

The Gemini Series "A" Series Toggles 5 Amp

Refer to Pages C32-C36 for Additional Options

"A" SERIES DESIGN FEATURES

- Meets CSA Requirements
- Toggle – Machined brass, heavy nickel plated.
- Bushing & Frame – Rigid one-piece die cast, copper flashed, heavy nickel plated.
- Fixed Contact – Welded construction, selective placement of precious metal. (Gold or silver.)
- Movable Contact – "Captured" design eliminates possibility of displacement due to shock. (01 function.)
- Terminal Seal – Epoxy sealing of terminals is standard.
- Termination – Precious metal (or silver)/brass or copper strip with welded contact area.
- Case – DAP for electrical performance and mechanical strength, UL94VO.

MATERIAL SPECIFICATIONS:

ContactsGold/gold flash
 Silver/tin lead
 Case MaterialThermoset
 Terminal SealEpoxy

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature-20°C to +85°C (-4°F to +185°F)
 Storage Temperature-45°C to +100°C (-49°F to +212°F)
 Solder Heat ResistanceSee page M6-7

TYPICAL PERFORMANCE CHARACTERISTICS:

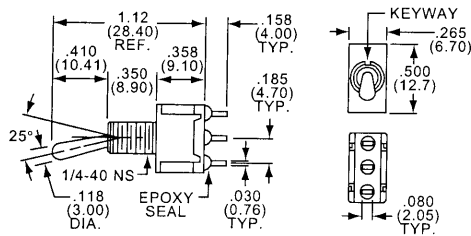
Contact RatingGold: 0.4 VA @ 20 VAC/DC
 Silver: 2 A @ 250 VAC: 5 A @ 125 VAC
 Initial Contact Resistance30 Milliohms max.
 Contact TimingBreak before make
 Insulation Resistance1,000 Megohms @ 500 VDC.
 Dielectric Strength1,000 Volts RMS @ sea level
 Actuation ForceMomentary: 950 Grams max.
 Plunger/Actuator TravelMaintained: 1750 Grams max. 25°
 Life Expectancy30,000 Cycles



SPDT



A101SYZQ

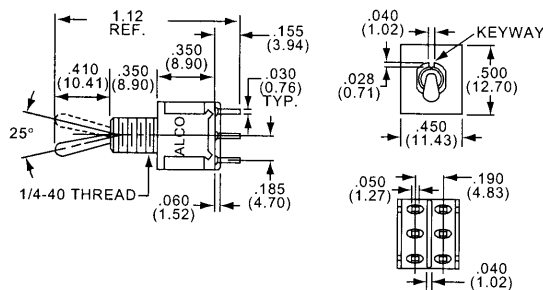


Model	Type	Act. Code	P.M8	↖	↓	↗
Silver Contacts						
A101SYZQ	SPDT	1	On	None	On	
A103SYZQ	SPDT	5	On	Off	On	
A105SYZQ	SPDT	5	(On)	Off	(On)	
A107SYZQ	SPDT	5	On	Off	(On)	
A108SYZQ	SPDT	1	On	None	(On)	
Gold Contacts						
A101SYZB	SPDT	1	On	None	On	
A103SYZB	SPDT	5	On	Off	On	
A105SYZB	SPDT	5	(On)	Off	(On)	
A107SYZB	SPDT	5	On	Off	(On)	

DPDT



A201SYZQ



Model	Type	Act. Code	P.M8	↖	↓	↗
Silver Contacts						
A201SYZQ	DPDT	2	On	None	On	
A203SYZQ	DPDT	6	On	Off	On	
A205SYZQ	DPDT	6	(On)	Off	(On)	
A207SYZQ	DPDT	6	On	Off	(On)	
A208SYZQ	DPDT	2	On	None	(On)	
A211SYZQ	DP3T	11	On	On	On	
A213SYZQ	DP3T	11	On	On	(On)	
A215SYZQ	DP3T	11	(On)	On	(On)	

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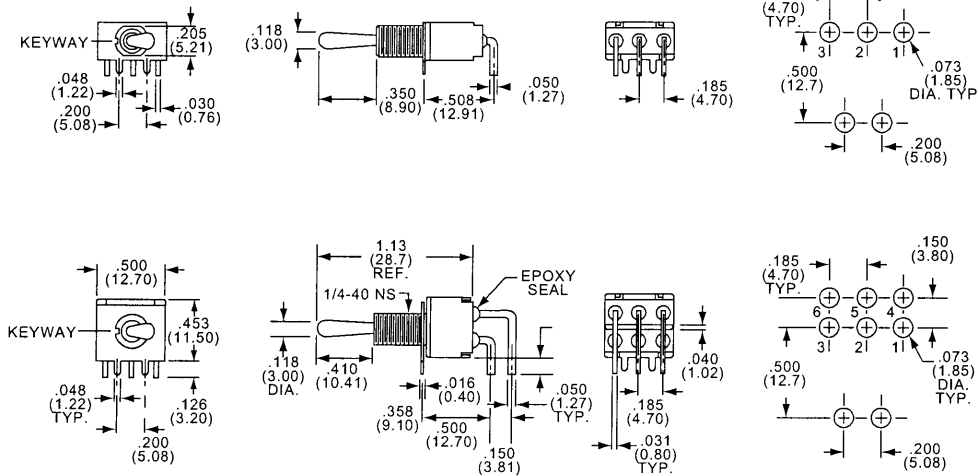
C24

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"A" Series Toggles The Gemini Series

Refer to Pages C32-C36 for Additional Options

SEE PAGE C24 FOR PRODUCT SPECIFICATIONS



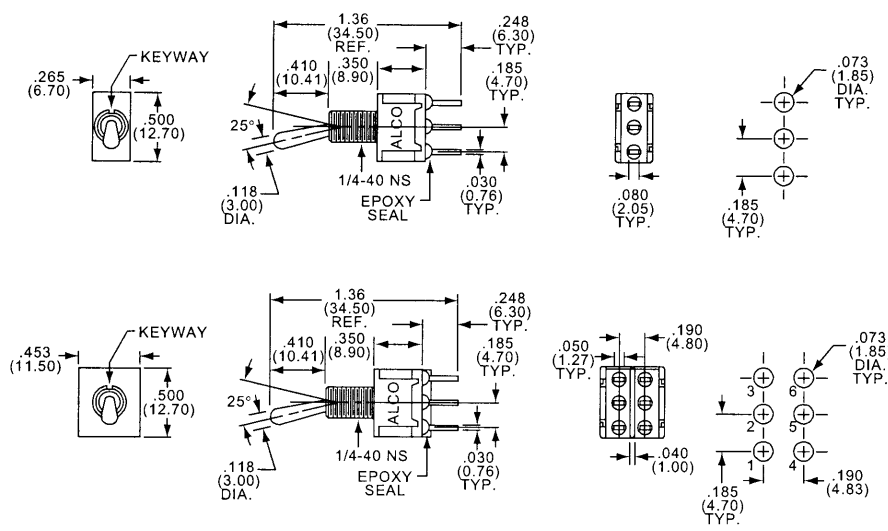
SPDT/DPDT



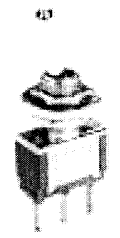
A101SYAB
Horizontal Actuation



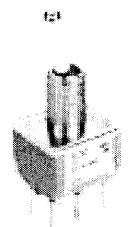
Gold Contacts Model	Type	Act. Code	P.M8			
A101SYAB	SPDT	1	On	None	On	
A103SYAB	SPDT	5	On	Off	On	
A201SYAB	DPDT	2	On	None	On	
A208SYAB	DPDT	2	On	None	(On)	



SPDT/DPDT



A101SYCB



A201SYCB

Gold Contacts Model	Type	Act. Code	P.M8			
A101SYCB	SPDT	1	On	None	On	
A103SYCB	SPDT	5	On	Off	On	
A108SYCB	SPDT	1	On	None	(On)	
A201SYCB	DPDT	2	On	None	On	
A203SYCB	DPDT	6	On	Off	On	
A208SYCB	DPDT	2	On	None	(On)	

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The Gemini Series "A" Series Toggles "Wire Wrap/Wire Lug"

Refer to Pages C32-C36 for Additional Options

SEE PAGE C24 FOR PRODUCT SPECIFICATIONS

SPDT/DPDT

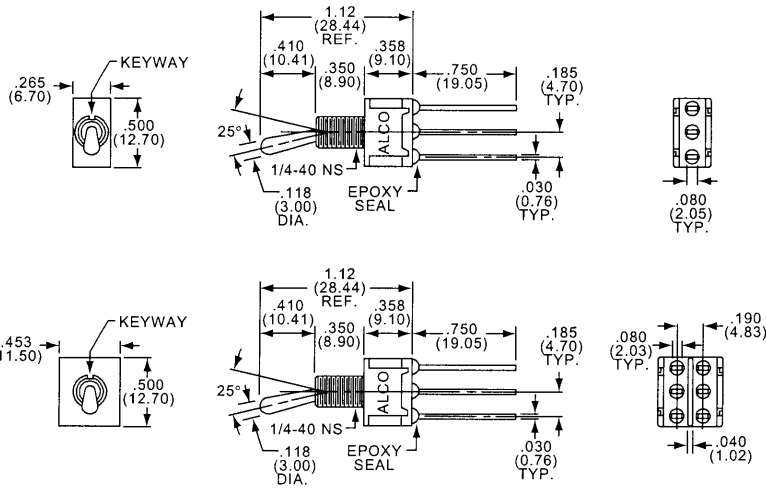
C



A101SYWQ



A201SYWQ



Model	Silver Contacts	Type	Act .	Code	P.M8	On	Off	On
A101SYWQ	SPDT	1	On	None	On			
A103SYWQ	SPDT	5	On	Off	On			
A201SYWQ	DPDT	2	On	None	On			
A203SYWQ	DPDT	6	On	Off	On			

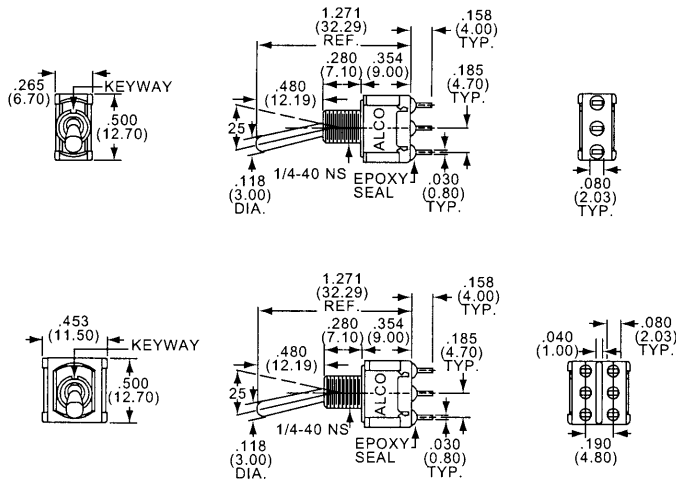
SPDT/DPDT



A101SDZQ



A201SDZQ



Model	Silver Contacts	Type	Act .	Code	P.M8	On	Off	On
A101SDZQ	SPDT	1	On	None	On			
A103SDZQ	SPDT	5	On	Off	On			
A201SDZQ	DPDT	2	On	None	On			
A203SDZQ	DPDT	6	On	Off	On			

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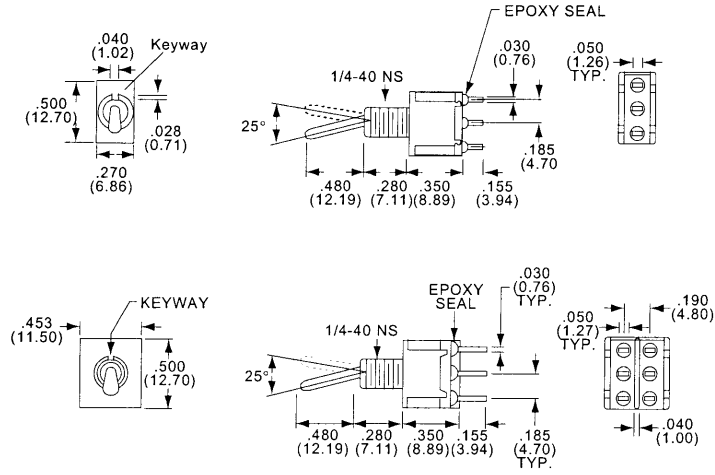
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"A" Series Toggles The Gemini Series

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SEE PAGE C24 FOR PRODUCT SPECIFICATIONS

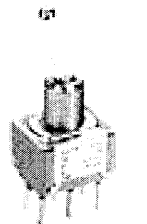


SPDT



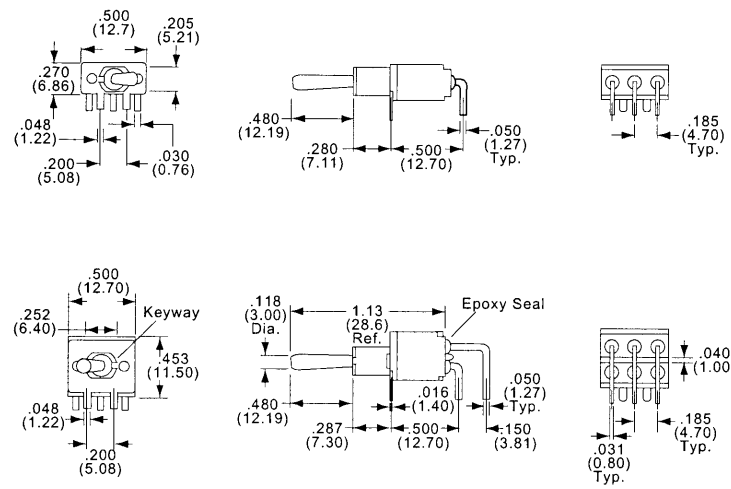
A101SDCQ

DPDT



A201SDCQ

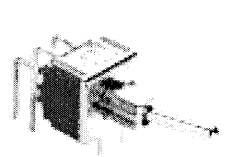
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A103SDCQ	SPDT	5		On	Off	On
A201SDCQ	DPDT	2		On	None	On
A203SDCQ	DPDT	6		On	Off	On
A208SDCQ	DPDT	2		On	None	(On)



SPDT/DPDT



A101SD9AQ
Horizontal Actuation



A201SD9AQ
Horizontal Actuation

Silver Contacts Model	Gold Contacts Model	Type	Act. Code	P. M8			
A101SD9AQ	A101SD9AB	SPDT	1		On	None	On
A103SD9AQ	A103SD9AB	SPDT	5		On	Off	On
A108SD9AQ		SPDT	1		On	None	(On)
A201SD9AQ	A201SD9AB	DPDT	2		On	None	On
A208SD9AQ	A208SD9AB	DPDT	2		On	None	(On)

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The Gemini Series "A" Series Toggles 5 Amp "Locking Actuator"

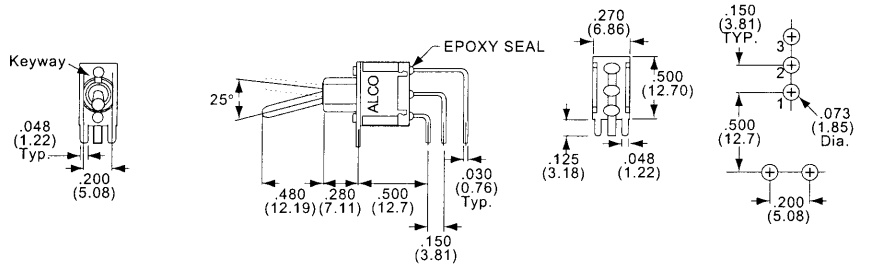
Refer to Pages C32-C36 for Additional Options

SEE PAGE C24 FOR PRODUCT SPECIFICATIONS

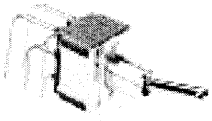
SPDT



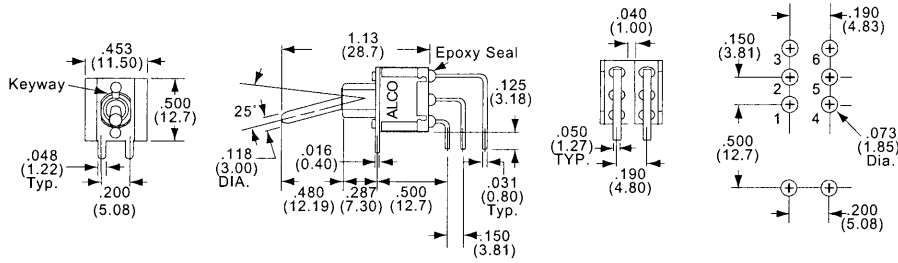
A101SD9AV2Q
Vertical Actuation



DPDT



A201SD9AV2Q
Vertical Actuation

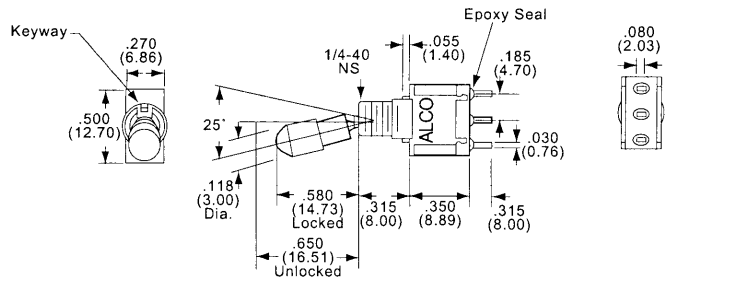


Model	Silver Contacts	Type	Act. Code	P. M8	On	None	On	Model	Silver Contacts	Type	Act. Code	P. M8	On	None	On
A101SD9AV2Q	2	SPDT	1		On	None	On	A201SD9AV2Q	2	DPDT	2		On	None	On
A103SD9AV2Q	5	SPDT	5		On	Off	On	A203SD9AV2Q	6	DPDT	6		On	Off	On
								A208SD9AV2Q	2	DPDT	2		On	None	(On)

SPDT



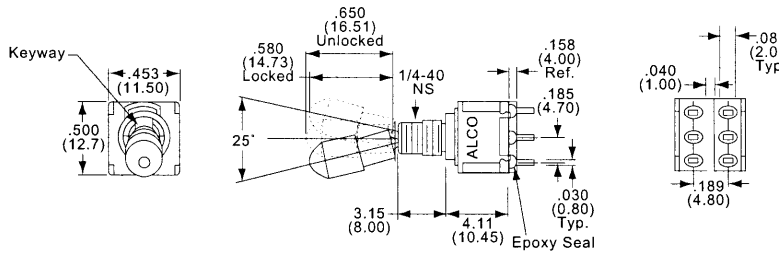
A101KZQ



DPDT



A201KZQ



Model	Silver Contacts	Type	Act. Code	P. M8	On	None	On
A101KZQ	2	SPDT	1		On	None	On
A103KZQ	5	SPDT	5		On	Off	On

Model	Gold Contacts	Silver Contacts	Type	Act. Code	P. M8	On	None	On
A201KZB	2	A201KZQ	DPDT	2		On	None	On
A203KZB	6	A203KZQ	DPDT	6		On	Off	On
A205KZB	6	A205KZQ	DPDT	6		(On)	Off	(On)
A211KZB	11	A211KZQ	SP3T	11		On	On	On

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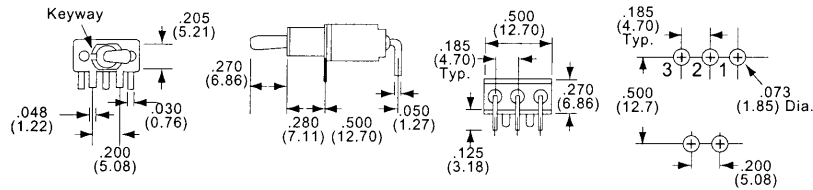
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"A" Series Toggles Right Angle The Gemini Series

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SEE PAGE C24 FOR PRODUCT SPECIFICATIONS

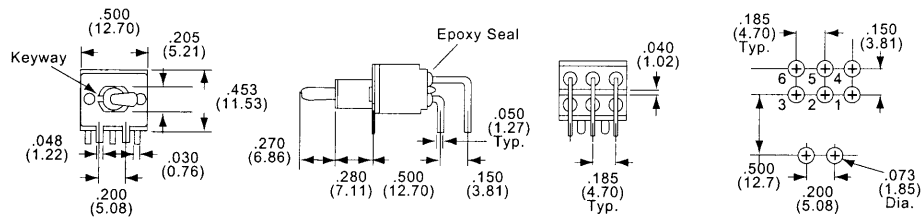


SPDT



A101MD9AQ
Horizontal Actuation

Silver Contacts Model	Gold Contacts Model	Type	Act. Code	P. M8			
A101MD9AQ	A101MD9AB	SPDT	1		On	None	On
A103MD9AQ	A103MD9AB	SPDT	5		On	Off	On
A108MD9AQ	A108MD9AB	SPDT	1		On	None	(On)

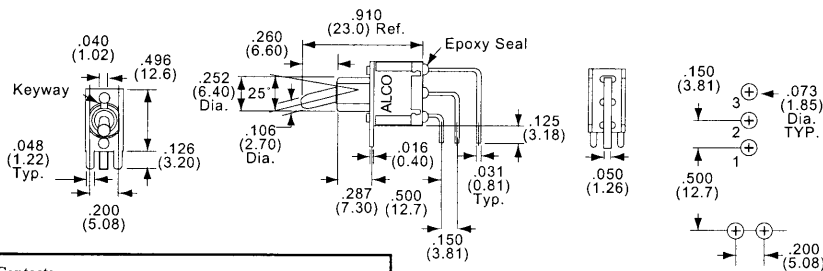


DPDT



A201MD9AQ
Horizontal Actuation

Silver Contacts Model	Gold Contacts Model	Type	Act. Code	P. M8			
A201MD9AQ	A201MD9AB	DPDT	2		On	None	On
A203MD9AQ	A203MD9AB	DPDT	6		On	Off	On

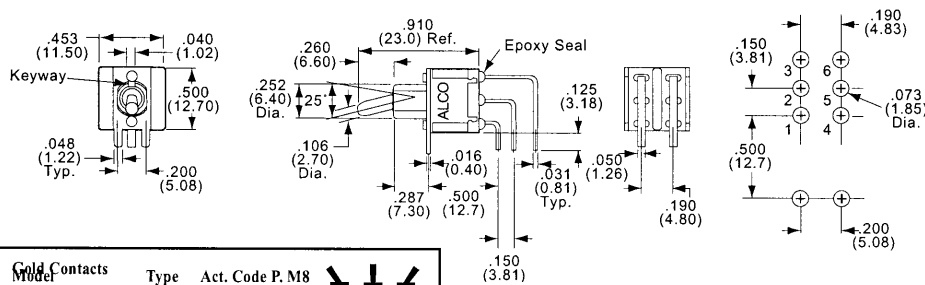


SPDT



A101MD9AV2Q
Vertical Actuation

Silver Contacts Model	Gold Contacts Model	Type	Act. Code	P. M8			
A101MD9AV2Q	A101MD9AV2B	SPDT	1		On	None	On
A103MD9AV2Q	A103MD9AV2B	SPDT	5		On	Off	On
A108MD9AV2Q	A108MD9AV2B	SPDT	1		On	None	(On)



DPDT



A201MD9AV2AQ
Vertical Actuation

Silver Contacts Model	Gold Contacts Model	Type	Act. Code	P. M8			
A201MD9AV2Q	A201MD9AV2B	DPDT	2		On	None	On
A203MD9AV2Q	A203MD9AV2B	DPDT	6		On	Off	On
A208MD9AV2Q	A208MD9AV2B	DPDT	2		On	None	(On)

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The Gemini Series "A" Series Toggles Flat Actuators/Wire Lug

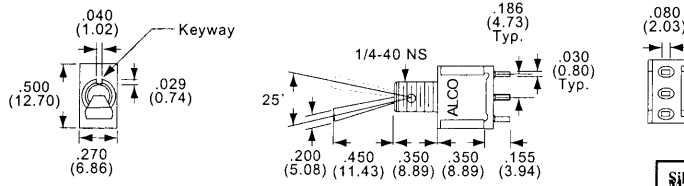
Refer to Pages C32-C36 for Additional Options

SEE PAGE C24 FOR PRODUCT SPECIFICATIONS

SPDT



A101P3YZQ

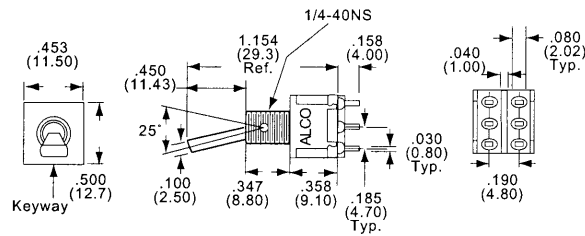


Model	Silver Contacts	Type	Act. Code	P.M.8	On	None	On
A101P3YZQ	SPDT	1	On	None	On		
A103P3YZQ	SPDT	5	On	Off	On		
A105P3YZQ	SPDT	5	(On)	Off	(On)		
A107P3YZQ	SPDT	5	On	Off	(On)		
A108P3YZQ	SPDT	1	On	None	(On)		

DPDT

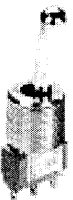


A201P3YZQ

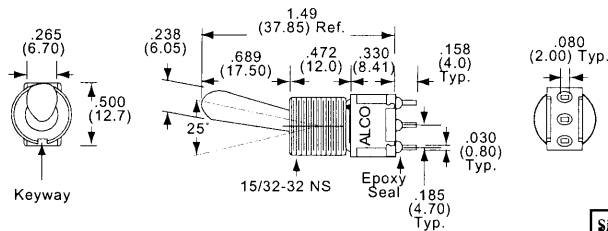


Model	Silver Contacts	Type	Act. Code	P.M.8	On	None	On
A201P3YZQ	DPDT	2	On	None	On		
A203P3YZQ	DPDT	6	On	Off	On		
A205P3YZQ	DPDT	6	(On)	Off	(On)		
A207P3YZQ	DPDT	6	On	Off	(On)		
A208P3YZQ	DPDT	2	On	None	(On)		
A211P3YZQ	SP3T	11	On	On	On		
A215P3YZQ	SP3T	11	(On)	On	(On)		

SPDT



A101TZQ

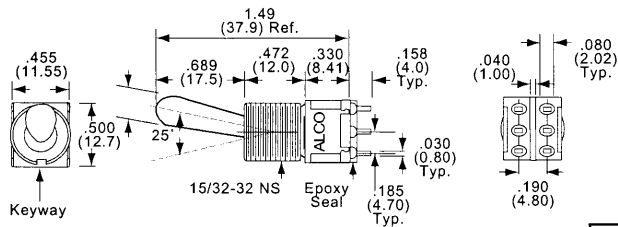


Model	Silver Contacts	Type	Act. Code	P.M.8	On	None	On
A101TZQ	SPDT	1	On	None	On		
A103TZQ	SPDT	5	On	Off	On		

DPDT



A201TZQ



Model	Silver Contacts	Type	Act. Code	P.M.8	On	None	On
A201TZQ	DPDT	2	On	None	On		
A203TZQ	DPDT	6	On	Off	On		
A211TZQ	SP3T	11	On	On	On		

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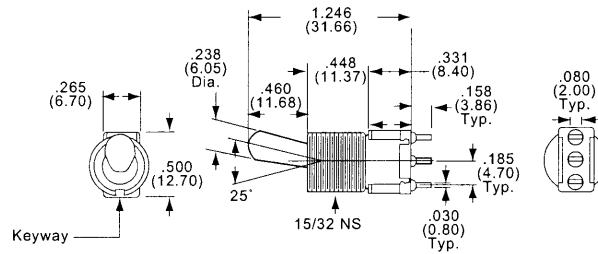
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"A" Series Toggles 15/32 Bushing The Gemini Series

Refer to Pages C32-C36 for Additional Options

SEE PAGE C24 FOR PRODUCT SPECIFICATIONS

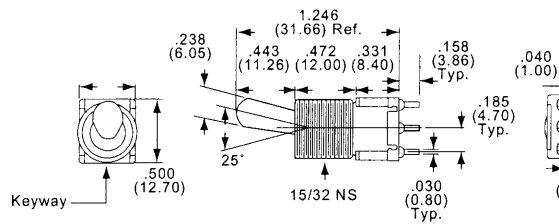


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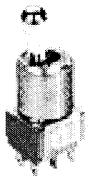


A103T1ZQ

Model	Contacts	Type	Act. Code	P. M8				
A101T1ZQ	SPDT	1	On	None	On			
A103T1ZQ	SPDT	5	On	Off	On			
A105T1ZQ	SPDT	5	(On)	Off	(On)			
A108T1ZQ	SPDT	1	On	None	(On)			



DPDT



A201T1ZQ

Model	Contacts	Type	Act. Code	P. M8				
A201T1ZQ	DPDT	2	On	None	On			
A203T1ZQ	DPDT	6	On	Off	On			
A205T1ZQ	DPDT	6	(On)	Off	(On)			
A207T1ZQ	DPDT	6	On	Off	(On)			
A208T1ZQ	DPDT	2	On	None	(On)			
A211T1ZQ	SP3T	11	On	On	On			

Need more technical information?

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The Gemini Series "A" Series Miniature Toggles

FEATURES

Hardware supplied with threaded bushings: two hex nuts, one internal tooth lockwasher and one locking ring. (See Hardware Section for: dress nuts, plastic caps and environment boot seals.)

TYPICAL PERFORMANCE CHARACTERISTICS:

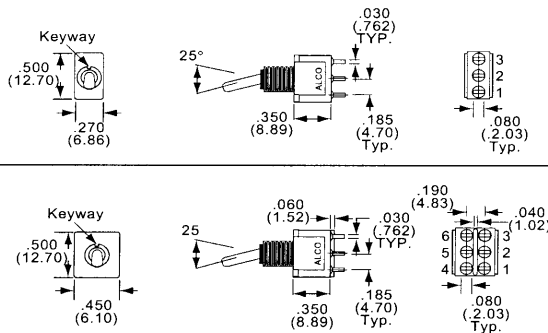
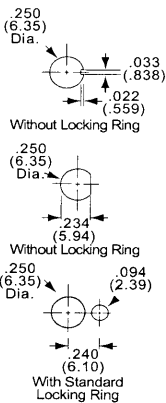
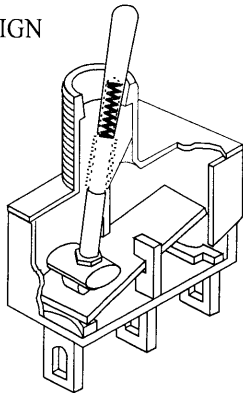
Contact RatingSilver: 2 A @ 250 VAC or 5 A @ 125 VAC
 Gold: 0.4 VA @ 20 VAC/DC max.
 Insulation Resistance1,000 Megohms min. @ 500 VDC.
 Dielectric Strength1,000 Volts RMS @ sea level initial
 Electrical Life30,000 Cycles

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature -20°C to + 85°C (-4°F to + 185°F)
 Storage Temperature.....-45°C to + 100°C (-49°F to + 212°F)



DESIGN



PART NUMBERING

Model	Function	Toggle	Bushing	Terminal	Contact	K, K1: Cap Color	Option
A1 Single Pole	<ul style="list-style-type: none"> S Bat. Long K Locking K1 Locking L Lever L1 Lever L2 Lever M Bat. Short Flatted (with \checkmark only) P3 Flatted (with \checkmark only) P4 Flatted (with \checkmark only) T Large Toggle & Bushing T1 Large Toggle & Bushing T2P Large Flatted Toggle and Bushing 	<ul style="list-style-type: none"> Y 1/4-40 threaded, .35" long, slotted Y9 unthreaded, .35" long CW 1/4-40 threaded, .37" long, actuator & bushing flange environmental seals D 1/4-40 threaded, .28" long D9 1/4-40 threaded, flanged, .30" long H 	<ul style="list-style-type: none"> Z Wire Lug A Right Angle AV2 Vertical Right Angle Printed Circuit C Vertical Support V30 V40 V90 Bracket V60 V70 V80 Wire Wrap W W1 W3 W4 W5 Z3 	<ul style="list-style-type: none"> Q Silver B Gold over Silver G 	<ul style="list-style-type: none"> U Black Z Red 	<ul style="list-style-type: none"> U.L. (Q or G contact only) 	
A2 Double Pole							
01 On-On							
03 On-Off-On							
05 (On)-Off-(On)							
07 On-Off-(On)							
08 On-(On)							
11 On-On-On							
13 On-On-(On)							
15 (On)-On-(On)							

See page C33 for SP3T wiring diagram.

See pages M2-M4 for application specific indexing.

Other Options

- N** Black finish toggle, bushing and hardware. Add "N" to end of part number, but before U.L. option.
- O** Internal O-ring environmental actuator seal. Add letter after toggle option: S,M,L,L1 & L2.
- P** Anti-Push-In/Anti rotate. Add letter after toggle S,M,L,L1 & L2

Note: For surface mount termination, use the "TST" series, Page C8

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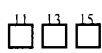
FUNCTIONS

The following functions available in SP or DP.

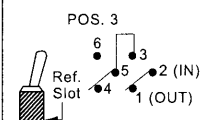
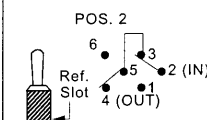
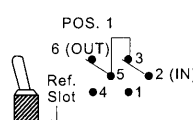
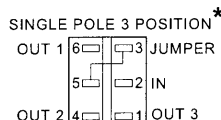
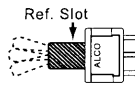
01	2 Positions	None indicates no mechanical position		On	None	On
03	3 Positions			On	Off	On
05	3 Positions	Off indicates a mechanical position with no electrical connection.(On)		Off	(On)	
07	3 Positions			(On)	Off	On
08	2 Positions	(On) indicates momentary action.		(On)	None	On
		SPDT, connect terminals:				
		DPDT, connect terminals:				
11	3 Positions			On	On	On
13	3 Positions			(On)	On	On
15	3 Positions			(On)	On	(On)
Functions available in DP only				Connect terminals:		

* SP3T functions achieved with external jumper installed by customer

WIRING DIAGRAM FOR FUNCTIONS



Pos. 3
Pos. 2
Pos. 1



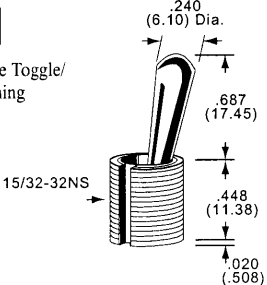
TOGGLES



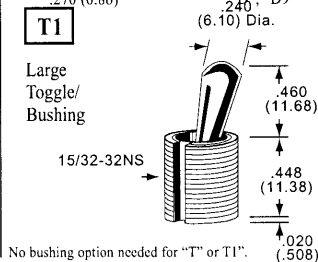
Dimension "L"	Bushing Type	Dimension "L"	Bushing	"B" Actuator	"A" Dimension
.410 (10.41)	"Y", "H", "CW"	.200 (5.08)	"Y", "H"	P3 (5.08)	.450 (11.43)
.480 (12.19)	"D", "D9" "CW"	.270 (6.86)	"D", "D9"	P4 (4.19)	.250 (6.35)



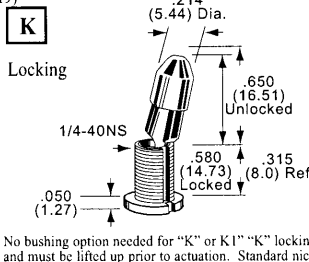
Large Toggle/
Bushing



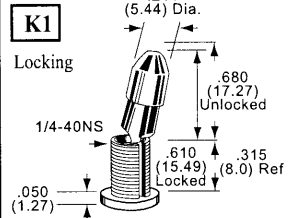
Large Toggle/
Bushing



Locking



Locking



Need more technical information?

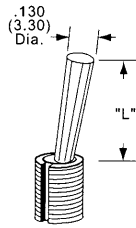
Consult your Thomas & Betts sales office listed on the back cover



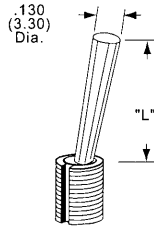
The Gemini Series "A" Series Miniature Toggles "Bushing / Terminal Options"

TOGGLES

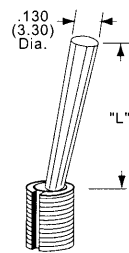
L
Lever



L1
Lever



L2
Lever



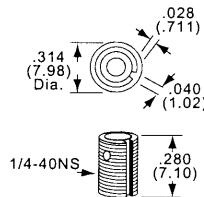
Dimension "L"	Bushing
.840 (21.34)	"Y", "H" "CW"
.910 (23.4)	"D", "D9"

Dimension "L"	Bushing Type
.640 (16.26)	"Y", "H" "CW"
.710 (18.03)	"D", "D9"

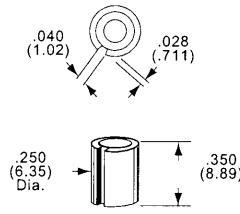
Dimension "L"	Bushing Type
.550 (13.97)	"Y", "H"
.620 (15.75)	"D", "D9"

BUSHINGS

Y
1/4-40 Thread
.35" long, slotted
(Standard)



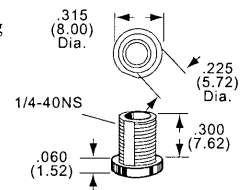
D9
Unthreaded
.28" long



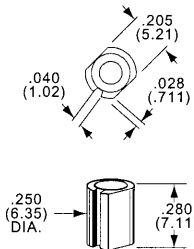
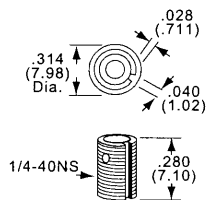
Used with
Z, C & W
terminations

H

1/4-40 Thread
Flanged, .30" long



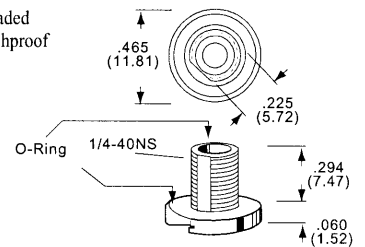
D
1/4-40 Thread
.28" long, slotted



Used with
A, AV2, V30
V80 & V90
terminations

CW

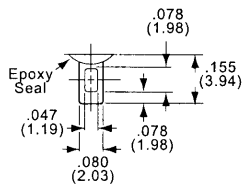
Threaded
Splashproof



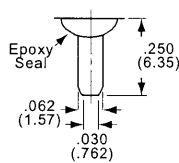
For S & M Toggles

TERMINALS

Z
Wire Lug

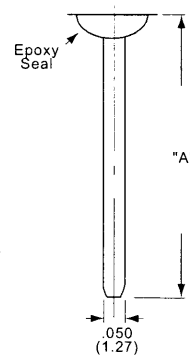


Z
Quick Connect



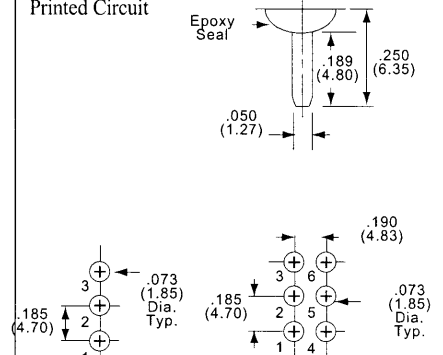
Mates with AMP
61454 or 60900.

W W1 W3 W4 W5
Wire Wrap



	"A"
W	.750
W1	.964
W3	.425
W4	1.062
W5	1.305

C
Printed Circuit



Single pole

Double pole

Thomas & Betts

Quality & Innovation From **AUGAT** Name Brand Products

C34

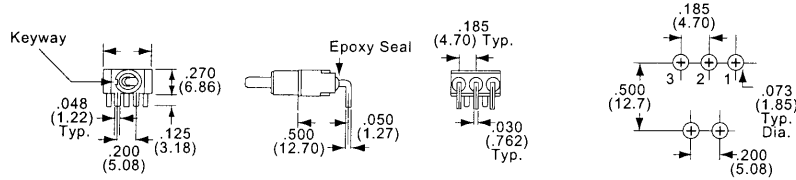
Thomas & Betts
8155 T&B Blvd.
Memphis, TN 38125
(901) 252-5000 FAX (901) 252-1380

"A" Series Miniature Toggles The Gemini Series

TERMINALS

A

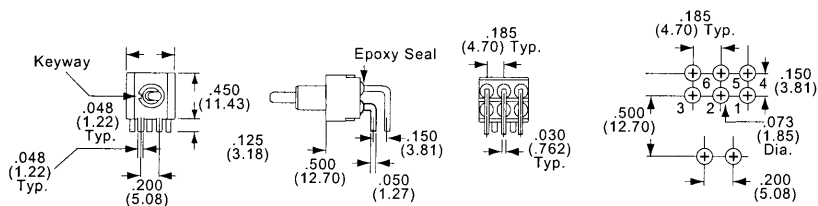
**Right Angle
Single Pole**



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

A

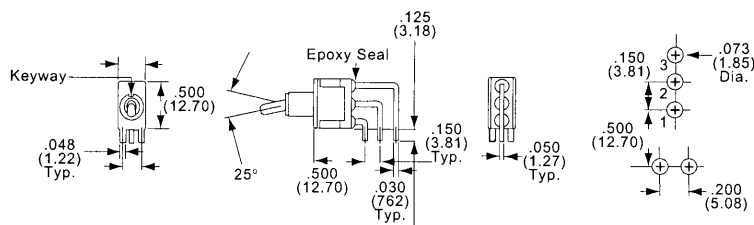
**Right Angle
Double Pole**



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

AV2

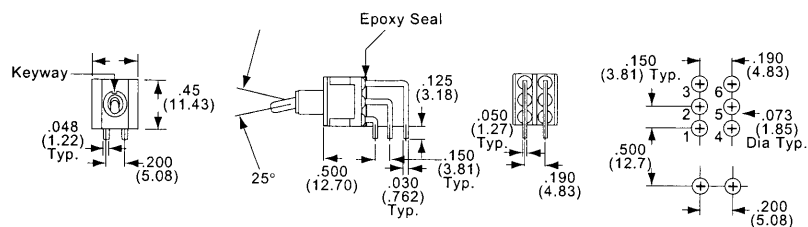
**Vertical Right Angle
Single Pole**



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

AV2

**Vertical Right Angle
Double Pole**



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

Need more technical information?

Consult your Thomas & Betts sales office listed on the back cover

C35

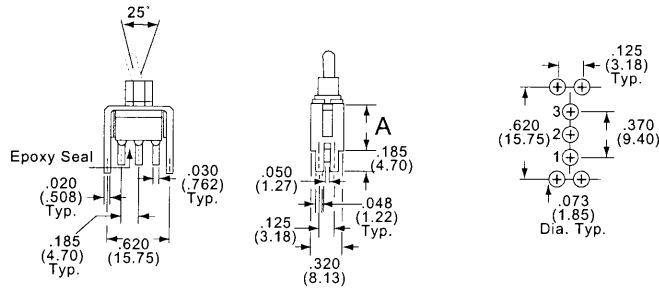
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Memphis, TN 38125
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C

The Gemini Series "A" Series Miniature Toggles "5 Amp" Terminal Options

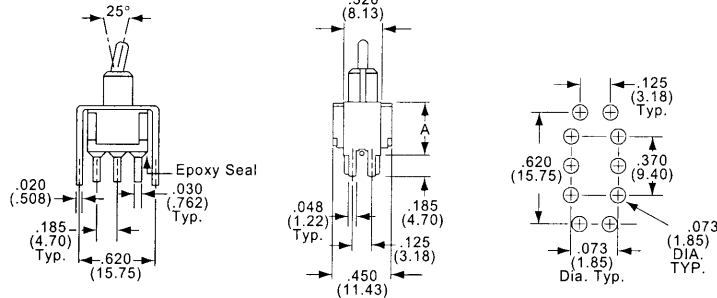
TERMINALS NOTE: Terminal numbers viewed from top of P.C. board

V30 V40 V90
Vertical Support Bracket
Single Pole



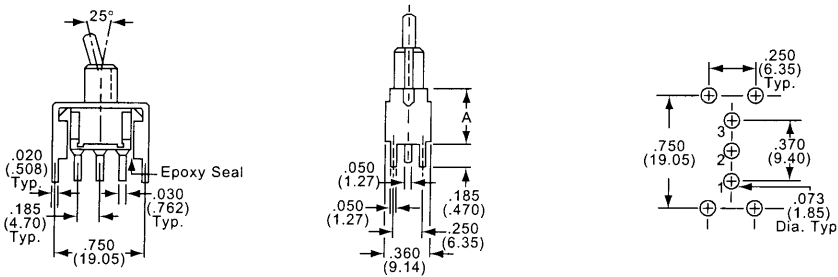
Option Code	Dim. "A"
V30	.460 (11.68)
V40	.630 (16.00)
V90	1.150 (29.21)

Vertical Support Bracket
Double Pole



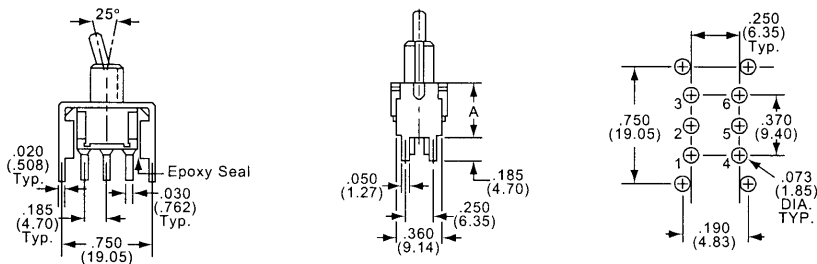
Option Code	Dim. "A"
V30	.460 (11.68)
V40	.630 (16.00)
V90	1.150 (29.21)

V60 V70 V80
Vertical Support Bracket
Single Pole



Option Code	Dim. "A"
V60	.460 (11.68)
V70	.630 (16.00)
V80	.953 (24.71)

Vertical Support Bracket
Double Pole



Option Code	Dim. "A"
V60	.460 (11.68)
V70	.630 (16.00)
V80	.953 (24.71)

CONTACTS

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

TERMINALS: Brass with gold plate.

ELECTRICAL RATING: 0.4 VA @ 20 VAC/DC.

Q CONTACTS: Copper alloy with silver, welded button.

TERMINALS: Brass with tin/lead plate.
ELECTRICAL RATING: 5 A @ 250 VAC, 5 A @ 28 VDC.

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

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

TERMINALS: Brass alloy, with gold plate.

Note: This contact option can be used for low-level or power switching. If level is above removal of gold plate, the switch is rendered unusable only for power switching due to arc.

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

ELECTRICAL RATING: 0.4 VA @ 20 VAC/DC or 5 A @ 125 VAC, 2 A @ 250 VAC, 5 A @ 28 VDC.

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C36

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