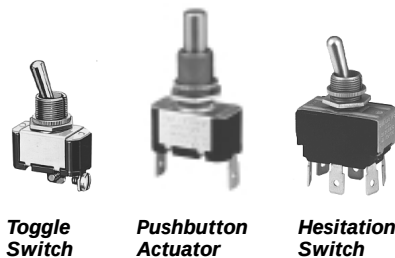


E10 Series, Technical Information

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Product Description

These E10 switches are intended for general purpose light industrial use. Designed for retrofit and OEM applications, the one-hole mounted units feature a bright nickel plated lever and a 0.468"-32 diameter threaded bushing with a 0.068 x 0.035 inch (1.7 x 0.9 mm) deep keyway for anti-rotation. Mounting hardware, consisting of one hexagonal locknut, one knurled or hexagonal face nut, and #6-32 x 3/16" (where applicable) binding head terminal screw. All are furnished unassembled in individually sealed poly bags, packed 10 per carton.

Standards and Certifications

- UL Recognized — File No. 2702
- CSA — File No. LR40068

Technical Data

Toggle Switches

- AC Ratings:
 - 6 – 20A, 125V AC
 - 3 – 10A, 250V AC
 - Max. 3/4 hp @ 250V AC
- DC Ratings:
 - 6 – 20A, 28V DC
- Electrical Life: 6,000 cycles make/break at switch ampere rating
- Operation:
 - Slow make/slow break mechanism with butt action for AC and low voltage DC applications
 - Maintained and momentary contacts
- Poles/Throws: 1 through 4, single and double throw

■ Mounting:

- One hole with threaded 0.468"-32 bushing and 0.068 x 0.035 inch (1.7 x 0.9 mm) deep keyway that serves as anti-rotational feature

- Lever Lengths: 0.563 inch (14.3 mm) or 0.688 inch (17.5 mm), bright nickel plated

- Terminals: Screw, 0.250 inch (6.4 mm) spade and solder lug

Hesitation Switches

■ Operation:

- Slow make/slow break mechanism with butt action for AC and low voltage DC applications; maintained contacts; ideal for reversing motor applications; patented interlock mechanism prevents operation of lever through centre position until manual pressure is momentarily relieved.

- AC Ratings:
 - 15A, 125V AC
 - 10A, 250V AC
 - Max. 3/4 hp at 250V AC

- DC Ratings:
 - 15A, 28V DC

- Poles/Throws: 2, 3 and 4, double throw only

■ Mounting:

- One pole with threaded 0.468"-32 bushing and 0.068 x 0.049 inch (1.7 x 1.2 mm) deep keyway

- Lever Length: 0.687 inch (17.4 mm), stainless steel

- Terminals: Screw

Pushbutton Actuators

- AC Ratings:
 - 6 – 15A, 125V AC (NO)
 - 3 – 10A, 250V AC (NO)
 - Max. 1/3 hp @ 125/250V AC

■ Operation:

- Slow make/slow break mechanism
- Normally open contacts

- Poles/Throws: Single, single and double throw

■ Mounting:

- One hole with 0.468"-32 threaded bushing and 0.068 x 0.035 inch (1.7 x 0.9 mm) deep keyway
- Two bushing heights: 11/16 inch (17.5 mm) and 11/32 inch (8.7 mm)

- Button Extensions: 17/32 inch (13.5 mm) and 1/4 inch (6.4 mm), bright nickel plated

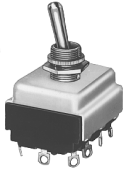
- Terminals: Screw

E10 Series, Toggle Switches

Product Selection

Toggle Switches

Table 2-1. Toggle Switches — AC Rated — Minimum Order Quantity 10 Pieces

	Nominal AC Ratings			Poles and Throw ^①	Function — Circuit with Lever In ^②			Screw Terminal		0.250 Inch (6.4 mm) Spade Terminal		Solder Lug	
	Amperes		hp		UP Position	CENTRE Position	DOWN Position — Keyway	Catalogue Number	Price ^③	Catalogue Number	Price ^③	Catalogue Number	Price ^③
	125V	250V	250V										
 1-Pole  2-Pole  3-Pole  4-Pole	1-Pole												
	6 15 20	3 10 10	— 3/4 3/4	1 P.S.T.	ON	None	OFF	E10T106AS E10T115AS E10E120AS		E10T106AP E10T115AP E10E120AP		E10T106AL E10T115AL E10E120AL	
	6 15 20	3 10 10	— 3/4 3/4	1 P.D.T.	ON	OFF	ON	E10T106DS E10T115DS E10E120DS		E10T106DP E10T115DP —	—	— E10T115DL —	—
	6 15 20	3 10 10	— 3/4 3/4	1 P.D.T.	ON	None	ON	E10T106ES E10T115ES E10E120ES		— E10T115EP —	—	— E10T115EL —	—
	—	10	1/2	1 P.S.T. 1 P.D.T. 1 P.D.T. 1 P.D.T.	OFF ON ON (ON)	None OFF None OFF	(ON) (ON) (ON) (ON)	E10T115BS E10T115FS E10T115HS E10T115GS		E10T115BP E10T115FP E10T115HP E10T115GP		— — — —	—
	2-Pole												
	6 15 20	3 10 10	— 3/4 3/4	2 P.S.T.	ON	None	OFF	E10T206AS E10T215AS E10E220AS		E10T206AP E10T215AP E10E220AP		— E10T215AL E10E220AL	—
	6 15 20	3 10 10	— 3/4 3/4	2 P.D.T.	ON	OFF	ON	E10T206DS E10T215DS E10E220DS		E10T206DP E10T215DP E10E220DP		— E10T215DL —	—
	6 15 20	3 10 10	— 3/4 3/4	2 P.D.T.	ON	None	ON	E10T206ES E10T215ES E10E220ES		— E10T215EP —	—	— E10T215EL —	—
	15	10	1/2	2 P.S.T. 2 P.D.T. 2 P.D.T.	OFF ON (ON)	None None OFF	(ON) (ON) (ON)	E10T215BS E10T215HS E10T215GS		E10T215BP E10T215HP E10T215GP		— — —	—
	3-Pole												
	15	10	3/4	3 P.S.T. 3 P.D.T. 3 P.D.T.	ON ON ON	None OFF None	OFF ON ON	E10E315AS E10E315DS E10E315ES		E10E315AP E10E315DP E10E315EP		— E10E315DL E10E315EL	—
	4-Pole												
	15	10	3/4	4 P.S.T. 4 P.D.T. 4 P.D.T.	ON ON ON	None OFF None	OFF ON ON	E10E415AS E10E415DS E10E415ES		— — —		— E10E415AL E10E415DL E10E415EL	—

① See Figure 2-1 Circuit Arrangements on Page 2-4.

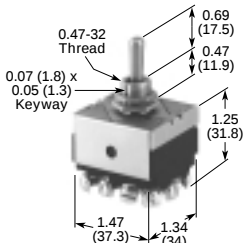
② () = Momentary contacts, spring return action.

③ For pricing information, refer to the Cutler-Hammer Control & Automation Products Price & Availability Digest.

E10 Series, Hesitation Switches and Actuators

Hesitation Switches

Table 2-2. Hesitation Switches — Special Purpose — Minimum Order Quantity 10 Pieces

Approximate Dimensions in Inches (mm)	Nominal Ratings				Operation	Function — Circuit with Lever In...			Poles and Throw ①	Screw Terminal	
	Amperes			hp		UP Position	CENTRE Position	DOWN Position — Keyway		Catalogue Number	Price ②
	28V DC	125V AC	250V AC	250V AC							
	15	15	10	3/4	Maintained	ON	OFF	ON	2 P.D.T. 3 P.D.T. 4 P.D.T.	E10E215SS E10E315SS E10E415SS	

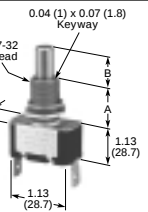
① See Figure 2-1 Circuit Arrangements below.

② For pricing information, refer to the Cutler-Hammer Control & Automation Products Price & Availability Digest.

Note: Interlock mechanism prevents operation of lever through the centre position until pressure is momentarily relieved. Designed for control and protection of reversing motors.

Pushbutton Actuators

Table 2-3. Pushbutton Actuators — Minimum Order Quantity 10 Pieces

Approximate Dimensions in Inches (mm)	Nominal Ratings					Poles and Throw ③	Contacts	Bushing Length Inches (mm) Dim. "A"	Button Extension Inches (mm) Dim. "B"	Typical Maximum Operating Force	Screw Terminal		Spade Terminal 0.250 Inch (6.4 mm)	
	Amperes AC				hp						Catalogue Number	Price ②	Catalogue Number	Price ②
	125V	250V	125V	250V	125 - 250V									
	NO	NC	NO	NC										
	6	—	3	—	—	1 P.S.T.	NO	0.69 (17.5) 0.34 (8.6)	0.53 (13.5) 0.25 (6.4)	0.9 lbs.	E10P106RS E10P106JS		E10P106RP —	—
	15	—	10	—	1/3	1 P.S.T.	NO	0.69 (17.5) 0.34 (8.6)	0.53 (13.5) 0.25 (6.4)	0.9 lbs.	E10P115RS E10P115JS		E10P115RP —	—
	15	10	10	5	1/4 ④	1 P.D.T.	NO, NC	0.69 (17.5)	0.53 (13.5)	1.0 lbs.	E10P115LS		—	—

③ See Figure 2-1 Circuit Arrangements below.

④ Rated 1/4 hp at 125V, 1/2 hp at 250V.

Circuit Arrangements

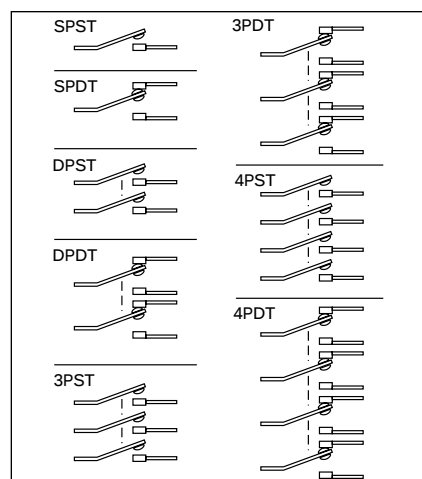


Figure 2-1. Circuit Arrangements

Cross-Reference Page 2-6

E10 Series, Accessories

Accessories

Table 2-4. Accessories — Minimum Order Quantity 100 Pieces

Description	Material	Catalogue Number	Price ^①
Hexagon Locknut	Zinc-Chromate Treated Steel	E10TA101	
Knurled Face Nut	Zinc-Chromate Treated Steel	E10TA102	
Terminal Screws	#6-32 x 3/16" Binding Head	E10TA201	
Spade Terminal Adapter — 0.250 inch (6.4 mm)	Assembles to Screw Terminals	E10TA202	
ON-OFF Indicating Plates — 0.032 inch (0.8 mm) Thick Steel, Burnished Nickel Finish	Vertical Orientation Horizontal Orientation	E10TA301 E10TA302	

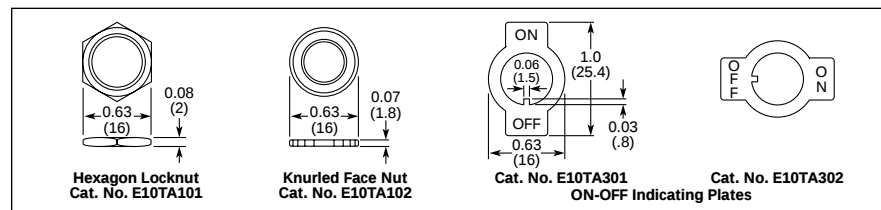
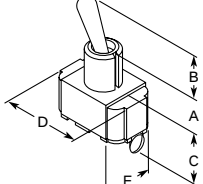


Figure 2-2. Accessories — Approximate Dimensions in Inches (mm)

^① For pricing information, refer to the Cutler-Hammer Control & Automation Products Price & Availability Digest.

Dimensions

Table 2-5. Toggle Switch — Approximate Dimensions

	No. of Poles	Operation	Approximate Dimensions in Inches (mm)										
			Bushing Length A	Lever Length B	Screw Terminals			Spade Terminals			Solder Lug		
					C	D	E	C	D	E	C	D	E
	1	Momentary & Maintained	0.47 (11.9)	0.56 (14.2)	1.00 (25.4)	1.17 (29.7)	0.63 (16.0)	1.13 (28.7)	1.13 (28.7)	0.63 (16.0)	1.00 (25.4)	1.13 (28.7)	0.63 (16.0)
	2	Maintained	0.47 (11.9)	0.56 (14.2)	1.06 (26.9)	1.31 (33.3)	0.75 (19.1)	1.19 (30.2)	1.31 (33.3)	0.75 (19.1)	1.06 (26.9)	1.31 (33.3)	0.75 (19.1)
		Momentary	0.47 (11.9)	0.56 (14.2)	1.25 (31.8)			1.31 (33.3)			1.25 (31.8)		
	3	Maintained	0.47 (11.9)	0.69 (17.5)	1.27 (32.3)	1.34 (34.0)	1.44 (36.6)	1.37 (34.8)	1.34 (34.0)	1.44 (36.6)	1.23 (31.2)	1.34 (34.0)	1.44 (36.6)
	4	Maintained	0.47 (11.9)	0.69 (17.5)	1.20 (30.5)	1.30 (33.0)	1.40 (35.6)	1.30 (33.0)	1.34 (34.0)	1.40 (35.6)	1.23 (31.2)	1.34 (34.0)	1.44 (36.6)

Note: Spade terminal adapters are used on 6 ampere, 20 ampere and momentary screw terminal switches, adding 0.42 (10.7) to dimension C.

Catalogue Number Structure

Table 2-6. E10 Catalogue Numbering System — Not to be used for ordering purposes

E10T106AS = E10T106AS						
Series	Lever Length	Poles	Ratings 125V	Function ^②	Termination	Complete Cat. No.
	T 0.563 inch (14.3 mm) Lever E 0.688 inch (17.5 mm) Lever	1 1-Pole 2 2-Pole 3 3-Pole 4 4-Pole	06 6 Amperes 15 15 Amperes 20 20 Amperes	A ON - None - OFF B OFF - None - (ON) D ON - OFF - ON E ON - None - ON F ON - OFF - (ON) G (ON) - OFF - (ON) H ON - None - (ON)	S Screw L Solder Lug P Spade	0.563 inch (14.3 mm) 1-Pole 6 Amperes ON - None - OFF Screw Terminal

^② () = Momentary contacts, spring return action.

E10 Series

Cross-Reference

Table 2-7. Cross-Reference

Cutler-Hammer	Eaton	McGill	Carling-switch	Arrow Hart (Crouse Hinds)	Micro Switch
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1-Pole — 6 Ampere

E10T106AS	7580K4	3190-0001	2FA64	83000	—
E10T106AP	7580K8	3190-0003	2FA63TABS-63	83002	—
E10T106DS	7581K4	3191-0001	2FC64	83003	—
E10T106DP	7581K8	3191-0003	2FC63TABS-63	83005	—
E10T106ES	7582K4	3192-0001	2FB64	83006	—
E10T106EP	7582K8	3192-0003	2FB63TABS-63	83008	—

2-Pole — 6 Ampere

E10T206AS	7590K4	1111-0001	2GK64	83024	—
E10T206AP	7590K8	1121-0009	2GK61	83026	—
E10T206DS	7591K4	1111-0002	2GM64	83027	—
E10T206DP	7591K8	1121-0010	2GM61	83029	—
E10T206ES	7592K4	1111-0003	2GL64	83030	—
E10T206EP	7592K8	1111-0011	2GL61	83032	—

1-Pole — 15 Ampere

E10T115AS	7500K14	90-0001	2FA54-63	82600	11TS15-2
E10T115AP	7501K15	90-0003	2FA53TABS-63	62601-P	11TS95-2
E10T115AL	7501K13	90-0002	2FA53-63	82601	11TS115-2
E10T115DS	7502K13	91-0001	2FC54-63	82602	11TS15-1
E10T115DP	7503K15	91-0003	2FC53TABS-63	82603-P	11TS95-1
E10T115DL	7503K13	91-0002	2FC53-63	82603	11TS115-1
E10T115ES	7504K4	92-0001	2FB54-63	82604	11TS15-3
E10T115EP	7505K6	92-0003	2FB53TABS-63	82605-P	11TS95-3
E10T115EL	7505K4	92-0002	2FB53-63	82605	11TS115-3
E10T115BS	7506K4	93-3001	6FA54-63	82720	—
E10T115BP	7506K6	93-3003	6FA53TABS-63	82721-P	—
E10T115FS	7508K6	93-1001	6FC58-63	82724	—
E10T115FP	7508K8	93-1003	6FC57TABS-63	82725-P	—
E10T115HS	7510K7	93-4001	6FB54-63	82728	—
E10T115HP	7510K9	93-4003	6FB53TABS-63	82729-P	—
E10T115GS	7509K5	93-0001	6FC54-63	82726	—
E10T115GP	7509K7	93-0003	6FC53TABS-63	82727-P	—

2-Pole — 15 Ampere

E10T215AS	7560K5	0121-0001	2GK54-63	82606	12TS15-2
E10T215AP	7561K6	0121-0009	2GK51-63	82607-P	12TS95-2
E10T215AL	7561K4	0121-0017	2GK50-63	82607	12TS115-2
E10T215DS	7562K4	0121-0002	2GM54-63	82608	12TS15-1
E10T215DP	7563K6	0121-0010	2GM51-63	82609-P	12TS95-1
E10T215DL	7563K4	0121-0018	2GM50-63	82609	12TS115-1
E10T215ES	7564K6	0121-0003	2GL54-63	82610	12TS15-3
E10T215EP	7565K7	0121-0011	2GL51-63	82611-P	12TS95-3
E10T215EL	7565K5	0121-0019	2GL50-63	82611	12TS115-3
E10T215HS	7570K5	0121-0006	6GL5E-63	82738	—
E10T215HP	7570K7	0121-0014	6GL5B-63	82739-P	—

Cutler-Hammer	Eaton	McGill	Carling-switch	Arrow Hart (Crouse Hinds)	Micro Switch
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3-Pole — 15 Ampere

E10E315AS	7700K2	0140-3020	HK254-73	8612	—
E10E315AP	7700K3	0140-3000	HK251-73	82613-P	—
E10E315AL	7700K1	0140-3010	HK250-73	82613	—
E10E315DS	7701K2	0140-3023	HM254-73	82614	—
E10E315DP	7701K3	0140-3003	HM251-73	82615-P	—
E10E315DL	7701K1	0140-3013	HM250-73	82615	—
E10E315ES	7702K2	0140-3024	HL254-73	82616	—
E10E315EP	7702K3	0140-3004	HL251-73	82617-P	—
E10E315EL	7702K1	0140-3014	HL250-73	82617	—

4-Pole — 15 Ampere

E10E415AS	7690K8	0140-4020	IK254-73	82631	—
E10E415AL	7691K14	0140-4010	IK250-73	82632	—
E10E415DS	7692K13	0140-4023	IM254-73	82633	—
E10E415DL	7693K2	0140-4013	IM250-73	82634	—
E10E415ES	7694K4	0140-4024	IL254-73	82635	—
E10E415EL	7695K5	0140-4014	IL250-73	82636	—

Pushbutton Actuators

E10P106RS	8442K3	100	PG-018-AA-C	—	—
E10P106RP	8442K2	1005	PG-010-AA-C	—	—
E10P106JS	8442K4	100	PG-018-AA-C	—	—
E10P115RS	8442K3	1900	172	—	—
E10P115RP	8442K2	1005	FA-75A-172-B	80512	—
E10P115JS	8444K4	100	FA754 DR 172	—	—
E10P115LS	8434K2	170	PG-028-AA-C	—	—