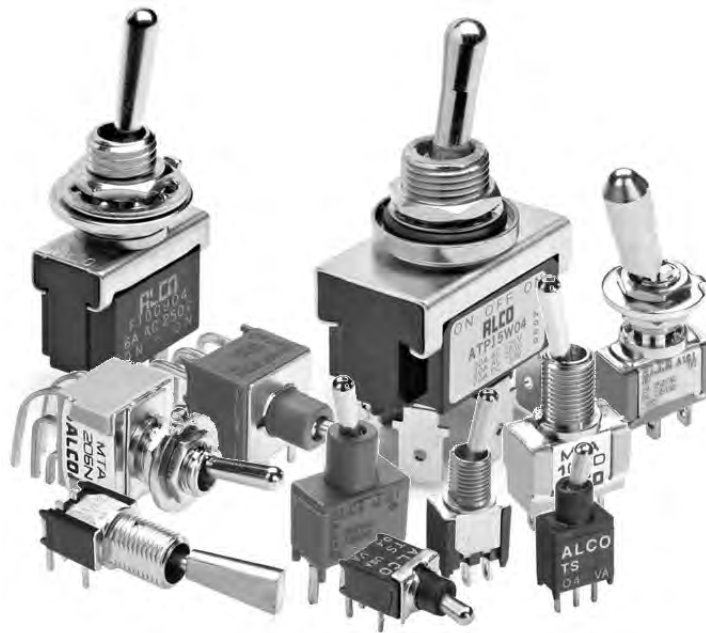


Product Range



Toggle Switches

Toggle Switches

- **Tiny Toggles:** TT and TST Series
- **Miniature Toggles:** Gemini Series and Green Series
- **Power Toggles:** F and AW Series

Main features:

- Up to 4 poles
- Wide range of different switch functions
- Gold or silver contacts
- Up to 20 A
- Sealed or unsealed versions
- Horizontal and vertical right angle versions
- Many different actuator styles
- Locking versions
- Different bushings with or with out thread
- THT and wire lug terminals
- Accessories: Boot seals, decorative mounting hardware

TST Tiny Toggle, Process Sealedpage E3



TT Tiny Toggle Switchpage E6



Product Range (Continued)



Gemini A Seriespage E15



Gemini AE Series, Sealed IP67page E26



MT Green Seriespage E32



F Series, Panel Mounting, 6Apage E43



AW Series, Panel Mounting, Waterproofpage E46



Hardware and Accessoriespage E49



Boot Sealspage E50

TST, Tiny Toggle, Process Sealed

Features

- Washable process sealed construction (Internal "O" ring)
- Compact design
- Liquid Crystal Polymer (LCP) case



Typical performance characteristics

Contact configuration spst, spdt
 Contact timing break-before-make
 Contact rating, max gold 0.4 VA @ 20 VAC/DC
 Electrical life D = 80,000 cycles (2 position)
 E = 60,000 cycles (3 position)
 F and G = 30,000 cycles (momentary 2 and 3 position)
 Contact resistance, initial max.20 mOhms
 Insulation resistance 1,000 mega Ohms @ 500 VDC
 Dielectric strength 1,000 Vrms @ sea Level
 Actuator travel 22° for D and E function
 18° for F and G function

Environmental specification

Operating temperature -30°C to +85°C
 Storage temperature -55°C to +85°C
 Solder heat resistance wave solder capable to 265°C
 Seal process sealed with internal "O" ring

Material specifications

Contacts copper or brass alloy, gold over nickel finish
 Bat brass alloy, nickel finish
 Terminals brass with gold over nickel in contact area
 tin over nickel in solder area
 Case theroplastic (LCP)
 Spring music wire zinc plated
 Support bracket steel tin plated
 Seal "O" ring rubber
 RoHS Directive 2002/95/EC compliant

Toggle Switches

Product key	Typical product key											
	TST	1	1	D	G	RA	1	D	04			
Type	TST Tiny toggle, process sealed, through hole mount											
Number of Poles	1 single pole											
Contact rating	1 0.4VA Gold											
Function	D On None On			E On Off On			F On None (On)			G (On) Off (On)		
Plating	G Gold											
Terminals	PC printed circuit board				PCV printed circuit board, w bracket				RA right angle		VRA vertical right angle	
Actuator length	1 .206 (5.23)			2 .250 (6.35)			4 .400 (10.16)					
Bushing	D plain, not threaded											
Material	04 RoHS compliant											

TST, Tiny Toggle, Process Sealed (Continued)

Function



Function			
D	On	None	On
E	On	Off	On
F	On	None	(On)
G	(On)	Off	(On)
Terminals	1-2	-	2-3

Off indicates a mechanical position with no electrical connection
 (On) indicates momentary connection
 None indicates no mechanical position

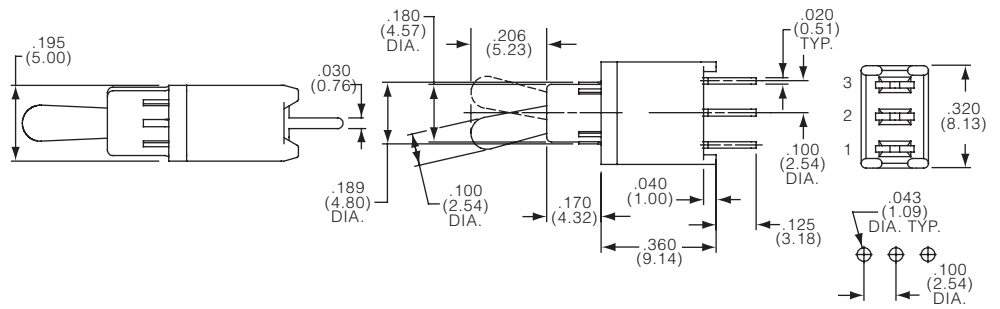
Terminations



PC printed circuit



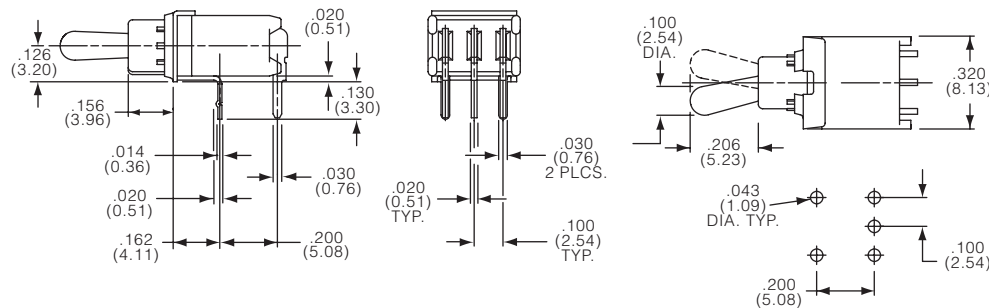
TST11DGPC1D



RA right angle



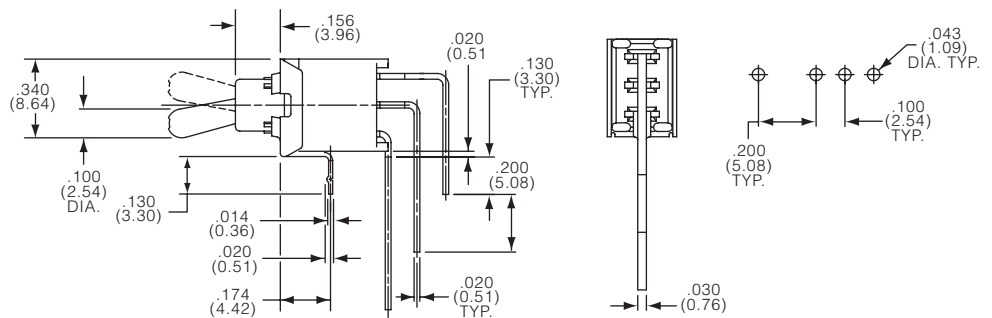
TST11DGRA1D



VRA vertical right angle



TST11DGVRA1D

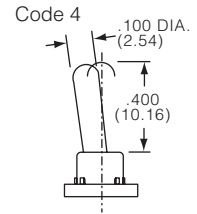
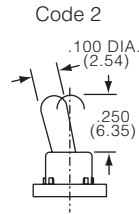
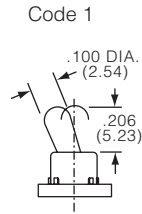


TST, Tiny Toggle, Process Sealed(Continued)

Actuator



Codes 1,2,4 actuator lengths



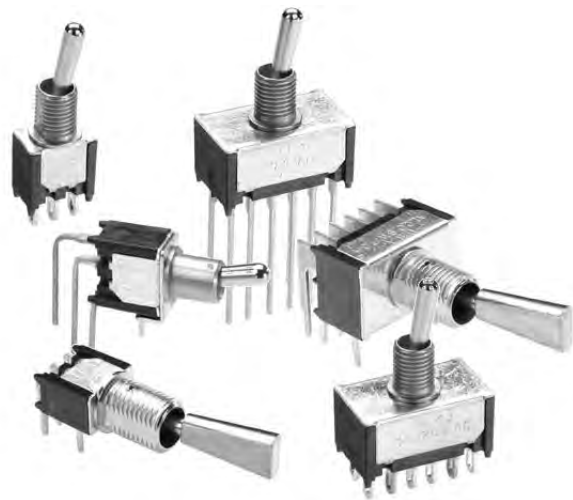
Product key	Poles	Rating	Function	Plating	Terminals	Actuator	Bushing	Material	Part Number
TST11DGPC1D04	1 pole	0.4VA	On None On	Gold	pcb	.206 (5.23)	plain,	RoHS	1825455-1
TST11DGPCV1D04					pcb w brack		not	compliant	1825455-2
TST11DGRA1D04					right angle		threaded		1825455-3
TST11DGVRA1D04					vertical r.a.				1825455-4
TST11EGPC4D04			On Off On		pcb	.400 (10.16)			1825455-5

Preferred parts in bold print

TT, Tiny Toggle Switch

Features

- Compact design
- Vertical and horizontal right angle versions available



Typical performance characteristics

Contact configuration	1, 2 and 4 pole
Contact timing	make before break
Contact rating, max	gold 0.4 VA @ 20 VDC or peak AC resistive
	silver (2 position): 3 A @ 125 VAC or 28 VDC resistive
	silver (4 position): 2 A @ 125 VAC or 28 VDC resistive
Electrical life	0.4 VA: 80,000 (2 pos.), 60,000 (3 pos.)
	2 A: 10,000 cycles
	3 A: 20,000 cycles
Contact resistance, initial	max.20 mOhms'
Insulation resistance	1,000 MOhms @ 500 VDC
Dielectric strength	1,000 Vrms @ sea Level
Actuator travel	22° for D and E function
	18° for F and G function

Environmental specification

Operating temperature	-30°C to +85°C
Storage temperature	-55°C to +85°C
Solder heat resistance	wave solder capable to 265°C
Terminal Seal	single pole: epoxy, double pole: epoxy optional
Process Sealed	TTE version only

Material specifications

Contacts	copper or brass alloy, gold over nickel finish
	or silver clad copper alloy
Actuator	brass alloy, nickel finish or
	stainless steel or thermoplastic
Terminals	brass with gold over nickel in contact area
	brass alloy, gold over nickel finish
	or silver clad copper alloy tin over nickel in solder area
Case	thermoplastic
Bushing	brass alloy finish nickel over copper
Internal actuator	thermoplastic or PTFE
Spring	music wire zinc plated
Support Bracket	steel tin plated
RoHS Directive 2002/95/EC	compliant

TT, Tiny Toggle Switch (Continued)

Product key	Typical product key	TT	1	1	D	G	PC	9	T1/4	04
Type	TT Tiny toggle switch									
Environmental seal	blank no seal E environmental seal (splash proof), not available with actuator 7 or with terminals VRA									
Number of Poles	1 single pole 2 double pole									
Contact rating	1 0.4VA Gold 3 1 Amp, Silver with wire lug and pc terminals only									
Function	single pole A On Off Versions A and K available with wire lug & pc terminals only D On On E On Off On F On (On) 2 & 4 pole K On Off N On On P On Off On R On (On)									
Plating	G Gold blank Silver									
Terminals	blank wire lug PC printed circuit RA right angle VRA vertical right angle WW wire wrap									
Actuator length	#10 or Unthreaded Bushing 1 .221 (5.61), bat 2 .296 (7.52), bat 3 .381 (9.68), bat 5 na 6 .401 (10.19), round, colored 7 na 8 na 9 .516 (13.11), bat 1/4 Bushing 1 .125 (3.18), bat 2 .200 (5.1), bat 3 .286 (7.26), bat 5 paddle 6 .306 (7.77), round, colored 7 .457 (11.61), flat 8 .567 (14.40), locking 9 .421 (10.693), bat									
Bushing	blank unthreaded T #10-48 T1/4 1/4-40									
Actuator color for actuator code 6 only	0 black 2 red 6 blue 9 white									
Material	04 RoHS compliant									

Toggle Switches

Function

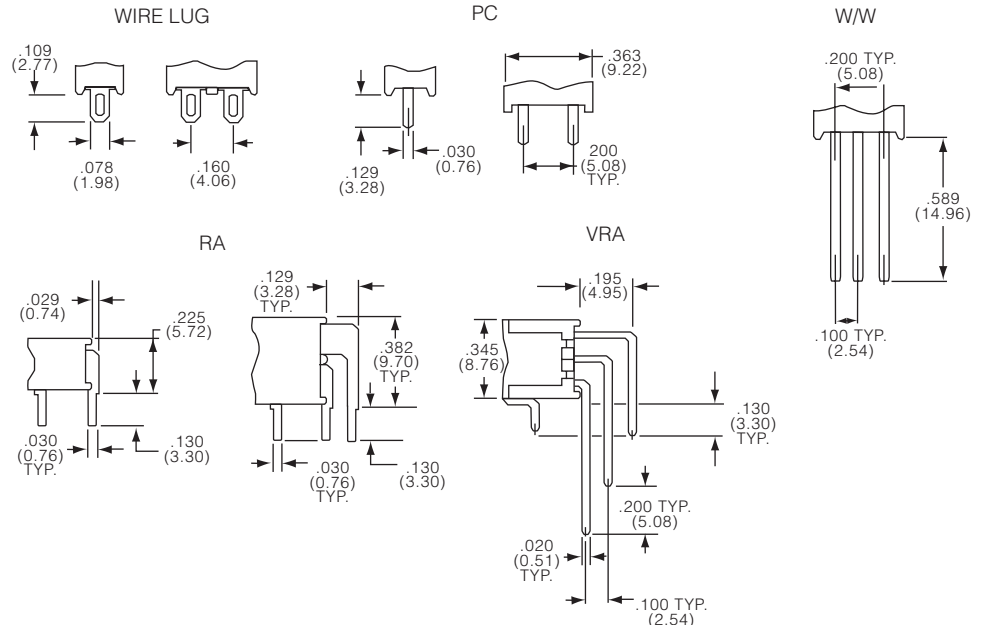


Function	Poles	↘	↓	↙	↘	↓	↙
A	1 pole	On	None	Off	1-3	-	-
D		On	None	On	1-2	-	2-3
E		On	Off	On	1-2	-	2-3
F		On	None	(On)	1-2	-	2-3
K	2 poles	On	None	Off	1-3, 4-6	-	-
N		On	None	On	1-2, 4-5	-	2-3, 5-6
P		On	Off	On	1-2, 4-5	-	2-3, 5-6
R		On	None	(On)	1-2, 4-5	-	2-3, 5-6

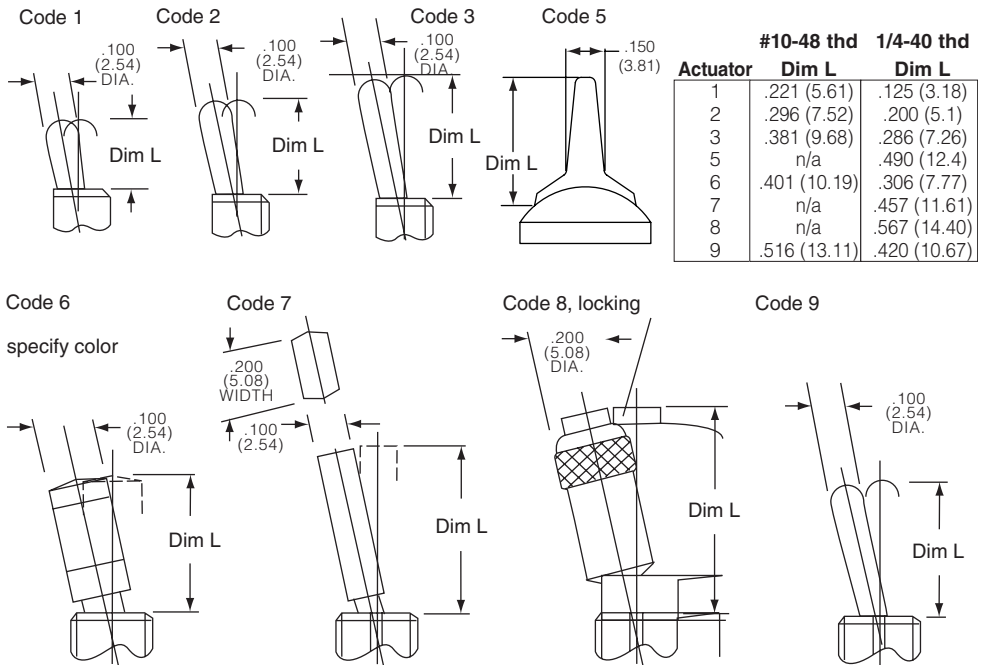
Off indicates a mechanical position with no electrical connection
 (On) indicates momentary connection
 None indicates no mechanical position

TT, Tiny Toggle Switch (Continued)

Terminals



Actuator



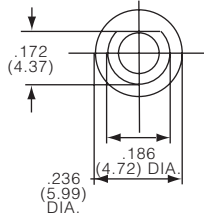
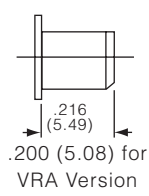
TT, Tiny Toggle Switch (Continued)

Bushing

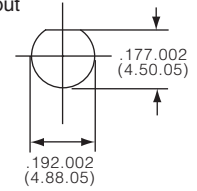


blank

unthreaded

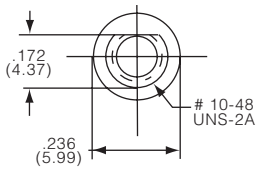
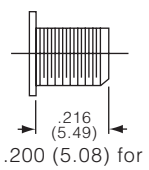


panel cutout

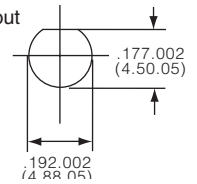


T

10-48 UNS-2A thread

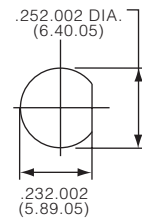
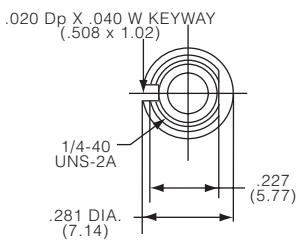
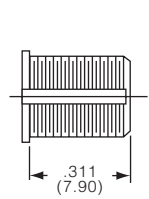


panel cutout

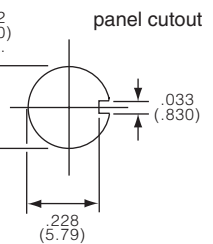


T1/4

1/4-40 UNS-2A thread for non environmental sealed version

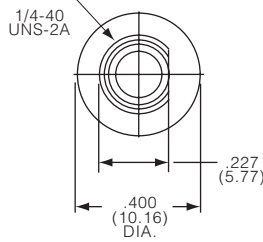
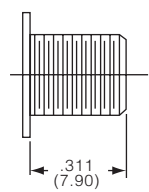


panel cutout

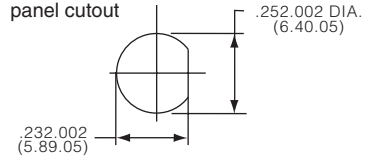


T1/4

1/4-40 UNS-2A thread for environmental sealed version



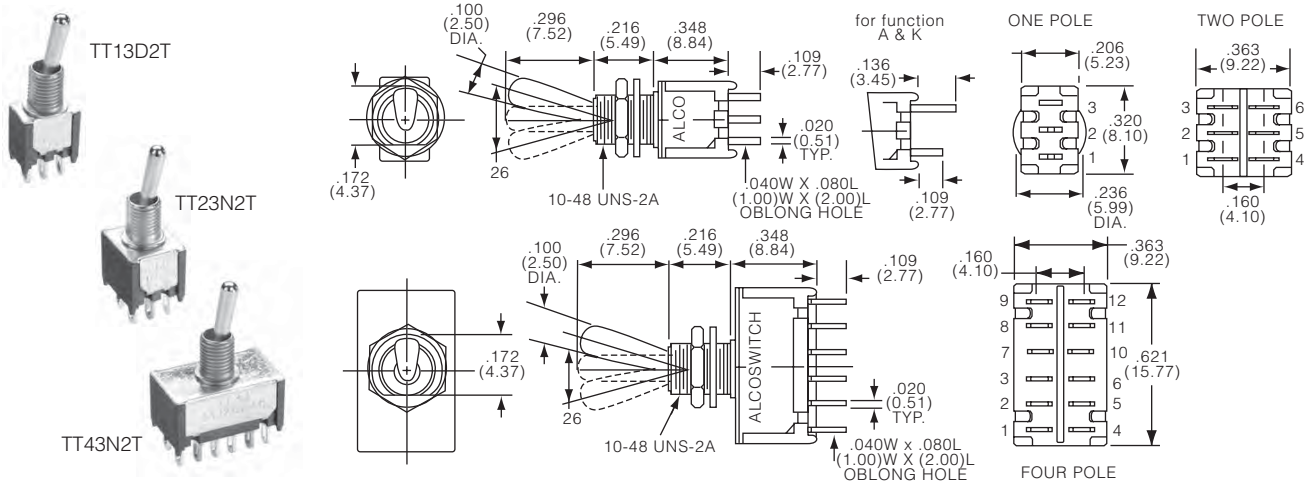
panel cutout



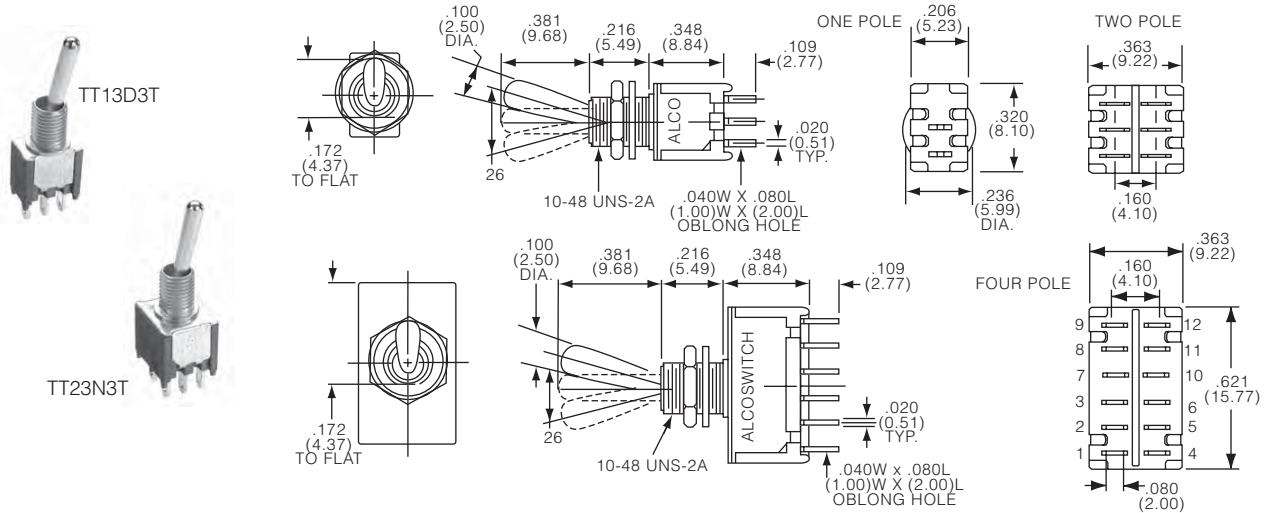
TT, Tiny Toggle Switch (Continued)

Dimensions

Series TT...2T wire lug, .296 bat toggle, 10-48 thread

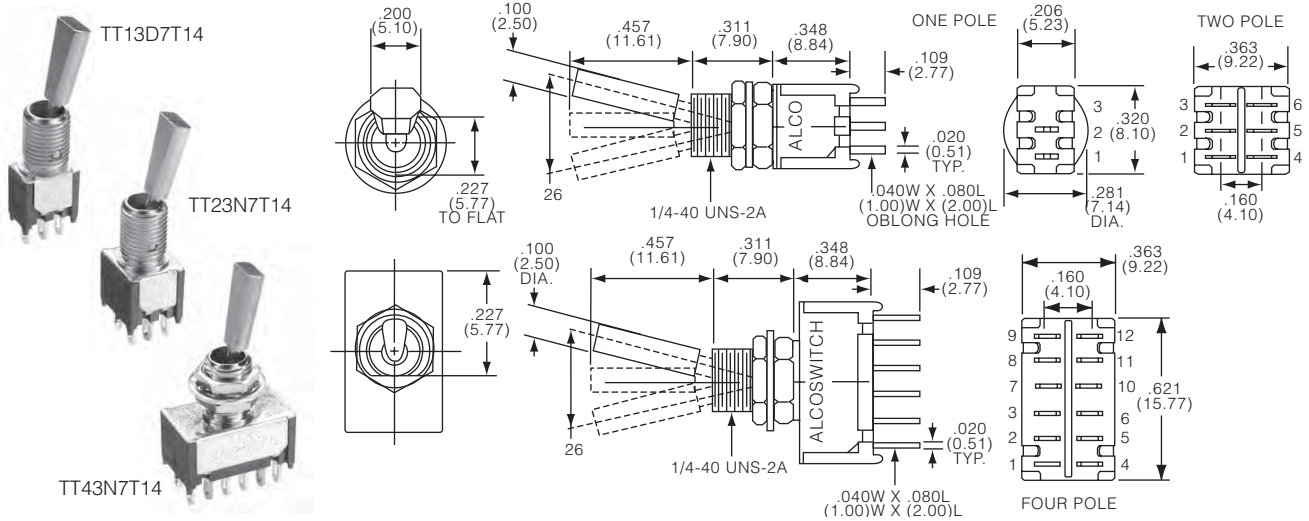


Series TT...3T wire lug, .381 bat toggle, 10-48 thread

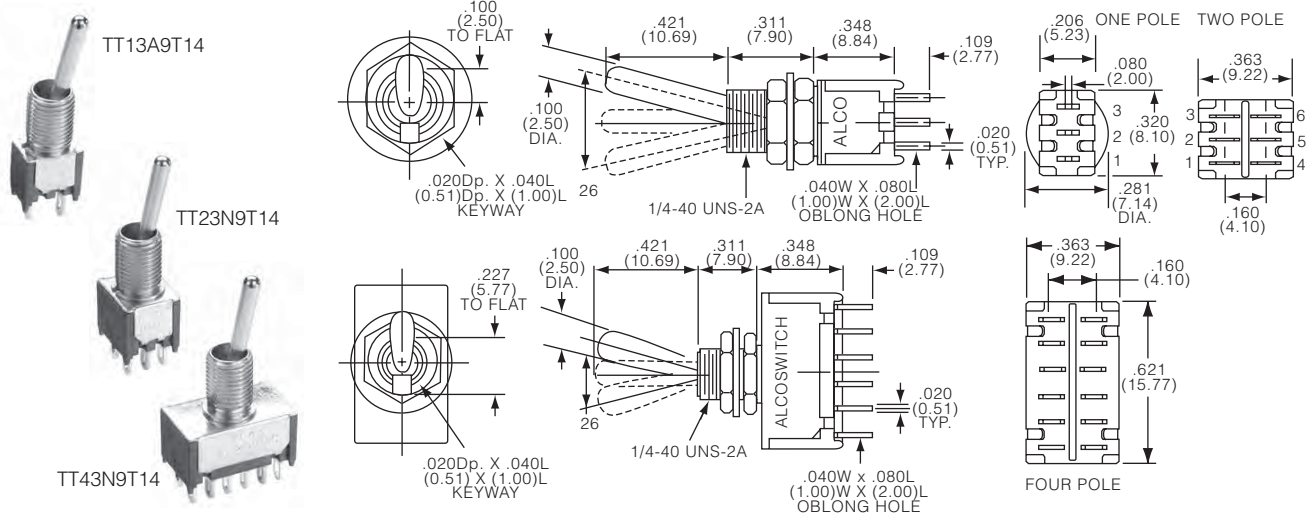


TT, Tiny Toggle Switch (Continued)

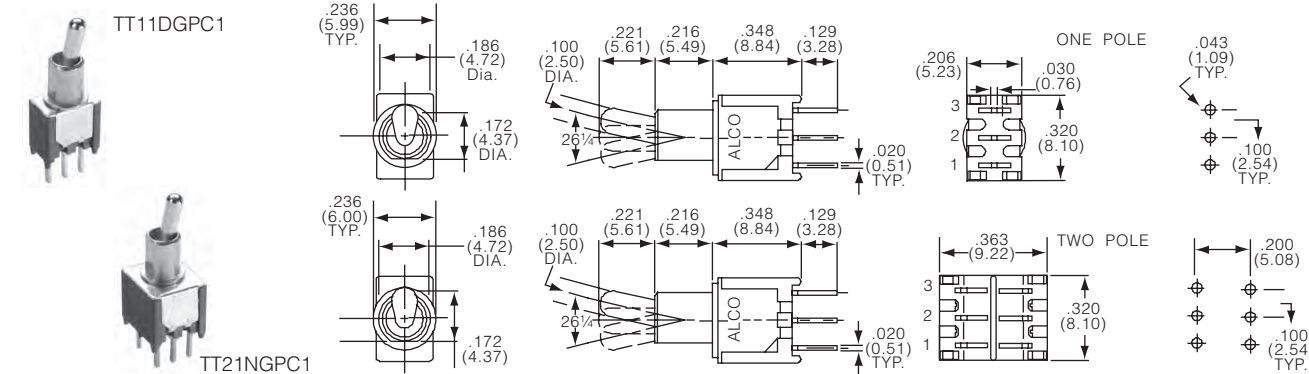
Series TT...7T1/4 wire lug, .457 flat toggle, 1/4-40 thread



Series TT...9T1/4 wire lug, .420 bat toggle, 1/4-40 thread

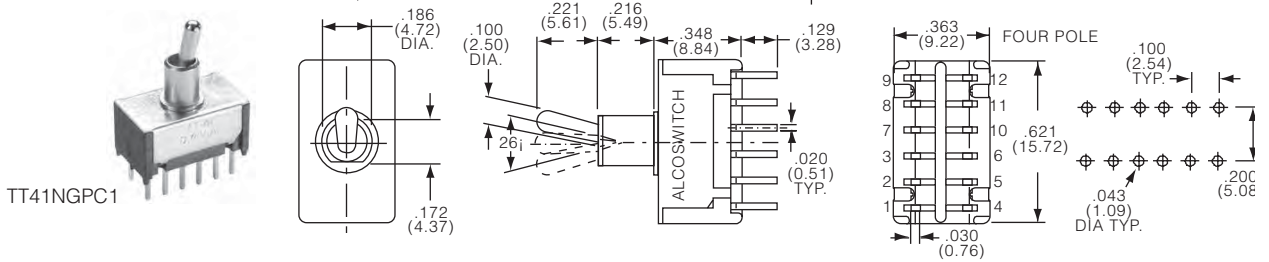


Series TT...PC1 pc terminals, .221 bat toggle, unthreaded

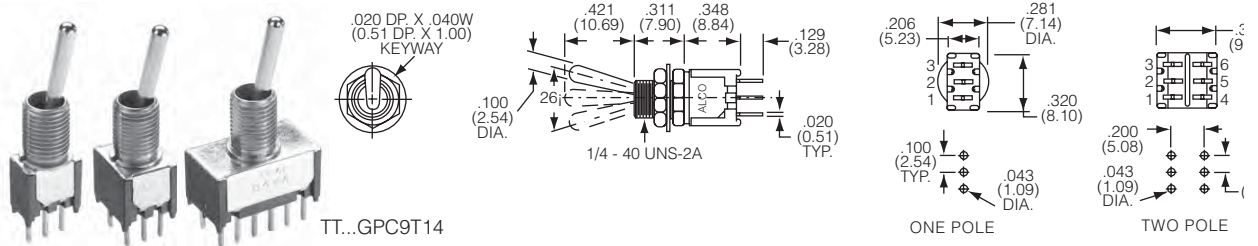


TT, Tiny Toggle Switch (Continued)

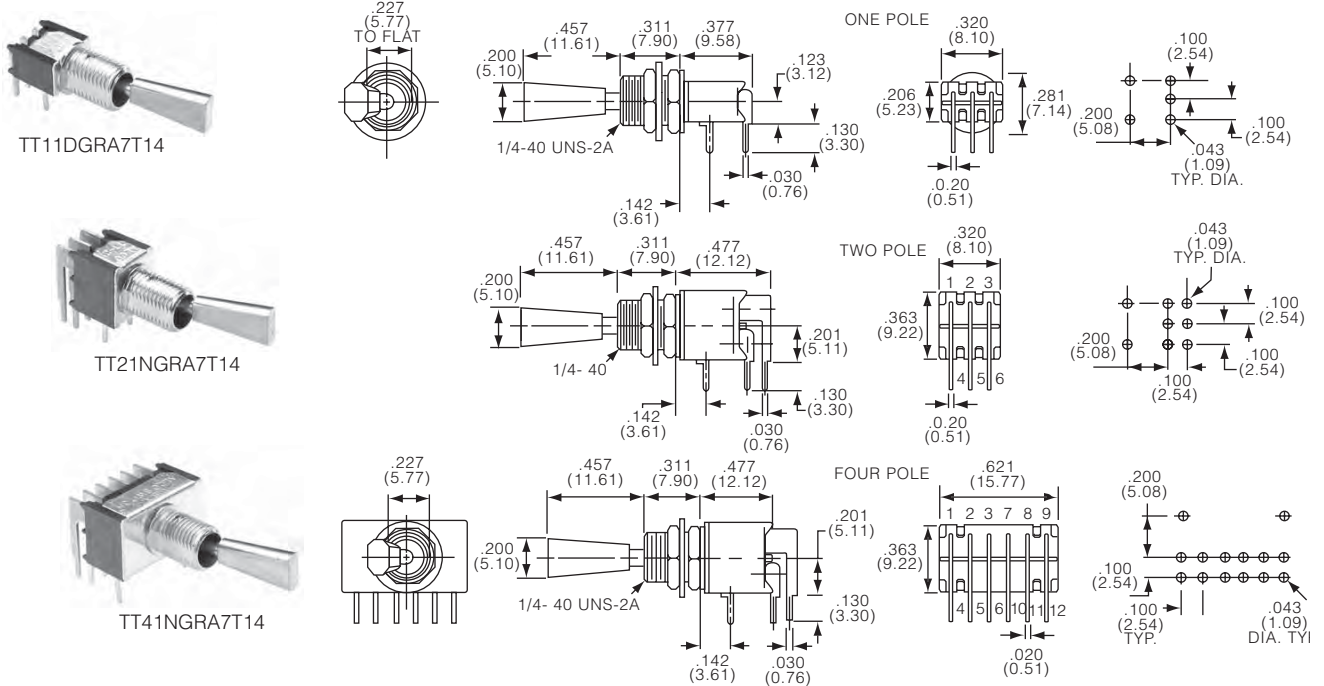
Series TT...PC1 pc terminals, .221 bat toggle, unthreaded



Series TT...PC9T1/4 pc terminals, .420 bat toggle, 1/4-40 thread



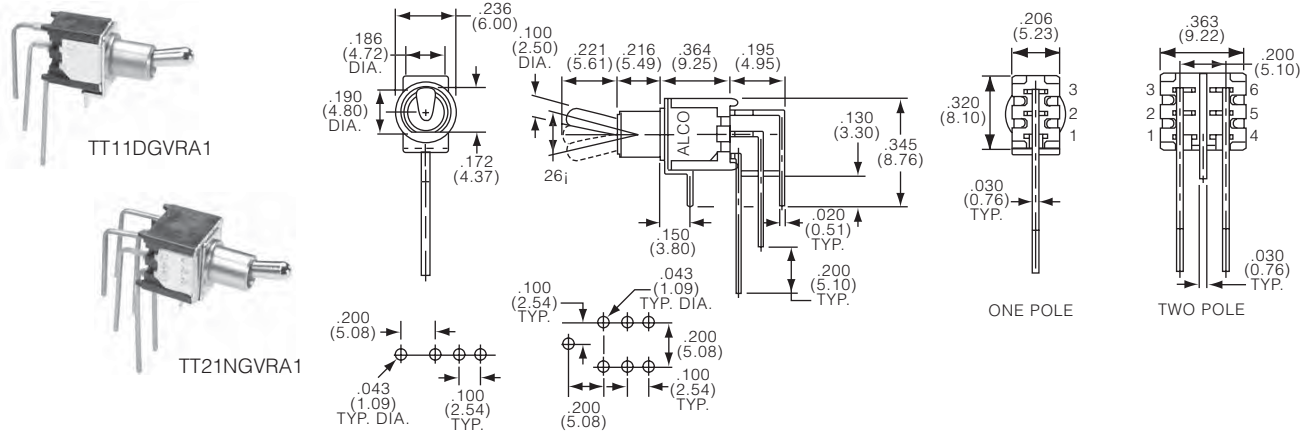
Series TT...RA7T1/4 right angle, .457 flat toggle, 1/4-40 thread



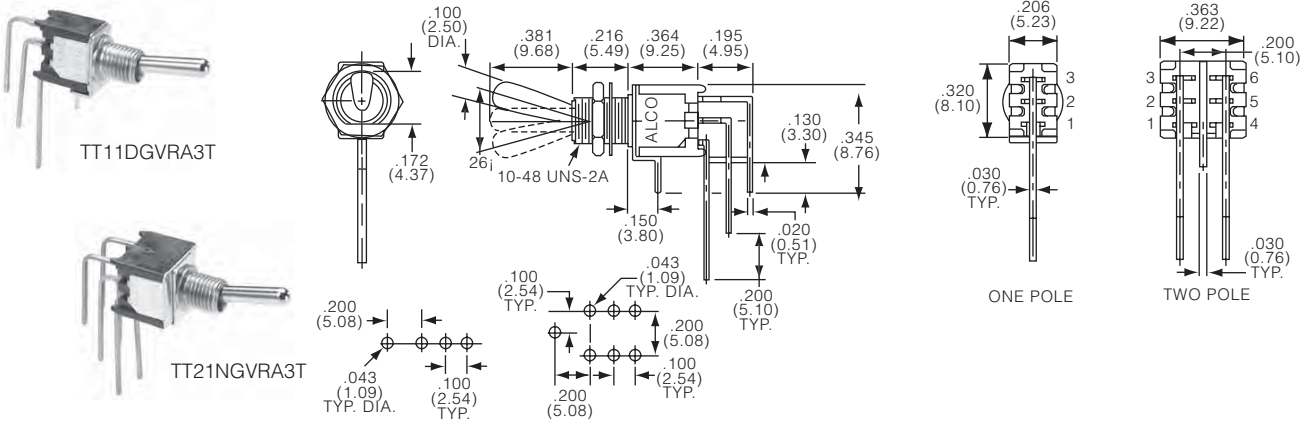
Toggle Switches

TT, Tiny Toggle Switch (Continued)

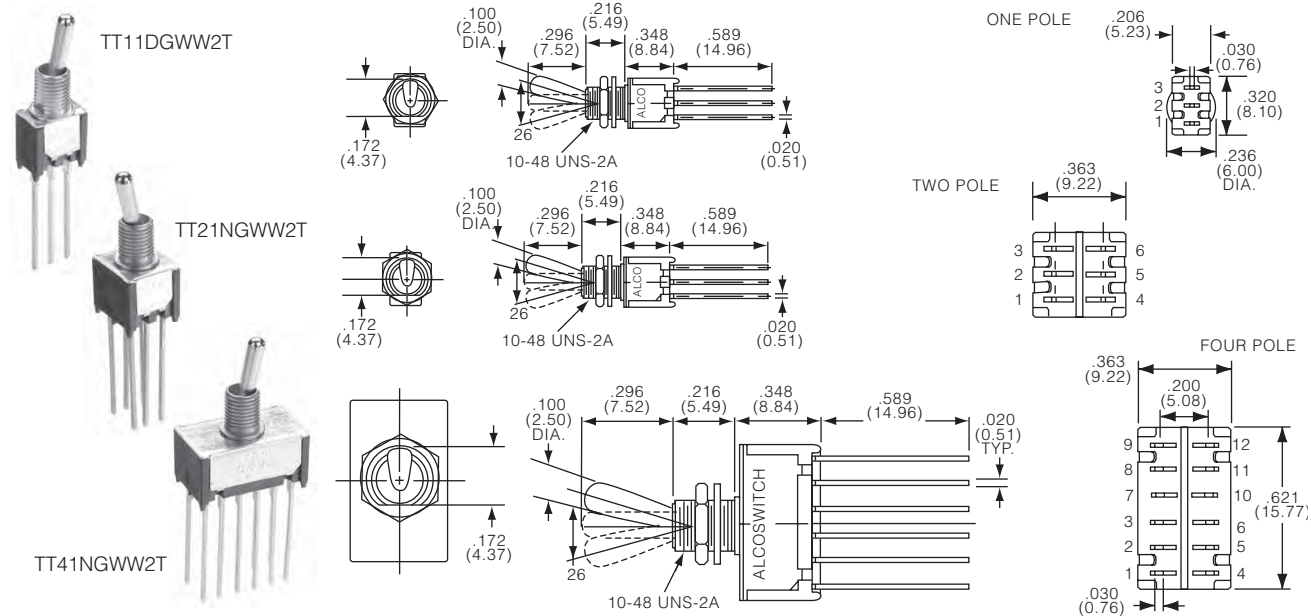
Series TT...VRA1 vertical right angle, .221 bat toggle, unthreaded



Series TT...VRA3T vertical right angle, .381 bat, 10-48 thread



Series TT...WW2T wire wrap, .296 bat toggle, 10-48 thread



TT, Tiny Toggle Switch (Continued)

Toggle Switches

Product key	E. seal	Poles	Contacts	Function	Terminals	Act. length	Bushing	Material	Part Number
TT11AGPC104	no	1	0.4VA	On Off	pc	.221 (5.61), bat	unthreaded	RoHS compliant	1825219-2
TT11AGPC9T1/404			Gold plated			.421 (10.69), bat	1/4-40		1-1825192-8
TT11DGPC104				On On		.221 (5.61), bat	unthreaded		1825219-3
TT11DGPC7T1/404						.457 (11.61), flat	1/4-40		1825226-1
TT11DGPC9T1/404						.421 (10.69), bat			1825192-2
TT11DGRA104					right a.	.125 (3.18), bat	unthreaded		1825219-4
TT11DGRA7T1/404						.457 (11.61), flat	1/4-40		1825226-2
TT11DGRA9T1/404						.421 (10.69), bat			1825192-3
TT11DGVRA104					vert r.a.	.125 (3.18), bat	unthreaded		1825219-5
TT11DGWW2T04					wire wrap	.200 (5.1), bat	#10-48		1825222-1
TT11EGPC104				On Off On	pc	.125 (3.18), bat	unthreaded		1825219-6
TT11EGPC304						.286 (7.26), bat			1825223-1
TT11EGPC5T1/4004						.490 (12.45)	1/4-40		1825224-1
TT11EGPC9T1/404									1825192-4
TT11EGPCV104					pc vert.	.125 (3.18), bat	unthreaded		1825219-7
TT11EGRA104					right a.				1825219-8
TT11EGVRA104					vert r.a.				1825219-9
TT11EGVRA3T04						.286 (7.26), bat	#10-48		1825223-2
TT11FGRA9T1/404				(On) On	right a.	.421 (10.69), bat	1/4-40		1825192-5
TT13A2T04			1 Amp	On Off	wire lug	.200 (5.1), bat	#10-48		1825222-2
TT13A3T04			Silver plated			.286 (7.26), bat			1825223-3
TT13A6T004						.306 (7.77), rnd, col.			1825225-1
TT13A9T1/404						.421 (10.69), bat	1/4-40		1825192-6
TT13D2T04				On On		.200 (5.1), bat	#10-48		1825222-3
TT13D3T04						.286 (7.26), bat			1825223-4
TT13D7T1/404						.457 (11.61), flat	1/4-40		1825226-3
TT13D9T1/404						.421 (10.69), bat			1825192-7
TT13E2T04				On Off On		.200 (5.1), bat	#10-48		1825222-4
TT13E3T04						.286 (7.26), bat			1825223-5
TT21KGPC104		2	0.4VA	On Off	pc	.125 (3.18), bat	unthreaded		1-1825219-0
TT21NGPC104			Gold plated	On On					1-1825219-1
TT21NGPC9T1/404						.421 (10.69), bat	1/4-40		1825192-8
TT21NGRA104					right a.	.125 (3.18), bat	unthreaded		1-1825219-2
TT21NGRA7T1/404						.457 (11.61), flat	1/4-40		1825226-4
TT21NGRA9T1/404						.421 (10.69), bat			1825192-9
TT21NGWW2T04					wire wrap	.200 (5.1), bat	#10-48		1825222-5
TT23K2T04			1 Amp	On Off	wire lug				1825222-6
TT23K9T1/404			Silver plated			.421 (10.69), bat	1/4-40		1-1825192-0
TT23N2T04				On On		.200 (5.1), bat	#10-48		1825222-7
TT23N3T04						.286 (7.26), bat			1825223-6
TT23P3T04				On Off On					1825223-7
TT23P6T004						.306 (7.77), rnd, col.			1825225-2
TT23P8T1/404						.567 (14.40), locking	1/4-40		1825227-1
TT41NGPC104		4	0.4VA	On On	pc	.125 (3.18), bat	unthreaded		1-1825219-3
TT41NGPC9T1/404			Gold plated			.421 (10.69), bat	1/4-40		1-1825192-1
TT41NGRA104					right a.	.125 (3.18), bat	unthreaded		1-1825219-4
TT41NGRA7T1/404						.457 (11.61), flat	1/4-40		1825226-5
TT41NGRA9T1/404						.421 (10.69), bat			1-1825192-2
TT41NGWW2T04					wire wrap	.200 (5.1), bat	#10-48		1825222-8
TT43N2T04			1 Amp		wire lug				1825222-9
TT43N9T1/404			Silver			.421 (10.69), bat	1/4-40		1-1825192-3
TTE11EG104	yes	1	0.4VA	On Off On		.221 (5.61), bat	unthreaded		1825219-1
TTE11EGPC9T1/4ES04			0.4VA		pc	.421 (10.69), bat	1/4-40		1-1825192-4
TTE13A9T1/404			1 Amp	On Off	wire lug				1-1825192-5
TTE13D2T04			Silver plated	On On		.200 (5.1), bat	#10-48		1-1825222-0
TTE13D8T1/404						.567 (14.40), locking	1/4-40		1825227-2
TTE13E8T1/404				On Off On					1825227-3
TTE23P8T1/404		2							1825227-4
TTE11AGPC9T1/404		1	0.4VA	On Off	pc	.421 (10.69), bat			1-1825192-7

Preferred parts in bold print

Gemini A Series

Features

- Gold, gold over silver or silver contacts
- Epoxy sealed terminals
- Stainless steel frame with brass tin plated solder support
- Hardware included
- Boot seals available



Typical performance characteristics

Contact configuration	1, 2, 3, and 4 pole
Contact timing	Break before Make
Contact rating max.	gold: 0.4VA @20V AC or DC
	gold over silver : 5 A @ 125VAC or 28VDC resistive
	or 0.4VA @ 20VAC or DC or 2A @250VAC resistive
	silver: 5 A @ 125VAC or 28VDC resistive
	and 2A @ 250VAC resistive
Electrical life	6000 cycles
Contact resistance, initial	max.10 mOhms
Insulation resistance	1,000 MOhms
Dielectric strength	1,000 Vrms @ sea level
Actuator travel	22° for D and E function
	18° for F and G function

Environmental specification

Operating temperature	-30°C to +85°C
Storage temperature	-30°C to +85°C
Solder heat resistance	wave solder capable to 265° C
Terminal Seal	single pole: epoxy

Material specifications

Contacts	contacts B: copper alloy finish gold over nickel
	contacts G: copper alloy finish gold over silver
	contacts Q: copper alloy finish silver
Actuator	brass alloy chrome
Terminals	contacts B: copper alloy finish gold over nickel
	contacts G: copper alloy finish gold over silver
	contacts Q: copper alloy finish silver
Case	thermoplastic
Bushing	brass alloy finish nickel
Internal actuator	phenolic
Spring	music wire
Support Bracket	brass tin plated
Seal	epoxy
RoHS Directive 2002/95/EC	compliant

Toggle Switches

Product key		Typical product key		A	1	01	P3		Z	Q	04												
Type	A Gemini A Series Toggles																						
Number of Poles	1 single pole	2 double pole																					
Function	<table border="0"> <tr> <td>single and double pole</td> <td>double pole only</td> </tr> <tr> <td>01 On-On</td> <td>11 On-On-On</td> </tr> <tr> <td>03 On-Off-On</td> <td>13 On-On-(On)</td> </tr> <tr> <td>05 (On)-Off-(On)</td> <td>15 (On)-On-(On)</td> </tr> <tr> <td>07 On-Off-(On)</td> <td></td> </tr> <tr> <td>08 On-(On)</td> <td></td> </tr> </table>		single and double pole	double pole only	01 On-On	11 On-On-On	03 On-Off-On	13 On-On-(On)	05 (On)-Off-(On)	15 (On)-On-(On)	07 On-Off-(On)		08 On-(On)										
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Toggles	<table border="0"> <tr> <td>S bat long</td> <td>T large toggle & bushing (15/32)</td> </tr> <tr> <td>K locking</td> <td>T1 large toggle & bushing (15/32)</td> </tr> <tr> <td>K1 locking</td> <td>L lever</td> </tr> <tr> <td>M bat short</td> <td>L1 lever</td> </tr> <tr> <td>P3 flatted (with bushing code Y only)</td> <td>L2 lever</td> </tr> </table>		S bat long	T large toggle & bushing (15/32)	K locking	T1 large toggle & bushing (15/32)	K1 locking	L lever	M bat short	L1 lever	P3 flatted (with bushing code Y only)	L2 lever											
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Bushing	<table border="0"> <tr> <td>blank toggles K1 &/ P3: 1/4-40 threaded .35 (8.9) long</td> <td></td> </tr> <tr> <td>toggles K, T, T1: unthreaded .28 (7.1) long</td> <td></td> </tr> <tr> <td>CW 1/4-40 threaded .37 (9.4) long, enviromental seals (toggles codes S & M only)</td> <td></td> </tr> <tr> <td>D 1/4-40 threaded .28 (7.1) long</td> <td></td> </tr> <tr> <td>D9 unthreaded .28 (7.1) long</td> <td>Y 1/4-40 threaded .35 (8.9) long</td> </tr> <tr> <td>H 1/4-40 threaded .3 (7.6) long</td> <td>Y9 unthreaded .35 (8.9) long</td> </tr> </table>		blank toggles K1 &/ P3: 1/4-40 threaded .35 (8.9) long		toggles K, T, T1: unthreaded .28 (7.1) long		CW 1/4-40 threaded .37 (9.4) long, enviromental seals (toggles codes S & M only)		D 1/4-40 threaded .28 (7.1) long		D9 unthreaded .28 (7.1) long	Y 1/4-40 threaded .35 (8.9) long	H 1/4-40 threaded .3 (7.6) long	Y9 unthreaded .35 (8.9) long									
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Terminations	<table border="0"> <tr> <td>A right angle</td> <td>V30 vertical support</td> <td>W wire wrap</td> </tr> <tr> <td>AV2 vertical right angle</td> <td>V40 vertical support</td> <td>W4 wire wrap</td> </tr> <tr> <td>C printed circuit</td> <td></td> <td>Z wire lug</td> </tr> </table>		A right angle	V30 vertical support	W wire wrap	AV2 vertical right angle	V40 vertical support	W4 wire wrap	C printed circuit		Z wire lug												
A right angle	V30 vertical support	W wire wrap																					
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C printed circuit		Z wire lug																					
Contacts	<table border="0"> <tr> <td>B gold</td> <td>G gold over silver</td> <td>Q silver</td> </tr> </table>		B gold	G gold over silver	Q silver																		
B gold	G gold over silver	Q silver																					
Material	04 RoHS compliant																						

Gemini A Series (Continued)

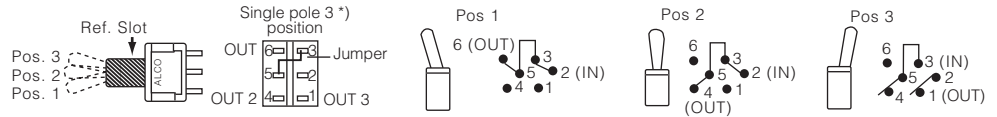
Function



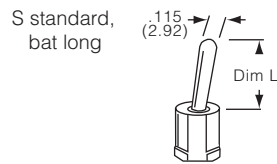
Code	Positions	↙	↓	↘
01	2 positions	On	None	On
03	3 positions	On	Off	On
05	3 positions	(On)	Off	(On)
07	3 positions	(On)	Off	On
08	2 positions	(On)	None	On
SPDT	Term. conn.	1 - 2	---	2 - 3
DPDT	Terminals connected	1 - 2 4 - 5	---	2 - 3 5 - 6
11*)	3 positions	On	On	On
13*)		(On)	On	On
15*)		(On)	On	(On)
DP3T	Terminals connected	1 - 2 4 - 5	2 - 3 4 - 5	2 - 3 5 - 6

Off mechanical position, no electrical connection
 (On) momentary mechanical position and electrical connection
 None no mechanical position
 *) functions available in dual pole case only.
 **) SP3T functions achieved with external jumper installed by customer

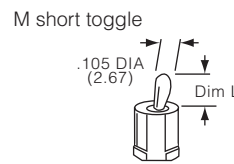
Wiring diagram for functions 11, 13, 15



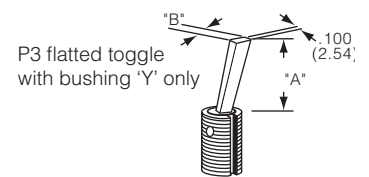
Toggles



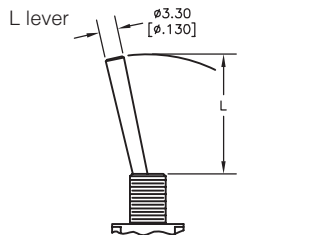
Toggle	Bushing	Dim L
S	CW, H, Y D, D9	10.41 (.410) 12.19 (.480)



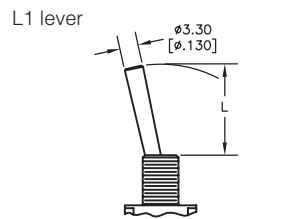
Toggle	Bushing	Dim L
M	CW, H, Y D, D9	5.08 (.200) 6.86 (.270)



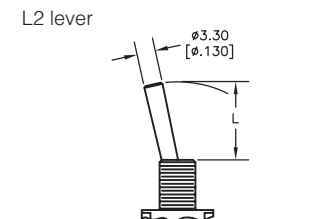
Toggle	Dim
P3	Dim A 11.43 (.450) Dim B 5.08 (.200)



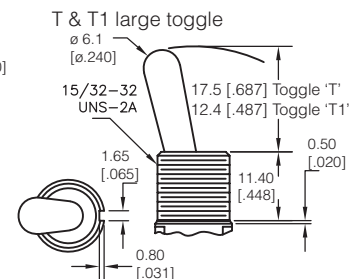
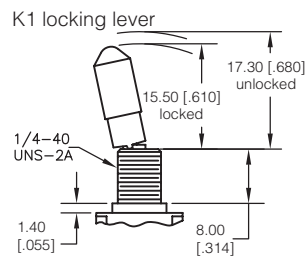
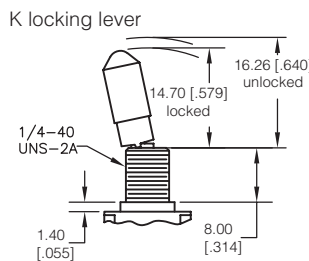
Toggle	Bushing	Dim L
L	H, Y D, D9	21.34 (.840) 23.11 (.910)



Toggle	Bushing	Dim L
L1	H, Y D, D9	16.26 (.640) 18.03 (.710)



Toggle	Bushing	Dim L
L2	H, Y D, D9	13.97 (.550) 15.75 (.620)

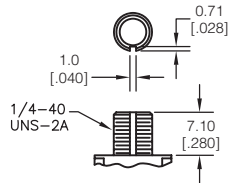


Gemini A Series (Continued)

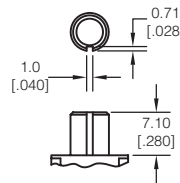
Bushings



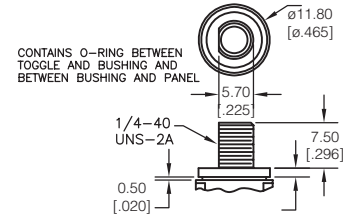
D 1/4-40 threaded



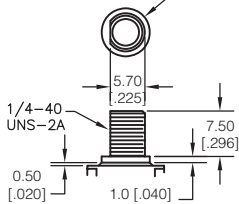
D9 unthreaded



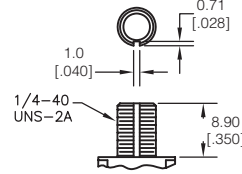
CW 1/4-40 threaded
environmental seals
(toggles codes S & M only)



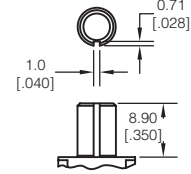
H 1/4-40 threaded



Y 1/4-40 threaded

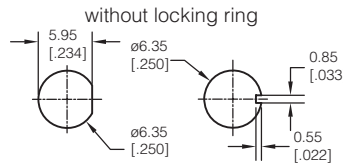


Y9 unthreaded



Recommended panel cut-outs

Bushing 1/4

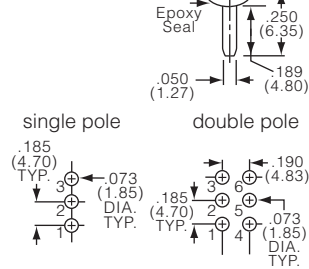


Terminals

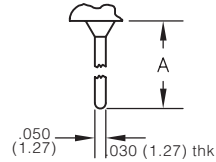


Codes C, W, W4, Z printed circuit, wire wrap and wire lug

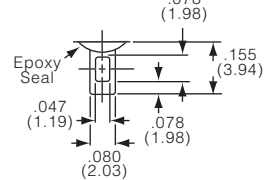
C printed circuit



W, W4 wire wrap



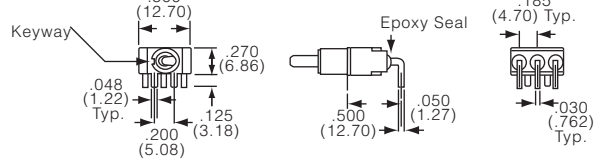
Z wire lug



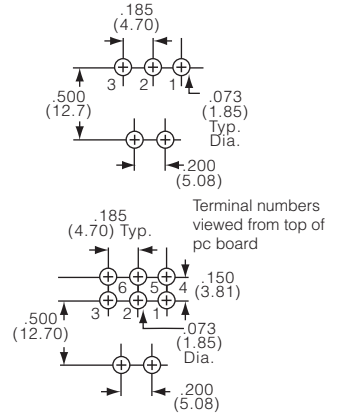
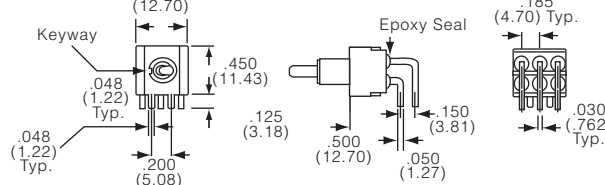
Terminal	Dim A
W	18.69 (.736)
W4	26.98 (1.062)

Code A right angle

single pole

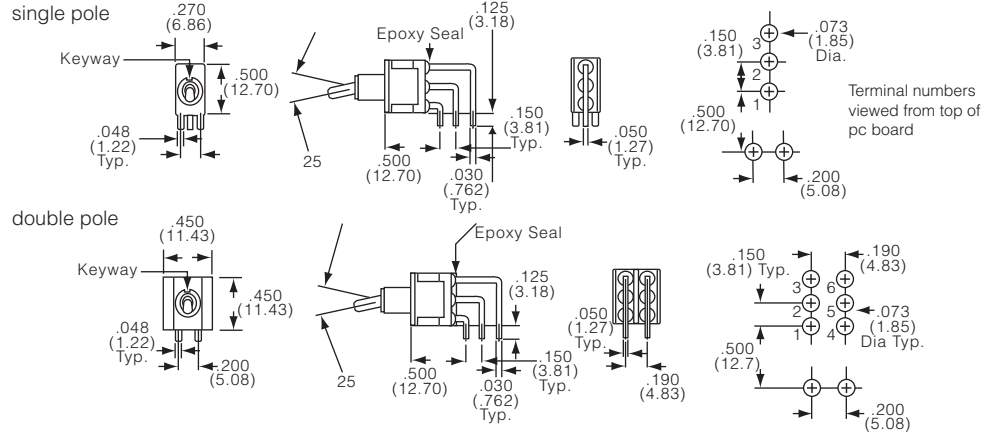


double pole

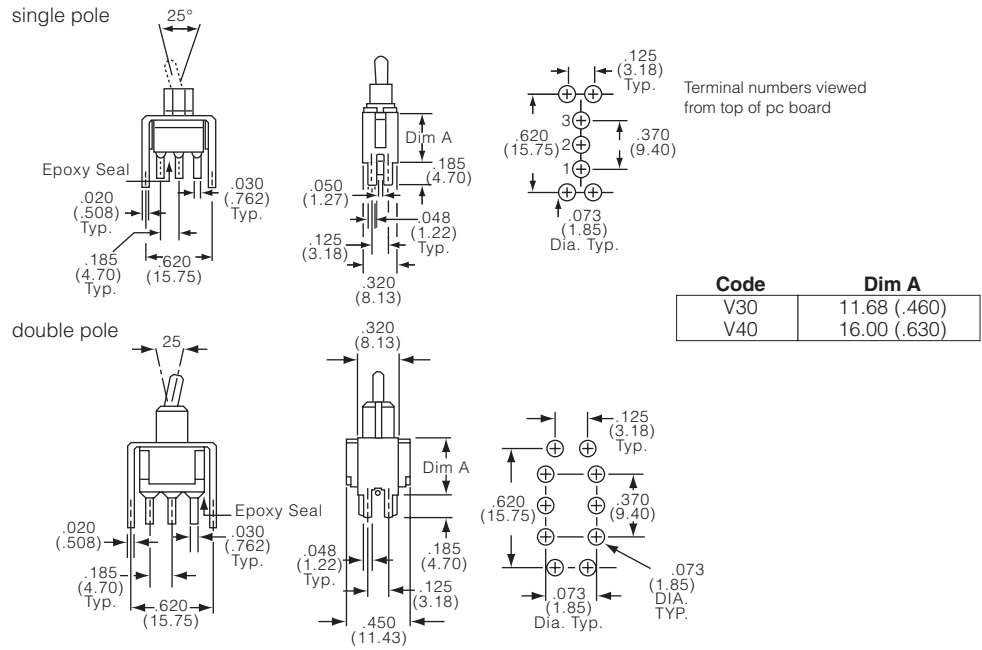


Gemini A Series (Continued)

Code AV2 vertical right angle



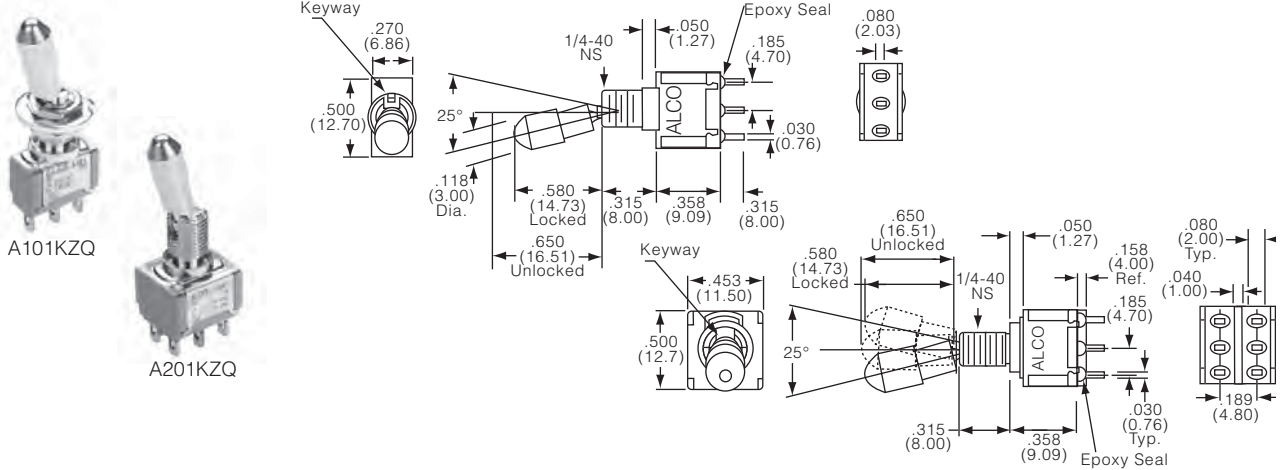
Codes V30, V40 vertical support



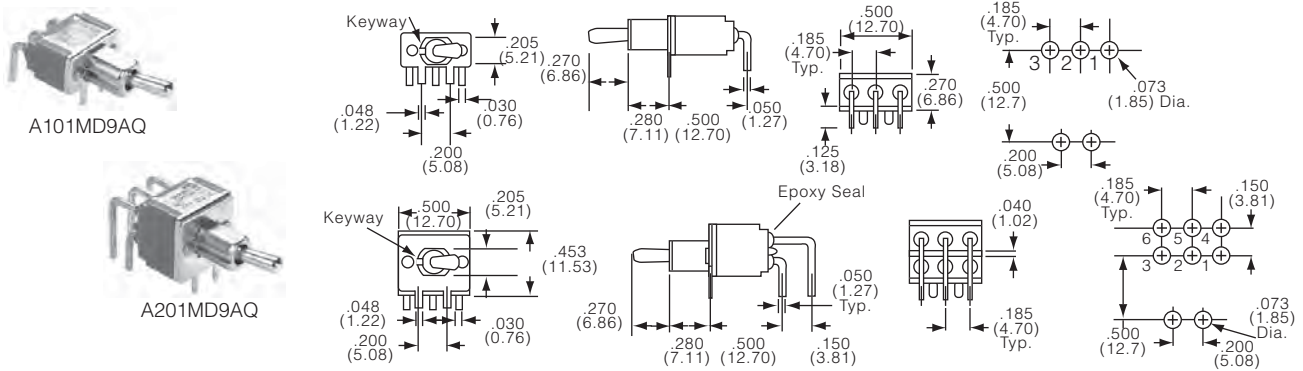
Gemini A Series (Continued)

Dimensions

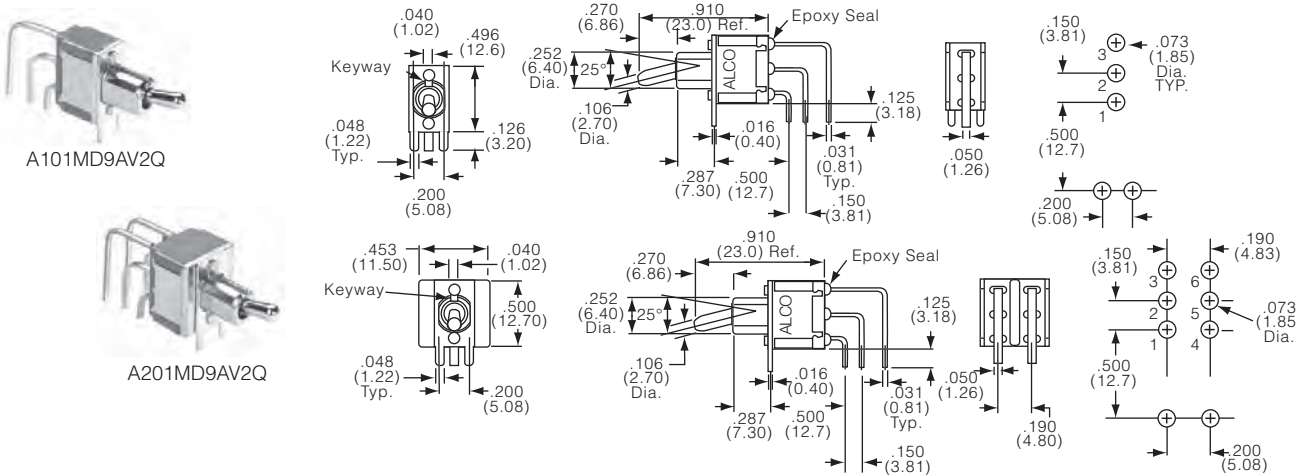
Series A...KZ locking, unthreaded, wire lug, 1 & 2 pole



Series A...MD9A short bat, unthreaded bushing, right angle, 1 & 2 pole

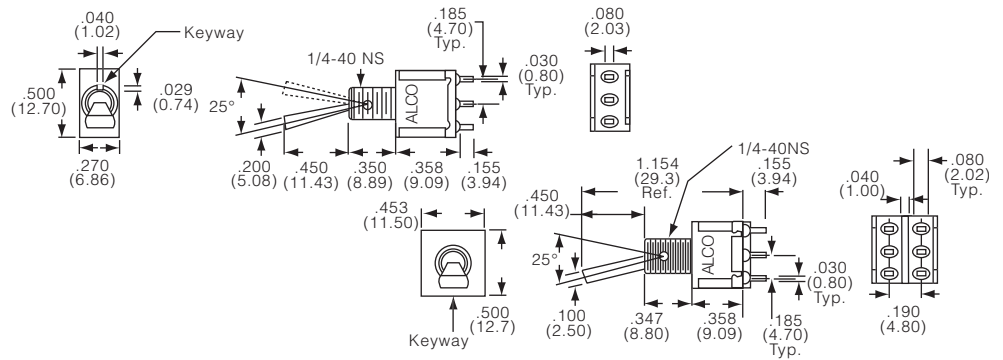


Series A...MD9AV2 short bat, unthreaded bushing, vertical right angle, 1 & 2 pole

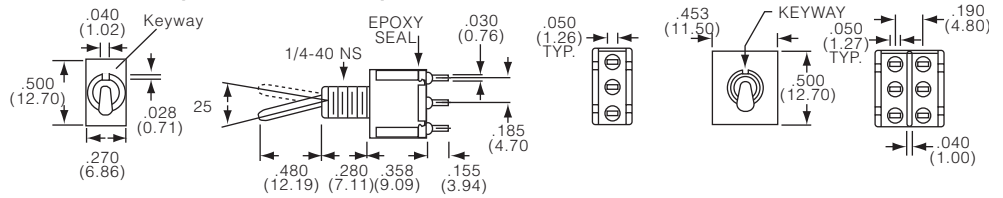


Series A...P3YZ flatted toggle, 1/4-40 threaded, wire lug, 1 & 2 pole

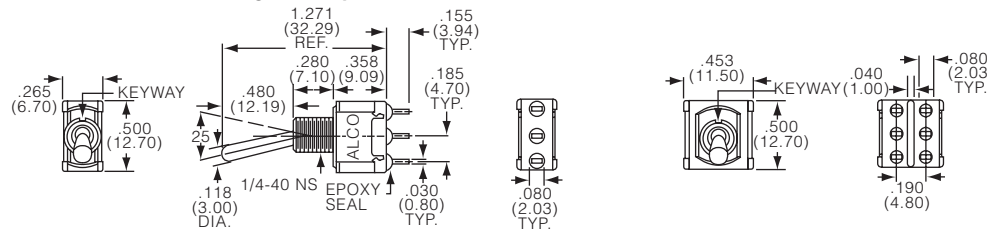
Gemini A Series (Continued)



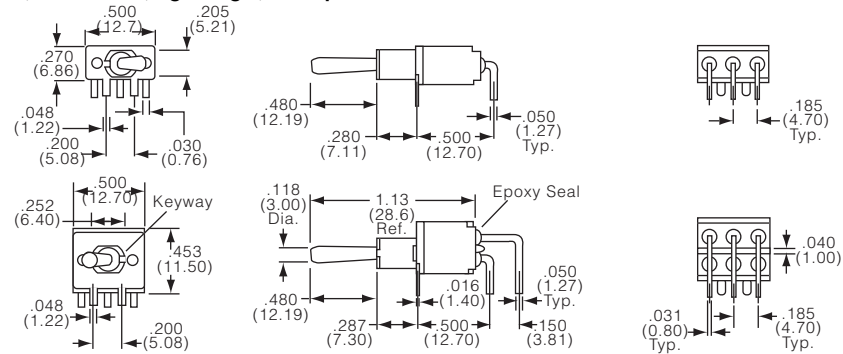
Series A...SDC long bat, 1/4-40 threaded, printed circuit, 1 & 2 pole



Series A...SDZ long bat, 1/4-40 threaded, wire lugs, 1 & 2 pole

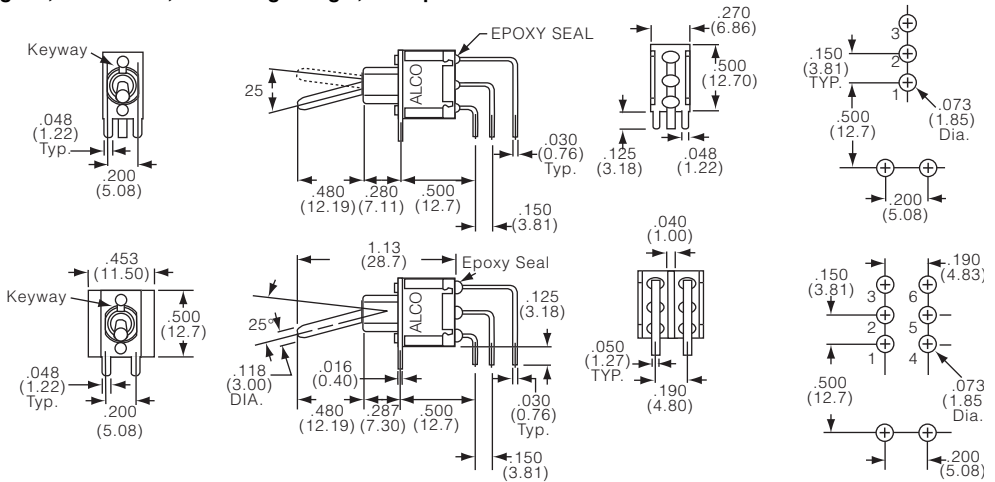
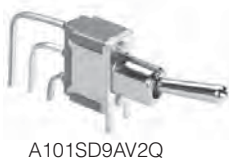


Series A...SD9A long bat, unthreaded, right angle, 1 & 2 pole

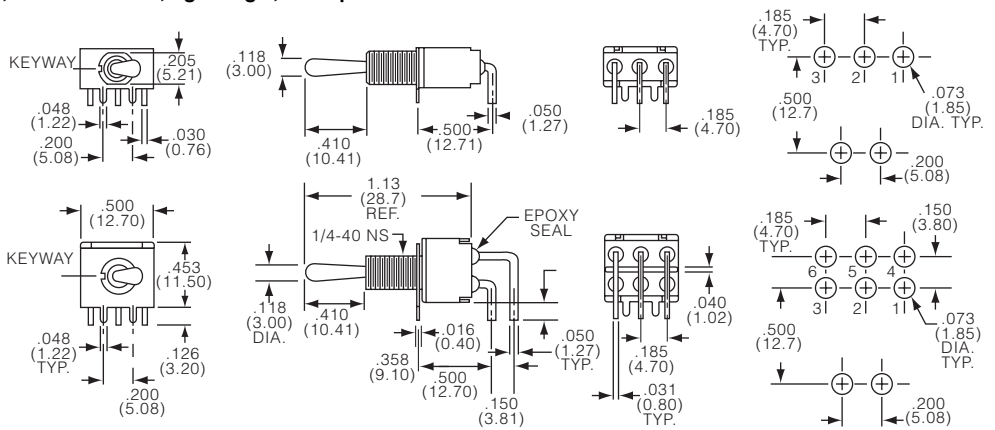


Gemini A Series (Continued)

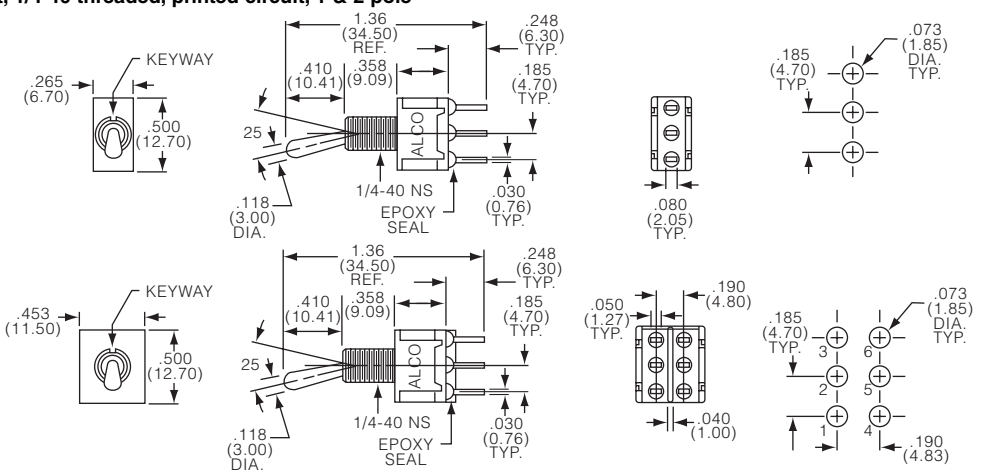
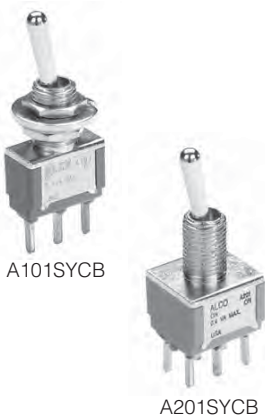
Series A...SD9AV2 long bat, unthreaded, vertical right angle, 1 & 2 pole



Series A...SYA long bat, 1/4-40 threaded, right angle, 1 & 2 pole



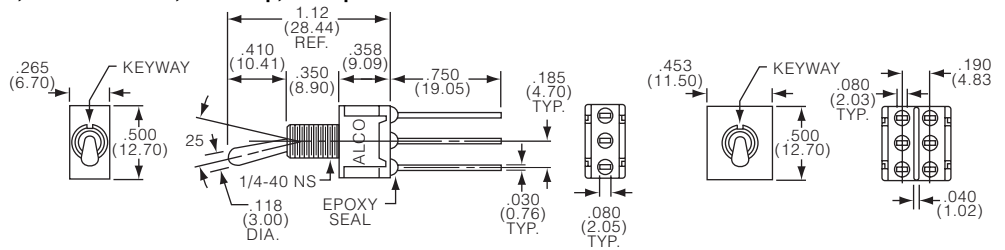
Series A...SYC long bat, 1/4-40 threaded, printed circuit, 1 & 2 pole



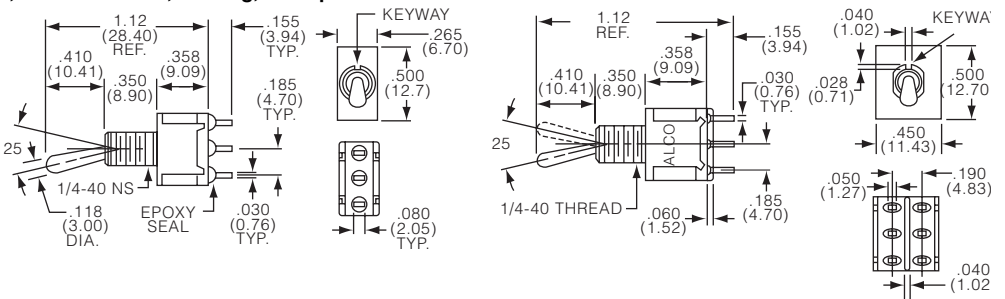
Toggle Switches

Gemini A Series (Continued)

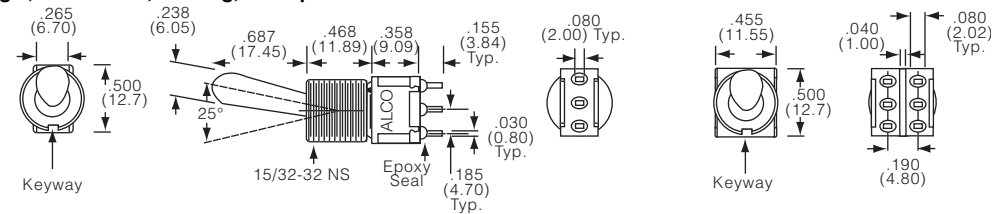
Series A...SYW long bat, 1/4-40 threaded, wire wrap, 1 & 2 pole



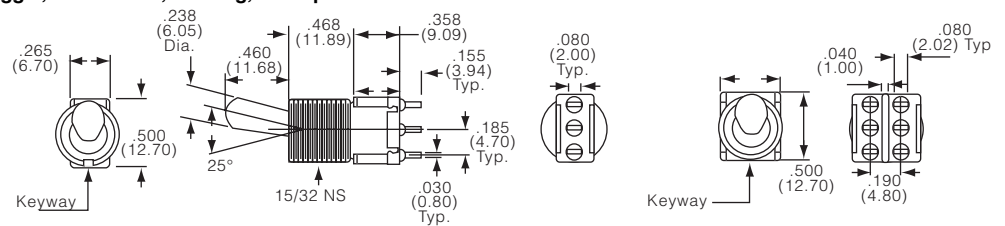
Series A...SYZ long bat, 1/4-40 threaded, wire lug, 1 & 2 pole



Series A...TZ large toggle, unthreaded, wire lug, 1 & 2 pole



Series A...T1Z large toggle, unthreaded, wire lug, 1 & 2 pole



Toggle Switches

Gemini A Series (Continued)

Product key	Poles	Function	Toggles	Bushing	Terminations	Contacts	Material	Part Number				
A101K1V30B04	1	On-On	locking	1/4-40 threaded .35 (8.9)	vertical support	gold	RoHS	1825136-1				
A101KAB04				unthreaded .28 (7.1)	right angle	silver	compliant	1825136-2				
A101KAQ04									1825136-3			
A101KAV2Q04							vertical right angle		2-1825136-8			
A101KCQ04							printed circuit		1825136-5			
A101KD9AQ04							right angle		1825136-6			
A101KZQ04							wire lug		1825136-7			
A101L1D9V30Q04					lever			vertical support		1825136-9		
A101L1YZB04							1/4-40 threaded .35 (8.9)	wire lug	gold	1-1825136-0		
A101LDZQ04							1/4-40 threaded .28 (7.1)		silver	1-1825136-1		
A101MD9AB04		bat short		unthreaded .28 (7.1)	right angle	gold		1-1825136-2				
A101MD9AG04	Au over Ag						1-1825136-3					
A101MD9AQ04	silver						1-1825136-4					
A101MD9AV2B04						vertical right angle	gold	1-1825136-5				
A101MD9AV2G04	Au over Ag						1-1825136-6					
A101MD9AV2Q04	silver						1-1825136-7					
A101MD9V30B04						vertical support	gold	1-1825136-8				
A101MDAQ04							1/4-40 threaded .28 (7.1)	right angle	silver	1-1825136-9		
A101MDAV2B04								vertical right angle	gold	2-1825136-0		
A101MDCG04								printed circuit	Au over Ag	2-1825136-1		
A101MDZQ04				wire lug	silver	2-1825136-2						
A101MYCQ04		flatted		1/4-40 threaded .35 (8.9)	printed circuit			2-1825136-3				
A101MYZQ04						wire lug		2-1825136-4				
A101P3CB04						printed circuit	gold	2-1825136-6				
A101P3YV30B04						vertical support		1825136-4				
A101P3ZQ04						wire lug	silver	2-1825136-7				
A101SCWCQ004						bat long		1/4-40 threaded .37 (9.4)	printed circuit			3-1825136-0
A101SCWZQ04										wire lug		3-1825136-1
A101SD9AB04								unthreaded .28 (7.1)	right angle	gold	3-1825136-2	
A101SD9AQ04										silver	3-1825136-3	
A101SD9AV2B04									vertical right angle	gold	3-1825136-4	
A101SD9AV2Q04						silver	3-1825136-5					
A101SD9V30B04					vertical support	gold	3-1825136-6					
A101SD9V30Q04						silver	3-1825136-7					
A101SDCCQ04				1/4-40 threaded .28 (7.1)	printed circuit		3-1825136-8					
A101SDZQ04					wire lug		3-1825136-9					
A101SHZQ04				1/4-40 threaded .3 (7.6)			4-1825136-0					
A101SY9CQ04				unthreaded .35 (8.9)	printed circuit		4-1825136-1					
A101SYAB04				1/4-40 threaded .35 (8.9)	right angle	gold	4-1825136-2					
A101SYAQ04						silver	4-1825136-3					
A101SYAV2B04					vertical right angle	gold	1825136-8					
A101SYCB04					printed circuit		4-1825136-4					
A101SYCQ04						silver	4-1825136-5					
A101SYWQ04					wire wrap		4-1825136-7					
A101SYZB04					wire lug	gold	4-1825136-8					
A101SYZQ04						silver	4-1825136-9					
A101T1ZB04		On-Off-On	locking	unthreaded .28 (7.1)	lg. tgl. & bushing			5-1825136-2				
A101T1ZQ04							gold	5-1825136-3				
A101TCQ04								printed circuit		5-1825136-4		
A101TZQ04								wire lug		5-1825136-5		
A103KZQ04							locking				1825137-1	
A103MD9AB04							bat short		right angle	gold	1825137-2	
A103MD9AG04										Au over Ag	1825137-3	
A103MD9AQ04										silver	1825137-4	
A103MD9AV2B04									vertical right angle	gold	1825137-5	
A103P3ZQ04							flatted	1/4-40 threaded .35 (8.9)	wire lug	silver	1825137-6	
A103SD9AQ04			bat long	unthreaded .28 (7.1)	right angle		1825137-7					
A103SD9AV2B04					vertical right angle	gold	1825137-8					
A103SD9AV2Q04						silver	1825137-9					
A103SDCB04				1/4-40 threaded .28 (7.1)	printed circuit	gold	1-1825137-0					
A103SDCCQ04						silver	1-1825137-1					
A103SDZQ04					wire lug		1-1825137-2					
A103SYAQ04				1/4-40 threaded .35 (8.9)	right angle		1-1825137-3					
A103SYAV2B04					vertical right angle	gold	2-1825136-5					
A103SYAV2Q04						silver	1-1825137-4					
A103SYCB04					printed circuit	gold	1-1825137-5					
A103SYCQ04						silver	1-1825137-6					
A103SYWB04					wire wrap	gold	1-1825137-7					
A103SYWQ04					right angle	silver	1-1825137-8					
A103SYZB04					wire lug	gold	1-1825137-9					
A103SYZQ04						silver	2-1825137-0					
A103T1CG04			lg. tgl. & bushing	unthreaded .28 (7.1)	printed circuit	Au over Ag	2-1825137-1					
A103T1ZQ04					wire lug	silver	2-1825137-2					
A103TZQ04							2-1825137-3					

Preferred parts in bold print

Toggle Switches

Gemini A Series (Continued)

Toggle Switches

Product key	Poles	Function	Toggles	Bushing	Terminations	Contacts	Material	Part Number						
A105MD9AB04	1	(On)-Off-(On)	bat short	unthreaded .28 (7.1)	right angle	gold	RoHS compliant	2-1825137-4						
A105MD9AQ04						silver		2-1825137-5						
A105MYV30Q04				1/4-40 threaded .35 (8.9)	vertical support	Au over Ag		2-1825137-6						
A105P3CG04								printed circuit	2-1825137-7					
A105P3CQ04								silver	2-1825137-8					
A105P3ZQ04								wire lug	2-1825137-9					
A105SD9AB04								bat long	unthreaded .28 (7.1)	right angle	gold	3-1825137-1		
A105SD9AV2Q04										vertical right angle	silver	3-1825137-2		
A105SD9V30B04											vertical support	gold		3-1825137-3
A105SYAB04														right angle
A105SYAV2B04											1/4-40 threaded .35 (8.9)	vertical right angle		3-1825137-5
A105SYCB04												printed circuit		3-1825137-6
A105SYCQ04													silver	3-1825137-7
A105SYZB04													gold	3-1825137-8
A105SYZQ04						silver	3-1825137-9							
A105T1ZB04						gold	4-1825137-0							
A105T1ZQ04			lg. tgl.& bushing	unthreaded .28 (7.1)		silver	4-1825137-1							
A105TZQ04							4-1825137-2							
A107KAV2Q04		On-Off-(On)	locking		vertical right angle			4-1825137-3						
A107KZB04								wire lug	gold	4-1825137-4				
A107MD9AV2B04			bat short		vertical right angle			4-1825137-5						
A107MD9CQ04								printed circuit	silver	4-1825137-6				
A107MD9V30Q04					vertical support			4-1825137-7						
A107P3ZQ04								flatted	1/4-40 threaded .35 (8.9)	wire lug	4-1825137-8			
A107SYAQ04			bat long		right angle			4-1825137-9						
A107SYCB04					printed circuit	gold	5-1825137-0							
A107SYCQ04						silver	5-1825137-1							
A107SYZQ04						wire lug	5-1825137-2							
A107TZB04			lg. tgl.& bushing	unthreaded .28 (7.1)		gold	5-1825137-3							
A108MD9AB04						On-(On)	bat short	right angle	5-1825136-6					
A108P3CQ04			flatted	1/4-40 threaded .35 (8.9)	printed circuit	silver	5-1825136-8							
A108P3ZQ04					wire lug	5-1825136-9								
A108SD9AQ04			bat long	unthreaded .28 (7.1)	right angle		6-1825136-0							
A108SDZQ04					1/4-40 threaded .28 (7.1)	wire lug	6-1825136-1							
A108SYCB04				1/4-40 threaded .35 (8.9)	printed circuit	gold	6-1825136-2							
A108SYCQ04					silver	6-1825136-3								
A108SYZQ04						wire lug	6-1825136-4							
A201KAB04						2	On-On	locking	unthreaded .28 (7.1)	right angle	gold	1825138-1		
A201KD9AQ04						silver	1825138-2							
A201KZQ04						wire lug	1825138-3							
A201L1D9V30Q04			lever		vertical support		1825138-5							
A201MD9AB04					bat short	right angle	gold	1825138-6						
A201MD9AQ04						silver	1825138-7							
A201MD9AV2B04						vertical right angle	gold	1825138-8						
A201MD9AV2Q04						silver	1825138-9							
A201MDAQ04						1/4-40 threaded .28 (7.1)	right angle		1-1825138-0					
A201MYAQ04				1/4-40 threaded .35 (8.9)			1-1825138-2							
A201MYCB04							printed circuit	gold	1-1825138-3					
A201MYZQ04						wire lug	1-1825138-4							
A201P3ZQ04						flatted		1-1825138-5						
A201SCWZB04			bat long	1/4-40 threaded .37 (9.4)		gold	1-1825138-6							
A201SD9AQ04						unthreaded .28 (7.1)	right angle	silver	1-1825138-7					
A201SD9AV2Q04					vertical right angle		1-1825138-8							
A201SDCB04					1/4-40 threaded .28 (7.1)	printed circuit	gold	1-1825138-9						
A201SDZQ04						wire lug	2-1825138-0							
A201SY9AB04						unthreaded .35 (8.9)	right angle	gold	2-1825138-1					
A201SYAB04				1/4-40 threaded .35 (8.9)			2-1825138-2							
A201SYAQ04							silver	2-1825138-3						
A201SYCB04						printed circuit	gold	2-1825138-4						
A201SYCQ04						silver	2-1825138-5							
A201SYWQ04						wire wrap	2-1825138-6							
A201SYZB04						gold	2-1825138-7							
A201SYZQ04						silver	2-1825138-8							
A201T1ZQ04						lg. tgl.& bushing	unthreaded .28 (7.1)		2-1825138-9					
A201TZQ04							3-1825138-1							

Preferred parts in bold print

Gemini A Series (Continued)

Product key	Poles	Function	Toggles	Bushing	Terminations	Contacts	Material	Part Number
A203KZQ04	2	On-Off-On	locking	unthreaded .28 (7.1)	wire lug	silver	RoHS	1825139-1
A203MD9AB04			bat short		right angle	gold	compliant	1825139-2
A203P3AV2Q04			flatted	1/4-40 threaded .35 (8.9)	vertical right angle	silver		1825139-3
A203P3ZQ04					wire lug		1825139-4	
A203SD9AV2B04			bat long	unthreaded .28 (7.1)	vertical right angle	gold		1825139-5
A203SD9AV2Q04						silver	1825139-6	
A203SDZQ04				1/4-40 threaded .28 (7.1)	wire lug			1825139-7
A203SYCB04					1/4-40 threaded .35 (8.9)	printed circuit	gold	
A203SYCQ04						silver		1825139-9
A203SYZQ04					wire lug			1-1825139-0
A203T1ZQ04			lg. tgl.& bushing	unthreaded .28 (7.1)				1-1825139-1
A203TZQ04								1-1825139-2
A205KZB04		(On)-Off-(On)	locking	1/4-40 threaded .35 (8.9)		gold		1-1825139-3
A205P3ZQ04			flatted			silver	1-1825139-4	
A205SD9AB04			bat long	unthreaded .28 (7.1)	right angle	gold		1-1825139-5
A205SYCB04						1/4-40 threaded .35 (8.9)	printed circuit	
A205SYCQ04						silver		1-1825139-7
A205SYZQ04						wire lug		1-1825139-8
A205T1ZQ04			lg. tgl.& bushing	unthreaded .28 (7.1)				1-1825139-9
A205TZQ04								2-1825139-0
A207P3ZQ04		On-Off-(On)	flatted	1/4-40 threaded .35 (8.9)				2-1825139-1
A207SYCB04			bat long			printed circuit	gold	2-1825139-2
A207SYCQ04						silver		2-1825139-3
A207SYZQ04						wire lug		2-1825139-4
A207T1ZQ04			lg. tgl.& bushing	unthreaded .28 (7.1)				2-1825139-5
A207TZQ04								2-1825139-6
A208KZG04		On-(On)	locking	1/4-40 threaded .35 (8.9)		Au over Ag		3-1825138-2
A208P3ZQ04			flatted			silver	3-1825138-3	
A208SD9AQ04			bat long	unthreaded .28 (7.1)	right angle			3-1825138-4
A208SD9AV2Q04						1/4-40 threaded .35 (8.9)	vertical right angle	
A208SYCB04					printed circuit	gold		3-1825138-6
A208SYCQ04								silver
A208SYZQ04					wire lug			3-1825138-8
A208T1ZQ04					lg. tgl.& bushing	unthreaded .28 (7.1)		
A208TZQ04								4-1825138-0
A211KZB04			On-On-On		locking			gold
A211MD9AQ04			bat short	1/4-40 threaded .35 (8.9)	right angle	silver		2-1825139-8
A211MYCQ04							printed circuit	
A211P3CQ04			flatted					3-1825139-0
A211P3V40G04							vertical support	Au over Ag
A211P3ZQ04					wire lug	silver		3-1825139-2
A211SCWCQ004					bat long	1/4-40 threaded .37 (9.4)	printed circuit	
A211SDZQ04				1/4-40 threaded .28 (7.1)	wire lug			3-1825139-4
A211SHZQ04					1/4-40 threaded .3 (7.6)			3-1825139-5
A211SY9AQ04				unthreaded .35 (8.9)	right angle			3-1825139-6
A211SYCQ04					1/4-40 threaded .35 (8.9)	printed circuit		3-1825139-7
A211SYZB04					wire lug	gold		3-1825139-8
A211SYZQ04								silver
A211T1ZQ04			lg. tgl.& bushing	unthreaded .28 (7.1)				4-1825139-0
A213SYZQ04			On-On-(On)		bat long	1/4-40 threaded .35 (8.9)		
A215SD9V30B04		(On)-On-(On)		unthreaded .28 (7.1)	vertical support	gold		4-1825139-3
A215SY9AQ04					unthreaded .35 (8.9)	right angle	silver	4-1825139-4
A215SYZQ04				1/4-40 threaded .35 (8.9)	wire lug			4-1825139-5

Preferred parts in bold print

Gemini AE Series, Sealed IP67

Features

- Meets IP 67 requirements
- Gold, gold over silver or silver contacts
- Stainless steel frame with brass tin plated solder support
- Epoxy sealed terminals



Typical performance characteristics

Contact configuration 1, 2, 3, and 4 pole
 Contact timing Break before Make
 Contact rating max. gold: 0.4VA @20V AC or DC
 gold over silver : 5 A @ 125VAC or 28VDC resistive
 or 0.4VA @ 20VAC or DC or 2A @250VAC resistive
 silver: 5 A @ 125VAC or 28VDC resistive
 and 2A @ 250VAC resistive
 Electrical life 6000 cycles
 Contact resistance, initial max.10 mOhms @ 2 to 4VDC, 100mA
 Insulation resistance min. 1,000 MOhms
 Dielectric strength 1,000 Vrms @ sea level
 Actuator travel 22° for D and E function
 18° for F and G function

Material specifications

Contacts contacts B: copper alloy finish gold over nickel
 contacts G: copper alloy finish gold over silver
 contacts Q: copper alloy finish silver
 Actuator brass alloy chrome
 Terminals contacts B: copper alloy finish gold over nickel
 contacts G: copper alloy finish gold over silver
 contacts Q: copper alloy finish silver
 Case thermoplastic
 Bushing brass alloy finish nickel
 Internal actuator phenolic
 Spring music wire
 Support bracket brass tin plated
 Seal epoxy
 RoHS Directive 2002/95/EC compliant

Environmental specification

Operating temperature -30°C to +85°C
 Storage temperature -30°C to +85°C
 Solder heat resistance wave solder capable to 265° C
 Terminal seal epoxy

Toggle Switches

Product key	Typical product key										
	AE	1	01	S	D1	C	Q	04			
Type	Gemini AE Series Toggles										
Number of Poles	1	single pole			2	double pole					
Function	single and double pole				double pole only						
	01	On-On			11	On-On-On					
	03	On-Off-On			13	On-On-(On)					
	05	(On)-Off-(On)			15	(On)-On-(On)					
	07	On-Off-(On)									
	08	On-(On)									
Toggles	S	bat long			M	bat short					
Bushing	D1	unthreaded									
Terminations	A	right angle	V30	vertical support	W	wire wrap					
	AV2	vertical right angle	V40	vertical support	W4	wire wrap					
	C	printed circuit			Z	wire lug					
Contacts	B	gold		G	gold over silver		Q	silver			
Material	04	RoHS compliant									

Gemini AE Series, Sealed IP67 (Continued)

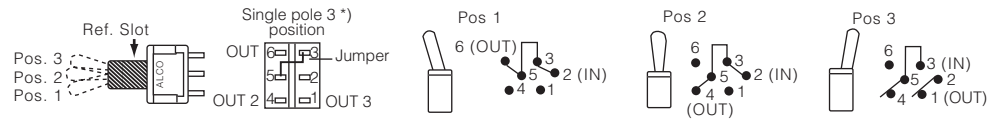
Function



Code	Positions	↘	↓	↙
01	2 positions	On	None	On
03	3 positions	On	Off	On
05	3 positions	(On)	Off	(On)
07	3 positions	(On)	Off	On
08	2 positions	(On)	None	On
SPDT	Term. conn.	1 - 2	---	2 - 3
DPDT	Terminals connected	1 - 2 4 - 5	---	2 - 3 5 - 6
11*)	3 positions	On	On	On
13*)		(On)	On	On
15*)		(On)	On	(On)
DP3T	Terminals connected	1 - 2 4 - 5	2 - 3 4 - 5	2 - 3 5 - 6

Off mechanical position, no electrical connection
 (On) momentary mechanical position and electrical connection
 None no mechanical position
 *) functions available in dual pole case only.
 **) SP3T functions achieved with external jumper installed by customer

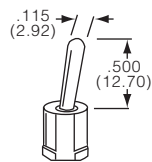
Wiring diagram for functions 11, 13, 15



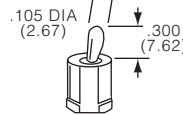
Toggles



S standard, bat long



M short toggle

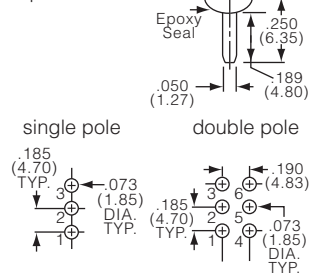


Terminals

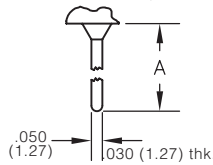


Codes C, W, W4, Z printed circuit, wire wrap and wire lug

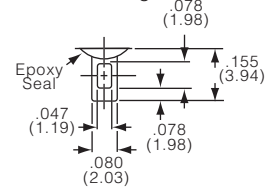
C printed circuit



W, W4 wire wrap



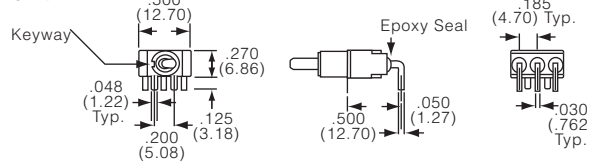
Z wire lug



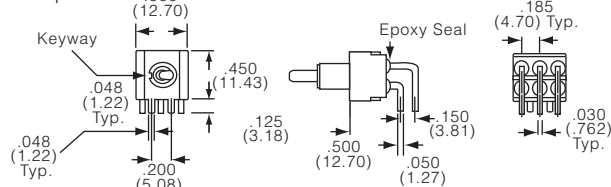
Terminal	Dim A
W	18.69 (.736)
W4	26.98 (1.062)

Code A right angle

single pole

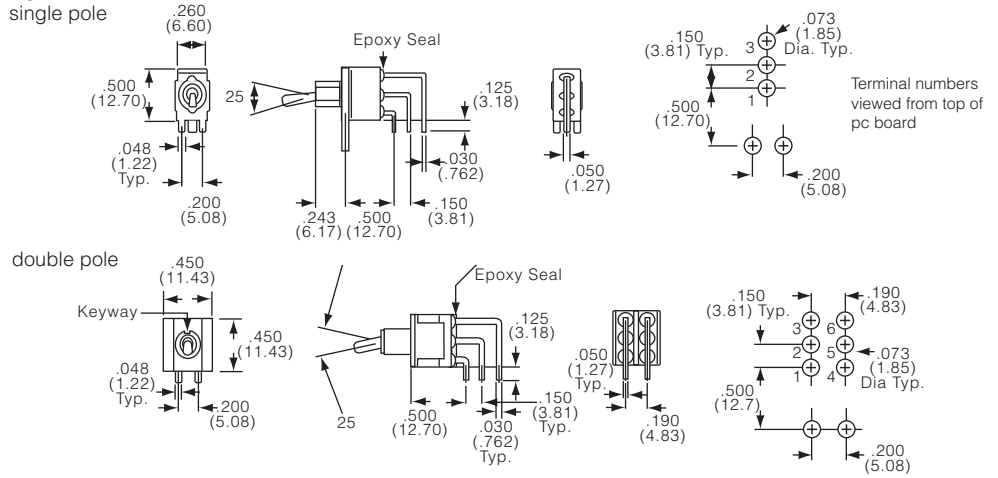


double pole

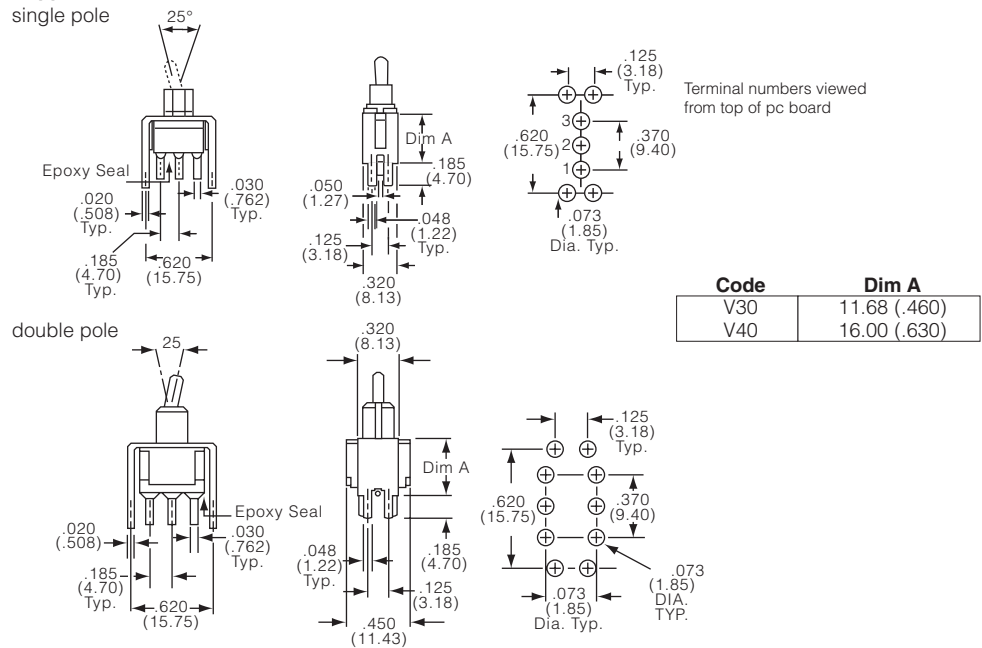


Gemini AE Series, Sealed IP67 (Continued)

Code AV2 vertical right angle



Codes V30, V40 vertical support



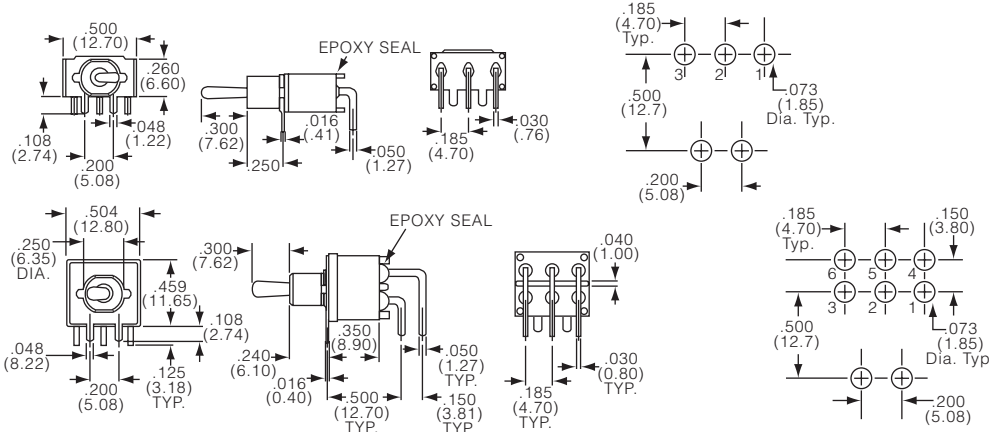
Gemini AE Series, Sealed IP67 (Continued)

Dimensions

Series AE...MD1A short bat, unthreaded, right angle, 1 & 2 pole



AE101MD1AQ



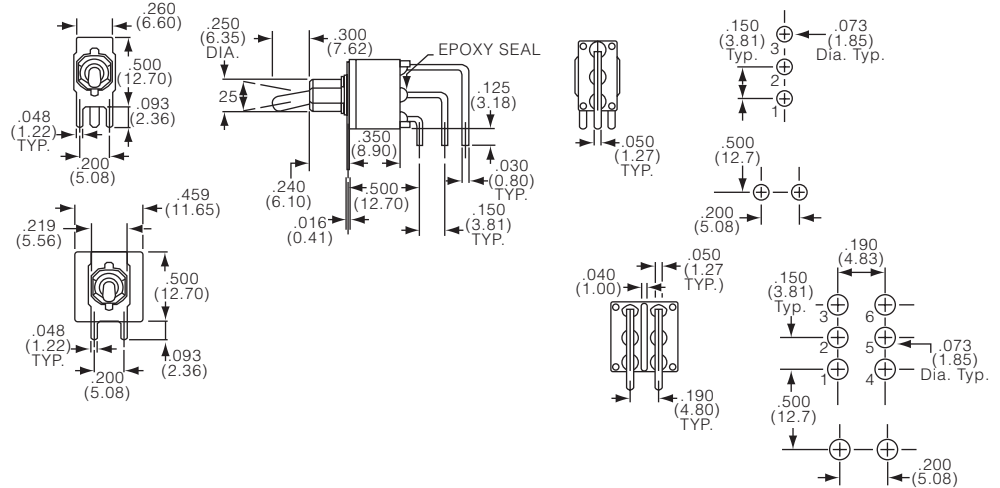
Series AE...MD1AV2 short bat, unthreaded, vertical right angle, 1 & 2 pole



AE101MD1AV2Q



AE201MD1AV2Q



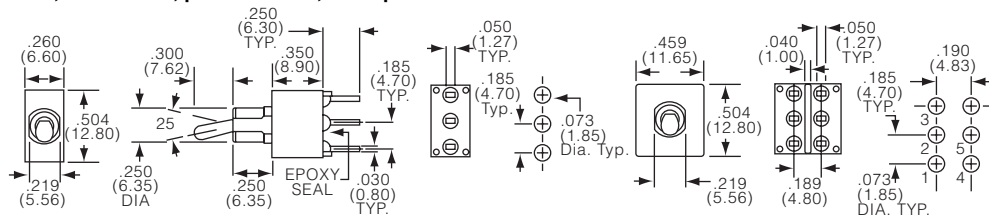
Series AE...MD1C short bat, unthreaded, printed circuit, 1 & 2 pole



AE101MD1CQ

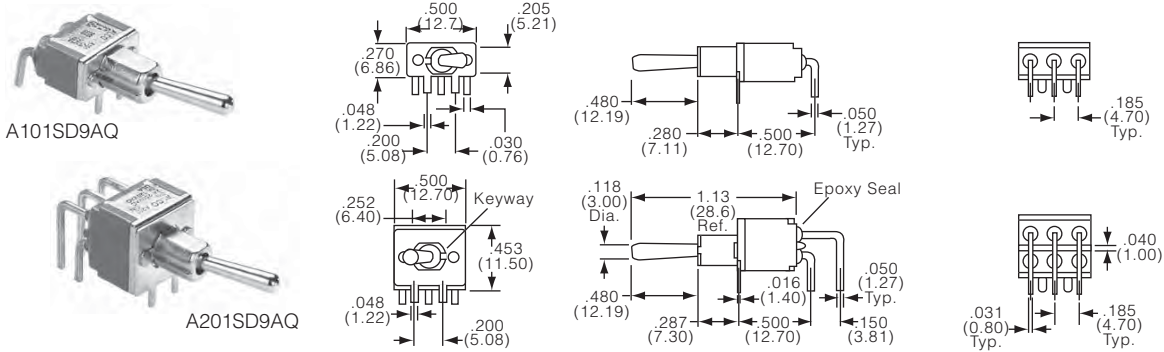


AE201MD1CQ

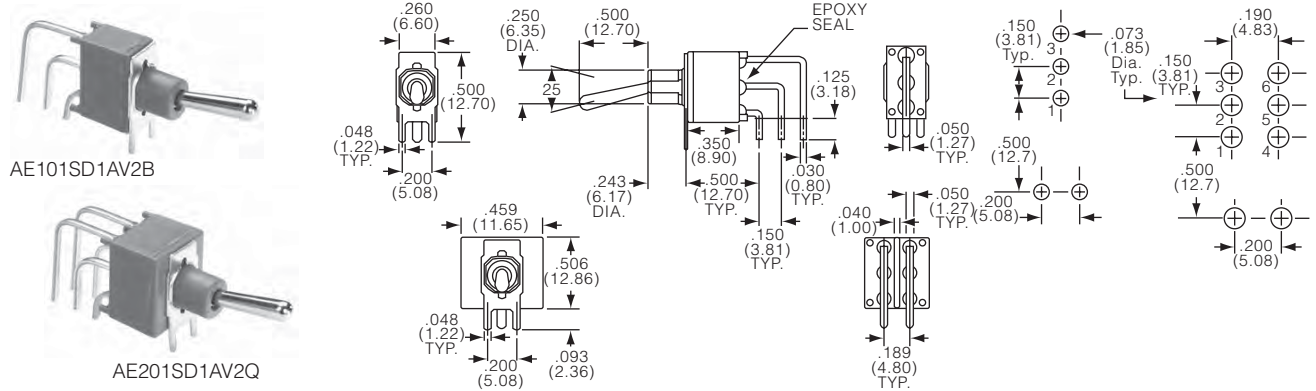


Gemini AE Series, Sealed IP67 (Continued)

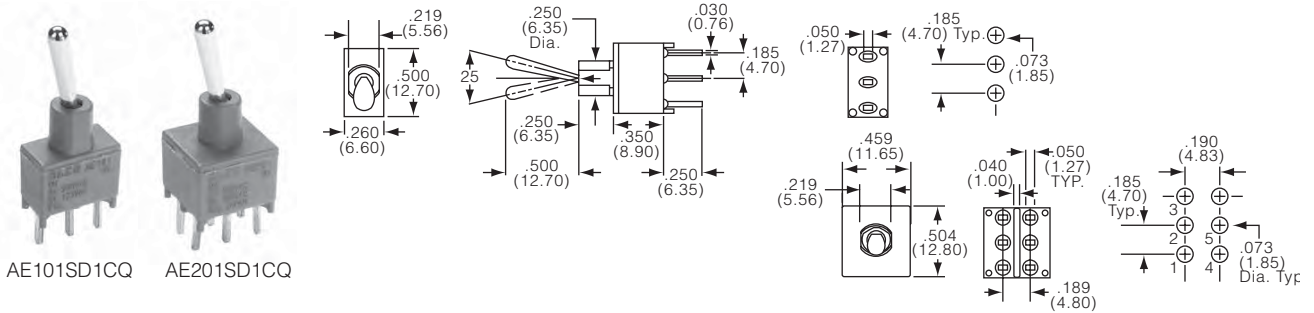
Series AE...SD1A long bat, unthreaded, right angle, 1 & 2 pole



Series AE...SD1AV2 long bat, unthreaded, vertical right angle, 1 & 2 pole



Series AE...SD1C long bat, unthreaded, printed circuit, 1 & 2 pole



Toggle Switches

Gemini AE Series, Sealed IP67 (Continued)

Product key	Poles	Function	Toggles	Bushing	Terminations	Contacts	Material	Part Number								
AE101MD1AB04	1	On-On	bat short	unthreaded	right angle	gold	RoHS	1825142-1								
AE101MD1AG04						Au over Ag		1825142-2								
AE101MD1AQ04						silver		1825142-4								
AE101MD1AV2B04						vertical right angle		gold	1825142-5							
AE101MD1AV2Q04								silver	1825142-6							
AE101MD1CB04						printed circuit		gold	1825142-8							
AE101MD1CG04								Au over Ag	1825142-9							
AE101MD1CQ04								silver	1-1825142-0							
AE101MD1V30B04						vertical support		gold	1-1825142-1							
AE101MD1V30Q04								silver	1-1825142-2							
AE101MD1W4B04						wire wrap		gold	1-1825142-3							
AE101MD1W4Q04								silver	1-1825142-4							
AE101SD1AB04									bat long		right angle	gold	1-1825142-5			
AE101SD1AQ04												silver	1-1825142-6			
AE101SD1AV2B04									vertical right angle		gold	1-1825142-8				
AE101SD1AV2Q04											silver	1-1825142-9				
AE101SD1CB04											printed circuit	2-1825142-0				
AE101SD1CQ04									vertical support		silver	2-1825142-1				
AE101SD1V30B04											gold	2-1825142-2				
AE101SD1V30Q04									silver		2-1825142-3					
AE103MD1AB04	On-Off-On	bat short			right angle		gold		2-1825142-4							
AE103MD1AV2B04							vertical right angle		2-1825142-5							
AE103MD1CB04					printed circuit		2-1825142-6									
AE103MD1W4B04					wire wrap		2-1825142-8									
AE103SD1AV2B04					vertical right angle	bat long			printed circuit	gold	2-1825142-9					
AE103SD1CB04										silver	3-1825142-0					
AE103SD1CQ04										vertical support	3-1825142-1					
AE103SD1V30B04					vertical support				wire wrap	gold	3-1825142-3					
AE103SD1W4B04										silver	3-1825142-4					
AE105MD1AB04					(On)-Off-(On)	bat short			right angle	gold	3-1825142-5					
AE105MD1AG04										Au over Ag	3-1825142-6					
AE105MD1AV2B04									vertical right angle				wire wrap	gold	3-1825142-7	
AE105MD1W4B04	silver	3-1825142-8														
AE105SD1CB04	printed circuit	3-1825142-9														
AE105SD1V30B04	vertical support	bat long							vertical support	gold	4-1825142-0					
AE105SD1W4B04										silver	4-1825142-1					
AE107MD1AV2B04	On-Off-(On)	bat short	bat short						vertical right angle	gold	4-1825142-2					
AE107SD1AB04										right angle	4-1825142-3					
AE107SD1AG04									printed circuit	bat long			vertical support	Au over Ag	4-1825142-4	
AE107SD1CB04														gold	4-1825142-5	
AE107SD1V30B04														silver	4-1825142-6	
AE108MD1AQ04					On-(On)	bat short			right angle	silver	4-1825142-7					
AE108MD1AV2B04										vertical right angle	4-1825142-8					
AE108MD1AV2Q04									bat long				right angle	gold	4-1825142-9	
AE108SD1AB04														silver	5-1825142-0	
AE108SD1AQ04														printed circuit	5-1825142-1	
AE108SD1CQ04									vertical support				vertical support	gold	5-1825142-2	
AE108SD1V30B04														silver	5-1825142-4	
AE108SD1W4B04	wire wrap	5-1825142-5														
AE201MD1AB04	2	On-On	bat short						right angle	gold	1825143-1					
AE201MD1AQ04										silver	1825143-2					
AE201MD1AV2B04										vertical right angle	gold	1825143-3				
AE201MD1CB04											printed circuit	1825143-4				
AE201MD1CQ04					wire wrap	silver	1825143-5									
AE201MD1W4B04						gold	1825143-6									
AE201SD1AB04					right angle	bat long				vertical support	gold	1825143-7				
AE201SD1AG04											Au over Ag	1825143-8				
AE201SD1AV2B04											vertical right angle	1825143-9				
AE201SD1CB04					printed circuit					printed circuit	gold	1-1825143-0				
AE201SD1CQ04											silver	1-1825143-1				
AE201SD1W4B04					wire wrap	1-1825143-2										
AE203MD1AB04					On-Off-On	bat short				right angle	gold	1-1825143-3				
AE203MD1AQ04											silver	1-1825143-4				
AE203MD1AV2B04										vertical right angle				vertical support	gold	1-1825143-5
AE203SD1AB04															right angle	1-1825143-6
AE203SD1AV2B04															vertical right angle	1-1825143-7
AE203SD1AV2Q04										printed circuit				printed circuit	silver	1-1825143-8
AE203SD1CB04															gold	1-1825143-9
AE203SD1W4B04										wire wrap	2-1825143-0					
AE205MD1AV2B04	(On)-Off-(On)	bat short	bat short						vertical right angle	gold	2-1825143-1					
AE205SD1CQ04										printed circuit	2-1825143-2					
AE207MD1AB04									On-Off-(On)	bat long	bat short		right angle	silver	2-1825143-3	
AE208SD1W4B04														gold	2-1825143-4	
AE211MD1CB04					On-(On)	bat long			wire wrap	gold	2-1825143-5					
AE211MD1V30B04										printed circuit	2-1825143-6					
AE211MD1V30Q04					On-On-On	bat short			vertical support	gold	2-1825143-7					

Preferred parts in bold print

MT Green Series

Features

- Wire lug, PC terminals, both right angle and vertical right angle
- MTE series splashproof toggle actuator
- Entire series epoxy sealed terminals
- Actuator guards, decorative hardware, and silicone boot seals available



Typical performance characteristics

Contact configuration SPDT, DPDT, 3PDT, 4PDT
 Contact timing Break-before-make
 Contact rating max. 6A @ 125VAC, 3A @ 250VAC
 Contact resistance, initial max.10 mOhms
 Insulation resistance min. 1,000 MOhms
 Dielectric strength 1,500 Vrms @ sea level
 Actuation force 4 to 20 N (0.4 to 2 kgf)
 Actuator travel 24°~26°

Material specifications

Contacts copper alloy silver clad
 Toggle brass nickel plated
 Terminals copper alloy gold flash
 Terminal seal epoxy
 Housing alkyd polyester (green)UL94 V-O
 Frame stainless steel
 Support Bracket steel nickel plated
 Spring music wire
 RoHS Directive 2002/95/EC compliant

Environmental specification

Operating temperature -20°C to +80°C
 Storage temperature -40°C to +80°C
 Solder heat resistance wave solder capable to 265° C
 Seal epoxy sealed terminals
 MTE series splashproof toggle actuator O-ring

Toggle Switches

Product key		Typical product key		MT	A	1	06	E	PC	04
Type		Green series toggle switches, panel mount								
Toggle & bushing										
A	.410 long round toggle, 1/4-40 bushing									
A8	.410 long round toggle, 1/4-40 bushing, right angle & vertical right angle									
B	.600 long round toggle with plastic tip, 1/4-40 bushing									
E	.410 long round toggle, 1/4-40 bushing with O ring seal									
F	.485 long flat toggle, 1/4-40 bushing									
G	.452 long large diameter round toggle, 15/32 bushing									
G2	.685 long large diameter round toggle, 15/32 bushing									
L	locking toggle, 1/4-40 bushing									
M	.270 long round toggle, 1/4-40 bushing									
M8	.270 long round toggle, 1/4-40 bushing, right angle & vertical right angle									
Number of Poles										
1	single pole	3	3 pole							
2	double pole	4	4 pole							
Toggle style										
06	standard	26	bright nickel, for toggle F	6	standard for toggle G2					
Function										
1 and 3 pole		2 and 4 pole		1 and 2 pole functionality *)						
D	ON-ON	N	ON-ON	PA	ON-ON-ON					
E	ON-OFF-ON	P	ON-OFF-ON	SA	(ON)-ON-(ON)					
F	ON-(ON)	R	ON-(ON)	TA	ON-ON-(ON)					
G	(ON)-OFF-(ON)	S	(ON)-OFF-(ON)	*) 2 and 4 pole design, internally connected						
H	ON-OFF-(ON)	T	ON-OFF-(ON)	for 1 and 2 pole functionality						
Terminations										
blank	wire lug	RA	right angle							
PC	printed circuit board	VRA	vertical right angle							
Material										
04	RoHS compliant									

MT Green Series (Continued)

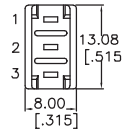
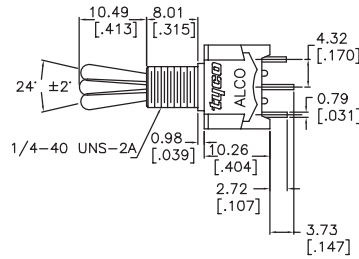
MTA



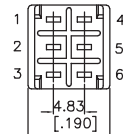
MTA1, MTA2 1 & 2 pole



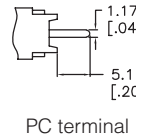
MTA106D04 MTA206NPC04



MTA106



MTA206

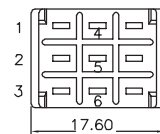
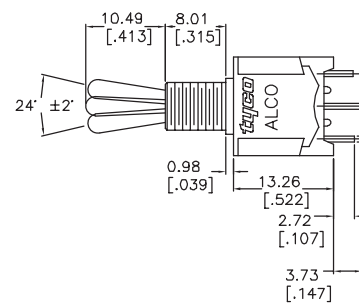


PC terminal

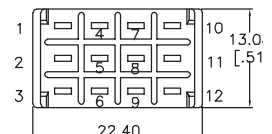
MTA3, MTA4 3 & 4 pole



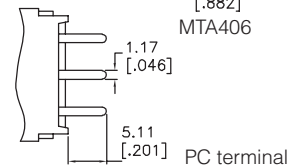
MTA306D04 MTA406NPC04



MTA306



MTA406

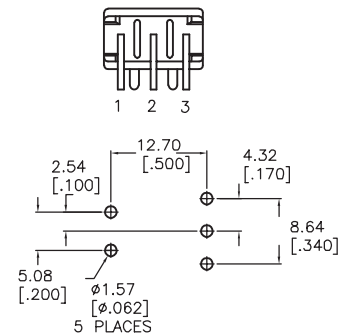
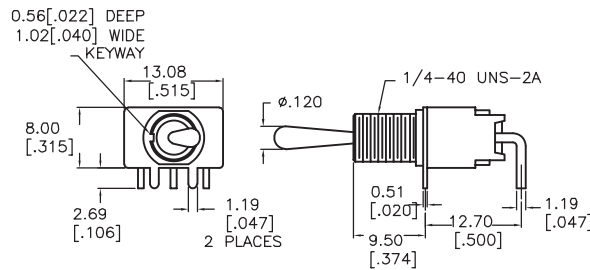


PC terminal

MTA81 RA 1pole, right angle



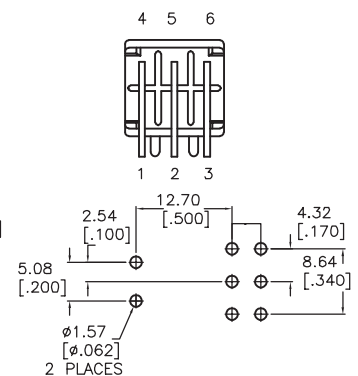
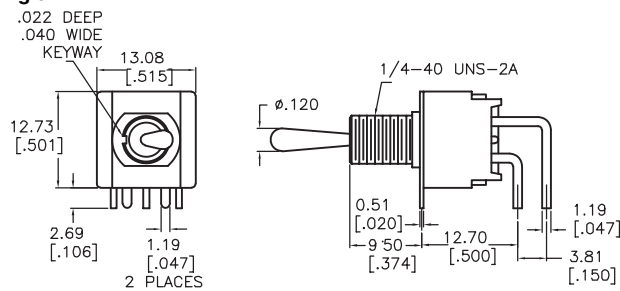
MTA8106DRA04



MTA82 RA 2pole, right angle



MTA8206NRA04



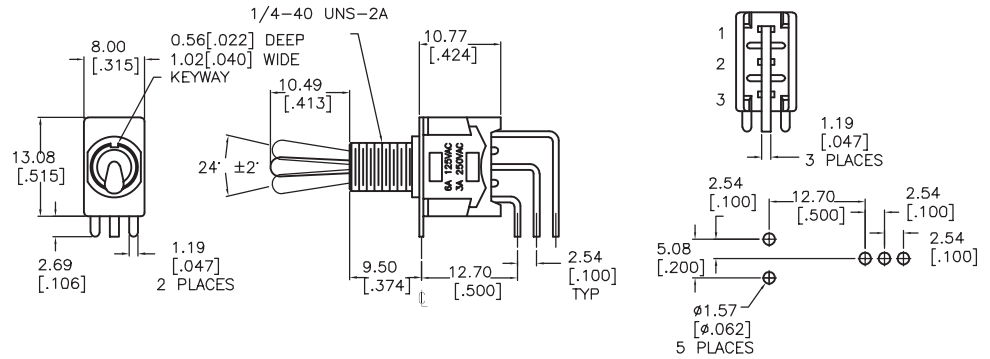
Toggle Switches

MT Green Series (Continued)

MTA81 VRA 1pole, vertical right angle



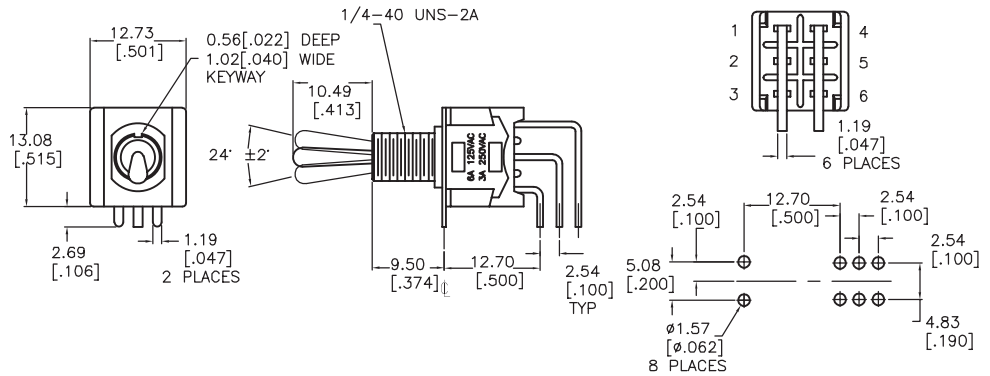
MTA8106DVRA04



MTA82 VRA 2pole, vertical right angle



MTA8206NVRA04



MTB



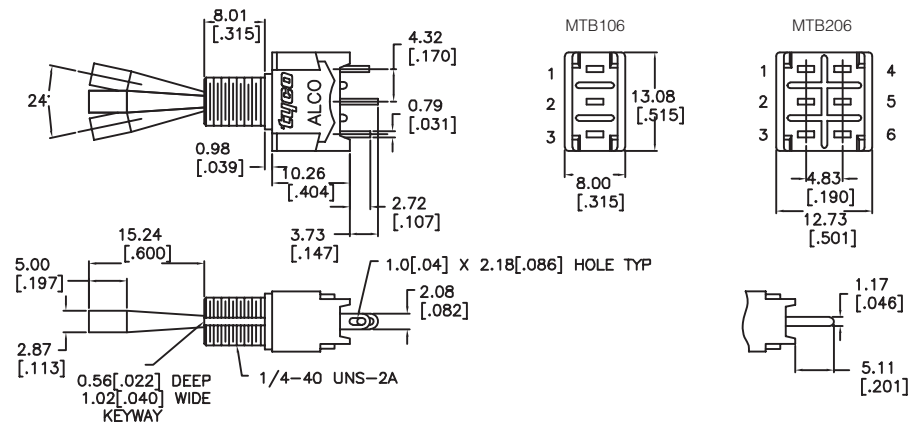
MTB1, MTB2 1 & 2 pole



MTB106D04

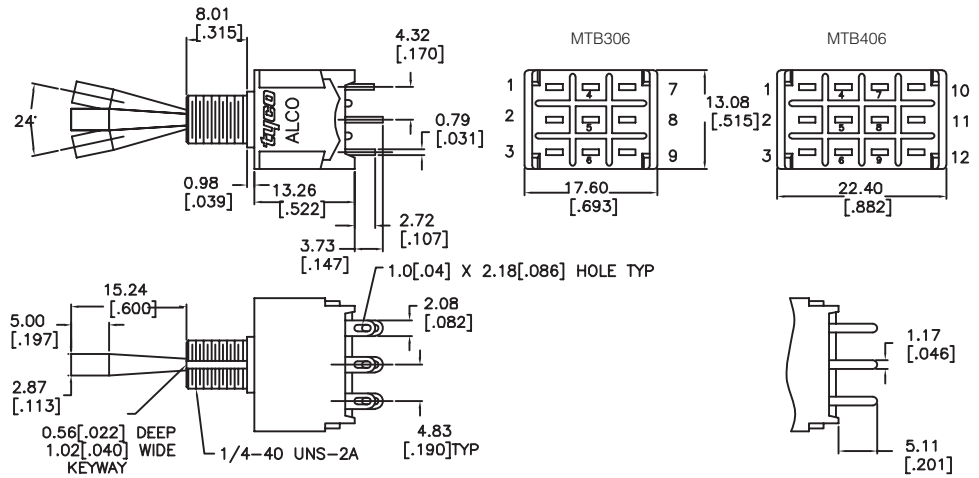


MTB206N04



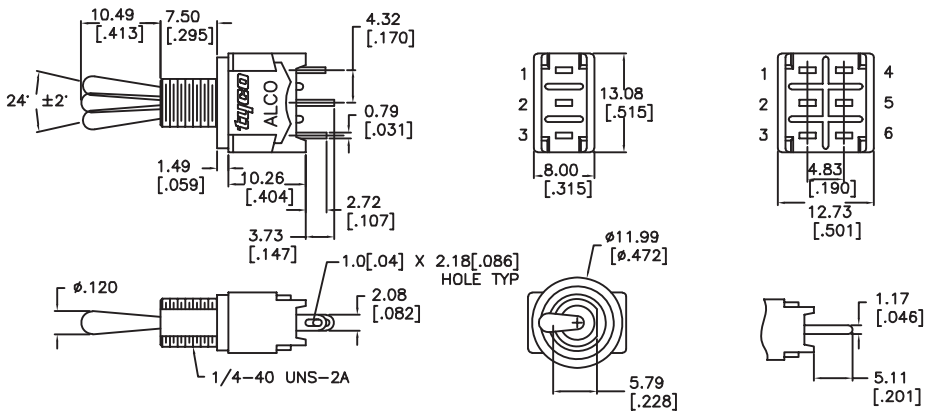
MT Green Series (Continued)

MTB3, MTB4 3 & 4 pole

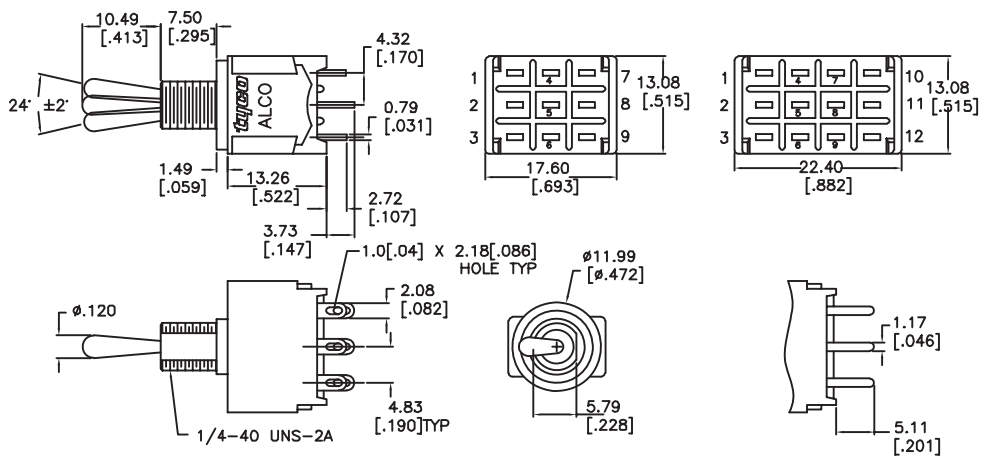


MTE

MTE1, MTE2 1 & 2 pole



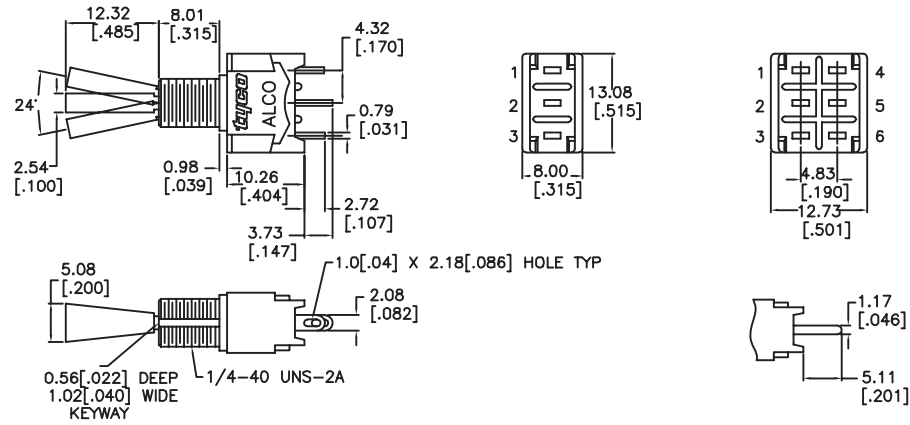
MTE3, MTE4 3 & 4 pole



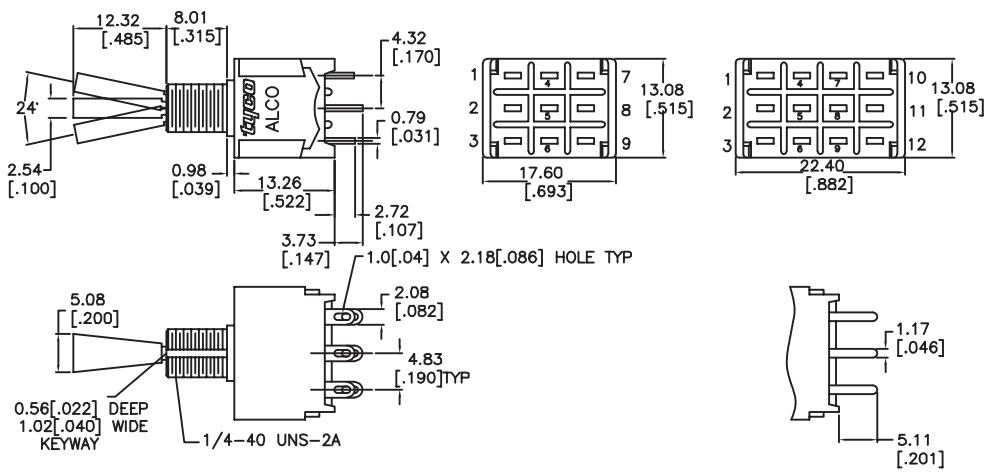
MT Green Series (Continued)

MTF

MTF1, MTF2 1 & 2 pole

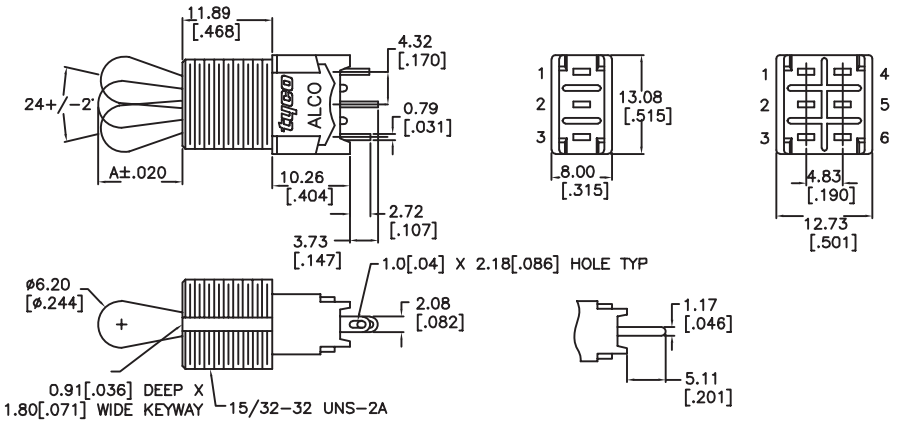


MTF3, MTF4 3 & 4 pole



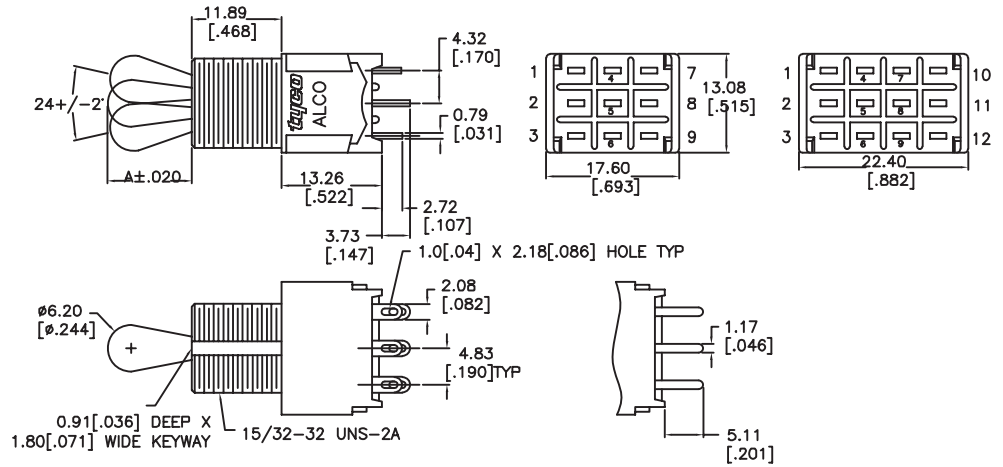
MTG

MTG1, MTG2 1 & 2 pole



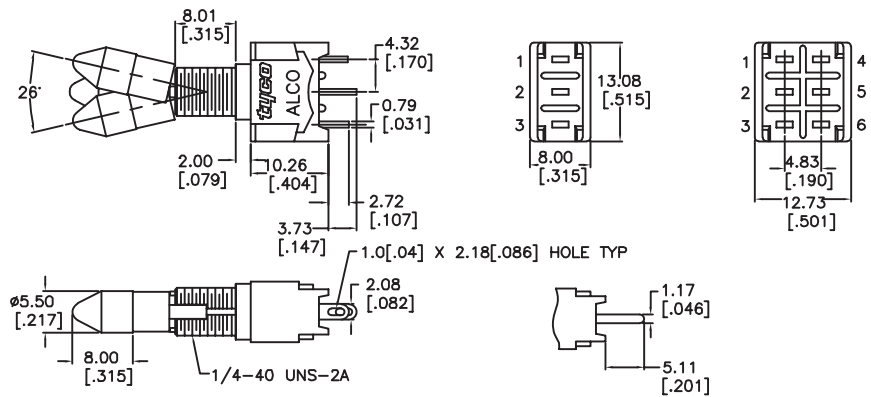
MT Green Series (Continued)

MTG3, MTG4 3 & 4 pole

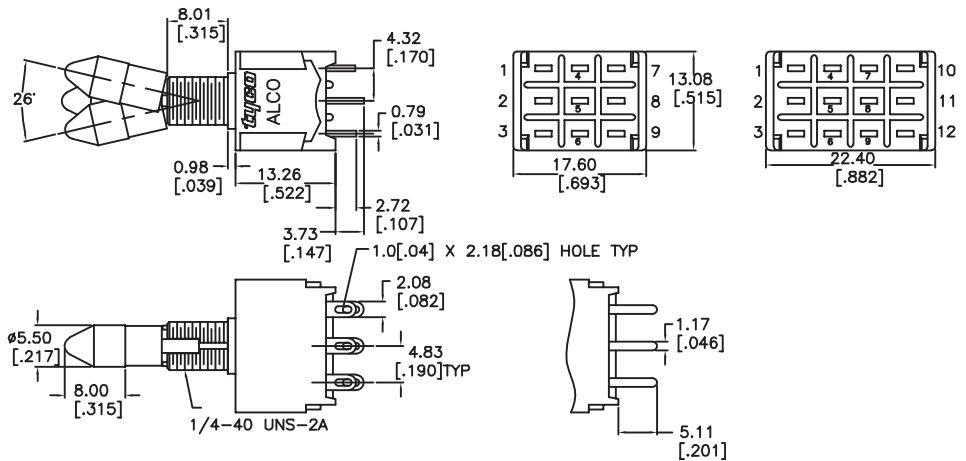


MTL

MTL1, MTL2 1 & 2 pole



MTL3, MTL4 3 & 4 pole

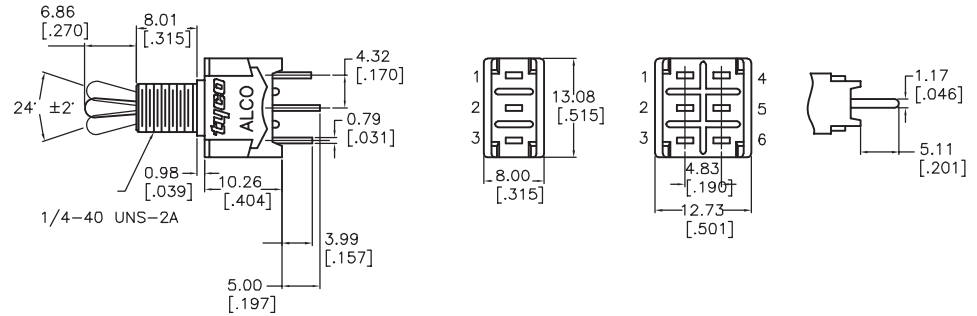


MT Green Series (Continued)

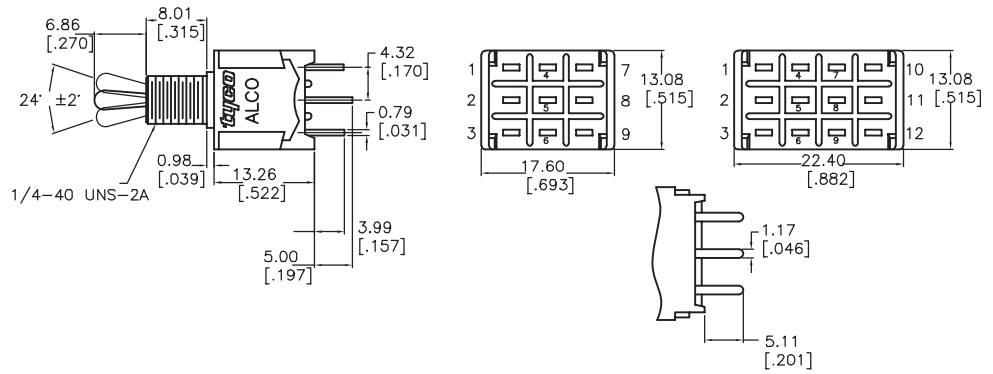
MTM



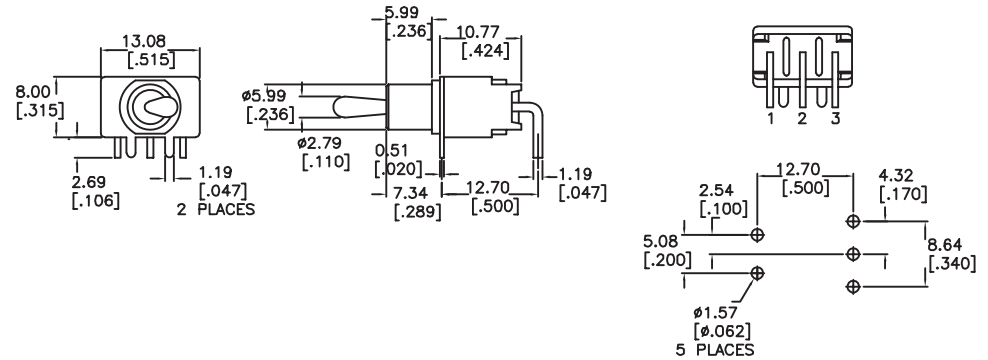
MTM1, MTM2 1 & 2 pole



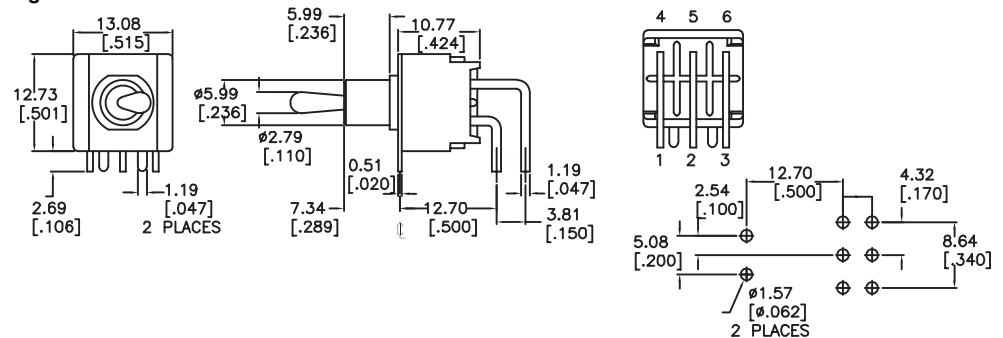
MTM3, MTM4 3 & 4 pole



MTM81 RA 1pole, right angle



MTM82 RA 2pole, right angle

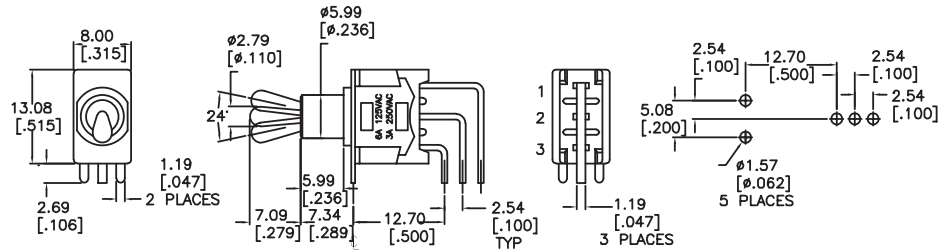


MT Green Series (Continued)

MTM81 VRA 1pole, vertical right angle



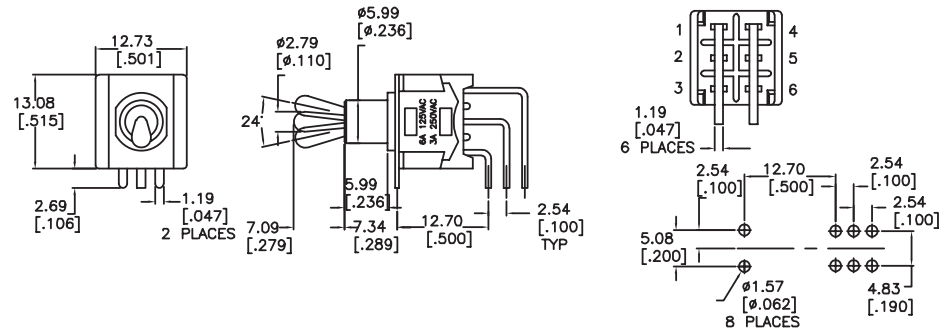
MTM8106DVRA04



MTM82 VRA 2pole, vertical right angle



MTM8206NVRA04



Function

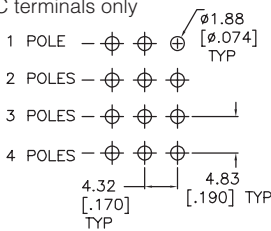


Function	Poles	Throws	↙	↓	↘	↙	↓	↘
A	1	1	On	None	Off	2-3	-	Off
D	1	2	On	None	On	2-3	-	2-1
D	3	2	On	None	On	2-3, 5-6, 8-9	-	2-1, 5-4, 8-7
E	1	2	On	Off	On	2-3	Off	2-1
E	3	2	On	Off	On	2-3, 5-6, 8-9	Off	2-1, 5-4, 8-7
F	1	2	On	None	(On)	2-3	-	2-1
F	3	2	On	None	(On)	2-3, 5-6, 8-9	-	2-1, 5-4, 8-7
G	1	2	(On)	Off	(On)	2-3	Off	2-1
H	1	2	On	Off	(On)	2-3	Off	2-1
H	3	2	On	Off	(On)	2-3, 5-6, 8-9	Off	2-1, 5-4, 8-7
N	2	2	On	None	On	2-3, 5-6	-	2-1, 5-4
N	4	2	On	None	On	2-3, 5-6, 8-9, 11-12	-	2-1, 5-4, 8-7, 11-10
P	2	2	On	Off	On	2-3, 5-6	Off	2-1, 5-4
P	4	2	On	Off	On	2-3, 5-6, 8-9, 11-12	Off	2-1, 5-4, 8-7, 11-10
PA	1 ¹⁾	3	On	On	On	5-6	5-3	5-1
PA	2 ²⁾	3	On	On	On	5-6, 11-12	5-3, 11-9	5-1, 11-7
R	2	2	On	None	(On)	2-3, 5-6	-	2-1, 5-4
S	2	2	(On)	Off	(On)	2-3, 5-6	Off	2-1, 5-4
SA	1 ¹⁾	3	(On)	On	(On)	5-6	5-3	5-1
T	2	2	On	Off	(On)	2-3, 5-6	Off	2-1, 5-4
TA	1 ¹⁾	3	On	On	(On)	5-6	5-3	5-1

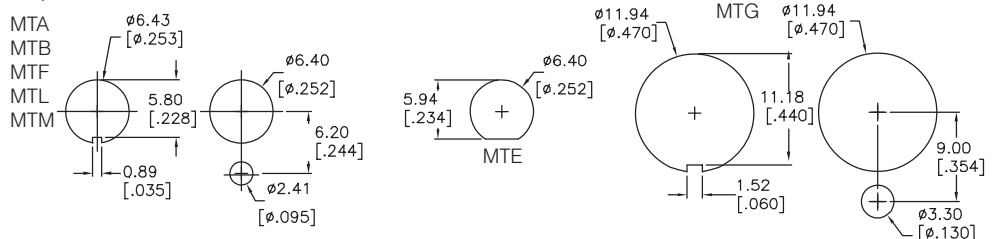
¹⁾ customer installed external jumper between terminals 1 and 4 required for 1 pole 3 throw function
²⁾ customer installed external jumpers between terminals 2 and 4 as well as between 8 and 10 required for 2 pole 3 throw function
 Off indicates a mechanical position with no electrical connection
 (On) indicates momentary connection
 None indicates no mechanical position

Mounting

PC board layout
 PC terminals only



Recommended hole layout
 to prevent rotation



MT Green Series (Continued)

Toggle Switches

Product key	Toggle	Bushing	Poles	Terminations	Material	Part Number		
MTA106D04	.410 round	1/4-40 bushing	1	wire lug	RoHS compliant	1571920-3		
MTA106DPC04				pc board		1571920-4		
MTA106E04				wire lug		1571920-5		
MTA106EPC04				pc board		1571920-6		
MTA106F04				wire lug		1571920-7		
MTA106FPC04				pc board		1571920-8		
MTA106G04				wire lug		1571920-9		
MTA106GPC04				pc board		1-1571920-0		
MTA106H04				wire lug		1-1571920-1		
MTA106HPC04			pc board	1-1571920-2				
MTA206N04			2	wire lug	1-1571920-5			
MTA206NPC04				pc board	1-1571920-6			
MTA206P04				wire lug	1-1571920-7			
MTA206PA04			1			1-1571920-8		
MTA206PAPC04					pc board	1-1571920-9		
MTA206PPC04			2		pc board	2-1571920-0		
MTA206R04					wire lug	2-1571920-1		
MTA206RPC04					pc board	2-1571920-2		
MTA206S04					wire lug	2-1571920-3		
MTA206SA04			1			2-1571920-4		
MTA206SAPC04					pc board	2-1571920-5		
MTA206SPC04			2			2-1571920-6		
MTA206T04					wire lug	2-1571920-7		
MTA206TA04			1			2-1571920-8		
MTA206TPC04					pc board	2-1571920-9		
MTA306D04					3	wire lug		3-1571920-0
MTA306DPC04						pc board		3-1571920-1
MTA306E04	wire lug	3-1571920-2						
MTA306EPC04	pc board	3-1571920-3						
MTA306F04	wire lug	3-1571920-4						
MTA306FFPC04	pc board	3-1571920-5						
MTA306H04	wire lug	3-1571920-6						
MTA306HPC04	pc board	3-1571920-7						
MTA406N04	4				wire lug	3-1571920-8		
MTA406NPC04					pc board	3-1571920-9		
MTA406P04					wire lug	4-1571920-0		
MTA406PA04	2					4-1571920-1		
MTA406PAPC04					pc board	4-1571920-2		
MTA406PPC04	4					4-1571920-3		
MTA8106DGVRA04					1		vertical r.a.	1571922-3
MTA8106DRA04	right angle	1571922-4						
MTA8106DVRA04	vertical r.a.	1571922-5						
MTA8106EGRA04	right angle	1571922-6						
MTA8106EGVRA04	vertical r.a.	1571922-7						
MTA8106ERA04	right angle	1571922-8						
MTA8106EVRA04	vertical r.a.	1571922-9						
MTA8106FRA04	right angle	1-1571922-0						
MTA8106FVRA04	vertical r.a.	1-1571922-1						
MTA8206NRA04	2						right angle	1-1571922-4
MTA8206NVRA04							vertical r.a.	1-1571922-5
MTA8206PGVRA04								1-1571922-6
MTA8206PRA04							right angle	1-1571922-7
MTA8206PVRA04			vertical r.a.	1-1571922-8				
MTA8206RRA04			right angle	1-1571922-9				
MTB106D04			.600 round, w plastic tip	1/4-40 bushing			1	wire lug
MTB106E04		1571923-4						
MTB106F04		1571923-5						
MTB106G04	2							1571923-6
MTB206N04						1571923-9		
MTB206P04						1-1571923-0		
MTB206T04	3					1-1571923-1		
MTB306D04						1-1571923-2		
MTB406N04					4	1-1571923-3		

Preferred parts in bold print

MT Green Series (Continued)

Product key	Toggle	Bushing	Poles	Terminations	Material	Part Number
MTE106D04	.410 round	1/4-40, O-ring seal	1	wire lug		1571924-3
MTE106E04						1571924-4
MTE106F04						1571924-5
MTE106G04						1571924-6
MTE106H04						1571924-7
MTE206N04			2			1-1571924-0
MTE206P04						1-1571924-1
MTE206PA04			1			1-1571924-2
MTE206R04			2			1-1571924-3
MTE206S04						1-1571924-4
MTE206T04						1-1571924-5
MTE306D04			3			1-1571924-6
MTE306E04						1-1571924-7
MTE406N04			4			1-1571924-8
MTE406P04						1-1571924-9
MTF106D04	.485 flat	1/4-40 bushing	1			1571925-3
MTF106E04						1571925-4
MTF106F04						1571925-5
MTF106G04						1571925-6
MTF106H04						1571925-7
MTF126D04						1-1571925-0
MTF126E04						1-1571925-1
MTF126F04						1-1571925-2
MTF126G04						1-1571925-3
MTF206N04			2			1-1571925-6
MTF206P04						1-1571925-7
MTF206PA04			1			1-1571925-8
MTF206R04			2			1-1571925-9
MTF206S04						2-1571925-0
MTF206SA04			1			2-1571925-1
MTF206T04			2			2-1571925-2
MTF226N04						2-1571925-5
MTF226P04						2-1571925-6
MTF226PA04			1			2-1571925-7
MTF226R04			2			2-1571925-8
MTF226S04						2-1571925-9
MTF226SA04			1			3-1571925-0
MTF306D04			3			3-1571925-1
MTF326D04						3-1571925-2
MTF406N04			4			3-1571925-3
MTF426N04						3-1571925-4
MTG106D04	.452 large diam. round	15/32 bushing	1			1571926-3
MTG106E04						1571926-4
MTG106F04						1571926-5
MTG106G04						1571926-6
MTG106H04						1571926-7
MTG126D04	.685 large diam. round	15/32 bushing				1-1571926-0
MTG126E04						1-1571926-1
MTG126G04						1-1571926-2
MTG206N04	.452 large diam. round	15/32 bushing	2			1-1571926-5
MTG206NPC04				pc board		1-1571926-6
MTG206P04				wire lug		1-1571926-7
MTG206PA04			1			1-1571926-8
MTG206R04			2			1-1571926-9
MTG206S04						2-1571926-0
MTG206T04						2-1571926-1
MTG226N04	.685 large diam. round	15/32 bushing				2-1571926-4
MTG226P04						2-1571926-5
MTG226PA04			1			2-1571926-6
MTG306D04	.452 large diam. round	15/32 bushing	3			2-1571926-7
MTG306E04						2-1571926-8
MTG326D04	.685 large diam. round	15/32 bushing				2-1571926-9
MTG406N04	.452 large diam. round	15/32 bushing	4			3-1571926-0
MTG406P04						3-1571926-1
MTG426N04	.685 large diam. round	15/32 bushing				3-1571926-2

Preferred parts in bold print

MT Green Series (Continued)

Product key	Toggle	Bushing	Poles	Terminations	Material	Part Number
MTL106D04	locking	1/4-40 bushing	1	wire lug		1571927-2
MTL106E04						1571927-3
MTL206N04			2			1571927-5
MTL206NPC04				pc board		1571927-6
MTL206P04				wire lug		1571927-7
MTL206PA04			1			1571927-8
MTL206S04			2			1571927-9
MTL306D04			3			1-1571927-0
MTL306E04						1-1571927-1
MTL406N04			4			1-1571927-2
MTL406PA04			2			1-1571927-3
MTM106DPC04	.270 round	1/4-40 bushing	1	pc board		1571921-2
MTM106EPC04						1571921-3
MTM106FPC04						1571921-4
MTM206NPC04			2			1571921-6
MTM206PAPC04			1			1571921-7
MTM206PPC04			2			1571921-8
MTM206SPC04						1571921-9
MTM306DPC04			3			1-1571921-0
MTM406NPC04			4			1-1571921-1
MTM8106DGRA04			1	right angle		2-1571922-2
MTM8106DRA04						2-1571922-3
MTM8106DVRA04				vertical r.a.		2-1571922-4
MTM8106ERA04				right angle		2-1571922-5
MTM8106EVRA04				vertical r.a.		2-1571922-6
MTM8106FRA04				right angle		2-1571922-7
MTM8206NRA04			2	right angle		3-1571922-0
MTM8206NVRA04				vertical r.a.		3-1571922-1
MTM8206PRA04				right angle		3-1571922-2
MTM8206PVRA04				vertical r.a.		3-1571922-3
MTM8206RRA04				right angle		3-1571922-4
MTM8206RVRA04				vertical r.a.		3-1571922-5

Toggle Switches

F Series, Power Toggle, Panel Mounting, 6A

Features

- Wide choice of toggles
- Wide range switch functions available
- Terminals are gold-flashed to prevent oxidation and for ease of soldering
- Up to 4 poles



Typical performance characteristics

Number of poles 1 to 4 pole
 Switch functions ON-ON, ON-(ON), ON-OFF-ON, ON-ON-ON,
 ON-OFF-(ON), (ON)-OFF-(ON)
 Contact rating 6 A @250 VAC, 6 A @125 VAC;
 gold contact: 0,4 VA max 20 V AC/DC
 Electrical life 25,000 to 50,000 cycles
 Mechanical life 50,000 to 100,000 cycles
 Contact resistance max 10 mOhm
 Insulation resistance min 1,000 MOhm
 Dielectric strength 1,000 VAC for 1 min
 Actuation force max 19,6 N
 Panel cut-out Ø 6,2 mm
 Standards and specs UL, CSA

Environmental specification

Operating temperature -20 to +70°C
 Storage temperature -20 to +70°C
 Vibration resistance 1,5 mm 10-55 Hz
 Shock resistance 50 g for 11±1 msec
 Terminal strength 24,5 N

Material specifications

Contacts brass silver alloy finished
 Toggle brass chromium plated
 Terminals brass plate
 Case phenol resin
 Cover steel zinc plated
 Seal rubber seal, insert molded rubber
 RoHS compliance compliant

Product key	Typical product key		F	T	D	0	9	04
Type	F Series power toggle switch							
Number of poles	blank	1 & 2 pole	3	3 poles				
			4	4 poles				
Model	toggle							
Switch function & poles	1 & 3 Pole		2 & 4 Pole					
	D	ON-ON	N	ON-ON				
	E	ON-OFF-ON	P	ON-OFF-ON				
	F	ON-(ON)	R	ON-(ON)				
	G	(ON)-OFF-(ON)	S	(ON)-OFF-(ON)				
	H	ON-OFF-(ON)	T	ON-OFF-(ON)				
			PA	ON-ON-ON				
Actuator	0	standard toggle	7	long flat toggle				
	5	locking lever						
Terminal type	leadwire hooking type							
Contact material	blank	silver	G	gold				
Material	RoHS compliant							

F Series, Power Toggle, Panel Mounting, 6A (Continued)

Function



Code 0 standard toggle

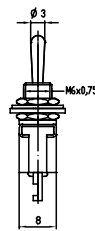
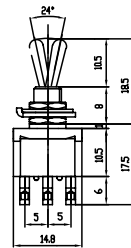
Fct.	Poles	↙	↓	↘	↙	↓	↘
D	1	On	None	On	1-2	-	2-3
E	1	On	Off	On	1-2	Off	2-3
F	1	On	None	(On)	1-2	-	2-3
G	1	(On)	Off	(On)	1-2	Off	2-3
H	1	On	Off	(On)	1-2	Off	2-3
N	2	On	None	On	1-2, 4-5	-	2-3, 5-6
P	2	On	Off	On	1-2, 4-5	Off	2-3, 5-6
R	2	On	None	(On)	1-2, 4-5	-	2-3, 5-6
S	2	(On)	Off	(On)	1-2, 4-5	Off	2-3, 5-6
T	2	On	Off	(On)	1-2, 4-5	Off	2-3, 5-6
PA	2	On	On	On	1-2, 4-5	2-3, 4-5	2-3, 5-6
D	3	On	None	On	1-2, 4-5, 7-8	-	2-3, 5-6, 8-9
N	4	On	None	On	1-2, 4-5, 7-8, 10-11	-	2-3, 5-6, 8-9, 11-12
PA	4	On	On	On	1-2, 4-5, 7-8, 10-11	2-3, 4-5, 7-8, 11-12	2-3, 5-6, 8-9, 11-12

Offi indicates a mechanical position with no electrical connection
 (On) indicates momentary connection
 None indicates no mechanical position

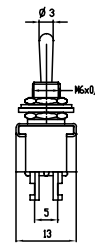
Actuator



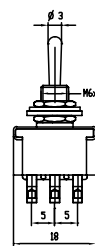
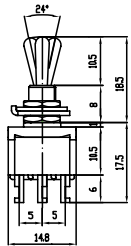
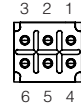
Code 0 standard toggle



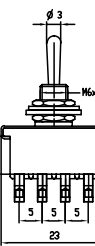
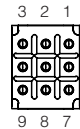
1 pole



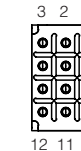
2 pole



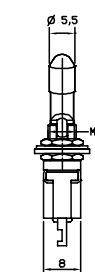
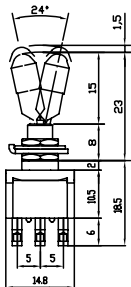
3 pole



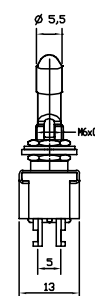
4 pole



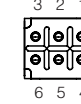
Code 5 locking lever



1 pole

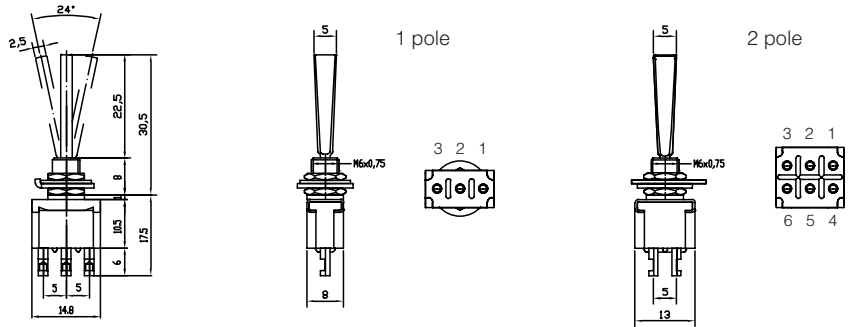


2 pole



F Series, Power Toggle, Panel Mounting, 6A (Continued)

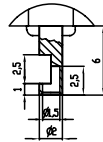
Code 7 long flat toggle



Terminal

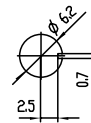


Code 9 leadwire hooking type

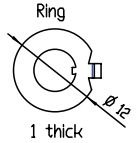


Mounting

Recommended hole layout to prevent rotation



Panel Cutout using Ring



Product key	Poles	Switch func.	Actuator	Terminal	Contacts	Material	Part Number
F3TD0904	3 poles	ON-ON	standard	leadwire	silver	RoHS	2-6437630-8
F4TN0904	4 poles			hooking		compliant	3-6437630-5
F4TPA0904		ON-ON-ON		type			3-6437630-6
FTD0904	1 pole	ON-ON	standard				2-6437630-0
FTD09G04					gold		3-6437630-4
FTD5904			locking lever		silver		1-6437630-5
FTD59G04					gold		4-6437630-0
FTD7904			flat toggle		silver		5-6437630-3
FTD79G04					gold		5-6437630-4
FTE0904		ON-OFF-ON	standard		silver		6-6437630-2
FTE09G04					gold		5-6437630-1
FTE79G04			flat toggle				5-6437630-8
FTF0904		ON-(ON)	standard		silver		5-6437630-7
FTF09G04					gold		6-6437630-3
FTG0904		(ON)-OFF-(ON)			silver		5-6437630-5
FTG09G04					gold		3-6437630-8
FTH0904		ON-OFF-(ON)			silver		4-6437630-8
FTH09G04					gold		6-6437630-4
FTN0904	2 poles	ON-ON			silver		4-6437630-2
FTN09G04					gold		6-6437630-8
FTN5904			locking lever		silver		3-6437630-9
FTN59G04					gold		6-6437630-1
FTN7904			flat toggle		silver		5-6437630-2
FTN79G04					gold		5-6437630-9
FTP0904		ON-OFF-ON	standard		silver		4-6437630-6
FTPA0904							4-6437630-5
FTR0904		ON-(ON)					4-6437630-4
FTS0904		(ON)-OFF-(ON)					4-6437630-3
FTT0904		ON-OFF-(ON)					4-6437630-1

Preferred parts in bold print

AW Series, Power Toggle, Panel Mounting, Waterproof

Features

- IP67 panel mounting seal
- Sleeve and Frame are sealed.
- Fixed contact molded-inserting construction
- Wide range switch functions available



Typical performance characteristics

Number of poles 1,2 and 4 pole
 Switch functions ON-OFF, ON-ON, ON-(ON),
 ON-OFF-ON, ON-OFF-(ON), (ON)-OFF-(ON)
 Contact rating 20 A @250 VAC, 20 A @125 VAC, 20 A @30 VDC
 Electrical life 20,000 cycles
 Mechanical life 40,000 cycles
 Contact resistance max 10 mOhm
 Insulation resistance min 1,000 MOhm
 Dielectric strength 1,500 VAC for 1 min
 Actuation force max 29,4 N
 Panel cut-out D-cut, 12,5 mm
 Standards and specs UL, CSA

Environmental specification

Operating temperature -20 to +70°C
 Storage temperature -20 to +70°C
 Vibration resistance 1,5 mm 10-55 Hz
 Shock resistance 50 g for 11±1 msec
 Terminal strength 24,5 N

Material specifications

Contacts brass silver alloy finished
 Toggle brass chromium plated
 Case brass plate
 Terminals phenol resin
 Cover steel zinc plated
 Seal rubber seal, insert molded rubber
 RoHS compliance compliant

Toggle Switches

Product key	Typical product key							A	W	T	T	1	5	04																				
Type	A A Series power toggle switch, 1 & 2 pole																																	
Sealing	W water proof																																	
Actuator style	T toggle																																	
Switch function & poles	<table border="0"> <tr> <td>1 pole</td> <td></td> <td>2 pole</td> </tr> <tr> <td>A ON-OFF</td> <td></td> <td>N ON-ON</td> </tr> <tr> <td>D ON-ON</td> <td></td> <td>P ON-OFF-ON</td> </tr> <tr> <td>E ON-OFF-ON</td> <td></td> <td>R ON-(ON)</td> </tr> <tr> <td>F ON-(ON)</td> <td></td> <td>S (ON)-OFF(ON)</td> </tr> <tr> <td>G (ON)-OFF(ON)</td> <td></td> <td>T ON-OFF-(ON)</td> </tr> <tr> <td>H ON-OFF-(ON)</td> <td></td> <td></td> </tr> </table>							1 pole		2 pole	A ON-OFF		N ON-ON	D ON-ON		P ON-OFF-ON	E ON-OFF-ON		R ON-(ON)	F ON-(ON)		S (ON)-OFF(ON)	G (ON)-OFF(ON)		T ON-OFF-(ON)	H ON-OFF-(ON)								
1 pole		2 pole																																
A ON-OFF		N ON-ON																																
D ON-ON		P ON-OFF-ON																																
E ON-OFF-ON		R ON-(ON)																																
F ON-(ON)		S (ON)-OFF(ON)																																
G (ON)-OFF(ON)		T ON-OFF-(ON)																																
H ON-OFF-(ON)																																		
Power rating	1 20 A @ 125/250 VAC																																	
Terminal type	5 .250 quick connect terminal																																	
Material	04 RoHS compliant																																	

AW Series, Power Toggle, Panel Mounting, Waterproof (Continued)

Product key

Typical product key

A 4 T K 1 5 W 04

Type

A A Series power toggle switch, 4 pole

Poles

4 4 pole

Actuator style

T toggle

Switch function

K ON-OFF

N ON-ON

P ON-OFF-ON

R ON-(ON)

S (ON)-OFF(ON)

Power rating

1 20 A @ 125/250 VAC

Terminal type

5 .250 quick connect terminal

Sealing

W water proof

Material

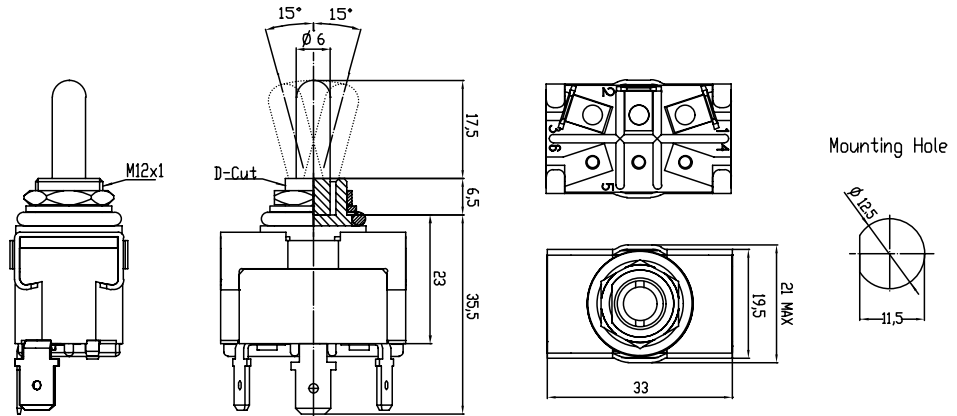
04 RoHS compliant

Poles

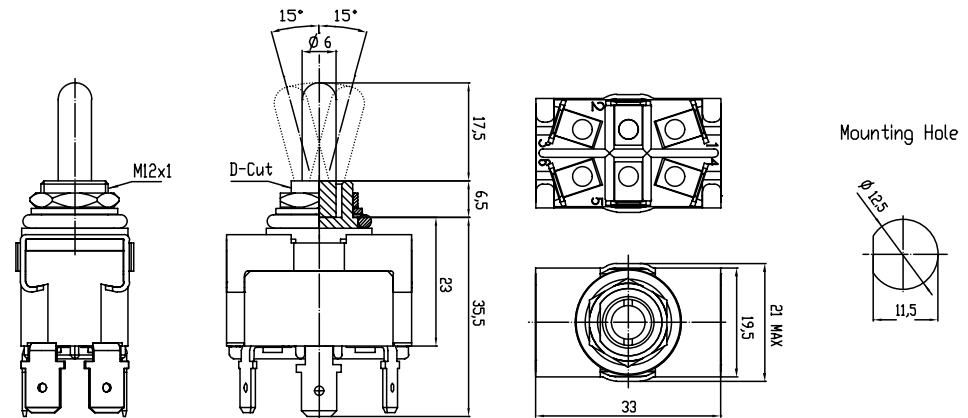
1 pole



AWTA1504

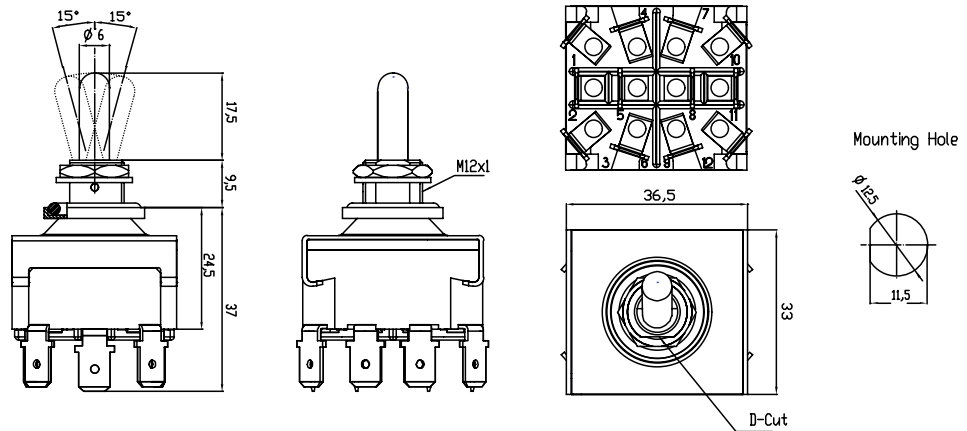


2 pole



AW Series, Power Toggle, Panel Mounting, Waterproof (Continued)

4 pole



Toggle Switches

Function

Fct.	Poles	↕	⏴	⏵	↕	⏴	⏵
A	1	On	None	Off	1-2	-	Off
D	1	On	None	On	1-2	-	2-3
E	1	On	Off	On	1-2	Off	2-3
F	1	On	None	(On)	1-2	-	2-3
G	1	(On)	Off	(On)	1-2	Off	2-3
H	1	On	Off	(On)	1-2	Off	2-3
N	2	On	None	On	1-2, 4-5	-	2-3, 5-6
P	2	On	Off	On	1-2, 4-5	Off	2-3, 5-6
R	2	On	None	(On)	1-2, 4-5	-	2-3, 5-6
S	2	(On)	Off	(On)	1-2, 4-5	Off	2-3, 5-6
T	2	On	Off	(On)	1-2, 4-5	Off	2-3, 5-6
K	4	On	None	Off	1-2, 4-5, 7-8, 10-11	-	Off
N	4	On	None	On	1-2, 4-5, 7-8, 10-11	-	2-3, 5-6, 8-9, 11-12
P	4	On	Off	On	1-2, 4-5, 7-8, 10-11	Off	2-3, 5-6, 8-9, 11-12
R	4	On	None	(On)	1-2, 4-5, 7-8, 10-11	-	2-3, 5-6, 8-9, 11-12
S	4	(On)	Off	(On)	1-2, 4-5, 7-8, 10-11	Off	2-3, 5-6, 8-9, 11-12

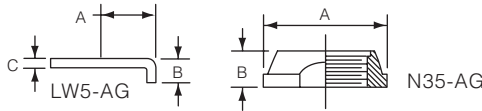
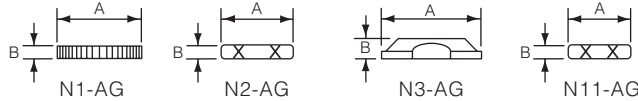
Off indicates a mechanical position with no electrical connection
 (On) indicates momentary connection
 None indicates no mechanical position

Product key	Sealing	Poles	Switch func.	Terminal	Rating	Part Number	
A4TK15W04	water proof	4 poles	ON-OFF	.250	20 A @ 125/250 VAC	8-6437630-0	
A4TN15W04			ON-ON	quick connect terminal		8-6437630-1	
A4TP15W04	ON-OFF-ON			8-6437630-2			
A4TR15W04	ON-(ON)			8-6437630-3			
A4TS15W04			(ON)-OFF-(ON)			8-6437630-4	
AWTA1504		1 pole	ON-OFF			7-6437630-3	
AWTD1504			ON-ON			7-6437630-0	
AWTE1504			ON-OFF-ON			7-6437630-1	
AWTF1504			ON-(ON)			7-6437630-4	
AWTG1504			(ON)-OFF-(ON)			7-6437630-5	
AWTH1504			ON-OFF-(ON)			7-6437630-6	
AWTN1504			2 poles	ON-ON			7-6437630-2
AWTP1504				ON-OFF-ON			3-6437592-9
AWTR1504				ON-(ON)			5-6437630-0
AWTS1504				(ON)-OFF-(ON)			1-6437630-1
AWTT1504			ON-OFF-(ON)			1-6437630-0	

Preferred parts in bold print

Hardware and Accessories

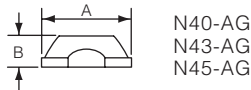
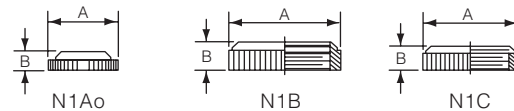
Standard and decorative mounting hardware



Fits all miniature toggle and pushbutton switches 1/4-40 and 15/32-32 bushings. N1 and N3 style nuts are recommended as styling options. Finger tighten until nut rests on mounting surface. Finally tighten with the back nut.

Product key	Description	Diameter/Thread	Finish	Dim A	Dim B	Material	Part Number
N1-AG	knurled nut	1/4-40	bright nickel	8.89 (.350)	1.52 (.060)	RoHS	1437628-7
10264-00-120	hex nut			7.87 (.310)	1.52 (.060)	compliant	1437561-9
N304	dress nut			11.7 (.460)	2.29 (.090)		1825621-1
N3504		15/32-32		16.0 (.630)	4.32 (.170)		1825621-2
11106-AG	hex nut	1/4-48		7.11 (.280)	1.27 (.050)		1-1437561-2
11052	int.lock washer	.27		10.2 (.400)	0.61 (.024)		1437579-1
11098	lck washer #10	.19	zinc	7.62 (.300)	0.76 (.030)		1-1437561-1

"Perfect Fit" decorative mounting hardware



Use blind threaded nuts for ultimate appearance. Finger tighten until nut rests on mounting surface. Finally tighten with the back nut.

Product key	Description	Diameter/Thread	Finish	Dim A	Dim B	Material	Part Number
N1A04	knurled nut	1/4-40	bright nickel	7.87 (.310)	2.03 (.080)	RoHS	1825622-1
N1B04		15/32-32		14.2 (.560)	3.56 (.140)	compliant	1825622-2
N4004	dress nut	1/4-40	matte nickel	9.52 (.375)	3.10 (.122)		1825623-1
N4304			bright nickel	3.10 (.122)	9.52 (.375)		1825623-2
N4504		15/32-32		4.32 (.170)	16.0 (.630)		1825623-3

Toggle switch, legend plate



SPA32

Constructed of .025 gauge brushed aluminum with a matte black enamel.

Easily readable and aesthetically attractive.

Product key	Description	Diameter/Thread	Finish	Dim A	Dim B	Material	Part Number
SPA32	On-Off	1/4"	clear lacquer	9.52 (.375)	22.4 (.880)	RoHS	2-1437628-4
SPA42		15/32"		17.3 (.680)	28.6 (1.12)	compliant	2-1437628-6

Boot Seals

Features

- One piece design, nut over molded "bonded" to silicone boot element and 'O' ring
- Silicone rubber eliminates cure dates
- Protects against moisture, oil, dirt, dust, most solvents and some acids
- Multiple colors available



Environmental specification

Operating temperature -65°C to 265°C

Material specifications

Boot material silicone rubber
 Threaded nut material, and finish..... brass nut, black oxide finish

Toggle Switches

Product key		Typical product key		BT	1532	2	04
Type							
B	Full boot seals						
BT	Half boot seals *)						
	*)Half boot recommended for maintained switch's as full boot may have tendency to pull toggle back						
Nut thread							
1048	10-48 UNS 2-B						
1440	1/4-40 UNS 2-B						
1532	15/32-32 UNS 2-B						
Color							
0	black	2	red	8	gray		
Material							
04	RoHS compliant						

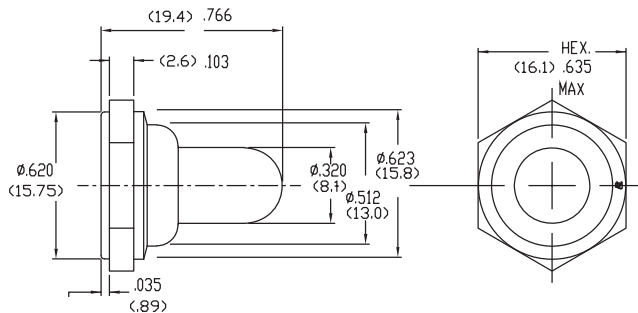
Full boots



1532 Series



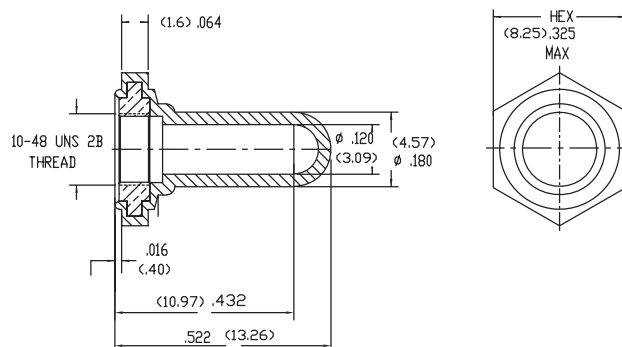
B1532004



1048 Series



B1048004

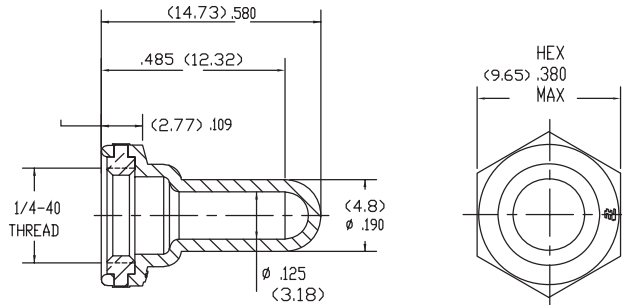


Boot Seals (Continued)

1440 Series



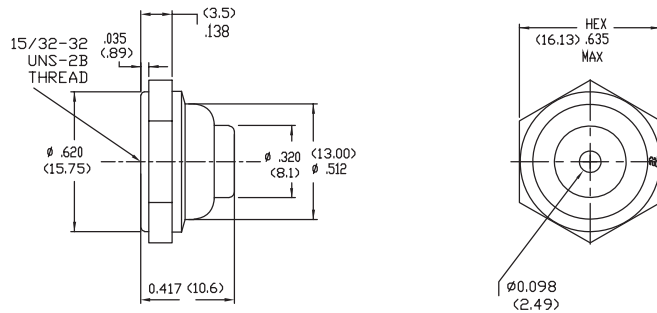
B1440004



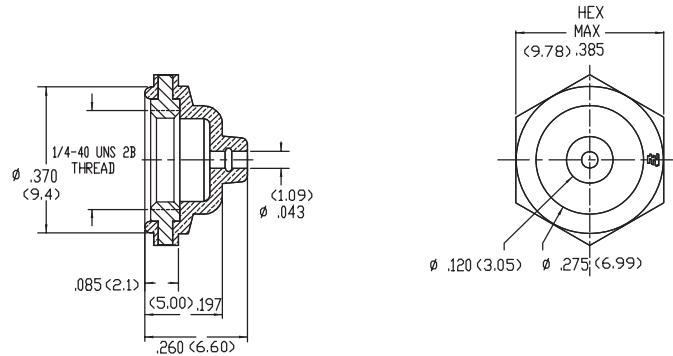
Half boots



1532 Series



1440 Series



Product key	Used on switch type	Nut thread	Color	Material	Part Number
Full boot					
B1532004	MTG	15/32-32 UNS 2-B	black	RoHS compliant	1825602-1
B1532204			red		1825602-2
B1532804			gray		1825602-3
B1048004	TT Series	10-48 UNS 2-B	black		1825609-1
B1048204			red		1825609-2
B1048804			gray		1825609-3
B1440004	TT,MTA,Gemini	1/4-40 UNS 2-B	black		1825612-1
B1440204			red		1825612-2
B1440804			gray		1825612-3
Half boot					
BT1532004	MTG Series	15/32-32 UNS 2-B	black	RoHS compliant	1825600-1
BT1532204			red		1825600-2
BT1532804			gray		1825600-3
BT1440004	TT, MTA, Gemini	1/4-40 UNS 2-B	black		1825619-1

