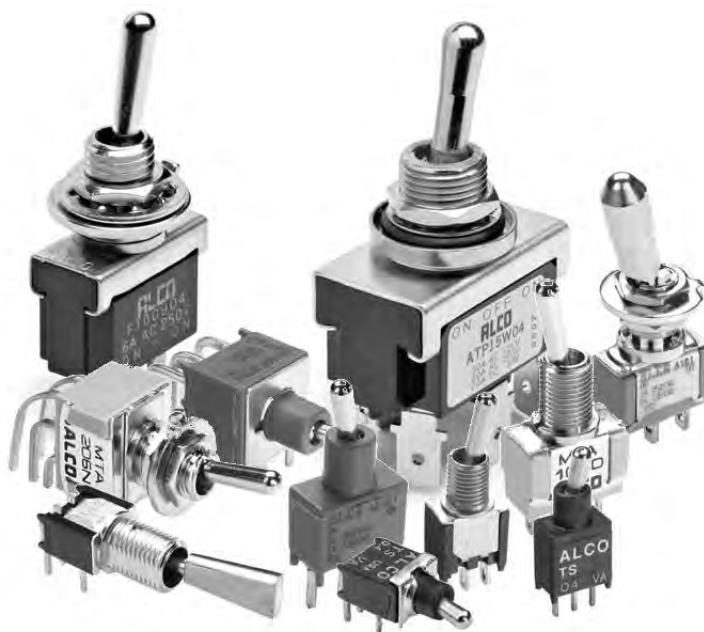


Product Range



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 without 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 Poymer (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 aArea
 Case theroplastic (LCP)
 Spring music wire zinc plated
 Support bracket steel tin plated
 Seal "O" ring rubber
 RoHS Directive 2002/95/EC compliant

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		F		On None (On)				
		E		On Off On		G		(On) Off (On)				
Plating		G		Gold								
Terminals		PC		printed circuit board		RA		right angle				
		PCV		printed circuit board, w bracket		VRA		vertical right angle				
Actuator length		1		.206 (5.23)		4		.400 (10.16)				
		2		.250 (6.35)								
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

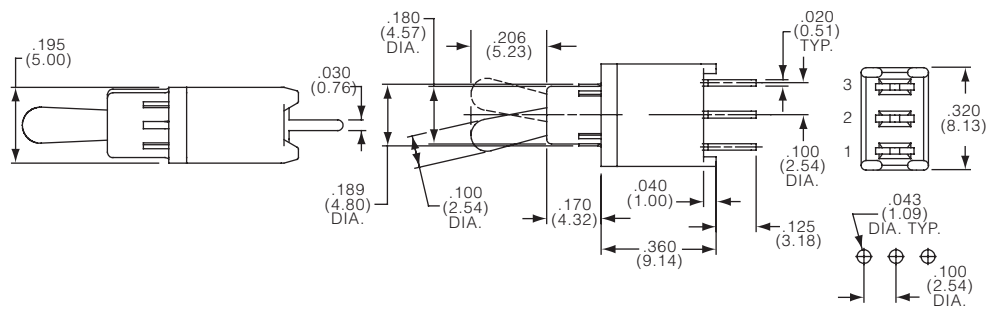
Terminations



PC printed circuit



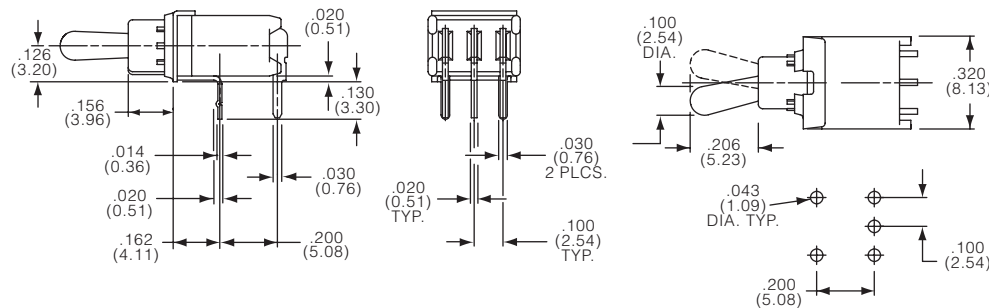
TST11DGPC1D



RA right angle



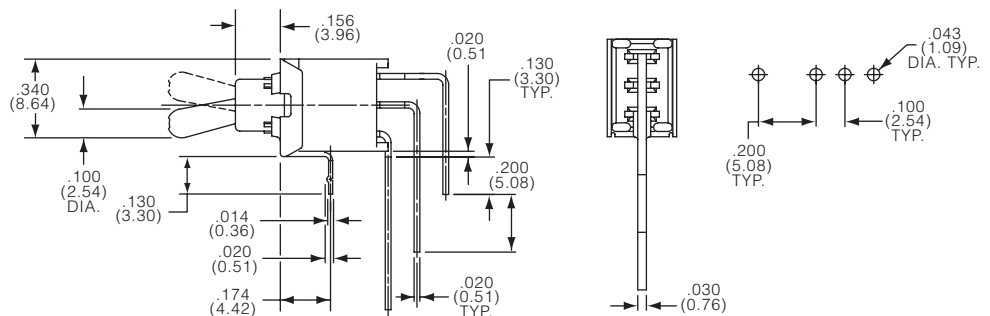
TST11DGRA1D



VRA vertical right angle



TST11DGVRA1D

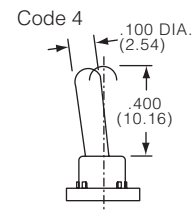
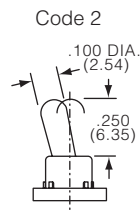
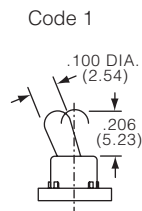


TST, Tiny Toggle, Process Sealed(Continued)

Actuator



Codes 1,2,4 actuator lengths



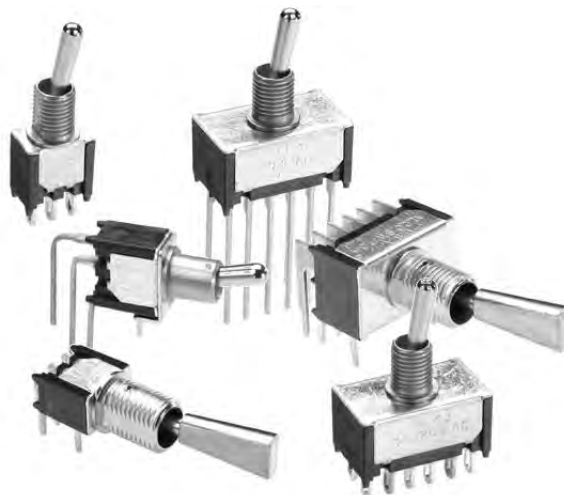
Product key	Poles	Rating	Function	Plating	Terminals	Actuator	Bushing	Material	Part Number
TST11DGPC1D04	1 pole	0.4VA	On None On	Gold	pcb	.206 (5.23)	plain,	RoHS	1825455-1
TST11DGPCV1D04					pcb w brack		not	compliant	1825455-2
TST11DGRA1D04					right angle		threaded		1825455-3
TST11DGVRA1D04			On Off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

Function

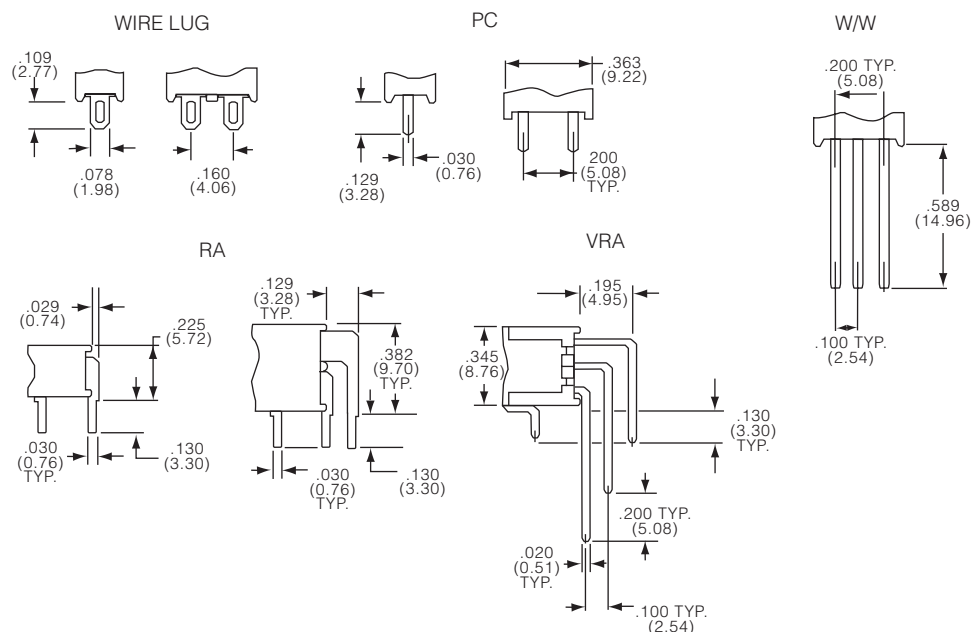


Function	Poles	On	None	Off	On	None	Off
A	1 pole	On	None	Off	1-3	-	-
D		On	None	On	1-2	-	2-3
E		On	Off	On	1-2	-	2-3
F		On	None	(On)	1-2	-	2-3
K	2 poles	On	None	Off	1-3, 4-6	-	-
N		On	None	On	1-2, 4-5	-	2-3, 5-6
P		On	Off	On	1-2, 4-5	-	2-3, 5-6
R		On	None	(On)	1-2, 4-5	-	2-3, 5-6

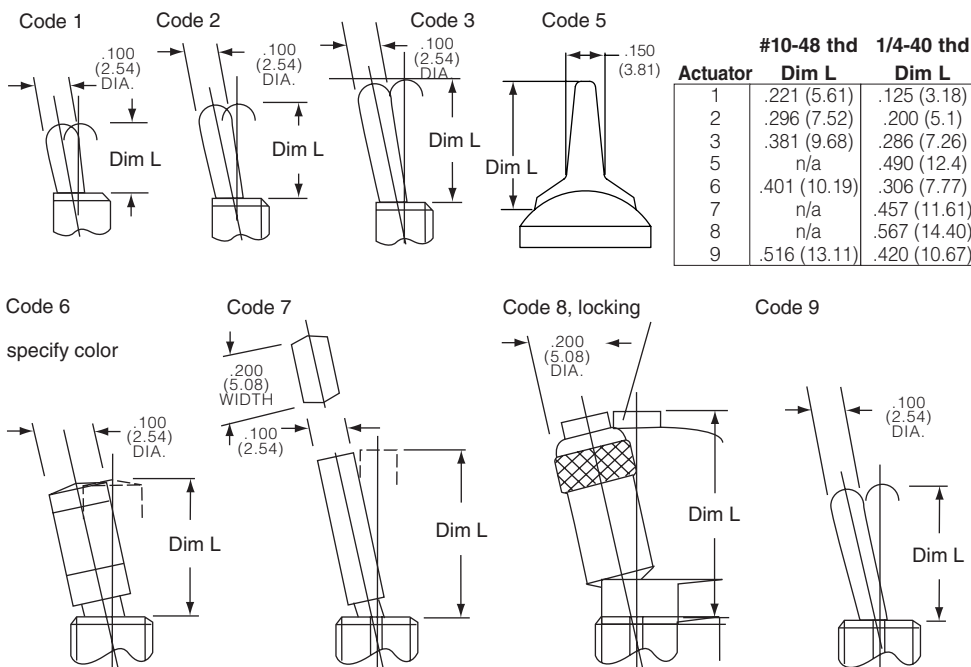
Off indicates a mechanical position with no electrical connection
(On) indicates momentary connection
None indicates no mechanical position

TT, Tiny Toggle Switch (Continued)

Terminals



Actuator



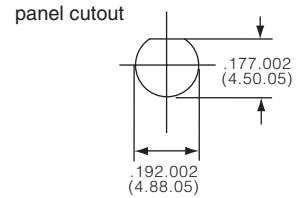
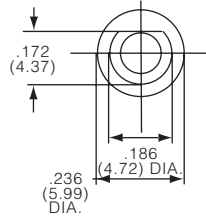
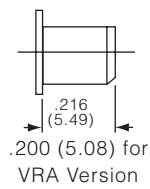
TT, Tiny Toggle Switch (Continued)

Bushing



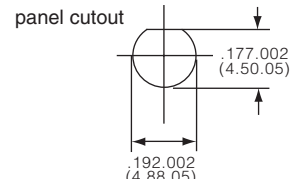
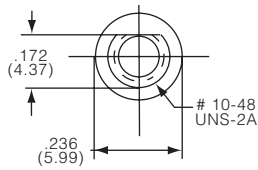
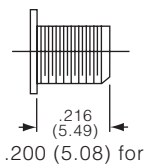
blank

unthreaded



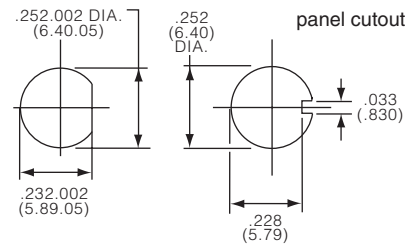
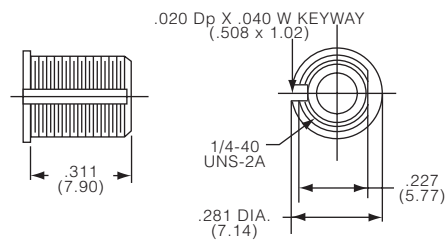
T

10-48 UNS-2A thread



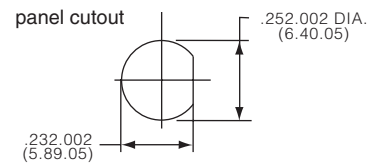
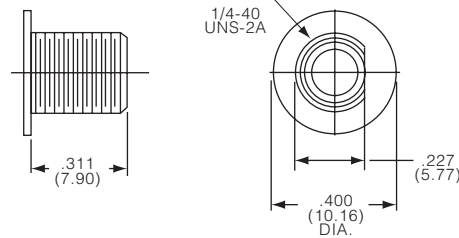
T1/4

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



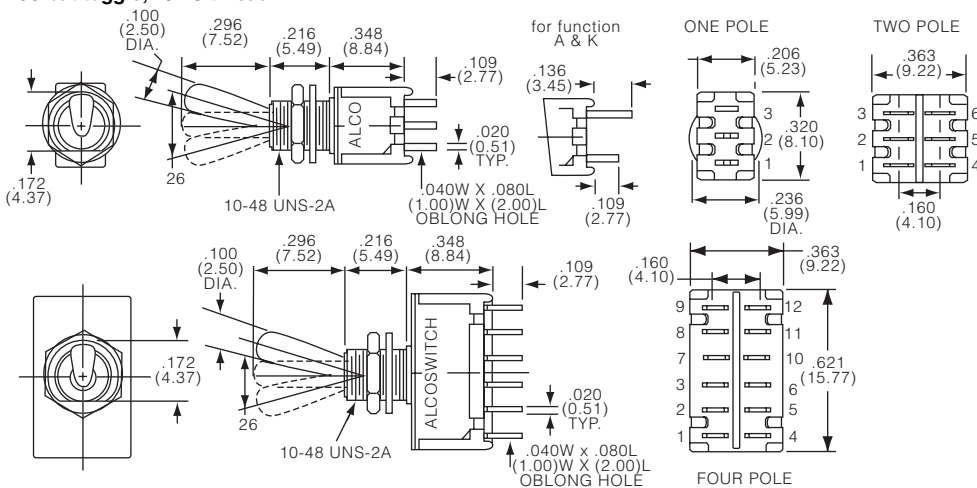
T1/4

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



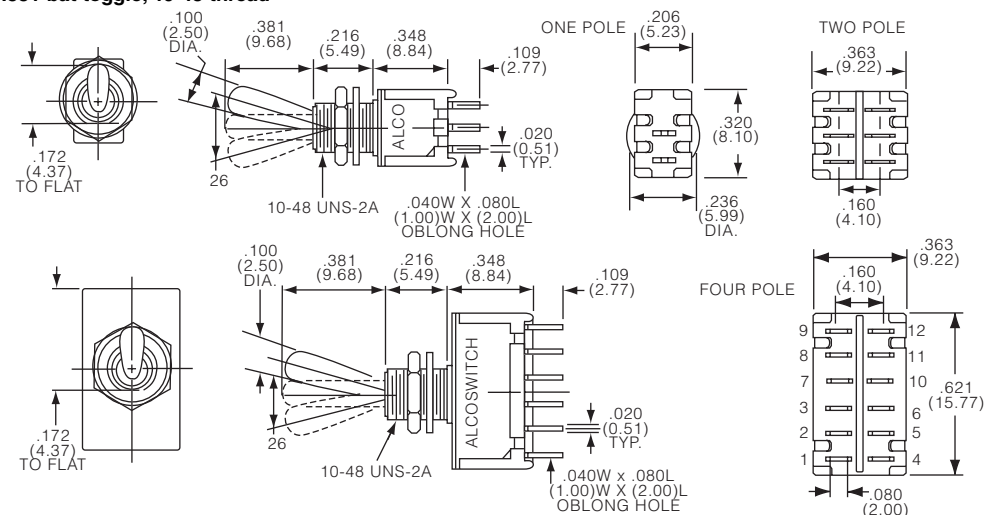
Toggle Switches

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



TT13D3T

TT23N3T

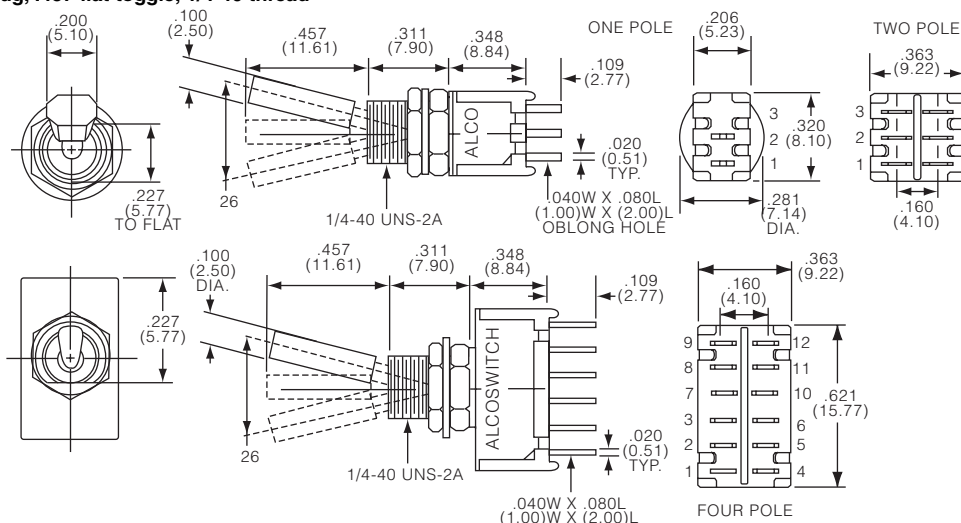


Toggle Switches

TT13D7T14

TT23N7T14

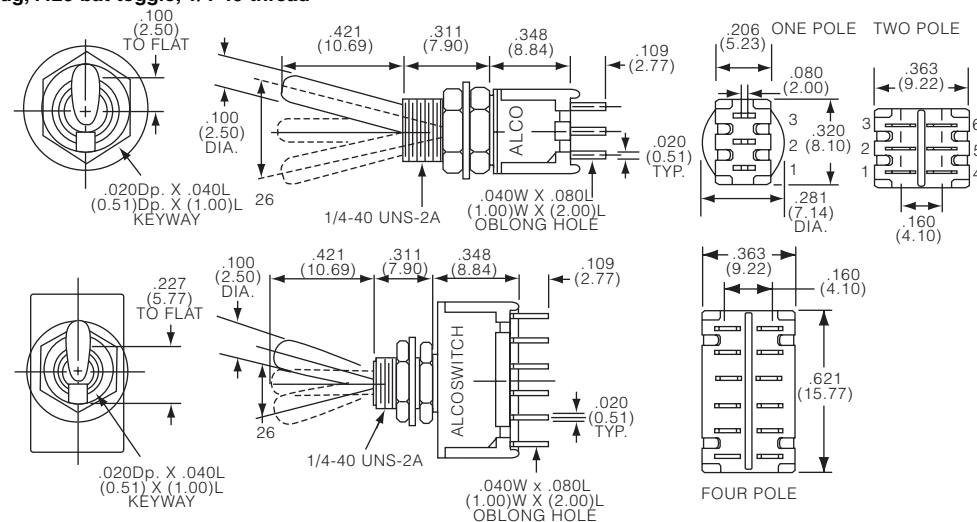
TT43N7T14



TT13A9T14

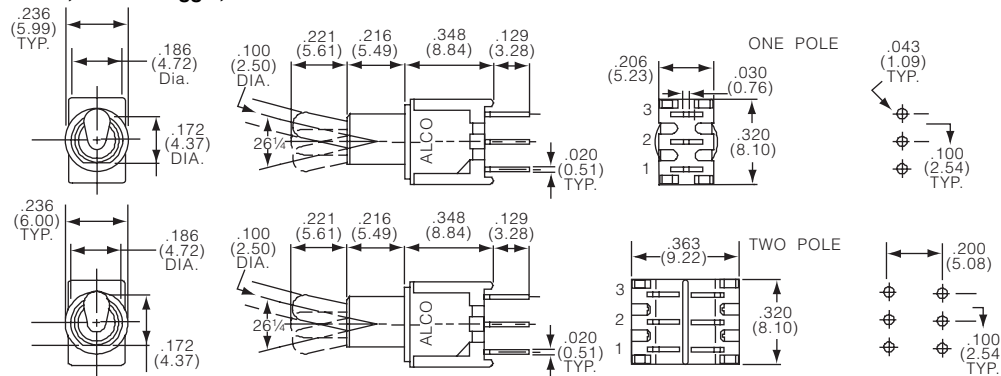
TT23N9T14

TT43N9T14



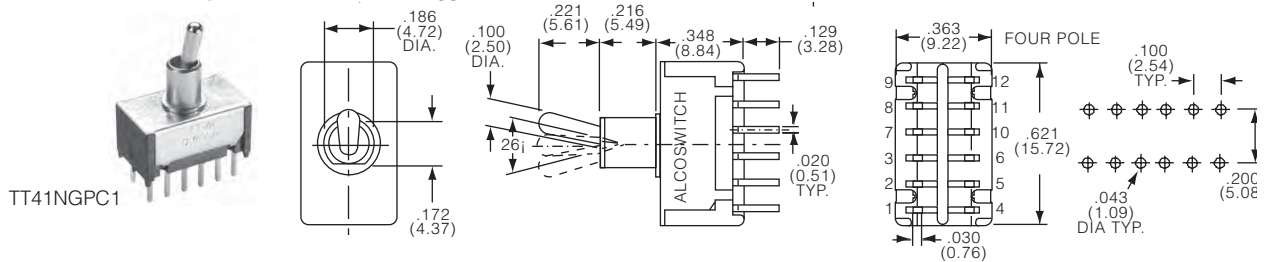
TT11DGPC1

TT21NGPC1

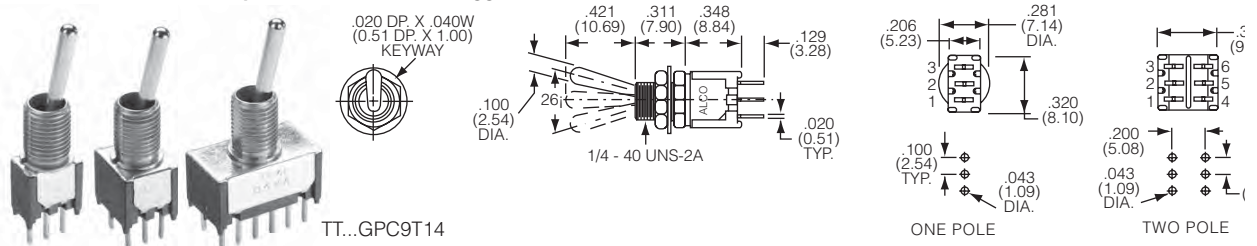


TT, Tiny Toggle Switch (Continued)

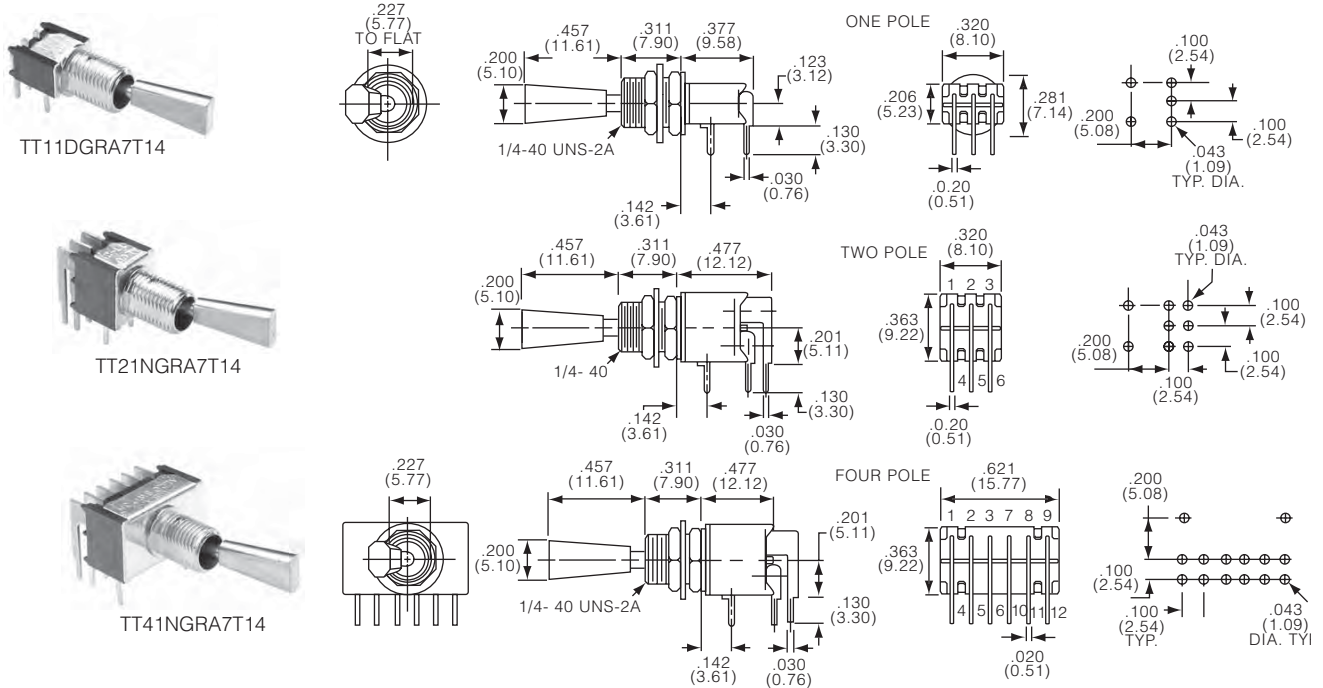
Series TT...PC1 pc terminals, .221 bat toggle, unthreaded



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

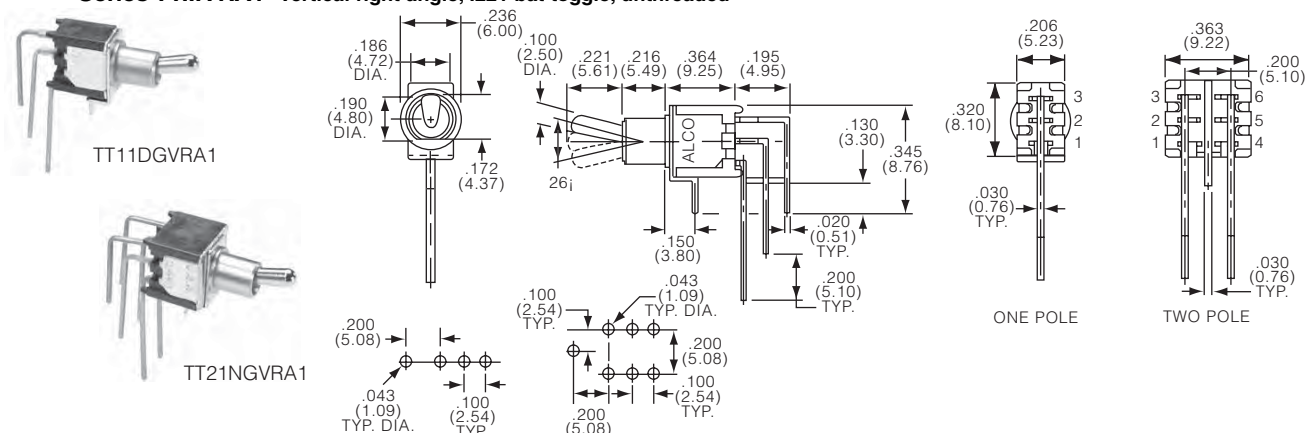


Series TT...RA7T1/4 right angle, .457 flat toggle, 1/4-40 thread

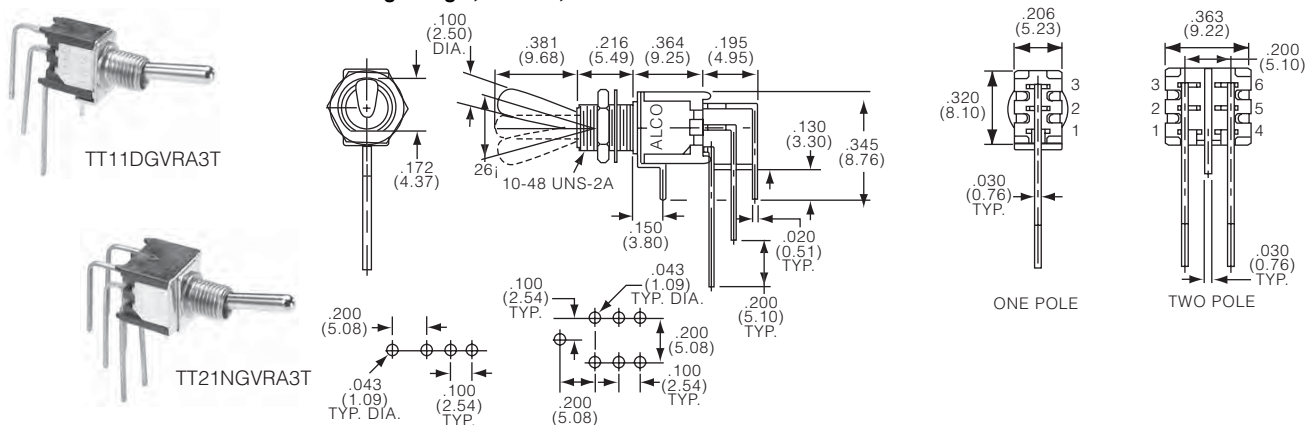


TT, Tiny Toggle Switch (Continued)

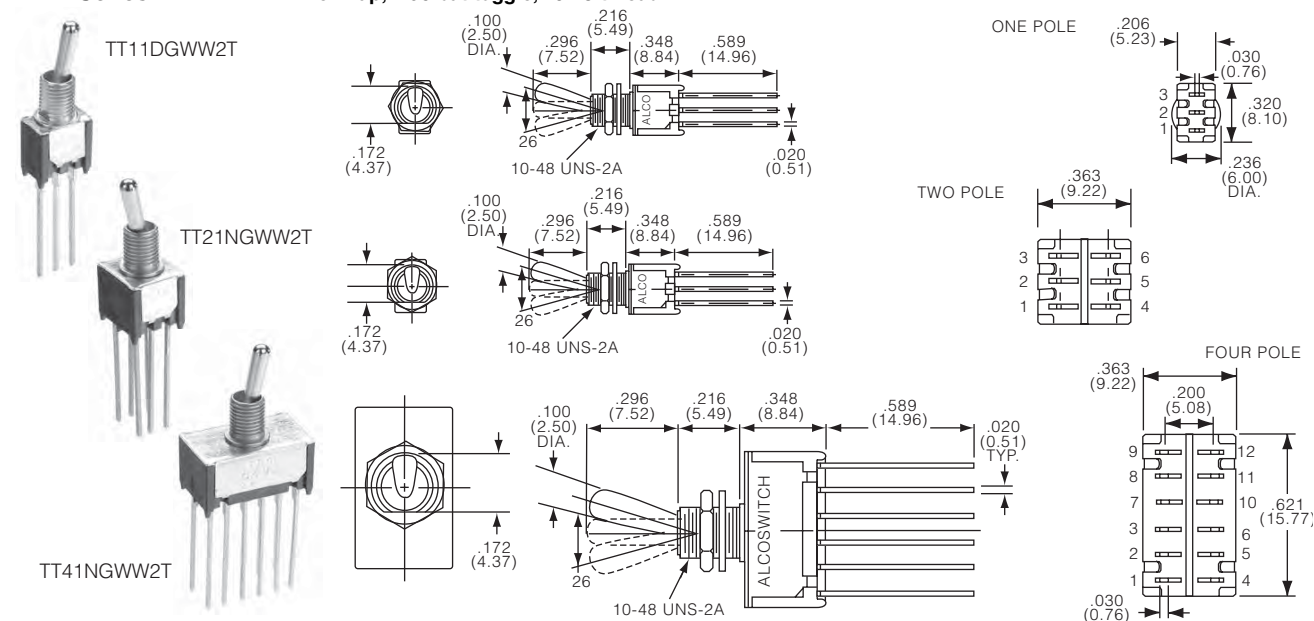
Series TT...VRA1 vertical right angle, .221 bat toggle, unthreaded



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)

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	1825219-2
TT11AGPC9T1/404			Gold			.421 (10.69), bat	1/4-40	compliant	1-1825192-8
TT11DGPC104			plated	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			.286 (7.26), bat			1825223-3
TT13A6T004			plated			.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	On On					1-1825219-1
TT21NGPC9T1/404			plated			.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			.421 (10.69), bat	1/4-40		1-1825192-0
TT23N2T04			plated	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			.421 (10.69), bat	1/4-40		1-1825192-1
TT41NGRA104			plated		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	On On		.200 (5.1), bat	#10-48		1-1825222-0
TTE13D8T1/404			plated			.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

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									
2	double pole										
Function											
single and double pole											
01	On-On	11									
03	On-Off-On	13									
05	(On)-Off-(On)	15									
07	On-Off-(On)										
08	On-(On)										
Toggles											
S	bat long	T									
K	locking	T1									
K1	locking	L									
M	bat short	L1									
P3	flatted (with bushing code Y only)	L2									
Bushing											
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									
H	1/4-40 threaded .3 (7.6) long	Y9									
Terminations											
A	right angle	V30									
AV2	vertical right angle	V40									
C	printed circuit	W									
		W4									
		Z									
Contacts											
B	gold	G									
		Q									
Material											
04	RoHS compliant										

Gemini A Series (Continued)

Function

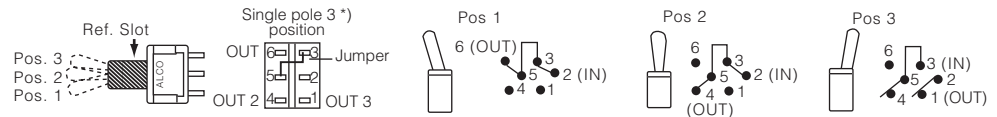


Code	Positions	↗	⬇	↘
01	2 positions	On	None	On
03	3 positions	On	Off	On
05	3 positions	(On)	Off	(On)
07	3 positions	(On)	Off	On
08	2 positions	(On)	None	On
SPDT	Term. conn.	1 - 2	---	2 - 3
DPDT	Terminals connected	1 - 2 4 - 5	---	2 - 3 5 - 6
11*)	3 positions	On	On	On
13*)		(On)	On	On
15*)		(On)	On	(On)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

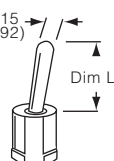
Wiring diagram for functions 11, 13, 15



Toggles

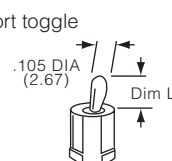


S standard,
bat long

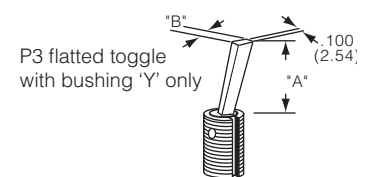


Toggle	Bushing	Dim L
S	CW, H, Y D, D9	10.41 (.410) 12.19 (.480)

M short toggle

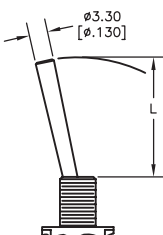


Toggle	Bushing	Dim L
M	CW, H, Y D, D9	5.08 (.200) 6.86 (.270)



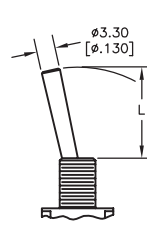
Toggle	Dim
P3	Dim A 11.43 (.450) Dim B 5.08 (.200)

L lever



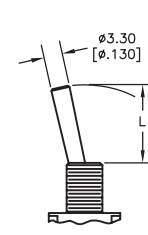
Toggle	Bushing	Dim L
L	H, Y D, D9	21.34 (.840) 23.11 (.910)

L1 lever



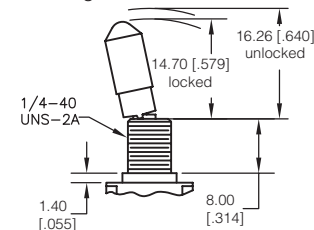
Toggle	Bushing	Dim L
L1	H, Y D, D9	16.26 (.640) 18.03 (.710)

L2 lever

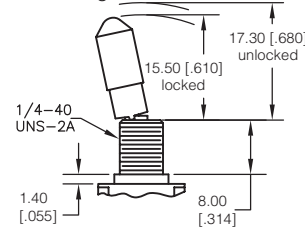


Toggle	Bushing	Dim L
L2	H, Y D, D9	13.97 (.550) 15.75 (.620)

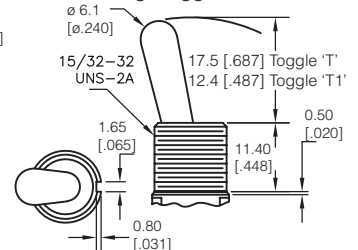
K locking lever



K1 locking lever



T & T1 large toggle

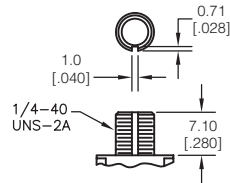


Gemini A Series (Continued)

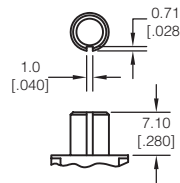
Bushings



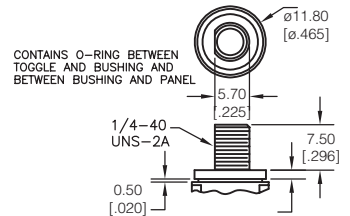
D 1/4-40 threaded



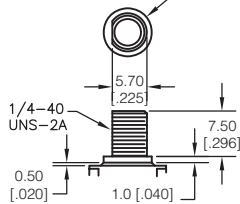
D9 unthreaded



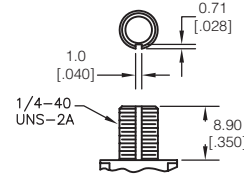
CW 1/4-40 threaded
environmental seals
(toggles codes S & M only)



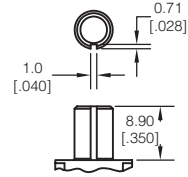
H 1/4-40 threaded



Y 1/4-40 threaded

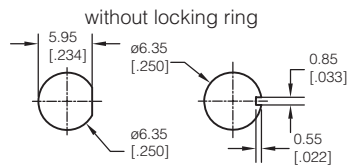


Y9 unthreaded

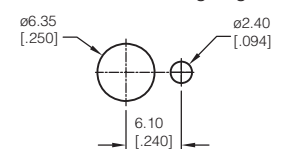


Recommended panel cut-outs

Bushing 1/4



with standard locking ring

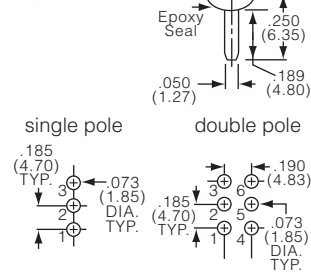


Terminals

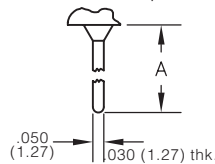


Codes C, W, W4, Z printed circuit, wire wrap and wire lug

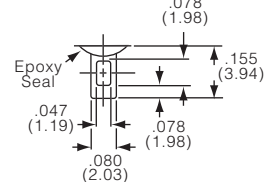
C printed circuit



W, W4 wire wrap



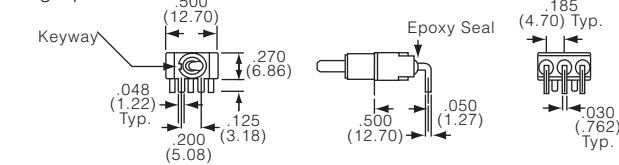
Z wire lug



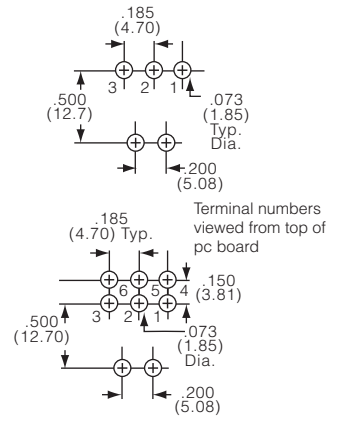
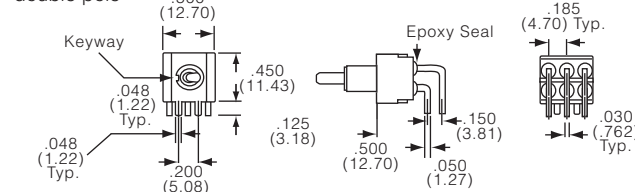
Terminal	Dim A
W	18.69 (.736)
W4	26.98 (1.062)

Code A right angle

single pole

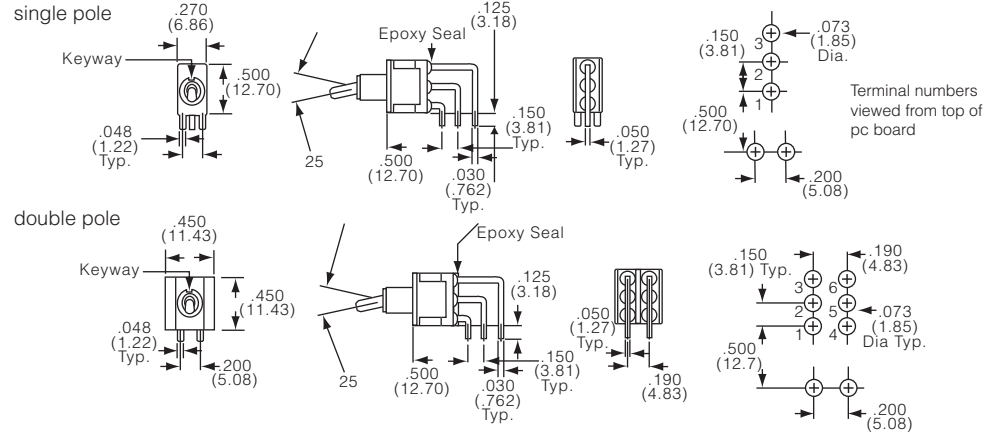


double pole

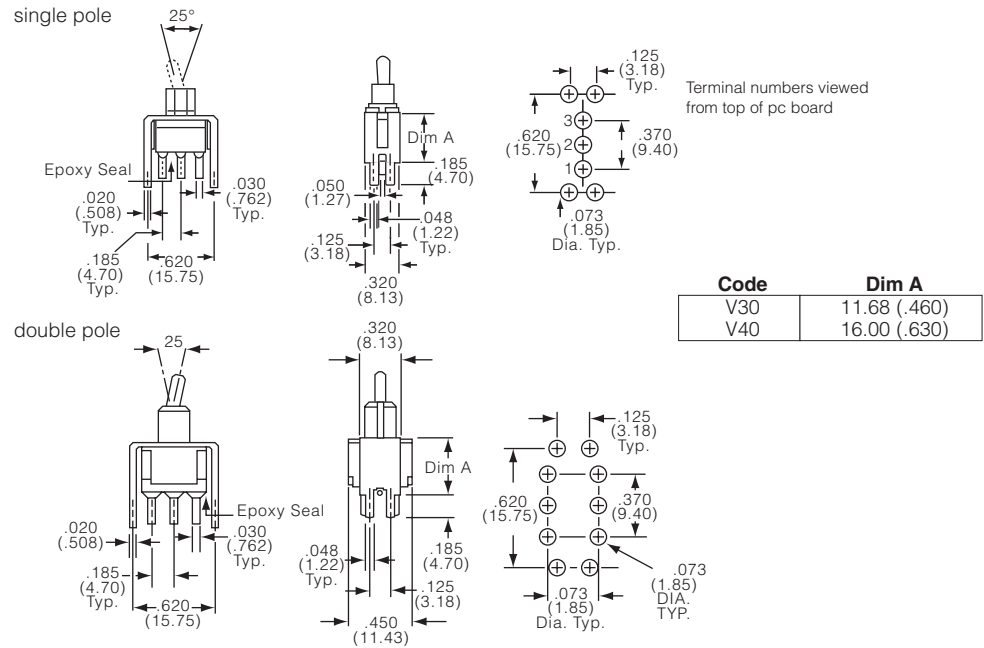


Gemini A Series (Continued)

Code AV2 vertical right angle

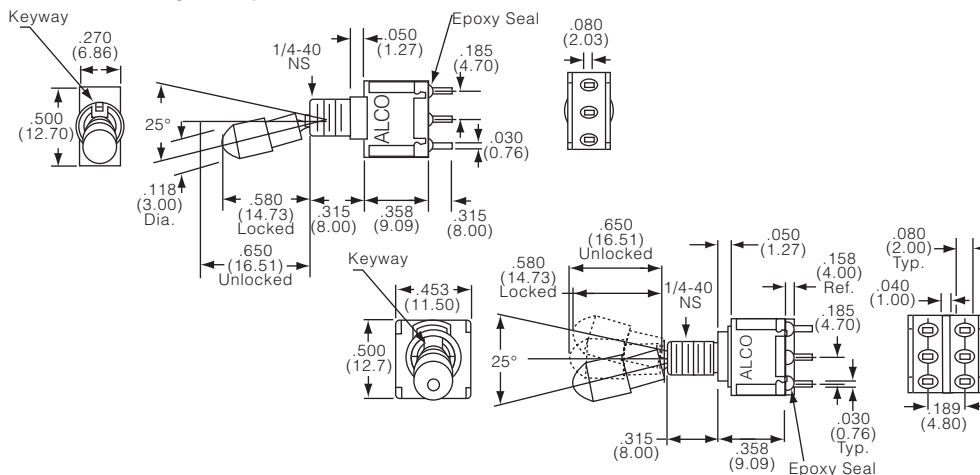


Codes V30, V40 vertical support



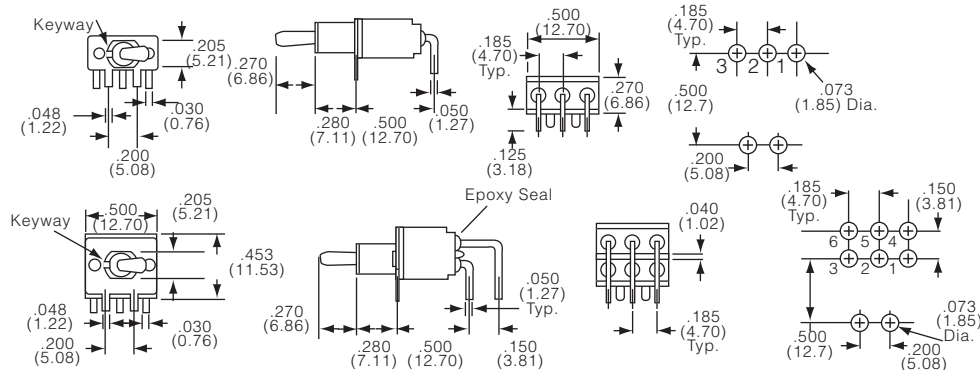
Toggle Switches

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



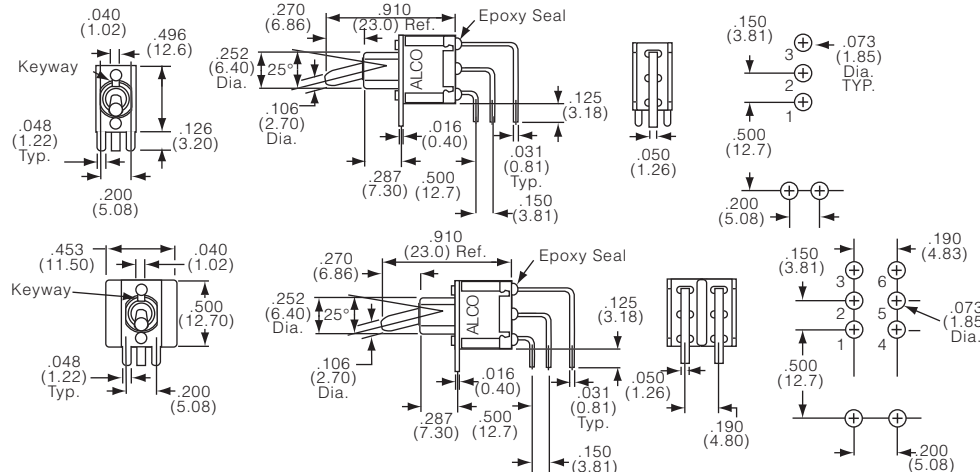
A101MD9AQ

A201MD9AQ



A101MD9AV2Q

A201MD9AV2Q



E19

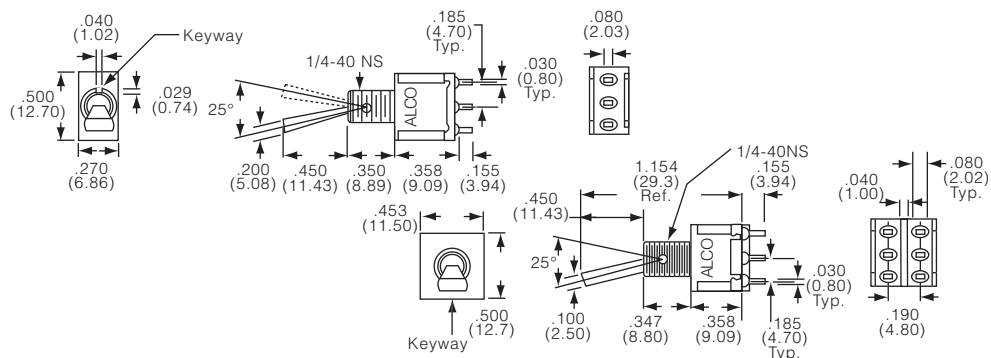
Gemini A Series (Continued)



A101P3YZQ



A201P3YZQ



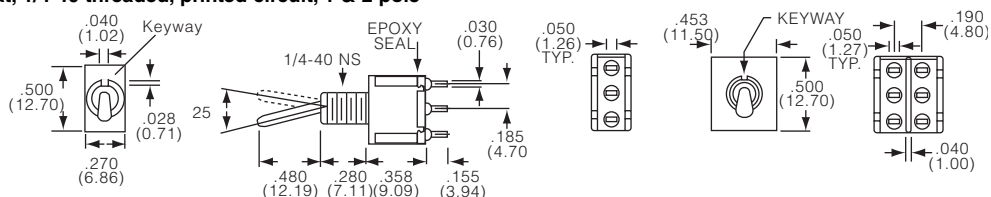
Series A...SDC long bat, 1/4-40 threaded, printed circuit, 1 & 2 pole



A101SDCQ



A201SDCQ



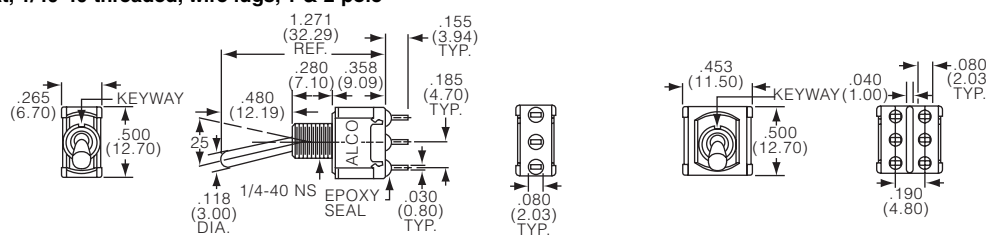
Series A...SDZ long bat, 1/4-40 threaded, wire lugs, 1 & 2 pole



A101SDZQ



A201SDZQ



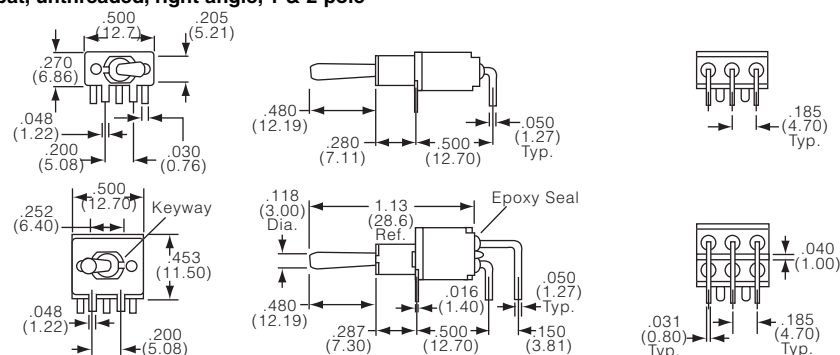
Series A...SD9A long bat, unthreaded, right angle, 1 & 2 pole



A101SD9AQ



A201SD9AQ



Gemini A Series (Continued)

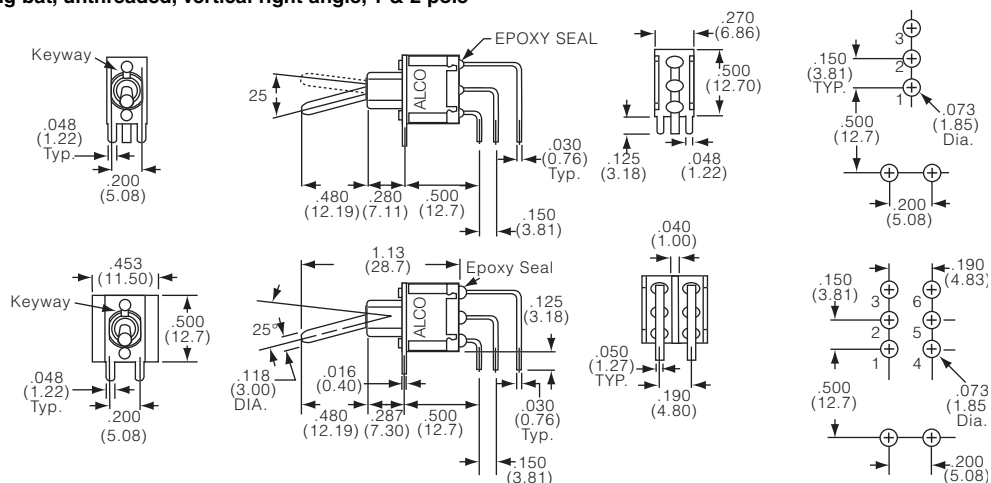
Series A...SD9AV2 long bat, unthreaded, vertical right angle, 1 & 2 pole



A101SD9AV2Q



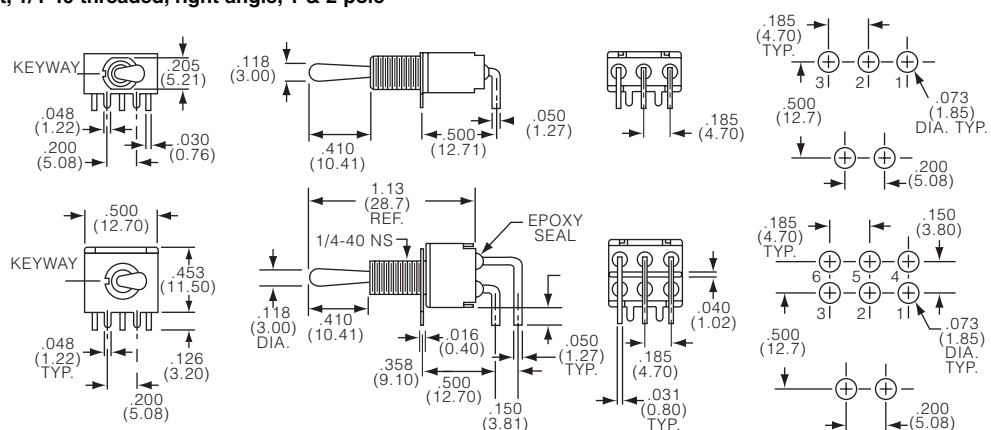
A201SD9AV2Q



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



A101SYAB



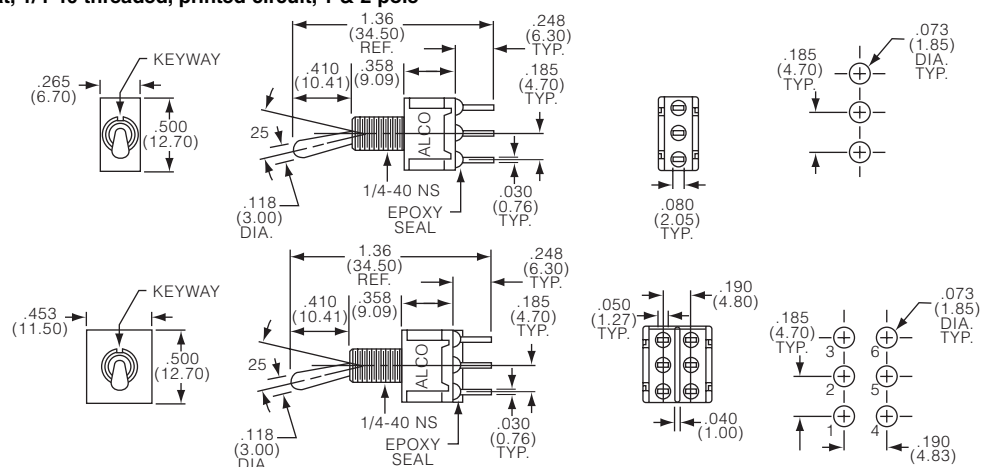
Series A...SYC long bat, 1/4-40 threaded, printed circuit, 1 & 2 pole



A101SYCB

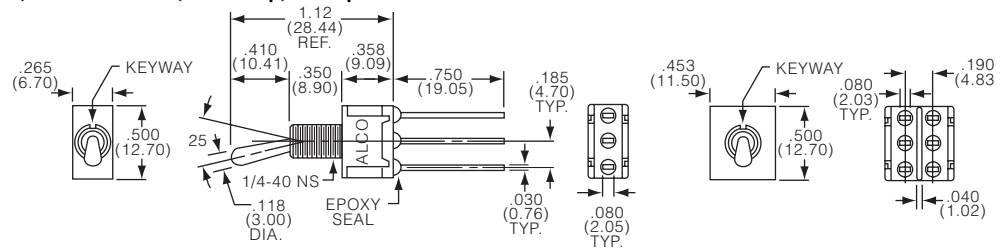


A201SYCB

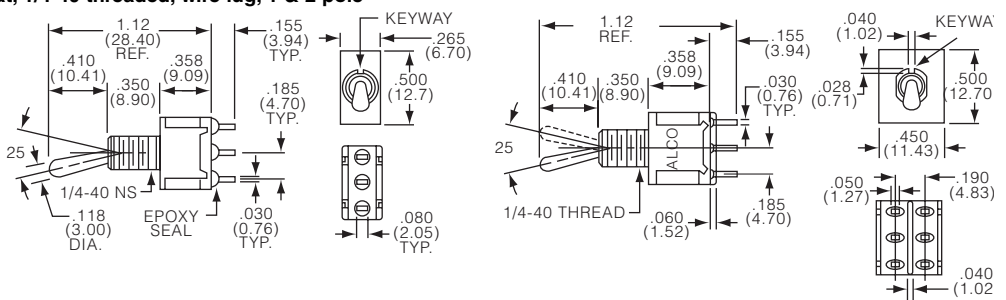


Gemini A Series (Continued)

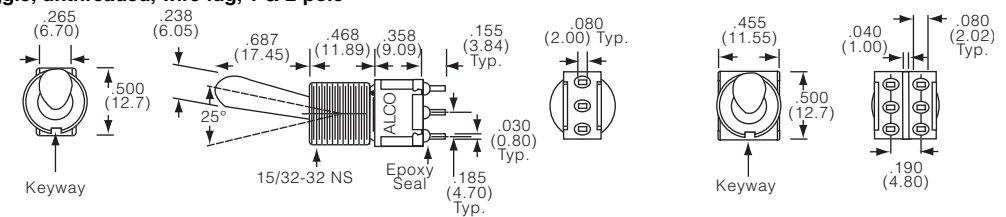
Series A...SYW long bat, 1/4-40 threaded, wire wrap, 1 & 2 pole



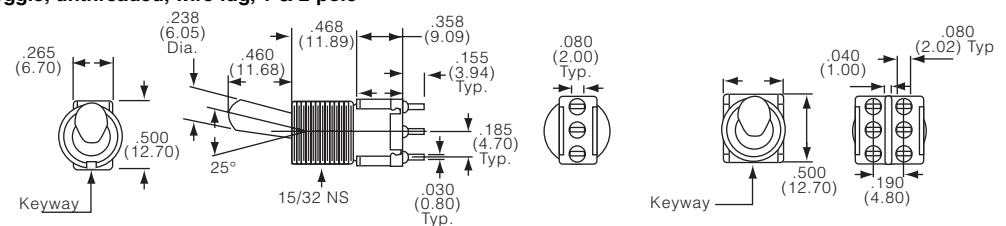
Series A...SYZ long bat, 1/4-40 threaded, wire lug, 1 & 2 pole



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



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



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 compliant	1825136-1
A101KAB04				unthreaded .28 (7.1)	right angle	silver		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				1/4-40 threaded .35 (8.9)	printed circuit			2-1825136-3
A101MYZQ04					wire lug			2-1825136-4
A101P3CB04			flatted		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
A101SDCQ04				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			lg. tgl. & bushing	unthreaded .28 (7.1)		gold		5-1825136-2
A101T1ZQ04						silver		5-1825136-3
A101TCQ04					printed circuit			5-1825136-4
A101TZQ04					wire lug			5-1825136-5
A103KZQ04		On-Off-On	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
A103SDCQ04						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

Gemini A Series (Continued)

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			2-1825137-6
A105P3CG04			flatted		printed circuit	Au over Ag		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				1/4-40 threaded .35 (8.9)	right angle			3-1825137-4
A105SYAV2B04					vertical right angle			3-1825137-5
A105SYCB04					printed circuit			3-1825137-6
A105SYCQ04						silver		3-1825137-7
A105SYZB04					wire lug	gold		3-1825137-8
A105SYZQ04						silver		3-1825137-9
A105T1ZB04			lg. tgl. & bushing	unthreaded .28 (7.1)		gold		4-1825137-0
A105T1ZQ04						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	silver		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	silver		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					wire lug	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 compliant	1825139-1
A203MD9AB04			bat short		right angle	gold		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		1825139-8
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			gold		1-1825139-3
A205P3ZQ04			flatted	1/4-40 threaded .35 (8.9)		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			1-1825139-6
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			Au over Ag		3-1825138-2
A208P3ZQ04			flatted	1/4-40 threaded .35 (8.9)		silver		3-1825138-3
A208SD9AQ04			bat long	unthreaded .28 (7.1)	right angle			3-1825138-4
A208SD9AV2Q04					vertical right angle			3-1825138-5
A208SYCB04				1/4-40 threaded .35 (8.9)	printed circuit	gold		3-1825138-6
A208SYCQ04						silver		3-1825138-7
A208SYZQ04					wire lug			3-1825138-8
A208T1ZQ04			lg. tgl. & bushing	unthreaded .28 (7.1)				3-1825138-9
A208TZQ04								4-1825138-0
A211KZB04		On-On-On	locking			gold		2-1825139-7
A211MD9AQ04			bat short		right angle	silver		2-1825139-8
A211MYCQ04				1/4-40 threaded .35 (8.9)	printed circuit			2-1825139-9
A211P3CQ04			flatted					3-1825139-0
A211P3V40G04					vertical support	Au over Ag		3-1825139-1
A211P3ZQ04					wire lug	silver		3-1825139-2
A211SCWCQ004			bat long	1/4-40 threaded .37 (9.4)	printed circuit			3-1825139-3
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		3-1825139-9
A211T1ZQ04			lg. tgl. & bushing	unthreaded .28 (7.1)				4-1825139-0
A213SYZQ04		On-On-(On)	bat long	1/4-40 threaded .35 (8.9)				4-1825139-2
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

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

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

Product key			Typical product key		AE	1	01	S	D1	C	Q	04
Type												
AE			Gemini AE Series Toggles									
Number of Poles												
1			single pole		2		double pole					
Function												
single and double pole												
01			On-On <th colspan="2">11</th> <td colspan="6">double pole only</td>		11		double pole only					
03			On-Off-On <th colspan="2">13</th> <td colspan="6">On-On-On</td>		13		On-On-On					
05			(On)-Off-(On) <th colspan="2">15</th> <td colspan="6">On-On-(On)</td>		15		On-On-(On)					
07			On-Off-(On) <td colspan="8"></td>									
08			On-(On) <td colspan="8"></td>									
Toggles												
S			bat long <th colspan="2">M</th> <td colspan="6">bat short</td>		M		bat short					
Bushing												
D1			unthreaded									
Terminations												
A			right angle <th colspan="2">V30</th> <td colspan="2">vertical support<th colspan="2">W</th><td colspan="2">wire wrap</td></td>		V30		vertical support <th colspan="2">W</th> <td colspan="2">wire wrap</td>		W		wire wrap	
AV2			vertical right angle <th colspan="2">V40</th> <td colspan="2">vertical support<th colspan="2">W4</th><td colspan="2">wire wrap</td></td>		V40		vertical support <th colspan="2">W4</th> <td colspan="2">wire wrap</td>		W4		wire wrap	
C			printed circuit <td colspan="2"></td> <td colspan="2"></td> <th colspan="2">Z</th> <td colspan="2">wire lug</td>						Z		wire lug	
Contacts												
B			gold <th colspan="2">G</th> <td colspan="2">gold over silver<th colspan="2">Q</th><td colspan="2">silver</td></td>		G		gold over silver <th colspan="2">Q</th> <td colspan="2">silver</td>		Q		silver	
Material												
04			RoHS compliant									

Gemini AE Series, Sealed IP67 (Continued)

Function

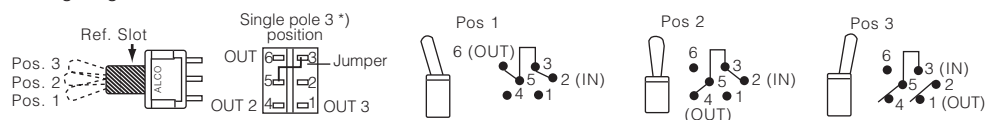


Code	Positions	↙	↓	↘
01	2 positions	On	None	On
03	3 positions	On	Off	On
05	3 positions	(On)	Off	(On)
07	3 positions	(On)	Off	On
08	2 positions	(On)	None	On
SPDT	Term. conn.	1 - 2	---	2 - 3
DPDT	Terminals connected	1 - 2 4 - 5	---	2 - 3 5 - 6
11*)	3 positions	On	On	On
13*)		(On)	On	On
15*)		(On)	On	(On)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

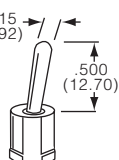
Wiring diagram for functions 11, 13, 15



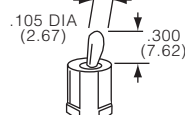
Toggles



S standard,
bat long



M short toggle

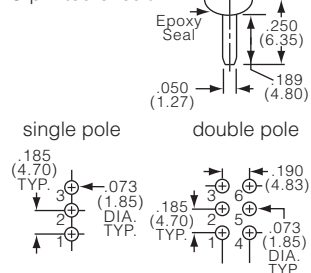


Terminals

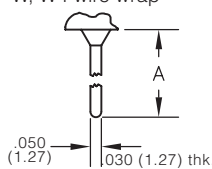


Codes C, W, W4, Z printed circuit, wire wrap and wire lug

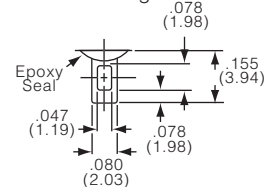
C printed circuit



W, W4 wire wrap



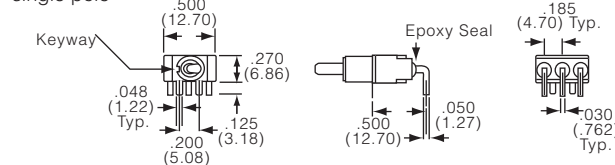
Z wire lug



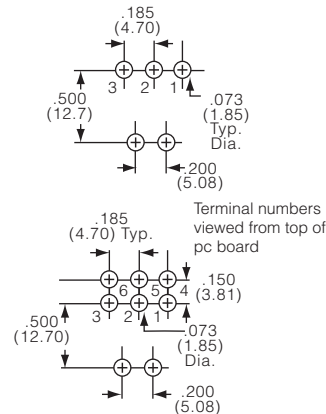
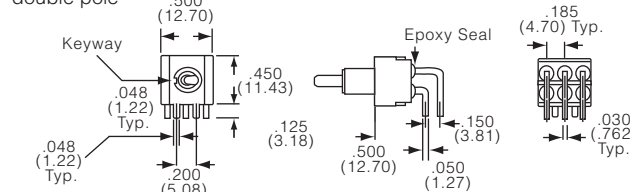
Terminal	Dim A
W	18.69 (.736)
W4	26.98 (1.062)

Code A right angle

single pole



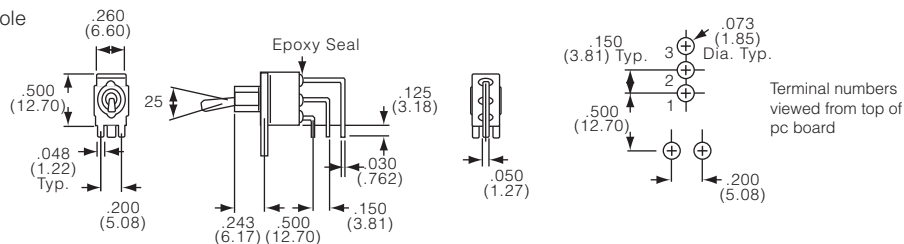
double pole



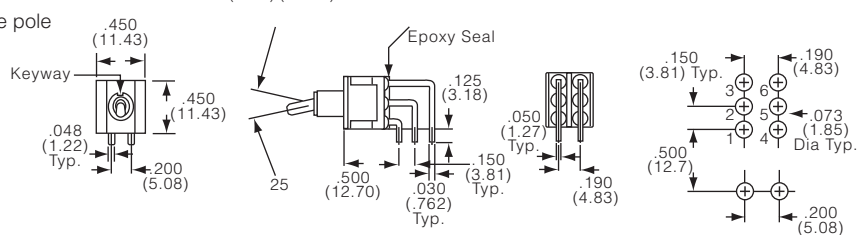
Gemini AE Series, Sealed IP67 (Continued)

Code AV2 vertical right angle

single pole

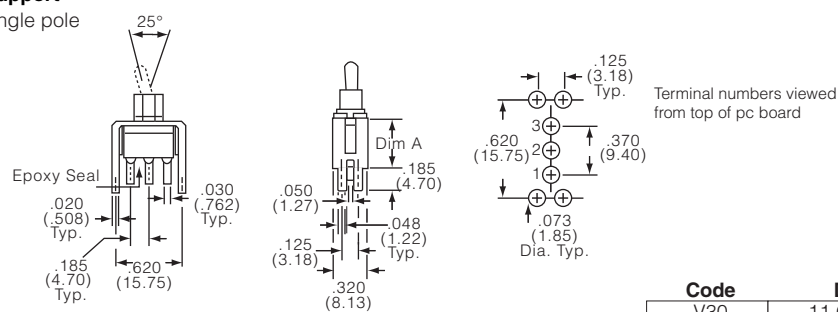


double pole

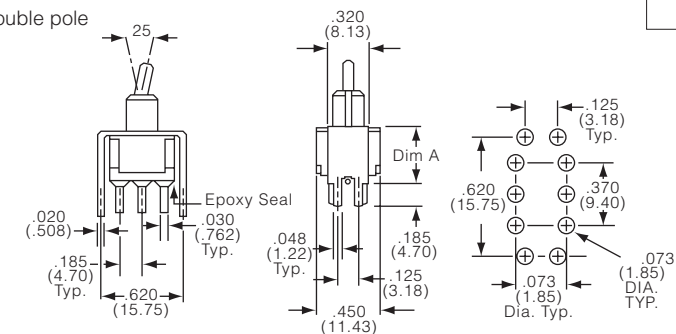


Codes V30, V40 vertical support

single pole



double pole



Code	Dim A
V30	11.68 (.460)
V40	16.00 (.630)

Gemini AE Series, Sealed IP67 (Continued)

Dimensions

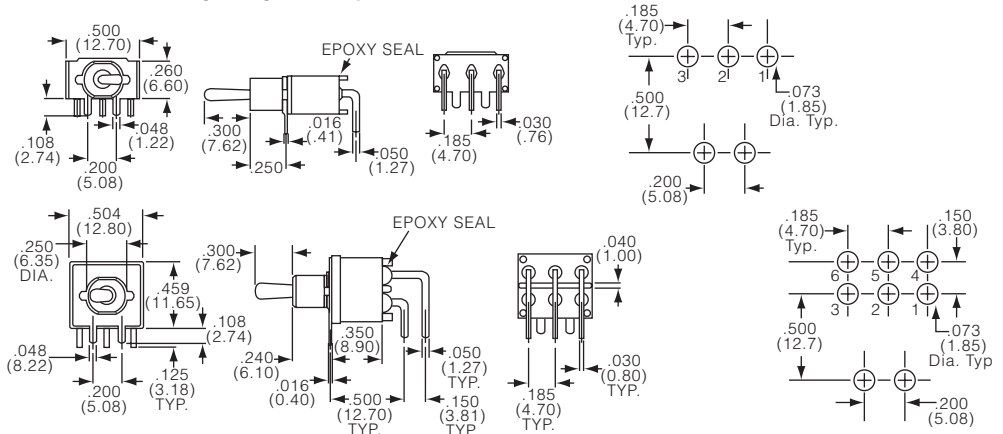
Series AE...MD1A short bat, unthreaded, right angle, 1 & 2 pole



AE101MD1AQ



AE201MD1AQ



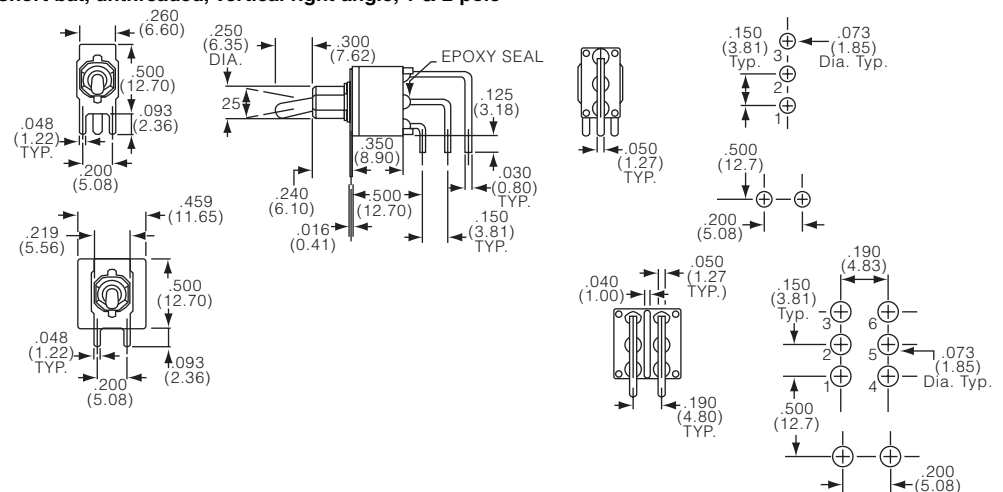
Series AE...MD1AV2 short bat, unthreaded, vertical right angle, 1 & 2 pole



AE101MD1AV2Q



AE201MD1AV2Q



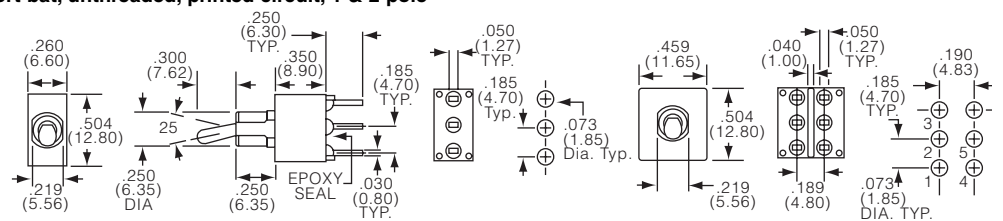
Series AE...MD1C short bat, unthreaded, printed circuit, 1 & 2 pole



AE101MD1CQ



AE201MD1CQ



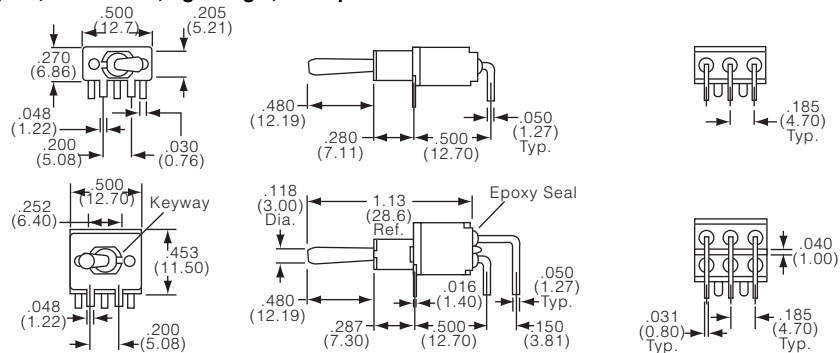
bat, unthreaded, right angle, 1 & 2 pole



A101SD9AQ



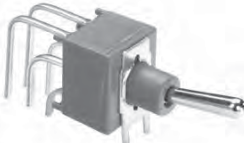
A201SD9AQ



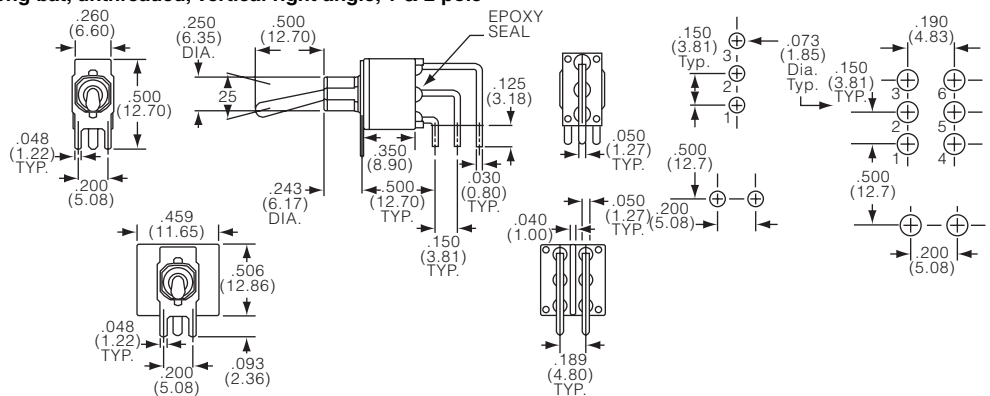
Series AE...SD1AV2 long bat, unthreaded, vertical right angle, 1 & 2 pole



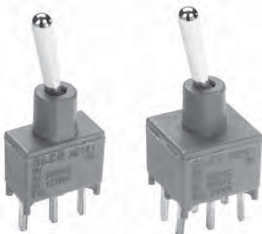
AE101SD1AV2B



AE201SD1AV2Q

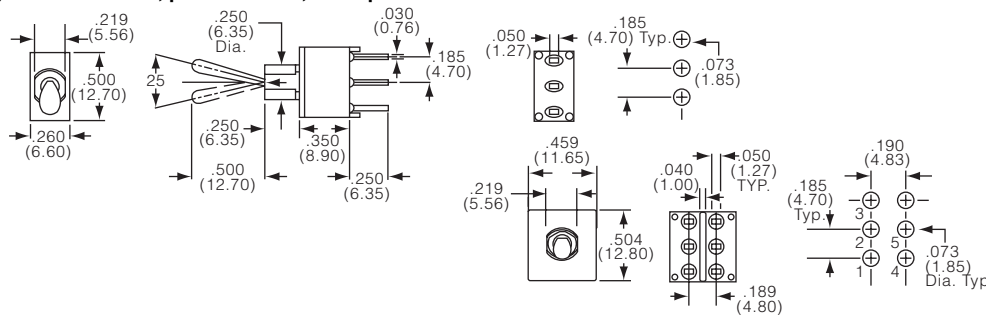


Series AE...SD1C long bat. unthreaded, printed circuit, 1 & 2 pole



AE101SD1CQ

AE201SD1CQ



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 compliant	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						vertical support		silver	1-1825142-0		
AE101MD1V30B04								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		gold	2-1825142-0		
AE101SD1CQ04						silver		2-1825142-1			
AE101SD1V30B04						vertical support		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			bat long		vertical right angle			2-1825142-9			
AE103SD1CB04						printed circuit				3-1825142-0	
AE103SD1CQ04								silver	3-1825142-1		
AE103SD1V30B04						vertical support		gold	3-1825142-3		
AE103SD1W4B04			(On)-Off-(On)		bat short	right angle		wire wrap	3-1825142-4		
AE105MD1AB04								gold	3-1825142-5		
AE105MD1AG04								Au over Ag	3-1825142-6		
AE105MD1AV2B04								vertical right angle	gold	3-1825142-7	
AE105MD1W4B04		wire wrap								3-1825142-8	
AE105SD1CB04		printed circuit								3-1825142-9	
AE105SD1V30B04		vertical support						gold	4-1825142-0		
AE105SD1W4B04			wire wrap		4-1825142-1						
AE107MD1AV2B04			On-Off-(On)		bat short	vertical right angle					4-1825142-2
AE107SD1AB04		bat long						right angle			4-1825142-3
AE107SD1AG04									Au over Ag	4-1825142-4	
AE107SD1CB04									printed circuit	gold	4-1825142-5
AE107SD1V30B04									vertical support	4-1825142-6	
AE108MD1AQ04		On-(On)	bat short		right angle	silver		4-1825142-7			
AE108MD1AV2B04						gold		4-1825142-8			
AE108MD1AV2Q04						silver		4-1825142-9			
AE108SD1AB04						gold		5-1825142-0			
AE108SD1AQ04			bat long			silver		5-1825142-1			
AE108SD1CQ04								printed circuit	5-1825142-2		
AE108SD1V30B04								vertical support	5-1825142-4		
AE108SD1W4B04								wire wrap	5-1825142-5		
AE201MD1AB04	2	On-On	bat short		right angle			1825143-1			
AE201MD1AQ04						silver		1825143-2			
AE201MD1AV2B04						vertical right angle		gold	1825143-3		
AE201MD1CB04						printed circuit				1825143-4	
AE201MD1CQ04						silver		1825143-5			
AE201MD1W4B04						gold		1825143-6			
AE201SD1AB04			bat long		right angle			1825143-7			
AE201SD1AG04						Au over Ag		1825143-8			
AE201SD1AV2B04						vertical right angle		gold	1825143-9		
AE201SD1CB04						printed circuit				1-1825143-0	
AE201SD1CQ04						silver		1-1825143-1			
AE201SD1W4B04						gold		1-1825143-2			
AE203MD1AB04		On-Off-On	bat short		right angle			1-1825143-3			
AE203MD1AQ04						silver		1-1825143-4			
AE203MD1AV2B04						vertical right angle		gold	1-1825143-5		
AE203SD1AB04						right angle				1-1825143-6	
AE203SD1AV2B04			vertical right angle					1-1825143-7			
AE203SD1AV2Q04			silver			1-1825143-8					
AE203SD1CB04			printed circuit			gold		1-1825143-9			
AE203SD1W4B04			wire wrap					2-1825143-0			
AE205MD1AV2B04		(On)-Off-(On)	bat short		vertical right angle			2-1825143-1			
AE205SD1CQ04						silver		2-1825143-2			
AE207MD1AB04		On-Off-(On)	bat short			right angle		gold	2-1825143-3		
AE208SD1W4B04						wire wrap		2-1825143-5			
AE211MD1CB04		On-On-On	bat short		printed circuit			2-1825143-6			
AE211MD1V30B04					vertical support	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°

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

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

Product key

Typical product key

MT A 1 06 E PC 04

Type

MT 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

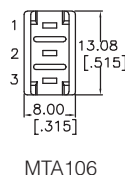
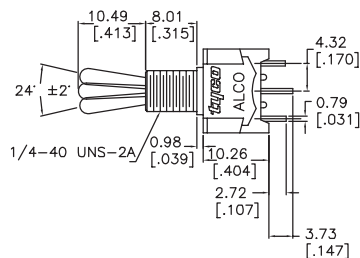


MTA1, MTA2 1 & 2 pole

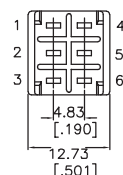


MTA106D04

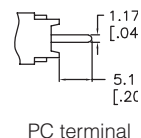
MTA206NPC04



MTA106



MTA206



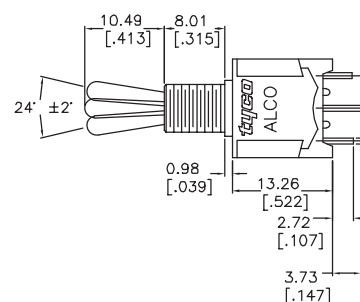
PC terminal

MTA3, MTA4 3 & 4 pole

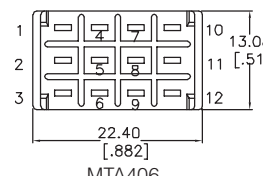


MTA306D04

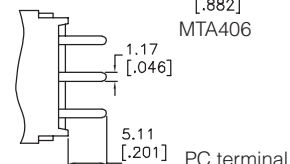
MTA406NPC04



MTA306



MTA406

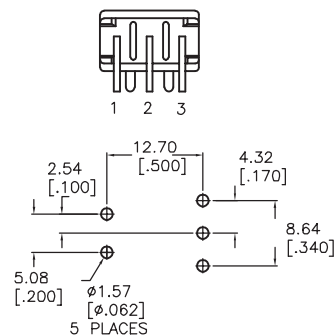
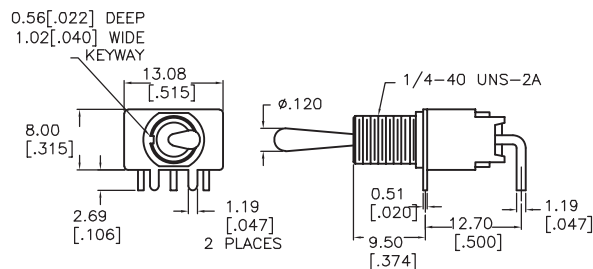


PC terminal

MTA81 RA 1pole, right angle



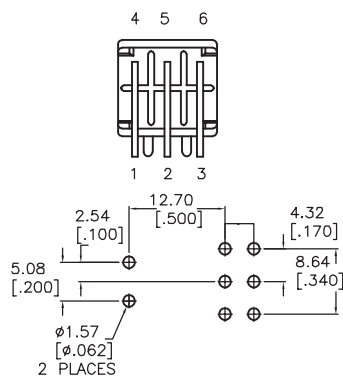
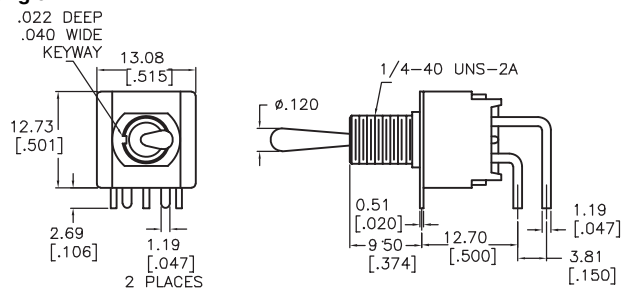
MTA8106DRA04



MTA82 RA 2pole, right angle



MTA8206NRA04

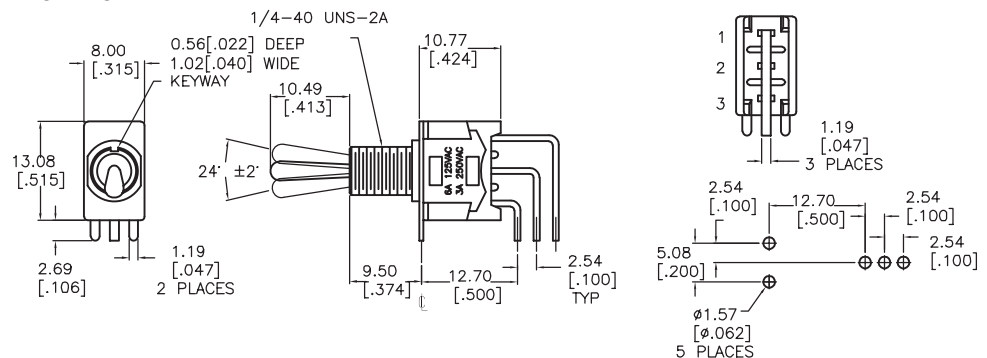


MT Green Series (Continued)

MTA81 VRA 1pole, vertical right angle



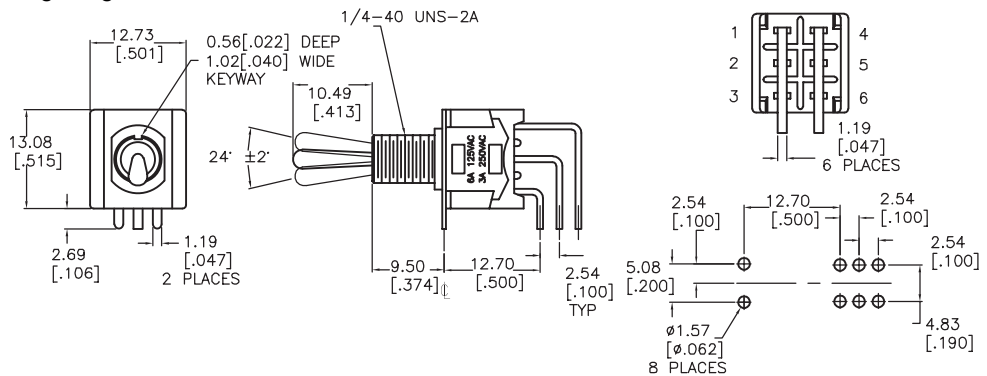
MTA8106DVRA04



MTA82 VRA 2pole, vertical right angle



MTA8206NVRA04



MTB

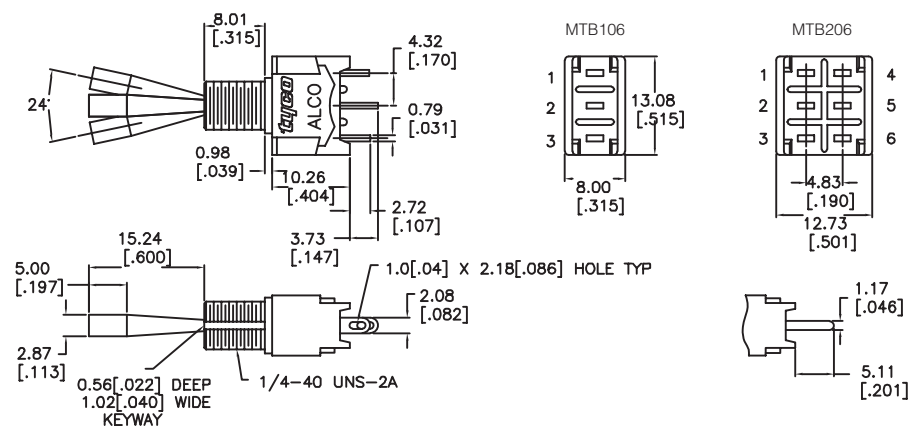
MTB1, MTB2 1 & 2 pole



MTB106D04

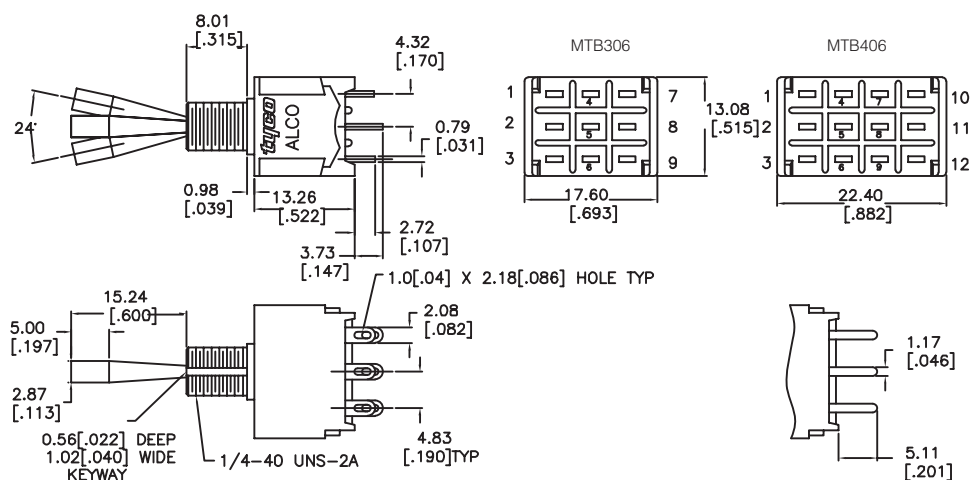


MTB206N04



MT Green Series (Continued)

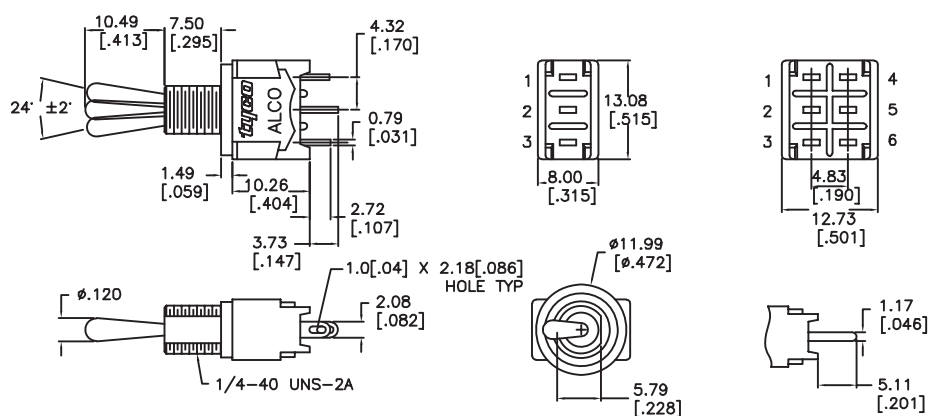
MTB3, MTB4 3 & 4 pole



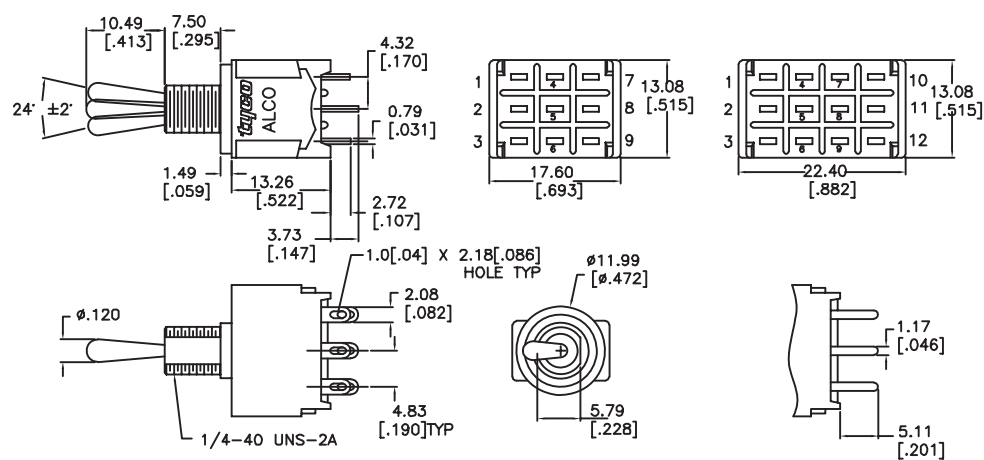
MTE



MTE1, MTE2 1 & 2 pole



MTE3, MTE4 3 & 4 pole

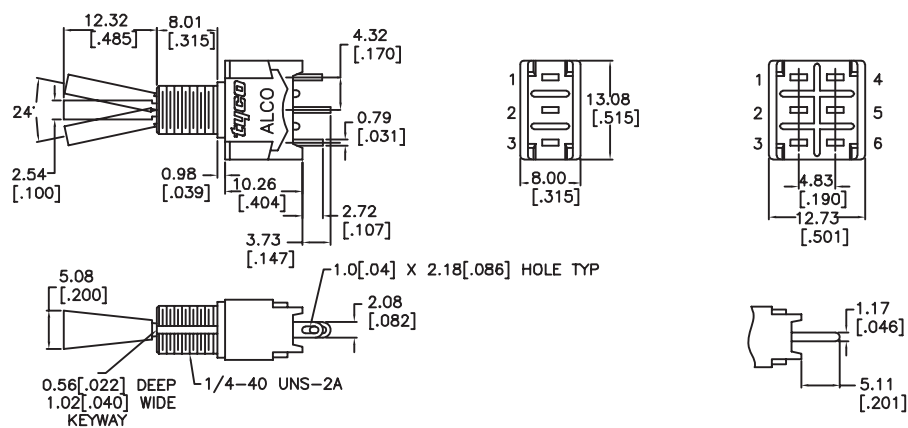


MT Green Series (Continued)

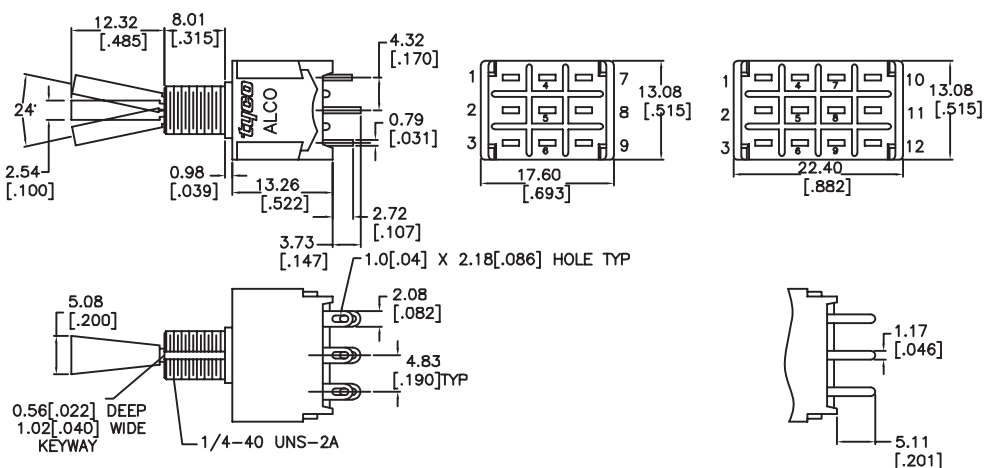
MTF



MTF1, MTF2 1 & 2 pole



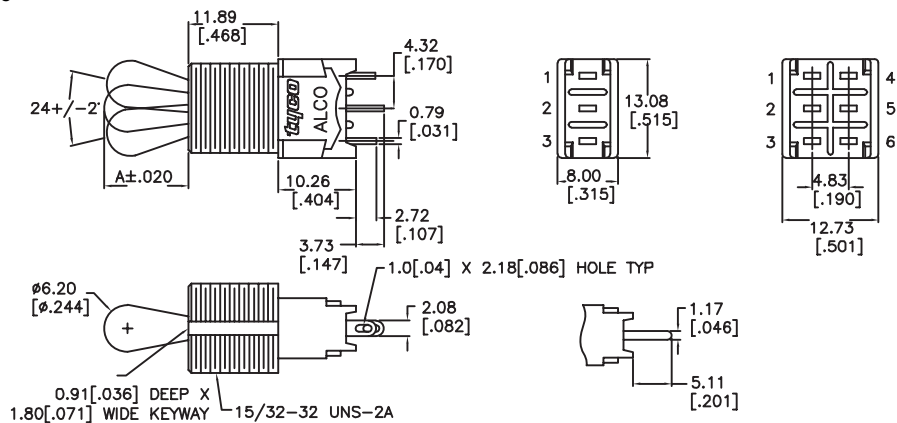
MTF3, MTF4 3 & 4 pole



MTG

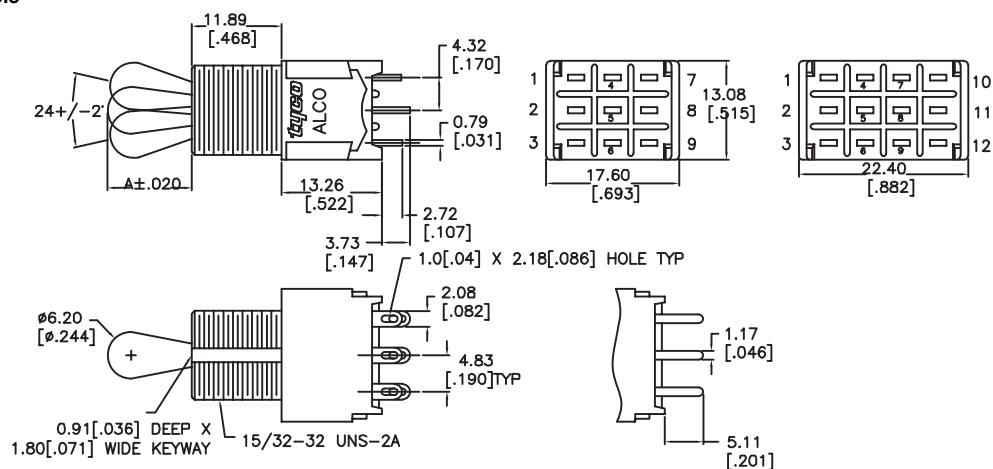


MTG1, MTG2 1 & 2 pole



MT Green Series (Continued)

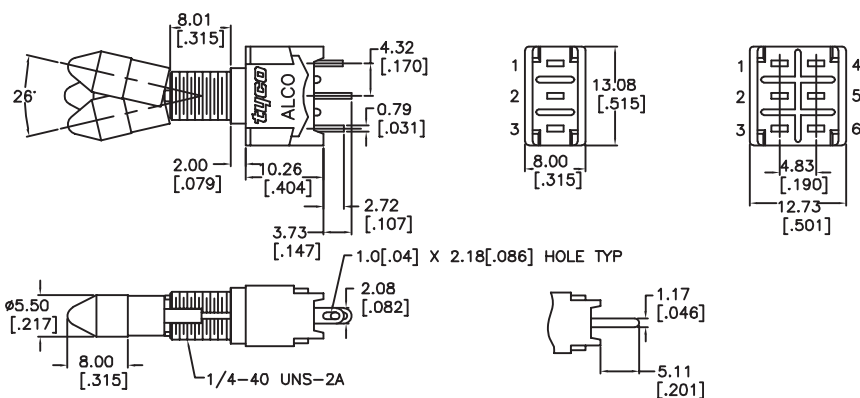
MTG3, MTG4 3 & 4 pole



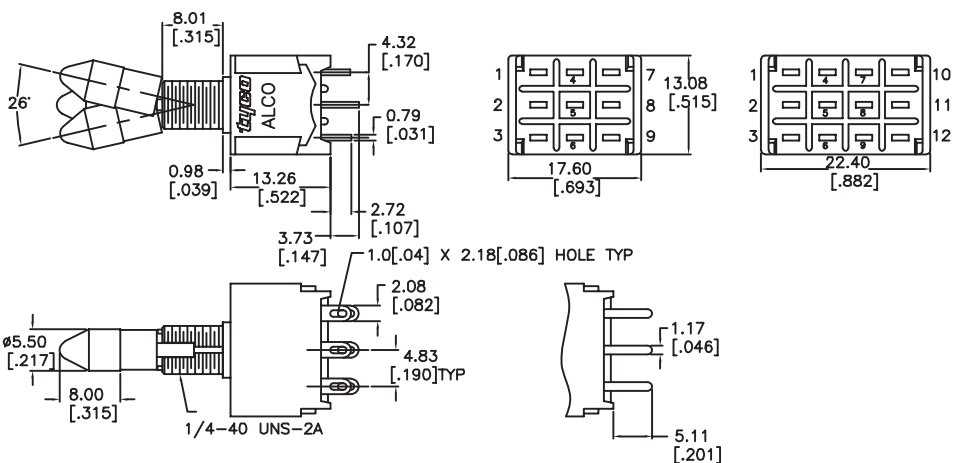
MTL



MTL1, MTL2 1 & 2 pole



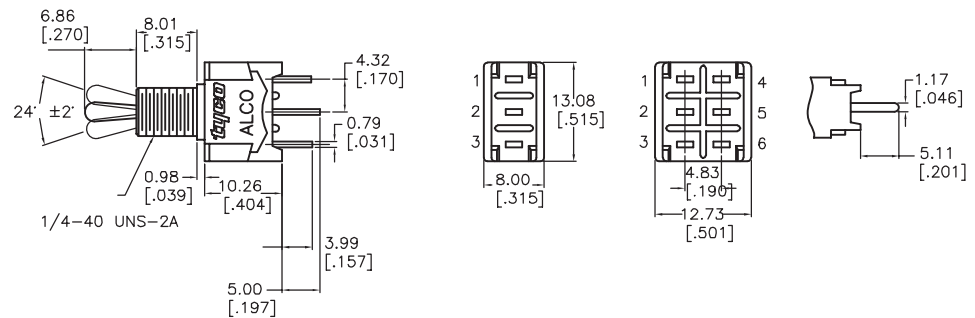
MTL3, MTL4 3 & 4 pole



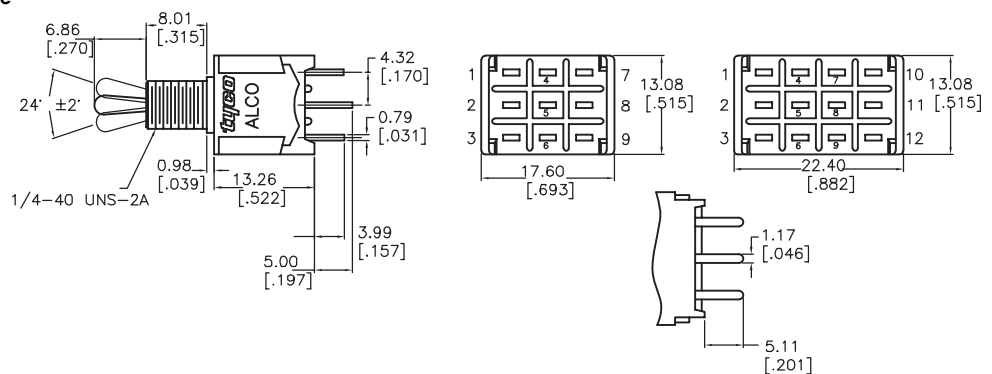
MT Green Series (Continued)

MTM

MTM1, MTM2 1 & 2 pole



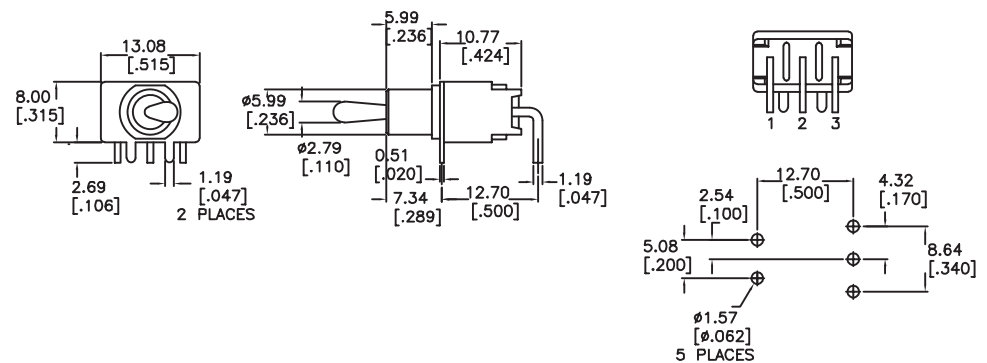
MTM3, MTM4 3 & 4 pole



MTM81 RA 1pole, right angle



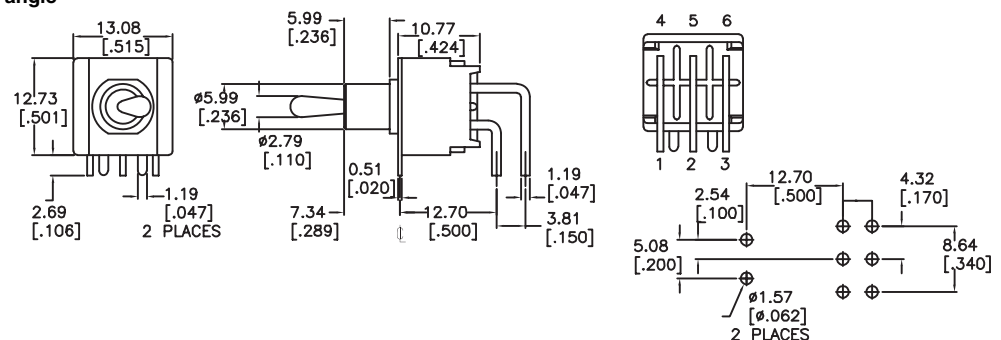
MTM8106DRA04



MTM82 RA 2pole, right angle



MTM8206NRA04

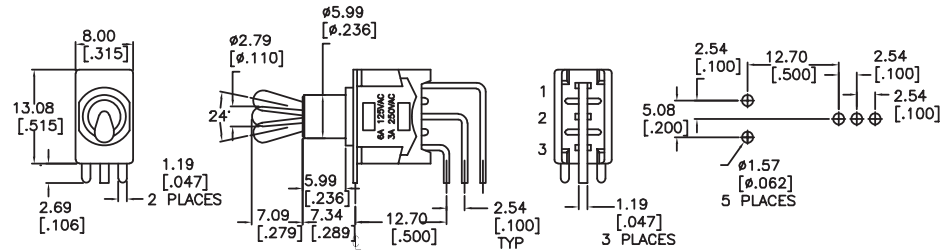


MT Green Series (Continued)

MTM81 VRA 1pole, vertical right angle



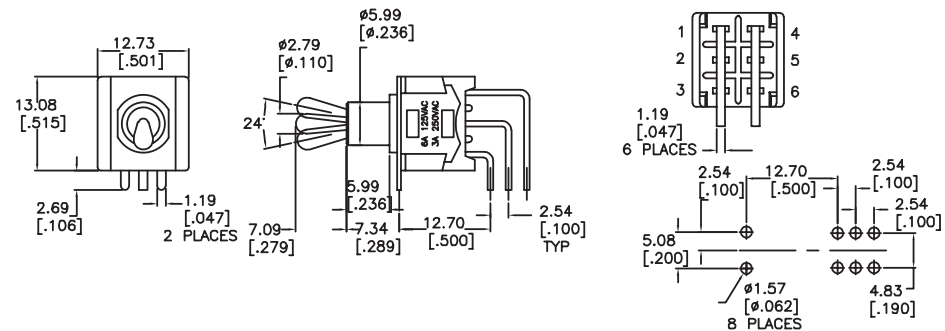
MTM8106DVRA04



MTM82 VRA 2pole, vertical right angle



MTM8206NVRA04



Function

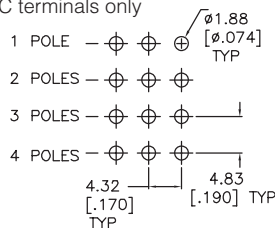


Function	Poles	Throws	1	2	3	4	5	6
A	1	1	On	None	Off	2-3	-	Off
D	1	2	On	None	On	2-3	-	2-1
D	3	2	On	None	On	2-3, 5-6, 8-9	-	2-1, 5-4, 8-7
E	1	2	On	Off	On	2-3	Off	2-1
E	3	2	On	Off	On	2-3, 5-6, 8-9	Off	2-1, 5-4, 8-7
F	1	2	On	None	(On)	2-3	-	2-1
F	3	2	On	None	(On)	2-3, 5-6, 8-9	-	2-1, 5-4, 8-7
G	1	2	(On)	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

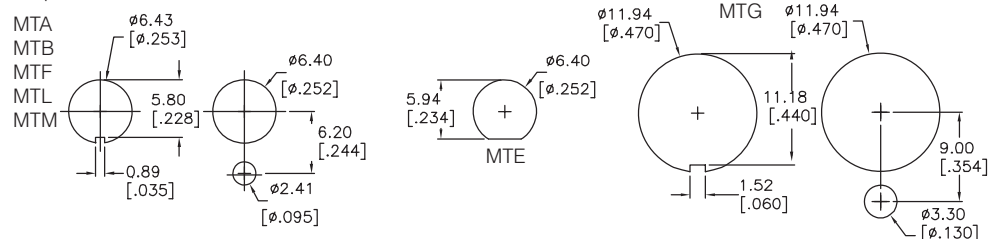
¹⁾ customer installed external jumper between terminals 1 and 4 required for 1 pole 3 throw function
²⁾ customer installed external jumpers between terminals 2 and 4 as well as between 8 and 10 required for 2 pole 3 throw function
 Off indicates a mechanical position with no electrical connection
 (On) 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)

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
MTA306FPC04				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				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		1571923-3
MTB106E04						1571923-4
MTB106F04						1571923-5
MTB106G04						1571923-6
MTB206N04			2			1571923-9
MTB206P04						1-1571923-0
MTB206T04						1-1571923-1
MTB306D04			3			1-1571923-2
MTB406N04						1-1571923-3
			4			

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

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	F Series power toggle switch									
Number of poles										
blank	1 & 2 pole	3	3 poles							
		4	4 poles							
Model										
T	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										
9	leadwire hooking type									
Contact material										
blank	silver	G	gold							
Material										
04	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

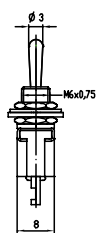
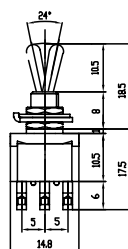
Actuator



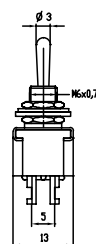
Code 0 standard toggle



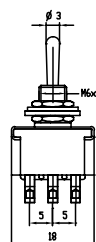
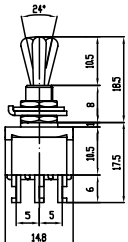
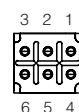
FTD0904



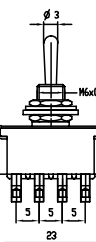
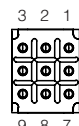
1 pole



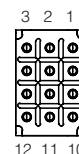
2 pole



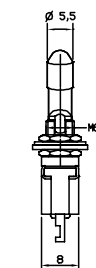
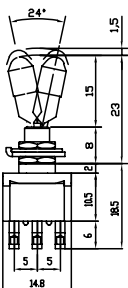
3 pole



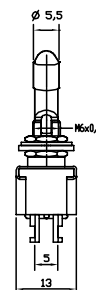
4 pole



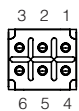
Code 5 locking lever



1 pole

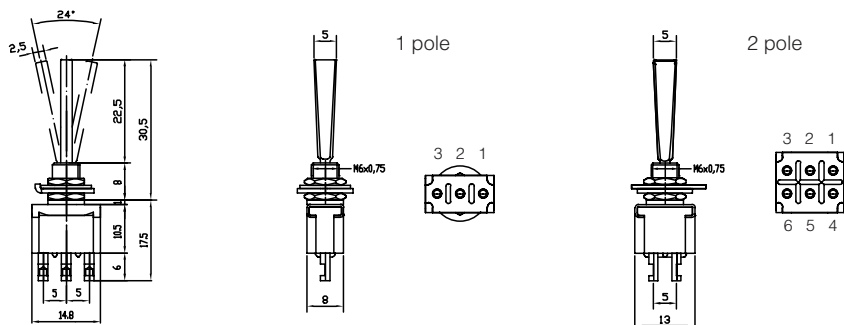


2 pole



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

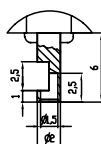
Code 7 long flat toggle



Terminal

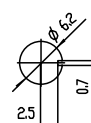


Code 9 leadwire hooking type

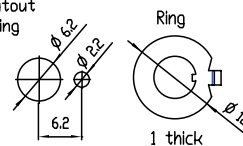


Mounting

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 type		compliant	3-6437630-5
F4TPA0904		ON-ON-ON					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
 Terminals brass plate
 Case phenol resin
 Cover steel zinc plated
 Seal rubber seal, insert molded rubber
 RoHS compliance compliant

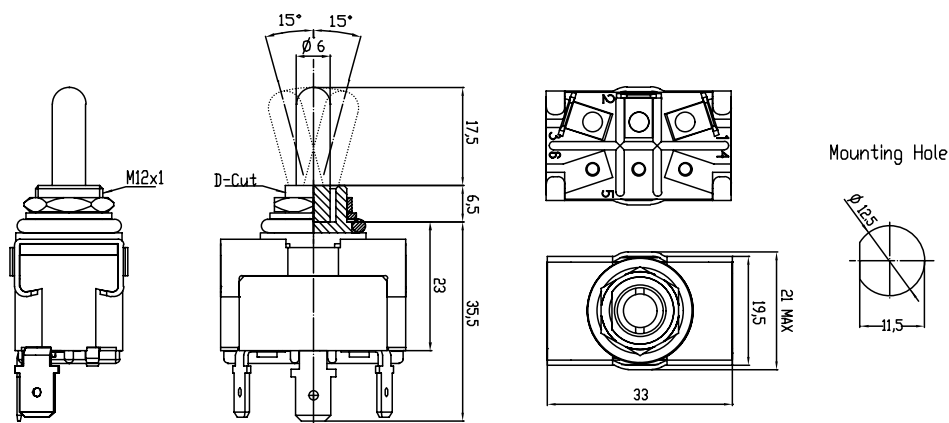
Product key		Typical product key						
		A	W	T	T	1	5	04
Type								
A	A Series power toggle switch, 1 & 2 pole							
Sealing								
W	water proof							
Actuator style								
T	toggle							
Switch function & poles								
	1 pole				2 pole			
A	ON-OFF				N	ON-ON		
D	ON-ON				P	ON-OFF-ON		
E	ON-OFF-ON				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)

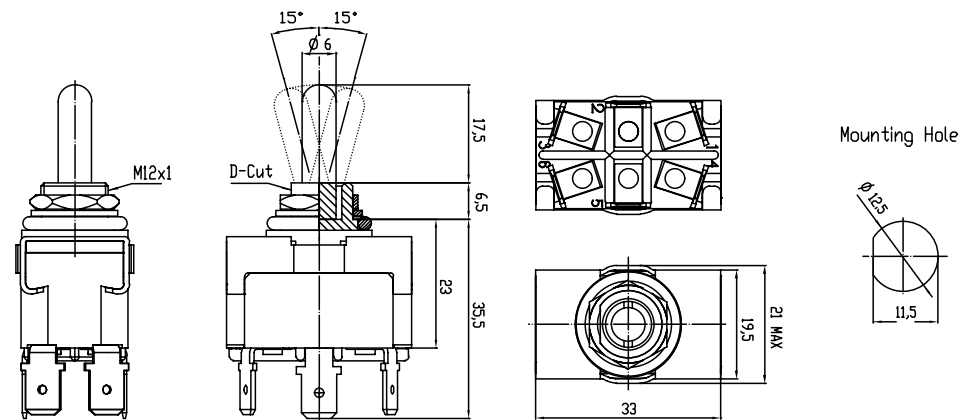
Product key		Typical product key		A	4	T	K	1	5	W	04
Type											
A	A Series power toggle switch, 4 pole										
Poles											
4	4 pole										
Actuator style											
T	toggle										
Switch function											
K	ON-OFF			R	ON-(ON)						
N	ON-ON			S	(ON)-OFF(ON)						
P	ON-OFF-ON										
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

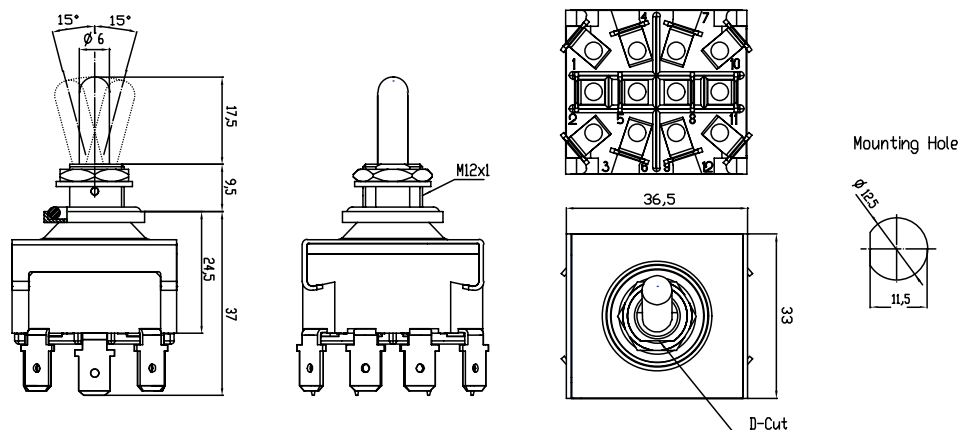


2 pole



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

4 pole



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

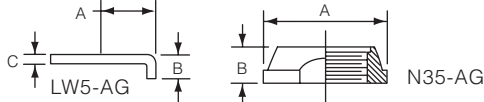
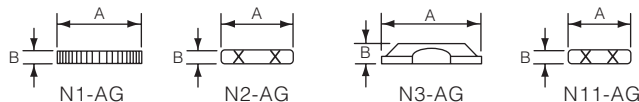
Off indicates a mechanical position with no electrical connection
(On) indicates momentary connection
None indicates no mechanical position

Product key	Sealing	Poles	Switch func.	Terminal	Rating	Part Number
A4TK15W04	water	4 poles	ON-OFF	.250	20 A	8-6437630-0
A4TN15W04	proof		ON-ON	quick	@ 125/250 VAC	8-6437630-1
A4TP15W04			ON-OFF-ON	connect		8-6437630-2
A4TR15W04			ON-(ON)	terminal		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.

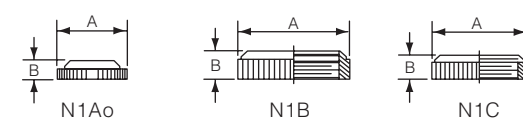
N1 and N3 style nuts are recommended as styling options.

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 compliant	1437628-7
10264-00-120	hex nut			7.87 (.310)	1.52 (.060)		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	lock washer #10	.19	zinc	7.62 (.300)	0.76 (.030)		1-1437561-1

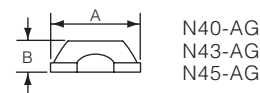
"Perfect Fit" decorative mounting hardware



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 compliant	1825622-1
N1B04		15/32-32		14.2 (.560)	3.56 (.140)		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 compliant	2-1437628-4
SPA42		15/32"		17.3 (.680)	28.6 (1.12)		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

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

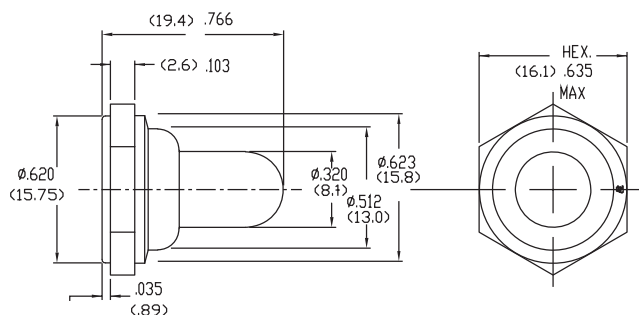
Full boots



1532 Series



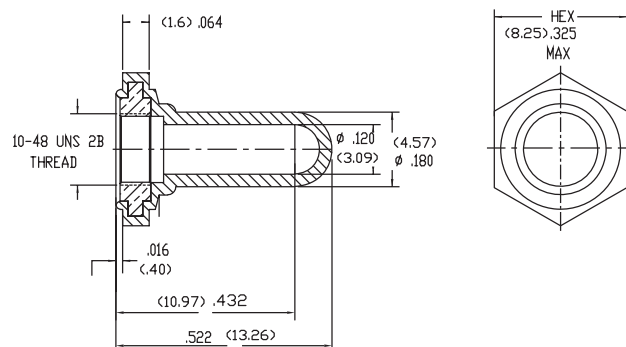
B1532004



1048 Series



B1048004

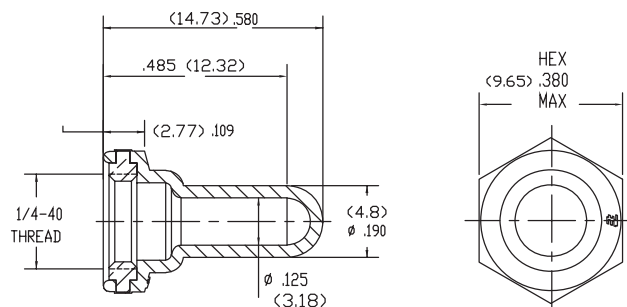


Boot Seals (Continued)

1440 Series



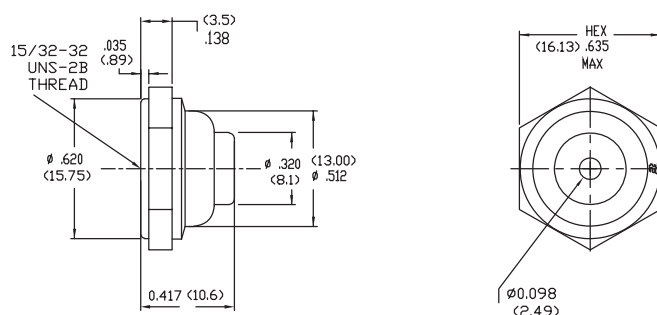
B1440004



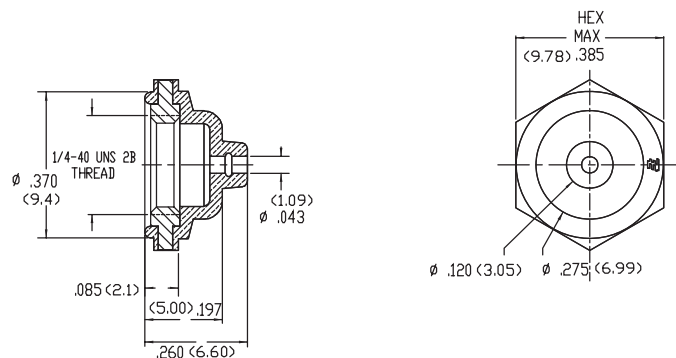
Half boots



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

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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