

Toggle Switches Index

Index

A1



Industrial - Environmentally Sealed Switches

A2 – A10

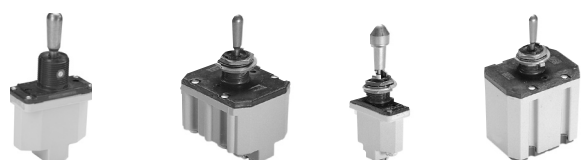
- Watertight seal per MIL-STD-108
- Ratings at 28VDC and 115VAC 60/400Hz
- One, two and four pole configurations
- Toggle and designerline Actuator
- Positive detent action
- Multi-circuit variations offered



Econoswitch - Environmentally Sealed Switches

A11 – A19

- Watertight seal per MIL-STD-108
- Ratings at 28VDC and 115VAC 60/400Hz
- One, two and four pole configurations
- Patented base compression seal
- Toggle, lever lock and designerline Actuator
- Terminal variations - screw, spade and solder lug



Military - Environmentally Sealed Switches

A20 – A34

- MS approved and QPL listed to MIL-S-3950
- One, two and four pole configurations
- Terminal variations - screw and IWTS
- Toggle and lever lock Actuator
- Positive detent action



High Capacity Switches

A35 – A36

- High current capability at 28VDC and 115VAC 60 Hz
- One and three pole arrangements
- Positive detent action
- Flush mounted
- Large toggle Actuator

Ratings and Switch Position Diagrams

A37 – A42

**Most items listed in this catalog are standard products and are normally in Distributor Inventory; however, the current inventory status should be checked by contacting your Eaton Customer Service Representative at 800-955-7354 or your authorized Distributor before placing orders.*

INDUSTRIAL - ENVIRONMENTALLY SEALED SWITCHES

Series - 8510, 8511, 8512

Environmentally Sealed Toggle Switches

FEATURES

- Completely sealed against dust, moisture, and other contaminants
- 1, 2 and 4 pole circuitry
- One hole mounting for easy installation
- Multi-circuits offered
- 2 & 3 position with maintained and momentary action
- Molded-in terminal inserts
- Molded-in terminal numbers
- See 8520-8528 for UL recognized and CSA certified version on page A5.

SPECIFICATIONS

- Water tight seal per MIL-STD-108E and designed to meet IP68
- Thermoset molding materials meet flame retardant requirements
- Temperature Range: -50°F to +150°F (-46°C to +66°C)
- Life: 20,000 operations at rated load
- Bushing: 15/32" - 32 thread

CURRENT RATINGS

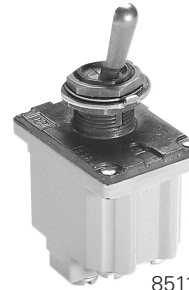
No. of Poles	Catalog Number	Type of Operation	28VDC			115 VAC 60 or 400Hz		
			Lamp Load	Resistive Load	Inductive Load	Lamp Load	Resistive Load	Inductive Load
1	8510	Maintained	5	20	15	3	15	10
		Momentary	4	15	10	2	15	7
2	8511	Maintained	7	20	15	4	15	15
		Momentary	5	18	10	2	11	8
4	8512	Maintained	5	20	12	4	15	15
		Momentary	4	18	10	2	11	8

SELECTION TABLE

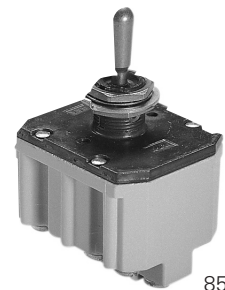
FLUSH TERMINAL SCREWS



8510



8511

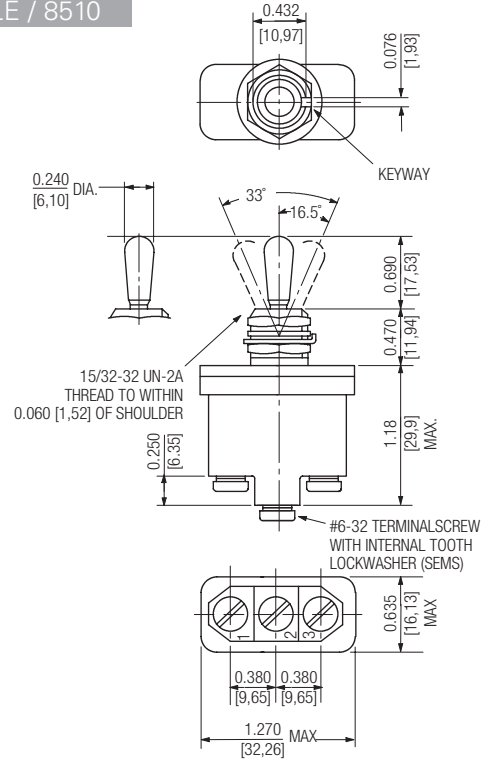


8512

CIRCUIT WITH LEVER IN . . .			ONE POLE	TWO POLE	FOUR POLE
Up Position	Center Position	Down Position (Keyway)	Catalog Number	Catalog Number	Catalog Number
					
ON	OFF	ON	8510K1	8511K1	8512K1
ON	NONE	OFF	K9	K9	K9
ON	NONE	ON	K4	K4	K4
ON	OFF	NONE	K6	K6	K6
ON	OFF*	NONE	K8	K8	K8
ON	NONE	ON*	8510K5	8511K5	8512K5
* ON	OFF	ON*	K2	K2	K2
NONE	OFF	ON*	K7	K7	K7
ON	NONE	OFF*	K10	K10	K10
OFF	NONE	ON*	K11	K11	K11
ON	OFF	ON*	8510K3	8511K3	8512K3
* ON	ON	NONE	K12	K12	K12
ON	ON	NONE	K13	K13	K13
ON	ON	ON	—	8511K14	8512K15
ON	ON	ON*	—	K15	K16
* ON	ON	ON*	—	K16	K17
ON	ON	ON	—	8511K17	—
ON	ON	ON*	—	K18	—
* ON	ON	ON*	—	K19	—

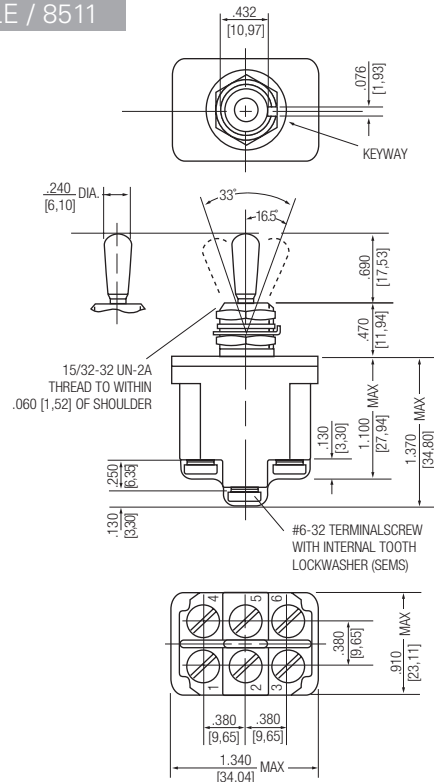
* Momentary contact.
See Page A38 for circuit diagrams.

MOUNTING DIMENSIONS - ONE POLE / 8510



Non-functional terminals not supplied.

MOUNTING DIMENSIONS - TWO POLE / 8511



STANDARD
0.00 = inches
[0,0] = mm

Non-functional terminals not supplied.

Mounting dimensions for reference only.

INDUSTRIAL - ENVIRONMENTALLY SEALED SWITCHES

Series - 8520-8522, 8526-8528

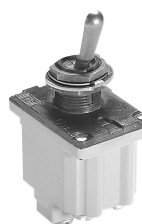
**Environmentally Sealed Toggle Switches
UL Recognized and CSA Certified**

FEATURES		SPECIFICATIONS		CURRENT RATINGS				
• Completely sealed against dust, moisture, and other contaminants • UL and CSA approved • One hole mounted bushing for easy installation • Multi-circuits offered • 2 & 3 position with maintained and momentary action • Molded-in terminal inserts and terminal numbers • 1, 2 and 4 pole circuitry		• Watertight seal per MIL-STD-108E and designed to meet IP68 • Thermoset molding materials meet flame retardant requirements • UL recognized and CSA certified per specifications listed below • Temperature Range: -50°F to +150°F (-46°C to +66°C) • Life: 20,000 operations at rated load 40,000 operations mechanical life 6,000 operations at HP ratings per UL and CSA requirements • Bushing: 15/32" - 32 thread				Maximum Horsepower		
				Amperes		1 Phase		3 Phase
						125V	250V	125VAC
				No. of Poles	Catalog Number			
1	8520	18	9	1/4	1/2	—		
2	8521	18	9	1/2	1	—		
4	8522	18	9	1/2	1	1		
1, 2, 4	8526 thru 8528	18	9	—	—	—		

SELECTION TABLE



8520/8526



8521/8527



8522/8528

CIRCUIT WITH LEVER IN . . .			ONE POLE	TWO POLE	FOUR POLE
Up Position	Center Position	Down Position (Keyway)	Catalog Number	Catalog Number	Catalog Number
ON	OFF	ON	8520K1	8521K1	8522K1
ON	NONE	OFF	K9	K9	K9
ON	NONE	ON	K4	K4	K4
ON	NONE	ON*	8526K5	8527K5	8528K5
* ON	OFF	ON*	K2	K2	K2
ON	OFF	ON*	8526K3	8527K3	8528K3

* Momentary contact.

See page A38 for circuit diagrams.

UL & CSA Approval Numbers

UL - Where devices are UL recognized, recognition is listed under file number E15346; Guide card number is WOYR2.

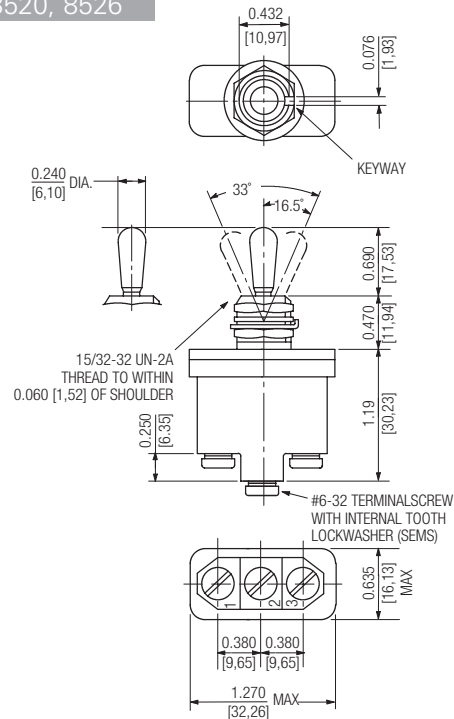
CSA = Where devices are CSA certified, certification number is LR40068, class number 6241.

INDUSTRIAL - ENVIRONMENTALLY SEALED SWITCHES

Series - 8520-8522, 8526-8528

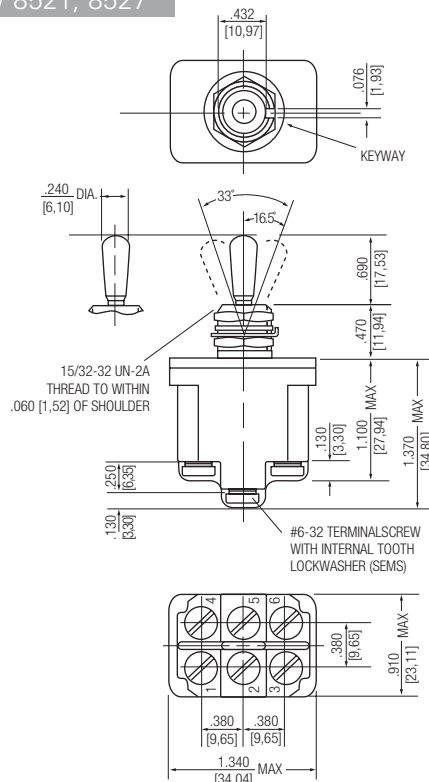
Environmentally Sealed Toggle Switches
UL Recognized and CSA Certified

MOUNTING DIMENSIONS - ONE POLE / 8520, 8526



Non-functional terminals not supplied.

MOUNTING DIMENSIONS - TWO POLE / 8521, 8527



STANDARD
0.00 = inches
[0,0] = mm

Mounting dimensions for reference only.

Non-functional terminals not supplied.

Environmentally Sealed Toggle Switches UL Recognized and CSA Certified

Non-functional terminals not supplied.

A7

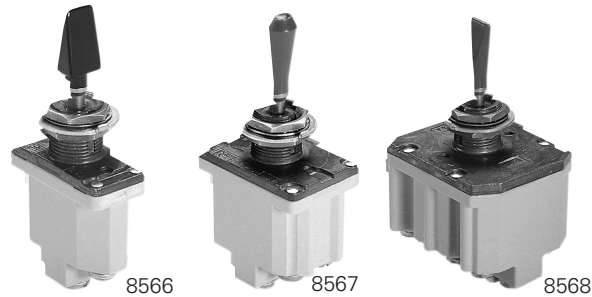
INDUSTRIAL - ENVIRONMENTALLY SEALED SWITCHES

Series - 8566, 8567, 8568

Environmentally Sealed Designerline Toggle Switches

FEATURES	SPECIFICATIONS	CURRENT RATINGS								
		No. of Poles	Catalog Number	Type of Operation	28VDC			115 VAC 60 or 400Hz		
					Lamp Load	Resistive Load	Inductive Load	Lamp Load	Resistive Load	Inductive Load
- Completely sealed against dust, moisture, and other contaminants - Variety of lever styles and colors - One hole mounting for easy installation 2 & 3 position with maintained and momentary action 1, 2 and 4 pole circuitry - Molded-in terminal inserts and terminal numbers - Color-coded shaped levers for operator feel and cosmetic appearance	- Watertight seal per MIL-STD-108E and designed to meet IP68 - Bushing: 15/32" - 32 thread - Temperature Range: -50°F to +150°F (-46°C to +66°C) - Life: 20,000 operations at rated load 40,000 operations mechanical life - Thermoset molding materials meet flame retardant requirements	1	8566	Maintained	5	20	15	3	15	10
				Momentary	4	15	10	2	15	7
		2	8567	Maintained	7	20	15	4	15	15
				Momentary	5	18	10	2	11	8
		4	8568	Maintained	5	20	12	4	15	15
				Momentary	4	18	10	2	11	8

FLUSH SCREW TERMINALS



CIRCUIT WITH LEVER IN . . .			ONE POLE	TWO POLE	FOUR POLE	LEVER SUFFIXES ¹		
Up Position	Center Position	Down Position (Keyway)	Catalog Number	Catalog Number	Catalog Number	Shape ² Suffix	Color Letter	Suffix Number
ON	OFF	ON	8566K1	8567K1	8568K1	All	White	21
ON	NONE	OFF	K9	K9	K9			
ON	NONE	ON	K4	K4	K4			
ON	OFF	NONE	K6	K6	K6			
ON	OFF*	NONE	K8	K8	K8			
ON	NONE	ON*	8566K5	8567K5	8568K5	All	Red	22
* ON	OFF	ON*	K2	K2	K2			
NONE	OFF	ON*	K7	K7	K7			
ON	NONE	OFF*	K10	K10	K10			
OFF	NONE	ON*	K11	K11	K11			
ON	OFF	ON*	8566K3	8567K3	8568K3	All	Black	27
* ON	ON	NONE	K12	K12	K12			
ON	ON	NONE	K13	K13	K13			
ON	ON	ON	—	8567K14	8568K15			
ON	ON	ON*	—	K15	K16			
* ON	ON	ON*	—	K16	K17	All	Black	27
ON	ON	ON	—	8567K17	—			
ON	ON	ON*	—	K18	—			
* ON	ON	ON*	—	K19	—			

* Momentary contact.

See page A38 for circuit diagrams.

¹ A complete catalog number consists of a basic switch number followed by a lever shape suffix letter and a two-digit lever color suffix number. Example: 8566K1C21.

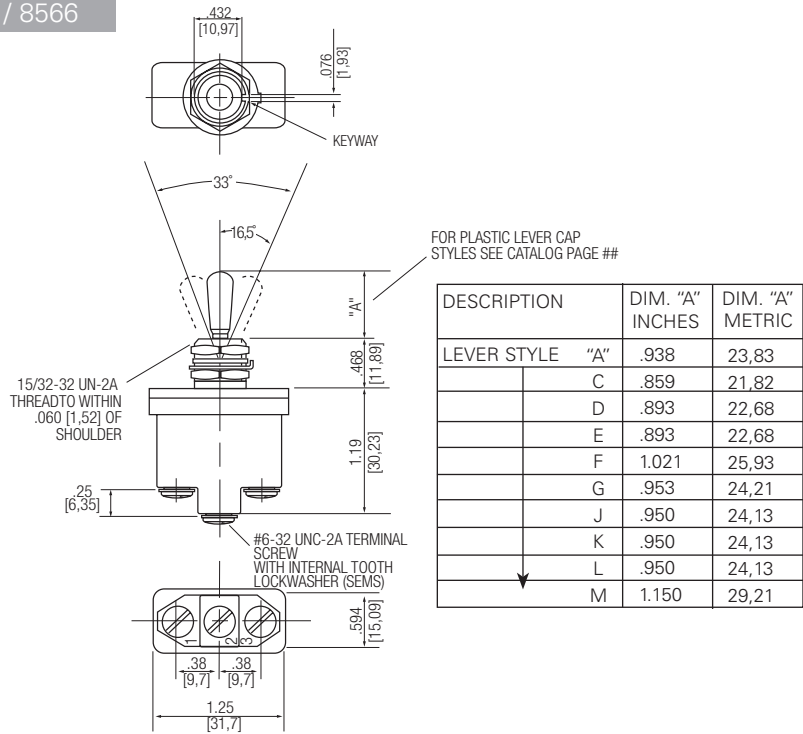
² Select lever shape suffix letter from page A10.

INDUSTRIAL - ENVIRONMENTALLY SEALED SWITCHES

Series - 8566, 8567, 8568

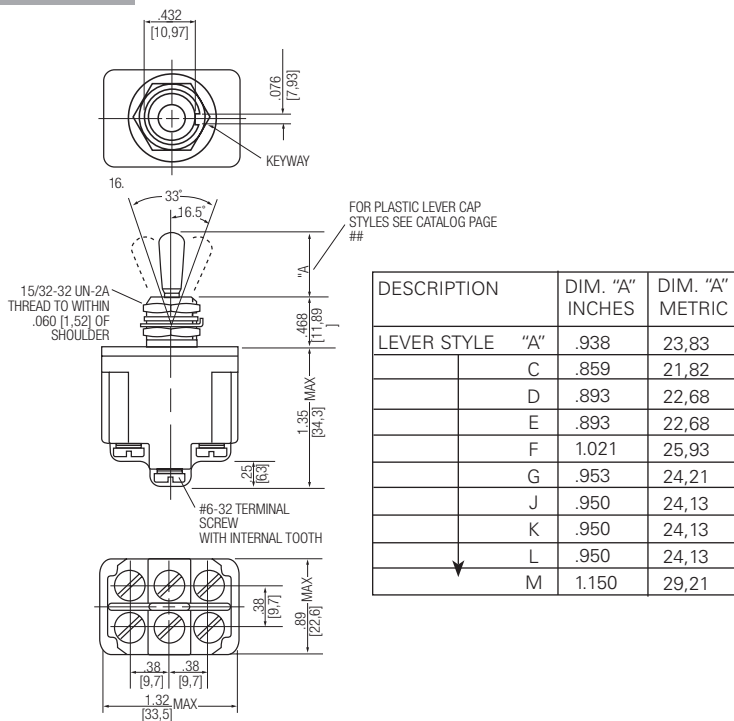
Environmentally Sealed Designerline Toggle Switches

MOUNTING DIMENSIONS - ONE POLE / 8566



Non-functional terminals not supplied.

MOUNTING DIMENSIONS - TWO POLE / 8567



STANDARD
0.00 = inches
[0,0] = mm

Non-functional terminals not supplied.

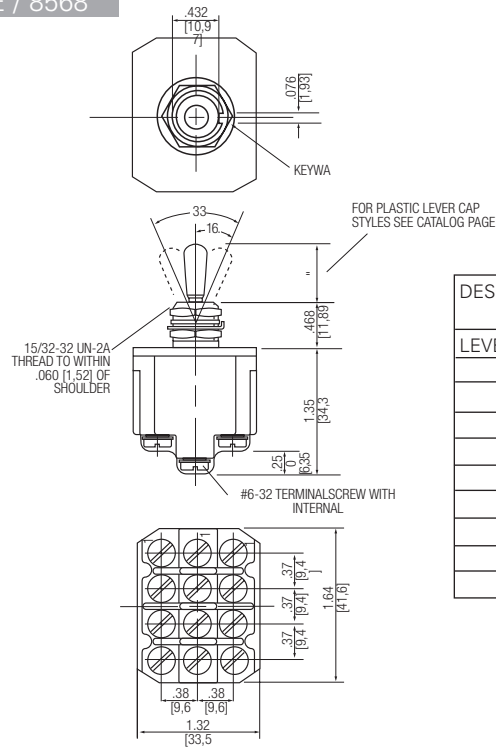
Mounting dimensions for reference only.

INDUSTRIAL - ENVIRONMENTALLY SEALED SWITCHES

Series - 8566, 8567, 8568

Environmentally Sealed Designerline Toggle Switches

MOUNTING DIMENSIONS - FOUR POLE / 8568

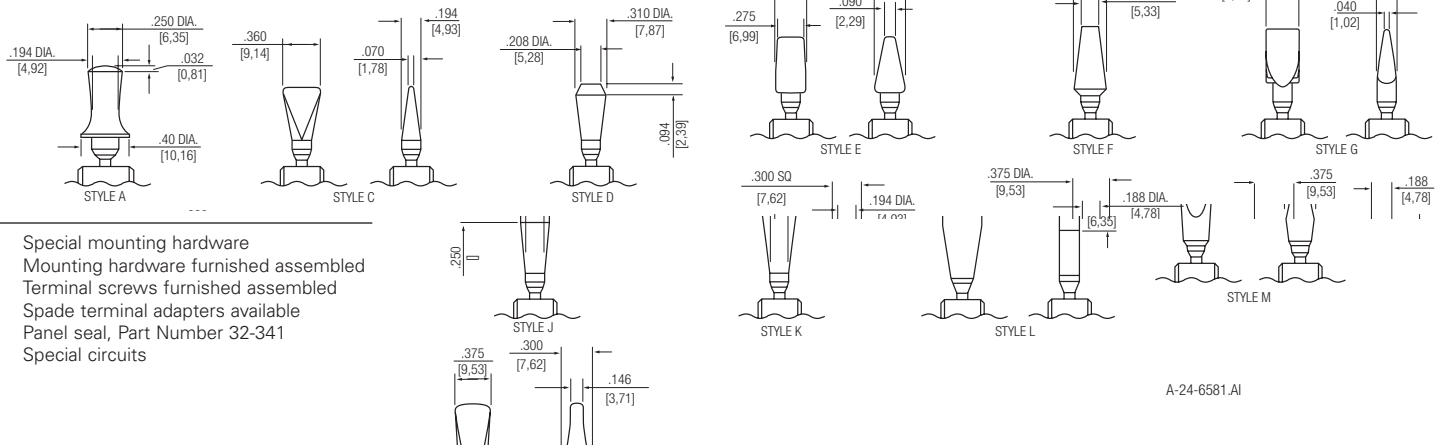


DESCRIPTION	DIM. "A" INCHES	DIM. "A" METRIC
LEVER STYLE "A"	.938	23,83
C	.859	21,82
D	.893	22,68
E	.893	22,68
F	1.021	25,93
G	.953	24,21
J	.950	24,13
K	.950	24,13
L	.950	24,13
M	1.150	29,21

Non-functional terminals not supplied.

OPTIONS/ACCESSORIES

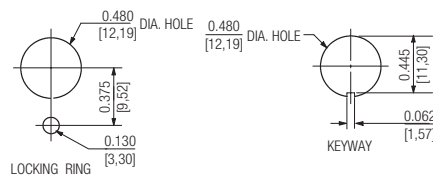
- Standard colors available - White, red and black



- Special mounting hardware
- Mounting hardware furnished assembled
- Terminal screws furnished assembled
- Spade terminal adapters available
- Panel seal, Part Number 32-341
- Special circuits

PANEL CUTOUT DIMENSIONS

15/32 DIA. BUSHING



STANDARD
0.00 = inches
[0,0] = mm

Mounting dimensions for reference only.

FEATURES	SPECIFICATIONS	No. of Poles	Catalog Number	Type of Operation	CURRENT RATINGS					
					28VDC			115VAC 60 or 400Hz		
- Environmentally sealed 1, 2 and 4 pole Circuitry - One hole mounting for easy installation - Multi-circuits 2 & 3 position with maintained and momentary action - Three types of termination offered as standard	- Watertight seal per MIL-STD-108E and designed to meet IP68 - UL recognized and CSA certified - Three standard types of terminals: - Screw 6-32 UNC-2A - Solder lug .125 [3,17] dia. hole - Spade .250 [6,35] x .032 [0,81] thick - Life: 50,000 operations at rated load. 100,000 operations mechanical life. - Temperature Range: -50°F to +150°F (-46°C to + 66°C)	1	8530	Maintained	Lamp Load	Resistive Load	Inductive Load	Lamp Load	Resistive Load	Inductive Load
				Momentary	5	20	15	3	15	10
		2	8531	Maintained	4	15	10	2	11	7
				Momentary	7	20	15	4	15	15
		4	8532	Maintained	5	18	10	2	11	8
				Momentary	5	20	12	4	15	15

For the UL/CSA ratings, see page A37.

STANDARD LEVER SELECTION TABLE

CIRCUIT WITH LEVER IN . . .			CATALOG NUMBER		
Up Position	Center Position	Down Position (Keyway)	Screw Terminals	Solder Lug Terminals	Spade Terminals
ONE POLE					
ON	OFF	ON	8530K1	8530K91	8530K31
ON	NONE	OFF	K9	K99	K39
ON	NONE	ON	K4	K94	K34
ON	OFF	NONE	K6	K96	K36
ON	OFF*	NONE	K8	K98	K38
ON	NONE	ON*	8530K5	8530K95	8530K35
ON*	OFF	ON*	K2	K92	K32
NONE	OFF	ON*	K7	K97	K37
ON	NONE	OFF*	K10	K910	K310
OFF	NONE	ON*	K11	K911	K311
ON	OFF	ON*	8530K3	8530K93	8530K33
ON*	ON	NONE	K12	K912	K312
ON	ON	NONE	K13	K913	K313
TWO POLE					
ON	OFF	ON	8531K1	8531K91	8531K31
ON	NONE	OFF	K9	K99	K39
ON	NONE	ON	K4	K94	K34
ON	OFF	NONE	K6	K96	K36
ON	OFF*	NONE	K8	K98	K38
ON	NONE	ON*	8531K5	8531K95	8531K35
ON*	OFF	ON*	K2	K92	K32
NONE	OFF	ON*	K7	K97	K37
ON	NONE	OFF*	K10	K910	K310
OFF	NONE	ON*	K11	K911	K311
ON	OFF	ON*	8531K3	8531K93	8531K33
ON*	ON	NONE	K12	K912	K312
ON	ON	NONE	K13	K913	K313
ON	ON	ON	K14	K914	K314
ON	ON	ON*	K15	K915	K315
ON*	ON	ON*	8531K16	8531K916	8531K316
ON	ON	ON	K17	K917	K317
ON	ON	ON*	K18	K918	K318
ON*	ON	ON*	K19	K919	K319
FOUR POLE					
ON	OFF	ON	8532K1	8532K91	8532K31
ON	NONE	OFF	K9	K99	K39
ON	NONE	ON	K4	K94	K34
ON	OFF	NONE	K6	K96	K36
ON	OFF*	NONE	K8	K98	K38
ON	NONE	ON*	8532K5	8532K95	8532K35
* ON	OFF	ON*	K2	K92	K32
NONE	OFF	ON*	K7	K97	K37
ON	NONE	OFF*	K10	K910	K310
OFF	NONE	ON*	K11	K911	K311
ON	OFF	ON*	8532K3	8532K93	8532K33
* ON	ON	NONE	K12	K912	K312
ON	ON	NONE	K13	K913	K313
ON	ON	ON	K15	K915	K315
ON	ON	ON*	K16	K916	K316
* ON	ON	ON*	K17	K917	K317

* Momentary contact.

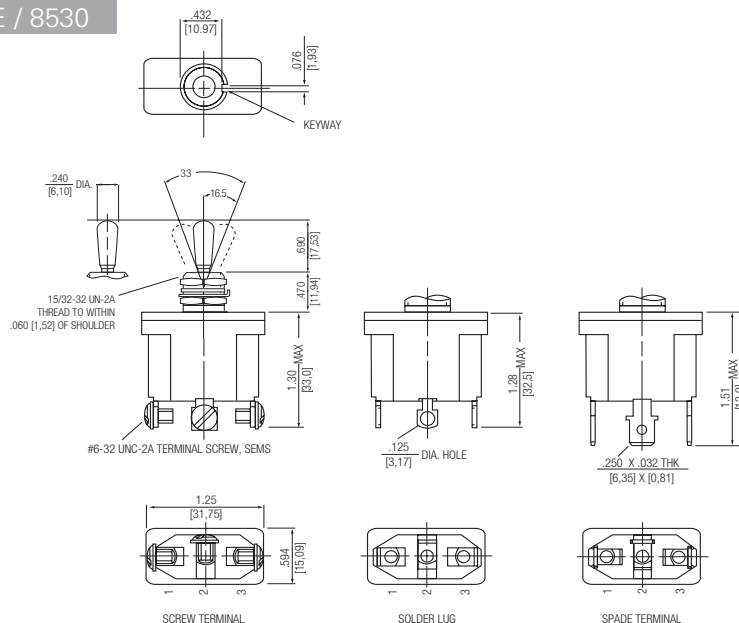
See page A38 for circuit diagrams.

ECONOSWITCH - ENVIRONMENTALLY SEALED SWITCHES

Series - 8530, 8531, 8532

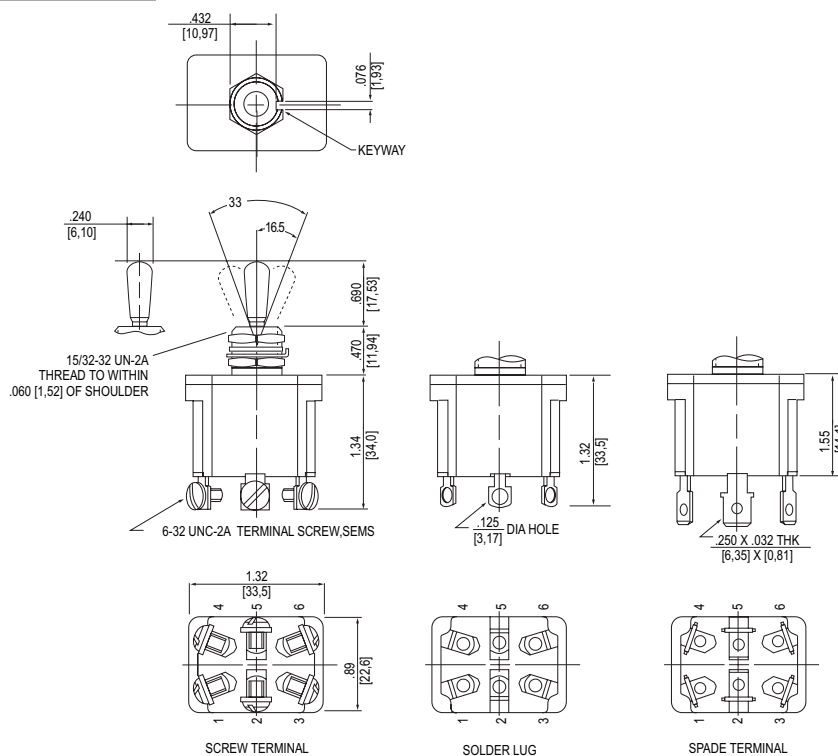
Econoswitch Sealed Toggle Switches

MOUNTING DIMENSIONS - ONE POLE / 8530



Non-functional terminals not supplied.

MOUNTING DIMENSIONS - TWO POLE / 8531

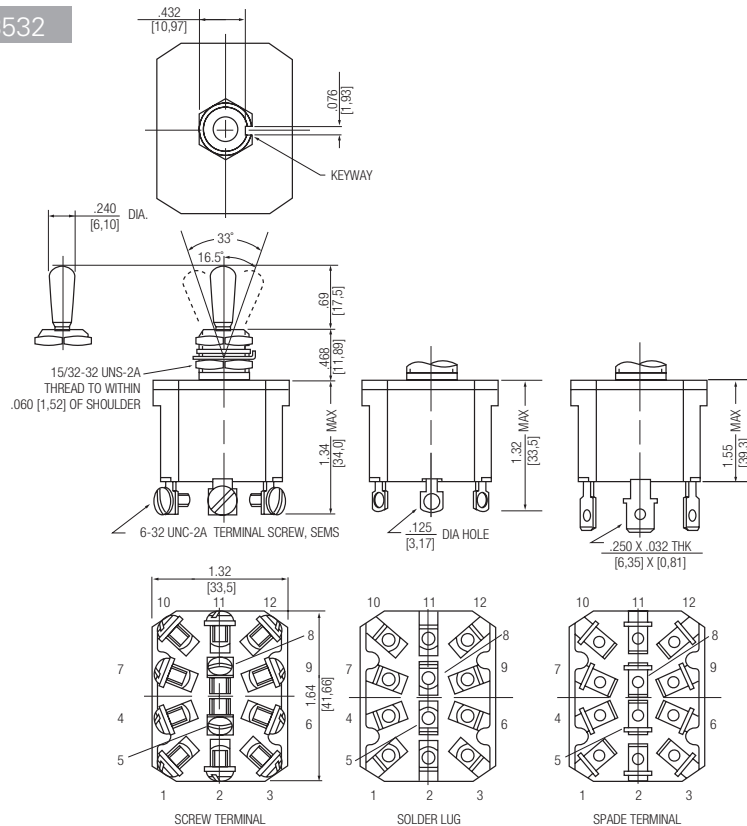


Non-functional terminals not supplied.

STANDARD
0.00 = inches
[0,0] = mm

Mounting dimensions for reference only.

MOUNTING DIMENSIONS - FOUR POLE/ 8532

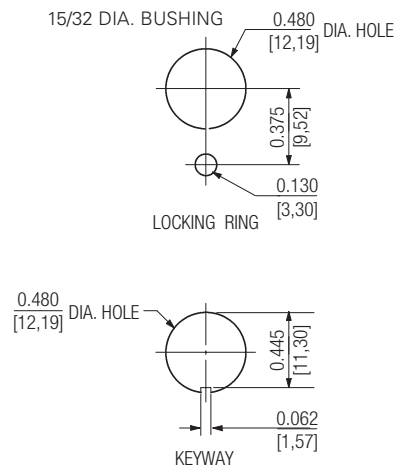


Non-functional terminals not supplied.

OPTIONS/ACCESSORIES

- Special mounting hardware
- Mounting hardware furnished assembled
- Terminal screws furnished assembled
- Special circuits
- Panel seal, Part Number 32-341
- Custom wire harnesses
- Mating connector available for two poles with spade terminal
- External jumpers available
 - bussing jumper
 - reversing jumpers

PANEL CUTOUT DIMENSIONS



STANDARD
0.00 = inches
[0,0] = mm

Mounting dimensions for reference only.

ECONOSWITCH - ENVIRONMENTALLY SEALED SWITCHES

Series - 8536, 8537, 8538

Econoswitch Sealed Leverlock Toggle Switches

FEATURES

- Environmentally sealed
- 1, 2 and 4 pole circuitry
- Locking actuator for safety
- One hole mounting for easy installation
- Over 25 standard locking configurations
- 2 & 3 position with maintained and momentary action
- Multi-circuits
- Three types of termination offered as standard
- Also available with toggle and Designerline Actuator. For details see page A11 for toggles and page A17 for Designerline.

SPECIFICATIONS

- Watertight seal per MIL-STD-108E and designed to meet IP68
- UL recognized and CSA certified
- Temperature range: -50°F to +150°F (-46°C to +66°C)
- Life: 50,000 operations at rated load
100,000 operations mechanical life
- Bushing: 15/32" - 32 thread

CURRENT RATINGS

No. of Poles	Catalog Number	Type of Operation	28VDC			115VAC		
			60 or 400Hz					
			Lamp Load	Resistive Load	Inductive Load	Lamp Load	Resistive Load	Inductive Load
1	8530	Maintained	5	20	15	3	15	10
		Momentary	4	15	10	2	11	7
2	8531	Maintained	7	20	15	4	15	15
		Momentary	5	18	10	2	11	8
4	8532	Maintained	5	20	12	4	15	15
		Momentary	4	18	10	2	11	8

For the UL/CSA ratings, see page A37.

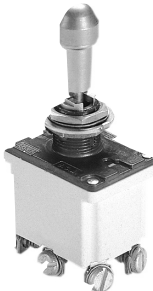
LEVER LOCK SELECTION TABLE

CIRCUIT WITH LEVER IN . . .				CATALOG NUMBER			
Up Position	Center Position	Down Position (Keyway)	Screw Terminals	Solder Lug Terminals	Spade Terminals	Available Locking Configurations	
							
ONE POLE							
ON	OFF	ON	8536K1 Δ	8536K91 Δ	8536K31 Δ	ALL	
ON	NONE	OFF	K9 Δ	K99 Δ	K39 Δ	D, F, G	
ON	NONE	ON	K4 Δ	K94 Δ	K34 Δ	D, F, G	
ON	OFF	NONE	K6 Δ	K96 Δ	K36 Δ	E, F, K, M	
ON	OFF*	NONE	K8 Δ	K98 Δ	K38 Δ	F	
ON	NONE	ON*	8536K5 Δ	8536K95 Δ	8536K35 Δ	F	
ON	OFF	ON	K2 Δ	K92 Δ	K32 Δ	E, L, N	
NONE	OFF	ON*	K7 Δ	K97 Δ	K37 Δ	E	
ON	NONE	OFF*	K10 Δ	K910 Δ	K310 Δ	F	
OFF	NONE	ON*	K11 Δ	K911 Δ	K311 Δ	F	
ON	OFF	ON*	8536K3 Δ	8536K93 Δ	8536K33 Δ	E, F, K, L, M, N	
*ON	ON	NONE	K12 Δ	K912 Δ	K312 Δ	E	
ON	ON	NONE	K13 Δ	K913 Δ	K313 Δ	E, F, K, M	
TWO POLE							
ON	OFF	ON	8537K1 Δ	8537K91 Δ	8537K31 Δ	ALL	
ON	NONE	OFF	K9 Δ	K99 Δ	K39 Δ	D, F, G	
ON	NONE	ON	K4 Δ	K94 Δ	K34 Δ	D, F, G	
ON	OFF	NONE	K6 Δ	K96 Δ	K36 Δ	E, F, K, M	
ON	OFF*	NONE	K8 Δ	K98 Δ	K38 Δ	F	
ON	NONE	ON*	8537K5 Δ	8537K95 Δ	8537K35 Δ	F	
ON	OFF	ON	K2 Δ	K92 Δ	K32 Δ	E, L, N	
NONE	OFF	ON*	K7 Δ	K97 Δ	K37 Δ	E	
ON	NONE	OFF*	K10 Δ	K910 Δ	K310 Δ	F	
OFF	NONE	ON*	K11 Δ	K911 Δ	K311 Δ	F	
ON	OFF	ON*	8537K3 Δ	8537K93 Δ	8537K33 Δ	E, F, K, L, M, N	
*ON	ON	NONE	K12 Δ	K912 Δ	K312 Δ	E	
ON	ON	NONE	K13 Δ	K913 Δ	K313 Δ	E, F, K, M	
ON	ON	ON	8537K14 Δ	8537K914 Δ	8537K314 Δ	ALL	
ON	ON	ON*	K15 Δ	K915 Δ	K315 Δ	E, F, K, L, M, N	
ON	ON	ON	K16 Δ	K916 Δ	K316 Δ	E, L, N	
ON	ON	ON	K19 Δ	K919 Δ	K319 Δ	E, L, N	
FOUR POLE							
ON	OFF	ON	8538K1 Δ	8538K91 Δ	8532K31 Δ	ALL	
ON	NONE	OFF	K9 Δ	K99 Δ	K39 Δ	D, F, G	
ON	NONE	ON	K4 Δ	K94 Δ	K34 Δ	D, F, G	
ON	OFF	NONE	K6 Δ	K96 Δ	K36 Δ	E, F, K, M	
ON	OFF*	NONE	K8 Δ	K98 Δ	K38 Δ	F	
ON	NONE	ON*	8538K5 Δ	8538K95 Δ	8532K35 Δ	F	
ON	OFF	ON	K2 Δ	K92 Δ	K32 Δ	E, L, N	
NONE	OFF	ON*	K7 Δ	K97 Δ	K37 Δ	E	
ON	NONE	OFF*	K10 Δ	K910 Δ	K310 Δ	F	
OFF	NONE	ON*	K11 Δ	K911 Δ	K311 Δ	F	
ON	OFF	ON*	8538K3 Δ	8538K93 Δ	8532K33 Δ	E, F, K, L, M, N	
*ON	ON	NONE	K12 Δ	K912 Δ	K312 Δ	E	
ON	ON	NONE	K13 Δ	K913 Δ	K313 Δ	E, F, K, M	
ON	ON	ON	8538K15 Δ	8538K915 Δ	K315 Δ	ALL	
ON	ON	ON*	K16 Δ	K916 Δ	K316 Δ	E, F, K, L, M, N	
ON	ON	ON	K17 Δ	K917 Δ	K317 Δ	E, L, N	
ON	ON	ON	K19 Δ	8537K919 Δ	8537K319 Δ	E, L, N	

8536



8537



8538



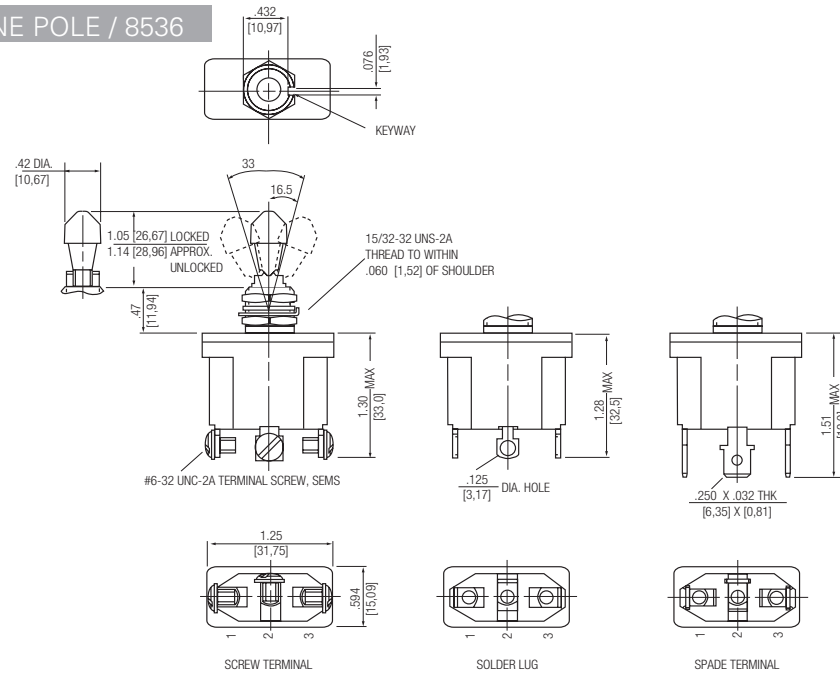
* Momentary contact.

△ Complete part number requires this symbol to be replaced with a locking configuration letter - selected from page A16.

Example: 8536K31△ E 8536K31E
Basic Switch Locking Style Complete Part Number

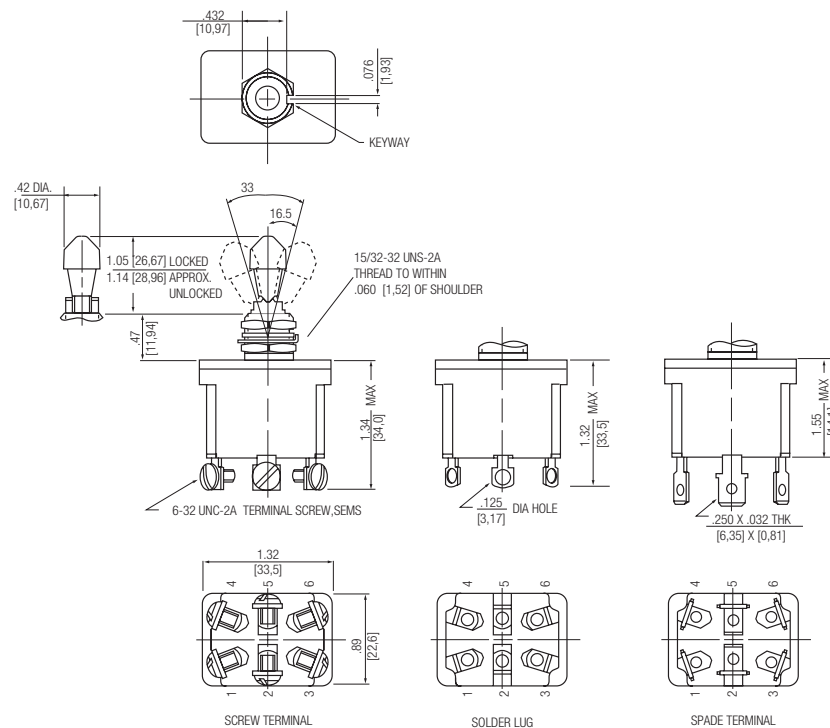
See Page A38 for circuit diagrams.

MOUNTING DIMENSIONS - ONE POLE / 8536



Non-functional terminals not supplied.

MOUNTING DIMENSIONS - TWO POLE / 8537



Non-functional terminals not supplied.

STANDARD
0.00 = inches
[0,0] = mm

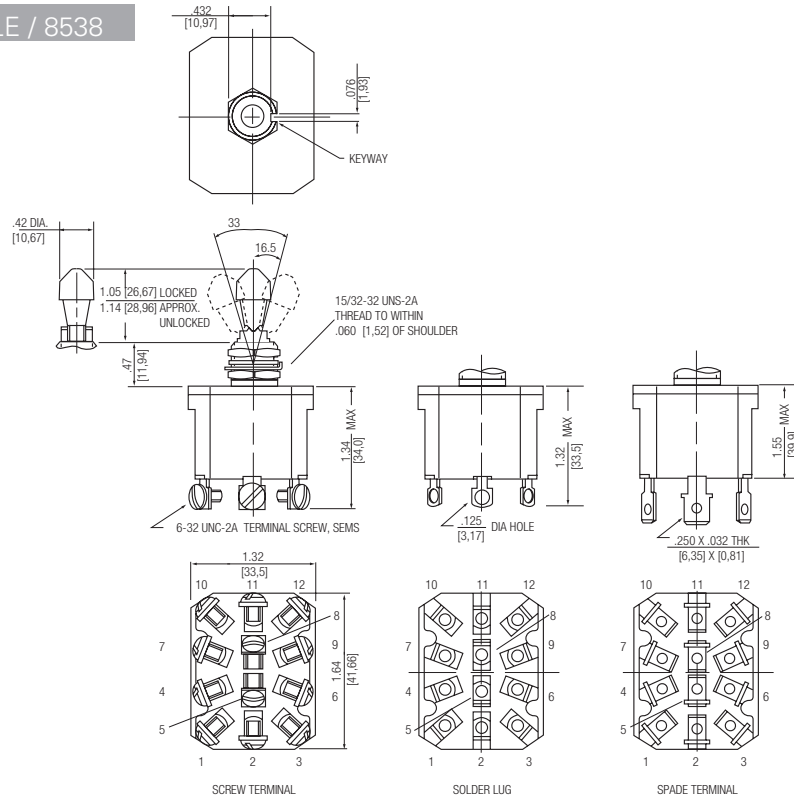
Mounting dimensions for reference only.

ECONOSWITCH - ENVIRONMENTALLY SEALED SWITCHES

Series - 8536, 8537, 8538

Econoswitch Sealed Leverlock Toggle Switches

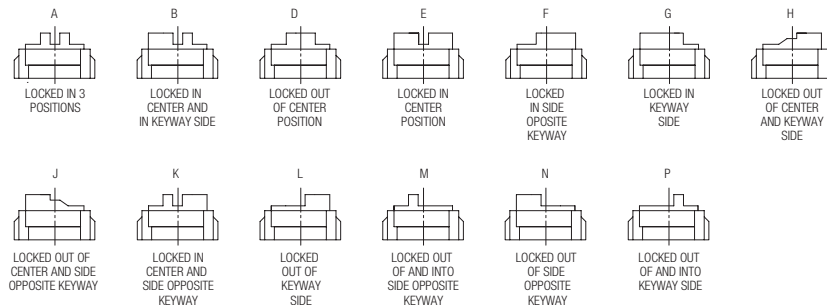
MOUNTING DIMENSIONS - FOUR POLE / 8538



Non-functional terminals not supplied.

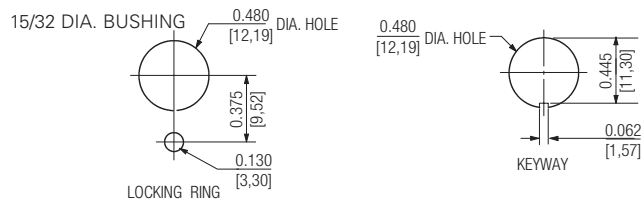
OPTIONS/ACCESSORIES

- Special mounting hardware
- Mounting hardware furnished assembled
- Terminal screws furnished assembled
- Special circuits
- Panel seals, Part Number 32-341



Figures A thru P do not represent details of construction. They schematically illustrate locking function.

PANEL CUTOUT DIMENSIONS



STANDARD
0.00 = inches
[0,0] = mm

Mounting dimensions for reference only.

ECONOSWITCH - ENVIRONMENTALLY SEALED SWITCHES

Series - 8533, 8534, 8535

Econoswitch Sealed Designerline Toggle Switches

FEATURES

- Environmentally sealed
- 1, 2 and 4 pole circuitry
- One hole mounting for easy installation
- Variety of lever styles and colors
- Color-coded, shaped levers for operator feel and cosmetic appearance
- 2 & 3 position with maintained and momentary action
- Three types of termination offered as standard
- Multi-circuits
- Also available with toggle and lever lock Actuator. For details, see page A11 for toggles and page A14 for lever locks.

SPECIFICATIONS

- Watertight seal per MIL-STD-108E designed to meet IP68
- UL recognized and CSA certified
- Bushing: 15/32" - 32 thread
- Temperature range: -50°F to +150°F (-46°C to +66°C)
- Life: 50,000 operations at rated load 100,000 operations mechanical life

CURRENT RATINGS

No. of Poles	Catalog Number	Type of Operation	28VDC			115 VAC 60 or 400Hz		
			Lamp Load	Resistive Load	Inductive Load	Lamp Load	Resistive Load	Inductive Load
1	8533	Maintained	5	20	15	3	15	10
		Momentary	4	15	10	2	11	7
2	8534	Maintained	7	20	15	4	15	15
		Momentary	5	18	10	2	11	8
4	8535	Maintained	5	20	12	4	15	15
		Momentary	4	18	10	2	11	8

For the UL/ CSA ratings, see page A37.

SELECTION TABLE

CIRCUIT WITH LEVER IN . . .

CATALOG NUMBER

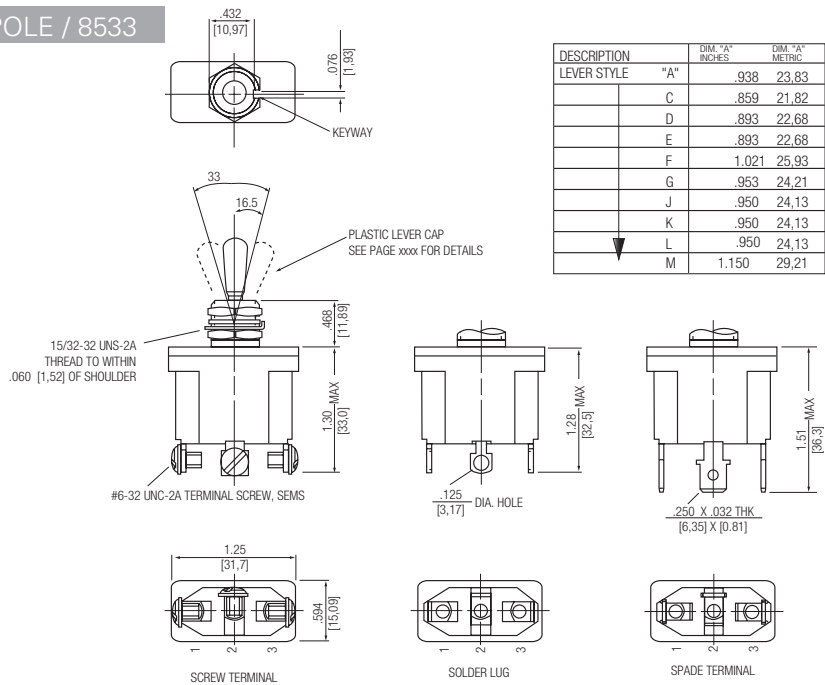
Up Position 	Center Position 	Down Position (Keyway) 	Screw Terminals ①	Solder Lug Terminals ①	Spade Terminals ①	Shape Suffix ②	Color Letter	Suffix Number
ONE POLE								
ON ON ON ON ON	OFF NONE NONE OFF OFF	ON OFF ON NONE NONE	8533K1 K9 K4 K6 K8	8533K91 K99 K94 K96 K98	88533K31 K39 K34 K36 K38	All	White	21
ON ON* NONE ON OFF	NONE OFF OFF NONE NONE	ON* ON* ON* OFF* ON*	8533K5 K2 K7 K10 K11	8533K95 K92 K97 K910 K911	8533K35 K32 K37 K310 K311	All	Red	22
ON ON ON	OFF ON ON	ON* NONE NONE	8533K3 K12 K13	8533K93 K912 K913	8533K33 K312 K313	All	Black	27
TWO POLE								
ON ON ON ON ON	OFF NONE NONE OFF OFF	ON OFF ON NONE NONE	8534K1 K9 K4 K6 K8	8534K91 K99 K94 K96 K98	8534K31 K39 K34 K36 K38	All	White	21
ON ON* NONE ON OFF	NONE OFF OFF NONE NONE	ON* ON* ON* OFF* ON*	8534K5 K2 K7 K10 K11	8534K95 K92 K97 K910 K911	8534K35 K32 K37 K310 K311	All	Red	22
* ON ON ON	OFF ON ON	ON* NONE NONE	8534K3 K12 K13	8534K93 K912 K913	8534K33 K312 K313	All	Black	27
ON ON * ON	ON ON ON	ON ON* ON*	8534K14 K15 K16	8534K914 K915 K916	8534K314 K315 K316			
FOUR POLE								
ON ON ON ON	OFF NONE NONE OFF	ON OFF ON NONE	8535K1 K9 K4 K6 K8	8535K91 K99 K94 K96 K98	8535K31 K39 K34 K36 K38	All	White	21
* ON ON ON OFF	NONE OFF NONE NONE	ON* ON* ON* ON*	8535K5 K2 K7 K10 K11	8535K95 K92 K97 K910 K911	8535K35 K32 K37 K310 K311	All	Red	22
* ON ON ON	OFF ON ON	ON* NONE NONE	8535K3 K12 K13	8535K93 K912 K913	8535K33 K312 K313	All	Black	27
ON ON * ON	ON ON ON	ON ON* ON*	8535K15 K16 K17	8535K915 K916 K917	8535K315 K316 K317			

ECONOSWITCH - ENVIRONMENTALLY SEALED SWITCHES

Series - 8533, 8534, 8535

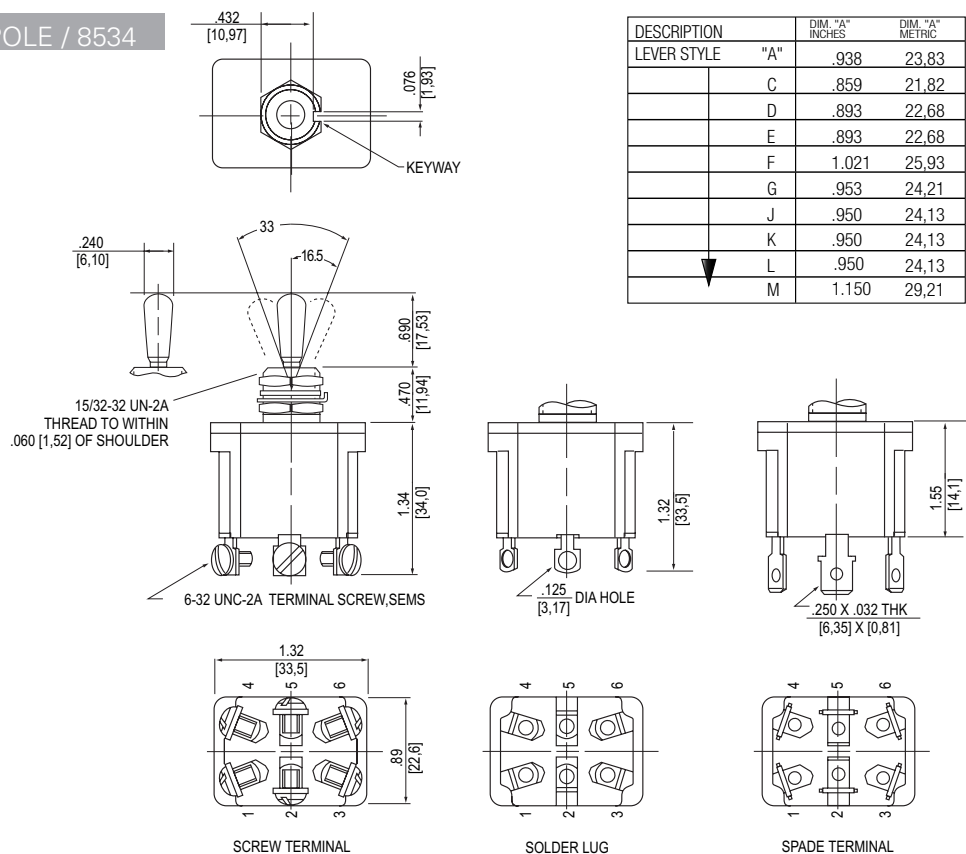
Econoswitch Sealed Designerline Toggle Switches

MOUNTING DIMENSIONS - ONE POLE / 8533



Non-functional terminals not supplied.

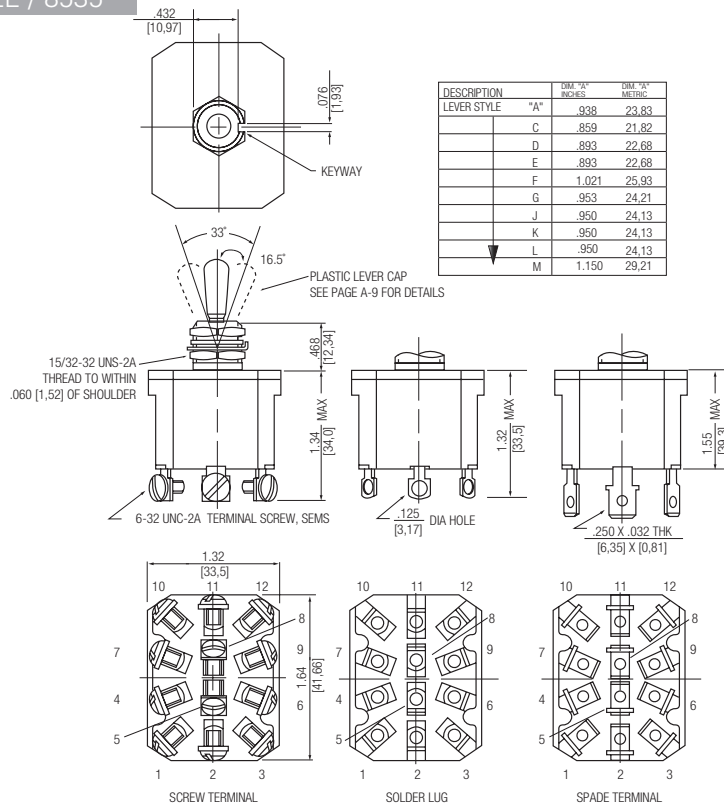
MOUNTING DIMENSIONS - TWO POLE / 8534



STANDARD
0.00 = inches
[0,0] = mm

Non-functional terminals not supplied.

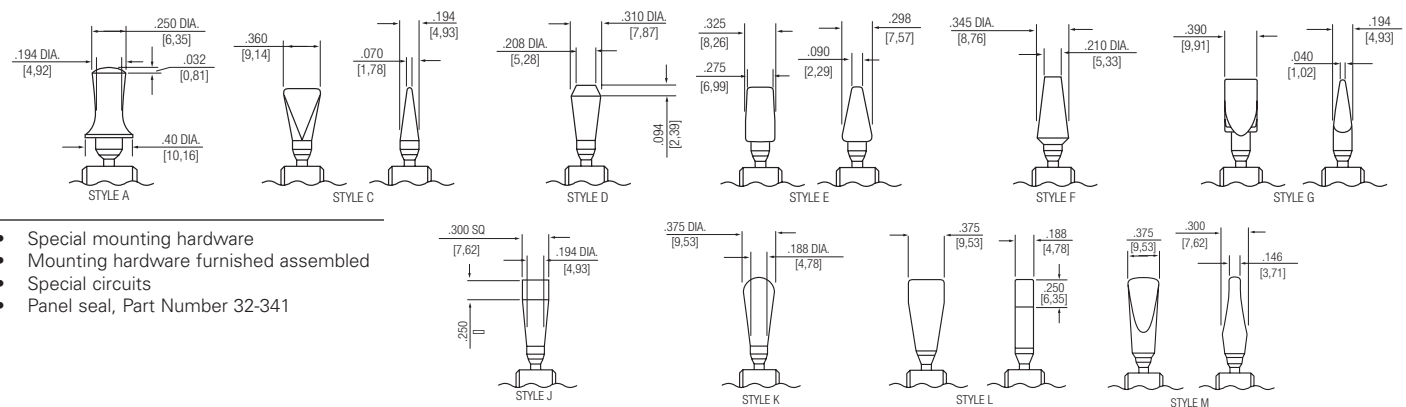
MOUNTING DIMENSIONS - FOUR POLE / 8535



Non-functional terminals not supplied.

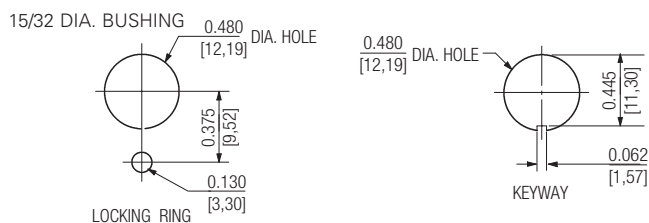
OPTIONS/ACCESSORIES

- Standard colors available - White, red and black



- Special mounting hardware
- Mounting hardware furnished assembled
- Special circuits
- Panel seal, Part Number 32-341

PANEL CUTOUT DIMENSIONS



STANDARD
0.00 = inches
[0,0] = mm

Mounting dimensions for reference only.

MILITARY - ENVIRONMENTALLY SEALED SWITCHES

Series - 8500, 8501, 8502

MIL-S-3950 Toggle Switches

FEATURES

- Environmentally sealed
- 1, 2 and 4 pole circuitry
- 2 & 3 position with maintained and momentary action
- Molded-in terminal inserts and terminal numbers

SPECIFICATIONS

- Environmentally sealed per MIL-S-3950
- MS approved and QPL'd per MIL-S-3950
- Thermoset molding materials meet flame retardant requirements
- Bushing: 15/32" - 32 thread
- Temperature Range: -85°F to +160°F (-65°C to +71°C)
- Life: 20,000 operations at rated load
40,000 operations mechanical life

CURRENT RATINGS

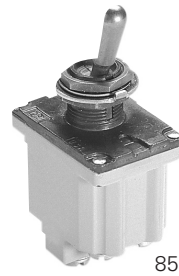
No. of Poles	Catalog Number	Type of Operation	28VDC			115 VAC 60 or 400Hz		
			Lamp Load	Resistive Load	Inductive Load	Lamp Load	Resistive Load	Inductive Load
1	8500	Maintained	5	20	15	3	15	10
		Momentary	4	15	10	2	15	7
2	8501	Maintained	7	20	15	4	15	15
		Momentary	5	18	10	2	11	8
4	8502	Maintained	5	20	12	4	15	15
		Momentary	4	18	10	2	11	8

Minimum Rating: "Intermediate Current" per MIL-S-3950.

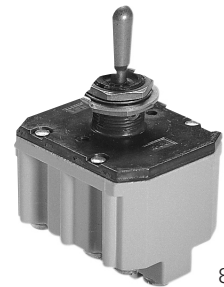
STANDARD LEVER SELECTION TABLE



8500



8501



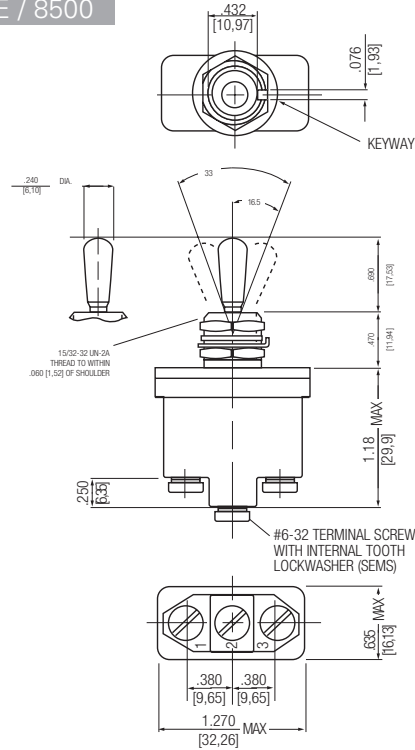
8502

CIRCUIT WITH LEVER IN . . .			ONE POLE		TWO POLE		FOUR POLE	
Up Position	Center Position	Down Position (Keyway)	MS Part Number	Catalog Number	MS Part Number	Catalog Number	MS Part Number	Catalog Number
ON	OFF	ON	MS24523-21	8500K1	MS24524-21	8501K1	MS24525-21	8502K1
ON	NONE	OFF	-22	K9	-22	K9	-22	K9
ON	NONE	ON	-23	K4	-23	K4	-23	K4
ON	OFF	NONE	-24	K6	-24	K6	-24	K6
ON	OFF*	NONE	-25	K8	-25	K8	-25	K8
ON	NONE	ON*	MS24523-26	8500K5	MS24524-26	8501K5	MS24525-26	8502K5
* ON	OFF	ON*	-27	K2	-27	K2	-27	K2
NONE	OFF	ON*	-28	K7	-28	K7	-28	K7
ON	NONE	OFF*	-29	K10	-29	K10	-29	K10
OFF	NONE	ON*	-30	K11	-30	K11	-30	K11
ON	OFF	ON*	MS24523-31	8500K3	MS24524-31	8501K3	MS24525-31	8502K3
* ON	ON	NONE	-32	K12	-32	K12	-32	K12
ON	ON	NONE	-33	K13	-33	K13	-33	K13
ON	ON	ON	—	—	MS27407-1	8501K14	MS27406-1	8502K15
ON	ON	ON*	—	—	-2	K15	-2	K16
* ON	ON	ON*	—	—	-3	K16	-3	K17
ON	ON	ON	—	—	-4	K17	—	—
ON	ON	ON*	—	—	-5	K18	—	—
* ON	ON	ON*	—	—	-6	K19	—	—

* Momentary contact.

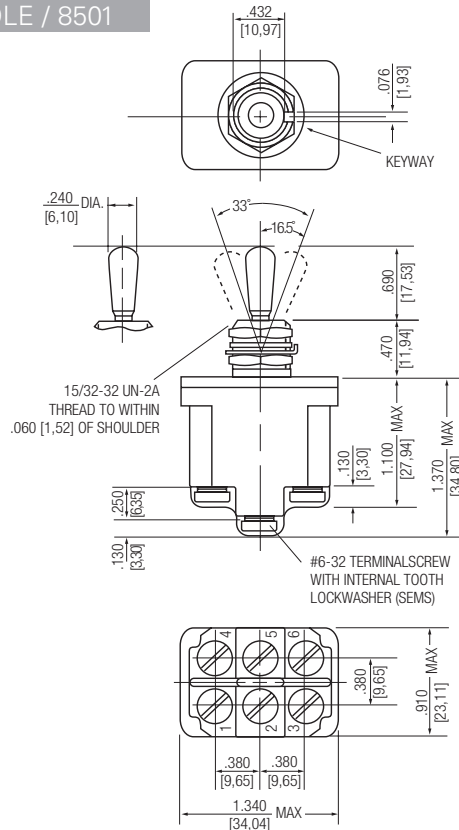
See page A38 for circuit diagrams.

MOUNTING DIMENSIONS - ONE POLE / 8500



Non-functional terminals not supplied.

MOUNTING DIMENSIONS - TWO POLE / 8501



STANDARD
0.00 = inches
[0,0] = mm

Mounting dimensions for reference only.

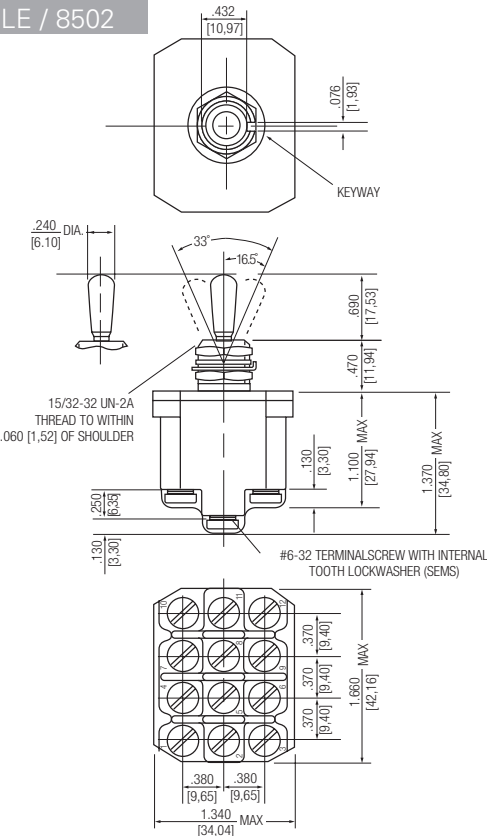
Non-functional terminals not supplied.

MILITARY - ENVIRONMENTALLY SEALED SWITCHES

Series - 8500, 8501, 8502

MIL-S-3950 Toggle Switches

MOUNTING DIMENSIONS - FOUR POLE / 8502

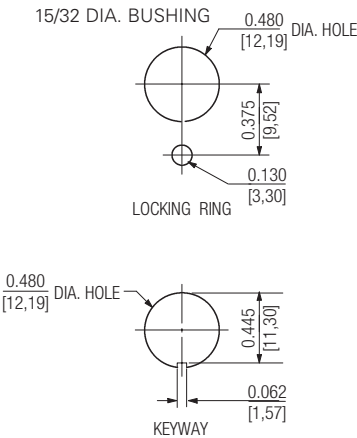


Non-functional terminals not supplied.

OPTIONS/ACCESSORIES

- Special mounting hardware
- Mounting hardware furnished assembled
- Terminal screws furnished assembled
- Special circuits
- Panel seal, part number 32-341 (See Accessories and Custom Components section)
- Special "3 Cateye" luminous lever attachment
- Lever extensions and attachable tips (See Accessories and Custom Components section)
- Custom wiring harnesses

PANEL CUTOUT DIMENSIONS



STANDARD
0.00 = inches
[0,0] = mm

Mounting dimensions for reference only.

MILITARY - ENVIRONMENTALLY SEALED SWITCHES

Series - 8503, 8504, 8505

MIL-S-3950 Lever Lock Switches

FEATURES

- Environmentally sealed
- 1, 2 and 4 pole circuitry
- 2 & 3 position with maintained and momentary action
- Locking actuator for safety
- Molded-in terminal inserts and terminal numbers

SPECIFICATIONS

- Environmentally sealed per MILS-3950
- MS approved and QPL'd per MILS-3950
- Thermoset molding materials meet flame retardant requirements
- Bushing: 15/32" - 32 thread
- Temperature Range: -85°F to +160°F (-65°C to +71°C)
- Life: 20,000 operations at rated load
40,000 operations mechanical life

CURRENT RATINGS

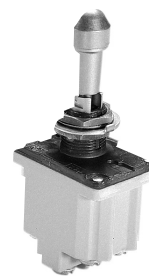
No. of Poles	Catalog Number	Type of Operation	28VDC			115 VAC 60 or 400Hz		
			Lamp Load	Resistive Load	Inductive Load	Lamp Load	Resistive Load	Inductive Load
1	8503	Maintained	5	20	15	3	15	10
		Momentary	4	15	10	2	15	7
2	8504	Maintained	7	20	15	4	15	15
		Momentary	5	18	10	2	11	8
4	8505	Maintained	5	20	12	4	15	15
		Momentary	4	18	10	2	11	8

Minimum Rating: "Intermediate Current" per MILS-3950.

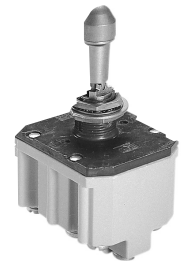
LEVER LOCK SELECTION TABLE



8503



8504



8505

CIRCUIT WITH LEVER IN . . .			Lever Lock Bushing Style	ONE POLE		TWO POLE		FOUR POLE	
Up Position	Center Position	Down Position (Keyway)		Flush Screw Terminals		Flush Screw Terminals		Flush Screw Terminals	
				MS Part Number	Catalog Number	MS Part Number	Catalog Number	MS Part Number	Catalog Number
ON →	← OFF →	← ON	A	MS24658-21A	8503K1	MS24659-21A	8504K1	MS24660-21A	8505K1
ON	← OFF →	← ON	B	-21B	K27	-21B	K27	-21B	K27
ON →	← OFF →	← ON	D	-21D	K5	-21D	K5	-21D	K5
ON	← OFF →	← ON	E	-21E	K2	-21E	K2	-21E	K2
ON →	← OFF →	← ON	F	-21F	K28	-21F	K28	-21F	K28
ON	← OFF →	← ON	G	MS24658-21G	8503K3	MS24659-21G	8504K3	MS24660-21G	8505K3
ON →	← OFF →	← ON	H	-21H	K29	-21H	K29	-21H	K29
ON	← OFF →	← ON	J	-21J	K30	-21J	K30	-21J	K30
ON →	← OFF →	← ON	K	-21K	K31	-21K	K31	-21K	K31
ON	← OFF →	← ON	L	-21L	K32	-21L	K32	-21L	K32
ON →	← OFF →	← ON	M	MS24658-21M	8503K33	MS24659-21M	8504K33	MS24660-21M	8505K33
ON	← OFF →	← ON	N	-21N	K4	-21N	K4	-21N	K4
ON →	← OFF →	← ON	P	-21P	K34	-21P	K34	-21P	K34
ON →	NONE	← OFF	D	-22D	K10	-22D	K10	-22D	K10
ON →	NONE	← OFF	F	-22F	K35	-22F	K35	-22F	K35
ON	NONE	← OFF	G	MS24658-22G	8503K9	MS24659-22G	8504K9	MS24660-22G	8505K9
ON →	NONE	← ON	D	-23D	K6	-23D	K6	-23D	K6
ON →	NONE	← ON	F	-23F	K36	-23F	K36	-23F	K36
ON	NONE	← ON	G	-23G	K7	-23G	K7	-23G	K7
ON	← OFF	NONE	F	-24E	K16	-24E	K16	-24E	K16
ON →	← OFF →	NONE	F	MS24658-24F	8503K37	MS24659-24F	8504K37	MS24660-24F	8505K37
ON →	← OFF →	NONE	K	-24K	K38	-24K	K38	-24K	K38
ON →	← OFF →	NONE	M	-24M	K11	-24M	K11	-24M	K11
ON →	← OFF *	NONE	F	-25F	K22	-25F	K22	-25F	K22
ON →	NONE	ON *	F	-26F	K20	-26F	K20	-26F	K20
* ON	← OFF →	ON *	E	MS24658-27E	8503K12	MS24659-27E	8504K12	MS24660-27E	8505K12
* ON	← OFF →	ON *	L	-27L	K39	-27L	K39	-27L	K39
* ON	← OFF →	ON *	N	-27N	K14	-27N	K14	-27N	K14
NONE	← OFF →	ON *	E	-28E	K15	-28E	K15	-28E	K15
ON →	NONE	OFF *	F	-29F	K21	-29F	K21	-29F	K21
OFF →	NONE	ON *	F	MS24658-30F	8503K19	MS24659-30F	8504K19	MS24660-30F	8505K19
ON	← OFF →	ON *	E	-31E	K18	-31E	K18	-31E	K18
ON →	← OFF →	ON *	F	-31F	K40	-31F	K40	-31F	K40
ON →	← OFF →	ON *	K	-31K	K41	-31K	K41	-31K	K41
ON	← OFF →	ON *	L	-31L	K13	-31L	K13	-31L	K13

* Momentary contact.

→ Indicates direction against which lever is locked.

See page A38 for circuit diagrams.

① Reference bushing styles on page A26.

MILITARY - ENVIRONMENTALLY SEALED SWITCHES

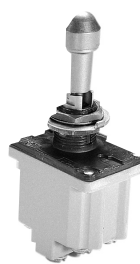
Series - 8503, 8504, 8505

MIL-S-3950 Lever Lock Switches

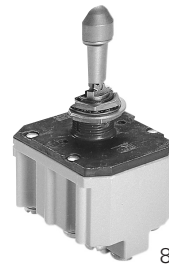
LEVER LOCK SELECTION TABLE, CONT'D



8503



8504



8505

CIRCUIT WITH LEVER IN . . .			Lever Ⓢ Lock Bushing Style	ONE POLE		TWO POLE		FOUR POLE	
Up Position 	Center Position 	Down Position (Keyway) 		Flush Screw Terminals		Flush Screw Terminals		Flush Screw Terminals	
				MS Part Number	Catalog Number	MS Part Number	Catalog Number	MS Part Number	Catalog Number
ON→	← OFF	ON *	M	MS24658-31M	8503K17	MS24659-31M	8504K17	MS24660-31M	8505K17
ON	← OFF	ON *	N	-31N	K8	-31N	K8	-31N	K8
* ON	← ON	NONE	E	-32E	K23	-32E	K23	-32E	K23
ON	← ON	NONE	E	-33E	K24	-33E	K24	-33E	K24
ON→	ON	NONE	F	-33F	K25	-33F	K25	-33F	K25
ON→	← ON	NONE	K	MS24658-33K	8503K26	MS24659-33K	8504K26	MS24660-33K	8505K26
ON→	← ON	NONE	M	-33M	K42	-33M	K42	-33M	K42
ON→	← ON →	← ON	A	—	—	MS27408-1A	K43	MS27409-1A	K43
ON	← ON →	← ON	B	—	—	-1B	K44	-1B	K44
ON→	ON	← ON	D	—	—	-1D	K45	-1D	K45
ON	← ON →	ON	E	—	—	MS27408-1E	8504K46	MS27409-1E	8505K46
ON→	ON	ON	F	—	—	-1F	K47	-1F	K47
ON	ON	← ON	G	—	—	-1G	K48	-1G	K48
ON→	ON→	ON	H	—	—	-1H	K49	-1H	K49
ON	← ON	← ON	J	—	—	-1J	K50	-1J	K50
ON→	← ON →	ON	K	—	—	MS27408-1K	8504K51	MS27409-1K	8505K51
ON	ON→	ON	L	—	—	-1L	K52	-1L	K52
ON→	← ON	ON	M	—	—	-1M	K53	-1M	K53
ON	← ON	ON	N	—	—	-1N	K54	-1N	K54
ON	ON→	← ON	P	—	—	-1P	K55	-1P	K55
ON	← ON →	ON*	E	—	—	MS27408-2E	8504K56	MS27409-2E	8505K56
ON→	ON	ON*	F	—	—	-2F	K57	-2F	K57
ON→	← ON →	ON*	K	—	—	-2K	K58	-2K	K58
ON	ON→	ON*	L	—	—	-2L	K59	-2L	K59
ON→	← ON	ON*	M	—	—	-2M	K60	-2M	K60
ON	← ON	ON*	N	—	—	MS27408-2N	8504K61	MS27409-2N	8505K61
* ON	← ON →	ON*	E	—	—	-3E	K62	-3E	K62
* ON	ON→	ON*	L	—	—	-3L	K63	-3L	K63
* ON	← ON	ON*	N	—	—	-3N	K64	-3N	K64
ON→	← ON →	← ON	A	—	—	-4A	K65	—	—
ON	← ON →	← ON	B	—	—	MS27408-4B	8504K66	—	—
ON→	ON	← ON	D	—	—	-4D	K67	—	—
ON	← ON →	ON	E	—	—	-4E	K68	—	—
ON→	ON	ON	F	—	—	-4F	K69	—	—
ON	ON	← ON	G	—	—	-4G	K70	—	—
ON→	ON →	ON	H	—	—	MS27408-4H	8504K71	—	—
ON	← ON	← ON	J	—	—	-4J	K72	—	—
ON→	← ON →	ON	K	—	—	-4K	K73	—	—
ON	ON→	ON	L	—	—	-4L	K74	—	—
ON→	← ON	ON	M	—	—	-4M	K75	—	—
ON	← ON	ON	N	—	—	MS27408-4N	8504K76	—	—
ON	ON→	← ON	P	—	—	-4P	K77	—	—
ON	← ON →	ON*	E	—	—	-5E	K78	—	—
ON→	ON	ON*	F	—	—	-5F	K79	—	—
ON→	← ON →	ON*	K	—	—	-5K	K80	—	—
ON	ON→	ON*	L	—	—	MS27408-5L	8504K81	—	—
ON→	← ON	ON*	M	—	—	-5M	K82	—	—
ON	← ON	ON*	N	—	—	-5N	K83	—	—
* ON	← ON →	ON*	E	—	—	-6E	K84	—	—
* ON	ON→	ON*	L	—	—	-6L	K85	—	—
* ON	← ON	ON*	N	—	—	-6N	K86	—	—
ON	← ON-OFF→	← ON	B	—	—	-7B	K87	—	—

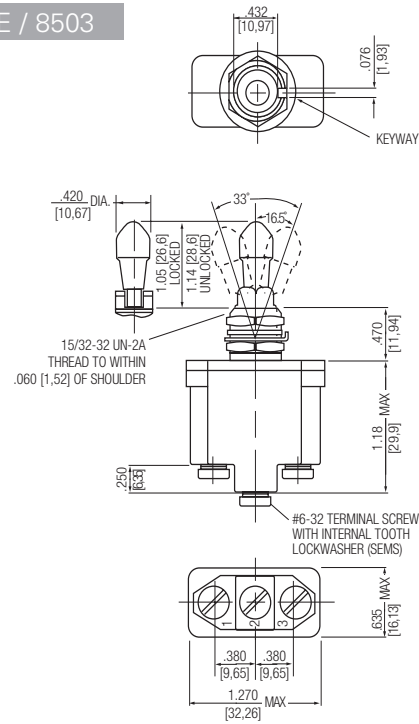
* Momentary contact.

→ Indicates direction against which lever is locked.

See page A38 for circuit diagrams.

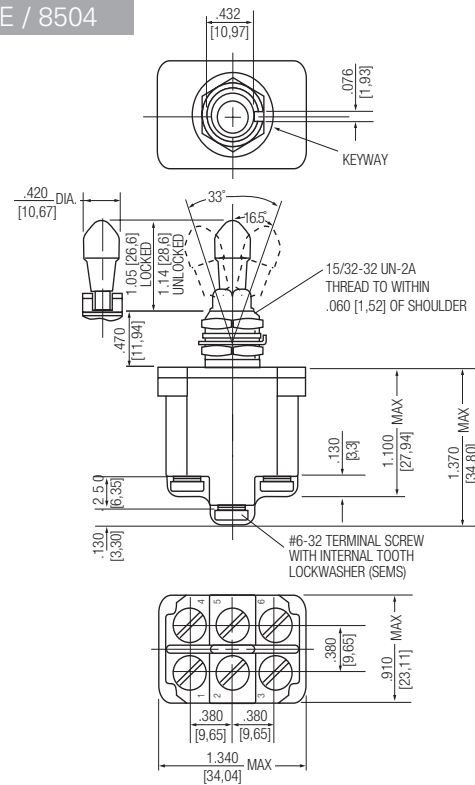
Ⓢ Reference bushing styles on page A26.

MOUNTING DIMENSIONS - ONE POLE / 8503



Non-functional terminals not supplied.

MOUNTING DIMENSIONS - TWO POLE / 8504



STANDARD
0.00 = inches
[0,0] = mm

Mounting dimensions for reference only.

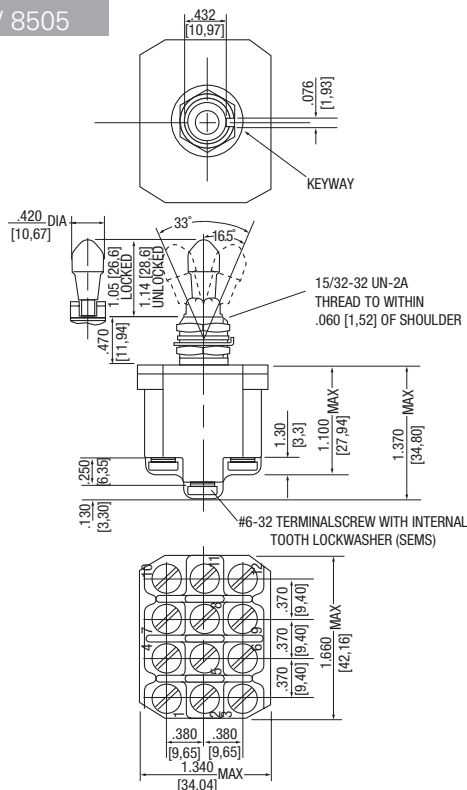
Non-functional terminals not supplied.

MILITARY - ENVIRONMENTALLY SEALED SWITCHES

Series - 8503, 8504, 8505

MIL-S-3950 Lever Lock Switches

MOUNTING DIMENSIONS - FOUR POLE / 8505

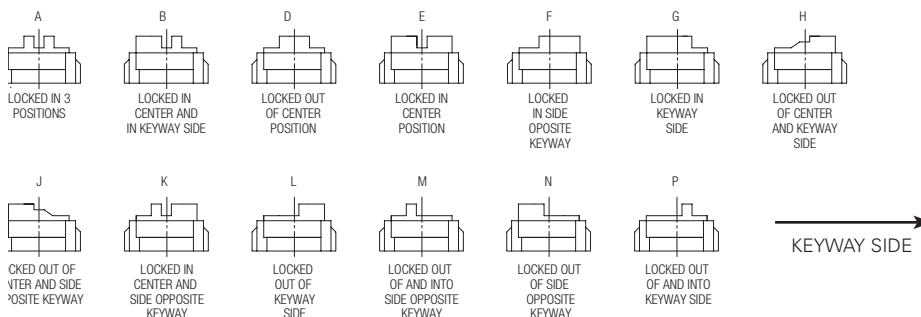


Non-functional terminals not supplied.

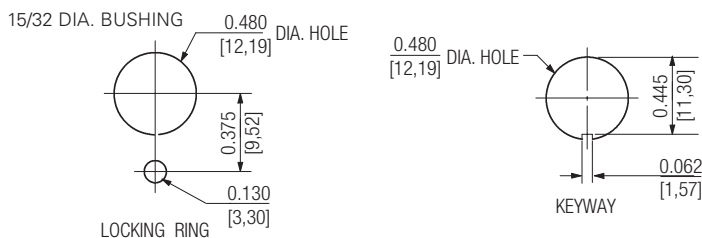
OPTIONS/ACCESSORIES

- Special mounting hardware
- Mounting hardware furnished assembled
- Terminal screws furnished assembled
- Substitute SEMS screws
- Special circuits
- Panel seal, part number 32-341 (See Accessories and Custom Components section)
- Special shaped caps available
- Custom wiring harnesses

LEVER LOCK - BUSHING STYLES



PANEL CUTOUT DIMENSIONS



STANDARD
0.00 = inches
[0,0] = mm

Mounting dimensions for reference only.

MILITARY - ENVIRONMENTALLY SEALED SWITCHES

Series - 8570, 8571, 8572

MIL-S-3950 IWTS Switches

FEATURES

- Environmentally sealed
- 1, 2 and 4 pole circuitry
- 2 & 3 position with maintained and momentary action
- Integrated Wire Termination System (IWTS) for ease of wiring
- Terminal numbers molded into silicone base seal

SPECIFICATIONS

- Environmentally sealed per MIL-S-3950
- MS approved and QPL'd per MIL-S-3950
- Thermoset molding materials meet flame retardant requirements
- Bushing: 15/32" - 32 thread
- Temperature Range: -85°F to +160°F (-65°C to +71°C)
- Accepts MIL-C-39029/1-101 pin
- Life: 20,000 operations at rated load
40,000 operations mechanical life

CURRENT RATINGS

CURRENT RATINGS FOR -16								
No. of Poles	Catalog Number	Type of Operation	28VDC			115 VAC 60 or 400Hz		
			Lamp Load	Resistive Load	Inductive Load	Lamp Load	Resistive Load	Inductive Load
1	8570	Maintained	5	20	15	3	15	10
		Momentary	4	15	10	2	15	7
2	8571	Maintained	7	20	15	4	15	15
		Momentary	5	18	10	2	11	8
4	8572	Maintained	5	20	12	4	15	15
		Momentary	4	18	10	2	11	8

CURRENT RATINGS FOR -20								
No. of Poles	Catalog Number	Type of Operation	28VDC			115 VAC 60 or 400Hz		
			Lamp Load	Resistive Load	Inductive Load	Lamp Load	Resistive Load	Inductive Load
1	8570	Maintained	5	75	75	3	75	75
		Momentary	4	75	75	2	75	7
2	8571	Maintained	75	75	75	4	75	75
		Momentary	5	75	75	2	75	75
4	8572	Maintained	5	75	75	4	75	75
		Momentary	4	75	75	2	75	75

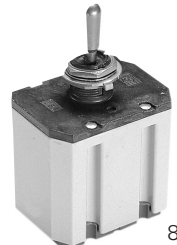
STANDARD LEVER SELECTION TABLE — Terminals Accept Wire Contact Within Dimensional Limits of M39029/1-102 for -16 wire size.



8570



8571



8572

CIRCUIT WITH LEVER IN . . .			ONE POLE		TWO POLE		FOUR POLE	
Up Position	Center Position	Down Position (Keyway)	MS Part Number	Catalog Number	MS Part Number	Catalog Number	MS Part Number	Catalog Number
ON	OFF	ON	MS27722-21	8570K1-16	MS27723-21	8571K1-16	MS27724-21	8572K1-16
ON	NONE	OFF	-22	K9-16	-22	K9-16	-22	K9-16
ON	NONE	ON	-23	K4-16	-23	K4-16	-23	K4-16
ON	OFF	NONE	-24	K6-16	-24	K6-16	-24	K6-16
ON	OFF *	NONE	-25	K8-16	-25	K8-16	-25	K8-16
* ON	NONE	ON *	MS27722-26	8570K5-16	MS27723-26	8571K5-16	MS27724-26	8572K5-16
ON	OFF	ON *	-27	K2-16	-27	K2-16	-27	K2-16
NONE	OFF	ON *	-28	K7-16	-28	K7-16	-28	K7-16
ON	NONE	OFF *	-29	K10-16	-29	K10-16	-29	K10-16
OFF	NONE	ON *	-30	K11-16	-30	K11-16	-30	K11-16
* ON	OFF	ON *	MS27722-31	8570K3-16	MS27723-31	8571K3-16	MS27724-31	8572K3-16
ON	ON	NONE	-32	K12-16	-32	K12-16	-32	K12-16
ON	ON	NONE	-33	K13-16	-33	K13-16	-33	K13-16
ON	ON	ON *	—	—	MS27723-1	8571K17-16	MS27724-1	8572K15-16
* ON	ON	ON *	—	—	-2	K18-16	-2	K16-16
			—	—	-3	K19-16	-3	K17-16
ON	OFF	ON	MS27784-21	8570K1-20	MS27785-21	8571K1-20	MS27786-21	8572K1-20
ON	NONE	OFF	-22	K9-20	-22	K9-20	-22	K9-20
ON	NONE	ON	-23	K4-20	-23	K4-20	-23	K4-20
ON	OFF	NONE	-24	K6-20	-24	K6-20	-24	K6-20
ON	OFF *	NONE	-25	K8-20	-25	K8-20	-25	K8-20
* ON	NONE	ON *	MS27784-26	8570K5-20	MS27785-26	8571K5-20	MS27786-26	8572K5-20
ON	OFF	ON *	-27	K2-20	-27	K2-20	-27	K2-20
NONE	OFF	ON *	-28	K7-20	-28	K7-20	-28	K7-20
ON	NONE	OFF *	-29	K10-20	-29	K10-20	-29	K10-20
OFF	NONE	ON *	-30	K11-20	-30	K11-20	-30	K11-20
* ON	OFF	ON *	MS27784-31	8570K3-20	MS27785-31	8571K3-20	MS27786-31	8572K3-20
ON	ON	NONE	-32	K12-20	-32	K12-20	-32	K12-20
ON	ON	NONE	-33	K13-20	-33	K13-20	-33	K13-20
ON	ON	ON *	—	—	MS27785-1	8571K17-20	MS27786-1	8572K15-20
* ON	ON	ON *	—	—	-2	K18-20	-2	K16-20
			—	—	-3	K19-20	-3	K17-20

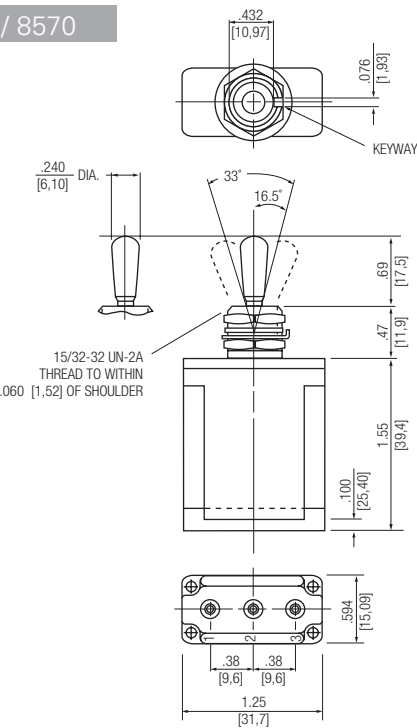
* Momentary contact.
See page A38 for circuit diagrams.

MILITARY - ENVIRONMENTALLY SEALED SWITCHES

Series - 8570, 8571, 8572

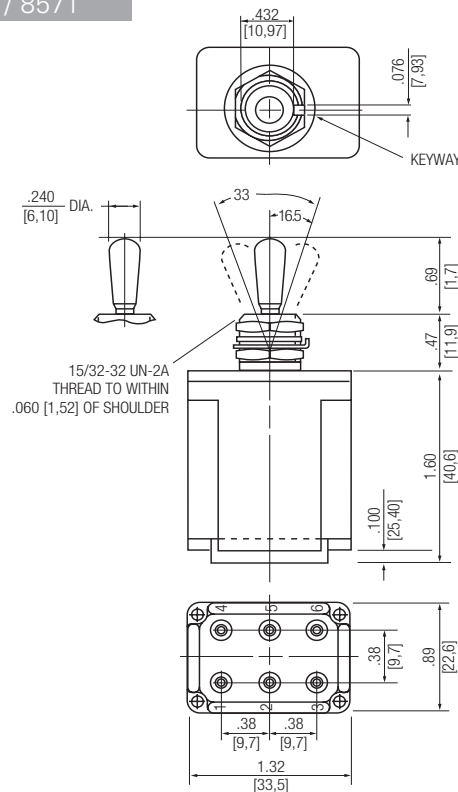
MIL-S-3950 IWTS Toggles

MOUNTING DIMENSIONS - ONE POLE / 8570



Non-functional terminals not supplied.

MOUNTING DIMENSIONS - TWO POLE / 8571

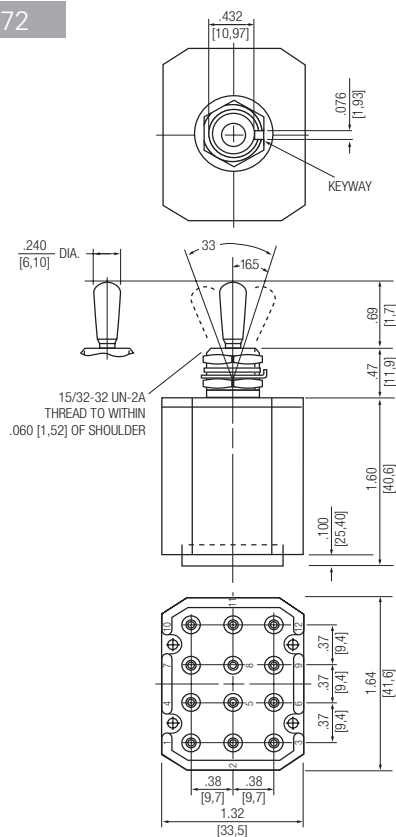


STANDARD
0.00 = inches
[0,0] = mm

Mounting dimensions for reference only.

Non-functional terminals not supplied.

MOUNTING DIMENSIONS - FOUR POLE/ 8572

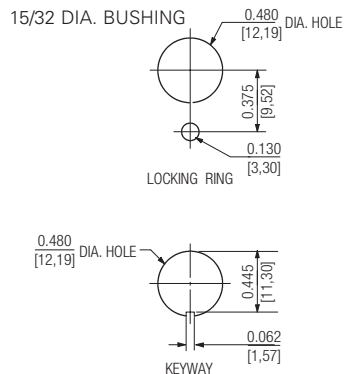


Non-functional terminals not supplied.

OPTIONS/ACCESSORIES

- Special mounting hardware
- Mounting hardware furnished assembled
- Special circuits
- Panel seal, part number 32-341 (See Accessories and Custom Components section)
- Special "3 Cateye" luminous lever attachment
- Lever extensions and attachable tips (See Accessories and Custom Components section)
- Custom wiring harnesses

PANEL CUTOUT DIMENSIONS



STANDARD
0.00 = inches
[0,0] = mm

Mounting dimensions for reference only.

MILITARY - ENVIRONMENTALLY SEALED SWITCHES

Series - 8573, 8574, 8575

MIL-S-3950 IWTS Lever Locks

FEATURES

- Environmentally sealed
- 1, 2 and 4 pole circuitry
- 2 & 3 position with maintained and momentary action
- Integrated Wire Termination System (IWTS) for ease of wiring
- Terminal numbers molded into silicone base seal

SPECIFICATIONS

- Environmentally sealed per MIL-S-3950
- MS approved and QPL'd per MIL-S-3950
- Thermoset molding materials meet flame retardant requirements
- Bushing: 15/32" - 32 thread
- Temperature Range: -85°F to +160°F (65°C to +71°C)
- Accepts MIL-C-39029/1-101 pin
- Life: 20,000 operations at rated load
40,000 operations mechanical life

CURRENT RATINGS

CURRENT RATINGS FOR -16								
No. of Poles	Catalog Number	Type of Operation	28VDC			115 VAC 60 or 400Hz		
			Lamp Load	Resistive Load	Inductive Load	Lamp Load	Resistive Load	Inductive Load
1	8573	Maintained	5	20	15	3	15	10
		Momentary	4	15	10	2	15	7
2	8574	Maintained	7	20	15	4	15	15
		Momentary	5	18	10	2	11	8
4	8575	Maintained	5	20	12	4	15	15
		Momentary	4	18	10	2	11	8

Minimum Rating: "Intermediate Current" per MIL-S-3950.

CURRENT RATINGS FOR -20								
No. of Poles	Catalog Number	Type of Operation	28VDC			115 VAC 60 or 400Hz		
			Lamp Load	Resistive Load	Inductive Load	Lamp Load	Resistive Load	Inductive Load
1	8573	Maintained	5	7.5	7.5	3	7.5	7.5
		Momentary	4	7.5	7.5	2	7.5	7
2	8574	Maintained	7	7.5	7.5	4	7.5	7.5
		Momentary	5	7.5	7.5	2	7.5	7.5
4	8575	Maintained	5	7.5	7.5	4	7.5	7.5
		Momentary	4	7.5	7.5	2	7.5	7.5

LEVER LOCK SELECTION TABLE — Terminals Accept Wire Contact Within Dimensional Limits of M39029/1-102 for -16 wire size.
— Terminals Accept Wire Contact Within Dimensional Limits of M39029/1-101 for -20 wire size.



8573



8574



8575

ONE POLE				TWO POLE				FOUR POLE			
Up Position	Center Position	Down Position (Keyway)	Lever Ⓚ Lock Bushing Style	Flush Screw Terminals		Flush Screw Terminals		Flush Screw Terminals		Flush Screw Terminals	
				MS Part Number	Catalog Number	MS Part Number	Catalog Number	MS Part Number	Catalog Number	MS Part Number	Catalog Number
ON→	OFF→	← ON	A	MS27781-21A	8573K1-16	MS27782-21A	8574K1-16	MS27783-21A	8575K1-16		
ON→	OFF→	← ON	B	-21B	K27-16	-21B	K27-16	-21B	K27-16		
ON→	OFF→	← ON	D	-21D	K5-16	-21D	K5-16	-21D	K5-16		
ON→	OFF→	ON	E	-21E	K2-16	-21E	K2-16	-21E	K2-16		
ON→	OFF→	ON	F	-21F	K28-16	-21F	K28-16	-21F	K28-16		
ON→	OFF→	← ON	G	MS27781-21G	8573K3-16	MS27782-21G	8574K3-16	MS27783-21G	8575K3-16		
ON→	OFF→	ON	H	-21H	K29-16	-21H	K29-16	-21H	K29-16		
ON→	OFF→	← ON	J	-21J	K30-16	-21J	K30-16	-21J	K30-16		
ON→	OFF→	ON	K	-21K	K31-16	-21K	K31-16	-21K	K31-16		
ON→	OFF→	ON	L	-21L	K32-16	-21L	K32-16	-21L	K32-16		
ON→	OFF→	ON	M	MS27781-21M	8573K33-16	MS27782-21M	8574K33-16	MS27783-21M	8575K33-16		
ON→	OFF→	ON	N	-21N	K4-16	-21N	K4-16	-21N	K4-16		
ON→	OFF→	← ON	P	-21P	K34-16	-21P	K34-16	-21P	K34-16		
ON→	NONE	← OFF	D	-22D	K10-16	-22D	K10-16	-22D	K10-16		
ON→	NONE	OFF	F	-22F	K35-16	-22F	K35-16	-22F	K35-16		
ON→	NONE	← OFF	G	-22G	8573K9-16	MS27782-22G	8574K9-16	MS27783-22G	8575K9-16		
ON→	NONE	← ON	D	-23D	K6-16	-23D	K6-16	-23D	K6-16		
ON→	NONE	ON	F	-23F	K36-16	-23F	K36-16	-23F	K36-16		
ON→	NONE	← ON	G	-23G	K7-16	-23G	K7-16	-23G	K7-16		
ON→	← OFF	NONE	E	-23E	K16-16	-24E	K16-16	-24E	K16-16		
ON→	OFF→	NONE	F	-24F	8573K37-16	MS27782-24F	8574K37-16	MS27783-24F	8575K37-16		
ON→	← OFF	NONE	K	-24K	K38-16	-24K	K38-16	-24K	K38-16		
ON→	← OFF	NONE	M	-24M	K11-16	-24M	K11-16	-24M	K11-16		
ON→	OFF*	NONE	F	-24F	K22-16	-25F	K22-16	-25F	K22-16		
ON→	NONE	ON*	F	-25F	K20-16	-26F	K20-16	-26F	K20-16		
* ON	← OFF→	ON*	E	-26E	8573K12-16	MS27782-27E	8574K12-16	MS27783-27E	8575K12-16		
* ON	OFF→	ON*	L	-27L	K39-16	-27L	K39-16	-27L	K39-16		
* ON	← OFF	ON*	N	-27N	K14-16	-27N	K14-16	-27N	K14-16		
NONE	OFF→	ON*	E	-28E	K15-16	-28E	K15-16	-28E	K15-16		
ON→	NONE	OFF*	F	-28F	K21-16	-29F	K21-16	-29F	K21-16		
OFF→	NONE	ON*	F	-29F	8573K19-16	MS27782-30F	8574K19-16	MS27783-30F	8575K19-16		
ON→	← OFF→	ON*	E	-31E	K18-16	-31E	K18-16	-31E	K18-16		
ON→	OFF→	ON*	F	-31F	K40-16	-31F	K40-16	-31F	K40-16		
ON→	← OFF→	ON*	K	-31K	K41-16	-31K	K41-16	-31K	K41-16		
ON→	OFF→	ON*	L	-31L	K13-16	-31L	K13-16	-31L	K13-16		

* Momentary contact.

→ Indicates direction against which lever is locked.

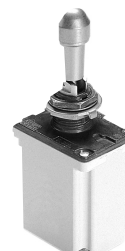
See page A38 for circuit diagrams.

① Reference bushing styles on page A34.

LEVER LOCK SELECTION TABLE, CONT'D



8573



8574



8575

CIRCUIT WITH LEVER IN . . .				ONE POLE		TWO POLE		FOUR POLE	
Up Position	Center Position	Down Position (Keyway)	Lever Ⓢ Lock Bushing Style	Flush Screw Terminals		Flush Screw Terminals		Flush Screw Terminals	
				MS Part Number	Catalog Number	MS Part Number	Catalog Number	MS Part Number	Catalog Number
ON→	← OFF	ON*	M	MS27781-31M	8573K17-16	MS27782-31M	8574K17-16	MS27783-31M	8575K17-16
ON*	← OFF	ON*	N	-31N	K8-16	-31N	K8-16	-31N	K8-16
ON	← ON	NONE	E	-32E	K23-16	-32E	K23-16	-32E	K23-16
ON	← ON	NONE	E	-33E	K24-16	-33E	K24-16	-33E	K24-16
ON→	ON	NONE	F	-33F	K25-16	-33F	K25-16	-33F	K25-16
ON→	← ON	NONE	K	MS27781-33K	8573K26-16	MS27782-33K	8574K26-16	MS27783-33K	8575K26-16
ON→	← ON	NONE	M	-33M	K42-16	-33M	K42-16	-33M	K42-16
ON→	← ON→	ON	A	—	—	-1A	K65-16	-1A	K43-16
ON	← ON→	ON	B	—	—	-1B	K66-16	-1B	K44-16
ON→	ON	ON	D	—	—	-1D	K67-16	-1D	K45-16
ON	← ON→	ON	E	—	—	MS27782-1E	8574K68-16	MS27783-1E	8575K46-16
ON→	ON	ON	F	—	—	-1F	K69-16	-1F	K47-16
ON	ON	ON	G	—	—	-1G	K70-16	-1G	K48-16
ON→	ON→	ON	H	—	—	-1H	K71-16	-1H	K49-16
ON	← ON←	ON	J	—	—	-1J	K72-16	-1J	K50-16
ON→	← ON→	ON	K	—	—	MS27782-1K	8574K73-16	MS27783-1K	8575K51-16
ON	ON→	ON	L	—	—	-1L	K74-16	-1L	K52-16
ON→	← ON	ON	M	—	—	-1M	K75-16	-1M	K53-16
ON	← ON	ON	N	—	—	-1N	K76-16	-1N	K54-16
ON	ON→	ON	P	—	—	-1P	K77-16	-1P	K55-16
ON	← ON→	ON*	E	—	—	MS27782-2E	8574K78-16	MS27783-2E	8575K56-16
ON→	ON	ON*	F	—	—	-2F	K79-16	-2F	K57-16
ON→	← ON→	ON*	K	—	—	-2K	K80-16	-2K	K58-16
ON	ON→	ON*	L	—	—	-2L	K81-16	-2L	K59-16
ON→	← ON	ON*	M	—	—	-2M	K82-16	-2M	K60-16
ON*	← ON	ON*	N	—	—	MS27782-2N	8574K83-16	MS27783-2N	8575K61-16
ON*	← ON→	ON*	E	—	—	-3E	K84-16	-3E	K62-16
ON*	← ON→	ON*	L	—	—	-3L	K85-16	-3L	K63-16
ON	← ON	ON*	N	—	—	-3N	K86-16	-3N	K64-16

* Momentary contact.

→ Indicates direction against which lever is locked.

See page A38 for circuit diagrams.

Ⓢ Reference bushing styles on page A34.

MILITARY - ENVIRONMENTALLY SEALED SWITCHES

Series - 8573, 8574, 8575

MIL-S-3950 IWTS Lever Locks

CIRCUIT WITH LEVER IN . . .			Lever Ⓢ Lock Bushing Style	ONE POLE		TWO POLE		FOUR POLE	
Up Position	Center Position	Down Position (Keyway)		Flush Screw Terminals		Flush Screw Terminals		Flush Screw Terminals	
				MS Part Number	Catalog Number	MS Part Number	Catalog Number	MS Part Number	Catalog Number
ON →	← OFF →	← ON	A	MS27787-21A	8573K1-20	MS27788-21A	8574K1-20	MS27789-21A	8575K1-20
ON	← OFF →	← ON	B	-21B	K27-20	-21B	K27-20	-21B	K27-20
ON →	OFF	← ON	D	-21D	K5-20	-21D	K5-20	-21D	K5-20
ON	← OFF →	ON	E	-21E	K2-20	-21E	K2-20	-21E	K2-20
ON →	OFF	ON	F	-21F	K28-20	-21F	K28-20	-21F	K28-20
ON	OFF	← ON	G	MS27787-21G	8573K3-20	MS27788-21G	8574K3-20	MS27789-21G	8575K3-20
ON →	OFF →	ON	H	-21H	K29-20	-21H	K29-20	-21H	K29-20
ON	← OFF	← ON	J	-21J	K30-20	-21J	K30-20	-21J	K30-20
ON →	← OFF →	ON	K	-21K	K31-20	-21K	K31-20	-21K	K31-20
ON	OFF →	ON	L	-21L	K32-20	-21L	K32-20	-21L	K32-20
ON →	← OFF	ON	M	MS27787-21M	8573K33-20	MS27788-21M	8574K33-20	MS27789-21M	8575K33-20
ON	← OFF	ON	N	-21N	K4-20	-21N	K4-20	-21N	K4-20
ON	OFF →	← ON	P	-21P	K34-20	-21P	K34-20	-21P	K34-20
ON →	NONE	← OFF	D	-22D	K10-20	-22D	K10-20	-22D	K10-20
ON →	NONE	OFF	F	-22F	K35-20	-22F	K35-20	-22F	K35-20
ON	NONE	← OFF	G	MS27787-22G	8573K9-20	MS27788-22G	8574K9-20	MS27789-22G	8575K9-20
ON →	NONE	← ON	D	-23D	K6-20	-23D	K6-20	-23D	K6-20
ON →	NONE	ON	F	-23F	K36-20	-23F	K36-20	-23F	K36-20
ON	NONE	← ON	G	-23G	K7-20	-23G	K7-20	-23G	K7-20
ON	← OFF	NONE	E	-24E	K16-20	-24E	K16-20	-24E	K16-20
ON →	OFF	NONE	F	MS27787-24F	8573K37-20	MS27788-24F	8574K37-20	MS27789-24F	8575K37-20
ON →	← OFF	NONE	K	-24K	K38-20	-24K	K38-20	-24K	K38-20
ON →	← OFF	NONE	M	-24M	K11-20	-24M	K11-20	-24M	K11-20
ON →	OFF	NONE	F	-25F	K22-20	-25F	K22-20	-25F	K22-20
ON →	NONE	ON *	F	-26F	K20-20	-26F	K20-20	-26F	K20-20
* ON	← OFF →	ON *	E	MS27787-27E	8573K12-20	MS27788-27E	8574K12-20	MS27789-27E	8575K12-20
* ON	OFF →	ON *	L	-27L	K39-20	-27L	K39-20	-27L	K39-20
* ON	← OFF	ON *	N	-27N	K14-20	-27	K14-20	-27N	K14-20
NONE	OFF →	ON *	E	-28E	K15-20	-28E	K15-20	-28E	K15-20
ON →	NONE	OFF *	F	-29F	K21-20	-29F	K21-20	-29F	K21-20
OFF →	NONE	ON *	F	MS27787-30F	8573K19-20	MS27788-30F	8574K19-20	MS27789-30F	8575K19-20
ON	← OFF →	ON *	E	-31E	K18-20	-31E	K18-20	-31E	K18-20
ON →	OFF	ON *	F	-31F	K40-20	-31F	K40-20	-31F	K40-20
ON →	← OFF →	ON *	K	-31K	K41-20	-31K	K41-20	-31K	K41-20
ON	OFF →	ON *	L	-31L	K13-20	-31L	K13-20	-31L	K13-20
ON →	← OFF	ON *	M	MS27787-31M	8573K17-20	MS27788-31M	8574K17-20	MS27789-31M	8575K17-20
ON	← OFF	ON *	N	-31N	K8-20	-31N	K8-20	-31N	K8-20
* ON	← ON	NONE	E	-32E	K23-20	-32E	K23-20	-32E	K23-20
ON	← ON	NONE	E	-33E	K24-20	-33E	K24-20	-33E	K24-20
ON →	ON	NONE	F	-33F	K25-20	-33F	K25-20	-33F	K25-20
ON →	← ON	NONE	K	MS27787-33K	8573K26-20	MS27788-33K	8574K26-20	MS27789-33K	8575K26-20
ON →	← ON	NONE	M	-33M	K42-20	-33M	K42-20	-33M	K42-20
ON →	← ON →	← ON	A	—	—	-1A	K65-20	-1A	K43-20
ON	← ON →	← ON	B	—	—	-1B	K66-20	-1B	K44-20
ON →	ON	← ON	D	—	—	-1D	K67-20	-1D	K45-20
ON	← ON →	ON	E	—	—	MS27788-1E	8574K68-20	MS27789-1E	8575K46-20
ON →	ON	ON	F	—	—	-1F	K69-20	-1F	K47-20
ON	ON	← ON	G	—	—	-1G	K70-20	-1G	K48-20
ON →	ON →	ON	H	—	—	-1H	K71-20	-1H	K49-20
ON	← ON	← ON	J	—	—	-1J	K72-20	-1J	K50-20
ON →	← ON →	ON	K	—	—	MS27788-1K	8574K73-20	MS27789-1K	8575K51-20
ON	ON →	ON	L	—	—	-1L	K74-20	-1L	K52-20
ON →	← ON	ON	M	—	—	-1M	K75-20	-1M	K53-20
ON	← ON	ON	N	—	—	-1N	K76-20	-1N	K54-20
ON	ON →	← ON	P	—	—	-1P	K77-20	-1P	K55-20
ON	← ON →	ON *	E	—	—	MS27788-2E	8574K78-20	MS27789-2E	8575K56-20
ON →	ON	ON *	F	—	—	-2F	K79-20	-2F	K57-20
ON →	← ON →	ON *	K	—	—	-2K	K80-20	-2K	K58-20
ON	ON →	ON *	L	—	—	-2L	K81-20	-2L	K59-20
ON →	← ON	ON *	M	—	—	-2M	K82-20	-2M	K60-20
ON	← ON	ON *	N	—	—	MS27788-2N	8574K83-20	MS27789-2N	8575K61-20
* ON	← ON →	ON *	E	—	—	-3E	K84-20	-3E	K62-20
* ON	ON →	ON *	L	—	—	-3L	K85-20	-3L	K63-20
* ON	← ON	ON *	N	—	—	-3N	K86-20	-3N	K64-20

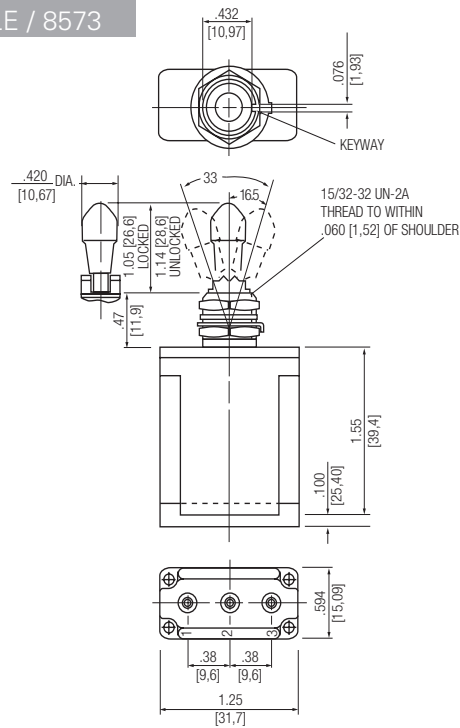
* Momentary contact.

→ Indicates direction against which lever is locked.

See page A38 for circuit diagrams.

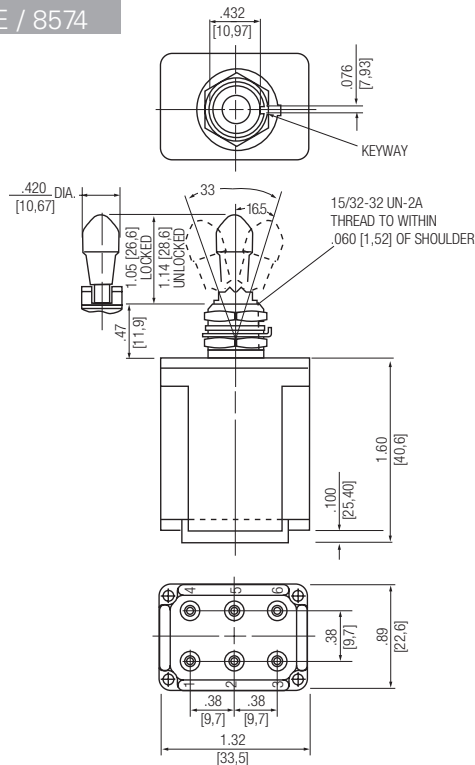
Ⓢ Reference bushing styles on page A34.

MOUNTING DIMENSIONS - ONE POLE / 8573



Non-functional terminals not supplied.

MOUNTING DIMENSIONS - TWO POLE / 8574



Non-functional terminals not supplied.

STANDARD
0.00 = inches
[0,0] = mm

Mounting dimensions for reference only.

Series - 8780-82, 8790 & 8792

High Capacity Flush Mounted Switches

FEATURES	SPECIFICATIONS	CURRENT RATINGS								
• 1 and 3 pole circuitry • Flush mounted (5 holes required) • High capacity ratings • Terminal stud termination	• Military approved to MILS-3950C and E1663 specifications • Current ratings up to 175 Amp on AN3230 type and 80 Amp on E1663 type • Temperature Range: -67°F to +160°F (-55°C to +71°C) • Life: 10,000 operations at rated load 20,000 operations mechanical life • Power studs have .250" [6,35] -20 threads	No. of Poles	Catalog Number	Type of Operation	28VDC			115 VAC 60 or 400Hz		
					Lamp Load	Resistive Load	Inductive Load	Lamp Load	Resistive Load	Inductive Load
				1	8780K11 8781K11 8782K11	Maintained	35	175	45	11
		3	8790K4 8792K3	Maintained	12	80	30	7.5	30	20

SELECTION TABLE

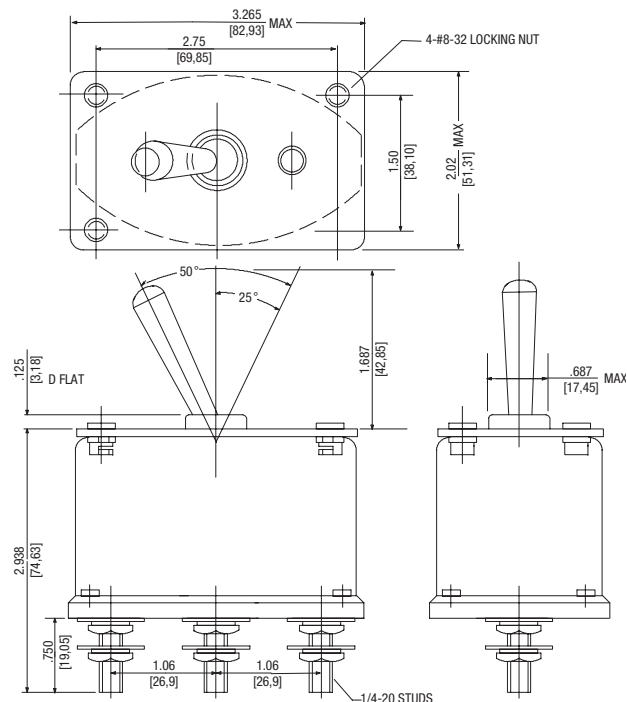
CIRCUIT WITH LEVER IN . . .						
	Up Position	Center Position	Down Position (Keyway)	MS or Government Drawing Number	AN Part Number	Catalog Number
 8780						
	One Pole - High Capacity					
	ON	OFF	ON	—	AN3230-1	8780K11
	ON	NONE	OFF	—	-2	8781K11
 8790	ON	NONE	ON	—	-3	8782K11
	Three Pole - High Capacity					
	ON	OFF	ON	E1663-1	—	8790K4
	ON	NONE	ON	-3	—	8792K3

HIGH CAPACITY SWITCHES

Series - 8780, 8790

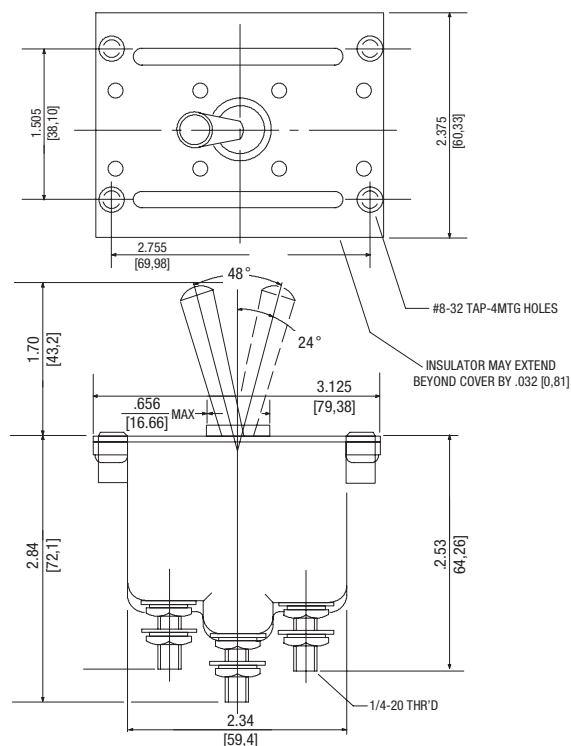
High Capacity Flush Mounted Switches

MOUNTING DIMENSIONS - ONE POLE / 8780, 8781, 8782



Non-functional terminals not supplied.

MOUNTING DIMENSIONS - THREE POLE / 8790, 8792



STANDARD
0.00 = inches
[0,0] = mm

Mounting dimensions for reference only.

Non-functional terminals not supplied.

UL AND CSA NOMINAL RATINGS

Catalog Number	Amperes		Maximum Horsepower		
			1 Phase		3 Phase
	125VAC	250VAC	125VAC	250VAC	125/250VAC
8520K1, K4, K9	18	9	1/4	1/2	—
8521K1, K4, K9	18	9	1/2	1	—
8522K1, K4, K9	18	9	1/2	1	1
8526K2, K3, K5	18	9	—	—	—
8527K2, K3, K5	18	9	—	—	—
8528K2, K3, K5	18	9	—	—	—
8530K1-13, K31-313, K91-913	18	9	1/4	1/2	—
8531K1-16, K31-316, K91-916	18	9	1/2	1	—
8532K1-17, K31-317, K91-917	18	9	1/2	1	1
8533K1-13, K31-313, K91-913	18	9	1/4	1/2	—
8534K1-13, K31-316, K91-916	18	9	1/2	1	—
8535K1-17, K31-317, K91-917	18	9	1/2	1	1
8536K1-13, K31-313, K91-913	18	9	1/4	1/2	—
8537K1-16, K31-316, K91-916	18	9	1/2	1	—
8538K1-17, K31-317, K91-917	18	9	1/2	1	1

TOGGLE SWITCHES - ENVIRONMENTALLY SEALED SWITCHES

Standard Circuit Arrangements

Industrial, Econoswitch and MIL-S-3950 Series

CIRCUIT WITH LEVER IN . . .

Number of Poles and Throws	Switch Circuit ^①	Up Position 	Center Position 	Down Position (Keyway) 
1PST	ON-NONE-OFF		NONE	OFF
	ON-OFF-NONE		OFF	NONE
	ON-OFF*-NONE		OFF(MOM.)	NONE
	NONE-OFF-ON*		OFF	OFF(MOM.)
	ON-NONE-OFF*		NONE	OFF(MOM.)
	OFF-NONE-ON*		NONE	NONE
1PDT	ON-OFF-ON		NONE	ON
	ON-NONE-ON		NONE	ON
	ON-NONE-ON*		NONE	ON
	ON-OFF-ON		OFF	ON
	ON-OFF-ON*		OFF	NONE
	*ON-ON-NONE		NONE	NONE
2PST	ON-NONE-OFF		NONE	OFF
	ON-OFF-NONE		OFF	NONE
	ON-OFF*-NONE		OFF(MOM.)	NONE
	NONE-OFF-ON*		OFF	ON
	ON-NONE-OFF*		NONE	OFF(MOM.)
	OFF-NONE-ON*		NONE	ON
2PDT	ON-OFF-ON		NONE	ON
	ON-NONE-ON		NONE	ON
	ON-NONE-ON*		NONE	ON
	ON-OFF-ON		OFF	ON
	ON-OFF-ON*		OFF	ON
	*ON-ON-NONE		NONE	NONE
	ON-ON-NONE		NONE	NONE
4PST	ON-NONE-OFF		NONE	OFF
	ON-OFF-NONE		OFF	NONE
	ON-OFF*-NONE		OFF(MOM.)	NONE
	NONE-OFF-ON*		OFF	ON
	ON-NONE-OFF*		NONE	OFF(MOM.)
	OFF-NONE-ON*		NONE	ON
	ON-ON-NONE		NONE	NONE

* Momentary Contact

Standard Circuit Arrangements

Industrial, Econoswitch and MIL-S-3950 Series

CIRCUIT WITH LEVER IN . . .

Number of Poles and Throws	Switch Circuit ^①	Up Position 	Center Position 	Down Position (Keyway) 
4PDT	ON-OFF-ON		OFF	
	ON-NONE-ON		NONE	
	ON-NONE-ON*		NONE	
	ON-OFF-ON		OFF	
	ON-OFF-ON*		OFF	
	*ON-ON-NONE			NONE
	ON-ON-NONE			NONE
				

^① See page A40 for ON-ON-ON and special circuits.

* Momentary contact.

TOGGLE SWITCHES - ENVIRONMENTALLY SEALED SWITCHES

Special ON-ON-ON Circuit Arrangements for Two and Four Pole Switches

Industrial, Econoswitch and MIL-S-3950 Series

Circuit with Lever in . . .

Number of Poles	Up Position 	Center Position 	Down Position (Keyway) 	Catalog Part Number
TWO POLE				
2	Maintained  	Maintained  	Maintained  	8501K14, 8504K43-K55, 8511K14 8531K14, 8531K914, 8531K314 8534K14, 8534K914, 8534K314 8537K14, 8537K914, 8537K314, 8567K14
2	Maintained  	Maintained  	Momentary  	8501K15, 8504K56-K61, 8511K15 8531K15, 8531K915, 8531K315 8534K15, 8534K915, 8534K315 8537K15, 8537K915, 8537K315, 8567K15
2	Momentary  	Maintained  	Momentary  	8501K16, 8504K62-K64, 8511K16 8531K16, 8531K916, 8531K316 8534K16, 8534K916, 8534K316 8537K16, 8537K916, 8537K316, 8567K16
2	Maintained  	Maintained  	Maintained  	8501K17, 8504K65-K77, 8511K17 8531K17, 8531K917, 8531K317 8567K17, 8571K17-16, 8571K17-20 8574K65-16 - 8574K77-16 8574K65-20 - 8574K77-20
2	Maintained  	Maintained  	Momentary  	8501K18, 8504K78-K83, 8511K18 8531K18, 8531K918, 8531K318 8567K18, 8571K18-16, 8571K18-20 8574K78-16 - 8574K83-16 8574K78-20 - 8574K83-20
2	Momentary  	Maintained  	Momentary  	8501K19, 8504K84-K87, 8511K19 8531K19, 8531K919, 8531K319 8567K19, 8571K19-16, 8571K19-20 8574K84-16, 8574K86-16 8574K84-20, 8574K86-20
FOUR POLE				
4	Maintained      	Maintained      	Maintained      	8502K15, 8512K15 8532K15, 8532K915, 8532K315 8535K15, 8535K915, 8535K315 8538K15, 8538K915, 8538K315 8568K15 8575K43-16 - 8575K55-16 8575K43-20 - 8575K55-20
4	Maintained      	Maintained      	Momentary      	8502K16, 8512K16 8532K16, 8532K916, 8532K316 8535K16, 8535K916, 8535K316 8538K16, 8538K916, 8538K316 8568K16 8575K56-16 - 8575K61-16 8575K56-20 - 8575K61-20
4	Momentary  	Maintained  	Momentary  	8502K17, 8512K17 8532K17, 8532K917, 8532K317 8535K17, 8535K917, 8535K317 8538K17, 8538K917, 8538K317 8568K17 8575K62-16 - 8575K64-16 8575K62-20 - 8575K64-20

TOGGLE SWITCHES - ENVIRONMENTALLY SEALED SWITCHES

Special Circuit Arrangements for Two and Four Pole Switches

Industrial, Econoswitch and MIL-S-3950 Series

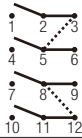
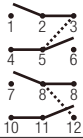
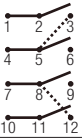
SPECIAL "ON-ON-ON" CIRCUIT ARRANGEMENTS

"Three Independent" ON-ON-ON Circuit Diagram

For switch modified with "Three Independent" ON-ON-ON Special Circuit.

External Jumpers are required. User to connect wiring per instructions given below.

Connection Points	Single Pole①	Double Pole②
Connect Common to Terminals	2	2 and 11
Connect Circuit "A" to Terminals	6	6 and 9
Connect Circuit "B" to Terminals	4	4 and 7
Connect Circuit "C" to Terminals	1	1 and 10

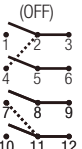
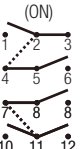
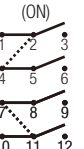
Circuit Poles	No. of Poles	Up Position 	Center Maintained Position 	Down Position (Keyway) 
Circuit for Single Pole (Jumper between Terminals #3 & #5)	1			
Circuit for Double Pole (Jumpers between Terminals #3 & #5 #8 & #12)	2			

① Requires using a two pole switch to accomplish single pole independent "on-on-on" circuit.

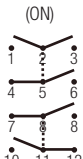
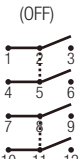
② Requires using a four pole switch to accomplish a double pole independent "on-on-on" circuit.

Note: Basic circuit same as offered with part numbers 8501K14, 8501K15 or 8501K16 for two pole devices and part numbers 8502K15, 8502K16 or 8502K17 for four pole devices.

SPECIAL CIRCUIT (OFF-ON-ON)

Circuit	No. of Poles	OFF Up Position 	ON Center Maintained Position 	ON Down Position (Keyway) 	Circuit Being Made . . .	Terminal Numbers Making the Circuit
Note: Requires two poles to achieve a single pole device or four poles to achieve a double pole device.						
Circuit for Single Pole (Jumper between terminals #2 & #4). Common terminal #5. Non-functional terminal #6	2	(OFF) 	(ON) 	(ON) 	UP (OFF) CENTER (ON) DOWN (ON)	— #3 & #5 #1 & #5
Circuit for Double Pole (Jumpers between terminals #2 & #4 and #7 & #11). Common terminals #5 & #8. Non-functional terminals #6	4	(OFF) 	(ON) 	(ON) 	UP (OFF) CENTER (ON) DOWN (ON)	— #3 & #5 #8 & #12 #1 & #5 #8 & #10

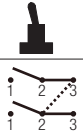
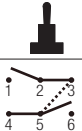
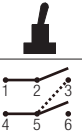
SPECIAL PROJECTOR CIRCUIT (OFF-ON-ON)

Circuit	No. of Poles	OFF Up Position 	ON Center Maintained Position 	ON Down Position (Keyway) 	Circuit Being Made . . .	Terminal Numbers Making the Circuit
Note: Requires two poles to achieve a single pole device or four poles to achieve a double pole device.						
Circuit for Single Pole (Jumper between terminals #2 & #5). Common terminal #5. Non-functional terminal #1 & #4.	2	(ON) 	(ON) 	(OFF) 	UP (ON) CENTER (ON) DOWN (OFF)	#2 & #3 #5 & #6 #5 & #3 —
Circuit for Double Pole (Jumpers between terminals #2 & #5 and #8 & #11). Common terminals #5 & #8. Non-functional terminals #1, #7 & #9.	4	(ON) 	(ON) 	(OFF) 	UP (ON) CENTER (ON) DOWN (OFF)	#5 & #3 #5 & #6 #8 & #12 #8 & #9 #3 & #5 #8 & #12 —

SPECIAL "ON-ON-ON" CIRCUIT ARRANGEMENTS

"Three Independent" ON-ON-ON Circuit Diagram
For switch modified with "Three Independent" ON-ON-ON Special Circuit.
External Jumpers are required. User to connect wiring per instructions given below.

Connection Points	Single Pole ^①
Connect Common to Terminals	2
Connect Circuit "A" to Terminals	6
Connect Circuit "B" to Terminals	4
Connect Circuit "C" to Terminals	1

Circuit Poles	No. of Poles	Up Position	Center Maintained Position	Down Position (Keyway)
Circuit for Single Pole (Jumper between Terminals #3 & #5)	1			

^① Requires using a two pole switch to accomplish single pole independent "on-on-on" circuit.