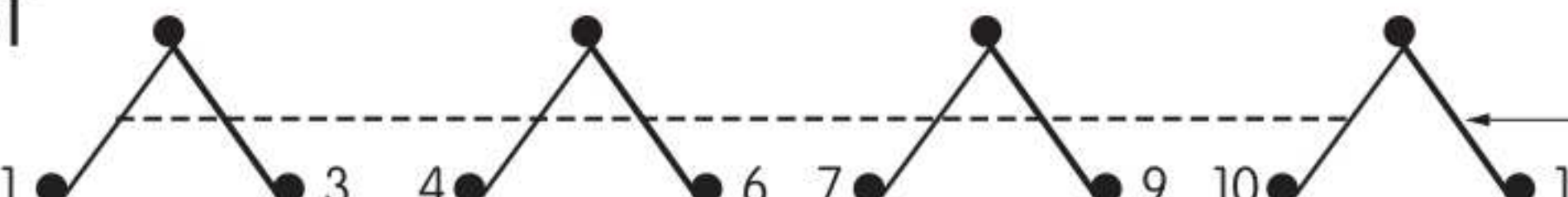


FOUR POLE WITH SOLDER LUG

| * UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs) |                                                                                     |                                                                                     |                                                                                     | Toggle Position/Connected Terminals<br>NONE = No Position ( ) = Momentary |                                                                                             |         |        |                |                                                                                                 |                                                                                             |           | Electrical Capacity |     |           |                              |     |     |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|----------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------|---------------------|-----|-----------|------------------------------|-----|-----|
| Model<br>Suffix R =<br>Flatted Lever                                                      | * Approvals                                                                         |                                                                                     |                                                                                     | Pole & Throw                                                              | Down<br> |         |        |                | Center<br> | Up<br> | Resistive |                     |     | Inductive | $\alpha$ =<br>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       | —                   | 20A | 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   | 20A | 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   | 20A | 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° |

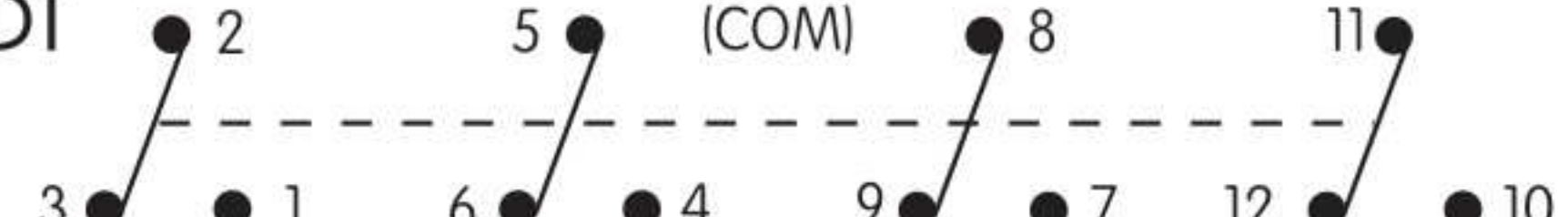
Throw & Schematics:

4PST



INTERNAL CONNECTION

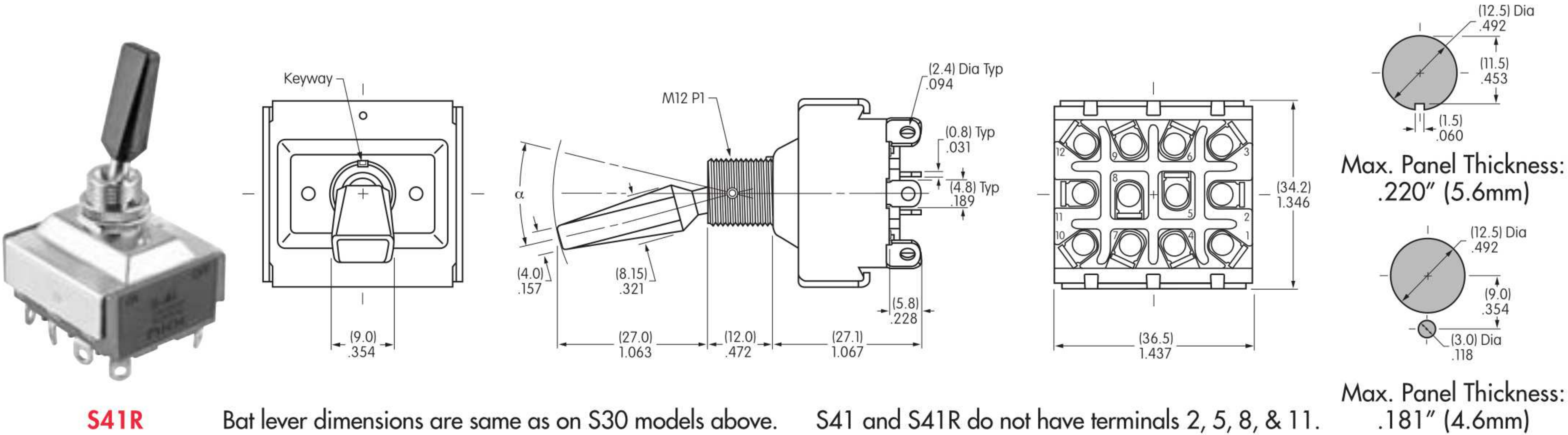
4PDT



(COM)

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.



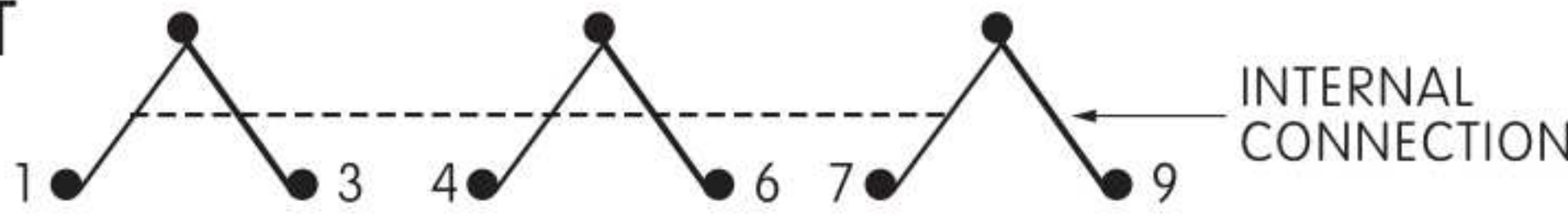


THREE POLE WITH SCREW LUG

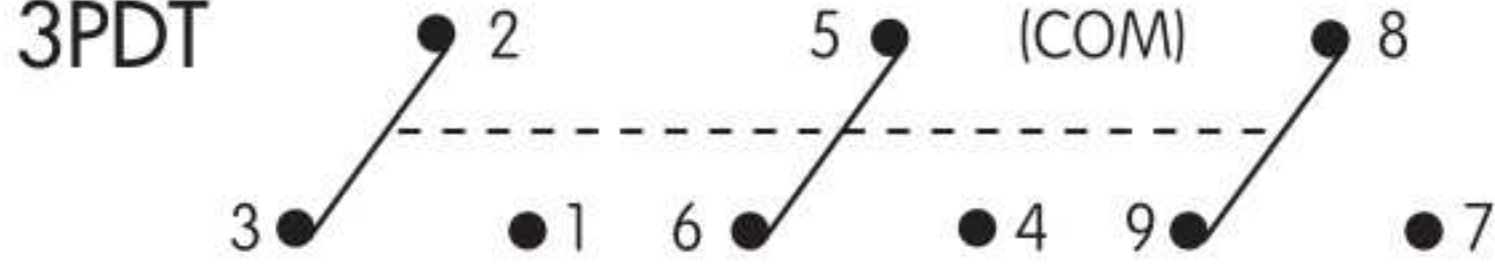
| * UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs) |                                                                                   |                                                                                   |                                                                                   | Toggle Position/Connected Terminals<br>NONE = No Position |                                                                                           |             |                                                                                               | Electrical Capacity                                                                       |             |           |                |                |           |    |                           |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------|-----------|----------------|----------------|-----------|----|---------------------------|
| Model                                                                                     | * Approvals                                                                       |                                                                                   |                                                                                   | Pole & Throw                                              | Down<br> |             | Center<br> | Up<br> |             | Resistive |                |                | Inductive |    | $\alpha$ = 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                                                                                       | —           | 20A       | 9A             | 20A            | 10A       | 5A | 25°                       |
| S32T                                                                                      | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | 3PDT                                                      | ON                                                                                        | 2-3 5-6 8-9 | NONE                                                                                          | ON                                                                                        | 2-1 5-4 8-7 | 20A       | 9A             | 20A            | 10A       | 5A | 25°                       |
| S33T                                                                                      | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | 3PDT                                                      | ON                                                                                        | 2-3 5-6 8-9 | OFF                                                                                           | ON                                                                                        | 2-1 5-4 8-7 | 20A       | 9A             | 20A            | 10A       | 5A | 30°                       |

Throw & Schematics:

3PST

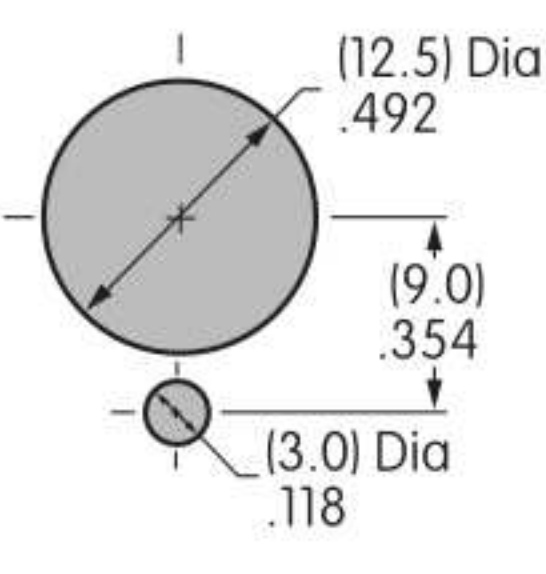
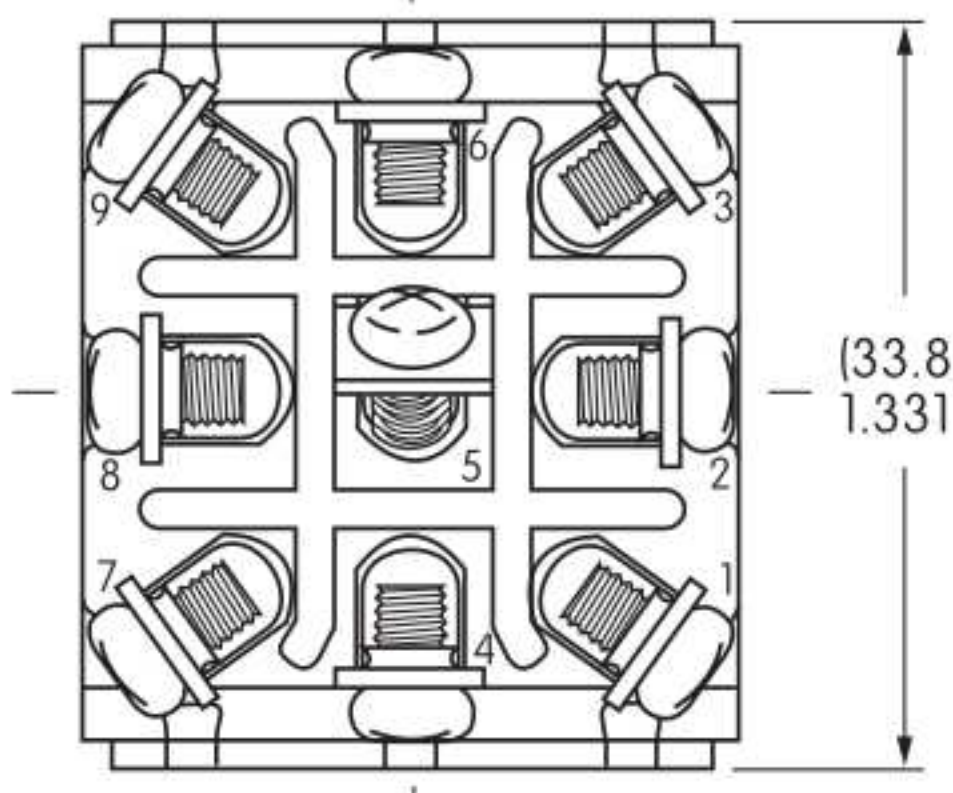
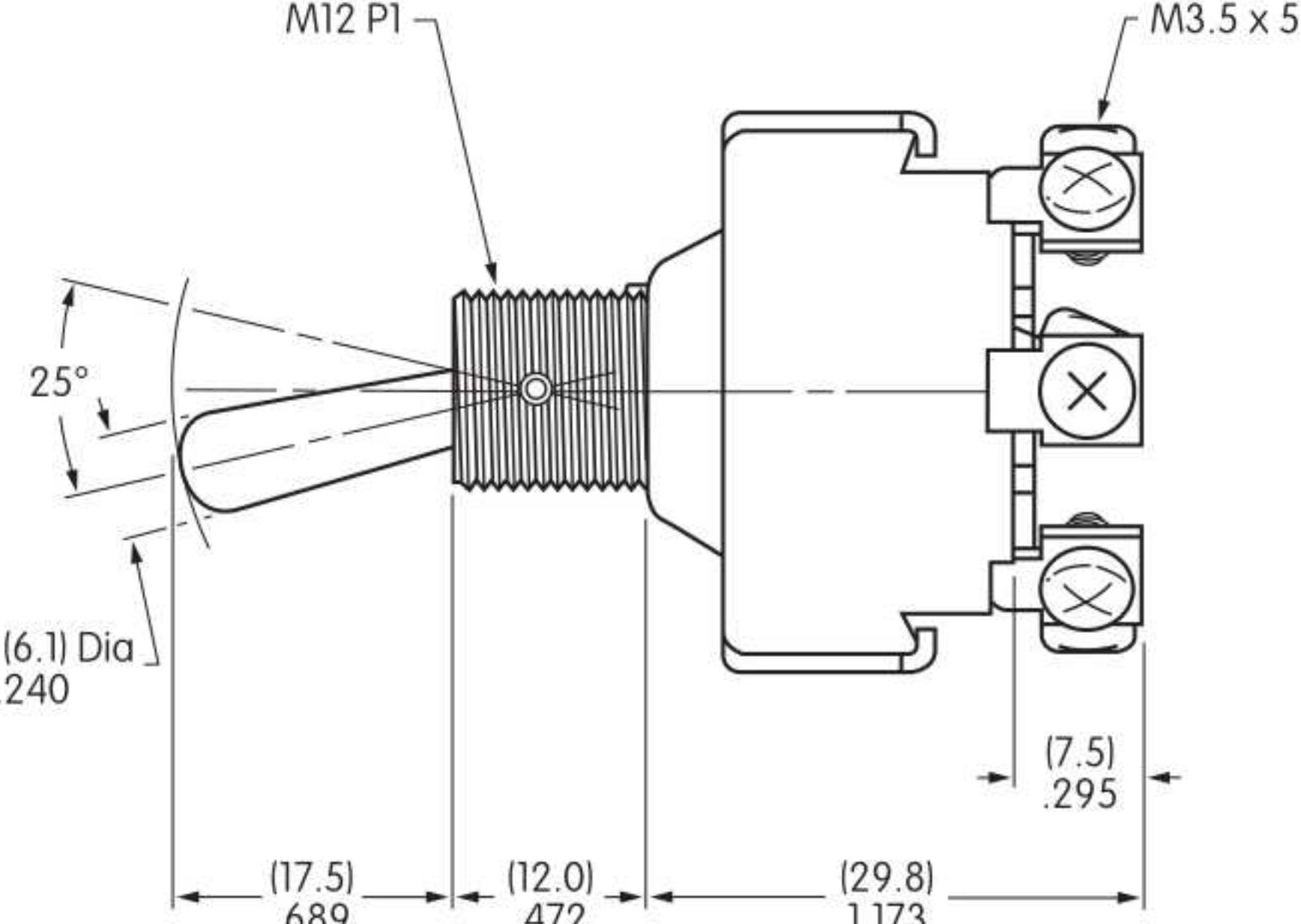
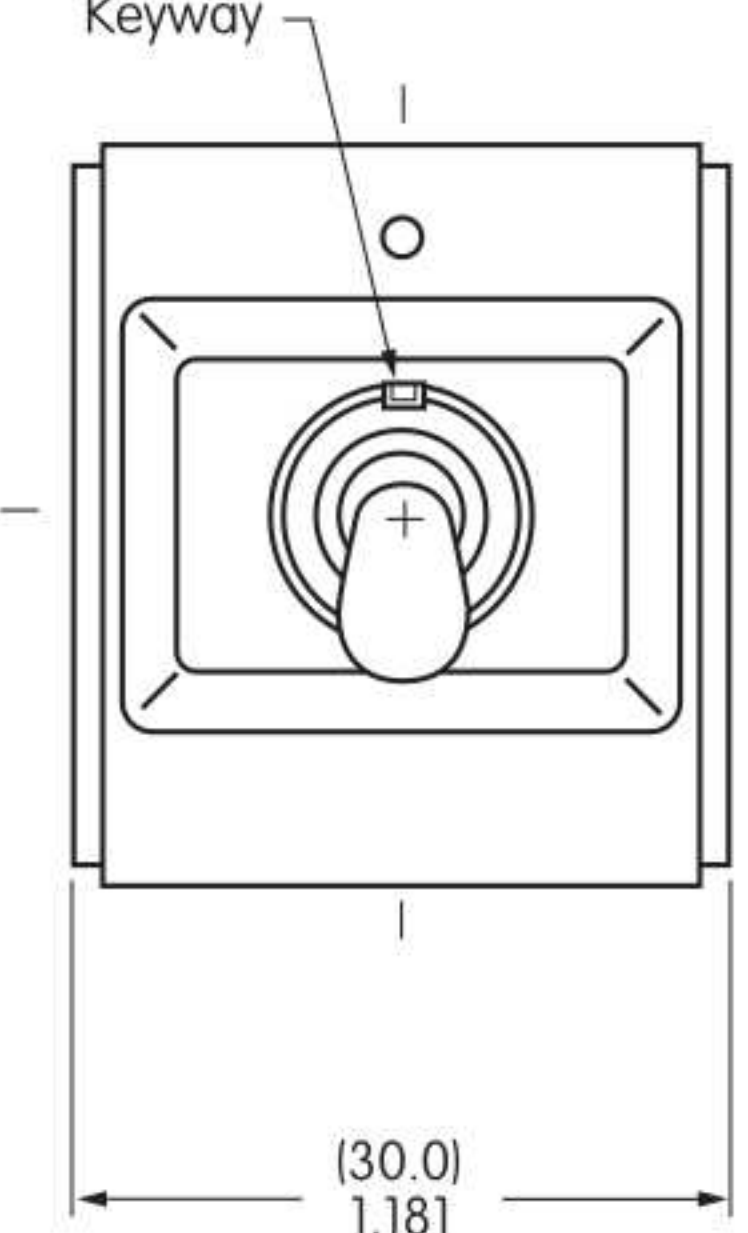


3PDT



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.



S31T does not have terminals 2, 5, & 8

Maximum Panel Thickness: .181" (4.6mm)

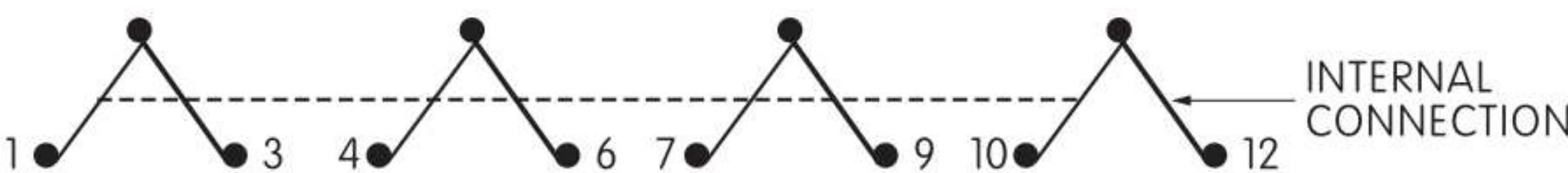
**S32T**

FOUR POLE WITH SCREW LUG

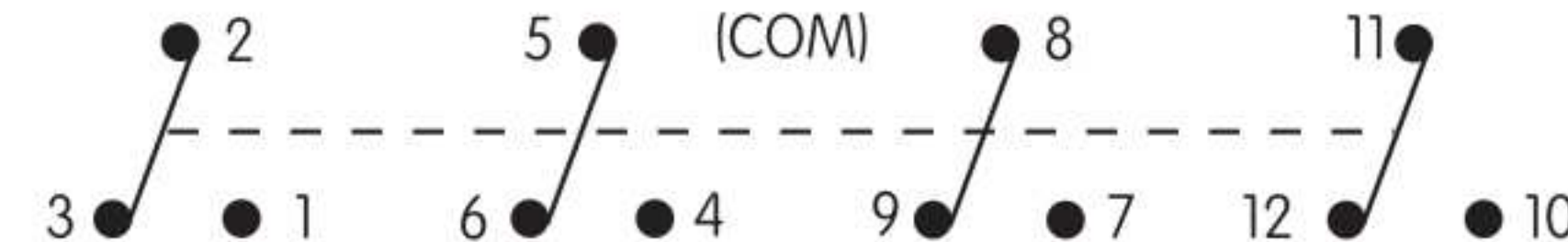
| * UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs) |                                                                                     |                                                                                     |                                                                                     | Toggle Position/Connected Terminals<br>NONE = No Position |                                                                                             |     |     |     |                                                                                                |                                                                                             | Electrical Capacity |        |                |                |       |     |           |     |                           |    |     |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------------|-----|-----|-----|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------|--------|----------------|----------------|-------|-----|-----------|-----|---------------------------|----|-----|
| Model                                                                                     | * Approvals                                                                         |                                                                                     |                                                                                     | Pole & Throw                                              | Down<br> |     |     |     | Center<br> | Up<br> |                     |        |                | Resistive      |       |     | Inductive |     | $\alpha$ = Angle of Throw |    |     |
|                                                                                           |  |  |  |                                                           |                                                                                             |     |     |     |                                                                                                | 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                 | —      |                |                |       | 20A | 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 | 20A | 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 | 20A | 9A        | 20A | 10A                       | 5A | 30° |

Throw & Schematics:

4PST

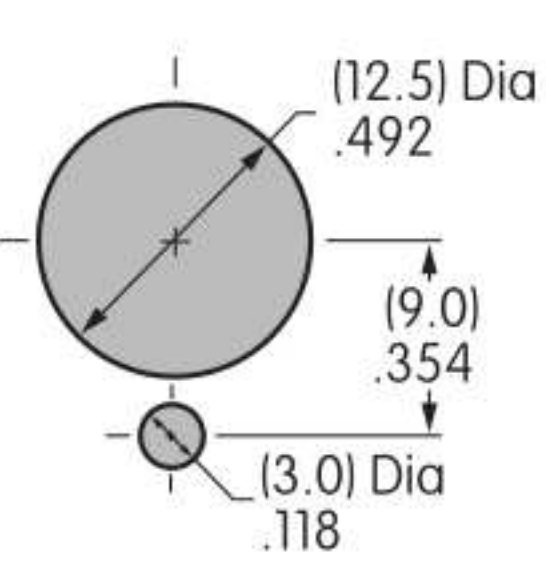
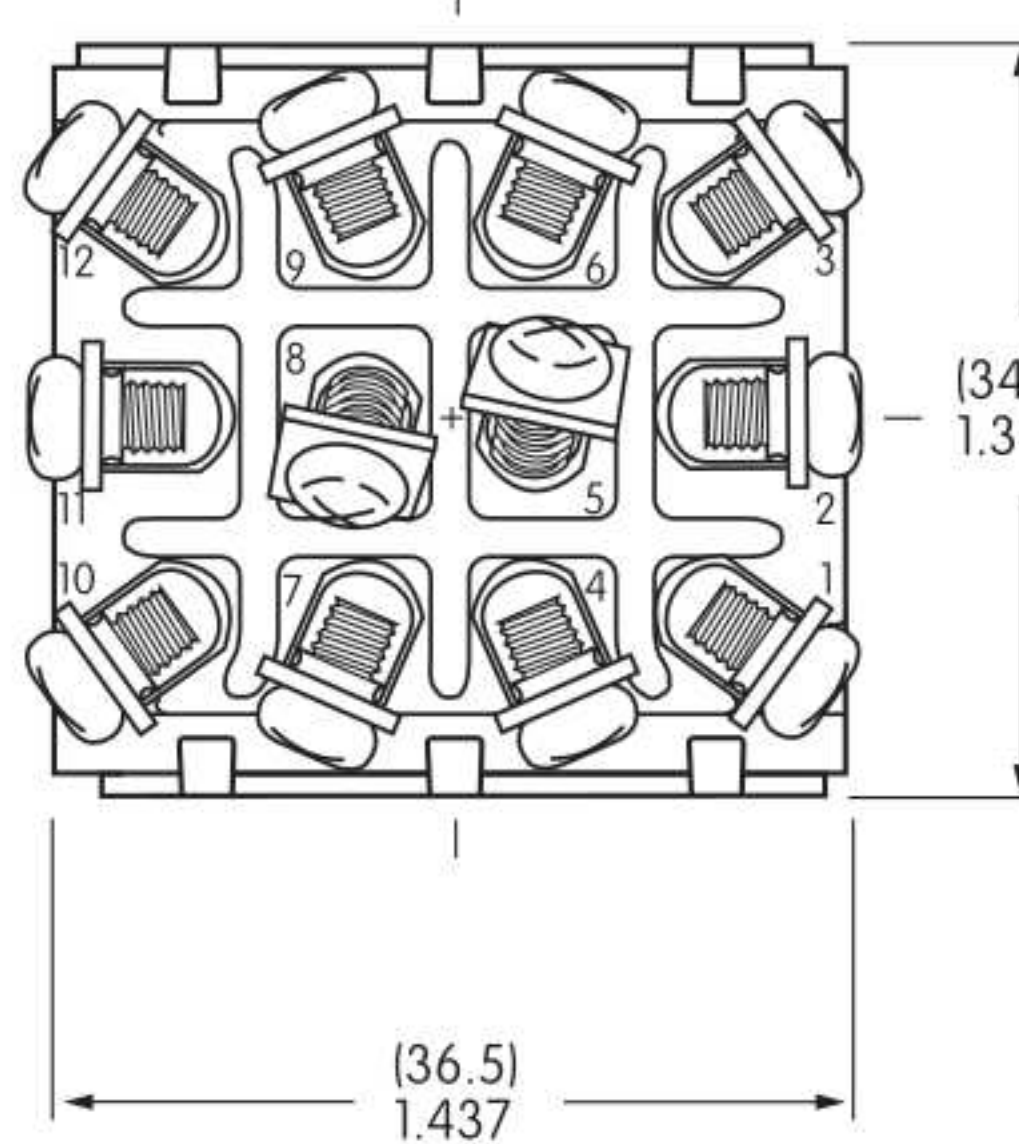
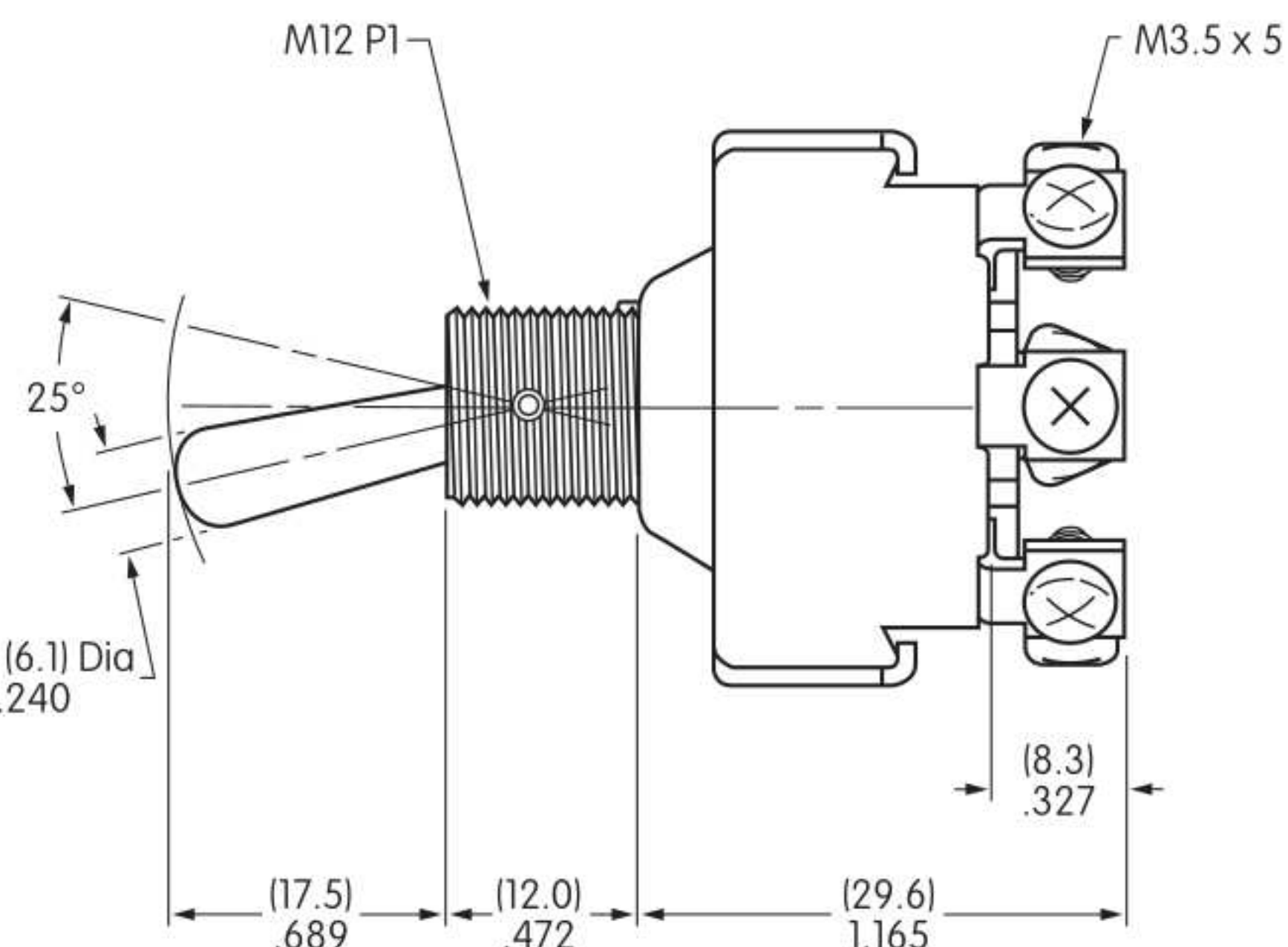
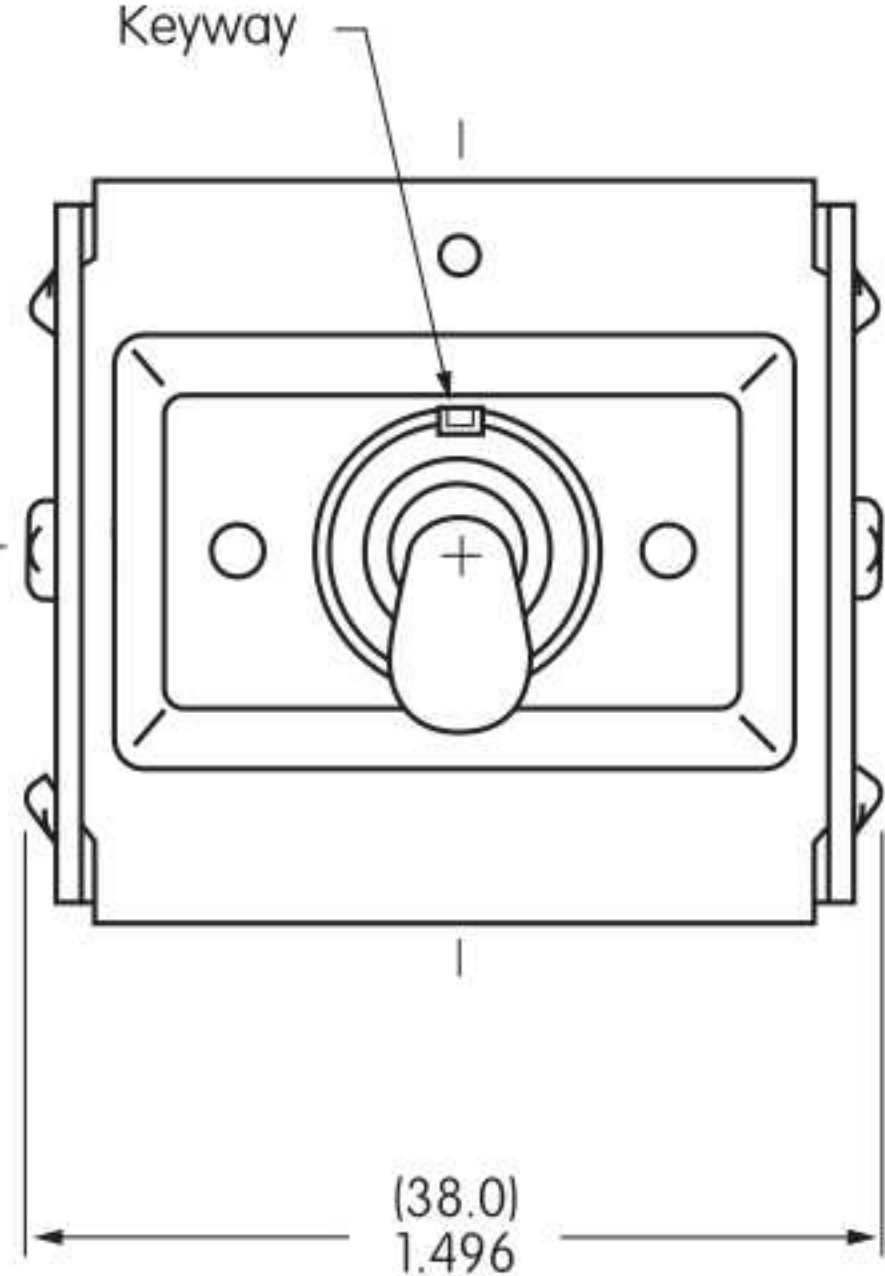


4PDT



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

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

THREE POLE WITH QUICK CONNECT

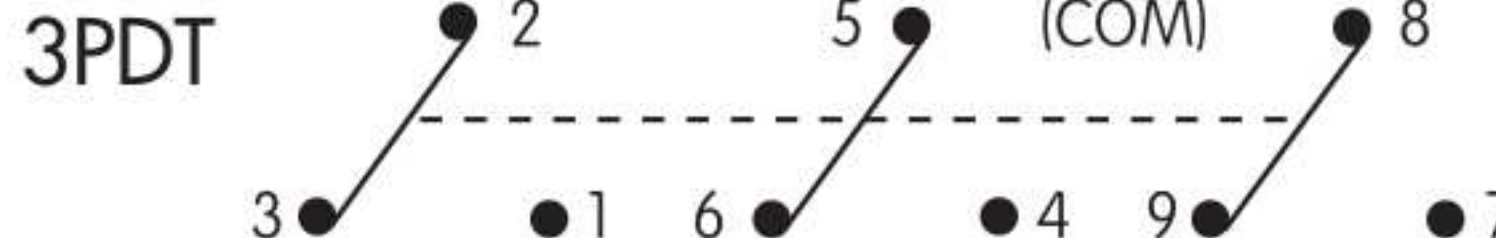
| * UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs) |                                                                                   |                                                                                   |                                                                                   | Toggle Position/Connected Terminals<br>NONE = No Position |                                                                                   |                                                                                    |                                                                                     |           | Electrical Capacity |        |                |                       |  |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------|---------------------|--------|----------------|-----------------------|--|
| Model                                                                                     | * Approvals                                                                       |                                                                                   |                                                                                   | Pole & Throw                                              | Down                                                                              | Center                                                                             | Up                                                                                  | Resistive |                     |        | Inductive      | α =<br>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 —                                                                               | 20A       | 9A                  | 20A    | 10A            | 25°                   |  |
| S32F                                                                                      | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | 3PDT                                                      | ON 2-3 5-6 8-9                                                                    | NONE                                                                               | ON 2-1 5-4 8-7                                                                      | 20A       | 9A                  | 20A    | 10A            | 25°                   |  |
| S33F                                                                                      | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | 3PDT                                                      | ON 2-3 5-6 8-9                                                                    | OFF                                                                                | ON 2-1 5-4 8-7                                                                      | 20A       | 9A                  | 20A    | 10A            | 30°                   |  |

Throw & Schematics:

3PST



3PDT

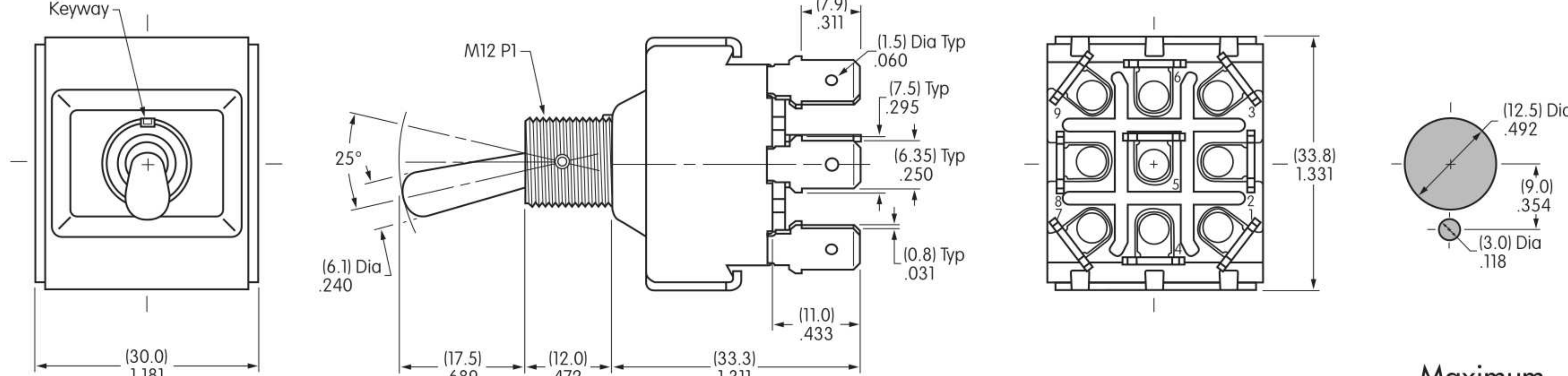


Note: Terminal numbers are on the switch

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.



**S31F**



Keyway  
M12 P1  
25°  
(6.1) Dia .240  
(17.5) .689  
(12.0) .472  
(33.3) 1.311  
(7.9) .311  
(1.5) Dia Typ .060  
(7.5) Typ .295  
(6.35) Typ .250  
(0.8) Typ .031  
(11.0) .433  
(33.8) 1.331  
(12.5) Dia .492  
(9.0) .354  
(3.0) Dia .118

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<br>NONE = No Position |                                                                                             |     |     |     |       |                                                                                                 | Electrical Capacity                                                                         |     |     |     |           |         |         |           |                              |                |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------------|-----|-----|-----|-------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----|-----|-----|-----------|---------|---------|-----------|------------------------------|----------------|
| Model                                                                                     | * Approvals                                                                         |                                                                                     |                                                                                     | Pole & Throw                                              | Down<br> |     |     |     |       | Center<br> | Up<br> |     |     |     | Resistive |         |         | Inductive | $\alpha$ =<br>Angle of Throw |                |
|                                                                                           |  |  |  |                                                           | ON                                                                                          | 1-3 | 4-6 | 7-9 | 10-12 |                                                                                                 | OFF                                                                                         | —   |     |     |           | AC 125V | AC 250V | DC 30V    |                              | AC 125V PF 0.6 |
| S41F                                                                                      | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   | 4PST                                                      | ON                                                                                          | 1-3 | 4-6 | 7-9 | 10-12 | NONE                                                                                            | OFF                                                                                         | —   |     |     |           | 20A     | 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     | 20A     | 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     | 20A     | 9A      | 20A       | 10A                          | 30°            |

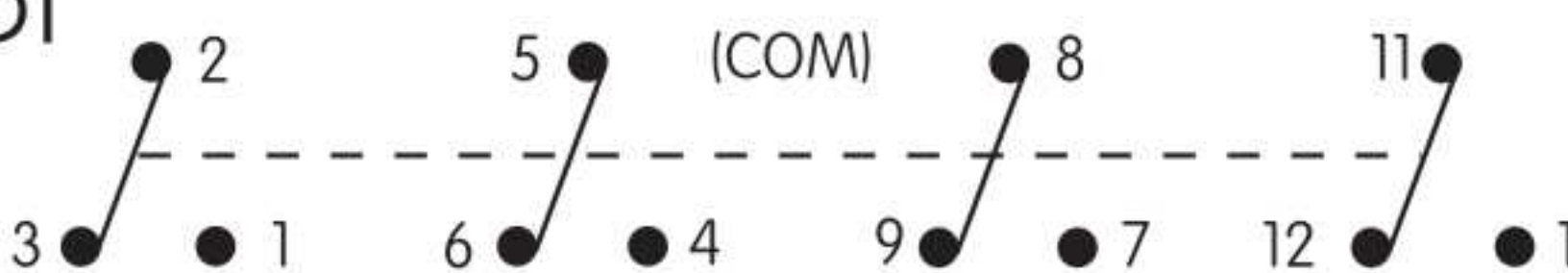
Throw & Schematics:

4PST



INTERNAL CONNECTION

4PDT



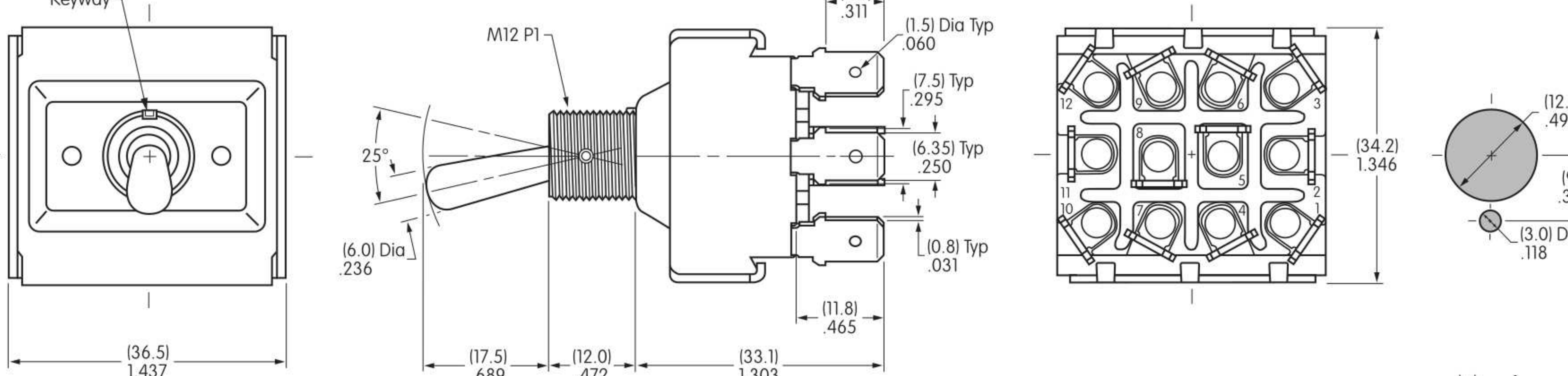
(COM)

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**



Keyway  
M12 P1  
25°  
(6.0) Dia .236  
(17.5) .689  
(12.0) .472  
(33.1) 1.303  
(7.9) .311  
(1.5) Dia Typ .060  
(7.5) Typ .295  
(6.35) Typ .250  
(0.8) Typ .031  
(11.8) .465  
(34.2) 1.346  
(12.5) Dia .492  
(9.0) .354  
(3.0) Dia .118

Maximum Panel Thickness: .181" (4.6mm)

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



GENERAL SPECIFICATIONS FOR S421 ~ S429

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 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.

|   |                |
|---|----------------|
| A | Toggles        |
|   | Rockers        |
|   | Pushbuttons    |
|   | Illuminated PB |
|   | Programmable   |
|   | Keylocks       |
|   | Rotaries       |
|   | Slides         |
|   | Tactiles       |
|   | Tilt           |
|   | Touch          |
|   | Indicators     |
|   | Accessories    |
|   | Supplement     |



Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

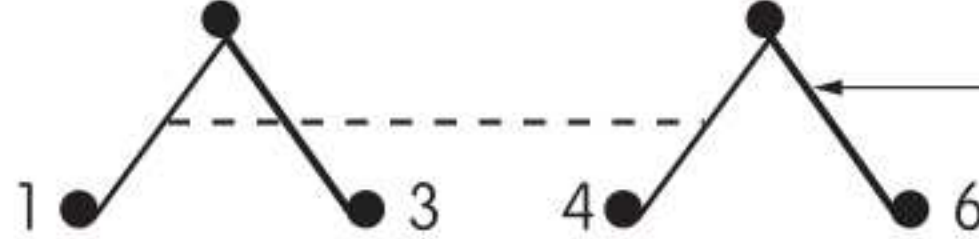
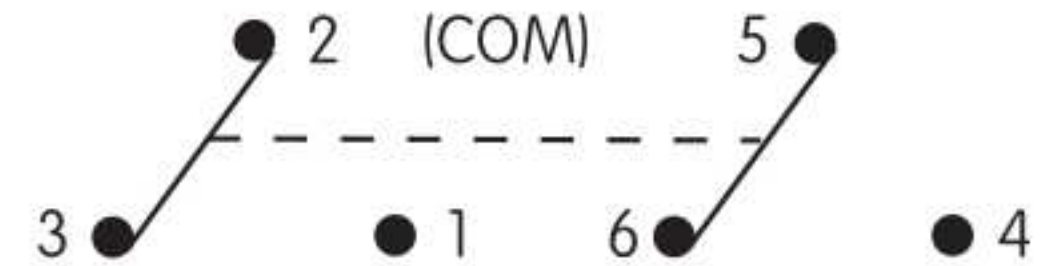
Touch

Indicators

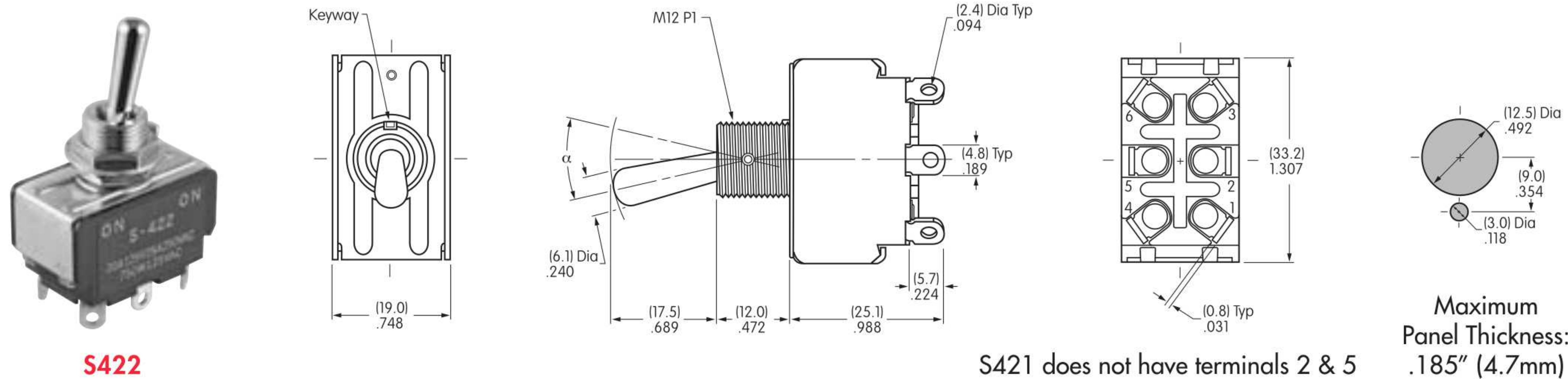
Accessories

Supplement

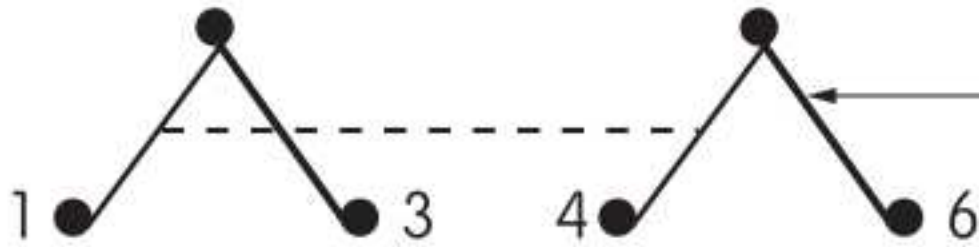
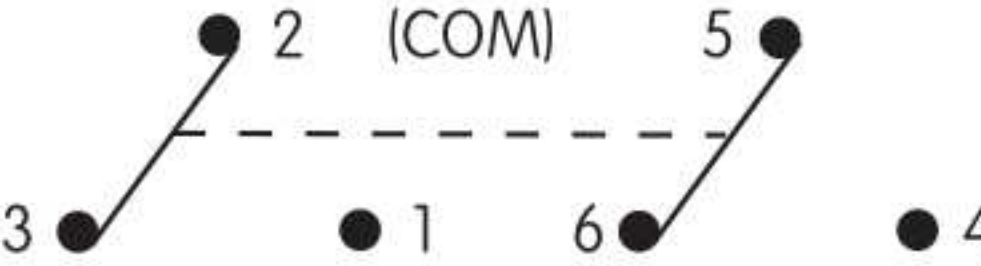
DOUBLE POLE WITH SOLDER LUG

|                     |                                                                                   |                                                                                   | Toggle Position/Connected Terminals<br>NONE = No Position ( ) = Momentary |                                                                                   |                                                                                   |                                                                                     |         | Electrical Capacity                                                                 |               |         |                                          |     |            |                              |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------|---------------|---------|------------------------------------------|-----|------------|------------------------------|
| Model               | Approvals                                                                         |                                                                                   | Pole & Throw                                                              | Down                                                                              |                                                                                   | Center                                                                              | Up      |                                                                                     | Resistive     |         | Inductive                                |     | Motor Load | $\alpha$ =<br>Angle of Throw |
|                     |  |  |                                                                           |  |  |  | AC 125V | AC 250V                                                                             | PF 0.75 - 0.8 |         | AC 125V                                  |     |            |                              |
|                     |                                                                                   |                                                                                   |                                                                           |                                                                                   |                                                                                   |                                                                                     |         |                                                                                     | AC 125V       | AC 250V |                                          |     |            |                              |
| <b>S421</b>         | —                                                                                 | —                                                                                 | DPST                                                                      | ON                                                                                | 1-3 4-6                                                                           | NONE                                                                                | OFF     | —                                                                                   | 20A           | 20A     | 20A                                      | 20A | 750W       | 24°                          |
| <b>S422</b>         | —                                                                                 | —                                                                                 | DPDT                                                                      | ON                                                                                | 2-3 5-6                                                                           | NONE                                                                                | ON      | 2-1 5-4                                                                             | 20A           | 20A     | 20A                                      | 20A | 750W       | 24°                          |
| <b>S423</b>         | —                                                                                 | —                                                                                 | DPDT                                                                      | ON                                                                                | 2-3 5-6                                                                           | OFF                                                                                 | ON      | 2-1 5-4                                                                             | 20A           | 20A     | 20A                                      | 20A | 750W       | 28°                          |
| <b>S425</b>         | —                                                                                 | —                                                                                 | DPDT                                                                      | ON                                                                                | 2-3 5-6                                                                           | NONE                                                                                | (ON)    | 2-1 5-4                                                                             | 15A           | 15A     | 15A                                      | 15A | 400W       | 24°                          |
| <b>S428</b>         | —                                                                                 | —                                                                                 | DPDT                                                                      | (ON)                                                                              | 2-3 5-6                                                                           | OFF                                                                                 | (ON)    | 2-1 5-4                                                                             | 15A           | 15A     | 15A                                      | 15A | 400W       | 24°                          |
| <b>S429</b>         | —                                                                                 | —                                                                                 | 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 |     |            |                              |

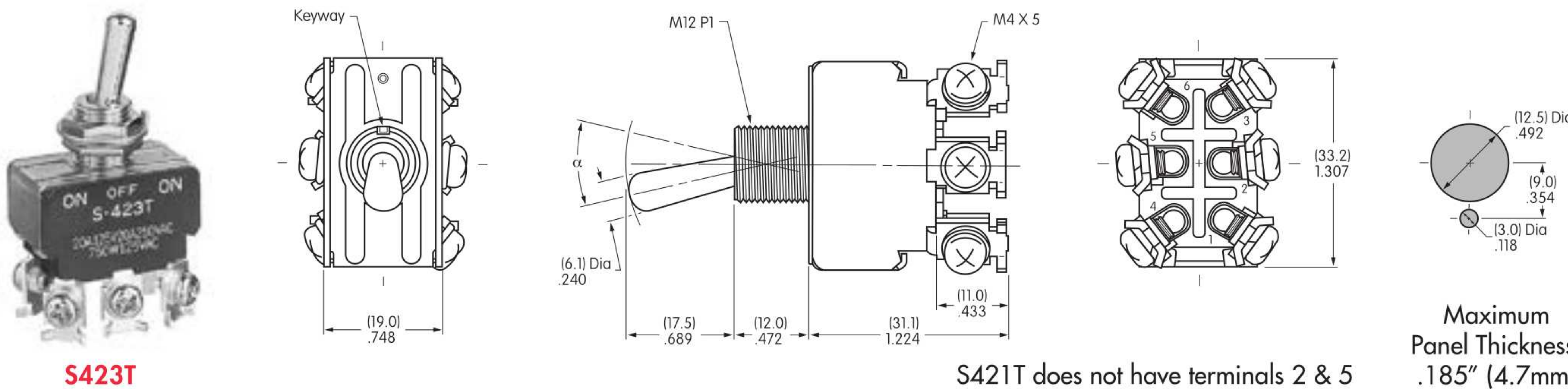
Notes: Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section. Optional Splashproof Boot Assemblies: AT401 & AT4181 boots plus hex nut & o-ring. See Accessories & Hardware section.



DOUBLE POLE WITH SCREW LUG

|                     |                                                                                     |                                                                                     | Toggle Position/Connected Terminals<br>NONE = No Position ( ) = Momentary |                                                                                     |                                                                                       |         |         | Electrical Capacity |               |                                                                                       |           |     |                                          |                              |
|---------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------|---------|---------------------|---------------|---------------------------------------------------------------------------------------|-----------|-----|------------------------------------------|------------------------------|
| Model               | Approvals                                                                           |                                                                                     | Pole & Throw                                                              | Down                                                                                |                                                                                       | Center  | Up      |                     | Resistive     |                                                                                       | Inductive |     | Motor Load                               | $\alpha$ =<br>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.





GENERAL SPECIFICATIONS FOR S800s

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: 10,000 operations minimum for S800Ds  
25,000 operations minimum for S800s

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 Plate: Copper with silver plating
- Movable & Stationary Contacts: Silver alloy capped on copper with silver plating
- Common Terminals: Brass
- Contact Terminals: Brass with silver or nickel 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

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.

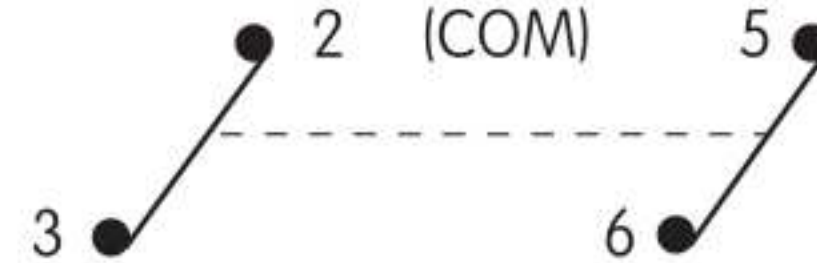
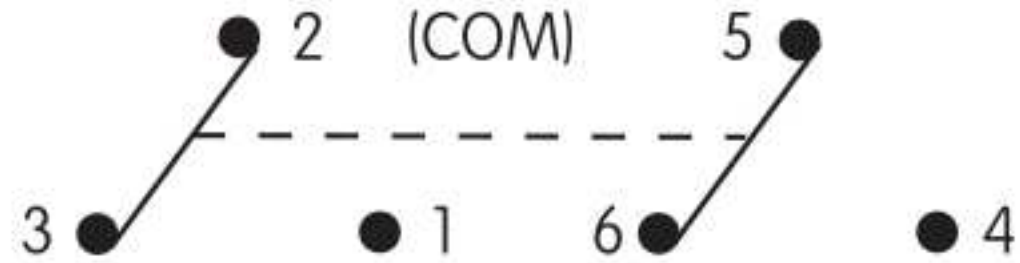
|   |                |
|---|----------------|
| A | Toggles        |
|   | Rockers        |
|   | Pushbuttons    |
|   | Illuminated PB |
|   | Programmable   |
|   | Keylocks       |
|   | Rotaries       |
|   | Slides         |
|   | Tactiles       |
|   | Tilt           |
|   | Touch          |
|   | Indicators     |
|   | Accessories    |
|   | Supplement     |



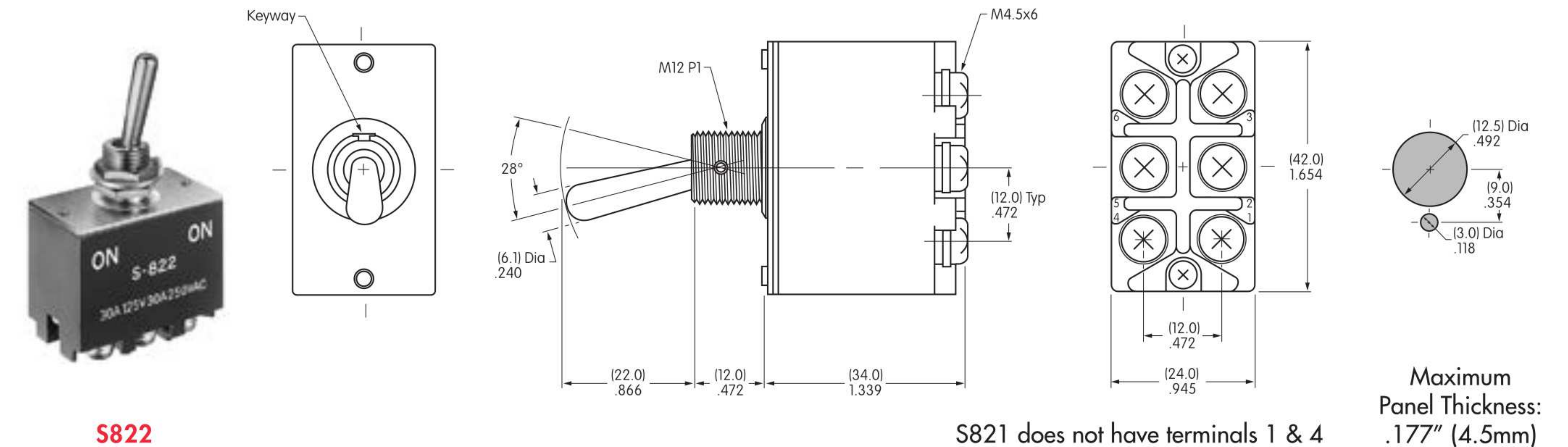
Series S

High Capacity Standard Size Toggles

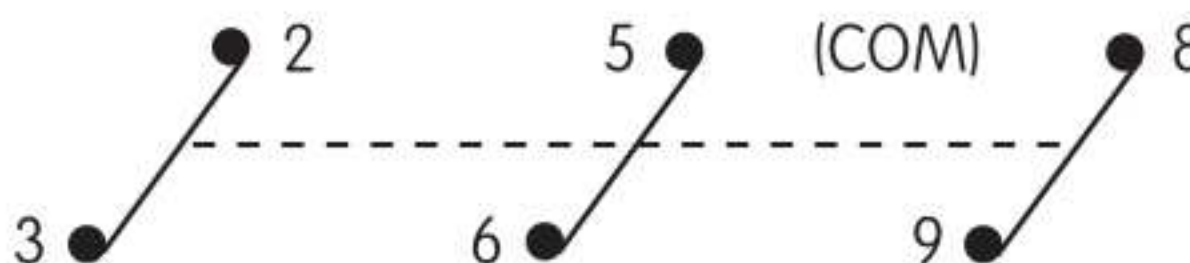
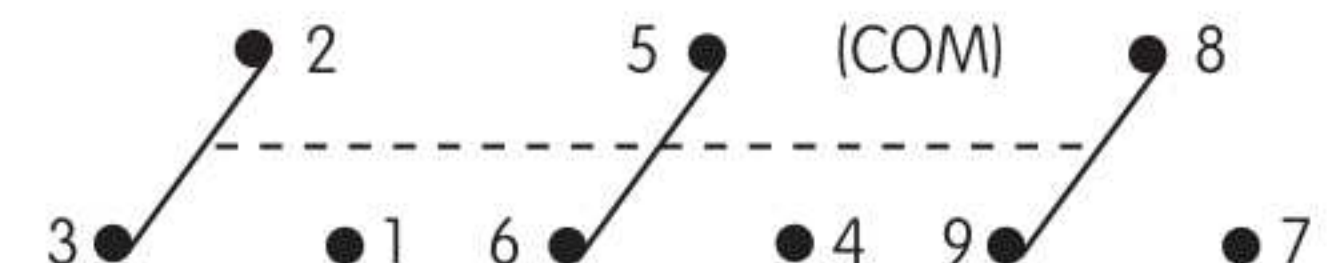
DOUBLE POLE WITH SCREW LUG

| * UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs) |                                                                                   |                                                                                   |                                                                                   | Toggle Position/Connected Terminals<br>NONE = No Position |                                                                                           |         |                                                                                             |                                                                                           | Electrical Capacity |           |                                                                                     |                |                |           |     |                                          |  |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------|-----------|-------------------------------------------------------------------------------------|----------------|----------------|-----------|-----|------------------------------------------|--|
| Model                                                                                     | * Approvals                                                                       |                                                                                   |                                                                                   | Pole & Throw                                              | Down<br> |         | Center<br> | Up<br> |                     | Resistive |                                                                                     |                |                | Inductive |     | Motor Load                               |  |
|                                                                                           |  |  |  |                                                           |                                                                                           |         |                                                                                             | AC 125V                                                                                   | AC 250V             | DC 30V    | DC 125V                                                                             | AC 125V PF 0.6 | AC 250V PF 0.6 | AC 125V   |     |                                          |  |
| S821                                                                                      | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | DPST                                                      | ON                                                                                        | 2-3 5-6 | NONE                                                                                        | OFF                                                                                       | —                   | 30A       | 30A                                                                                 | 30A            | 1A             | 30A       | 15A | 750W                                     |  |
| S822                                                                                      | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | DPDT                                                      | ON                                                                                        | 2-3 5-6 | NONE                                                                                        | ON                                                                                        | 2-1 5-4             | 30A       | 30A                                                                                 | 30A            | 1A             | 30A       | 15A | —                                        |  |
| S823                                                                                      | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | DPDT                                                      | ON                                                                                        | 2-3 5-6 | OFF                                                                                         | ON                                                                                        | 2-1 5-4             | 30A       | 30A                                                                                 | 30A            | 1A             | 30A       | 15A | —                                        |  |
| Throw & Schematics:                                                                       |                                                                                   |                                                                                   |                                                                                   | DPST                                                      |          |         |                                                                                             |                                                                                           |                     | DPDT      |  |                |                |           |     | Note: Terminal numbers are on the switch |  |

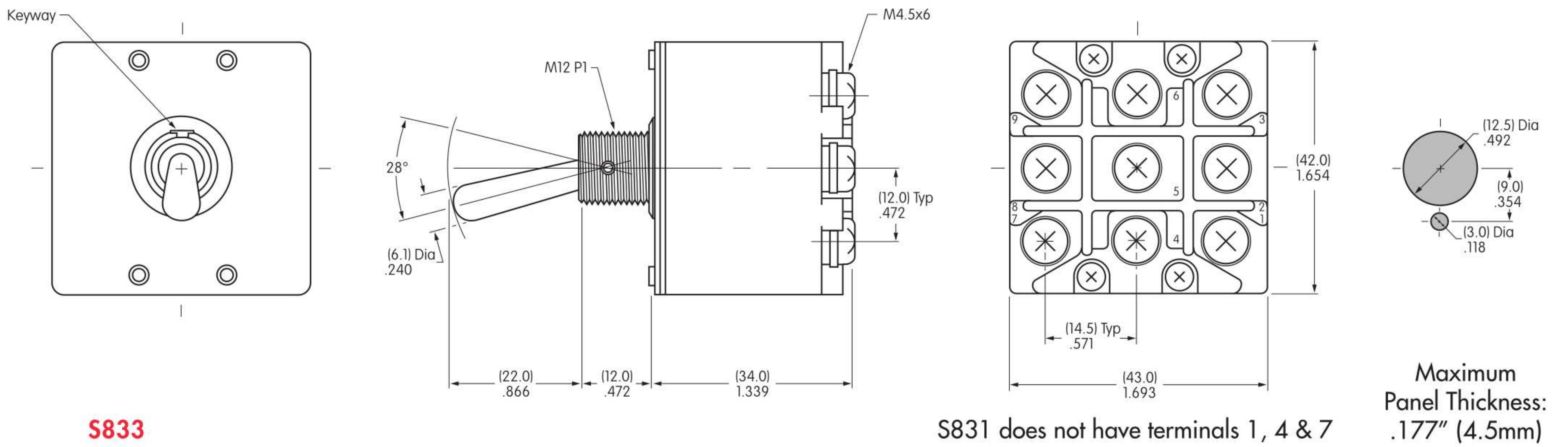
Notes: Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section.  
Optional Splashproof Boot Assembly: AT401 boot plus hex nut & o-ring. See Accessories & Hardware section.



THREE POLE WITH SCREW LUG

| * UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs) |                                                                                     |                                                                                     |                                                                                     | Toggle Position/Connected Terminals<br>NONE = No Position |                                                                                             |     |     |     |                                                                                                | Electrical Capacity                                                                         |         |        |         |                                          |                |     |     |           |     |     |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------------|-----|-----|-----|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|---------|------------------------------------------|----------------|-----|-----|-----------|-----|-----|
| Model                                                                                     | * Approvals                                                                         |                                                                                     |                                                                                     | Pole & Throw                                              | Down<br> |     |     |     | Center<br> | Up<br> |         |        |         | Resistive                                |                |     |     | Inductive |     |     |
|                                                                                           |  |  |  |                                                           | Keyway   |     |     |     |                                                                                                | AC 125V                                                                                     | AC 250V | DC 30V | DC 125V | AC 125V PF 0.6                           | AC 250V PF 0.6 |     |     |           |     |     |
| S831                                                                                      | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   | 3PST                                                      | ON                                                                                          | 2-3 | 5-6 | 8-9 | NONE                                                                                           | OFF                                                                                         | —       |        |         |                                          | 30A            | 30A | 30A | 1A        | 30A | 15A |
| S832                                                                                      | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   | 3PDT                                                      | ON                                                                                          | 2-3 | 5-6 | 8-9 | NONE                                                                                           | ON                                                                                          | 2-1     | 5-4    | 8-7     | 30A                                      | 30A            | 30A | 1A  | 30A       | 15A |     |
| S833                                                                                      | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   | 3PDT                                                      | ON                                                                                          | 2-3 | 5-6 | 8-9 | OFF                                                                                            | ON                                                                                          | 2-1     | 5-4    | 8-7     | 30A                                      | 30A            | 30A | 1A  | 30A       | 15A |     |
| Throw & Schematics:                                                                       |                                                                                     |                                                                                     |                                                                                     | 3PST                                                      |          |     |     |     | 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 Assembly: AT401 boot plus hex nut & o-ring. See Accessories & Hardware section.

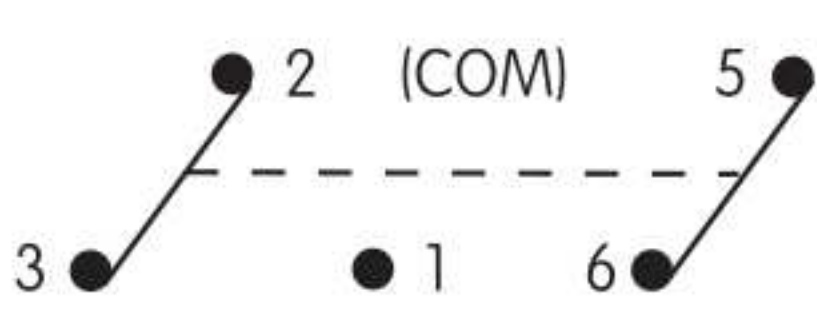




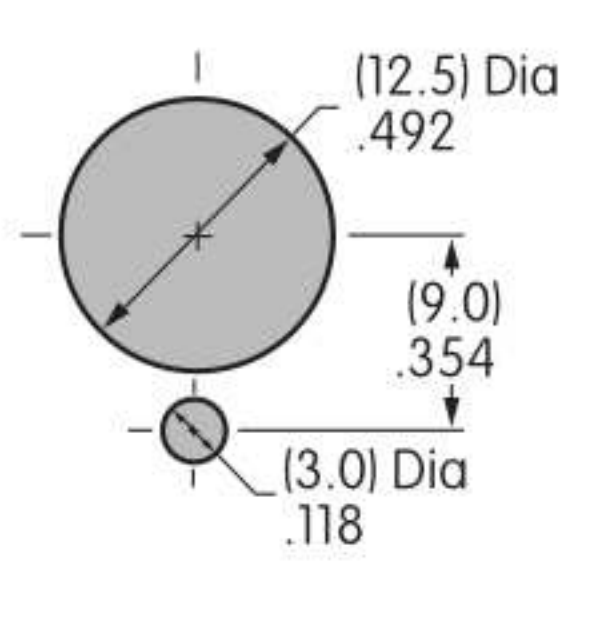
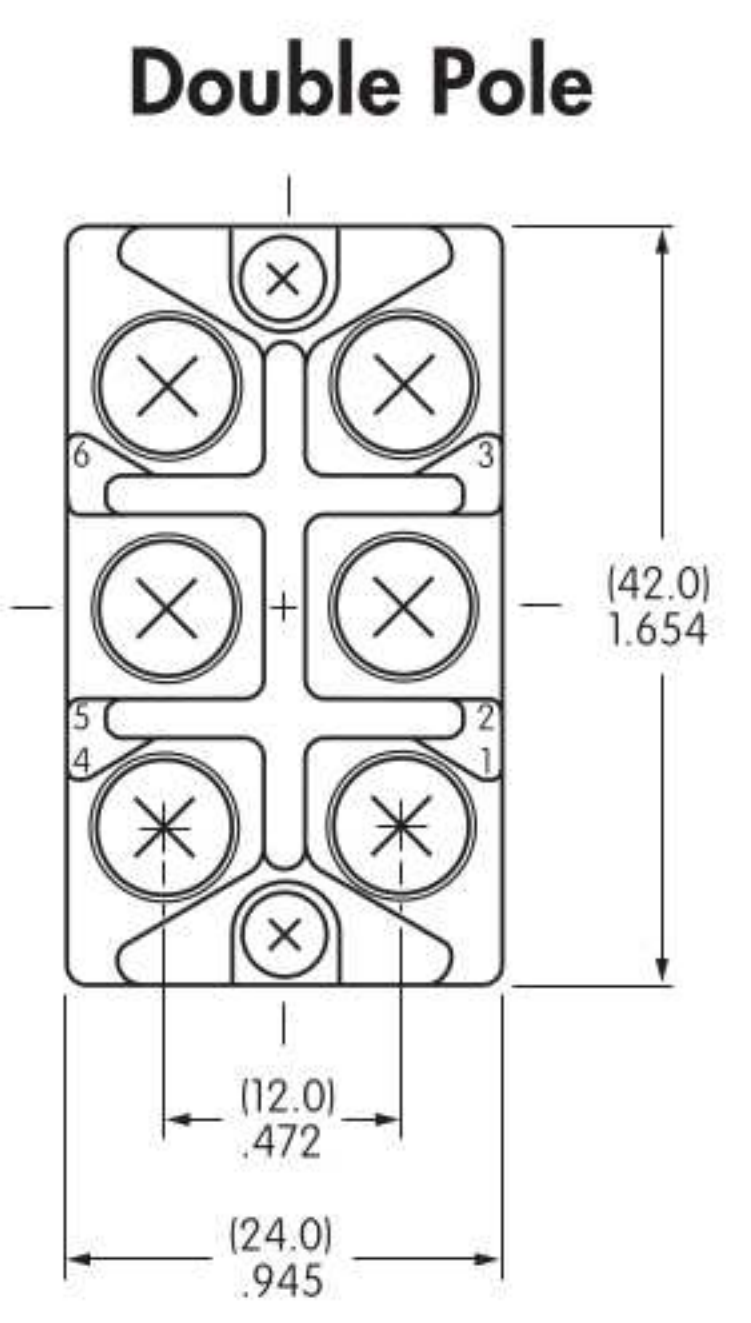
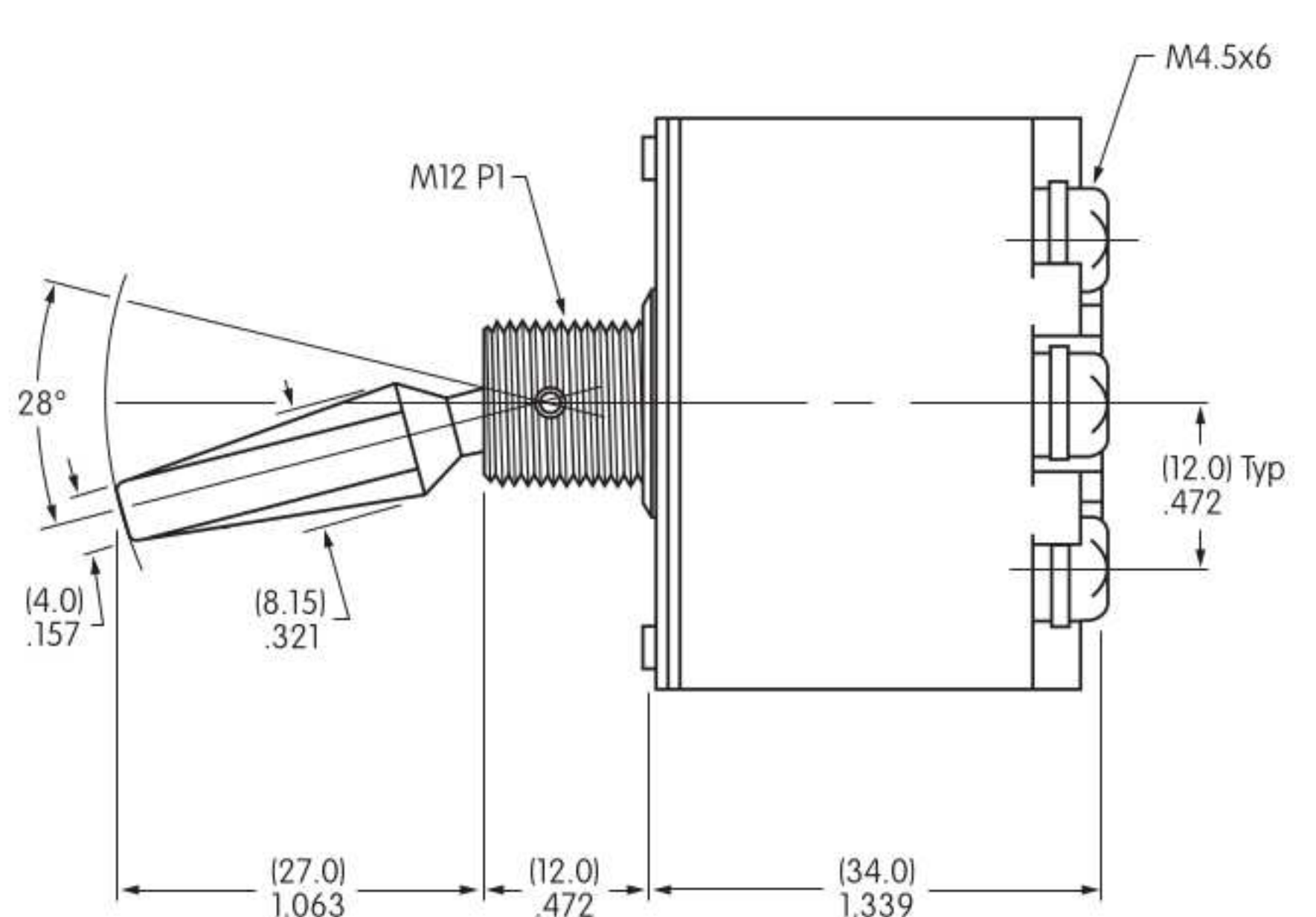
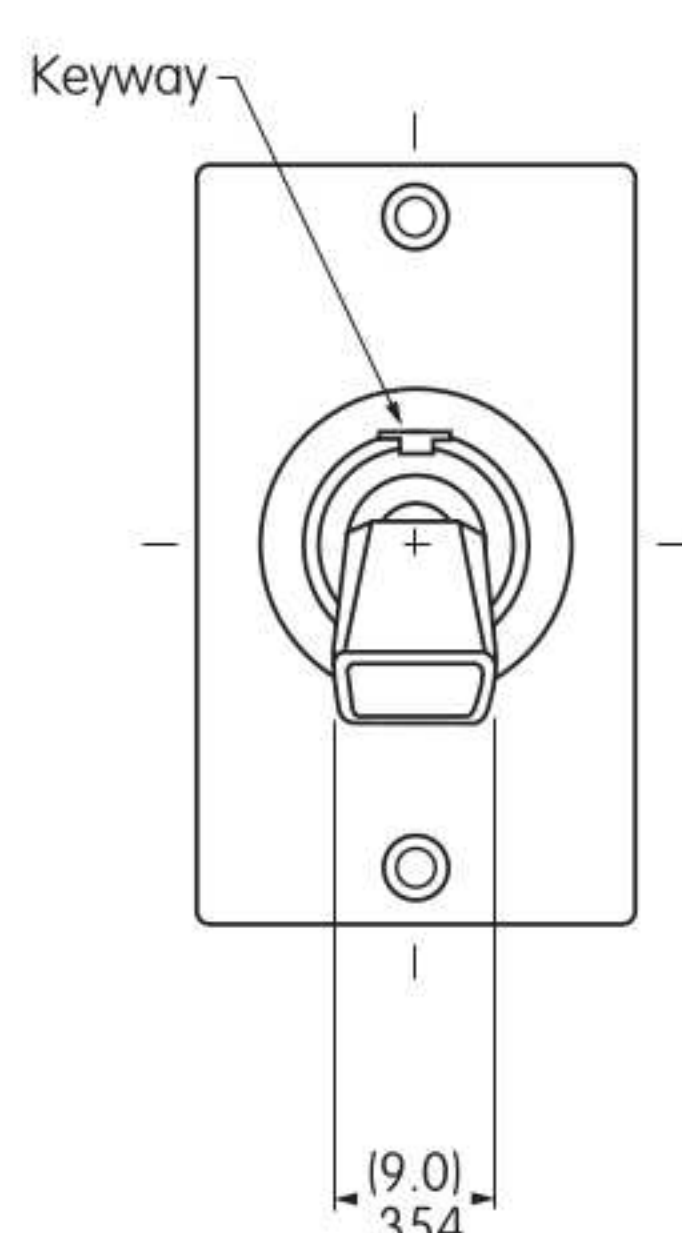
DOUBLE POLE WITH SCREW LUG & FLATTED LEVER

| * UL, cULus & CSA recognized only<br>when ordered with marking on<br>switch (see General Specs) |                                                                                   |                                                                                   |                                                                                   | Toggle Position/Connected Terminals<br>NONE = No Position |                                                                                           |     |     |                                                                                             |                                                                                          |        | Electrical Capacity |           |         |        |        |         |                     |     |     |    |    |
|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------|-----|-----|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|--------|---------------------|-----------|---------|--------|--------|---------|---------------------|-----|-----|----|----|
| Model                                                                                           | * Approvals                                                                       |                                                                                   |                                                                                   | Pole & Throw                                              | Down<br> |     |     | Center<br> | Up<br> |        |                     | Resistive |         |        |        |         | Inductive L/R = 3ms |     |     |    |    |
|                                                                                                 |  |  |  |                                                           |                                                                                           |     |     |                                                                                             | DC 30V                                                                                   | DC 48V | DC 125V             | DC 250V   | DC 400V | DC 24V | DC 48V | DC 125V | DC 250V             |     |     |    |    |
| S821D                                                                                           | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | DPST                                                      | ON                                                                                        | 2-3 | 5-6 | NONE                                                                                        | OFF                                                                                      | —      |                     |           | 30A     | 30A    | 20A    | 15A     | 4A (10A)            | 15A | 10A | 6A | 3A |
| S822D                                                                                           | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | DPDT                                                      | ON                                                                                        | 2-3 | 5-6 | NONE                                                                                        | ON                                                                                       | 2-1    | 5-4                 |           | 30A     | 30A    | 20A    | 15A     | 4A                  | 15A | 10A | 6A | 3A |
| S823D                                                                                           | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | DPDT                                                      | ON                                                                                        | 2-3 | 5-6 | OFF                                                                                         | ON                                                                                       | 2-1    | 5-4                 |           | 30A     | 30A    | 15A    | 7.5A    | —                   | 15A | 10A | 6A | 3A |

( ) capacity is due to wiring. Refer to instructions below.

|                     |  |                                                                                   |  |                                                                                     |  |                                          |  |
|---------------------|--|-----------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|------------------------------------------|--|
| 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.



Double Pole

S821D does not have terminals 1 & 4

Maximum Panel Thickness: .177" (4.5mm)

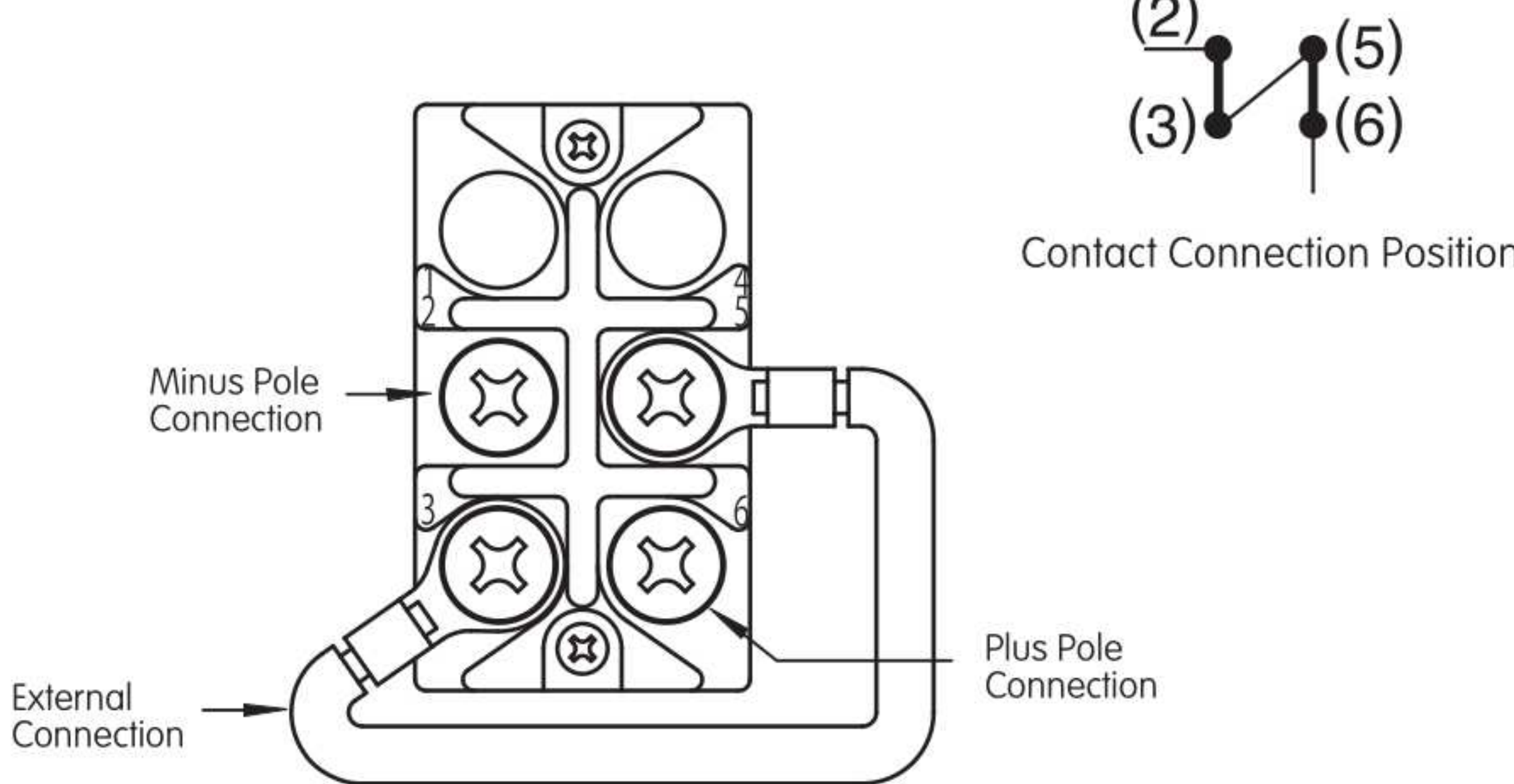
**S822D**

400V DC WIRING INSTRUCTIONS

1. DC Switch Use

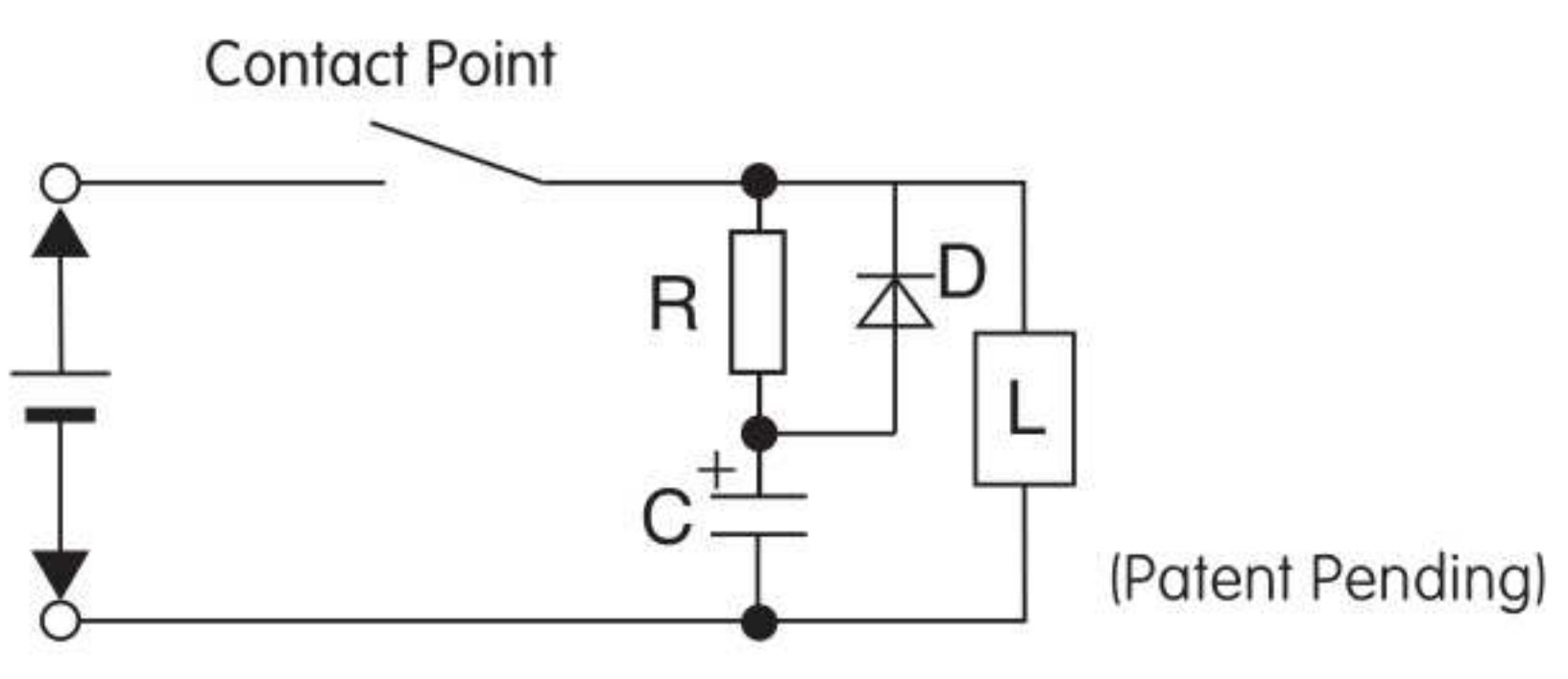
- Middle terminal shall be the minus pole when using DC circuit. Switch case is marked with (+) and (-).
- Do not store near (5cm) highly magnetic items.
- If actuation is interrupted when switching from ON to OFF, arcing may continue and switch could be burned.

2. Wiring for DC400V 10A



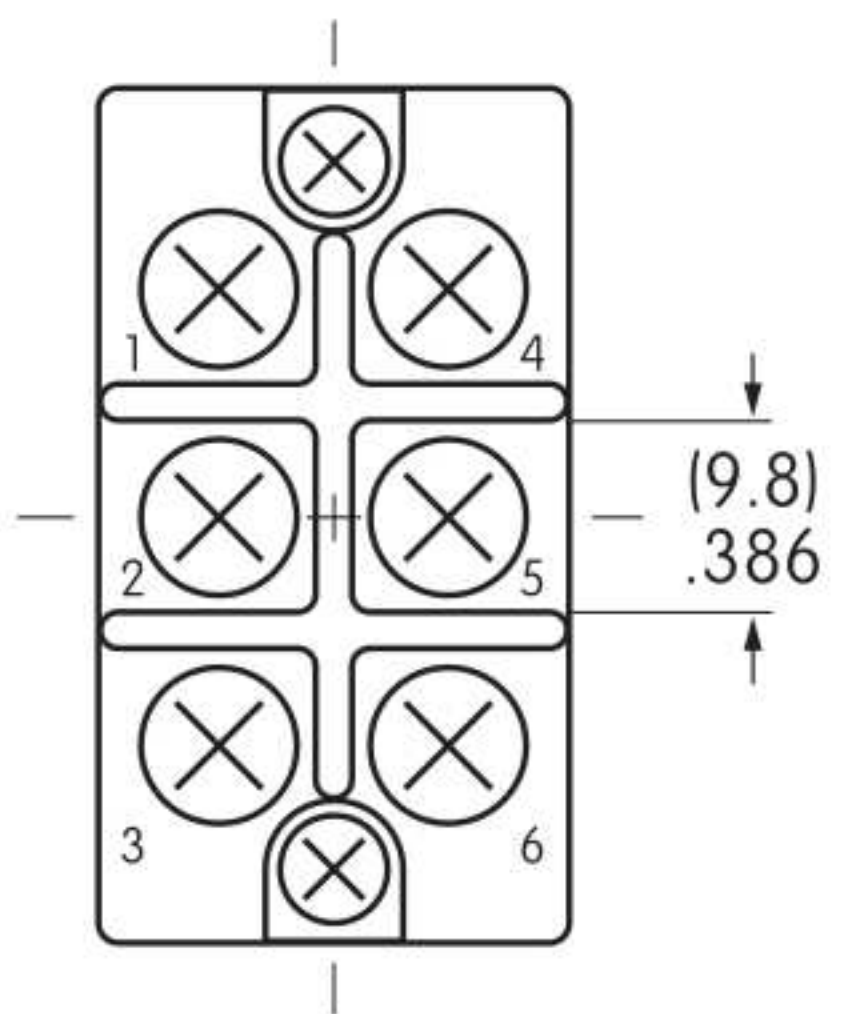
3. Inductive Load

Inductive loads produce an arc caused by counter-electromotive force when opening the circuit. Recommend inserting spark elimination circuit. Contact factory for details.



4. Compressed Terminal Connection

When connecting screw terminal with compressed terminal, select compressed terminal using drawing below.





TogglesA

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

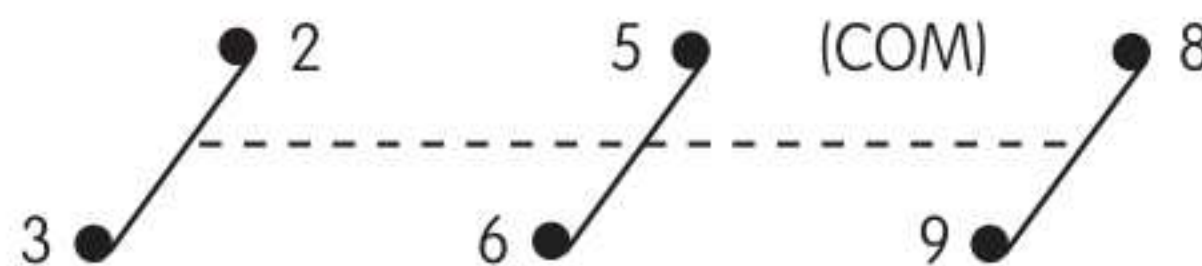
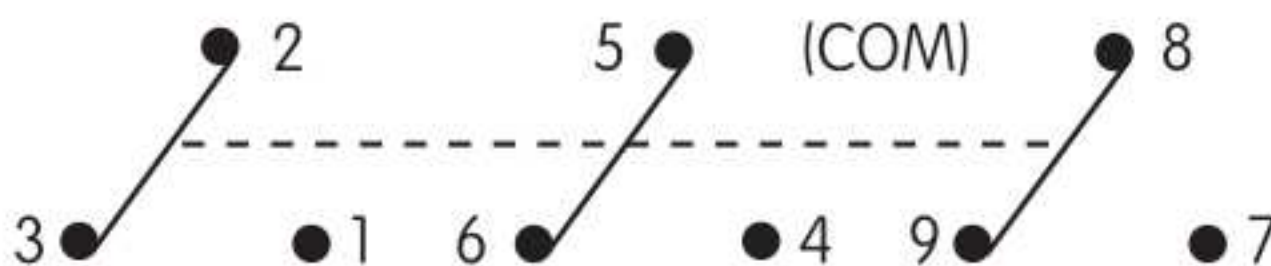
Touch

Indicators

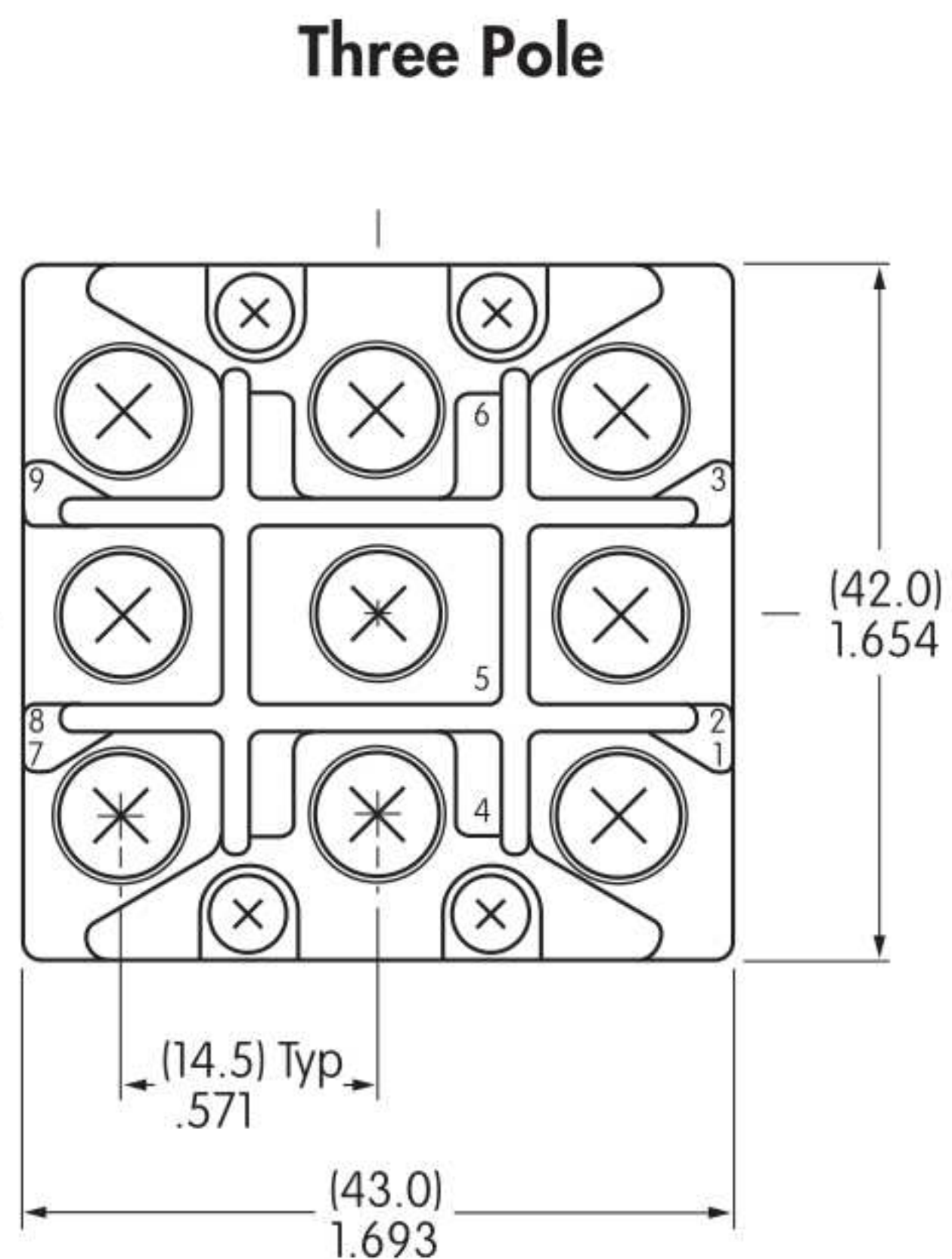
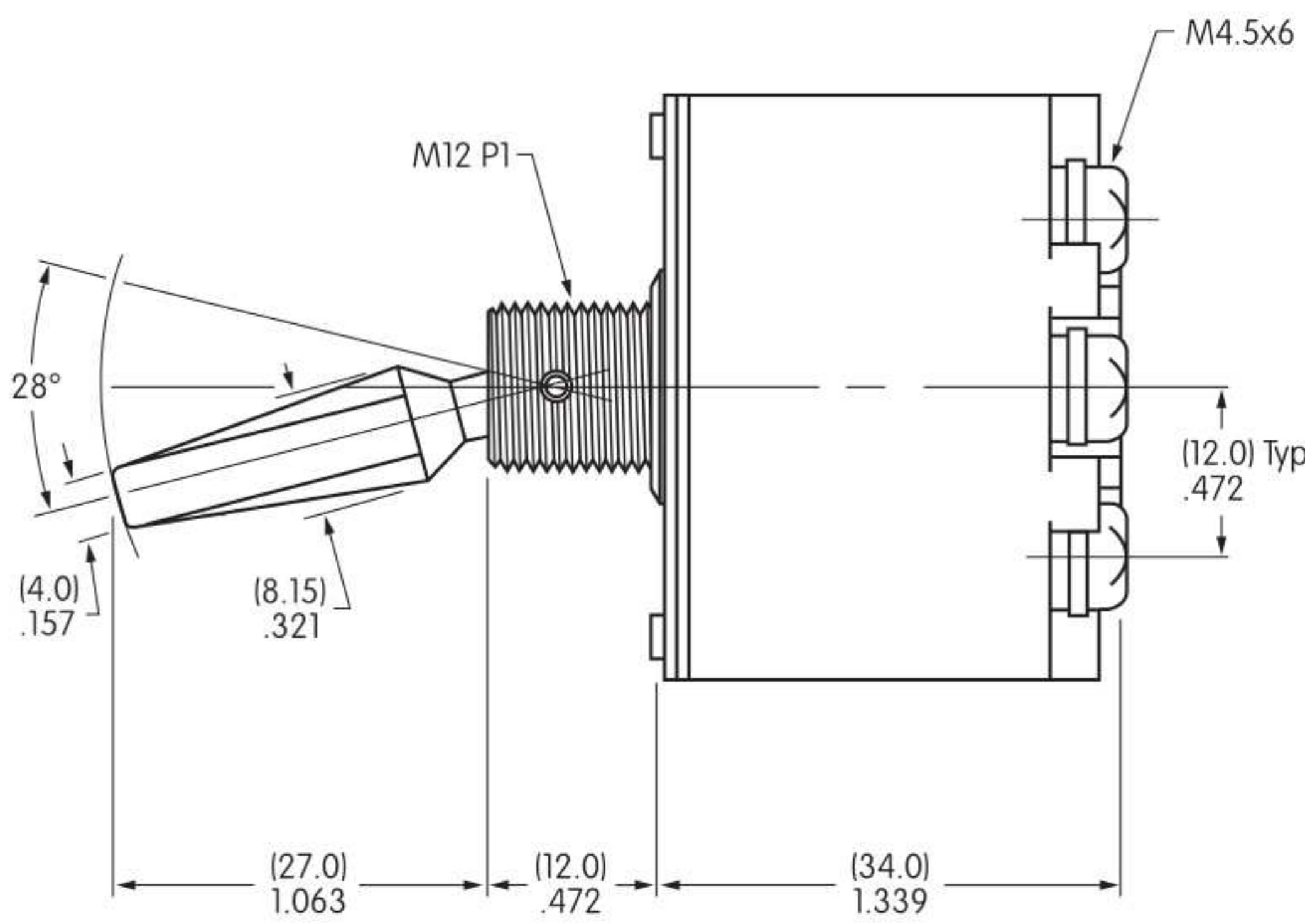
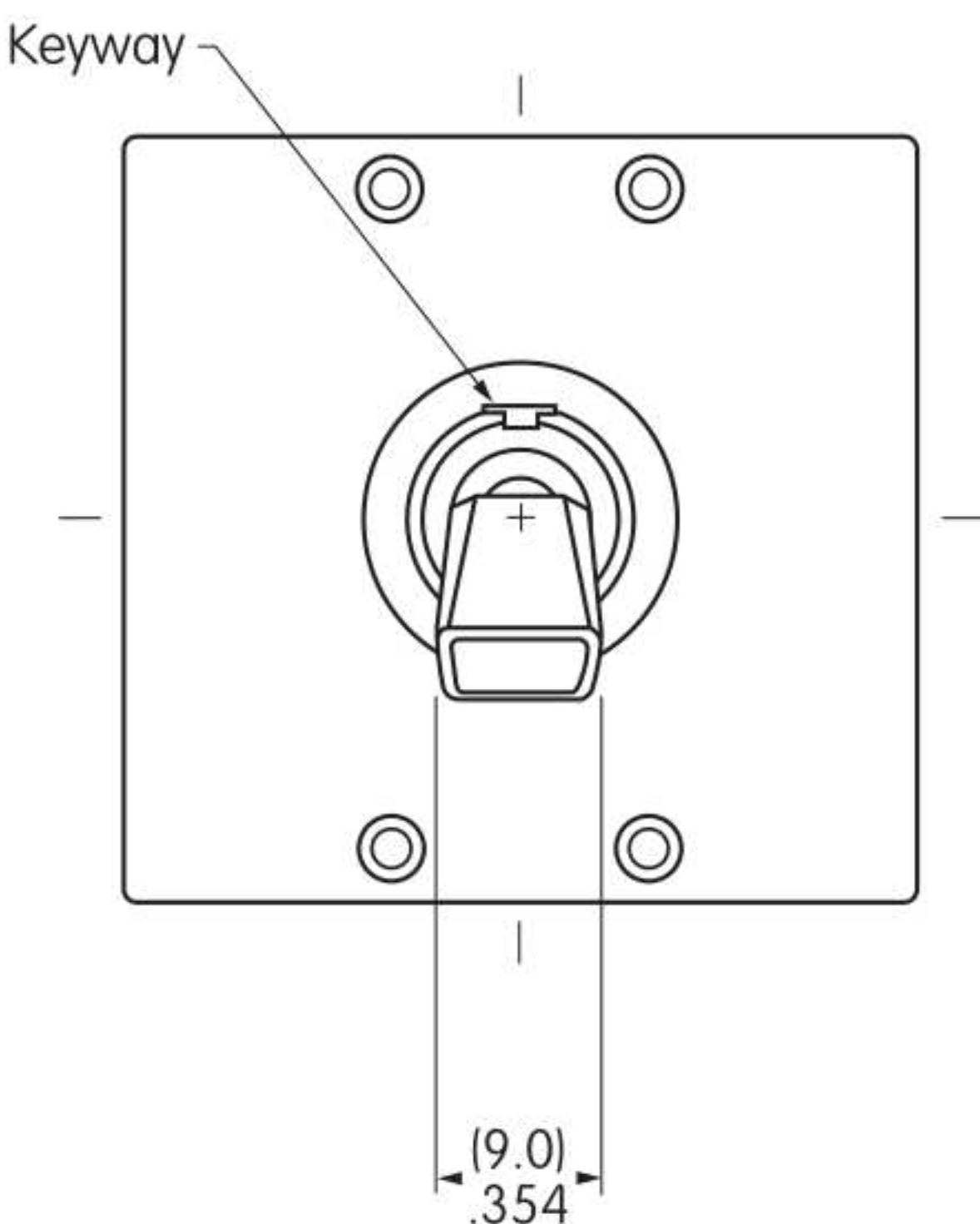
Accessories

Supplement

THREE POLE WITH SCREW LUG & FLATTED LEVER

| * UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs) |                                                                                   |                                                                                   |                                                                                   | Toggle Position/Connected Terminals<br>NONE = No Position |                                                                                   |                                                                                    |                                                                                     | Electrical Capacity |                                                                                     |         |         |                                          |        |         |         |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------|---------|---------|------------------------------------------|--------|---------|---------|
| Model                                                                                     | * Approvals                                                                       |                                                                                   |                                                                                   | Pole & Throw                                              | Down                                                                              | Center                                                                             | Up                                                                                  | Resistive           |                                                                                     |         |         | Inductive L/R = 3ms                      |        |         |         |
|                                                                                           |  |  |  |                                                           |  |  |  | DC 30V              | DC 48V                                                                              | DC 125V | DC 250V | DC 24V                                   | DC 48V | DC 125V | DC 250V |
| S831D                                                                                     | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | 3PST                                                      | ON 2-3 5-6 8-9                                                                    | NONE                                                                               | OFF —                                                                               | 30A                 | 30A                                                                                 | 15A     | 7.5A    | 15A                                      | 10A    | 6A      | 3A      |
| S832D                                                                                     | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | 3PDT                                                      | ON 2-3 5-6 8-9                                                                    | NONE                                                                               | ON 2-1 5-4 8-7                                                                      | 30A                 | 30A                                                                                 | 15A     | 7.5A    | 15A                                      | 10A    | 6A      | 3A      |
| S833D                                                                                     | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | 3PDT                                                      | ON 2-3 5-6 8-9                                                                    | OFF                                                                                | ON 2-1 5-4 8-7                                                                      | 30A                 | 30A                                                                                 | 15A     | 7.5A    | 15A                                      | 10A    | 6A      | 3A      |
| Throw & Schematics:                                                                       |                                                                                   |                                                                                   |                                                                                   | 3PST                                                      |  |                                                                                    |                                                                                     | 3PDT                |  |         |         | Note: Terminal numbers are on the switch |        |         |         |

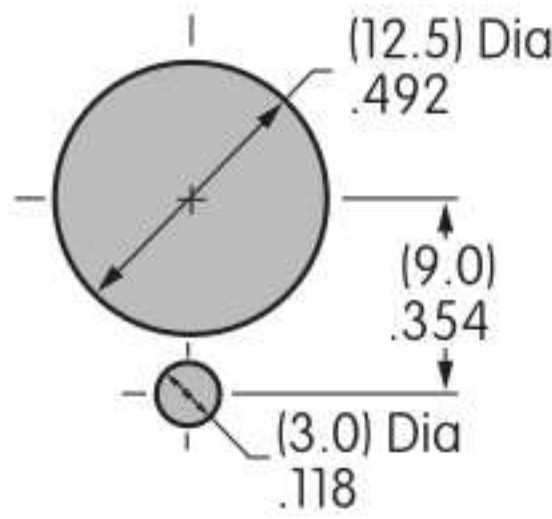
Notes: Standard Hardware: AT503M Face Hex Nut, AT506M Locking Ring, AT508 Lockwasher, AT527M Backup Hex Nut. See Accessories & Hardware section.



S831D does not have terminals 1, 4 & 7.  
Positive (+) must be connected to end terminals  
& negative to common terminals.



S832D



Maximum  
Panel Thickness:  
.177" (4.5mm)