

**Toggle Switches, AE Series, Process Sealed, Part Number Matrix**

**"AE" SERIES DESIGN FEATURES**

- MIL-STD-202 Method 112C Leak Test
- Toggle – Machined brass, heavy nickel plated.
- Bushing & Cover - Nylon, ultrasonically welded to case, with integral "O-ring", UL94VO.
- Fixed Contact – Welded construction.
- Terminal Seal – Epoxy sealing of terminals is standard.
- Termination – Precious metal (gold or silver)/brass or copper strip with welded contact area.

**MATERIAL SPECIFICATIONS:**

Process Sealing ..... "O-ring" seals will withstand wave soldering and various subsequent cleaning operations. Meets MIL-STD-202, Method 112C, Test Condition A & D, 85°C.

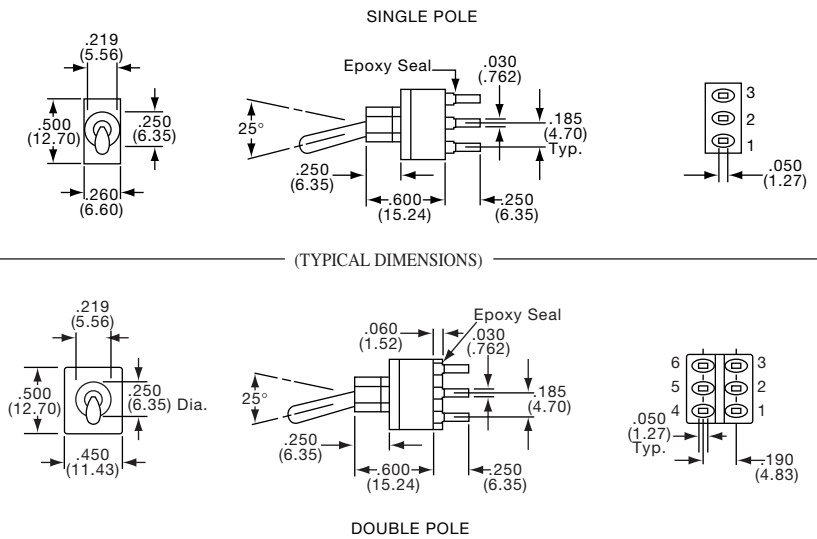
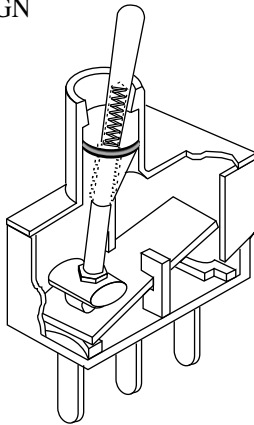
**ENVIRONMENTAL SPECIFICATIONS**

Operating Temperature.....-4°F to + 185°F (-20°C to + 85°C)  
 Storage Temperature.....-49°F to + 212°F (-45°C to + 100°C)  
 Solder Heat Resistance .....See page M3-4

**TYPICAL PERFORMANCE CHARACTERISTICS:**

Contact Rating .....Silver: 2 A @ 250 VAC or 5 A @ 125 VAC  
 Silver: 2 A @ 30 VDC  
 Gold: 0.4 VA @ 20 VAC/DC  
 Contact Resistance .....30 Milliohms max. initial  
 Insulation Resistance .....1,000 Megohms min. @ 500 VDC.  
 Dielectric Strength .....1,000 Volts RMS @ sea level initial  
 Static Withstanding.....15 KV per IEC 801-2  
 Electrical Life .....Up to 30,000 Cycles

**"O-RING" DESIGN**



**PART NUMBERING**

Model	Function	Toggle	Bushing	Terminal	Contact	Option
<b>AE1</b> Single Pole	<b>S</b> Bat. Long		<b>D1</b> Unthreaded	<b>A</b> Right Angle	<b>B</b> Gold	U.L. (Q or G contact only)
<b>AE2</b> Double Pole	<b>L</b> Lever			<b>AV2</b> Vertical Right Angle	<b>Q</b> Silver	
	<b>L1</b> Lever			<b>C</b> Printed Circuit	<b>G</b> Gold over Silver	
	<b>L2</b> Lever			<b>V30</b> Vertical Support Bracket		
<b>01</b> On-On	<b>M</b> Bat. Short			<b>W</b> Wire Wrap		
<b>03</b> On-Off-On				<b>Z3</b> Quick Connect		
<b>05</b> (On)-Off-(On)				<b>Z</b> Wire Lug		
<b>07</b> On-Off-(On)						
<b>08</b> On-(On)						
<b>11</b> On-On-On						
<b>13</b> On-On-(On)						
<b>15</b> (On)-On-(On)						

Double Pole case only

Application Note: For surface mount termination, use the "TST" series, Page C5

**Other Options**

**N** Black finish toggle, add "N" to end of part number, but before U.L. option.

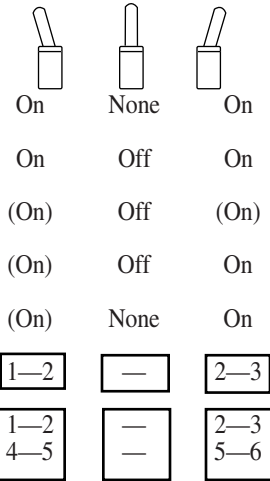
See page C36 for SP3T wiring diagram.

**Toggle Switches, AE Series, Process Sealed, Options**

**FUNCTIONS**

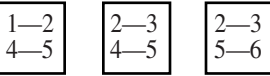
The following functions available in SP or DP.

- 01** 2 Positions None indicates no mechanical position
- 03** 3 Positions Off indicates a mechanical position with no electrical connection.
- 05** 3 Positions (On) indicates momentary action.
- 07** 3 Positions
- 08** 2 Positions  
 SPDT, connected terminals:  
 DPDT, connected terminals:

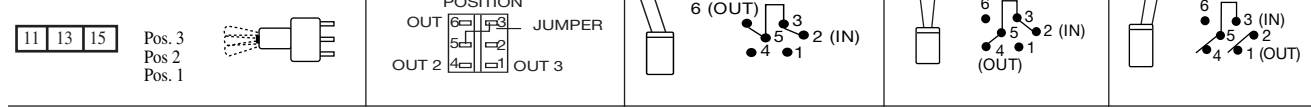


Functions available in DP case only:

- 11** 3 Positions On On On
  - 13** 3 Positions (On) On On
  - 15** 3 Positions (On) On (On)
- DP3T Connect terminals:  
 \* SP3T Functions achieved with external jumper installed by customer

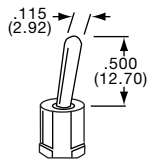


**WIRING DIAGRAM FOR FUNCTIONS**



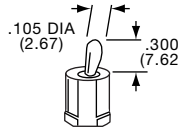
**TOGGLES**

**S**  
Standard



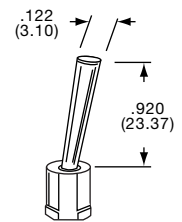
**M**

Short



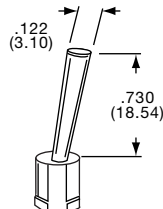
**L**

Lever



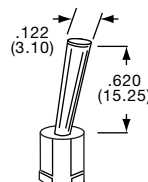
**L1**

Lever



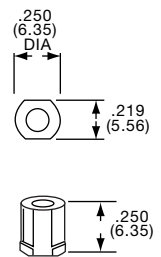
**L2**

Lever



Bushing

**D1**

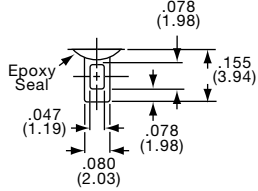


**Toggle Switches, AE Series, Process Sealed, Options**

**TERMINALS**

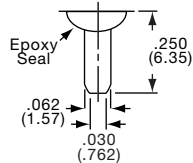
**Z**

Wire Lug



**Z3**

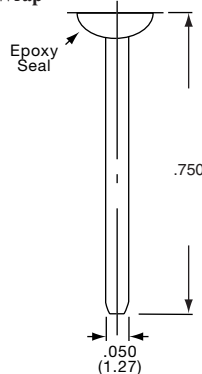
Quick Connect



Mates with Tyco  
61454 or 60900.

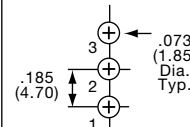
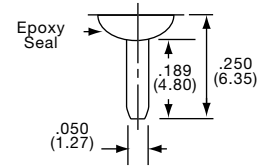
**W**

Wire Wrap

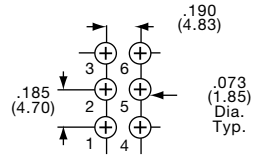


**C**

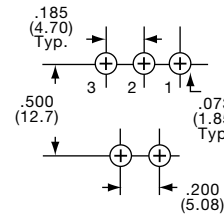
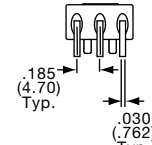
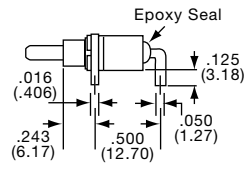
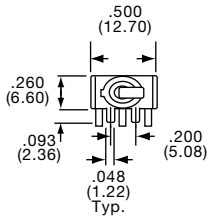
Printed Circuit  
PC Hole Pattern



Single Pole



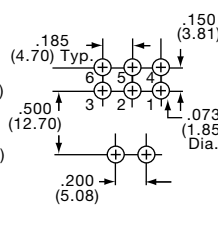
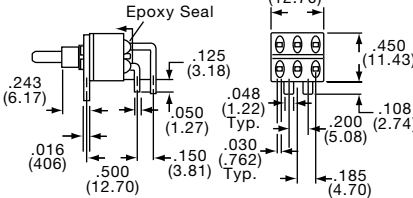
Double Pole



**A**

Right Angle  
Single Pole

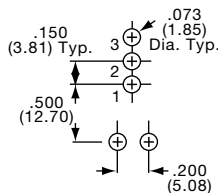
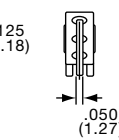
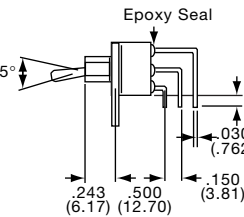
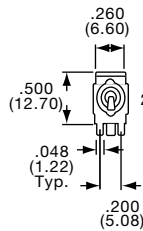
Note: Terminal numbers viewed from top of P.C. board



**A**

Right Angle  
Double Pole

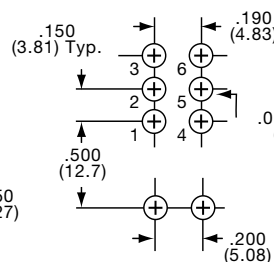
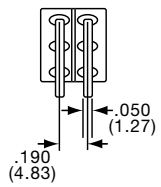
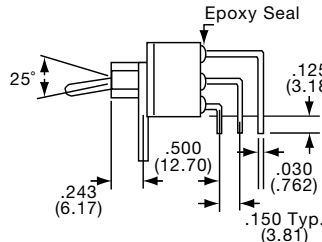
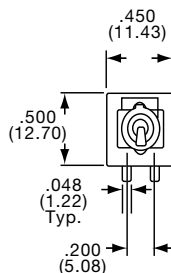
Note: Terminal numbers viewed from top of P.C. board



**AV2**

Vertical Right Angle  
Single Pole

Note: Terminal numbers viewed from top of P.C. board



**AV2**

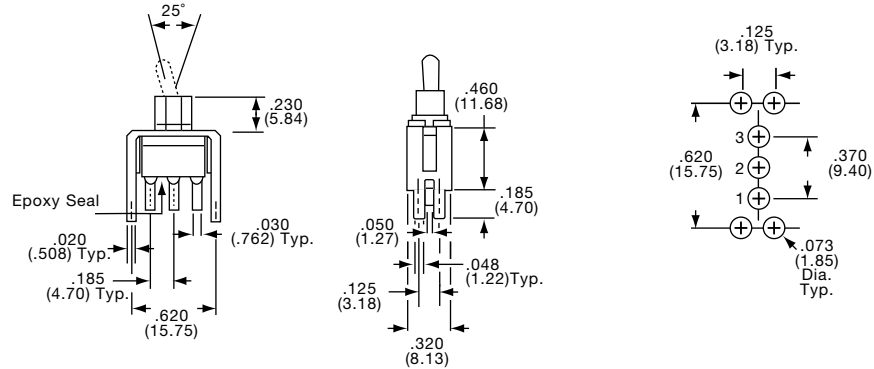
Vertical Right Angle  
Double Pole

Note: Terminal numbers viewed from top of P.C. board

**Toggle Switches, AE Series, Process Sealed, Options**

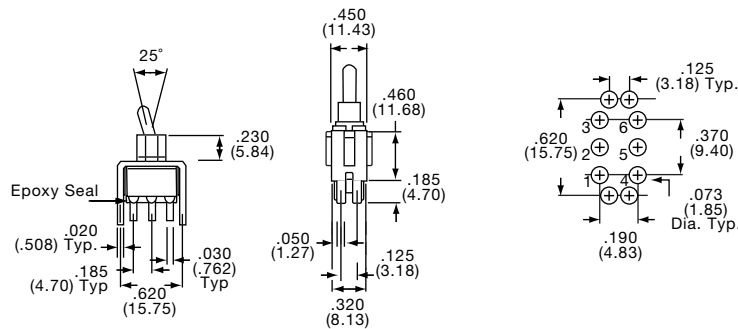
**V30**

Vertical Support Bracket  
Single Pole



**V30**

Vertical Support Bracket  
Double Pole



**CONTACTS**

**B** CONTACTS: Copper alloy with gold plate, welded button.

TERMINALS: Copper alloy with gold plate.

ELECTRICAL RATING: 0.4 VA @ 20 VAC/DC.

**Q** CONTACTS: Copper alloy with silver, welded button.

TERMINALS: Copper with silver/lead plate.

ELECTRICAL RATING: 5 A @ 125 VAC, 2 amps @ 250 VAC, 2 A @ 30 VDC.

UL/CSA RATING: 5A @ 125 VAC, 3 @ 250 VAC.  
(Specify "UL" option code)

**G** CONTACTS: Copper alloy with gold plate over silver, welded button.

TERMINALS: Copper alloy, with gold plate.

ELECTRICAL RATING: 0.4 VA @ 20 VAC/DC or 5 A @ 125 VAC, 2 A @ 250 VAC, 2 A @ 30 VDC.

**Note:** This contact option can be used for low-level or power switching. If level is above 0.4 VA @ 20 VAC/DC, the switch is rendered usable only for power switching due to arc-removal of gold plate.

UL/CSA RATING: 5A @ 125 VAC, 3A @ 250 VAC  
(Specify "UL" option code)

**Toggle Switches, AE Series, Process Sealed, Vertical, Long Bat Actuator**

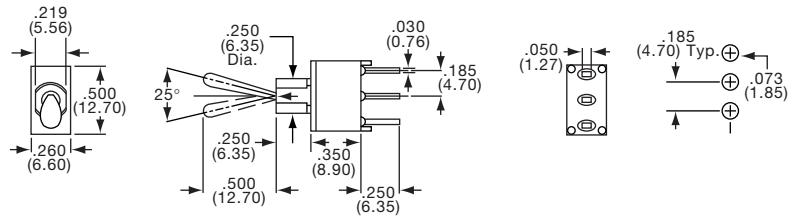
\* Refer to Pages C35-C38 for Additional Options \*

SEE PAGE C35 FOR PRODUCT SPECIFICATIONS

**SPDT**



AE101SD1CQ

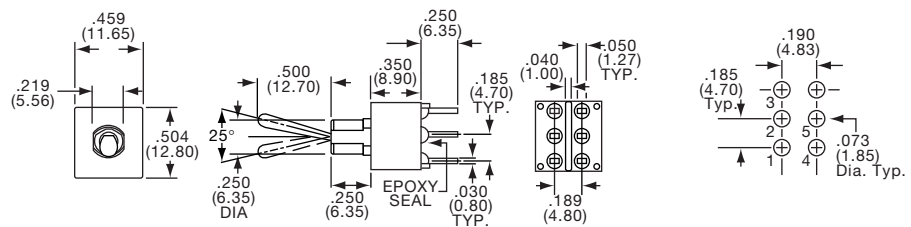


Tyco Electronics	Alcoswitch	Tyco Electronics	Alcoswitch	Type	Act. Code	P. M5			
<b>Silver Contacts</b>		<b>Gold Contacts</b>							
2-1437556-8	AE101SD1CQ	2-1437556-7	AE101SD1CB	SPDT	1		On	None	On
3-1437556-8	AE103SD1CQ	3-1437556-7	AE103SD1CB	SPDT	5		On	Off	On
	AE105SD1CQ	4-1437556-6	AE105SD1CB	SPDT	5		(On)	Off	(On)
	AE107SD1CQ	5-1437556-3	AE107SD1CB	SPDT	5		On	Off	(On)
6-1437556-1	AE108SD1CQ	AE108SD1CB	SPDT	1			On	None	(On)

**DPDT**



AE201SD1CQ



Tyco Electronics	Alcoswitch	Tyco Electronics	Alcoswitch	Type	Act. Code	P. M5			
<b>Silver Contacts</b>		<b>Gold Contacts</b>							
7-1437556-5	AE201SD1CQ	7-1437556-4	AE201SD1CB	DPDT	2		On	None	On
	AE203SD1CQ	8-1437556-2	AE203SD1CB	DPDT	6		On	Off	On
8-1437556-5	AE205SD1CQ	AE205SD1CB	DPDT	6			(On)	Off	(On)
	AE207SD1CQ	AE207SD1CB	DPDT	6			On	Off	(On)
	AE208SD1CQ	AE208SD1CB	DPDT	2			On	None	(On)
	AE211SD1CQ	AE211SD1CB	DPDT	11			On	On	On
	AE215SD1CQ	AE215SD1CB	DPDT	11			(On)	On	(On)

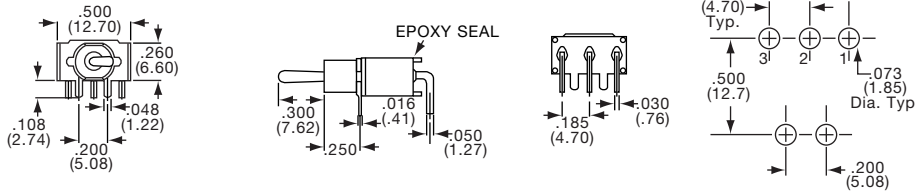
**C**  
Gemini Series

**Toggle Switches, AE Series, Process Sealed, Right Angle, Short Bat Actuator**

\* Refer to Pages C35-C38 for Additional Options \*

SEE PAGE C35 FOR PRODUCT SPECIFICATIONS

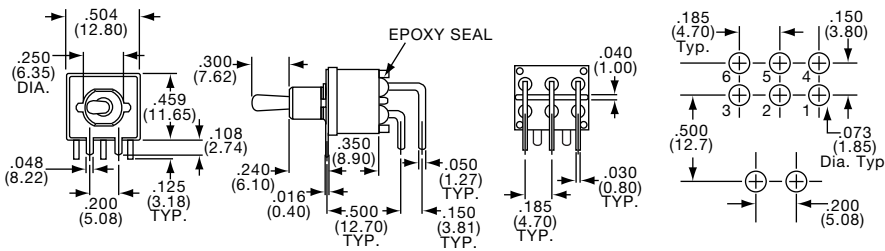
SPDT



AE101MD1AQ  
Horizontal Actuation

Tyco Electronics	Alcoswitch	Tyco Electronics	Alcoswitch	Type	Act. Code	P. M5			
<b>Silver Contacts</b>		<b>Gold Contacts</b>							
1-1437556-1	AE101MD1AQ	1437556-8	AE101MD1AB	SPDT	1		On	None	On
	AE103MD1AQ	3-1437556-1	AE103MD1AB	SPDT	5		On	Off	On
5-1437556-7	AE108MD1AQ		AE108MD1AB	SPDT	1		On	None	(On)

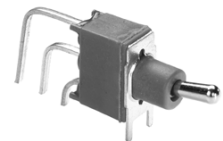
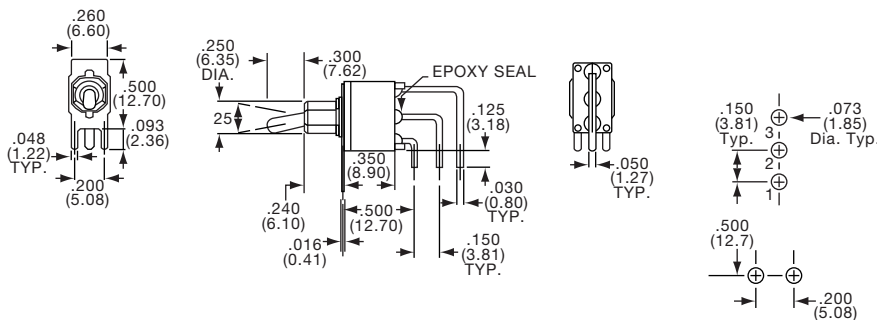
DPDT



AE201MD1AQ  
Horizontal Actuation

Tyco Electronics	Alcoswitch	Tyco Electronics	Alcoswitch	Type	Act. Code	P. M5			
<b>Silver Contacts</b>		<b>Gold Contacts</b>							
6-1437556-6	AE201MD1AQ	6-1437556-5	AE201MD1AB	DPDT	2		On	None	On
3-1437592-1	AE203MD1AQ	7-1437556-7	AE203MD1AB	DPDT	6		On	Off	On
	AE208MD1AQ		AE208MD1AB	DPDT	2		On	None	(On)

SPDT



AE101MD1AV2Q  
Vertical Actuation

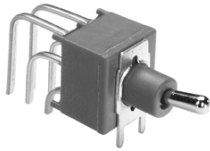
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<b>Silver Contacts</b>		<b>Gold Contacts</b>							
1-1437556-3	AE101MD1AV2Q	1-1437556-2	AE101MD1AV2B	SPDT	1		On	None	On
	AE103MD1AV2Q	3-1437556-2	AE103MD1AV2B	SPDT	5		On	Off	On
1447331-4	AE108MD1AV2Q	5-1437556-8	AE108MD1AV2B	SPDT	1		On	None	(On)

**Toggle Switches, AE Series, Process Sealed, Short Bat Actuator**

\* Refer to Pages C35-C38 for Additional Options \*

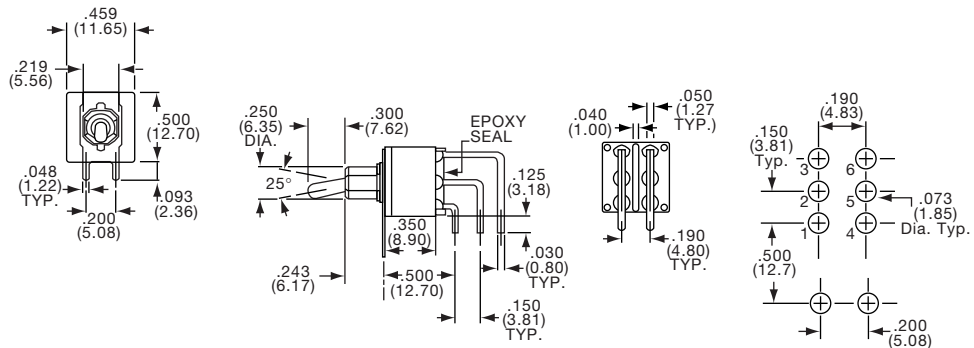
SEE PAGE C35 FOR PRODUCT SPECIFICATIONS

DPDT



AE201MD1AV2Q

Vertical Actuation

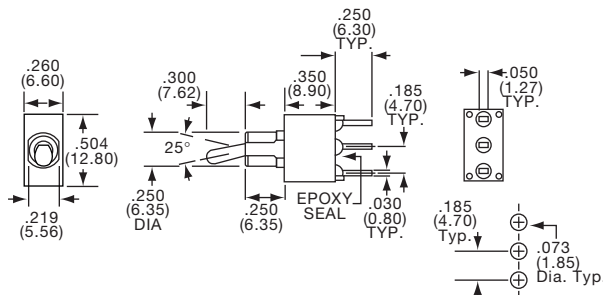


Tyco Electronics	Alcoswitch	Tyco Electronics	Alcoswitch	Type	Act. Code	P. M5	On	None	On
<b>Silver Contacts</b>		<b>Gold Contacts</b>							
1571537-1	AE201MD1AV2Q	6-1437556-7	AE201MD1AV2B	DPDT	2		On	None	On
	AE203MD1AV2Q	7-1437556-8	AE203MD1AV2B	DPDT	6		On	Off	On
	AE208MD1AV2Q		AE208MD1AV2B	DPDT	2		On	None	(On)

SPDT



AE101MD1CQ

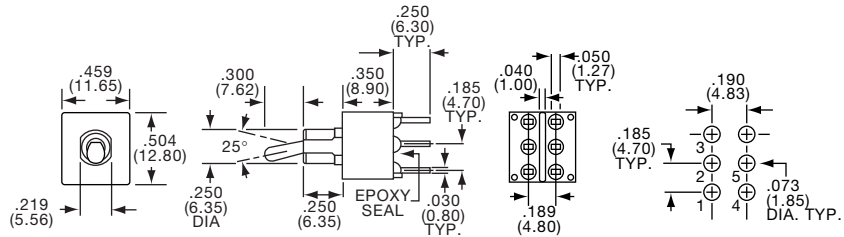


Tyco Electronics	Alcoswitch	Type	Act. Code	P.M5	On	None	On
<b>Silver Contacts</b>							
1-1437556-7	AE101MD1CQ	SPDT	1		On	None	On
	AE103MD1CQ	SPDT	5		On	Off	On
	AE105MD1CQ	SPDT	5		(On)	Off	(On)
	AE107MD1CQ	SPDT	5		On	Off	(On)
	AE108MD1CQ	SPDT	1		On	None	(On)
<b>Gold Contacts</b>							
1-1437556-5	AE101MD1CB	SPDT	1		On	None	On
3-1437556-3	AE103MD1CB	SPDT	5		On	Off	On
	AE105MD1CB	SPDT	5		(On)	Off	(On)
	AE107MD1CB	SPDT	5		On	Off	(On)
	AE108MD1CB	SPDT	1		On	None	(On)

DPDT



AE201MD1CQ



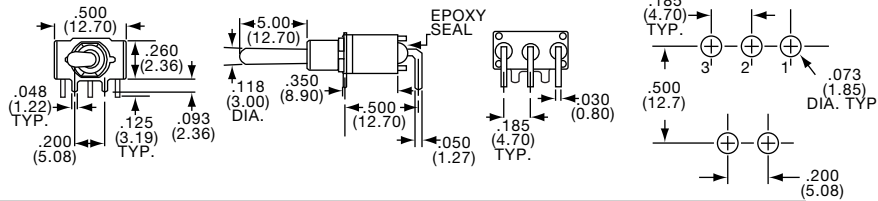
Tyco Electronics	Alcoswitch	Type	Act. Code	P.M5	On	None	On
<b>Silver Contacts</b>							
6-1437556-9	AE201MD1CQ	DPDT	2		On	None	On
	AE203MD1CQ	DPDT	6		On	Off	On
	AE205MD1CQ	DPDT	6		(On)	Off	(On)
	AE207MD1CQ	DPDT	6		On	Off	(On)
	AE208MD1CQ	DPDT	2		On	None	(On)
	AE211MD1CQ	SP3T	11		On	On	On
	AE215MD1CQ	SP3T	11		(On)	On	(On)
<b>Gold Contacts</b>							
6-1437556-8	AE201MD1CB	DPDT	2		On	None	On
	AE203MD1CB	DPDT	6		On	Off	On
	AE205MD1CB	DPDT	6		(On)	Off	(On)
	AE207MD1CB	DPDT	6		On	Off	(On)
	AE208MD1CB	DPDT	2		On	None	(On)
8-1437556-9	AE211MD1CB	SP3T	11		On	On	On
	AE215MD1CB	SP3T	11		(On)	On	(On)



**Toggle Switches, AE Series, Process Sealed, Right Angle, Long Bat Actuator**

\* Refer to Pages C35-C38 for Additional Options \*

SEE PAGE C35 FOR PRODUCT SPECIFICATIONS

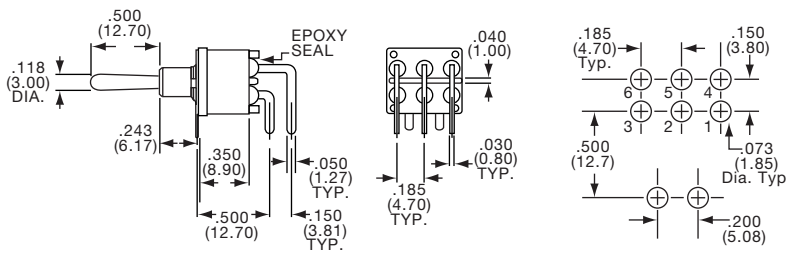


SPDT

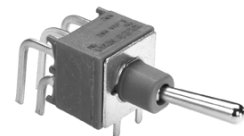


AE101SD1AQ  
Horizontal Actuation

Tyco Electronics	Alcoswitch	Tyco Electronics	Alcoswitch	Type	Act. Code	P. M5			
<b>Silver Contacts</b>		<b>Gold Contacts</b>							
6-1437556-0	AE101SD1AQ	2-1437556-2	AE101SD1AB	SPDT	1		On	None	On
	AE103SD1AQ		AE103SD1AB	SPDT	5		On	Off	On
2-1437556-3	AE108SD1AQ	5-1437556-9	AE108SD1AB	SPDT	5		(On)	Off	(On)

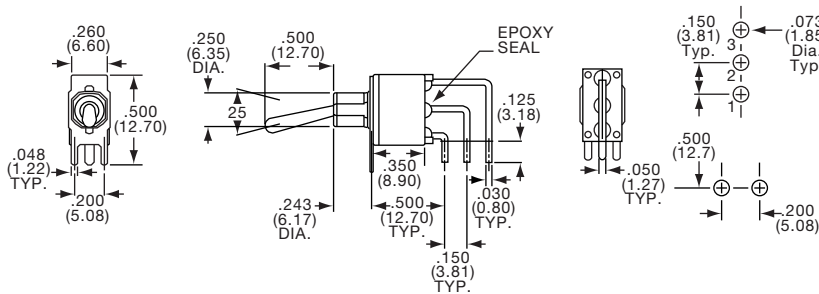


DPDT



AE201SD1AB  
Horizontal Actuation

Tyco Electronics	Alcoswitch	Tyco Electronics	Alcoswitch	Type	Act. Code	P. M5			
<b>Silver Contacts</b>		<b>Gold Contacts</b>							
	AE201SD1AQ	7-1437556-1	AE201SD1AB	DPDT	2		On	None	On
	AE203SD1AQ		AE203SD1AB	DPDT	6		On	Off	On
	AE208SD1AQ	7-1437556-9	AE208SD1AB	DPDT	6		(On)	Off	(On)

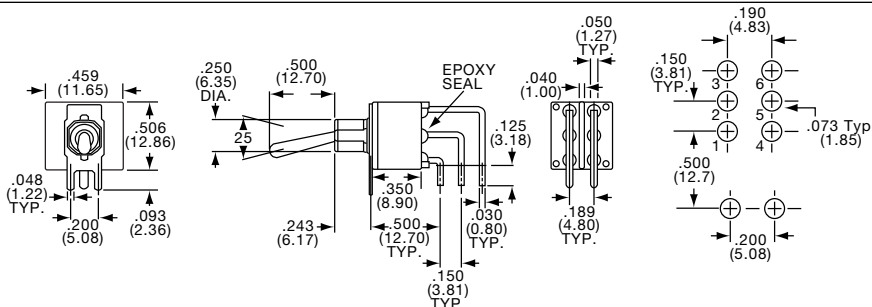


SPDT

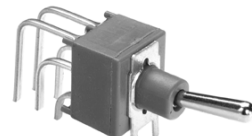


AE101SD1AV2B  
Vertical Actuation

Tyco Electronics	Alcoswitch	Tyco Electronics	Alcoswitch	Type	Act. Code	P. M5			
<b>Silver Contacts</b>		<b>Gold Contacts</b>							
2-1437556-6	AE101SD1AV2Q	2-1437556-5	AE101SD1AV2B	SPDT	1		On	None	On
	AE103SD1AV2Q	3-1437556-6	AE103SD1AV2B	SPDT	5		On	Off	On
	AE108SD1AV2Q		AE108SD1AV2B	SPDT	5		(On)	Off	(On)



DPDT



AE201SD1AV2Q  
Vertical Actuation

Tyco Electronics	Alcoswitch	Tyco Electronics	Alcoswitch	Type	Act. Code	P. M5			
<b>Silver Contacts</b>		<b>Gold Contacts</b>							
8-1437556-1	AE201SD1AV2Q	7-1437556-3	AE201SD1AV2B	DPDT	2		On	None	On
	AE203SD1AV2Q	8-1437556-0	AE203SD1AV2B	DPDT	6		On	Off	On
	AE208SD1AV2Q		AE208SD1AV2B	DPDT	6		(On)	Off	(On)