

GENERAL SPECIFICATIONS FOR S1 ~ S29

A
Toggles

Electrical Capacity (Resistive & Inductive Load)

Power Level: Shown in the following tables

Other Ratings

Contact Resistance: 10 milliohms maximum
Insulation Resistance: 1,000 megohms minimum @ 500V DC
Dielectric Strength: 2,000V AC minimum for 1 minute minimum
Mechanical Life: 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 & lever lock panel seal models meet IP67 standard

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.

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

Toggles
A

SINGLE POLE WITH SOLDER LUG *

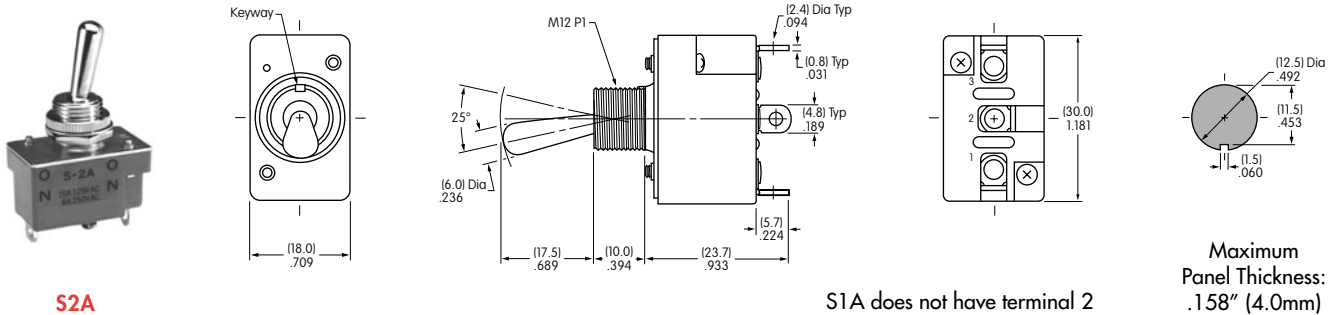
| * UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs) | | | Toggle Position/Connected Terminals | | | | | | Electrical Capacity | | | |
|---|-------------|-------|-------------------------------------|--------------|--------|--------|--------|-----------|---------------------|--------|----------------|----------------|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

Note: Terminal numbers are actually on the switch

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.

* Wire harness & cable assemblies offered only in Americas.



S2A

S1A does not have terminal 2

Maximum Panel Thickness: .158" (4.0mm)

DOUBLE POLE WITH SOLDER LUG *

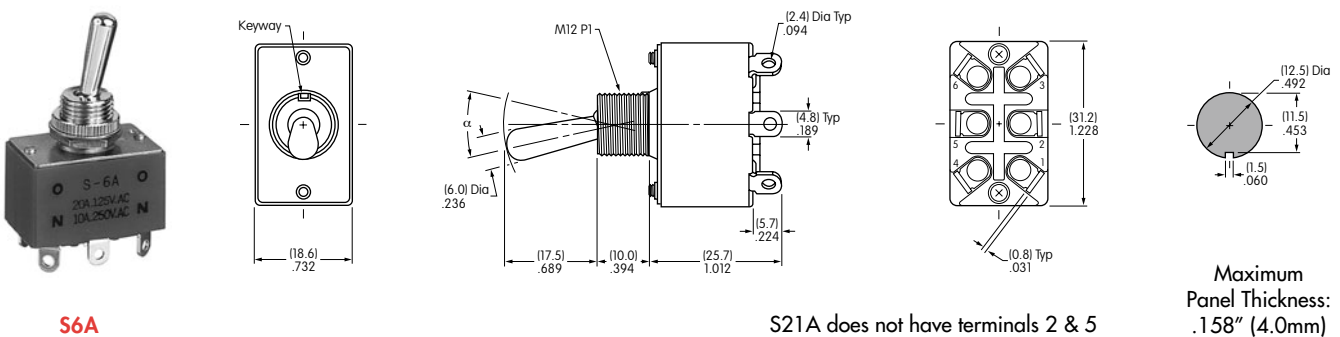
| * UL, cULus & CSA recognized only when ordered with marking on switch (see General Specs) | | | Toggle Position/Connected Terminals | | | | | | Electrical Capacity | | | |
|---|-------------|-------|-------------------------------------|--------------|------------|--------|------------|-----------|---------------------|--------|----------------|---------------------------|
| Model | * Approvals | | | Pole & Throw | Down | Center | Up | Resistive | | | Inductive | $\alpha =$ Angle of Throw |
| | UL | cULus | CSA | | Keyway | | | 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: DPST INTERNAL CONNECTION DPDT

Note: Terminal numbers are actually on the switch

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.

* Wire harness & cables assemblies offered only in Americas.



S6A

S21A does not have terminals 2 & 5

Maximum Panel Thickness: .158" (4.0mm)

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt




Touch




Indicators

Accessories

Supplement

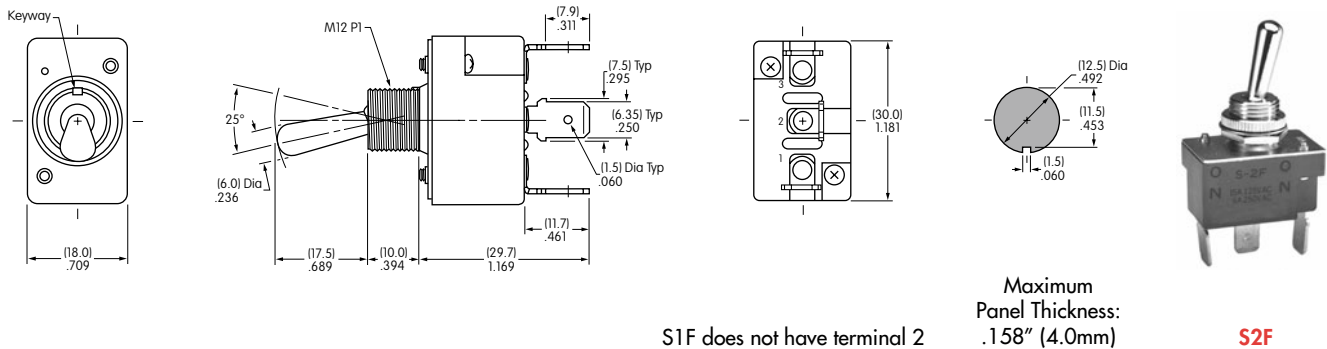
SINGLE POLE WITH QUICK CONNECT

| Model | Approvals | | Pole & Throw | Toggle Position/Connected Terminals | | | | Electrical Capacity | | | | Angle of Throw |
|-------|-----------|----|--------------|---|---|---|-----------|---------------------|--------|----------------|-----|----------------|
| | UL | SP | | Down  | Center  | Up  | Resistive | | | Inductive | | |
| | | | | | | | AC 125V | AC 250V | DC 30V | AC 125V PF 0.6 | | |
| S1F | — | — | SPST | ON 1-3 | NONE | OFF — | 15A | 6A | 20A | 8A | 25° | |
| S2F | — | — | SPDT | ON 2-3 | NONE | ON 2-1 | 15A | 6A | 20A | 8A | 25° | |
| S3F | — | — | SPDT | ON 2-3 | OFF | ON 2-1 | 15A | 6A | 20A | 8A | 25° | |




Throw & Schematics: SPST  INTERNAL CONNECTION  SPDT 

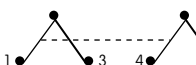

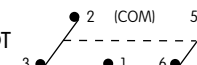
Note: Terminal numbers are actually on the switch

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.



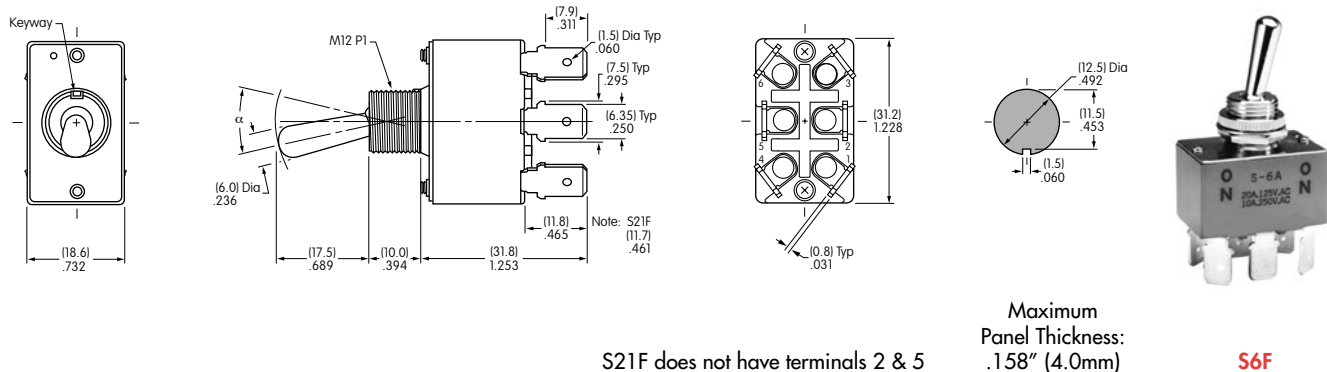
DOUBLE POLE WITH QUICK CONNECT

| Model | Approvals | | Pole & Throw | Toggle Position/Connected Terminals | | | | Electrical Capacity | | | | α = Angle of Throw |
|-------|-----------|----|--------------|---|---|---|-----------|---------------------|--------|----------------|-----|---------------------------|
| | UL | SP | | Down  | Center  | Up  | Resistive | | | Inductive | | |
| | | | | | | | AC 125V | AC 250V | DC 30V | AC 125V PF 0.6 | | |
| S21F | — | — | DPST | ON 1-3 4-6 | NONE | OFF — | 15A | 15A | 15A | 8A | 21° | |
| S6F | — | — | DPDT | ON 2-3 5-6 | NONE | ON 2-1 5-4 | 20A | 10A | 20A | 8A | 21° | |
| S7F | — | — | DPDT | ON 2-3 5-6 | OFF | ON 2-1 5-4 | 20A | 10A | 20A | 8A | 28° | |

Throw & Schematics: DPST  INTERNAL CONNECTION  DPDT 


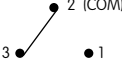
Note: Terminal numbers are actually on the switch

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.



SINGLE POLE SOLDER LUG WITH PANEL SEAL *

| Model | Approvals UL SP | Pole & Throw | Toggle Position/Connected Terminals () = Momentary | | | | Electrical Capacity | | | α = Angle of Throw |
|-------|-----------------------|--------------|--|--------|----------|-----------|---------------------|--------|-----|--------------------|
| | | | Down Keyway | Center | Up | Resistive | | | | |
| | | | | | | 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  INTERNAL CONNECTION 

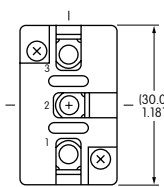
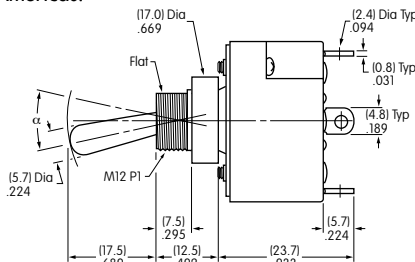
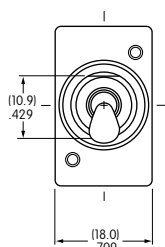
Note: Terminal numbers are actually on the switch

Notes: Standard Hardware: AT503M Face Hex Nut, AT508 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.

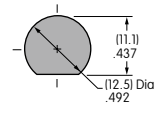
* Wire harness & cable assemblies offered only in Americas.



S2AW



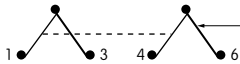
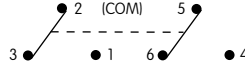
S1AW does not have terminal 2



Maximum Panel Thickness: .158" (4.0mm)

DOUBLE POLE SOLDER LUG WITH PANEL SEAL *

| Model | Approvals UL SP | Pole & Throw | Toggle Position/Connected Terminals () = Momentary | | | | Electrical Capacity | | | α = Angle of Throw |
|-------|-----------------------|--------------|--|--------|--------------|-----------|---------------------|--------|-----|--------------------|
| | | | Down Keyway | Center | Up | Resistive | | | | |
| | | | | | | 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: DPST  INTERNAL CONNECTION 

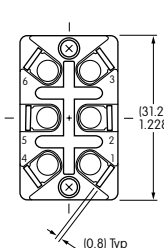
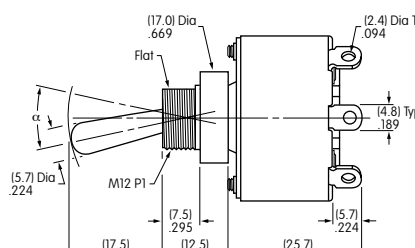
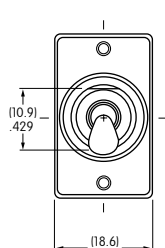
Note: Terminal numbers are actually on the switch

Notes: Standard Hardware: AT503M Face Hex Nut, AT508 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.

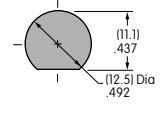
* Wire harness & cable assemblies offered only in Americas.



S6AW



S21AW does not have terminals 2 & 5



Maximum Panel Thickness: .158" (4.0mm)

SINGLE POLE SOLDER LUG WITH LOCKING LEVER & PANEL SEAL *

| Model | Approvals | | Pole & Throw | Toggle Position/Connected Terminals | | | | Electrical Capacity | | | | $\alpha =$ Angle of Throw |
|-------|-----------|-------|--------------|-------------------------------------|--------|--------|-----------|---------------------|--------|----------------|-----|------------------------------|
| | UL | cULus | | Down Keyway | Center | Up | Resistive | | | Inductive | | |
| | | | | | | | 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:

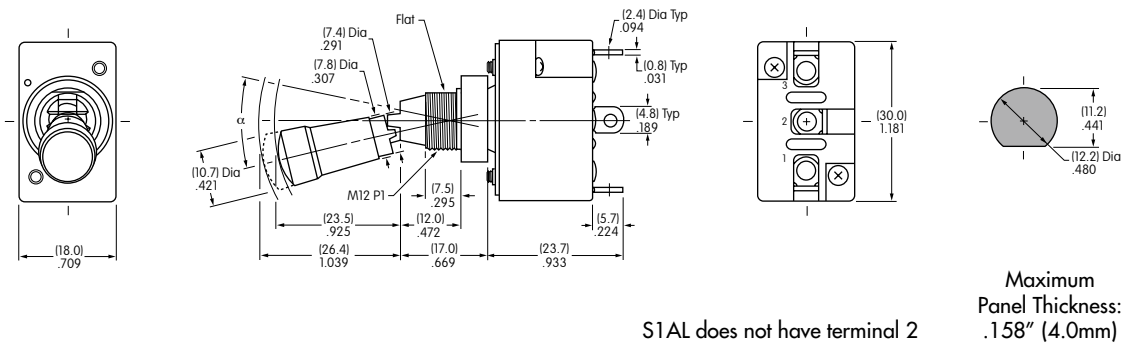
SPST: INTERNAL CONNECTION

SPDT: 2 (COM)

Note: Terminal numbers are actually on the switch

Notes: Standard Hardware: AT503M Face Hex Nut, AT508 Lockwasher, AT537 O-ring. See Accessories & Hardware section.

* Wire harness & cable assemblies offered only in Americas.



DOUBLE POLE SOLDER LUG WITH LOCKING LEVER & PANEL SEAL *

| Model | Approvals | | Pole & Throw | Toggle Position/Connected Terminals | | | | Electrical Capacity | | | | $\alpha =$ Angle of Throw |
|-------|-----------|-------|--------------|-------------------------------------|--------|------------|-----------|---------------------|--------|----------------|-----|------------------------------|
| | UL | cULus | | Down Keyway | Center | Up | Resistive | | | Inductive | | |
| | | | | | | | 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:

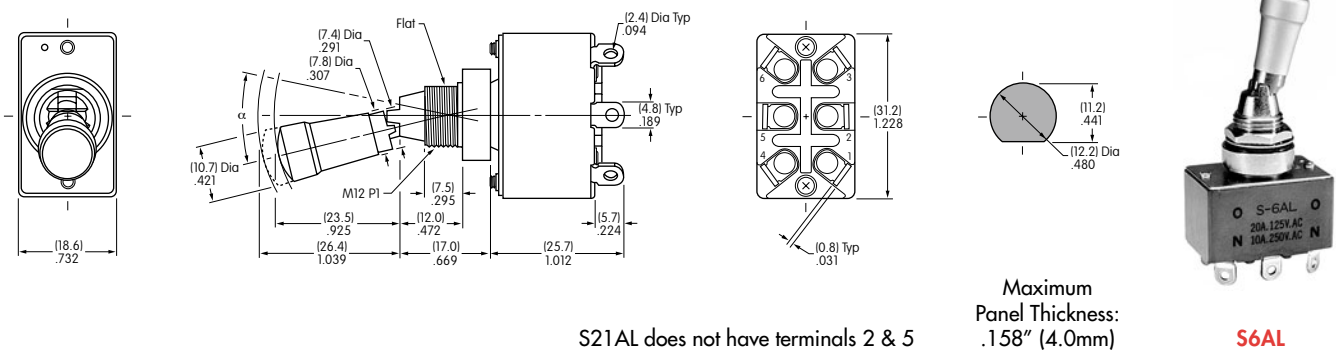
DPST: INTERNAL CONNECTION

DPDT: 2 (COM)

Note: Terminal numbers are actually on the switch

Notes: Standard Hardware: AT503M Face Hex Nut, AT508 Lockwasher, AT537 O-ring. See Accessories & Hardware section.

* Wire harness & cable assemblies offered only in Americas.



Mouser Electronics

Authorized Distributor

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[S2A-RO](#) [S1A-RO](#) [S1F-RO](#) [S1AW-RO](#)



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Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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