Military

Illuminated AC Rated

General Purpose AC/DC Rated

X Series Toggles

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4.1 Toggle Switches

Introduction

Toggle Switches

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Description

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Product Selection Guide

Toggle Switches

	Military Purpose Toggles	Illuminated AC Rated Switches	General Purpose Toggles—AC Rated
Product Selection	**Page V11-T4-3**	**Page V11-T4-9**	**Page V11-T4-20**
Circuit Diagram	**Page V11-T4-35**	—	**Page V11-T4-35**
Product Description	Eaton's military purpose switches are designed to meet the requirements of MIL-S-83731	These illuminated switches are available only in single-pole circuitry. A two-pole base is utilized with single-pole housing the lamp.	These AC rated toggle switches offer the widest selection of features and the design flexibility to meet a variety of applications.

	General Purpose Toggles—AC/DC Rated	X Series Toggles	Heavy Duty Hesitation Switches
Product Selection	**Page V11-T4-20**	**Page V11-T4-24**	**Page V11-T4-27**
Circuit Diagram	**Page V11-T4-35**	—	**Page V11-T4-35**
Product Description	This line of switches employs a quick-make/quick-break contact mechanism. These switches are especially suited for use in small motor applications.	Eaton's new, competitively priced, AC rated X Series toggles offer a standard high rating for both single- and two-pole applications.	The most common application for this switch is to help prevent motor damage resulting from the high current generation by counter EMF of the armature at the time of reversing.

Military Purpose Toggles

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Description	*Page*
Military Purpose Toggles	
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Dimensions	**V11-T4-7**

Product Description

Eaton's military purpose switches are designed to meet the requirements of MIL-S-83731. Sealed Switches have a silicone rubber lever seal assembled between the lever and the bushing to resist the entrance of contaminants such as dust, sand or water into the contact structure.

The switch mechanisms are completely enclosed to resist the entrance of contaminants into the switch. All metal parts are plated to resist corrosion. The heavy duty switches are offered in both standard toggle lever and lever lock versions. Circuit designations are stamped on the side of each switch.

Standards and Certifications

- MIL-S-83731

Product Selection

AC/DC Rated (Medium Duty) MIL-S-83731

Current Ratings	Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position (Keyway)	Base Circuit See Page V11-T4-35	Dimension "A" Inches (mm)	Dimension "B" Inches (mm)	Military Solder Lug Terminals MIL-S-83731 with Sealed Lever	Catalog Number
Single-Pole									
See **A** below	1PST	ON	NONE	OFF	A	—	0.906 (23.01)	**MS25098-22**	**8261K22**
		ON	NONE	MOM. OFF				**MS25098-29**	**8261K29**
		OFF	NONE	MOM. ON				**MS25098-30**	**8261K30**
See **A** below	1PDT	ON	NONE	ON	B	0.937 (23.80)	—	**MS25098-23**	**8261K23**
		ON	NONE	MOM. ON				**MS25098-26**	**8261K26**
Two-Pole									
See **B** below	2PST	ON	NONE	OFF	C	—	0.906 (23.01)	**MS25100-22**	**8262K22**
		ON	NONE	MOM. OFF				**MS25100-29**	**8262K29**
		OFF	NONE	MOM. ON				**MS25100-30**	**8262K30**
See **C** below	2PDT	ON	NONE	ON	D	0.937 (23.80)	—	**MS25100-23**	**8262K23**
		ON	NONE	MOM. ON				**MS25100-26**	**8262K26**

Current Ratings

	Part Number	Current Capacity in Amperes per Pole = 125 Vac, 60 Hz: Resistive Load	Inductive Load
A	All MS25098	3.0	1.5
B	MS25100-22, 29, 30	3.0	1.5
C	MS25100-23, 26	1.0	1.0

AC Rated (Heavy Duty) MIL-S-83731 with Lever Seal

Current Ratings	Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position (Keyway)	Base Circuit See Page V11-T4-35	Bushing Length "A" Inches (mm)	Lever Length "B" Inches (mm)	Screw Terminals with Sealed Lever MS Part Number	Catalog Number
Single-Pole									
See **A** below	1PST	ON	NONE	OFF	A	0.468 (11.89)	0.687 (17.45)	**MS35058-22**	**8801K22**
		ON	OFF	NONE				**MS35058-24**	**8801K23**
See **B** below		ON	NONE	MOM. OFF				**MS35058-29**	**8813K17**
		ON	MOM. OFF	NONE				**MS35058-25**	**8813K18**
		NONE	OFF	MOM. ON				**MS35058-28**	**8811K18**
		OFF	NONE	MOM. ON				**MS35058-30**	**8811K17**
See **A** below	1PDT	ON	OFF	ON	B	0.468 (11.89)	0.687 (17.45)	**MS35058-21**	**8800K16**
		ON	NONE	ON				**MS35058-23**	**8810K15**
See **B** below		ON	NONE	MOM. ON				**MS35058-26**	**8804K13**
		MOM. ON	OFF	MOM. ON				**MS35058-27**	**8812K14**
		ON	OFF	MOM. ON				**MS35058-31**	**8809K16**
Two-Pole									
See **C** below	2PST	ON	NONE	OFF	C	0.468 (11.89)	0.687 (17.45)	**MS35059-22**	**8822K20**
		ON	OFF	NONE				**MS35059-24**	**8822K21**
See **D** below		ON	NONE	MOM. OFF				**MS35059-29**	**8828K13**
		ON	MOM. OFF	NONE				**MS35059-25**	**8828K12**
		NONE	OFF	MOM. ON				**MS35059-28**	**8826K14**
		OFF	NONE	MOM. ON				**MS35059-30**	**8826K15**
See **C** below	2PDT	ON	OFF	ON	D	0.468 (11.89)	0.687 (17.45)	**MS35059-21**	**8820K16**
		ON	NONE	ON				**MS35059-23**	**8824K14**
See **D** below		ON	NONE	MOM. ON				**MS35059-26**	**8830K13**
		MOM. ON	OFF	MOM. ON				**MS35059-27**	**8834K5**
		ON	OFF	MOM. ON				**MS35059-31**	**8832K6**
See **E** below	1P3T in a 2P base	ON ①	ON ②	ON ④	See **Page V11-T4-35**	0.468 (11.89)	0.687 (17.45)	**MS25201-4**	**8860K4**
		ON ①	ON ②	MOM. ON ④				**MS25201-5**	**8860K5**
		MOM. ON ①	ON ②	MOM. ON ④				**MS25201-6**	**8860K6**
		ON ①	ON ③	ON ④				**MS25201-7**	**8860K7** ⑤
		ON ①	ON ③	MOM. ON ④				**MS25201-8**	**8860K8** ⑤
		MOM. ON ①	ON ③	MOM. ON ④				**MS25201-9**	**8860K9** ⑤
Four-Pole									
See **F** below	4PST	ON	NONE	OFF	E	0.468 (11.89)	0.687 (17.45)	—	**7660K12**
		ON	OFF	NONE				**MS25068-24**	**7660K13**
See **G** below		ON	MOM. OFF	NONE				**MS25068-25**	**7668K7**
		NONE	OFF	MOM. ON				**MS25068-28**	**7666K9**
		OFF	NONE	MOM. ON				—	**7666K6**
See **F** below	4PDT	ON	OFF	ON	F	0.468 (11.89)	0.687 (17.45)	**MS25068-21**	**7662K7**
		ON	NONE	ON				**MS25068-23**	**7664K5**
See **G** below		ON	NONE	MOM. ON				**MS25068-26**	**7674K5**
		MOM. ON	OFF	MOM. ON				**MS25068-27**	**7672K5**
		ON	OFF	MOM. ON				**MS25068-31**	**7670K6**

Current Ratings

	Switch	Type of Operation	Current Capacity in Amperes per Pole 28 Vdc Lamp Load	28 Vdc Resistive Load	28 Vdc Inductive Load	115 Vac, 60 Hz Lamp Load	115 Vac, 60 Hz Resistive Load	115 Vac, 60 Hz Inductive Load	115 Vac, 400 Hz Lamp Load	115 Vac, 400 Hz Resistive Load	115 Vac, 400 Hz Inductive Load
A	MS35058	Maintained	7	25	15	—	10	10	3	10	10
B	MS35058	Momentary	5	20	10	—	10	7	—	—	—
C	MS35059	Maintained	7	20	15	—	20	—	4	20	15
D	MS35059	Momentary	5	18	10	—	11	—	—	—	—
E	MS25201	ON-ON-ON	5	18	10	2	11	8	2	11	8
F	MS25068	Maintained	5	20	12	—	—	—	4	20	15
G	MS25068	Momentary	4	18	10	—	—	—	2	11	5

Notes

① Across terminals 2-3 and 5-6.
② Across terminals 1-2 and 5-6.
③ Across terminals 2-3 and 4-5.
④ Across terminals 1-2 and 4-5.
⑤ For "INDEPENDENT ON-ON-ON" circuit arrangement, see **Page V11-T4-35**.

AC Rated (Heavy Duty) MIL-S-83731 Lever Lock with Lever Seal

Current Ratings	Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position (Keyway)	Base Circuit See Page V11-T4-35	Lever Lock Bushing Style ①	Bushing Length "A" Inches (mm)	Lever Lock Length "B" Inches (mm)	Screw Terminals with Sealed Lever MS Part Number	Catalog Number
Single-Pole										
See **A** below	1PST	ON	NONE	⟵ OFF	A	3	0.562 (14.27)	1.000 (25.40)	**MS25125-C2**	**8857K47**
		ON ⟶	NONE	⟵ OFF		4			**MS25125-E2**	**8857K48**
		ON ⟶	⟵ OFF	NONE		5			**MS25125-J4**	**8857K49**
See **A** below	1PDT	ON	⟵ OFF ⟶	ON	B	2	0.562 (14.27)	1.000 (25.40)	**MS25125-B1**	**8857K40**
		ON	NONE	⟵ ON		3			**MS25125-C3**	**8857K45**
		ON ⟶	NONE	⟵ ON		4			**MS25125-E3**	**8857K44**
Two-Pole										
See **B** below	2PDT	ON ⟶	⟵ OFF ⟶	⟵ ON	C	1	0.562 (14.27)	1.000 (25.40)	**MS25126-A1**	**8858K39**
		ON	⟵ OFF ⟶	ON		2			**MS25126-B1**	**8858K40**
		ON ⟶	NONE	⟵ ON		4			**MS25126-E3**	**8858K44**
Four-Pole										
See **C** below	4PDT	ON ⟶	NONE	⟵ ON	F	4	0.562 (14.27)	1.000 (25.40)	**MS25127-E3**	**8859K44**

⟵ Indicates direction against which lever is locked.

Current Ratings

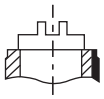
	Switch	Type of Operation	Current Capacity in Amperes per Pole 28 Vdc Lamp Load	28 Vdc Resistive Load	28 Vdc Inductive Load	115 Vac, 60 Hz Lamp Load	115 Vac, 60 Hz Resistive Load	115 Vac, 60 Hz Inductive Load	115 Vac, 400 Hz Lamp Load	115 Vac, 400 Hz Resistive Load	115 Vac, 400 Hz Inductive Load
A	MS25125	Maintained	5	20	15	—	—	—	3	10	10
B	MS25126	Maintained	7	20	15	—	—	—	4	20	15
C	MS25127	Maintained	5	20	15	—	—	—	4	20	15

Note

① See illustrations below for lever lock bushing styles.

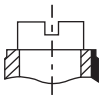
Lever Lock Bushing Styles

Style 1



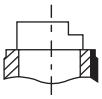
Locked in Three Positions

Style 2



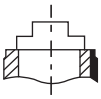
Locked in Center Positions

Style 3



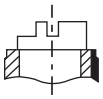
Locked in Keyway Side

Style 4



Locked out of Center Position

Style 5



Locked in Center and Side Opposite Keyway

These illustrations are for pictoral representation only—keyway on right-hand side.

AC Rated (Heavy Duty) Military with Unsealed Lever

Current Ratings	Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position (Keyway)	Base Circuit See Page V11-T4-35	Bushing Length "A" Inches (mm)	Lever Length "B" Inches (mm)	Solder Lug Terminals Catalog Number	Screw Terminals Catalog Number
Single-Pole									
See **A** below	1PST	ON	NONE	OFF	A	0.468 (11.89)	0.688 (17.45)	**7300K38**	**7300K36**
See **B** below		ON	NONE	MOM. OFF				**7304K38**	**7304K36**
		OFF	NONE	MOM. ON				**7303K38**	**7303K36**
See **A** below	1PDT	ON	OFF	ON	B	0.468 (11.89)	0.688 (17.45)	**7301K38**	**7301K36**
		ON	NONE	ON				**7302K38**	**7302K36**
See **B** below		ON	NONE	MOM. ON				**7307K38**	**7307K36**
		MOM. ON	OFF	MOM. ON				**7306K38**	**7306K36**
		ON	OFF	MOM. ON				**7305K38**	**7305K36**
Two-Pole									
See **C** below	2PST	ON	NONE	OFF	C	0.468 (11.89)	0.688 (17.45)	**7310K38**	**7310K36**
See **D** below		ON	NONE	MOM. OFF				**7314K38**	**7314K36**
		OFF	NONE	MOM. ON				**7313K38**	**7313K36**
See **C** below	2PDT	ON	OFF	ON	D	0.468 (11.89)	0.688 (17.45)	**7311K38**	**7311K36**
		ON	NONE	ON				**7312K38**	**7312K36**
See **D** below		ON	NONE	MOM. ON				**7317K38**	**7317K36**
		MOM. ON	OFF	MOM. ON				**7316K38**	**7316K36**
		ON	OFF	MOM. ON				**7315K38**	**7315K36**

Current Ratings

Type of Operation	Current Capacity in Amperes per Pole 30 Vdc Lamp Load	30 Vdc Resistive Load	30 Vdc Inductive Load	125 Vac, 60 Hz Resistive Load	125 Vac, 60 Hz Inductive Load	125 Vac, 60 Hz Horsepower	250 Vac, 60 Hz Resistive Load	250 Vac, 60 Hz Inductive Load	250 Vac, 60 Hz Horsepower
Single-Pole									
A Maintained	5	20	15	15	—	—	6	—	—
B Momentary	4	15	10	15	—	—	6	—	—
Two-Pole									
C Maintained	7	30	15	25	—	—	9	—	—
D Momentary	5	20	10	15	—	—	6	—	—

Technical Data and Specifications

Military Purpose Switches

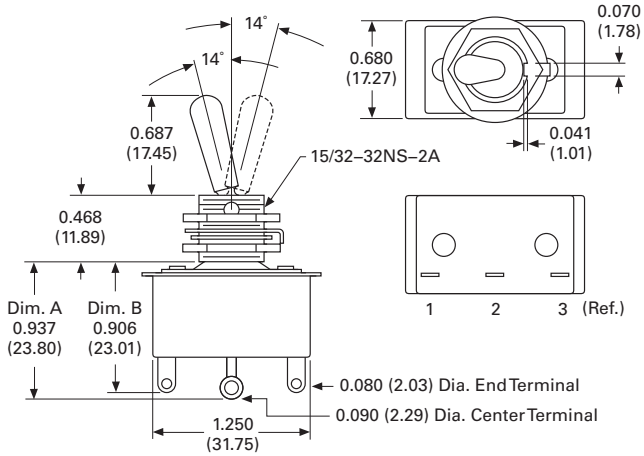
Description	Specification
Ratings	See Product Selection tables
Circuits	1PST, 1PDT, 2PST, 2PDT, 1P3T (ON-ON-ON), 4PST and 4PDT; maintained and momentary action
Contact action	Heavy duty—Slow-make/slow-break butt contact Medium duty—Quick-make/quick-break, wiping action
Contact material	Heavy duty: Movable—silver-plated copper with fine or coin silver contact face button Stationary—copper with fine or coin silver contact face button Medium duty: Movable—copper silver-plated Stationary—bronze silver-plated
Terminal types	Heavy duty MIL-S-83731 types: Screw terminals—brass designed to accept #6-32 x 6.35 mm (0.250 in) pan head (Catalog Number 11-1893) screws and Si bronze #6 helical lockwasher (Catalog Number 16-1096). Furnished unassembled. Terminal screws are tin dipped to facilitate soldering if required Heavy duty JAN-S-23 types: Screw terminals—brass designed to accept #6-32 x 4.78 mm (0.188 in) binding head (Catalog Number 811-2) screws. Furnished unassembled Solder lug terminals—tintillate plated brass Medium duty MIL-S-83731 types: Solder lugs—brass silver-plated furnished with 0.094 in (2.39 mm) dia. hole
Base material	Thermoset molding material
Mounting means	Threaded bushing—0.468 in (11.89 mm) dia., 32 threads/inch Keyway—0.068 x 0.035 in (1.73 x 0.89 mm) deep; provides anti-rotation feature Hardware supplied: MIL-S-83731 types— 2 hexagon facenuts (Catalog Number 15-966-6), 1 locking ring (Catalog Number 29-761) and 1 internal tooth lockwasher (Catalog Number 16-886). Furnished unassembled JAN-S-23 types—2 hexagon facenuts (Catalog Number 15-966-6). Furnished unassembled
Dielectric	1000V minimum
Operating temperature range	0° to 150°F (–17.8° to 65.6°C)

Dimensions

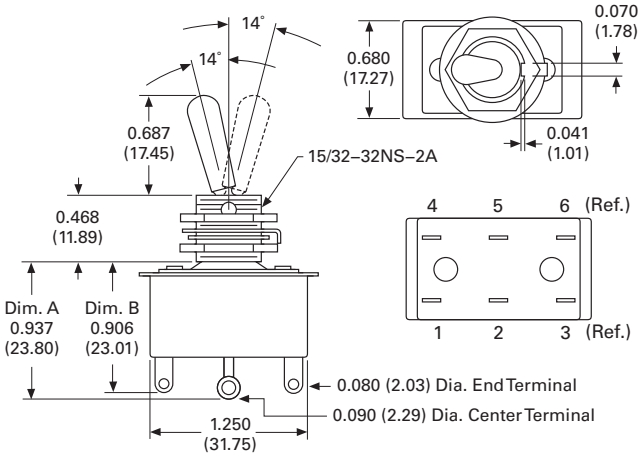
Approximate Dimensions in Inches (mm)

AC/DC Rated (Medium Duty) MIL-83731 Switches

1PDT Maintained Action (Solder Lug)

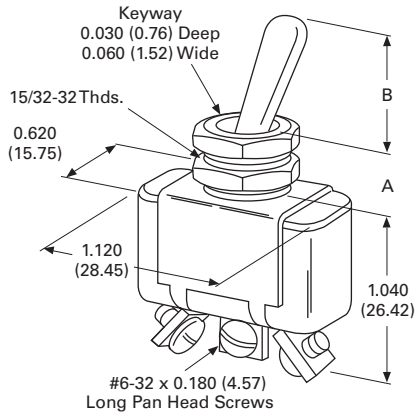


2PDT Maintained Action (Solder Lug)

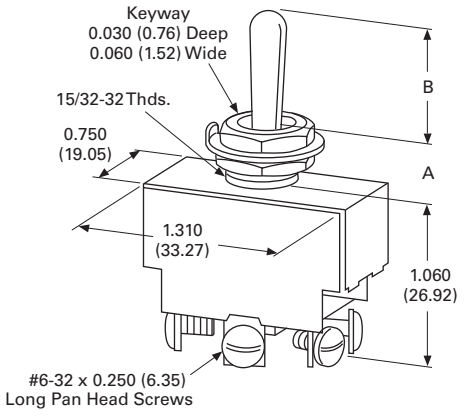


AC Rated (Heavy Duty) MIL-83731 Switches with Lever Seal

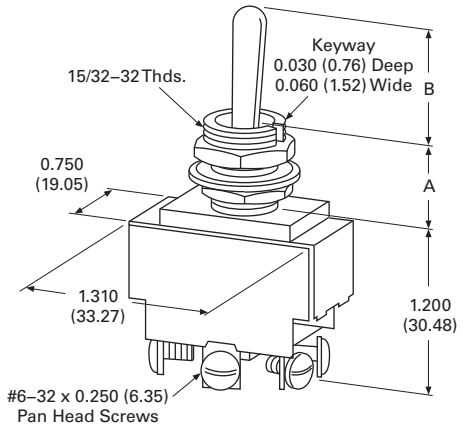
Single-Pole Maintained and Momentary Action



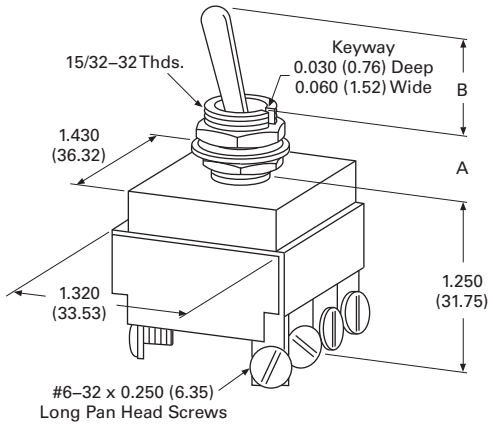
Two-Pole Maintained Action



Two-Pole Momentary Action and 3 ON Circuits



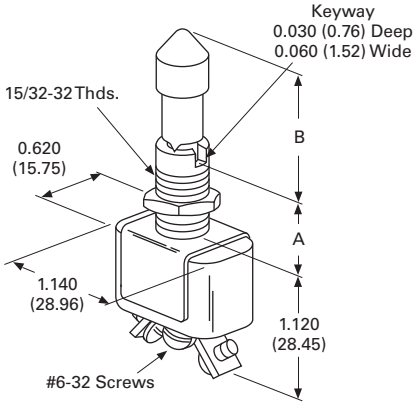
Four-Pole Maintained and Momentary Action



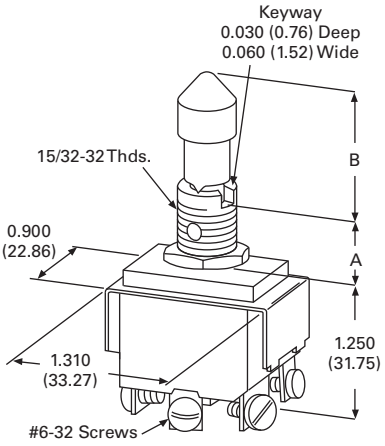
Approximate Dimensions in Inches (mm)

AC Rated (Heavy Duty) MIL-83731 Lever Lock Switches with Lever Seal

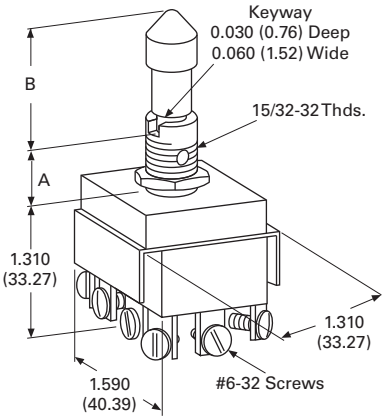
Single-Pole



Two-Pole

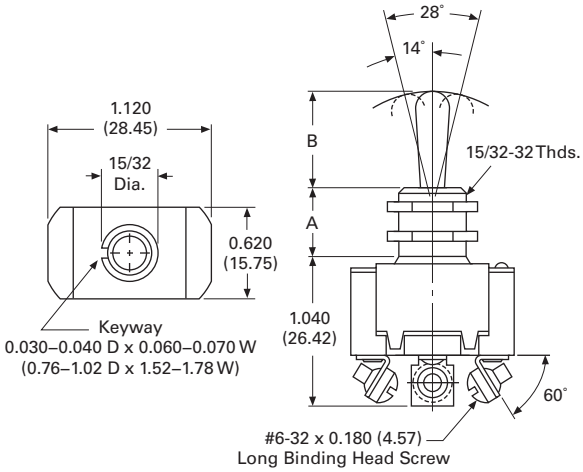


Four-Pole

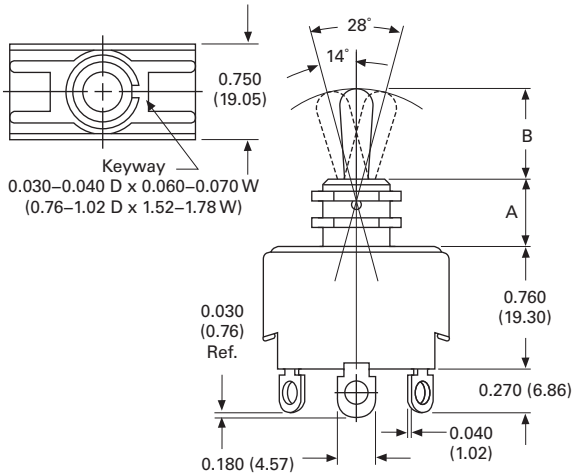


AC Rated (Heavy Duty)

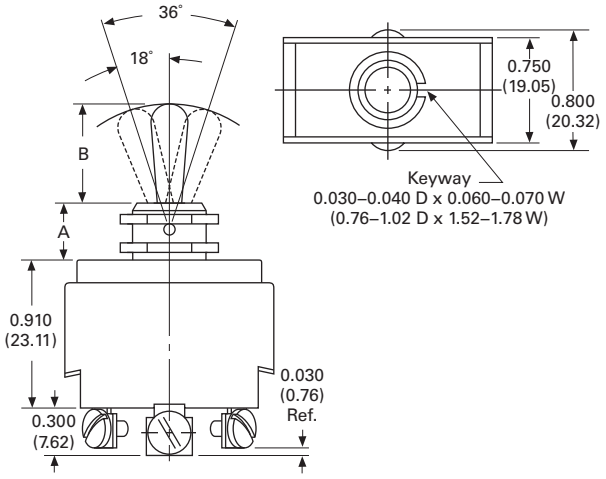
1PDT Maintained Action



2PDT Maintained Action



2PDT Momentary Action



Illuminated AC Rated Toggles

Contents

Description	*Page*
Illuminated AC Rated Switches	
Technical Data and Specifications	**V11-T4-10**
Dimensions	**V11-T4-10**

Product Description

These illuminated toggles are available only in single-pole circuitry. A two-pole base is utilized with single-pole housing the lamp. On single-throw circuits, the lamp is wired to operate in conjunction with the switch.

On double-throw circuits, the lamp is independent of the switch. On the sealed versions, a silicone rubber seal is fitted to the paddle lever to provide a moisture- and dust-resistant seal between the lever and bushing.

Catalog Number Selection

How To Order—Illuminated AC Rated Toggles

Example: **7071K21** → **G 1 52**

Rating	Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position (Keyway)	Base Catalog Number	Circuit Number See Page V11-T4-35
Standard						
15A, 125 Vac 10A, 250 Vac 3/4 hp, 250 Vac	1PST	ON	NONE	OFF	**7071K21**	G
Sealed						
15A, 125 Vac 10A, 250 Vac 3/4 hp, 250 Vac	1PST	ON	NONE	OFF	**7073K21**	G
	1PDT	ON MOM. ON	OFF OFF	ON MOM. ON	**7073K20** **7073K25**	H

Code letters and/or numbers—add to base circuit number.

Lever Color
G = Green
T = Red
A = Amber

Bulb Voltage
1 = 14V

Terminal Type
52 = 0.250 in spade

Technical Data and Specifications

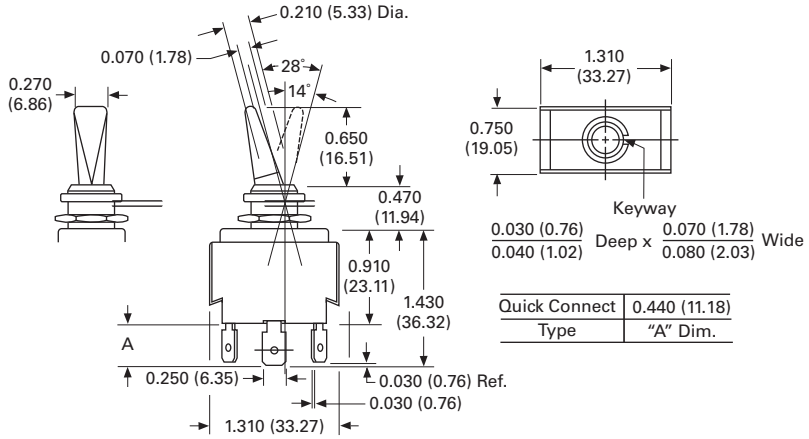
Illuminated AC Rated Toggles

Description	Specification
Ratings	See Catalog Number Selection
Circuits	1PST and 1PDT; maintained and momentary action
Contact material	Movable—silver-plated copper Stationary—silver-plated copper
Terminal types	Spade—brass
Base material	Colored thermoplastic paddle lever

Dimensions

Approximate Dimensions in Inches (mm)

Illuminated



General Purpose Toggles

Contents

Description	*Page*
General Purpose Toggles—AC Rated	
Product Selection	**V11-T4-12**
Technical Data and Specifications	**V11-T4-16**
Dimensions	**V11-T4-16**

Product Description

These AC rated toggle switches offer the widest selection of features and the design flexibility to meet a variety of applications.

Features

The optional features shown below may not be available on all toggle models. Contact your local Eaton Sales Representative.

7500, 7600, 7700 and 7900 Series

- 3-independent ON Circuit (2PDT or 4PDT only, see **Page V11-T4-14**)
- Short (11/32 in) bushing
- Tall (15/32 in) bushing
- White nylon designer lever, see Dimensions on **Page V11-T4-16**
- Black nylon designer lever, see Dimensions on **Page V11-T4-16**
- Hardware—furnished assembled
- Reversing jumpers (not for use with 3-independent ON circuit)
- Short (15/32 in) bat lever
- Tall (11/16 in) bat lever (not available with short bushing)
- Rotate keyway 180°
- Lever seal
- Omit one pole (2P, 3P, 4P only. Not for use with 3-independent ON circuit)

7800 Series Only

- 3-independent ON circuit (2PDT or 4PDT only, see **Page V11-T4-14**)
- Hardware—furnished assembled
- Reversing jumpers (Not for use with 3-independent ON circuit)
- Rotate keyway 180°
- Silicone lever seal (1P and 2P only)
- Omit one pole (2P, 3P, 4P only. Not for use with 3-independent ON circuit)

Options

Combi-Term Option

This is an extension of our AC rated general purpose toggle switch. The "Combi-Term" design allows the user the option of screw terminals, 0.25 in quick connects or solder termination all on the same switch. The special clips and screws are provided in a poly bag with the switch.

Circuits

- 1PST, 1PDT, 2PST, 2PDT, 3PST, 3PDT, 4PST and 4PDT
- Maintained and momentary

Standards and Certifications

- UL® Recognized
- CSA® Certified (except as noted)
- RoHS Compliant ①

Note

① Visit www.eaton.com/vcbu for the most up-to-date list of verified part numbers.

Product Selection

AC Rated Toggle Switches—Single-Pole

Rating	Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position (Keyway)	Base Circuit See Page V11-T4-35	Bushing Length "A" Inches (mm)	Lever Length "B" Inches (mm)	Catalog Number Solder Lugs	Screw Terminals	0.250 in Spade Terminals
6A, 125 Vac 3A, 250 Vac	1PST	ON	NONE	OFF	A	0.344 (8.74) 0.469 (11.91)	0.563 (14.30) 0.563 (14.30)	**7580K7** **7580K6**	**7580K5** **7580K4**	**7580K9** **7580K8**
	1PDT	ON	OFF	ON	B	0.469 (11.91)	0.563 (14.30)	**7581K6**	**7581K4**	**7581K8**
	1PDT	ON	NONE	ON	B	0.469 (11.91)	0.563 (14.30)	**7582K6**	**7582K4**	**7582K8**
	1PDT	ON MOM. ON	NONE OFF	MOM. ON MOM. ON	B	0.469 (11.91)	0.563 (14.30)	**7585K6** **7587K6**	**7585K4** **7587K4**	**7585K8** **7587K8**
10A, 250 Vac 1/2 hp, 250 Vac	1PST	OFF	NONE	MOM. ON	A	0.469 (11.91)	0.563 (14.30)	**7506K3**	**7506K4**	**7506K6**
	1PST	OFF	NONE	MOM. ON	A	0.469 (11.91)	0.688 (17.48)	**7506K38**	**7506K36**	**7506K40**
	1PDT	MOM. ON ON	OFF NONE	MOM. ON MOM. ON	B	0.469 (11.91)	0.563 (14.30)	**7509K4** **7510K6**	**7509K5** **7510K7**	**7509K7** **7510K9**
	1PDT	ON MOM. ON	OFF OFF	MOM. ON MOM. ON	B	0.469 (11.91)	0.688 (17.48)	**7508K38** **7509K38**	**7508K36** **7509K36**	**7508K40** **7509K40**
15A, 125 Vac 10A, 250 Vac 3/4 hp, 250 Vac 1/2 hp, 125V Vac	1PST	ON	NONE	OFF	A	0.344 (8.74) 0.469 (11.91)	0.563 (14.30) 0.563 (14.30)	**7501K12** **7501K13**	**7500K13** ① **7500K14** ①	**7501K14** **7501K15**
15A, 125 Vac 10A, 250 Vac 1/2 hp, 125 Vac 3/4 hp, 250 Vac	1PDT	ON	OFF	ON	B	0.469 (11.91)	0.563 (14.30)	**7503K13** ①	**7502K13**	**7503K15**
	1PDT	ON	NONE	ON	B	0.469 (11.91)	0.563 (14.30)	**7505K4**	**7504K4** ①	**7505K6**
20A, 125 Vac 10A, 250 Vac 1/2 hp, 125 Vac 3/4 hp, 250 Vac	1PST	ON	NONE	OFF	A	0.469 (11.91)	0.688 (17.48)	**7546K38**	**7546K36**	**7546K40**
30A, 125 Vac 25A, 250 Vac ②	1PST	ON	NONE	OFF	A	0.344 (8.74)	0.563 (14.30)	—	**7576K2**	—

Notes

① Also 4.2A L at 125 Vac rating.

② Single-pole switch in two-pole base.

AC Rated Toggle Switches—Two-Pole

Rating	Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position (Keyway)	Base Circuit See Page V11-T4-35	Bushing Length "A" Inches (mm)	Lever Length "B" Inches (mm)	Catalog Number Solder Lugs	Screw Terminals	0.250 in Spade Terminals	Combi-Term
6A, 125 Vac 3A, 250 Vac 2A, 277 Vac 2.5A, L at 125 Vac	2PST	ON	NONE	OFF	C	0.469 (11.91)	0.563 (14.30)	**7590K6**	**7590K4**	**7590K8**	—
6A, 125 Vac 3A, 250 Vac 2.5A, L at 125 Vac	2PDT	ON	OFF	ON	D	0.469 (11.91)	0.563 (14.30)	**7591K6**	**7591K4**	**7591K8**	—
	2PDT	ON	NONE	ON	D	0.469 (11.91)	0.563 (14.30)	**7592K6**	**7592K4**	**7592K8**	—
6A, 125 Vac 3A, 250 Vac	2PDT	MOM. ON	OFF	MOM. ON	D	0.469 (11.91)	0.563 (14.30)	**7597K6**	**7597K4**	**7597K8**	—
	2PDT	ON	ON	OFF	7530	0.469 (11.91)	0.563 (14.30)	**7530K1**	**7530K3**	**7530K2**	—
10A 250 Vac, 15A 125 Vac, 1/4 hp 125–250 Vac	2PDT	ON	ON	ON	7555	0.469 (11.91)	0.563 (14.30)	**7555K12**	**7555K11**	**7555K13**	—
15A, 125 Vac 10A, 250 Vac 3/4 hp, 250 Vac 1/2 hp, 125 Vac	2PST	ON	NONE	OFF	C	0.344 (8.74) 0.469 (11.91)	0.563 (14.30) 0.563 (14.30)	**7561K5** **7561K4**	**7560K6** **7560K5**	**7561K7** **7561K6**	—
15A, 125 Vac 10A, 250 Vac 3/4 hp, 125–250 Vac	2PDT	ON	OFF	ON	D	0.344 (8.74) 0.469 (11.91)	0.563 (14.30) 0.563 (14.30)	**7563K5** **7563K4**	**7562K5** **7562K4**	**7563K7** **7563K6**	—
15A, 125 Vac 10A, 250 Vac 3/4 hp, 250 Vac	2PDT	ON	NONE	ON	D	0.469 (11.91)	0.563 (14.30)	**7565K5**	**7564K6**	**7565K7**	—
15A, 125 Vac 10A, 250 Vac 1/2 hp, 250 Vac	2PST	OFF	NONE	MOM. ON	C	0.469 (11.91)	0.563 (14.30)	**7566K4**	**7566K5**	**7566K7**	—
	2PDT	ON MOM. ON ON	OFF OFF NONE	MOM. ON MOM. ON MOM. ON	D	0.469 (11.91)	0.563 (14.30)	**7568K3** ① **7569K1** **7570K4**	**7568K2** ① **7569K2** **7570K5**	**7568K4** ① **7569K3** **7570K7**	— — —
	2PDT	MOM. ON	OFF	MOM. ON	D	0.469 (11.91)	0.688 (17.48)	**7569K38**	**7569K36**	**7569K40**	—
20A, 125 Vac 10A, 250 Vac 3/4 hp, 250 Vac 1/2 hp, 125 Vac	2PST	ON	NONE	OFF	C	0.469 (11.91)	0.688 (17.48)	**7630K38**	**7630K36**	**7630K40**	—
	2PDT	ON	NONE	ON	D	0.469 (11.91)	0.688 (17.48)	**7632K38**	**7632K36**	**7632K40**	—
Section A 10A 250 Vac; 15A 125 Vac, 3/4 hp 250 Vac, 4.2A L 125 Vac; Section B 10A 250 Vac, 15A 125 Vac, 1/4 hp 250 Vac	2PDT	OFF	1 ON	2 ON	7571	0.469 (11.91)	0.563 (14.30)	**7571K2**	**7571K4**	**7571K6**	—
20A, 125 Vac 10A, 250 Vac 1 hp, 120–240 Vac	2PST	ON	NONE	OFF	C	0.469 (11.91)	0.688 (17.48)	**7803K11**	**7803K31**	**7803K21** ②	**7803K41**
	2PDT	ON ON MOM. ON	OFF NONE OFF	ON ON MOM. ON	D	0.469 (11.91)	0.688 (17.48)	**7803K12** **7803K13** **7803K17** ②	**7803K32** **7803K33** **7803K37** ②	**7803K22** ③ **7803K23** ③ **7803K27** ②	**7803K42** **7803K43** **7803K47** ②

Notes

① Also 1/2 hp at 125–250 Vac Rating.

② Not CSA Certified.

③ Also 7.5A, 277 Vac, 3/4 hp, 120–240–277 Vac.

AC Rated Toggle Switches—Three-Pole

Rating	Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position (Keyway)	Base Circuit See Page V11-T4-35	Bushing Length "A" Inches (mm)	Lever Length "B" Inches (mm)	Catalog Number Solder Lugs	Screw Terminals	0.250 in Spade Terminals	Combi-Term
15A, 125 Vac 10A, 250 Vac 3/4 hp, 250 Vac 1 hp, 3 Ph 125–600 Vac 1 hp, 1 and 2 Ph 125–480 Vac	3PST	ON	NONE	OFF	E	0.469 (11.91)	0.688 (17.48)	**7700K1**	**7700K2**	**7700K3**	—
	3PDT	ON	OFF	ON	F	0.469 (11.91)	0.688 (17.48)	**7701K1**	**7701K2**	**7701K3**	—
		ON	NONE	ON				**7702K1**	**7702K2**	**7702K3**	—
15A, 125 Vac 10A, 250 Vac 3/4 hp, 250 Vac	3PDT	MOM. ON	OFF	ON	F	0.469 (11.91)	0.688 (17.48)	**7704K1**	**7704K2**	**7704K3**	—
		MOM. ON	NONE	ON				**7705K1**	**7705K2**	**7705K3**	—
20A, 125 Vac 10A, 250 Vac 1 hp, 120 Vac 1, 2 and 3 Ph	3PDT	ON	OFF	ON	F	0.469 (11.91)	0.688 (17.48)	**7804K12** ②④	**7804K32** ②	**7804K22** ②	**7804K42** ②

AC Rated Toggle Switches—Four-Pole

Rating	Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position (Keyway)	Base Circuit See Page V11-T4-35	Bushing Length "A" Inches (mm)	Lever Length "B" Inches (mm)	Catalog Number Solder Lugs	Screw Terminals	0.250 in Spade Terminals	Combi-Term
15A, 125 Vac 10A, 250 Vac 3/4 hp, 250 Vac	4PST	ON	NONE	OFF	E	0.469 (11.91)	0.688 (17.48)	**7691K14**	**7690K8**	—	—
	4PDT	ON	OFF	ON	F	0.469 (11.91)	0.688 (17.48)	**7693K2**	**7692K13**	—	—
		ON	NONE	ON				**7695K5**	**7694K4**	—	—
20A, 125 Vac 10A, 250 Vac 3/4 hp, 250 Vac 1/2 hp, 125 Vac	4PST	ON	NONE	OFF	E	0.469 (11.91)	0.688 (17.48)	**7933K38**	**7933K36**	**7933K40**	—
	4PDT	ON	OFF	ON	F	0.469 (11.91)	0.688 (17.48)	**7934K38**	**7934K36**	**7934K40**	—
		ON	NONE	ON				**7935K38**	**7935K36**	**7935K40**	—
20A, 125 Vac 10A, 250 Vac 1 hp, 125–240 Vac 2 and 3 Ph	4PDT	ON	OFF	ON	F	0.469 (11.91)	0.688 (17.48)	**7805K12** ②	**7805K32** ②	**7805K22** ②	**7805K42** ②

Notes

① Also 1/2 hp at 125–250 Vac Rating.
② Not CSA Certified.
③ Also 7.5A, 277 Vac, 3/4 hp, 120–240–277 Vac.
④ 1 hp at 240–480 Vac single- or two-phase and 240–600 Vac three-phase.

AC Rated Sealed ① Toggle Switches—Single-Pole

Rating	Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position (Keyway)	Base Circuit See Page V11-T4-35	Bushing Length "A" Inches (mm)	Lever Length "B" Inches (mm)	Catalog Number Solder Lugs	Screw Terminals	0.250 in Spade Terminals
10A, 250 Vac 1/2 hp, 250 Vac	1PST	OFF	NONE	MOM. ON	A	0.469 (11.91)	0.563 (14.30)	—	**7506K20**	**7506K21**
	1PDT	MOM. ON	OFF	MOM. ON	B	0.469 (11.91)	0.563 (14.30)	—	**7509K20**	**7509K21**
		ON	NONE	MOM. ON				—	**7510K20**	**7510K21**
		ON	OFF	MOM. ON				—	**7508K20**	**7508K21**
15A, 125 Vac 10A, 250 Vac 3/4 hp, 250 Vac 1/2 hp, 125V–250 Vac	1PST	ON	NONE	OFF	A	0.469 (11.91)	0.563 (14.30)	**7501K22**	**7500K20** ②	**7501K21**
15A, 125 Vac 10A, 250 Vac 1/2 hp, 125 Vac 3/4 hp, 250 Vac	1PDT	ON	OFF	ON	B	0.469 (11.91)	0.563 (14.30)	—	**7502K20**	**7503K21**
	1PDT	ON	NONE	ON	B	0.469 (11.91)	0.563 (14.30)	—	**7504K20** ②	**7505K21**

AC Rated Sealed ① Toggle Switches—Two-Pole

Rating	Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position (Keyway)	Base Circuit See Page V11-T4-35	Bushing Length "A" Inches (mm)	Lever Length "B" Inches (mm)	Catalog Number Solder Lugs	Screw Terminals	0.250 in Spade Terminals
15A, 125 Vac 10A, 250 Vac 3/4 hp, 250 Vac 1/2 hp, 125 Vac	2PST	ON	NONE	OFF	C	0.469 (11.91)	0.563 (14.30)	—	**7560K20**	**7561K21**
15A, 125 Vac 10A, 250 Vac 3/4 hp, 125–250 Vac	2PDT	ON	OFF	ON	D	0.469 (11.91)	0.563 (14.30)	—	**7562K20**	**7563K21**
15A, 125 Vac 10A, 250 Vac 3/4 hp, 250 Vac	2PDT	ON	NONE	ON	D	0.469 (11.91)	0.563 (14.30)	—	**7564K20**	**7565K21**
15A, 125 Vac 10A, 250 Vac 1/2 hp, 250 Vac	2PST	OFF	NONE	MOM. ON	C	0.469 (11.91)	0.563 (14.30)	—	**7566K20**	**7566K21**
	2PDT	ON	OFF	MOM. ON	D	0.469 (11.91)	0.563 (14.30)	—	**7568K20** ②	**7568K21** ②
		MOM. ON	OFF	MOM. ON				—	**7569K20**	**7569K21**
		ON	NONE	MOM. ON				—	**7570K20**	**7570K21**

AC Rated Special Circuit Toggle Switches—Two-Pole

Rating	Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position (Keyway)	Base Circuit See Page V11-T4-35	Bushing Length "A" Inches (mm)	Lever Length "B" Inches (mm)	Catalog Number Solder Lugs	Screw Terminals	0.250 in Spade Terminals
15A, 125 Vac 10A, 250 Vac 3/4 hp, 125–250 Vac	2PDT	2-3, 5-6	OFF	2-6, 5-3	D	0.469 (11.91)	0.563 (14.30)	**7563K24**	**7562K23**	**7563K25**
15A, 125 Vac 10A, 250 Vac 3/4 hp, 250 Vac	2PDT	2-3, 5-6	NONE	2-6, 5-3	D	0.469 (11.91)	0.563 (14.30)	**7565K24**	**7564K23**	**7565K25**

Notes

① Seal is lever seal only and is dust and splash resistant. Panel seal is available, Part Number **32-341**.

② Also 1/2 hp at 125–250 Vac Rating.

Technical Data and Specifications

General Purpose Toggles—AC Rated

Description	Specification
Ratings	See Product Selection tables; Switch ratings at 125 Vac also apply to 28 Vdc
Contact mechanism	Slow-make/slow-brake butt contact
Terminal types	Screw terminals—brass designed to accept #6-32x 3/16 binding head (Cat. No. 811-2) screws Furnished unassembled Solder lug terminals—tintillate-plated brass Spade terminals—combi-term—brass
Base material	Thermoset molding material
Mounting means	Threaded bushing—0.468 in (11.89 mm) dia., 32 threads/in Keyway—0.068 x 0.035 in (1.73 x 0.89 mm) deep, provides anti-rotation feature Hardware supplied—1 hexagon locknut (Cat. No. 15-192) and 1 bright nickel-plated knurled facenut (Cat. No. 15-124F1), except 7700–7705, which have bright nickel hexagon facenut (Cat. No. 15-966-2) Furnished unassembled
Finish	Bright nickel-plated toggle lever and bushing
Dielectric withstand	1000V rms minimum
Operating temperature range	0° to 150°F (–17.8° to 65.6°C)

Contact Material

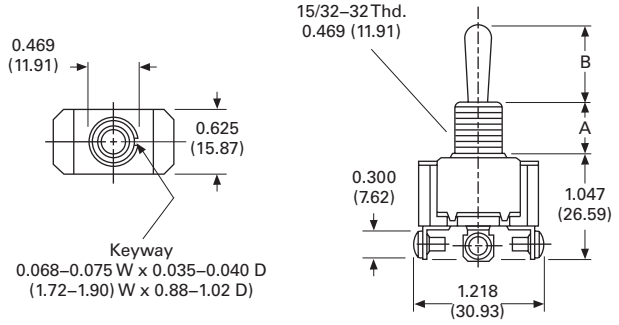
Ampere	Movable	Stationary
7500, 7600, 7700 and 7900 Series Switches		
3 to 6	Silver-plated copper	Silver-plated copper
10 to 20	Silver-plated copper with silver buttons	Silver-plated copper with silver buttons
20 to 30	Silver-plated copper with cad oxide buttons	Copper with cad oxide buttons
7800 Series Switches		
3 to 6	Silver-plated copper	Silver-plated copper
10 to 20	Copper with silver buttons	Copper with silver buttons

Dimensions

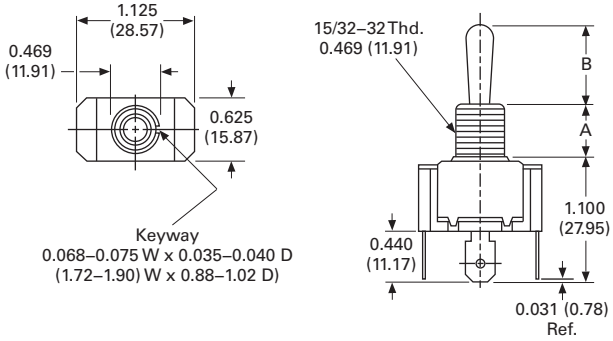
Approximate Dimensions in Inches (mm)

7500, 7600, 7700 and 7900 Series

1PST Maintained and Momentary (Screw Terminals)



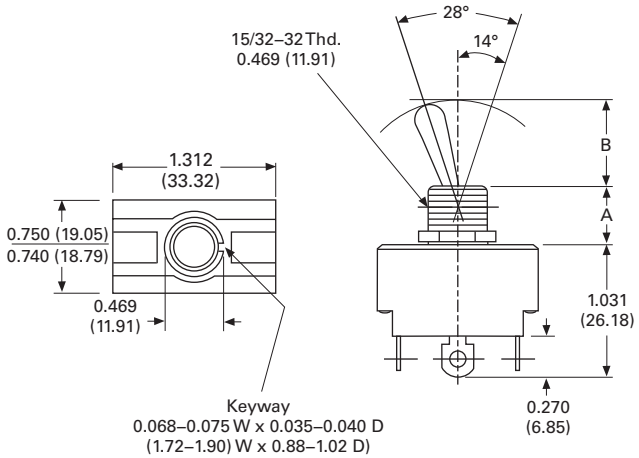
1PDT Maintained and Momentary (Spade Terminals)



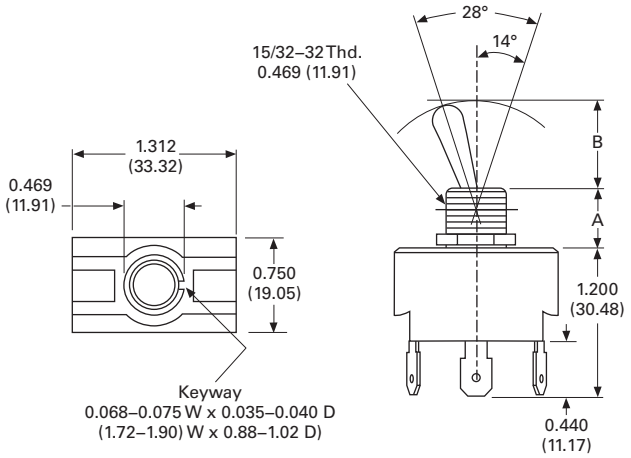
Approximate Dimensions in Inches (mm)

7500, 7600, 7700 and 7900 Series, continued

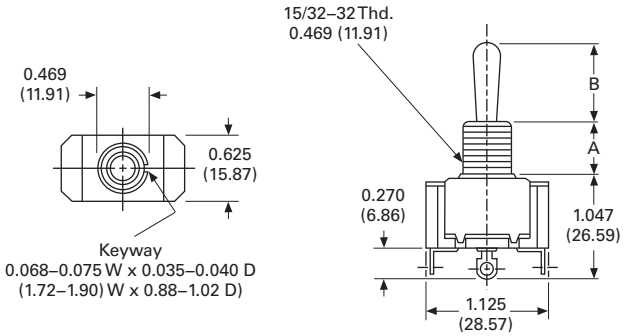
2PDT Maintained (Solder Lugs)



2PDT Maintained (Spade Terminals)



1PDT Maintained and Momentary (Solder Lugs)



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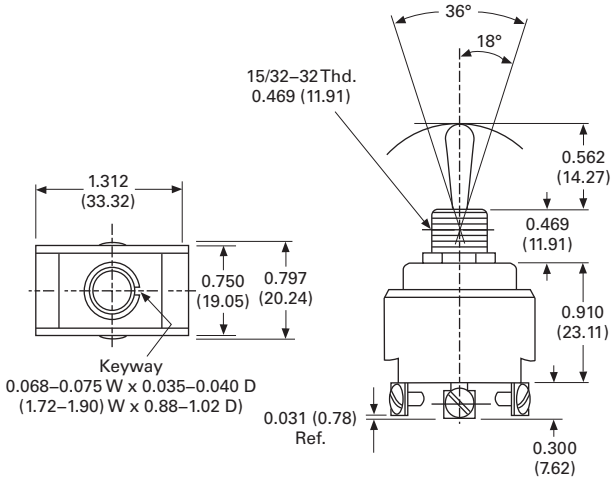

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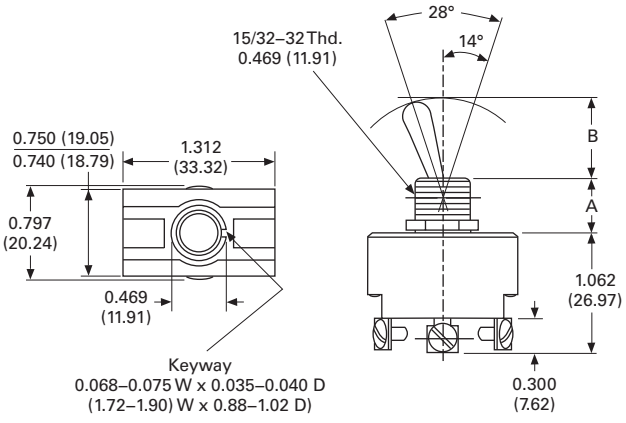
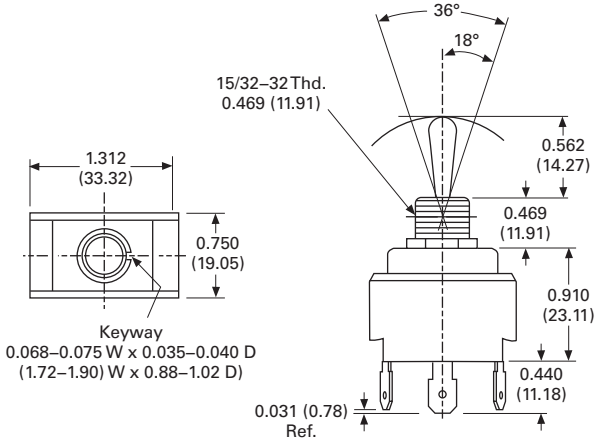


2PDT Momentary (Spade Terminals)



4

Approximate Dimensions in Inches (mm)

7500, 7600, 7700 and 7900 Series, continued

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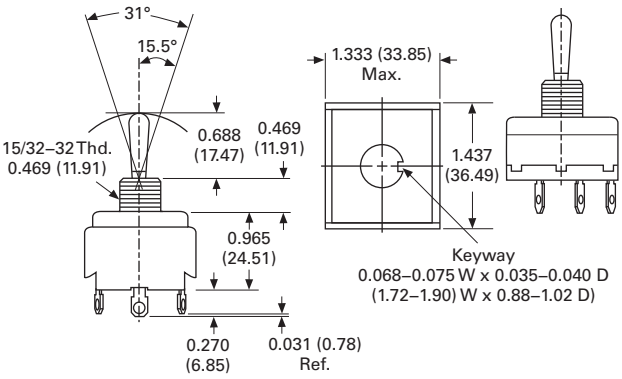

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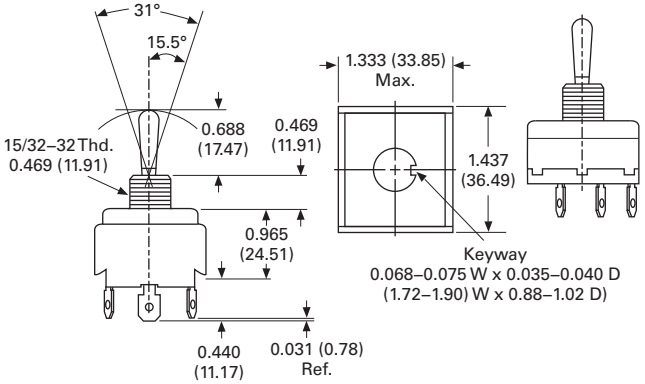
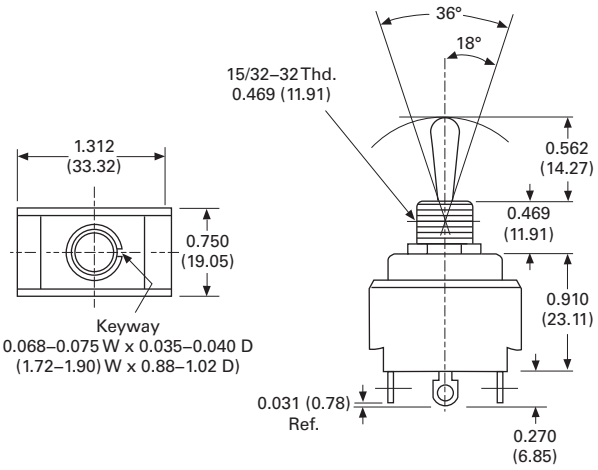


2PDT Momentary (Solder Lugs)



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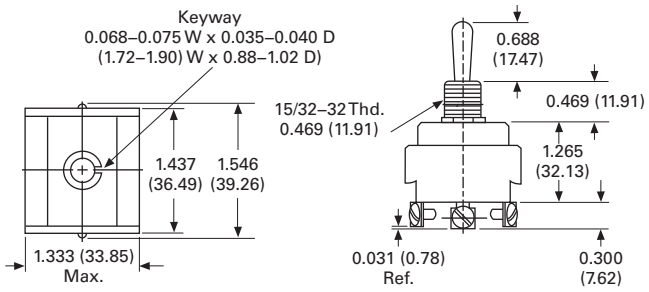

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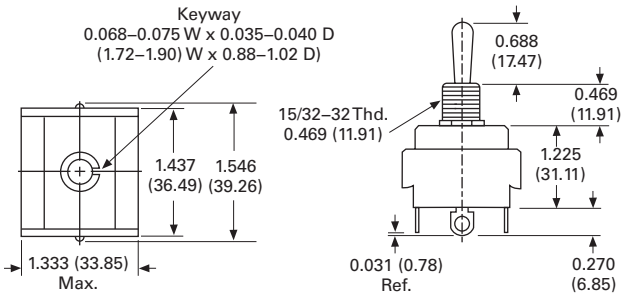
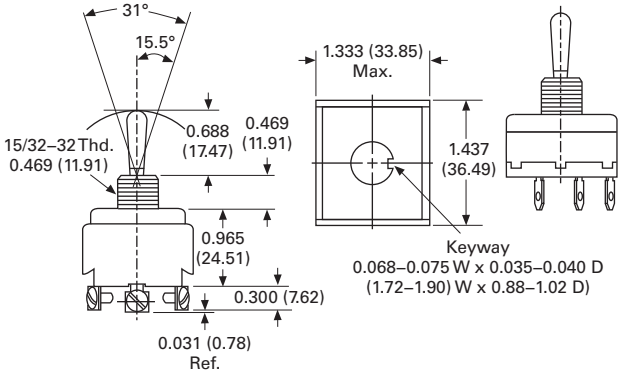
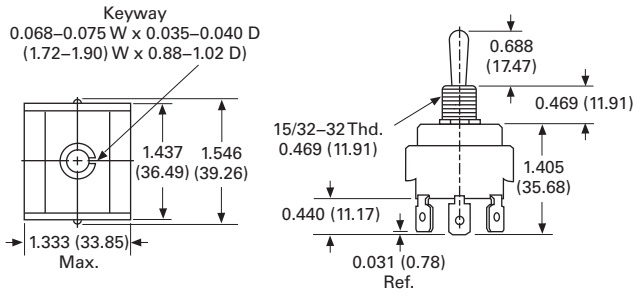


3PDT Maintained and Momentary (Screw Terminals)



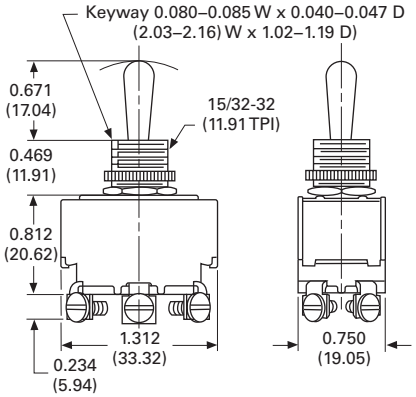
4PDT Maintained and Momentary (Spade Terminals)



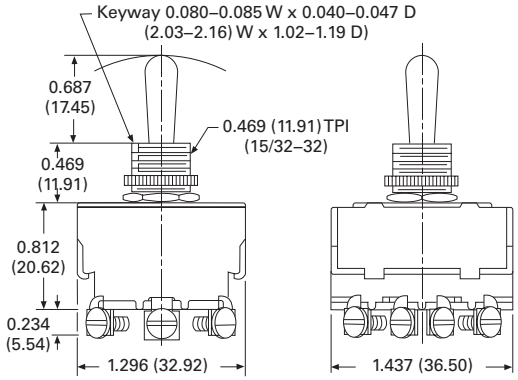
Approximate Dimensions in Inches (mm)

7800 Series

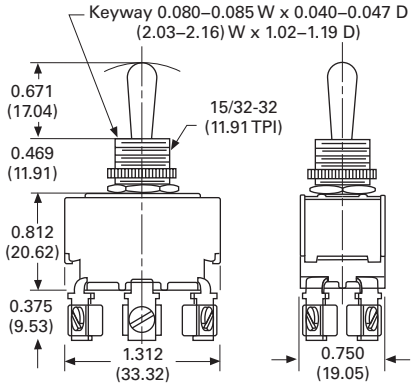
2PDT Maintained (Screw Terminals)



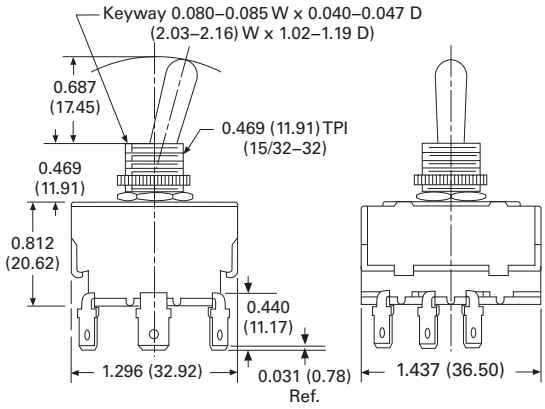
4PDT Maintained (Screw Terminals)



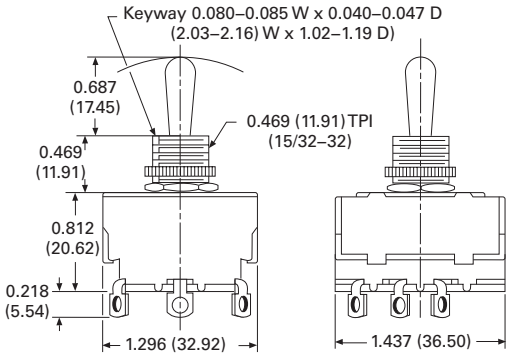
2PDT Maintained (Combi-Terminals)



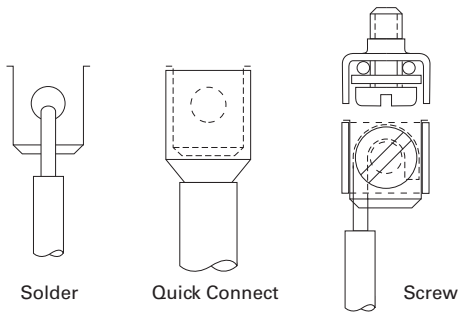
3PDT Maintained (0.25 in Spade Terminals)



3PDT Maintained (Screw Terminals)



Combi-Term Termination Options



4

General Purpose Toggles

Contents

Description	*Page*
General Purpose Toggles—AC/DC Rated	
Technical Data and Specifications	**V11-T4-21**
Dimensions	**V11-T4-21**

Product Description

This line of switches employs a quick-make/quick-break contact mechanism. The resultant high-speed movement eliminates the "teasing" of the switch and reduces the pitting of the contact surfaces due to arcing. Self-cleaning and wiping contact action assures positive contact on switch operation. These switches are especially suited for use in small motor applications.

Options

- Lever—11/16 in
- Lever seal
- Mounting hardware; furnished assembled
- Other lead lengths

Standards and Certifications

- UL Recognized
- CSA Certified
- RoHS Compliant ①

Note

① Visit www.eaton.com/vcbu for the most up-to-date list of verified part numbers.

Product Selection

AC/DC Rated Toggle Switches—Single-Pole

Rating	Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position	Base Circuit See Page V11-T4-35	Bushing Length "B" Inches (mm)	Lever Length "A" Inches (mm)	Catalog Number Solder Lugs	Screw Terminals	Wire Leads
3A, 250 Vdc	1PST	ON	NONE	OFF	A	0.344 (8.74)	0.500 (12.70)	**8280K115**	**8295K107**	**8290K115**
6A, 125 Vac/Vdc	1PST	ON	NONE	OFF	A	0.344 (8.74)	0.500 (12.70)	**8381K107**	**8396K107**	**8391K107**
3A, 250 Vdc		ON	NONE	OFF		0.469 (11.91)	0.500 (12.70)	**8381K108**	**8396K108**	**8391K108**
		MOM. ON	NONE	OFF		0.469 (11.91)	0.500 (12.70)	**8928K478**	—	—
	1PDT	ON	NONE	ON	B	0.469 (11.91)	0.500 (12.70)	**8928K479**	—	—

AC/DC Rated Toggle Switches—Two-Pole

Rating	Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position	Base Circuit See Page V11-T4-35	Bushing Length "B" Inches (mm)	Lever Length "A" Inches (mm)	Catalog Number Solder Lugs	Screw Terminals	Wire Leads
7A, 125V	2PST	ON	NONE	OFF	C	0.469 (11.91)	0.500 (12.70)	**8370K107**	**8372K107**	**8371K107**
3A, 250 Vdc		MOM. ON	NONE	OFF		0.469 (11.91)	0.500 (12.70)	**8928K481** ①	**8928K482** ①	—
	2PDT	ON	NONE	ON	D	0.344 (8.74)	0.500 (12.70)	**8373K108**	**8375K108**	**8374K108**
		ON	NONE	ON		0.469 (11.91)	0.500 (12.70)	**8373K107**	**8375K107**	**8374K107**

Note

① Rating: 6A, 125 Vac/Vdc and 3A, 250 Vdc.

Technical Data and Specifications

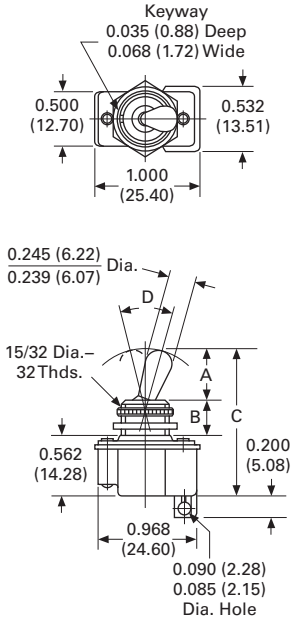
General Purpose Toggles—AC/DC Rated

Description	Specification
Ratings	See Product Selection table; Switch ratings at 125 Vac also apply to 28 Vdc
Circuits	1PST, 1PDT, 2PST, 2PDT Maintained and momentary toggle action
Contact mechanism	Quick-make/quick-break wiping action
Contact material	Bronze silver-plated
Terminal types	Screw terminals—brass designed to accept #5-40 x 5/32 in (Cat. No. 11-26) screws Furnished unassembled Solder lug terminals—brass silver-plated with 0.085–0.090 in (2.16–2.29 mm) dia. hole Integrated wire leads—18 gauge, 6 in long and skinned 3/4 in Special wire leads lengths beyond 6 in are available at additional charge
Base material	Thermoset molding material
Mounting means	Threaded bushing—0.468 in (11.89 mm) dia., 32 threads/inch Keyway—0.068 x 0.035 in (1.73 x.89 mm) deep, provides anti-rotation feature Hardware supplied—1 hexagon locknut (Cat. No. 15-192) and 1 bright nickel-plated knurled facenut (Cat. No. 15-124F1) Furnished unassembled
Finish	Bright nickel-plated toggle lever and bushing
Operating temperature range	0° to 150°F (–17.8° to 65.6°C)

Dimensions

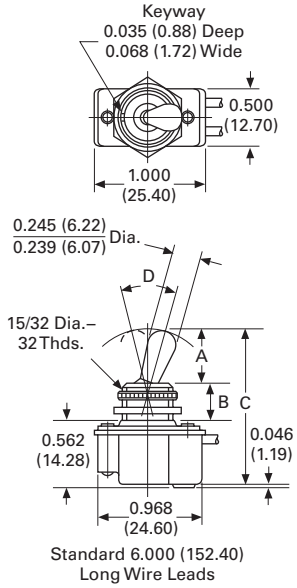
Approximate Dimensions in Inches (mm)

8280K115 1PST Maintained (Solder Lug)



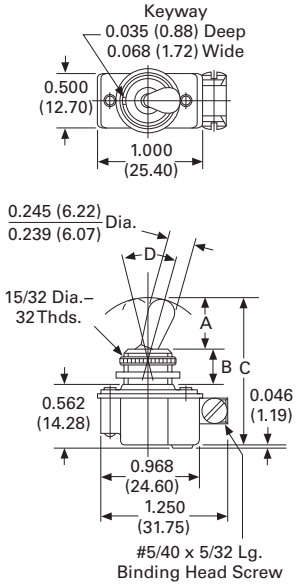
"A" Lever Dim.	"B" Bushing Dim.	"C" Overall Dim.	"D" Throw Dim.
0.500 (12.70)	0.344 (8.74)	1.411 (35.84)	29-1/2°

8290K115 1PST Maintained (Wire Lead)



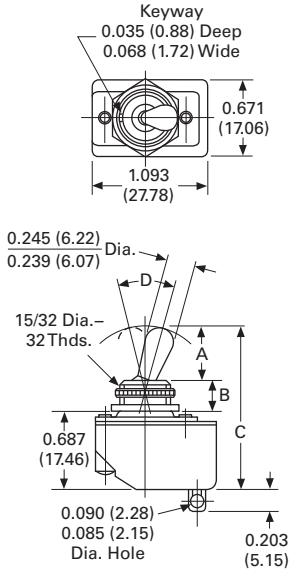
"A" Lever Dim.	"B" Bushing Dim.	"C" Overall Dim.	"D" Throw Dim.
0.500 (12.70)	0.344 (8.74)	1.406 (35.71)	29-1/2°

8295K107 1PST Maintained (Screw Terminals)



"A" Lever Dim.	"B" Bushing Dim.	"C" Overall Dim.	"D" Throw Dim.
0.500 (12.70)	0.344 (8.74)	1.406 (35.71)	29-1/2°

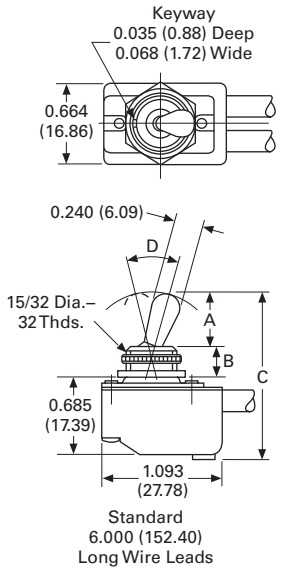
8381K107 and K108 1PST Maintained (Solder Lug)



"A" Lever Dim.	"B" Bushing Dim.	"C" Overall Dim.	"D" Throw Dim.
0.500 (12.70)	0.344 (8.74)	1.531 (38.89)	29-1/2°
0.500 (12.70)	0.469 (11.91)	1.656 (42.06)	25-1/2°

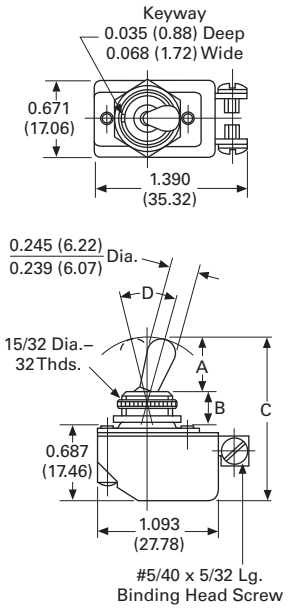
Approximate Dimensions in Inches (mm)

8391K107 and K108 1PST Maintained (Wire Lead)



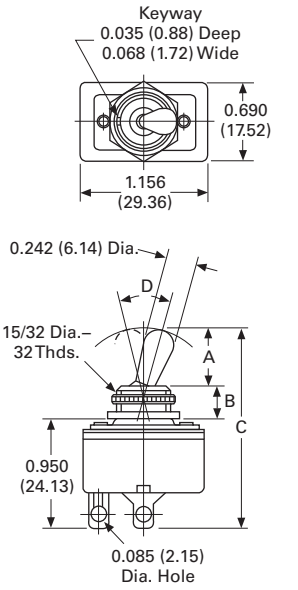
"A" Lever Dim.	"B" Bushing Dim.	"C" Overall Dim.	"D" Throw Dim.
0.500 (12.70)	0.344 (8.74)	1.531 (38.89)	29-1/2°
0.500 (12.70)	0.469 (11.91)	1.656 (42.06)	25-1/2°

8396K107 and K108 1PST Maintained (Screw Terminals)



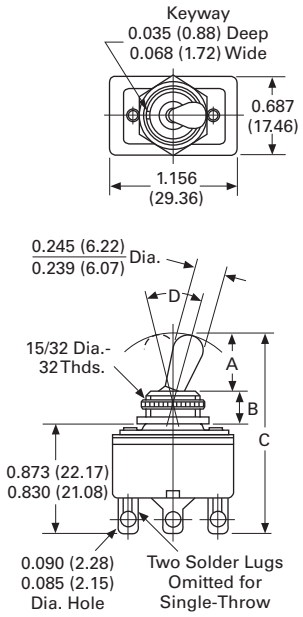
"A" Lever Dim.	"B" Bushing Dim.	"C" Overall Dim.	"D" Throw Dim.
0.500 (12.70)	0.344 (8.74)	1.531 (38.89)	29-1/2°
0.500 (12.70)	0.469 (11.91)	1.656 (42.06)	25-1/2°

8928K478 1PST Momentary (Solder Lug)



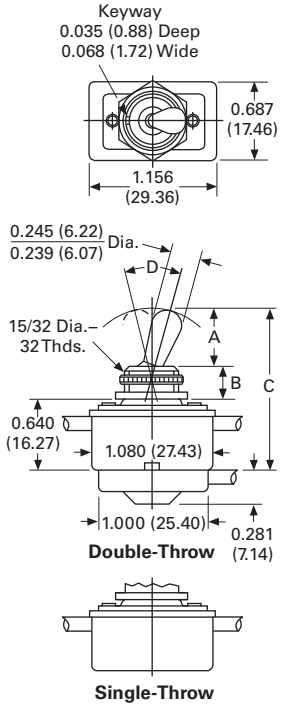
"A" Lever Dim.	"B" Bushing Dim.	"C" Overall Dim.	"D" Throw Dim.
0.500 (12.70)	0.344 (8.74)	1.980 (50.29)	29-1/2°
0.500 (12.70)	0.469 (11.91)	1.656 (42.06)	25-1/2°

8370 and 8373K107 and K108 2PST/2PDT Maintained (Solder Lug)



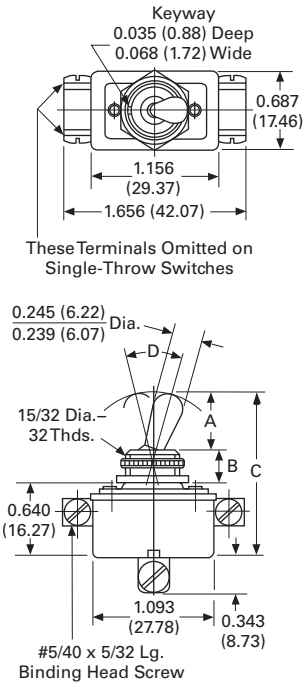
"A" Lever Dim.	"B" Bushing Dim.	"C" Overall Dim.	"D" Throw Dim.
0.500 (12.70)	0.344 (8.74)	1.694 (43.03)	29-1/2°
0.500 (12.70)	0.469 (11.91)	1.820 (46.23)	25-1/2°

8371 and 8374K107 and K108 1PST Maintained (Wire Lead)



"A" Lever Dim.	"B" Bushing Dim.	"C" Overall Dim.	"D" Throw Dim.
0.500 (12.70)	0.344 (8.74)	1.484 (37.69)	29-1/2°
0.500 (12.70)	0.469 (11.91)	1.515 (38.48)	25-1/2°

8373 and 8375K107 and K108 2PST/2PDT Maintained (Screw Terminals)



"A" Lever Dim.	"B" Bushing Dim.	"C" Overall Dim.	"D" Throw Dim.
0.500 (12.70)	0.344 (8.74)	1.484 (37.69)	29-1/2°
0.500 (12.70)	0.469 (11.91)	1.609 (40.87)	25-1/2°

X Series Toggles

Contents

Description	*Page*
X Series Toggles	
Product Selection	**V11-T4-25**
Accessories	**V11-T4-25**
Technical Data and Specifications	**V11-T4-25**
Dimensions	**V11-T4-26**

Product Description

Eaton's new, competitively priced, AC rated X Series toggles offer a standard high rating for both single- and two-pole applications. The new X Series toggle line offers a wide range of switching circuits, functions and accessories. Ratings for single- and two-pole include 20A at 125 Vac and 10A at 277 Vac to handle more severe inductive, motor and lamp loads.

In addition, X Series toggles have a high standard horsepower rating of 1-1/2 hp, 125–250 Vac for two-pole applications.

The easy-to-install toggles also have an industry-standard 0.48 in diameter mounting hole. For added convenience and delivery support, select industry-standard switch circuit part numbers are available from stock. With so many features, X Series toggles can be used in a variety of applications.

Application Description

- Commercial and industrial equipment
- Household appliances
- Industrial machinery and automation
- Medical equipment
- Military communications and surveillance
- Rail systems
- Signaling and communications
- Test and lab equipment
- Telecommunications, cable and broadcasting

Standards and Certifications

- UL Recognized component for Canada File E2702
- RoHS Compliant ①

Note

① Visit www.eaton.com/vcbu for the most up-to-date list of verified part numbers.

Product Selection

Single-Pole ①

Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position ②	Terminal Type—Catalog Number 0.250 in Spade	Screw	Solder Lugs
1PST	ON	NONE	OFF	**XTD1A1A2**	**XTD1A2A2**	**XTD1A3A2**
1PST	ON ③	NONE	OFF	**XTD1F1A2**	**XTD1F2A2**	**XTD1F3A2**
1PDT	ON	OFF	ON	**XTD2B1A**	**XTD2B2A**	**XTD2B3A**
1PDT	ON	NONE	ON	**XTD2C1A**	**XTD2C2A**	**XTD2C3A**
1PDT	ON	NONE	ON ③	**XTD2D1A**	**XTD2D2A**	**XTD2D3A**
1PDT	ON ③	OFF	ON ③	**XTD2E1A**	**XTD2E2A**	**XTD2E3A**
1PDT	ON	OFF	ON ③	**XTD2G1A**	**XTD2G2A**	**XTD2G3A**

Two-Pole ④

Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position ②	Terminal Type—Catalog Number 0.250 in Spade	Screw	Solder Lugs
2PST	ON	NONE	OFF	**XTD3A1A2**	**XTD3A2A2**	**XTD3A3A2**
2PST	ON ③	NONE	OFF	**XTD3F1A2**	**XTD3F2A2**	**XTD3F3A2**
2PDT	ON	OFF	ON	**XTD4B1A**	**XTD4B2A**	**XTD4B3A**
2PDT	ON	NONE	ON	**XTD4C1A**	**XTD4C2A**	**XTD4C3A**
2PDT	ON	NONE	ON ③	**XTD4D1A**	**XTD4D2A**	**XTD4D3A**
2PDT	ON ③	OFF	ON ③	**XTD4E1A**	**XTD4E2A**	**XTD4E3A**
2PDT	ON	OFF	ON ③	**XTD4G1A**	**XTD4G2A**	**XTD4G3A**

Notes

① Ratings: 20A at 125 Vac, 10A at 277 Vac, 3/4 hp, 125–250 Vac; recommended up to 15A at 28 Vdc.
② Keyway position.
③ Indicates momentary position.
④ Ratings: 20A at 125 Vac, 10A at 277 Vac, 1-1/2 hp, 125–250 Vac; recommended up to 15A at 28 Vdc.

Accessories

See Accessories on **Page V11-T4-31**.

Technical Data and Specifications

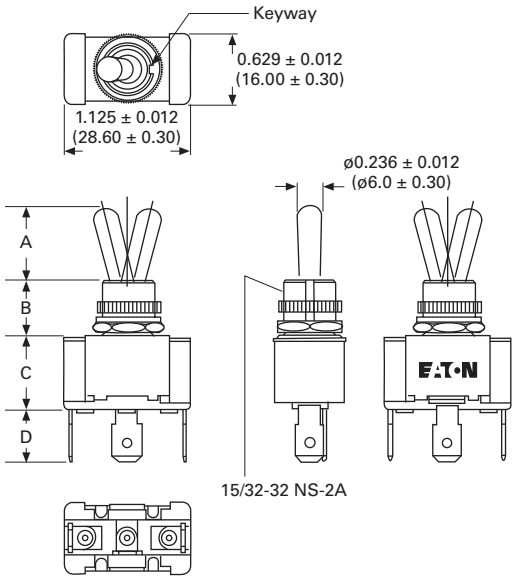
X Series Toggles

Description	Specification
Single-pole rating	20A, 125 Vac; 10A, 277 Vac; 3/4 hp 125–250 Vac; Recommended up to 15A at 28Vdc
Two-pole rating	20A, 125 Vac; 10A, 277 Vac; 1-1/2 hp 125–250 Vac; Recommended up to 15A at 28Vdc
Available circuits	1PST, 1PDT, 2PST, 2PDT
Terminal types	Brass screw, brass solder lugs, brass nickel-plated 0.250 in spade
Hardware included	Zinc nickel-plated knurl nut, zinc nickel-plated hex nut
Mounting means	Threaded bushing 12.0 +0.1, –0 mm; 16.5 +1, –1 mm
Keyway	1.8 mm located in DOWN position
Base material	Thermoset molding material
Finish	Bright nickel-plated toggle lever and bushing
Contact mechanism	Slow-make/slow-break butt contact
Contact resistance	50 ohm maximum
Dielectric strength	AC 1500V, 1 minute
Operating temperature	32° to 149°F (0° to 65°C)
Insulation resistance	DC 500V 100M ohm minute
Seal level rating	IP40
Packaging	Sealed in polybag labeled with part number

Dimensions

Approximate Dimensions in Inches (mm)

Single-Pole



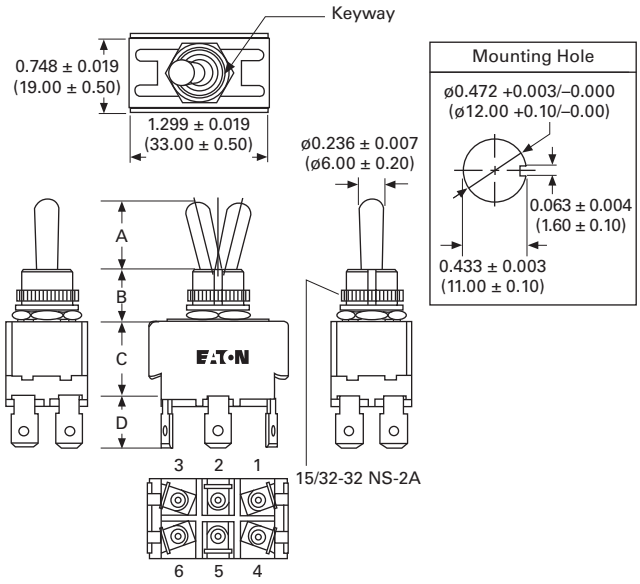
A 0.649 ± 0.039 (16.50 ± 1.00)

B 0.468 ± 0.012 (11.90 ± 0.30)

C 0.677 ± 0.019 (17.20 ± 0.50)

D 0.452 ± 0.019 (11.50 ± 0.50)

Two-Pole



A 0.649 ± 0.039 (16.50 ± 1.00)

B 0.468 ± 0.012 (11.90 ± 0.30)

C 0.740 ± 0.019 (18.80 ± 0.50)

D 0.452 ± 0.019 (11.50 ± 0.50)

Heavy Duty Hesitation Switches

Contents

Description	*Page*
Heavy Duty Hesitation Switches	
Product Selection	**V11-T4-28**
Technical Data and Specifications	**V11-T4-29**
Dimensions	**V11-T4-29**

Product Description

One-Hole Panel Mount

These heavy duty toggle switches are available in either two- or three-position. The three-position switches offer a unique positive center stop feature, which assures that the lever cannot be thrown from one side through the center OFF position without stopping. This design feature is a major factor in their widespread acceptance for motor reversing and speed control applications.

The most common application for the switch is to help prevent motor damage resulting from the high current generation by counter EMF of the armature at the time of reversing. This type of device is referred to within the industry as an anti-plugging, hesitation, positive stop or positive off switch. Typical applications include bench tools, coach and truck (electric lift) and X-ray equipment.

Flush Mount

These three-position switches also offer the positive center stop feature where the lever cannot be thrown from one side through the center OFF position without stopping. The high ratings of this series allow it to be used with a broad range of heavy duty applications. Copper contacts and brass screw terminals are standard.

Standards and Certifications

- UL Recognized (except where noted)
- CSA Certified (where noted)

Product Selection

Heavy Duty Hesitation Switches—One-Hole Panel Mount

Rating	Poles and Throw ②	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position (Keyway)	Base Circuit See Page V11-T4-35	Bushing Length "A" Inches (mm)	Lever Length "B" Inches (mm)	Lever Type	Catalog Number Solder Terminals	Screw Lugs	0.250 in Spade Terminals
15A, 125 Vac ① 10A, 250 Vac 3/4 hp, 250 Vac	2PDT	ON	OFF	ON	D	0.468 (11.89)	0.687 (17.45)	Bat	**7992K11**	**7992K10**	**7992K12**
15A, 125 Vac ① 10A, 250 Vac 3/4 hp, 250 Vac	3PDT	ON	OFF	ON	F	0.468 (11.89)	0.687 (17.45)	Bat	**7991K11**	**7991K10**	**7991K12**
15A, 125 Vac ① 10A, 250 Vac 3/4 hp, 250 Vac	4PDT	ON	OFF	ON	F	0.468 (11.89)	0.687 (17.45)	Bat	**7990K11**	**7990K10**	**7990K12**

Heavy Duty Hesitation Switches—Flush Mount

Rating	Poles and Throw	Circuit with Toggle in … UP Position	CENTER Position	DOWN Position (Keyway)	Lever Type	Termination Type	Catalog Number
20A, 125 Vac/Vdc	2PDT	ON	NONE	ON	Square	Screw	**7810K1**
10A, 250 Vac/Vdc		ON	OFF	ON	Square	Screw	**7810K2** ③④
30A, 125 Vac/Vdc 20A, 250 Vac/Vdc	2PDT	ON	OFF	ON	Square	Screw	**7811K5** ③⑤
	3PDT	ON	OFF	ON	Square	Screw	**7812K2**
	4PDT	ON	OFF	ON	Square	Screw	**7813K2**

Notes

① Listed rating for 125 Vac also applies at 28 Vdc.
② Supplied in a four-pole base.
③ CSA Certified.
④ Also rated 5A, 600 Vac; 1-1/2 hp, 250 Vdc; 2 hp, 240 Vac.
⑤ Also rated 2 hp, 250 Vac/Vdc.

Technical Data and Specifications

Heavy Duty Hesitation Switches

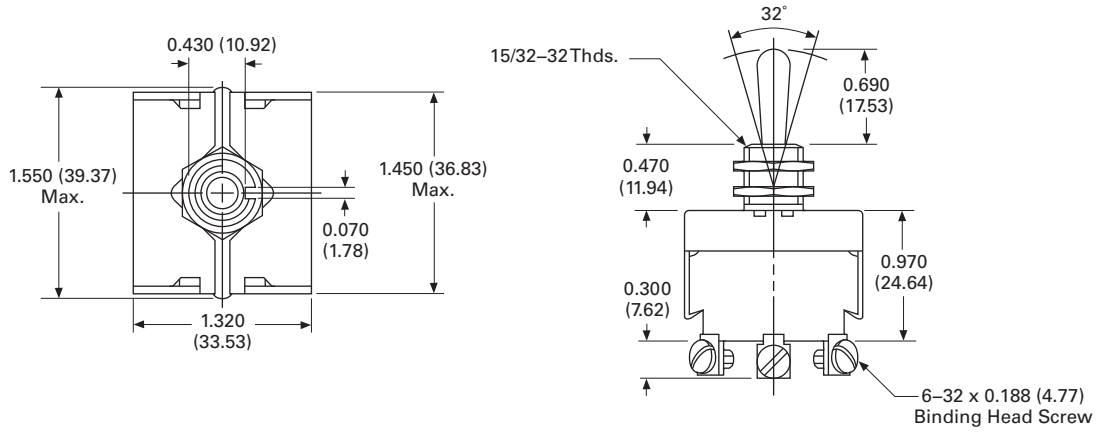
Description	Specification
Ratings	See Product Selection tables; Switch ratings at 125 Vac also apply to 28 Vdc
Circuits	2PDT, 3PDT, 4PDT; maintained action
Contact mechanism	
One-hole panel mount	AC rated devices—slow-make/Slow-break butt contact AC/DC rated devices—Quick-make/quick-break wiping contacts
Flush mount	Quick-make/quick-break wiping contacts
Contact material	
One-hole panel mount	AC rated devices: Movable—silver-plated copper with fine or coin silver contact face button Stationary—copper with fine or coin silver contact face button AC/DC rated devices: Movable—copper Stationary—bronze
Flush mount	Movable—copper Stationary—copper
Terminal types	Screw terminals—brass
Mounting means	
One-hole panel mount	AC rated devices: Threaded bushing—0.468 in (11.89 mm) dia., 32 threads/in Keyway—0.068 x 0.035 in (1.73 x 0.89 mm) deep, provide anti-rotation feature Hardware supplied— 1 hexagon locknut (Catalog Number 15-192) and 1 hex facenut (Catalog Number 15-966-6) Furnished unassembled
Flush mount	Flush mounting panel tabs
Dielectric withstand	1000V rms minimum
Operating temperature range	0° to 150°F (–17.8° to 65.6°C)

Dimensions

Approximate Dimensions in Inches (mm)

One-Hole Panel Mount

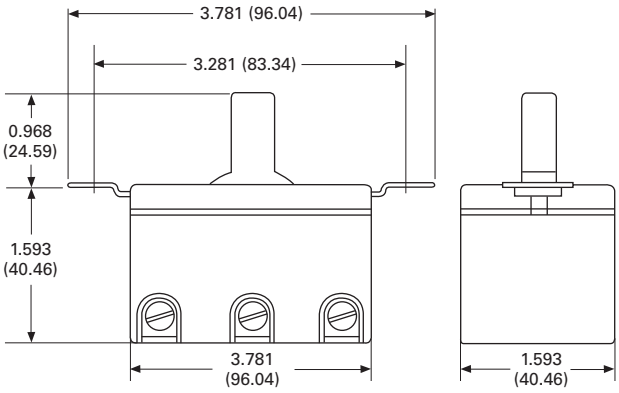
7990K10—4PDT



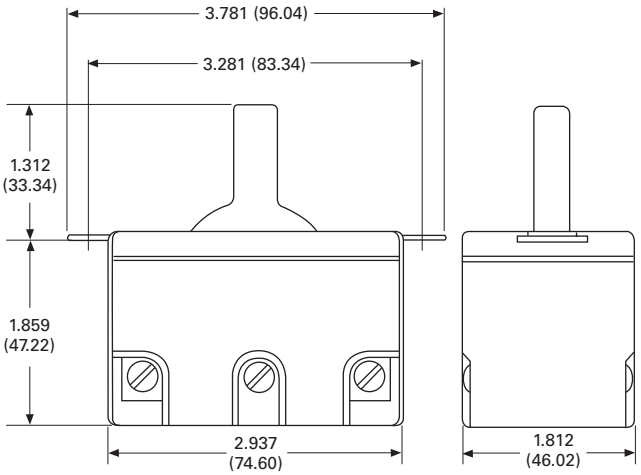
Approximate Dimensions in Inches (mm)

Flush Mount

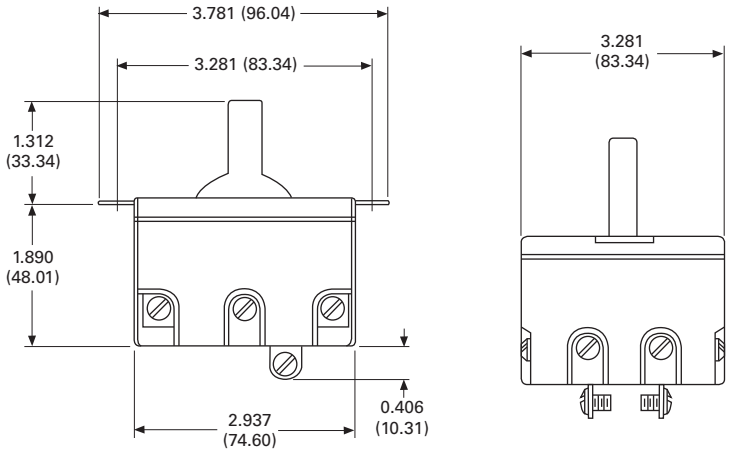
7810K2—2PDT



7811K2—2PDT



7813K2—4PDT



Mounting Hardware

Product Description

One-Hole Mounting Switches

All bushing mounted switches are furnished with two mounting nuts. One nut is mounted behind the panel to prevent the bushing sleeve from being distorted if the front panel is overtightened

Eaton accepts no responsibility for damage to switches mounted without the backup nuts.

Product Selection

Mounting Hardware for One-Hole Mounting Switches—Mounting Nuts ①

Size	Description	Material	Thickness Dim. "A" in Inches (mm)	Inside Diameter Dim "B" in Inches (mm)	OD or Dimension Across Flats Dim. "C" in Inches (mm)	Dimension Across Corners Dim. "D" in Inches (mm)	Catalog Number
3/8-27	Hexagon locknut	Nickel-plated brass	0.125 (3.18)	—	0.562 (14.27)	0.625 (15.88)	**15-2526-2**
3/8-24		Bright nickel-plated brass		—			**15-1525-6**
11/32-32		Nickel-plated brass	0.063 (1.60)	—	0.473 (12.01)	0.531 (13.49)	**15-1525-2**
15/32-32	Hexagon locknut	Zinc-chromate treated	0.075 (1.91)	—	0.625 (15.88)	—	**15-192**
		Bright nickel-plated brass	0.078 (1.98)	—	0.546 (13.87)	0.625 (15.88)	**15-2525-58**
		Zinc-chromate treated	0.188 (4.76)	0.783 (19.89)	1.125 (25.80)	—	**15-2528-2**
	Hexagon facenut	Nickel-plated brass	0.078 (1.98)	—	0.562 (14.27)	0.656 (16.66)	**15-966-2**
		Semi-lustre nickel-plated brass		—			**19-966-6**
	Knurled facenut	Bright nickel-plated brass	0.066 (1.68)	—	0.562 (14.27)	—	**15-124F1**
		Black cupric oxide-plated brass		—		—	**15-124F5**
		Brass nickel-plated brass	0.109 (2.77)	—	0.625 (15.88)	—	**15-90**
	Chamfered dress nut	Bright nickel-plated brass	0.151 (3.84)	0.312 (7.92)	0.687 (17.45)	—	**15-994-2**
	Standard knurl nut with shoulder	Nickel-plated brass	0.109 (2.77)	—	0.593 (15.06)	—	**15-2534-14**
	Dress nut	Satin chrome-plated brass	0.125 (3.18)	—	0.562 (14.27)	—	**15-2523-4**
		Black nylon	0.187 (4.75)	0.390 (9.91)	0.640 (16.26)	—	**15-1048-3**
	Knurled dress nut	Chrome-plated brass	0.187 (4.75)	0.312 (7.92)	0.640 (16.26)	—	**15-189-5**
3/4-32	Hexagon facenut	Nickel-plated steel	0.093 (2.36)	—	0.937 (23.80)	1.078 (27.38)	**15-1043**
#8-40	Hexagon locknut with facenut	Nickel-plated steel	0.060 (1.52)	—	0.245 (6.22)	0.216 (5.49)	**15-1047**

Note

① Hardware items are sold for use with Eaton switches only. Minimum ordering quantity on all items is 100.

Mounting Washers and Locking Ring ①

Size	Description	Material	Approximate Dimensions in Inches (mm) Thickness Dim. "A"	Inside Diameter Dim "B"	OD or Dimension Across Flats Dim. "C"	Dimension Across Corners Dim. "D"	Catalog Number
For 15/32 bushing	Locking ring	Zinc-plated steel	0.040 (1.02)	0.475 (12.07)	0.718 (18.24)	—	**29-761-5**

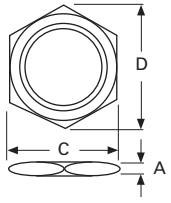
4

Dimensions

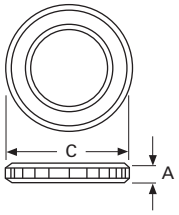
Approximate Dimensions in Inches (mm)

Mounting Hardware

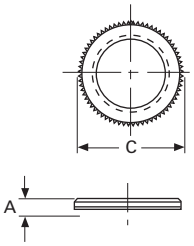
Hexagon Locknuts or Facenuts



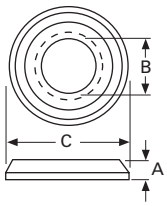
Knurled Facenut



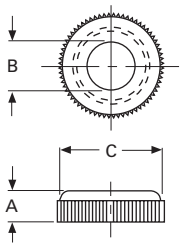
Knurled Nut with Shoulder



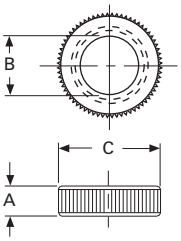
Chamfered Dress Nut Catalog No. 15-994-2



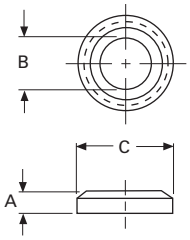
Knurled Dress Nut Catalog No. 15-189-5



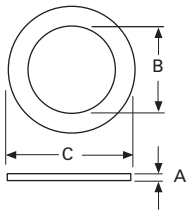
Knurled Dress Nut Catalog No. 15-1048-3



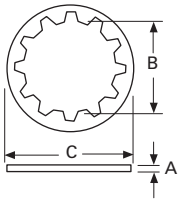
Dress Nut Catalog No. 15-2523-4



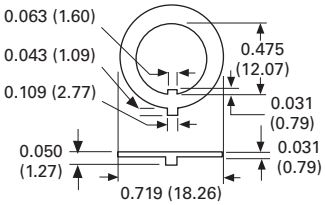
Plain Washer



Internal Tooth Lockwasher



Locking Ring



Note

① Hardware items are sold for use with Eaton switches only.

Decorator Facenuts

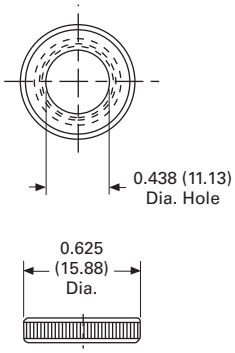
Product Selection [1]

Type	Color	Catalog Number
Knurled facenuts	Bright black	**15-1048-3**
	Bright clear	**15-1048-7**
Beveled facenuts	Bright black	**15-1049-3**
	Bright clear	**15-1049-7**

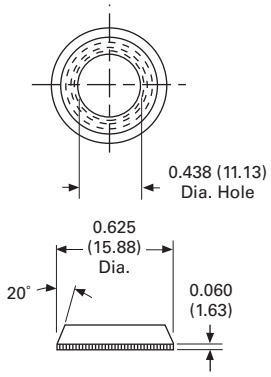
Dimensions

Approximate Dimensions in Inches (mm)

Catalog Number 15-1048



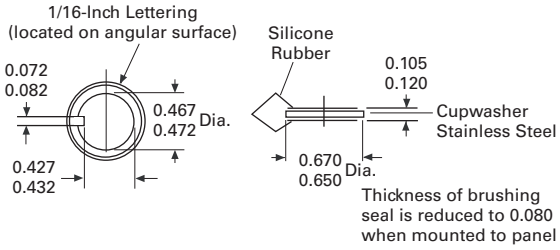
Catalog Number 15-1049



Panel Seal

- Prevents moisture and contaminants from entering panel enclosure
- Behind panel mounting
- Stainless-steel cup washer ensures proper seating of silicone rubber seal
- Seal withstands 20 psi water pressure
- Cat. No. 32-341

Dimensions—32-341



Replacement Terminal Screws

Product Selection

Screw Size	Catalog Number [2]
#5-40 x 1/8 in	**11-1117**
#5-40 x 5/32 in	**11-26**
#5-40 x 3/16 in binding head	**811-7206**
#5-40 x 1/4 in binding head	**811-14**
#6-32 x 3/16 in binding head	**811-2**
#6-32 x 1/4 in binding head	**811-161**
#6-32 x 1/4 in binding head	**811-7248**
#6-32 x 1/4 in pan head, brass	**11-1893**
#6-32 x 3/8 in binding head	**811-129**
#8-32 x 3/16 in binding head	**11-1618**
#8-32 x 1/4 in	**11-1369**
#8-32 x 1/4 in	**811-408-2**
#8-32 x 3/8 in binding head	**11-1766**
#8-32 x 3/8 in binding head	**11-6074-4**
#6-32 x 7/32 in binding head	**11-6085-2**

Toggle Boot

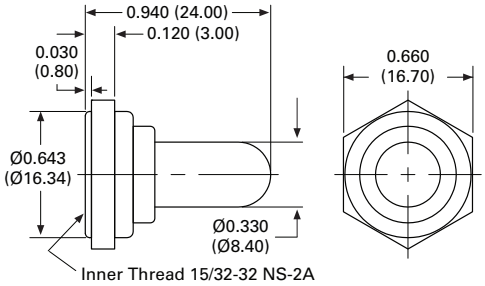
- Prevents moisture and contaminants from entering lever to bushing enclosure
- Front panel mounting
- Threaded mounting nut ensures proper assembly of silicon rubber boot
- Brass nut: 15/32-32 NS-2A
- Black color

SW1RY3030

Product Selection

Mounting Description	Color	Catalog Number
Front panel mounting Molded in brass mounting nut (15/32-32 NS-2A) ensures proper assembly of silicon rubber boot	Black	**SW1RY3030**

Dimensions—15/32-32 NS-2A



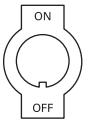
Notes

[1] Decorator facenuts for 15/32 in bushing switches, 15/32-32 thread.

[2] Hardware items are sold for use with Eaton switches only.

Indicating Plates

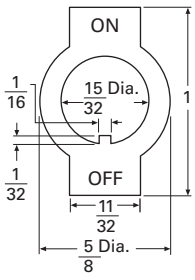
Product Selection—Indicating Plates for 15/32-Inch Bushing Mounted Switches

	Keyway Location	Marking Opposite Keyway	Keyway Side	Material	Finish	Catalog Number
	Keyway on bottom	ON	OFF	0.032 in steel	Plain	**30-5632**
					Statuary bronze	**30-5632-3**
					Burnished nickel	**30-5632-4**
				0.032 in brass	Black cupric oxide ①	**30-2899-3**
		RAD	PHO	0.032 in steel	Statuary bronze	**30-5632-7**
					Burnished nickel	**30-5632-6**
		RUN	START	0.032 in steel	Burnished nickel	**30-5632-11**
		HOT	COLD			**30-5632-15**
		HI	LOW			**30-5632-16**
		ON	STOP			**30-5632-17**
		FOR	REV	0.032 in steel	Burnished nickel	**30-2899-2**
		AUTO	TEST			**30-2899-6**
		PUSH	START			**30-2899-7**
		RUN	TEST			**30-2899-9**
		BLANK	BLANK	0.032 in steel	Burnished nickel	**30-5632-8**
	Keyway on side	ON	OFF	0.032 in steel	Burnished nickel	**30-5632-13**
		OFF	ON			**30-2899-8**
	Keyway on top	T	B	0.032 in steel	Burnished nickel	**30-5632-12**
		OFF	ON			**30-5632-14**
		SET	RUN			**30-2899-10**
		BLANK	RESET			**30-2899-12**
	Keyway on top	O	I	0.032 in steel	Burnished nickel	**30-5632-23**
		I	O			**30-5632-19**

Dimensions

Approximate Dimensions in Inches

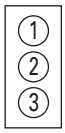
Indicating Plate



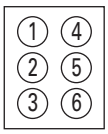
Note

① White lettering.

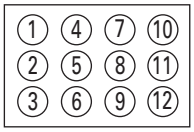
Single-Pole



Two-Pole



Four-Pole



Terminal Identification

When specified on order, switches will have the terminals identified as shown in the illustration at right. Terminal markings will be ink-stamped on the side of the switch case and unused terminal positions will not be identified.

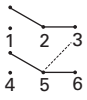
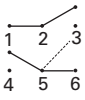
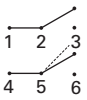
All views are rear of switch with keyway or at down as applicable. Terminal numbers 2, 2 and 5 and 5 and 8 are considered inboard terminals for single-, two- and four-pole switches respectively. All others are considered outboard.

"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.

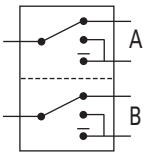
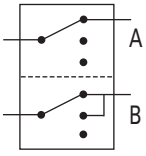
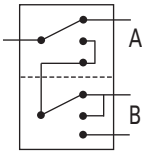
ON-ON-ON Special Circuit

Connection Points	Single-Pole
Connect common to terminals	2
Connect circuit "A" to terminals	6
Connect circuit "B" to terminals	4
Connect circuit "C" to terminals	1

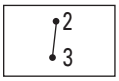
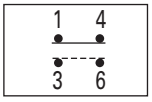
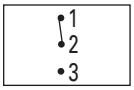
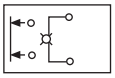
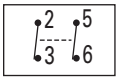
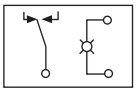
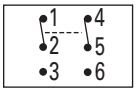
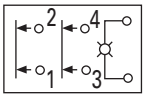
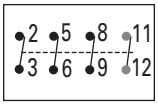
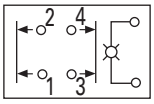
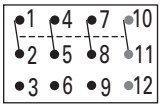
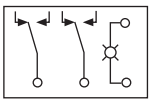
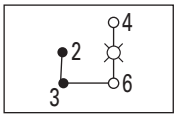
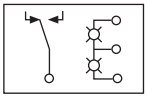
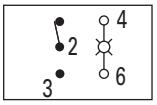
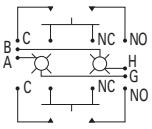
3 ON Independent	No. of Poles	Circuit with Lever in … UP Position	CENTER Position (Maintained)	DOWN Position (Keyway)
		Circuit A	Circuit B	Circuit C
1 PDT	1			

Circuit Diagrams

Special General Purpose Toggle Circuits

Circuit Number	Schematic
7530	
7571	
7555	

Toggle Circuit Diagrams

Circuit Letter	Schematic	Circuit Letter	Schematic
A 1PST		**I** 2 Circuit ⑤	
B 1PDT		**J** 1PST	
C 2PST		**K** 1PDT	
D 2PDT		**L** 2PST	
E 4PST ①		**M** 2PST	
F 4PDT ②		**N** ⑥ 2PDT	
G ③ 1PST		**P** 1PDT	
H ④ 1PDT		**Q** ⑦ 2 Circuit	

Legends

Toggle Switch Legend

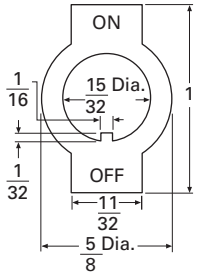
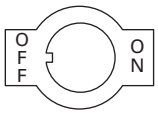
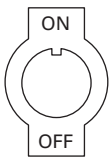
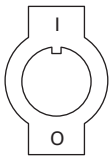
Legend	Toggle Switch Type
●	Contact terminal—will make contact with switch lever
○	Isolated terminal—does not make contact with lever
	Center terminal and switch lever
	Bulb
	Momentary contact
	Denotes mechanical contact portion

Notes

① Poles 11 and 12 may be eliminated for three-pole devices.
② Poles 10, 11 and 12 may be eliminated for three-pole devices.
③ Dependent lamp.
④ Independent lamp.
⑤ Two circuit—indicates a special type of double-throw switch in which the two circuits being controlled may be independent of each other.
⑥ For 206 Series, an additional lamp is available.
⑦ Available in 1PDT or 2PDT.

Toggle switch accessories

Table 1. Indicating Plates for 15/32-Inch Bushing-Mounted Switches

	Marking				
Keyway Location	**Opposite Keyway**	**Keyway Side**	**Material**	**Finish**	**Part Number**
Keyway on bottom 	ON	OFF	0.032 inch steel	Plain	**30-5632**
			0.032 inch steel	Statuary bronze	**30-5632-3**
			0.032 inch steel	Burnished nickel	**30-5632-4**
			0.032 inch brass	Black cupric oxide ①	**30-2899-3**
	RAD	PHO	0.032 inch steel	Statuary bronze	**30-5632-7**
			0.032 inch steel	Burnished nickel	**30-5632-6**
	RUN	START	0.032 inch steel	Burnished nickel	**30-5632-11**
	HOT	COLD	0.032 inch steel	Burnished nickel	**30-5632-15**
	HI	LOW	0.032 inch steel	Burnished nickel	**30-5632-16**
	ON	STOP	0.032 inch steel	Burnished nickel	**30-5632-17**
	FOR	REV	0.032 inch steel	Burnished nickel	**30-2899-2**
	AUTO	TEST	0.032 inch steel	Burnished nickel	**30-2899-6**
	PUSH	START	0.032 inch steel	Burnished nickel	**30-2899-7**
	RUN	TEST	0.032 inch steel	Burnished nickel	**30-2899-9**
	BLANK	BLANK	0.032 inch steel	Plain	**30-5632-5**
			0.032 inch steel	Burnished nickel	**30-5632-8**
			0.032 inch brass	Brushed	**30-5632-9**
Keyway on side 	ON	OFF	0.032 inch steel	Burnished nickel	**30-5632-13**
	OFF	ON	0.032 inch steel	Burnished nickel	**30-2899-8**
Keyway on top 	T	B	0.032 inch steel	Burnished nickel	**30-5632-12**
	OFF	ON	0.032 inch steel	Burnished nickel	**30-5632-14**
	SET	RUN	0.032 inch steel	Burnished nickel	**30-2899-10**
	BLANK	RESET	0.032 inch steel	Burnished nickel	**30-2899-12**
Keyway on top 	O	I	0.032 inch steel	Burnished nickel	**30-5632-23**
	I	O	0.032 inch steel	Burnished nickel	**30-5632-19**

① White lettering.

Powering Business Worldwide

Table 2. Switch Guards ①

Switch Positions	Keyway Location	Mounting	Catalog Number
2	Opposite hinged end	OHM	**E10TA104**

① Red phenolic lever material.

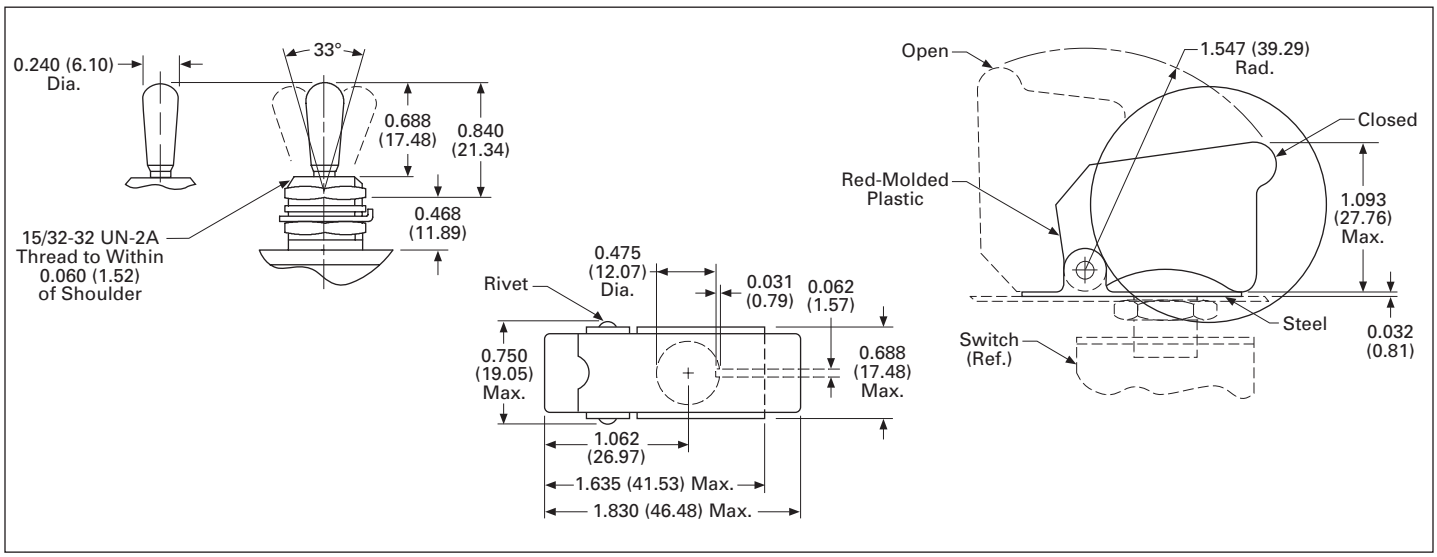


Figure 1. Switch Guard—Approximate Dimensions in Inches (mm)

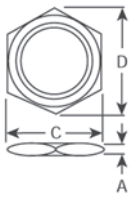
Table 3. Mounting Hardware for One-Hole Mounting Switches—Dimensions in mm (Inches) ①②

Size	Description	Material	Thickness (Dim. A)	Inside Diameter (Dim. B)	O.D. or Dim. Across Flats (Dim. C)	Dim. Across Corners (Dim. D)	Catalog Number
Mounting Nuts							
15/32-32	Hexagon locknut	Zinc-chromate treated	1.91 (0.075)	—	15.88 (0.625)	—	**15-192**
		Bright nickel–plated brass	1.98 (0.078)	—	13.87 (0.546)	15.88 (0.625)	**15-2525-58**
		Nickel-plated brass	1.98 (0.078)	—	13.87 (0.546)	15.88 (0.625)	**15-2525-59**
		Zinc-chromate treated	4.76 (0.188)	19.89 (0.783)	25.80 (1.125)	—	**15-2528-2**
	Hexagon facenut	Nickel-plated brass	1.98 (0.078)	—	14.27 (0.562)	16.66 (0.656)	**15-966-2**
		Semi-lustre nickel–plated brass	1.98 (0.078)	—	14.27 (0.562)	16.66 (0.656)	**19-966-6**
	Knurled facenut	Bright nickel–plated brass	1.68 (0.066)	14.27 (0.562)	14.27 (0.562)	—	**15-124F1**
		Black cupric oxide–plated brass	1.68 (0.066)	14.27 (0.562)	14.27 (0.562)	—	**15-124F5**
		Nickel-plated brass	2.77 (0.109)	15.88 (0.625)	15.88 (0.625)	—	**15-90**
	Chamfered dress nut	Bright nickel–plated brass	3.84 (0.151)	7.92 (0.312)	17.45 (0.687)	—	**15-994-2**
	Standard knurl nut with shoulder	Nickel-plated brass	2.77 (0.109)	—	15.06 (0.593)	—	**15-2534-14**
	Dress nut	Satin chrome–plated brass	3.18 (0.125)	—	14.27 (0.562)	—	**15-2523-4**
		Black nylon	4.75 (0.187)	9.91 (0.390)	16.26 (0.640)	—	**15-1048-3**
	Knurled dress nut	Chrome-plated brass	4.75 (0.187)	7.92 (0.312)	16.26 (0.640)	—	**15-189-5**
Mounting Washers and Locking Ring							
For 15/32 bushing	Plain washer	Cadmium-plated steel	0.79 (0.031)	12.29 (0.484)	19.05 (0.750)	—	**16-1382**
	Internal tooth lockwasher	Trivalent zinc–plated steel	0.53 (0.021)	11.96 (0.471)	15.06 (0.593)	—	**16-3557**
	Locking ring	Zinc-plated steel	1.02 (0.040)	12.07 (0.475)	18.24 (0.718)	—	**29-761-5**

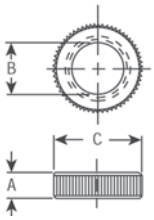
① Hardware items are sold for use with Eaton switches only. Minimum ordering quantity on all items is 100. All bushing-mounted switches are furnished with two mounting nuts. One nut is mounted behind the panel to prevent the bushing sleeve from being distorted if the front panel is overtightened. Eaton accepts no responsibility for damage to switches mounted without the backup nuts.

② Refer to **Table 4** for dimensional diagrams.

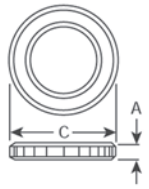
Table 4. Dimensions—Approximate in mm (Inches)



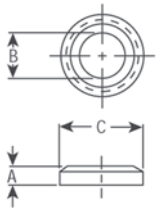
Hexagon Locknuts
or Facenuts



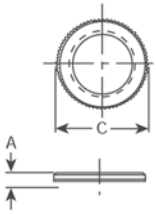
Knurled Dress Nut
Catalog Number **15-1048-3**



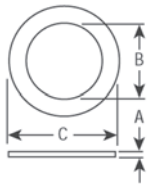
Knurled Facenut



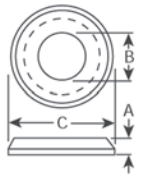
Dress Nut
Catalog Number **15-2523-4**



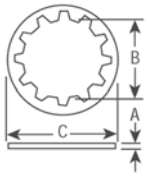
Knurled Nut with Shoulder



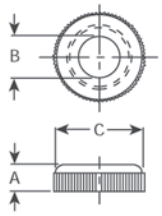
Plain Washer



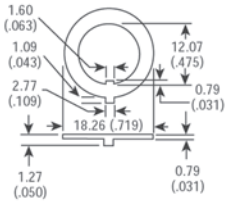
Chamfered Dress Nut
Catalog Number **15-994-2**



Internal Tooth Lockwasher



Knurled Dress Nut
Catalog Number **15-189-5**



Locking Ring

Panel seal

- Prevents moisture and contaminants from entering panel enclosure
- Behind panel mounting
- Stainless steel cup washer ensures proper seating of silicone rubber seal
- Seal withstands 20 psi water pressure
- Catalog Number 32-341

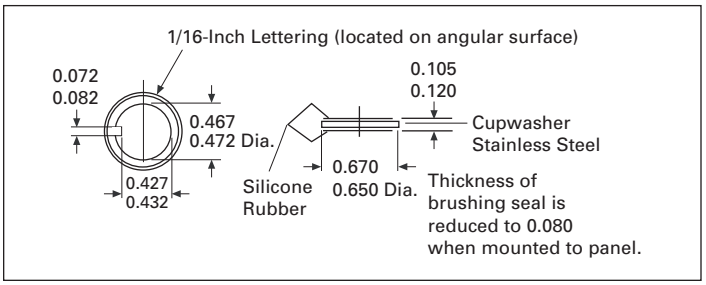


Figure 2. Panel Seal—Dimensions in Inches

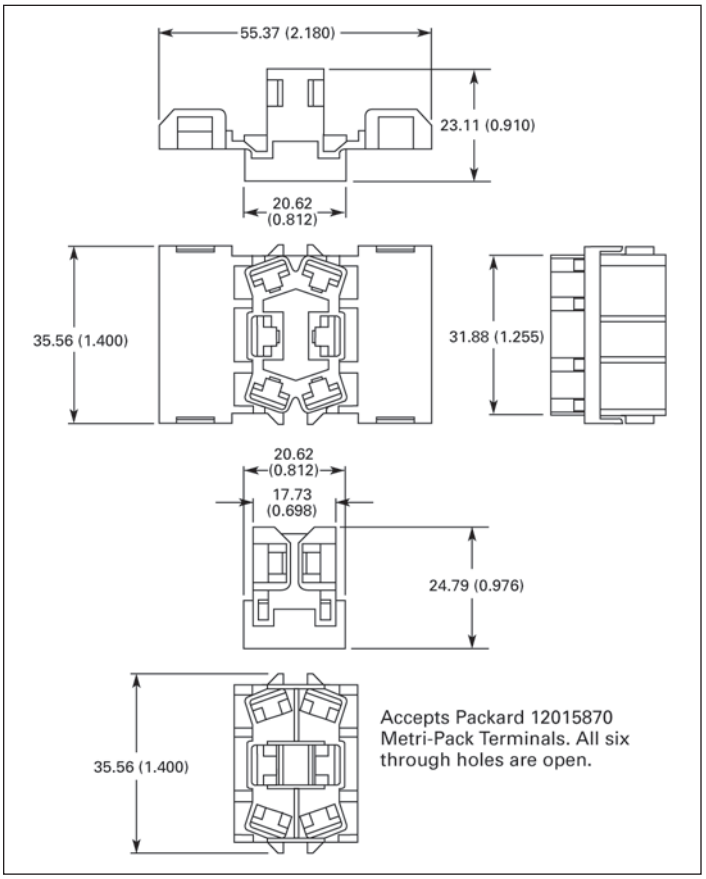


Figure 3. Two-Pole Base Connector, Catalog Number 28-3426—Dimensions in mm (Inches)

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