

30.5 mm Corrosion Resistant Watertight/Oiltight—E34



Product Description

Eaton's E34 Series 30.5 mm pushbutton line features the same rugged die cast construction of our 10250T line with an additional two-layer 100% solid thermosetting cathodic epoxy coating. This coating provides a flat black smooth, consistent, corrosion resistant surface that has passed a demanding 600 hour salt spray test. (The industry standard for this 4X test requires only 200 hours.)

Features

- Epoxy-coated metal operators
- Corrosion resistant
- Integral ground screw terminal on operators
- FDA approved for sanitary chemical resistance requirements

Contents

<i>Description</i>	<i>Page</i>
30.5 mm Corrosion Resistant Watertight/Oiltight—E34	
Product Overview	V7-T1-285
Product Identification	V7-T1-286
Catalog Number Selection	V7-T1-287
Ordering Complete Devices	V7-T1-289
Product Selection	
Non-Illuminated Momentary	
Pushbutton Units	V7-T1-290
Plastic Lens Indicating Light Units	V7-T1-290
Pushbuttons	V7-T1-291
Illuminated Pushbuttons and	
Indicating Lights	V7-T1-292
Push-Pull Units	V7-T1-294
Illuminated Push-Pull Units	V7-T1-295
Potentiometers	V7-T1-297
Push-Pull Operators	V7-T1-298
Selector Switch Units	V7-T1-302
Selector Switch Selection	V7-T1-303
Selector Switch Operators	V7-T1-306
Key Operators	V7-T1-306
Illuminated Selector Switch Operators	V7-T1-308
Accessories	V7-T1-309
Options	V7-T1-311
Replacement Parts	V7-T1-317
Technical Data and Specifications	V7-T1-319
Dimensions	V7-T1-322

Standards and Certifications

- CE EN60947-5-1 and 60947-5-5
- UL 508—File No. E131568
- CSA C22.2 No. 14—File No. LR68551
- FDA 3-A Sanitary Standards



Ingress Protection

When mounted in similarly rated enclosure—

- Standard indicating lights
 - UL (NEMA) Type 1, 2, 3, 3R, 3S, 4, 4X, 12, 13
 - IEC IP65
- All other operators
 - UL (NEMA) Type 1, 2, 3, 3R, 4, 4X, 12, 13
 - IEC IP65

Product Overview

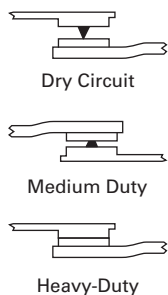
Ultraviolet Light

E34 cathodic coating is not recommended for use in applications where exposure to ultraviolet light exists—use NEMA 4X 10250T operators.

Reliability Nibs

Eaton’s contact blocks feature enclosed silver contacts with pointed “reliability nibs” for reliable performance from logic level up to 600V. To ensure reliable switching, nibs bite through oxide which can form on silver contacts, eliminating the need for expensive logic level blocks for most applications.

Reliability Nibs

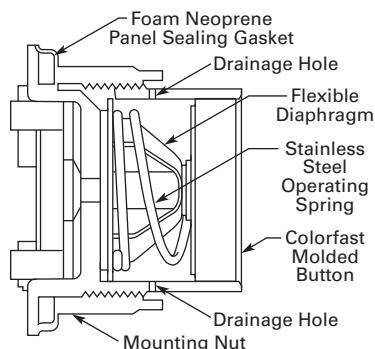


Diaphragm Seal with Drainage Holes

Liquid Drainage

Eaton’s pushbutton operators offer front of panel drainage via holes in the operator bushing. Hidden from view by the mounting nut, these holes prevent buildup of liquid inside the operator, which can prevent operation in freezing environments. The holes also provide a route for escaping liquid in high pressure washdowns, effectively relieving pressure from the internal diaphragm seal, ensuring reliable sealing in applications even beyond NEMA 4.

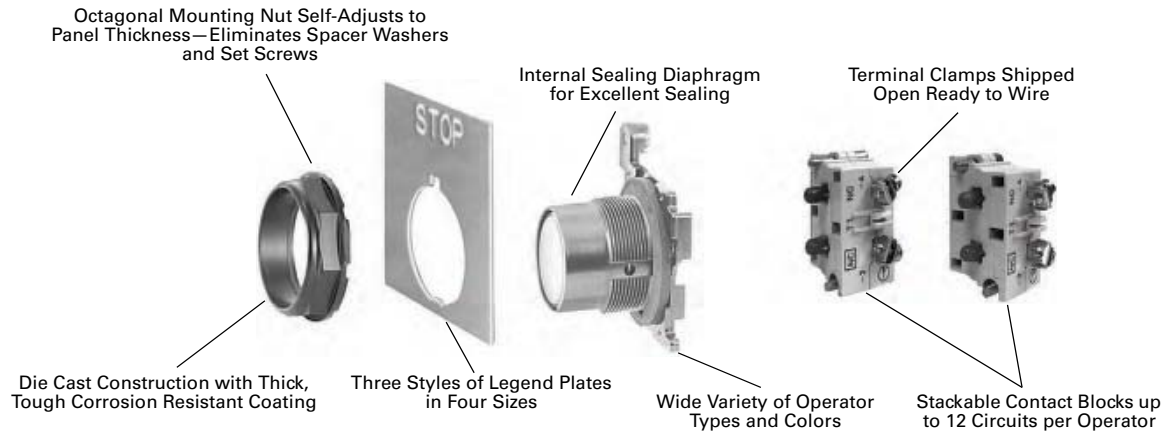
Diaphragm Seal



1

Product Identification

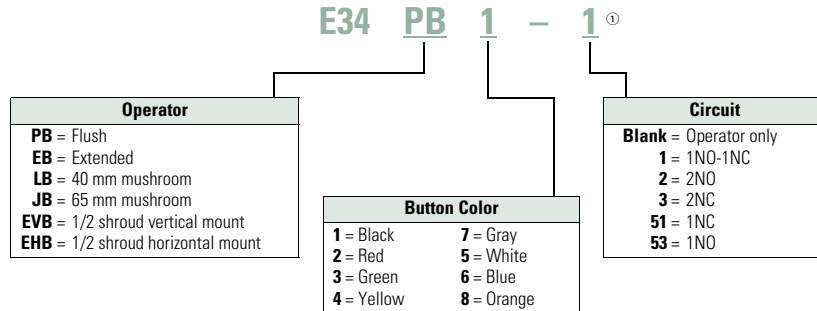
30.5 mm Corrosion Resistant Watertight/Oiltight—E34 Series



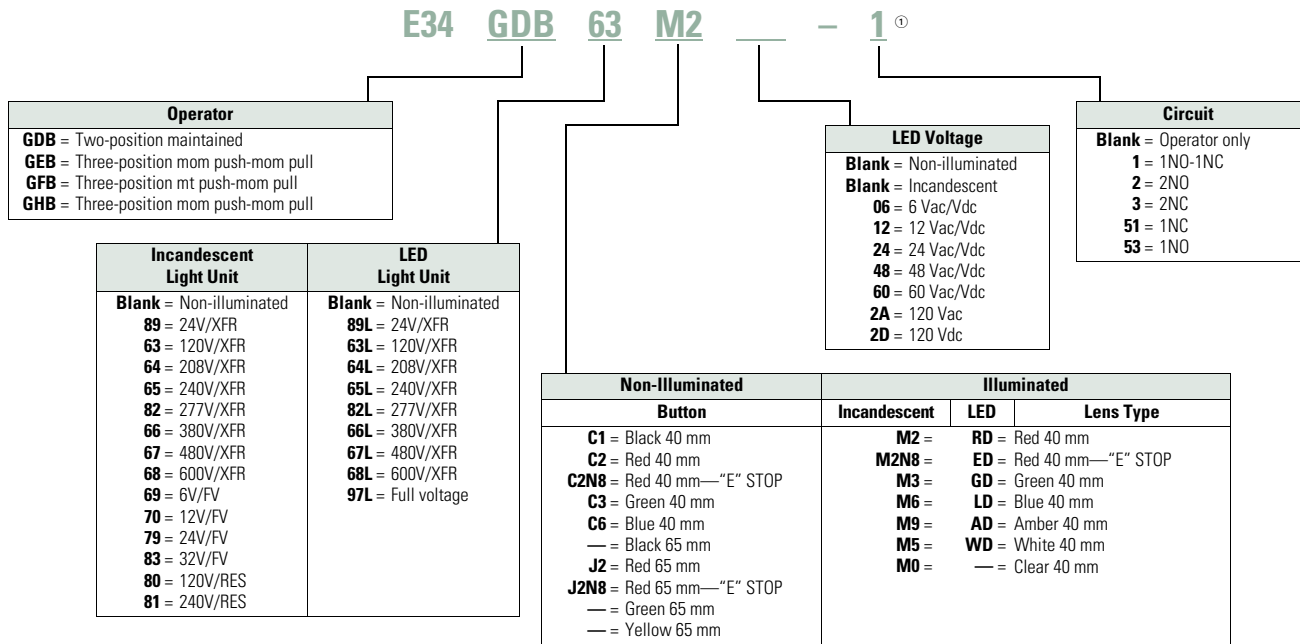
Catalog Number Selection

Catalog Number Selection is for illustrative purposes only and not to be used to create new catalog numbers.

Non-Illuminated Pushbuttons



Illuminated and Non-Illuminated Push-Pulls



Note

① Add **X** at end of catalog number to receive parts assembled from factory.

1.10

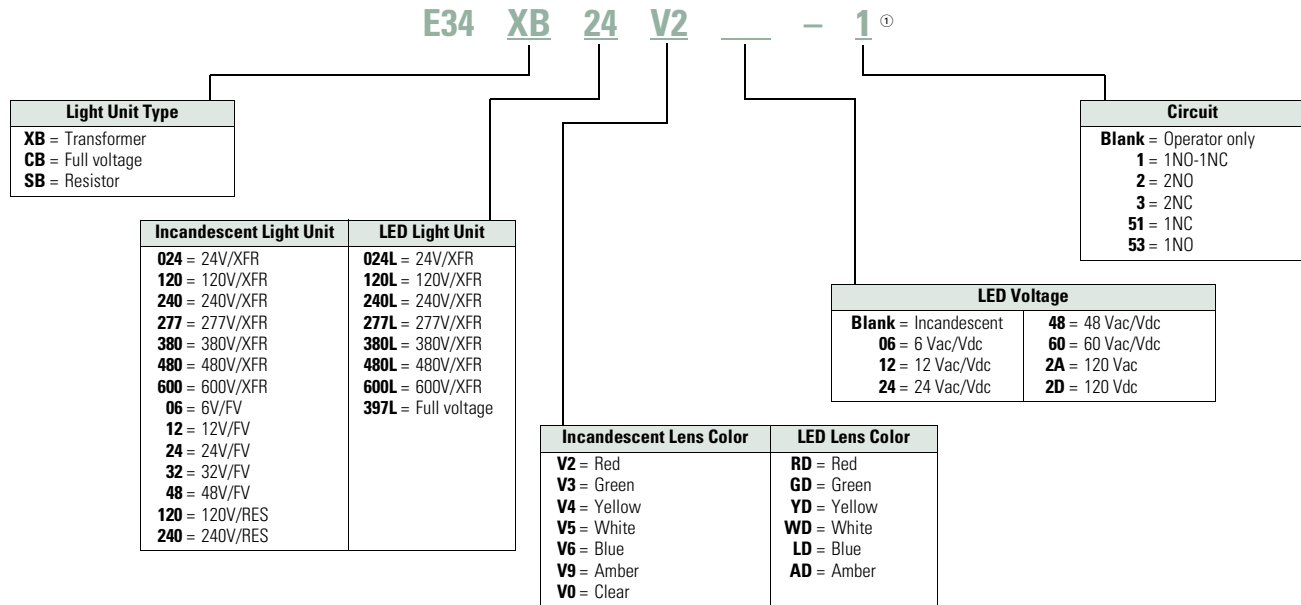
Pushbuttons and Indicating Lights

30.5 mm Corrosion Resistant Watertight/Oiltight—E34

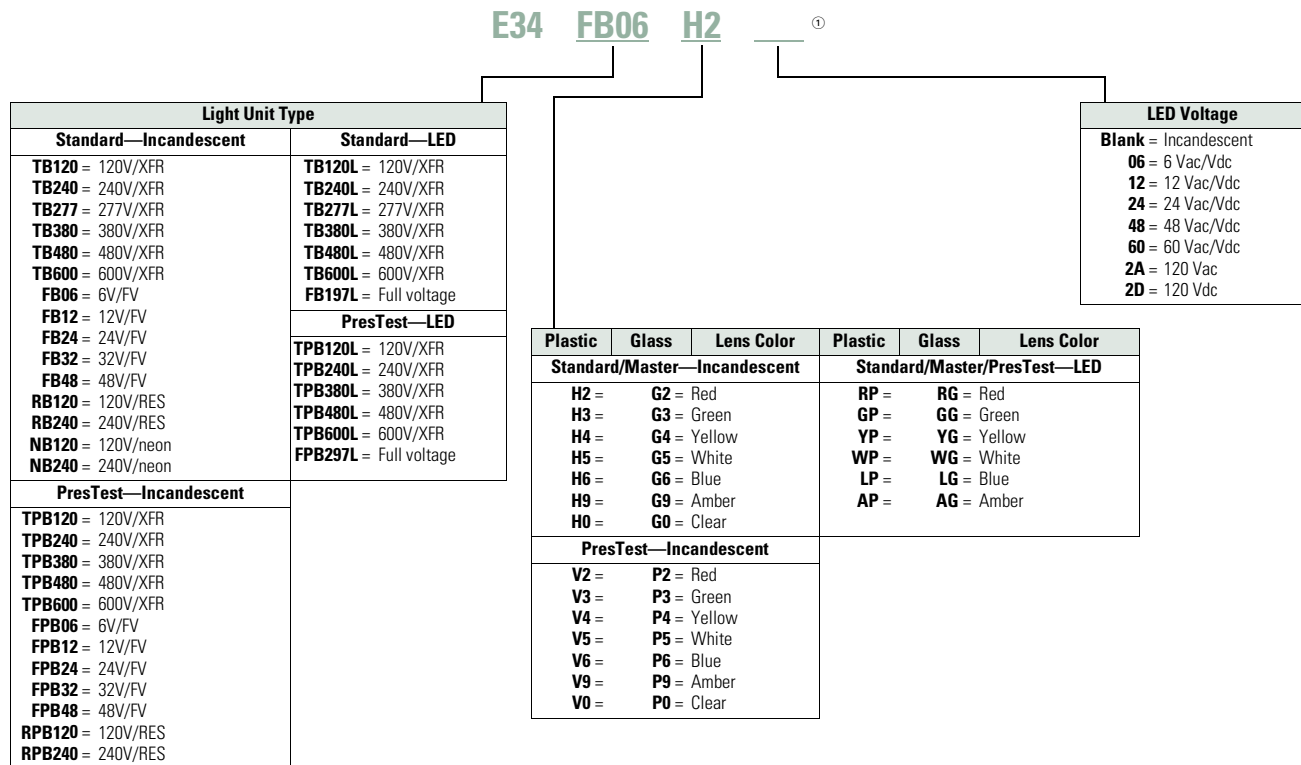
1

Catalog Number Selection is for illustrative purposes only and not to be used to create new catalog numbers.

Illuminated Pushbuttons



Standard Indicating Lights, PresTest and Master Test



Note

① Add **X** at end of catalog number to receive parts assembled from factory.

Catalog Number Selection is for illustrative purposes only and not to be used to create new catalog numbers.

Ordering Complete Devices

Complete E34 pushbuttons, indicating lights and/or selector switch operators including contact block(s) and legend plate can be ordered using a single composite catalog number. The

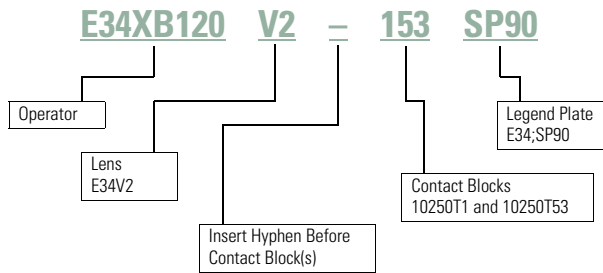
individually packaged components will be shipped unassembled in a single overpack carton marked with the composite catalog number.

Ordering Example

Illuminated Pushbutton Device—Catalog Number E34XB120V2-153SP90

For a complete Catalog Number breakdown, see **Pages V7-T1-287 to V7-T1-288.**

For Complete E34 Device Ordering



Product Selection

Non-Illuminated Momentary Pushbutton Units

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

Flush Button



Extended Button



Mushroom Button



Jumbo Mushroom



Pushbutton Units

Contact Type	Button Color	Flush Button Catalog Number	Extended Button Catalog Number	Mushroom Button Catalog Number	Jumbo Mushroom ^① Catalog Number
1NO	Black	E34PB1-53X	E34EB1-53X	E34LB1-53X	E34JB1-53X
	Red	E34PB2-53X	E34EB2-53X	E34LB2-53X	E34JB2-53X
	Green	E34PB3-53X	E34EB3-53X	E34LB3-53X	E34JB3-53X
	Red—Engraved EMERG. STOP	—	—	—	E34JB2N8-53X
1NC	Black	E34PB1-51X	E34EB1-51X	E34LB1-51X	E34JB1-51X
	Red	E34PB2-51X	E34EB2-51X	E34LB2-51X	E34JB2-51X
	Green	E34PB3-51X	E34EB3-51X	E34LB3-51X	E34JB3-51X
	Red—Engraved EMERG. STOP	—	—	—	E34JB2N8-51X
1NO-1NC	Black	E34PB1-1X	E34EB1-1X	E34LB1-1X	E34JB1-1X
	Red	E34PB2-1X	E34EB2-1X	E34LB2-1X	E34JB2-1X
	Green	E34PB3-1X	E34EB3-1X	E34LB3-1X	E34JB3-1X
	Red—Engraved EMERG. STOP	—	—	—	E34JB2N8-1X

Plastic Lens Indicating Light Units

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

24V Full Voltage Indicating Light



Indicating Light Units

Type	Voltage	Color	LED/Lamp Number	Indicating Light ^① Catalog Number
LED Lamp				
Full voltage	24 Vac/Vdc	Red	Bayonet base	E34FB197LRP24
		Green		E34FB197LGP24
		Amber		E34FB197LAP24
	120 Vac	Red		E34FB197LRP2A
		Green		E34FB197LGP2A
		Amber		E34FB197LAP2A
Incandescent Lamp				
Full voltage	24 Vac/Vdc	Red	#757	E34FB24H2X
		Green		E34FB24H3X
		Amber		E34FB24H9X
Resistor	120 Vac/Vdc	Red	120MB	E34RB120H2X
		Green		E34RB120H3X
		Amber		E34RB120H9X
Transformer	120 Vac 50/60 Hz	Red	#755	E34TB120H2X
		Green		E34TB120H3X
		Amber		E34TB120H9X

Notes






Use NEMA 4X 10250T operators where exposed to ultraviolet light, see **Pages V7-T1-213 to V7-T1-283**.

① Anodized aluminum head—may not be suitable for some corrosive environments.

Pushbuttons

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

Momentary Pushbutton Operators, Non-Illuminated

Button	Color	Catalog Number		
E34PB_ 	Flush button	Black	E34PB1	
	Red	E34PB2		
	Green	E34PB3		
	Yellow	E34PB4		
	White	E34PB5		
	Blue	E34PB6		
	Gray	E34PB7		
	Orange	E34PB8		
E34EB_ 	Extended button	Black	E34EB1	
	Red	E34EB2		
	Green	E34EB3		
	Yellow	E34EB4		
	White	E34EB5		
	Blue	E34EB6		
	Gray	E34EB7		
	Orange	E34EB8		
E34EHB_ 	Half shrouded button		Vertical	Horizontal
		Black	E34EVB1	E34EHB1
	Red	E34EVB2	E34EHB2	
	Green	E34EVB3	E34EHB3	
	Yellow	E34EVB4	E34EHB4	
	White	E34EVB5	E34EHB5	
	Blue	E34EVB6	E34EHB6	
	Gray	E34EVB7	E34EHB7	
	Orange	E34EVB8	E34EHB8	
	E34LB_ 	Mushroom button	Black	E34LB1
Red			E34LB2	
Green			E34LB3	
Yellow			E34LB4	
Blue			E34LB6	
E34JB_ 	Anodized aluminum jumbo mushroom button ^①	Black	E34JB1	
		Red	E34JB2	
		Red (Engraved EMERG. STOP)	E34JB2N8	
		Green	E34JB3	
		Yellow	E34JB4	

Notes

Use NEMA 4X 10250T operators where exposed to ultraviolet light, see **Pages V7-T1-213 to V7-T1-283**.

^① Anodized aluminum head—may not be suitable for some corrosive environments.

Illuminated Pushbuttons and Indicating Lights

Illuminated Pushbutton

Operators without Lens



Indicating Light



PresTest



Type	Voltage	Lamp Number	Illuminated Pushbutton Catalog Number	Indicating Light Catalog Number	PresTest Catalog Number
LED Lamp (LEDs not included) ①					
Full voltage	—	Bayonet base	E34CB497L	E34FB197L	E34FPB297L
Transformer AC only	24		E34XB024L	—	—
	120		E34XB120L	E34TB120L	E34TPB120L
	240		E34XB240L	E34TB240L	E34TPB240L
	277		E34XB277L	E34TB277L	—
	380		E34XB380L	E34TB380L	E34TPB380L
	480		E34XB480L	E34TB480L	E34TPB480L
	600		E34XB600L	E34TB600L	E34TPB600L
Incandescent Lamp					
Full voltage AC/DC	6	#755	E34CB06	E34FB06	E34FPB06
	12	#756	E34CB12	E34FB12	E34FPB12
	24	#757	E34CB24	E34FB24	E34FPB24
	32	#1828	E34CB32	E34FB32	E34FPB32
	48	#1835	E34CB48	E34FB48	E34FPB48
Resistor AC/DC ②	120	120MB	E34SB120	E34RB120	E34RPB120
	240		E34SB240	E34RB240	E34RPB240
Transformer AC only	24	#755	E34XB024	—	—
	120		E34XB120	E34TB120	E34TPB120
	240		E34XB240	E34TB240	E34TPB240
	277		E34XB277	E34TB277	—
	380		E34XB380	E34TB380	E34TPB380
	480		E34XB480	E34TB480	E34TPB480
	600		E34XB600	E34TB600	E34TPB600
Neon AC/DC	120	NE51H-R-22	—	E34NB120	—
	240	NE51H-4-68	—	E34NB240	—

Notes

Use NEMA 4X 10250T operators where exposed to ultraviolet light, see **Pages V7-T1-213 to V7-T1-283**.

① These units do not include lamps. Order LED separately to match lens color, see **Page V7-T1-269** for LED Selection and **Pages V7-T1-287 to V7-T1-288** for Catalog Numbering Selection.

② Resistor units are not available for use with LEDs, choose either transformer or full voltage LED style.

Plastic



Indicating Light Lens

Color	Plastic Catalog Number	Glass ① Catalog Number
Red	E34H2	E34G2
Green	E34H3	E34G3
Yellow	E34H4	E34G4
White	E34H5	E34G5
Blue	E34H6	E34G6
Ambler	E34H9	E34G9
Clear	E34H0	E34G0

Glass



E34V_



Illuminated Pushbutton Lens

Color	Catalog Number
Red	E34V2
Green	E34V3
Yellow	E34V4
White	E34V5
Blue	E34V6
Ambler	E34V9
Clear	E34V0

Plastic



PresTest Lens

Color	Plastic Catalog Number	Glass ① Catalog Number
Red	E34V2	E34P2
Green	E34V3	E34P3
Yellow	E34V4	E34P4
White	E34V5	E34P5
Blue	E34V6	E34P6
Ambler	E34V9	E34P9
Clear	E34V0	E34P0

Glass



Note

① Glass lens has black anodized aluminum bezel.

1

Push-Pull Units

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

- Two- and three-position
- Non-illuminated

Two-Position Push-Pull Unit



Two-Position Push-Pull Units, Non-Illuminated

Operator Position ①

Pull	Push	Button Type/Color ②	Contact Type	Mounting Location		Catalog Number
				A	B	
Maintained Push, Maintained Pull						
0	X	40 mm/red	1NO			<u>E34GDBC2</u> -1X
X	0	40 mm engraved EMERG. STOP/red	1NC			<u>E34GDBC2N8</u> -1X
		65 mm aluminum engraved EMERG. STOP/red				<u>E34GDBJ2N8</u> -1X

Three-Position Push-Pull Unit



Three-Position Push-Pull Units, Non-Illuminated

Operator Position ①

Pull	Intermediate	Push	Button Type/Color ②	Contact Type	Mounting Location		Catalog Number
					A	B	
Maintained Push, Momentary Pull							
X	0	0	40 mm/black	1NC			<u>E34GFBC1</u> -3X
X	X	0	40 mm/red	1NC			<u>E34GFBC2</u> -3X
			40 mm engraved EMERG. STOP/red				<u>E34GFBC2N8</u> -3X
Momentary Push, Momentary Pull							
X	0	0	40 mm/black	1NC			<u>E34GEBc1</u> -3X
X	X	0	40 mm/red	1NC			<u>E34GEBc2</u> -3X
0	0	X	40 mm/black	1NO			<u>E34GHBC1</u> -1X
X	0	0	40 mm/red	1NC			<u>E34GHBC2</u> -1X

Button and Color Selection

Color	Suffix Code	Catalog Number
Standard—40 mm		
Black	C1	E34C1
Red	C2	E34C2
Red (EMERG. STOP)	C2N8	E34C2N8
Green	C3	E34C3
Blue	C6	E34C6
Jumbo Mushroom Head ③ (Anodized) Aluminum—65 mm		
Red	J2	E34J2
Red (EMERG. STOP)	J2N8	E34J2N8

Notes

Use NEMA 4X 10250T operators where exposed to ultraviolet light, see **Pages V7-T1-213 to V7-T1-283**.

① X = closed circuit, 0 = open circuit.

② To order different type or color buttons, substitute the underlined characters with appropriate suffix code from the table. Example: E34GDBCC6-1X.

③ Anodized aluminum may not be suitable for use on some corrosive applications.

Illuminated Push-Pull Units

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

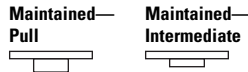
- Two-position maintained
- Illuminated

Illuminated Push-Pull Unit



Two-Position Illuminated Maintained Push, Maintained Pull

Operator Position ①



Maintained—Pull	Maintained—Intermediate	Lamp	Type	Voltage	Contact Type	Mounting Location A	Mounting Location B	LED/Lamp Number	Red Standard Push-Pull Catalog Number ②	
0	X	LED	Full voltage	24 Vac/Vdc	1NO			Bayonet base	E34GDB97LRD24-1X	
X	0			120 Vac/Vdc	1NC				E34GDB97LRD24A-1X	
				Transformer	24 Vac					E34GDB89LRD06-1X
				120 Vac					E34GDB63LRD06-1X	
0	X	Incandescent	Full voltage	24 Vac/Vdc	1NO			#757	E34GDB79M2-1X	
X	0			Resistor	120 Vac/Vdc			1NC	120MB	E34GDB80M2-1X
				Transformer	24 Vac				#755	E34GDB89M2-1X
					120 Vac					E34GDB63M2-1X

Standard



Lens and Color Selection

Color	Incandescent Suffix Code	LED Suffix Code	Catalog Number
Standard			
Red	M2	RD	E34M2
Red (EMER. STOP)	M2N8	ED	E34M2N8
Green	M3	GD	E34M3
Blue	M6	LD	E34M6
Amber	M9	AD	E34M9
White	M5	WD	E34M5
Clear	M0	CD	E34M0

Notes

Use NEMA 4X 10250T operators where exposed to ultraviolet light, see **Pages V7-T1-213 to V7-T1-283**.

① X = closed circuit, 0 = open circuit.

② To order different type or color lens, substitute the underlined characters with appropriate suffix code from Lens and Color Selection table above. Example: E34GDB79M3-1X. For LEDs with different voltages see ordering example on **Page V7-T1-301**.

1.10

Pushbuttons and Indicating Lights

30.5 mm Corrosion Resistant Watertight/Oiltight—E34

1

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

- Three-position maintained
- Illuminated

Illuminated Push-Pull Unit



Three-Position Illuminated Momentary Push, Momentary Pull

Operator Position ^①

Momentary— Pull	Maintained— Intermediate	Momentary— Push

	Lamp	Type	Voltage	Contact Type	Mounting Location		LED/Lamp Number	Red Standard Push-Pull Catalog Number ^②
					A	B		
0	LED	Full voltage	24 Vac/Vdc	1NO		Bayonet base	E34GHB97LRD24-1X	
X			120 Vac	1NC				
			Trans-former	24 Vac				E34GHB89LRD06-1X
			120 Vac				E34GHB63LRD06-1X	
X	LED	Full voltage	24 Vac/Vdc	1NC		Bayonet base	E34GEB97LRD24-3X	
X			120 Vac	1NC				
			Trans-former	24 Vac				E34GEB89LRD06-3X
			120 Vac				E34GEB63LRD06-3X	
0	Incandescent	Full voltage	24 Vac/Vdc	1NO		#757	E34GHB79M2-1X	
X			120 Vac	1NC				
			Trans-former	24 Vac				#755
			120 Vac				E34GHB63M2-1X	
X	LED	Full voltage	24 Vac/Vdc	1NC		#757	E34GEB79M2-3X	
X			120 Vac	1NC				
			Trans-former	24 Vac				#755
			120 Vac				E34GEB63M2-3X	

Notes

Use NEMA 4X 10250T operators where exposed to ultraviolet light, see **Pages V7-T1-213 to V7-T1-283**.

^① X = closed circuit, 0 = open circuit.

^② To order different type or color lens, substitute the underlined characters with appropriate suffix code from Lens and Color Selection table on the bottom of **Page V7-T1-295**. Example: E34GEB79M3-3X. For LEDs with different voltages see ordering example on **Page V7-T1-301**.

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

- Three-position—maintained push, momentary pull
- Illuminated

Illuminated Push-Pull Unit



Three-Position Illuminated Maintained Push, Momentary Pull

Operator Position ①



Momentary—Pull	Maintained—Intermediate	Maintained—Push	Lamp	Type	Voltage	Contact Type	Mounting Location		LED/Lamp Number	Red Standard Push-Pull Catalog Number ②	
							A	B			
X	0	0	LED	Full voltage	24 Vac/Vdc	1NC	o o	Bayonet base		E34GFB97LRD24-3X	
X	X	0			120 Vac	1NC					o o
					24 Vac						E34GFB89LRD06-3X
				Trans-former	120 Vac					E34GFB63LRD06-3X	
X	0	0	Incandescent	Full voltage	24 Vac/Vdc	1NC	o o	#757			
X	X	0			120 Vac	1NC					o o
					24 Vac			#755			E34GFB89M2-3X
					120 Vac						E34GFB63M2-3X

Vertical or Horizontal One-Hole Mounting ③



Potentiometers

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

Potentiometer with Knob and Standard Dial Plate—Linear Type ±10%

Potentiometer Ohms	Catalog Number
2 Watt (60V Max.) Single Potentiometer with Standard Aluminum Dial Plate ④⑤	
1000	E34PDB1F1
2500	E34PDB1F2
5000	E34PDB1F5
10000	E34PDB1F10
25000	E34PDB1F25
50000	E34PDB1F50
Operator only ⑥	E34PDB1A0
Alternative—black plastic large legend with standard markings	E34LP99

Dimensions, see Page V7-T1-322.

Notes

Use NEMA 4X 10250T operators where exposed to ultraviolet light, see **Pages V7-T1-213 to V7-T1-283.**

- ① X = closed circuit, 0 = open circuit.
- ② To order different type or color lens, substitute the underlined characters with appropriate suffix code from table on the bottom of **Page V7-T1-295.**
Example: E34GFB79M3-3X. For LEDs with different voltages see ordering example on **Page V7-T1-301.**
- ③ Shown with standard aluminum dial plate.
- ④ Large dial plate with space for legend is available at no charge. To order, add suffix **36** to catalog number.
Example: E34PDB1F136. To order separately, see footnote ⑥ below.
- ⑤ Large dial plate has space at top for 15 letters. 3/32 in high. For custom stamped legend plates, order legend plate as separate item **10250TR30** and specify stamping.
- ⑥ For use with commercially purchased potentiometers having shaft dimensions per dimension drawing on **Page V7-T1-274.**

1

Push-Pull Operators

An illuminated push-pull pushbutton unit, arranged for one-hole mounting, can replace two pushbuttons and a pilot light or the non-illuminated form can replace two pushbuttons. These units are available in three basic types:

- **Maintained**—(Two-position). Maintains in the pulled or pushed position until manually actuated to the opposite mode.
- **Momentary**—(Three-position). Spring returns to an intermediate position when pulled or pushed and released.

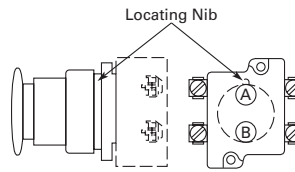
- **Momentary Pull, Maintained Push**—(Three-position). Spring returns to intermediate position when pulled. Maintains in pushed position until manually returned to intermediate (ready to reset) position. Maintained stop holds circuit open and will prevent other series connected operators from starting the system.

The operators, buttons, contact blocks, etc., are offered as building block components that can be intermixed to satisfy many requirements. This minimizes the need for a varied and costly inventory.

Application Guide

To assist in the selection of contact blocks, the sketch below shows pictorially by symbols **A** and **B** locations of contact circuits after assembly of contact blocks and adapter to the operator. The table below shows the effect of the push and pull operations on either NO or NC contacts. (X = contact closed, O = contact open).

Contact Circuit Locations

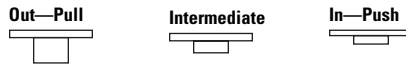


Two-Position Maint. Push-Pull ①



Push-Pull Operator Components

Operator Position and Circuit Arrangement



Contact Block Mounting Location

Type of Operator	Out—Pull		Intermediate		In—Push		Contact Block ②	Catalog Number
	A	B	A	B	A	B		
Two-Position Operator without Lens								
Maintained push-pull	O	O	No intermediate position		X	X	1NO	E34GDB
	X or	X			O or	O	1NC	
	O	O			X	X	2NO	
	X	X			O	O	2NC	
Three-Position Operator without Lens								
Momentary push-pull	O	O	O	O	X	O	1NO	E34GEB ②
	X or	X	O	X	O or	O	1NC	
	O	O	O	O	X	O	2NO	
	X	X	O	X	O	O	2NC	
Maintained push-momentary pull	O	O	O	O	X	O	1NO	E34GFB ②
	X or	X	O	X	O or	O	1NC	
	O	O	O	O	X	O	2NO	
	X	X	O	X	O	O	2NC	
Momentary push-pull	O	O	O	O	X	X	1NO	E34GHB ②
	X or	X	O	O	O or	O	1NC	
	O	O	O	O	X	X	2NO	
	X	X	O	O	O	O	2NC	

Notes

Use NEMA 4X 10250T operators where exposed to ultraviolet light, see **Pages V7-T1-213 to V7-T1-283**.

See Typical Applications on **Page V7-T1-233**.

① Shown without button on lens.

② Maximum of two blocks, four circuits. Special function contact blocks shown on **Page V7-T1-316** CANNOT be used with three-position push-pull operators E34GEB, E34GFB or E34GHB.

Push-Pull Light Units, Lenses and Buttons

Ordering Example with One Composite Number

Non-illuminated:

E34GDB + E34C2 + 10250T1 = **E34GDBC2-1X**

Incandescent:

E34GDB + 10250T79 + E34M2 + 10250T1 = **E34GDB79M2-1X**

LED:

E34GDB + 10250T97L + E34M2 + Voltage Code + 10250T1 = **E34GDB97LRD24-1X**

06—6 Vac/Vdc	60—60 Vac/Vdc
12—12 Vac/Vdc	2A—120 Vac
24—24 Vac/Vdc	2D—120 Vdc
48—48 Vac/Vdc	

Light Units for Illuminated Push-Pull Devices

Light Unit Type	Type	Voltage	LED/Lamp Number	Catalog Number
LED (LEDs not included) ①	Full voltage Transformer AC only 50/60 Hz	—	Bayonet base	10250T97L
		24		10250T89L
		120		10250T63L
		208		10250T64L
		240		10250T65L
		277		10250T82L
		380		10250T66L
		480		10250T67L
		600		10250T68L
		Incandescent		Full voltage AC or DC
12	#756		10250T70	
24/28	#757		10250T79	
	#1828		10250T79	
32			10250T83	
Resistor AC or DC	120		120MB	10250T80
	240			10250T81
Transformer AC only 50/60 Hz	24		#755	10250T89
	120			10250T63
	208			10250T64
	240			10250T65
	277			10250T82
	380			10250T66
	480			10250T67
	600			10250T68

Notes

Use NEMA 4X 10250T operators where exposed to ultraviolet light, see **Pages V7-T1-213 to V7-T1-283**.

① These units do not include lamps. Order LED separately to match lens color from chart on **Page V7-T1-301**

Buttons for Non-Illuminated Push-Pull Devices

Color	Incandescent Suffix Code	Catalog Number
Standard Button		
Black	C1	E34C1
Red	C2	E34C2
Red (EMERG. STOP)	C2N8	E34C2N8
Green	C3	E34C3
Blue	C6	E34C6
Jumbo Mushroom Head		
Red ①	J2	E34J2
Red (EMERG. STOP)	J2N8	E34J2N8

E34M_

Alternate Lenses for Illuminated Push-Pull Devices

Color	Incandescent Suffix Code	LED Suffix Code ②	Catalog Number
Red	M2	RD	E34M2
Red (EMERG. STOP)	M2N8	ED	E34M2N8
Green	M3	GD	E34M3
Blue	M6	LD	E34M6
Amber	M9	AD	E34M9
White	M5	WD	E34M5
Clear	M0	—	E34M0

Notes

Use NEMA 4X 10250T operators where exposed to ultraviolet light, see **Pages V7-T1-213 to V7-T1-283**.

① Anodized aluminum may not be suitable for use on some corrosive applications.

② Suffix codes should only be used for assembling composite catalog numbers. To order lens, order by catalog number.

Standard LED Lamp



LED Selection

Voltage	Color	Catalog Number
6 Vac/Vdc suitable for use with transformers	Red	E22LED006RN
	Orange	E22LED006ON
	Yellow	E22LED006YN
	Green	E22LED006GN
	Blue	E22LED006BN
12 Vac/Vdc	White	E22LED006WN
	Red	E22LED012RN
	Orange	E22LED012ON
	Yellow	E22LED012YN
	Green	E22LED012GN
24 Vac/Vdc	Blue	E22LED012BN
	White	E22LED012WN
	Red	E22LED024RN
	Orange	E22LED024ON
	Yellow	E22LED024YN
48 Vac/Vdc	Green	E22LED024GN
	Blue	E22LED024BN
	White	E22LED024WN
	Red	E22LED048RN
	Orange	E22LED048ON
	Yellow	E22LED048YN
	Green	E22LED048GN
	Blue	E22LED048BN
	White	E22LED048WN

Voltage	Color	Catalog Number
60 Vac/Vdc	Red	E22LED060RN
	Orange	E22LED060ON
	Yellow	E22LED060YN
	Green	E22LED060GN
	Blue	E22LED060BN
120 Vac	White	E22LED060WN
	Red	E22LED120RA
	Orange	E22LED120OA
	Yellow	E22LED120YA
	Green	E22LED120GA
120 Vdc	Blue	E22LED120BA
	White	E22LED120WA
	Red	E22LED120RD
	Orange	E22LED120OD
	Yellow	E22LED120YD
	Green	E22LED120GD
	Blue	E22LED120BD
	White	E22LED120WD

1

Selector Switch Units

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

- Two-, three- and four-position—maintained
- Non-illuminated and illuminated

Two-Position Maint. Switch Knob



Two-Position Selector Switch

Operator Position ^①		Operator Action ^②	Contact Type	Mounting Location		Cam Code	Non-Illuminated		Illuminated—120V Transformer	
X	O			A	B		Black Knob Catalog Number ^③	Black Lever Catalog Number ^③	Red Knob Catalog Number ^③	Red Lever Catalog Number ^③
X	O	M M	1NC	A	B	1	E34VFBK1-1X	E34VFB1-1X	E34VFB120ER-1X	E34VFB120FR-1X
O	X		1NO							

Three-Position Maint. Switch Knob



Three-Position Selector Switch

Operator Position ^①			Operator Action ^②	Contact Type	Mounting Location		Cam Code	Non-Illuminated		Illuminated—120V Transformer	
X	O	O			A	B		Black Knob Catalog Number ^③	Black Lever Catalog Number ^③	Red Knob Catalog Number ^③	Red Lever Catalog Number ^③
X	O	O	M M M	1NO	A	B	3	E34VHBK1-2X	E34VHBL1-2X	E34VHB120TER-2X	E34VHB120TFR-2X
O	O	X		1NO							
X	O	O	M M M	1NO	A	B	3	E34VHBK1-23X	E34VHBL1-23X	E34VHB120TER-23X	E34VHB120TFR-23X
O	X	O		2NC (Series)							
O	O	X		1NO							

Four-Position Maint. Switch Lever



Four-Position Selector Switch

Operator Position ^①				Operator Action ^②	Contact Type	Mounting Location		Cam Code	Non-Illuminated		Illuminated—120V Transformer	
X	O	O	O			A	B		Black Knob Catalog Number ^③	Black Lever Catalog Number ^③	Red Knob Catalog Number ^③	Red Lever Catalog Number ^③
X	O	O	O	M M M M	1NC	A	B	7	E34VTBK1-23X	E34VTBL1-23X	E34VRB120TER-23X	E34VRB120TFR-23X
O	X	O	O		1NO							
O	O	X	O		1NO							
O	O	O	X		1NC							

Color Selection, Non-Illuminated

Color	Code Letter	Color	Code Letter
Black	1	White	5
Red	2	Blue	6
Green	3	Gray	7
Yellow	4	Orange	8

Notes

For Light Unit Voltage Suffix and Knobs, Levers tables, see **Page V7-T1-308**.

Use NEMA 4X 10250T operators where exposed to ultraviolet light, see **Pages V7-T1-213 to V7-T1-283**.

^① X = closed circuit, O = open circuit.

^② M = Maintained.

^③ To order different type or color selector switch, substitute the underlined character with appropriate suffix code from the Color Selection table. Example: E34VFBK2-X1.

Selector Switch Selection



Cam and Contact Block Selection

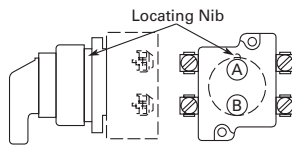
Selector switches in their varied forms (two-position, three-position and four-position) are a big factor contributing to the great flexibility of control that a well rounded line of “pushbuttons” can achieve. Because of their flexibility, they tend to cause difficulty with product selection and application. The following systematic approach should simplify that task.

Cam and contact block selection is better understood if you:

- Work with each incoming and outgoing wire/circuit separately.
- Recognize the terms NO and NC only identify the type of contact by its mode before mounting to the operator. The “X-O” chart (Page V7-T1-305) shows how that contact will act after assembly to the operator with the selected cam shape. X = closed circuit, O = open circuit.

- Up to six NO or NC contacts may be mounted behind each plunger location for a total of twelve contacts. Single circuit contact blocks have only one plunger with the other side of the block “open.” Therefore, single circuit contact blocks transmit motion to blocks behind them only for the position containing the circuit.
- Each cam has two separate lobes, each of which operates one of the two contact block plungers independently of each other. Those are identified as position A (locating nib side) and position B (opposite of locating nib). The position designations give direction in selecting and mounting of the contact blocks.

Contact Circuit Locations

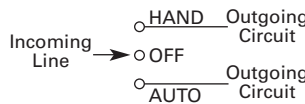


Systematic Approach

Application: **HAND-OFF-AUTO** selector switch. In this circuit, one incoming line is distributed to two other outgoing circuits by the switch. The two circuits can be looked at individually.

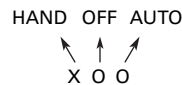
Step 1: Elementary Diagram.

Construct on paper, or in your mind, a simple elementary diagram of the switching scheme as follows:



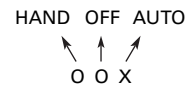
Step 2: “X-O” Pattern.

From the elementary diagram, you can construct an “X-O” diagram which describes when the contacts are to be closed (X) or open (O) in the various positions of the switch. The “X-O” for the **HAND** circuit looks like this:



In this circuit, you want a contact closed on the left (HAND) but open in the center and right.

For the **AUTO** circuit, the “X-O” diagram would look like this:



Putting them together, the complete “X-O” diagram is:



Once the “X-O” diagram has been generated, the next step is to select the cam and contact block, or blocks, needed to perform the desired “X-O” functions. The selection tables on the following pages list the various types (shapes) of cams by number to choose from and the type of contact and position to achieve the function outlined in your “X-O” diagram.

1

Step 3: Cam Selection.

The cam you select determines the operation of all contact blocks mounted to the operator. It is selected on the basis that it provides the simplest circuitry for the desired "X-O" diagram. The selection tables show all the "X-O" combinations. For the purpose of this example, the applicable portion of those tables is shown on this page.

Now to make the cam selection, make a simple worksheet such as:

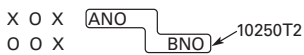
	Cam 2	Cam 3
X O O	(A)NO-(B)NC	(A)NO
O O X	(B)NO	(B)NO

It becomes immediately obvious that cam 3 is the better choice for two reasons, (1) the series combination can be avoided making it simpler to wire, (2) only two contacts are required, which is less expensive than the three contacts required by cam 2.

Step 4: Contact Block Selection.

Having selected the cam, contact block selection is simply a matter of gathering the A position and B position circuits into pairs which make up the most convenient contact block arrangement. If there is an imbalance in the number of circuits under A or B, then single circuit blocks must be selected for these leftover circuits.

Back to the worksheet, having selected cam 3 do this:



Step 5: Selector Switch Operator.

Lastly, you have to choose from the many types of operators—knob and lever in various colors or keyed. Also what combinations of maintained and spring return functions are required. Selection of these operators can be found on **Page V7-T1-306**. For the example in step 4, you may want a three-position maintained black knob, cam 3—Catalog Number E34VHBK1.

The Complete Switch:

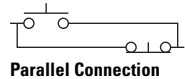
E34VHBK1 with one 10250T2 or, for one composite catalog number, E34VHBK1-Y1 found on **Page V7-T1-303**.

Diagrams

Circuits shown illustrate connections to obtain a selector switch circuit combination and are shown with their appropriate line diagrams. Field wiring of jumper connections required as shown.

X = Closed circuit
O = Open circuit

Wiring of Jumper Connections



Four-position selector switches are limited to four contact blocks.

Contact Blocks

For selection and number of available contact blocks per operator, see **Page V7-T1-315**.

Example Selection Table

No.	"X-O" Pattern	Cam Code #2		Cam Code #3	
		Top A	Bottom B	Top A	Bottom B
1	X 0 0				—
4	0 0 X	—		—	

Two-Position Selector Switch Contact Block Selection

No.	Desired Circuit and Operator Position		Contact Blocks Required to Accomplish Circuit Function	
			Top Plunger A	Bottom Plunger B
1	X	0		or
2	0	X		or

Note

① Wired in series.

Three-Position Switch—Cam and Contact Block Selection

No.	Desired Circuit and Operator Position			Operator with Cam Code #2		Operator with Cam Code #3	
				Mounting Location		Mounting Location	
				Top Plunger A	Bottom Plunger B	Top Plunger A	Bottom Plunger B
1	X	0	0				
2	X	X	0				
3	X	0	X				
4	0	0	X				
5	0	X	X				
6	0	X	0				

Four-Position Switch—Contact Block Selection

No.	Desired Circuit and Operator Position				Contact Blocks Required to Accomplish Circuit Function		No.	Desired Circuit and Operator Position				Contact Blocks Required to Accomplish Circuit Function	
					Top Plunger A	Bottom Plunger B						Top Plunger A	Bottom Plunger B
1	X	0	0	0			10	X	0	X	0		
2	0	X	0	0									
3	0	0	X	0			11	X	X	X	0		
4	0	0	0	X									
5	X	0	0	X			12	0	X	X	X		
6	0	X	X	0									
7	0	0	X	X			13	X	0	X	X		
8	X	X	0	0									
9	0	X	0	X			14	X	X	0	X		

1

Selector Switch Operators

UL (NEMA) Type 3, 3R, 4, 4X, 12, 13

Two-Position Knob Selector Switch



Operators with Knob Assembled

Positions	Operator Action ^①	Black Knob Selector Switch— Vertical Mounting ^②	Cam Code ^③	Catalog Number ^④
Two-position—60° throw			1	<u>E34VFBK1</u>
			1	<u>E34VEBK1</u>
Three-position—60° throw			2	<u>E34VGBK1</u>
			3	<u>E34VHBK1</u>
			2	<u>E34VJBK1</u>
			3	<u>E34VKBK1</u>
			2	<u>E34VLBK1</u>
			3	<u>E34VMBK1</u>
Four-position—40° throw			2	<u>E34VNBK1</u>
			3	<u>E34VPBK1</u>
Four-position—40° throw			7	<u>E34VTBK1</u>

Key Operators

Three-Position Keyed Selector Switch



Key Operators with Cam and Cap

Positions	Operator Action ^①	Cam Code ^③	Key Removal Positions ^⑤	Vertical Mounting Catalog Number	Horiz. Mounting Catalog Number
Two-position—60° throw		1	1, 2, 3	<u>E34KFB_</u>	<u>E34KFHB_</u>
		1	2	<u>E34KEB_</u>	<u>E34KEHB_</u>
Three-position—60° throw		2	1–7	<u>E34KGB_</u>	<u>E34KGHB_</u>
		3		<u>E34KHB_</u>	<u>E34KHGB_</u>
		2	1, 4, 5	<u>E34KJB_</u>	<u>E34KJHB_</u>
		3		<u>E34KKB_</u>	<u>E34KKHB_</u>
		2	4	<u>E34KLB_</u>	<u>E34KLHB_</u>
		3		<u>E34KMB_</u>	<u>E34KMHB_</u>
Four-position—40° throw		2	2, 4, 6	<u>E34KNB_</u>	<u>E34KNHB_</u>
		3		<u>E34KPB_</u>	<u>E34KPHB_</u>
Four-position—40° throw		7	7	<u>E34KTB_</u>	<u>E34KTHB_</u>

Notes

Use NEMA 4X 10250T operators where exposed to ultraviolet light, see **Pages V7-T1-213 to V7-T1-283**.

① M = Maintained. S = Spring return in direction of arrow (R).

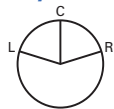
② Field convertible to horizontal mounting.

③ For selection of the proper cam and contact block to obtain the proper circuit sequence, see selection instructions and tables on **Pages V7-T1-303 to V7-T1-305**.

④ For other colors of either the knob or lever, replace the underlined characters of the catalog number with the appropriate suffix code from Alternate Knob and Lever table on **Page V7-T1-307**. Example: E34VFBL2.

⑤ Choose key removal position required for application from table on **Page V7-T1-307**. Add key removal code number to listed catalog number. Example: E34KFB2.

Key Removal Positions ①



Code Suffix	Key Removal Position
1	Right only
2	Left only
3	Right and left
4	Center only
6	Left and center
7	All positions

Dissimilar Locks and Keys

Listed operators have identical locks and keys (Key Code H661), Catalog Number **10250ED824**. For dissimilar lock and key combinations, see **Page V7-T1-242**.

Alternate Knobs and Levers for Operators ②

E34K_



E34L_



E34A_



Color	Knob		Lever		Lever Designed for Added Ingress Protection ③	
	Suffix Code	Catalog Number	Suffix Code	Catalog Number	Suffix Code	Catalog Number
Black	K1	E34K1	L1	E34L1	A1	E34A1
Red	K2	E34K2	L2	E34L2	A2	E34A2
Green	K3	E34K3	L3	E34L3	A3	E34A3
Yellow	K4	E34K4	L4	E34L4	A4	E34A4
White	K5	E34K5	L5	E34L5	A5	E34A5
Blue	K6	E34K6	L6	E34L6	A6	E34A6
Gray	K7	E34K7	L7	E34L7	A7	E34A7
Orange	K8	E34K8	L8	E34L8	A8	E34A8

Notes

- ① Key removal in “spring return from” positions not recommended.
- ② See operators on **Page V7-T1-306**.
- ③ For use on maintained operators only.

1

Illuminated Selector Switch Operators

120 Vac Transformer Selector Switch, Cam 1



Operator without Knob or Lever

Positions	Operator Action	Transformer Type—50/60 Hz 6V #755 Lamp Catalog Number ^{③④}	Full Voltage Type—AC or DC ^① Lamps—#755, #757, #1835, 120MB ^② Catalog Number ^④	
Two-position—60° throw		Cam Code 1 ^⑤ E34VFB_	Cam Code 1 ^⑤ E34SFB_	
Three-position—60° throw		Cam Code 2 ^⑤ E34VGB_	Cam Code 3 ^⑤ E34VHB_	Cam Code 2 ^⑤ E34SGB_
		E34VNB_ ^⑥	E34VPB_ ^⑥	E34SNB_ ^⑦
		E34VJB_ ^⑥	E34VKB_ ^⑥	E34SJB_ ^⑦
		E34VLB_	E34VMB_	E34SLB_
Four-position—40° throw		E34VRB_	—	E34SRB_

Knob



Lever



Knobs and Levers

Color ^②	Knob Catalog Number and Code Number	Lever Catalog Number and Code Number
Red	10250TER	10250TFR
Green	10250TEG	10250TFG
Yellow	10250TEA	10250TFA
Blue	10250TEL	10250TFL
Clear	10250TEC	10250TFC
White	10250TEW	10250TFW
Amber	10250TEM	10250TFM

Light Unit Voltage Suffix

Add to operator Catalog Number listed in table above.

Type of Light Unit

Transformer Type 50/60 Hz		Full Voltage Type AC or DC ^①	
Voltage	Suffix Code	Voltage	Suffix Code
24	024	6	06
120	120	12	12
208	208	24	24
240	240	48	48
380	380	120	120
480	480	240 ^⑥	240
600	600		

Notes

Use NEMA 4X 10250T operators where exposed to ultraviolet light, see **Pages V7-T1-213 to V7-T1-283**.

^① Full voltage light units can be used at other than listed voltages by changing lamp. Replacement lamps are listed on **Page V7-T1-269**.

^② 120MB lamps are used on both 120V and 240V operators.

^③ Operator includes lens gasket and lens attachment screws.

^④ Add suffix code for light unit voltage to listed catalog number from Light Unit Voltage Suffix table above.

Example: For 24V transformer type light unit, order E34VFB024.

^⑤ For selection of the proper cam and contact block required to obtain a specific circuit sequence, see selection tables on **Pages V7-T1-303 to V7-T1-305**.

^⑥ 120 and 240V transformer only.

^⑦ 120 full voltage only.

^⑧ Resistor type. May generate excess heat if used in high density.

^⑨ Amber, clear and white lenses have a black arrow (R). Red, green and blue lenses have a white arrow (R).

Accessories






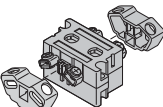
Accessories

	Description	Catalog Number
E34TA2 	Padlocking Attachment for Flush Pushbutton Operators. Permits locking NC contacts in open position with 1/4 in padlock. Will not lock NO contact.	E34TA2
10250TA_ 	Flexible Weather Resistant Boot for use with flush pushbutton operators.	
	Clear	10250TA46
	Black	10250TA47
	Red	10250TA48
	Green	10250TA49
	Flexible Weather Resistant Boot for use with button operators (extended buttons preferred).	
	Black	10250TA3
	Red	10250TA4 ①
	Green	10250TA10
	Clear	10250TA85
	Transparent Boot for regular, illuminated pushbutton operators and PresTest.	10250TA25 ②
E34TA3 	Special Retaining Nut —to accommodate thick panel.	
	Indicating light	E34TA30
	PresTest, pushbuttons and selector switches	E34TA31
E34TA6 	Shroud for Mushroom Head Operator —prevents accidental operation. (Not for push-pull operators.)	E34TA6
E34TA12 	Extended Retaining Nut —replaces standard nut and provides guard for flush type pushbutton operators.	E34TA12
E34TA15 	Guard for illuminated pushbutton	E34TA15
E34TA11 	Padlocking Attachment for non-illuminated knob selector switches— accommodates up to five, 1/4 in padlocks.	E34TA11

Notes

- ① Should not be used on flush button for STOP function.
- ② Not suitable for single contact block depth cast enclosure. Cover is too thick.

Accessories, continued

	Description	Catalog Number
<p>E34TK3</p> 	<p>Thrust Washer—To meet Ford Motor Company mounting specifications.</p>	<p>E34TK3</p>
<p>10250TA7_</p> 	<p>Contact Block Terminal Jumps—Available in multiples of 100 only.</p> <p>Terminal to terminal—within block (short):</p> <p>100 per package 10250TA70</p> <p>1000 per package 10250TA70-2</p> <p>Terminal to terminal—block to block (long):</p> <p>100 per package 10250TA71</p> <p>1000 per package 10250TA71-2</p>	
<p>10250TMT8</p> 	<p>Master Test (Dual Input) Module—Internal Form C relay suitable for either AC or DC applications. Total electrical isolation between monitored and test circuit. Fits all illuminated 10250T, E22, E30 and E34 devices.</p> <p>48 Vdc 10250TMT8</p>	
<p>10250TFL_</p> 	<p>Flasher Module—Internal Form C relay suitable for AC applications. One unit required for each operator in master test circuit.</p> <p>24 Vac 10250TFL2</p> <p>120 Vac 10250TFL1</p>	
<p>E22CW</p> 	<p>Panel Mounting Nut Wrench—E22, E30, E34 and octagonal 10250T.</p>	<p>E22CW</p>
<p>10250TA101</p> 	<p>Fingerproof Shroud—10 per package. Fits new style contact blocks and light units.</p>	<p>10250TA101</p>

Options

Legend Plates ①

Field Color

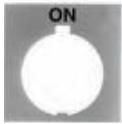
Legend plates can be supplied printed on black, red, silver or white field. To order legend printed on a color other than indicated—add

suffix code to the end of the catalog number as follows:

“R” for Red field;
“W” for White field; or
“S” for Silver field.

Example: E34SP26**R**—
Standard plate with red field marked OPEN.

Standard



Jumbo



For Pushbutton Operators and Indicating Lights

Legend	Color of Field	Standard ② Catalog Number	Jumbo Catalog Number	Legend	Color of Field	Standard ② Catalog Number	Jumbo Catalog Number
Letters on Legend Plates Below are 3/16 in High							
CLAMP	Black	E34SP90	E34LP90	OFF	Red	E34SP24	E34LP24
CLOSE		E34SP73	E34LP73	ON	Black	E34SP25	E34LP25
DOWN		E34SP74	E34LP74	OPEN		E34SP26	E34LP26
EMERG. STOP	Red	E34SP13	E34LP13	OUT		E34SP27	E34LP27
FAST	Black	E34SP75	E34LP75	POWER ON		E34SP80	E34LP80
FASTER		E34SP87	E34LP87	RAISE		E34SP28	E34LP28
FEEDER ON		E34SP94	E34LP94	READY		E34SP86	E34LP86
FEEDER OFF		E34SP95	E34LP95	RESET		E34SP29	E34LP29
FORWARD		E34SP15	E34LP15	REVERSE		E34SP30	E34LP30
HIGH		E34SP16	E34LP16	RUN		E34SP31	E34LP31
IN		E34SP17	E34LP17	SAFE		E34SP85	E34LP85
INCH		E34SP18	E34LP18	SLOW		E34SP32	E34LP32
JOG		E34SP19	E34LP19	SLOWER		E34SP88	E34LP88
JOG FOR.		E34SP20	E34LP20	START		E34SP33	E34LP33
JOG REV.		E34SP21	E34LP21	STOP	Red	E34SP34	E34LP34
LOW		E34SP22	E34LP22	TEST	Black	E34SP83	E34LP83
LOWER		E34SP23	E34LP23	TRANSFER		E34SP93	E34LP93
LUBE-FAIL		E34SP92	E34LP92	TRIP		E34SP84	E34LP84
MOTOR RUN		E34SP81	E34LP81	UNCLAMP		E34SP91	E34LP91
MOTOR STOP		E34SP82	E34LP82	UP		E34SP35	E34LP35

Blank Plastic Legend Plates—Square ③

Color Lettering	Field Side 1	Side 2	Standard Catalog Number	Jumbo Catalog Number	Extra Large Catalog Number
Black	White	Silver	10250TSP76	10250TLP76	10250TEP76
White	Red	Black	10250TSP77	10250TLP77	10250TEP77

Notes

- ① For dimensions, see **Page V7-T1-288**.
- ② 3/32 in high lettering.
- ③ Legend plates with non-standard markings or aluminum legend plates see 10250T listing on **Page V7-T1-262**.

1

Standard



Jumbo



For Selector Switch Operators

Legend	Color of Field	Standard Catalog Number	Jumbo Catalog Number	Legend	Color of Field	Standard Catalog Number	Jumbo Catalog Number
Two-Position—3/16 in High Lettering				Three-Position—3/16 in High Lettering			
FOR. REV.	Black	E34SP38	E34LP38	AUTO OFF HAND	Black	E34SP49	E34LP49
HAND AUTO		E34SP39	E34LP39	FOR. OFF REV.		E34SP50	E34LP50
HIGH LOW		E34SP40	E34LP40	FOR. SAFE REV.		E34SP69	E34LP69
JOG RUN		E34SP41	E34LP41	HAND OFF AUTO		E34SP51	E34LP51
MAN. AUTO		E34SP67	E34LP67	MAN. OFF AUTO		E34SP68	E34LP68
OFF ON		E34SP42	E34LP42	OPEN OFF CLOSE		E34SP53	E34LP53
OPEN CLOSE		E34SP43	E34LP43	RUN SAFE JOG		E34SP70	E34LP70
RUN JOG		E34SP44	E34LP44	UP OFF DOWN		E34SP54	E34LP54
SAFE RUN		E34SP45	E34LP45	ON STOP SAFE		E34SP71	E34LP71
START JOG		E34SP46	E34LP46				
START STOP		E34SP47	E34LP47				
UP DOWN		E34SP48	E34LP48				

For Push-Pull Units

Legend	Color of Field	Standard ^① Catalog Number	Jumbo ^② Catalog Number
PULL ON/PUSH OFF	Black	E34PP5	E34R5
PULL OPEN/PUSH CLOSE	Black	E34PP8	E34R8
PULL UP/PUSH DOWN	Black	E34PP11	E34R11




Notes

- ① 3/32 in (2.4 mm) high lettering.
- ② 1/8 in (3.2 mm) high lettering.

Enclosures

Die Cast, Polyester and Stainless Steel Enclosures

Enclosures (Case and Cover)—Surface Mounting ①

	Number of Elements	One Contact Block Depth Catalog Number	Two Contact Block Depth Catalog Number
Die Cast Enclosure 	Die Cast Enclosure—In-Line ②③ NEMA 4, 4X, 12, 13		
	1	E34N1	E34N11
	2	E34N2	E34N12
	3	E34N3	E34N13
	4	—	E34N14
Polyester Enclosure 	Polyester—In-Line NEMA 3, 4X, 12		
	1	—	E34N51
	2	—	E34N52
	3	—	E34N53
	4	—	E34N54
Stainless Steel Enclosure 	Stainless Steel ④—In-Line NEMA 4, 4X, 12		
	1	—	10250TN33
	2	—	10250TN34
	3	—	10250TN35
	4	—	10250TN36

Dimensions, see Page V7-T1-322.

Mounting Instructions

These E34 Die Cast Enclosures feature a corrosion resistant coating identical to finish on the E34 operators except gray in color. Not for use in ultraviolet light applications.

One and Two Contact Block Depth Enclosures

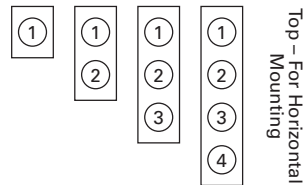


One Contact Block Depth Enclosure

Two Contact Block Depth Enclosure

Enclosure Layouts

Top – For Vertical Mounting



Notes

- ① For spacing increments, see **Page V7-T1-314**.
- ② All die cast enclosures can be converted to base mounting of contact blocks with spacers 10250TA22 or 10250TA23. See listing on **Page V7-T1-257**.
- ③ When used with E30 pushbuttons, only the one element enclosure can be used.
- ④ 14 gauge, type 304.

1 Die Cast and Stainless Steel—Flush Mount, Covers Only^①

Flush Mounting Covers



Covers Only—Flush Mounting

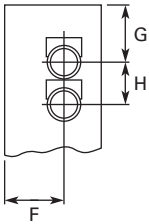
Number of Elements	Catalog Number	Catalog Number
Flush Die Cast Covers		
	In-Line Deep Cover	In-Line Flat Cover
1	E34F11	E34F1
2	E34F12	E34F2
3	E34F13	E34F3
4	E34F14	E34F4
In-Line Stainless Steel Flush Plates^②		
	With Pullbox	Without Pullbox
1	10250TS10	10250TS1
2	10250TS11	10250TS2
3	10250TS12	10250TS3
4	10250TS14	10250TS4
Dimensions, see Page V7-T1-323.		

Spacing Increments

Approximate Dimensions in Inches (mm)

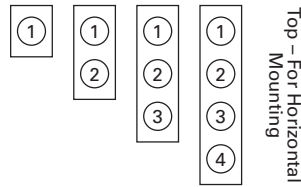
Type	F	G	H
Die cast	2.44 (62.0)	2.5 (63.5)	1.88 (47.8)
Polyester	1.88 (47.8)	Min. 2.13 (54.1)	2.25 (57.2)
Stainless steel	1.69 (42.9)	Min. 1.73 (43.9)	2.25 (57.2)

Spacing Increments for Enclosures



Enclosure Layouts

Top – For Vertical Mounting



Notes

- ① These E34 die cast covers feature a corrosion resistant coating identical to the finish on the E34 operators except gray in color.
- ② Not oiltight. NEMA 1 applications only.

Contact Blocks

Standard Contact Blocks

- UL A600/P600 rated
- Color-coded plungers—red/green for NC/NO circuits
- Silver contact tips with “reliability nibs”
- Black (opaque) or amber (translucent) housings
- Pressure plate or spade terminals
- Fingerproof shrouds (for pressure terminals only)

Logic Level Contact Blocks

- UL A600/P600 rated
- Black plungers
- Inert palladium knife-blade contacts
- Black (opaque) housings
- Pressure plate or spade terminals
- Fingerproof shrouds not available

Special Function Contact Blocks

- UL A600/P600 rated
- Black plungers
- Silver contact tips with “reliability nibs”
- Black (opaque) housings
- Pressure plate terminals only
- Fingerproof shrouds not available

Special Purpose Contact Block

- Maximum 300V rated
- Black plungers
- Silver contact tips with “reliability nibs”
- Black (opaque) housings
- Pressure plate terminals only
- Fingerproof shrouds not available

Reliability Nibs

Reliability nibs are the hallmark of Eaton’s contact blocks. A pointed silver nib on the contact tip ensures reliable switching from logic level (5V) up to 600V applications. Therefore standard contact blocks can be used for most logic level applications where the contacts are not exposed to any harsh environmental conditions.

Palladium Contacts

Palladium, which is more inert than gold, is well suited for voltages and currents approaching zero and is recommended for applications where environmental conditions are a factor.

Maximum Contact Block Mounting per Operator Type

Operator	Max. Stack
Pushbuttons	6
Push-pull operators	2
Roto-push operators	4
Two- or three-position selector switches	6
Four-position selector switches	4
Joysticks	4

10250T1



Contact Blocks

Symbol	Circuit	Description ^①	Standard	Spade Terminal ^②	Logic Level	Spade Terminal ^②
			Pressure Terminal Catalog Number	Catalog Number	Pressure Terminal Catalog Number	Catalog Number
	Blank No Plunger 1NC	Stack up to six blocks (six circuits) unless otherwise noted.	10250T51	10250T59	10250T51E	10250T59E
	Blank No Plunger 1NO	Stack up to six blocks (six circuits) unless otherwise noted.	10250T53	10250T60	10250T53E	10250T60E
	NO-NC	Stack up to six blocks (12 circuits) unless otherwise noted.	10250T1	10250T40	10250T1E	10250T40E
	2NC	Stack up to six blocks (12 circuits) unless otherwise noted.	10250T3	10250T42	10250T3E	10250T42E
	2NO	Stack up to six blocks (12 circuits) unless otherwise noted.	10250T2	10250T41	10250T2E	10250T41E
Special Function Blocks ^③						
	Blank No Plunger LONC	Late opening NC. Stack up to six blocks (six circuits) unless otherwise noted.	10250T71 ^③	—	10250T71E ^③	—
	ECNO-NC	Early closing NO and standard NC. Stack up to six blocks unless otherwise noted.	10250T47 ^{③④}	—	10250T47E ^③	—
	ECNO-NO	Early closing NO and standard NO. Stack up to four blocks unless otherwise noted.	10250T57 ^{③④}	—	10250T57E ^③	—
	2LONC	Two late opening NC contacts. Stack up to six blocks unless otherwise noted.	10250T45 ^③	—	10250T45E ^③	—
	LONC-ECNO	Overlapping contacts. Stack up to four blocks unless otherwise noted.	10250T55 ^{③④}	—	10250T55E ^③	—
Special Purpose Blocks ^⑤						
	2NO-2NC	Four circuits in single block depth. Rated 300V max. Stack up to four blocks unless otherwise noted.	10250T44 ^⑤	—		

Notes

- ^① All 10250T contact blocks shown are suitable for use on standard 10250T and E34 operators. These contact blocks are not suitable for Class I Division 2 type 10250T or E34 devices.
- ^② Contact blocks with spade terminals are limited to a maximum of one contact block per operator and minimum spacing between devices is 2.5 in (63.5 mm). Not suitable for use in 10250T or E34 enclosures. Also available in amber housing. Not available with fingerproof shrouds.
- ^③ Special function contact blocks are not suitable for use with roto-push operators, three-position push-pull operators, or four-position selector switches.
- ^④ ECNO contact blocks are not suitable for use with two-position joysticks or when operators are used with padlock attachments.
- ^⑤ Special purpose 10250T44 contact blocks are not suitable on selector switches or roto-push operators. Okay to use with three-position push-pull operators only on low voltage (30V or less) circuits.

10250T1CP



Contact Blocks with Fingerproof Shrouds

Symbol	Circuit	Description ^①	Standard Pressure Terminal ^② Catalog Number	Logic Level Pressure Terminal ^② Catalog Number
Blank No Plunger	1NC	Stack up to six blocks (six circuits) unless otherwise noted.	10250T51P	10250T51EP
Blank No Plunger	1NO	Stack up to six blocks (six circuits) unless otherwise noted.	10250T53P	10250T53EP
Blank No Plunger	NO-NC	Stack up to six blocks (12 circuits) unless otherwise noted.	10250T1P	10250T1EP
Blank No Plunger	2NC	Stack up to six blocks (12 circuits) unless otherwise noted.	10250T3P	10250T3EP
Blank No Plunger	2NO	Stack up to six blocks (12 circuits) unless otherwise noted.	10250T2P	10250T2EP
Special Function Blocks ^③				
Blank No Plunger	LONC	Late opening NC. Stack up to six blocks (six circuits) unless otherwise noted.	10250T71P ^④	10250T71EP ^④
Blank No Plunger	ECNO-NC	Early closing NO and standard NC. Stack up to six blocks unless otherwise noted.	10250T47P ^{③④}	10250T47EP ^④
Blank No Plunger	ECNO-NO	Early closing NO and standard NO. Stack up to four blocks unless otherwise noted.	10250T57P ^{③④}	10250T57EP ^④
Blank No Plunger	2LONC	Two late opening NC contacts. Stack up to six blocks unless otherwise noted.	10250T45P ^④	10250T45EP ^④
Blank No Plunger	LONC-ECNO	Overlapping contacts. Stack up to four blocks unless otherwise noted.	10250T55P ^{③④}	10250T55EP ^④

Replacement Parts

Replacement Lamps—For E34 Illuminated Operators

Mfg. Lamp Type	Voltage	Base Style	Application	Part Number
120MB	120V	T 3-1/4 bayonet	10250T resistor indicating light	28-3044
#267	6.3V	T 3-1/4 bayonet	10250T flasher	10250ED986-4
#755	6.3V	T 3-1/4 bayonet	10250T transformer, PresTest and full voltage	28-2202
#756	12V	T 3-1/4 bayonet	10250T full voltage	28-5184
#757	24V	T 3-1/4 bayonet	10250T full voltage	28-5185
#1828	32V	T 3-1/4 bayonet	10250T full voltage	28-5186
#1835	55V	T 3-1/4 bayonet	10250T resistor	28-5187
NE48	120V	T 4-1/2 bayonet	10250T neon	28-494
NE51H-R22	120V	T 3-1/4 bayonet	10250T neon	28-3754
NE51H-R68	240V	T 3-1/4 bayonet	10250T neon	28-3755

Notes

- ① All 10250T contact blocks shown are suitable for use on standard 10250T and E34 operators. These contact blocks are not suitable for Class I Division 2 type 10250T or E34 devices.
- ② To order contact blocks with translucent amber housing, change suffix P to **CP** in catalog number, e.g., 10250T51**CP**.
- ③ ECNO contact blocks are not suitable for use with two-position joysticks or when operators are used with padlock attachments.
- ④ Special function contact blocks are not suitable for use with roto-push operators, three-position push-pull operators, or four-position selector switches.



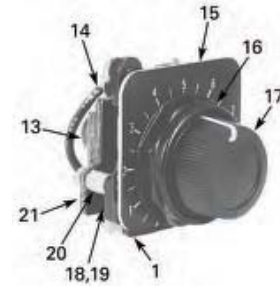
Flush Head Pushbutton Operator



Mushroom Head Pushbutton Operator



Jumbo Mushroom Head Operator



Potentiometers



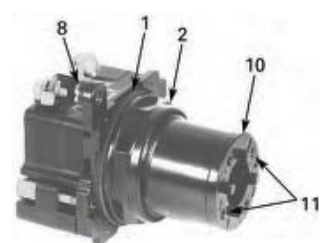
Illuminated Pushbutton Operator



Transformer Type Indicating Light



Knob-Operated Selector Switch Operator



Full Voltage, Resistor and Transformer Type Illuminated Selector Switch

E34 Style Operator Replacement Parts

Item No.	Description	No. Req.	Part Number
1	Gasket	1	16-1548
2	Mounting nut	1	15-1530-4
3	Set screw (#6-32 x 0.250 in long hollow hex)	2	11-2014
4	Mushroom head button (includes [2] item 5)	1	As Req. Below
	Black	—	53-1317
	Red	—	53-1317-2
	Yellow	—	53-1317-3
	Green	—	53-1317-4
	Blue	—	53-1317-22
5	Set screw (#10-32 x 0.250 in long hollow hex)	2	11-544
6	Jumbo mushroom head button (aluminum—includes [2] item 5)	1	As Req. Below
	Red	—	53-1317-9
	Black	—	53-1317-10
	Yellow	—	53-1317-11
	Green	—	53-1317-12
7	Jumbo mushroom head button (aluminum—red EMERG. STOP) does not include item 5	1	53-1349-18
8	Mounting screw (#6-32 x 0.710 in long)	2	10250TA79
	Washer	2	16-2038
9	Terminal screw and lug (captive)	Req.	80-5502
10	Gasket (supplied with basic unit)	1	32-803
11	Round head screw (#4-40 x 0.344 in long) (supplied with basic unit)	2	11-4553

Item No.	Description	No. Req.	Part Number
12	Mounting screw	2	11-1632
13	Simple potentiometer (does not include items 18, 28 or 29)	1	As Req. Below
	1,000 ohms	—	41-782-2
	2,500 ohms	—	41-782-3
	5,000 ohms	—	41-782-10
	10,000 ohms	—	41-782-4
	25,000 ohms	—	41-782-5
	50,000 ohms	—	41-782-6
14	Connector (includes screw and lug)	2	25-1851
15	Indicating plate	1	As Req. Above
	Standard size (without legend)	—	30-4460
	Large size (specify legend)	—	10250TR30
16	Retaining nut	1	15-1547-3
17	Knob	1	53-1314
	Socket set screw (#6-32 x 0.250 in long)	1	11-2014
18	Coupling	1	11-2014 29-3749-2
19	Set screw (#6-32 x 0.188 in long)	1	11-1199
20	Spacer	2	56-1066-18
21	Connector (includes screw and lug)	1	25-1851-2
22	Mounting nut	1	15-1938-2

Technical Data and Specifications


Mechanical Ratings

Description	Specification
Frequency of Operation	
All pushbuttons	6000 operations/hr.
Key and lever selector switches	3000 operations/hr.
Auto-latch devices	1200 operations/hr.
Life	
Pushbuttons	10 x 10 ⁶ operations
Contact blocks	10 x 10 ⁶ operations
PresTest units	10 x 10 ⁶ operations
Lever and key selector switches	0.25 x 10 ⁶ operations
Twist to release pushbuttons	0.3 x 10 ⁶ operations
Shock Resistance	
Duration	210 ms ≥5g

General Specifications

Description	Specification
Climate Conditions	
Operating temperature	1° to 150°F (–17° to 66°C)
Storage temperature	–40° to 176°F (–40° to 80°C)
Altitude	6,562 ft (2,000m)
Humidity	Max. 95% RH at 60°C
Terminals	
Marking	NC-NO on the contact block to meet the NEMA requirements. Dual marking system 1–2 for normally closed, 3–4 for normally open to meet BS5472 (Cenelec EN50 005).
Clamps	Terminals are saddle clamp type for 1 x 22 AWG (0.34 mm ²) to 2 x 14 AWG (2.5 mm ²) conductors
Torque	7 lb-in (0.8 Nm)
Degree of protection against direct electrical contact	IP2X with fingerproof shroud
Light Units	
Transformers	Will withstand short-circuit for 1 hour per IEC 60947-5-1
Bulbs—average life:	
Transformer type	20,000 hrs.
Resistor/direct voltage type	2500 hrs. minimum at rated V
LED	60,000 to 100,000 hrs.

Electrical Ratings

Description	Specification
Insulation	$U_i = 660 \text{ Vac or Vdc}$
Thermal	$I_{th} = 10\text{A}$
Short Circuit Coordination to IEC/EN 60947-5-1	
Rated conditional short circuit current	1 kA
Fuse type	GE power controls TIA 10, red spot type gG, 10A, 660 Vac, 460 Vdc, BS88-2, IEC 60269-2-1
	
UL rating	A600, P600
AC load life duty cycle 1200 operations/hour	
10A	110V pf 0.4— 1×10^6 operations
5A	250V pf 0.4— 1×10^6 operations
2A	600V pf 0.4— 1×10^6 operations
Switching capacity	
AC 15 rated make/break ($11 \times I_b$ at $1.1 \times U_b$)	
6A	120V pf 0.3
4A	240V pf 0.3
2A	660V pf 0.3
DC13 rated make/break ($1.1 \times I_b$ at $1.1 \times U_b$)	
1.0A	125V L/R ≥ 0.95 at 300 ms
0.55A	250V L/R ≥ 0.95 at 300 ms
0.1A	660V L/R ≥ 0.95 at 300 ms
10A	110V pure resistive
Maximum ratings for logic level and hostile atmosphere application	
Maximum amperes	0.5A
Maximum volts	120 Vac/Vdc
Low voltage switching	Conical shaped points or “reliability nibs” improve performance in dry circuit, corrosive, fine dust and other contaminated atmospheres. Under normal environmental conditions, the minimum operational voltage is 5V and the minimum operational current is 1 mA, Vac/Vdc.
Contact operation	Slow make and break. All normally closed contacts have positive opening operation, i.e., normally closed contacts are forced open in the event of contact weld or spring breakage.

Electrical Ratings—Contact Block

Meet or Exceed NEMA Rating Designations A600, A300 and B300 for AC and P600 for DC

Description	50 Vac or 60 H				Vdc		
	120	240	480	600	24/28	125	250
Meet or Exceed NEMA Rating Designations A600, A300 and B300 for AC and P600 for DC							
Make and emerg. interrupting capacity (amp)	60	30	15	12	5.7	1.1	0.55
Normal load break (amp)	6	3	1.5	1.2	5.7	1.1	0.55
Thermal current (amp)	10	10	10	10	5.0	5.0	5.0
Voltamperes:							
Make and emerg. interrupting capacity	7200	7200	7200	7200	138	138	138
Normal load break	720	720	720	720	138	138	138

Mounting Options

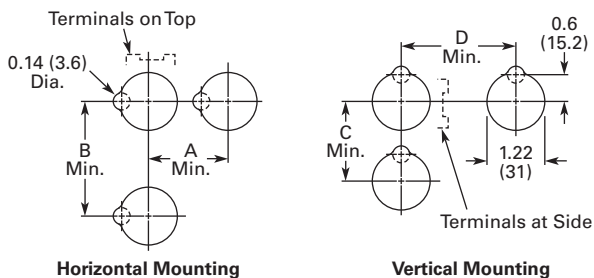
Panel Thickness

- Minimum: 0.06 in (1.6 mm)
- Maximum: 0.25 in (8 mm) including legend plate
- Maximum can be increased to 0.375 in (15.9 mm) using optional retaining nut
 - Indicating light: 10250TA30
 - Pushbutton/selector switch: 10250TA31

Mounting Matrix

Legend Plate	Dimensions in Inches (mm)			
	A	B	C	D
Small	1.63 (41.3)	2.25 (57.2)	2.25 (57.2)	1.63 (41.3)
Medium	1.75 (44.5)	2.25 (57.2)	2.25 (57.2)	1.75 (44.5)
Large	2.25 (57.2)	2.25 (57.2)	2.25 (57.2)	2.25 (57.2)

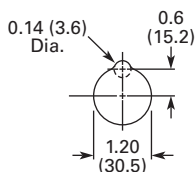
Mounting Options in Inches (mm)



Horizontal mounting means terminals are located top and bottom of contact block. Vertical mounting means terminals are left and right of contact block. This allows close spacing of adjacent operators with easy access to terminals.

Locating nib hole or notch is 0.14 in (3.6 mm) #29 drill.

Drilling Dimensions in Inches (mm)



1.10

Pushbuttons and Indicating Lights

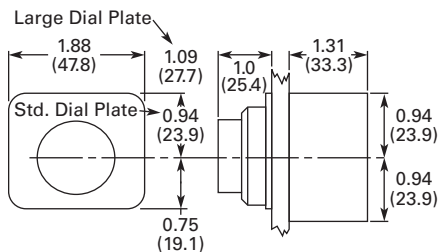
30.5 mm Corrosion Resistant Watertight/Oiltight—E34

1

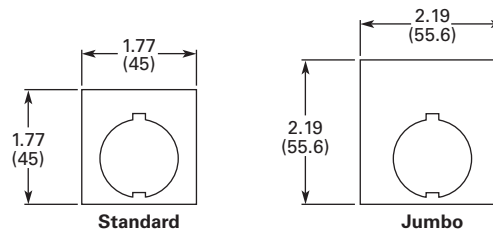
Dimensions

Approximate Dimensions in Inches (mm)

Potentiometer



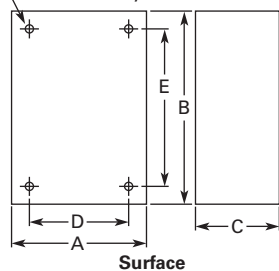
Legend Plates



Surface Mounting

Die Cast, Polyester and Stainless Steel Enclosures

4 Mtg. Holes — 10-32 Screw Size for
1 – 4 Element Die Cast/
Stainless Steel Enclosure
7/32 Screw Size for
Polyester



Number of Elements	Element Arrangement	Wide A	High B	Deep C	Mounting D	E	Conduit Entrance
Die Cast							
1	In-line	3.88 (98.6)	4.00 (101.6)	3.00 (76.3) ①	2.69 (68.3)	3.25 (82.6)	3/4
2		3.88 (98.6)	5.88 (149.4)	3.00 (76.3) ①	2.69 (68.3)	5.13 (130.3)	
3		3.88 (98.6)	7.75 (196.9)	3.00 (76.3) ①	2.69 (68.3)	7.00 (177.8)	1
4		3.88 (98.6)	9.63 (244.6)	3.00 (76.3) ①	2.69 (68.3)	8.88 (225.6)	
Polyester							
1	In-line	3.81 (96.8)	6.63 (168.4)	3.38 (85.9)	2.94 (74.7)	4.88 (124.0)	②
2		3.81 (96.8)	6.63 (168.4)	3.38 (85.9)	2.94 (74.7)	4.88 (124.0)	
3		3.81 (96.8)	8.88 (225.6)	3.38 (85.9)	2.94 (74.7)	7.13 (181.1)	
4		3.81 (96.8)	11.13 (282.7)	3.38 (85.9)	2.94 (74.7)	9.38 (238.3)	
Stainless Steel							
1	In-line	3.00 (76.2)	3.50 (88.9)	3.00 (76.2)	1.50 (38.1)	4.25 (108.0)	②
2		3.50 (88.9)	6.75 (171.5)	3.00 (76.2)	1.50 (38.1)	7.50 (190.5)	
3		3.50 (88.9)	9.00 (228.6)	3.00 (76.2)	1.50 (38.1)	9.00 (228.6)	
4		3.50 (88.9)	11.25 (285.8)	3.00 (76.2)	1.50 (38.1)	12.00 (304.8)	

Notes

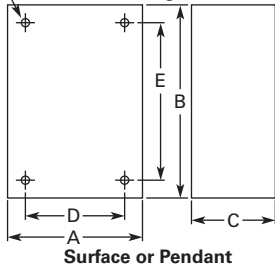
- ① Depth given is for two contact block deep stations. One contact block deep stations subtract 3/4 in (19.1 mm).
- ② No conduit entrance holes provided. Drill as required.

Approximate Dimensions in Inches (mm)

Flush Mounting

Die Cast and Stainless Steel Covers Only

4 Mtg. Holes - 10-32 Screw Size
for 1-11 Element Encl, 1/4-20
Screw Size for 12 Element
and Larger



Number of Elements	Wide A	High B	Deep C	Mounting D	E
Die Cast					
1	3.88 (98.6)	4.00 (101.6)	0.25 (6.4) ①	3.50 (88.9)	3.63 (92.2)
2	3.88 (98.6)	5.88 (149.4)	0.25 (6.4) ①	3.50 (88.9)	5.50 (139.7)
3	3.88 (98.6)	7.75 (196.9)	0.25 (6.4) ①	3.50 (88.9)	6.00 (152.4)
4	3.88 (98.6)	9.63 (244.6)	0.25 (6.4) ①	3.50 (88.9)	9.25 (235.0)
Stainless Steel					
1	5.00 (127.0)	5.00 (127.0)	2.50 (63.5) ②	3.25 (82.6)	1.88 (47.8)
2	5.00 (127.0)	6.88 (174.8)	2.50 (63.5) ②	3.25 (82.6)	3.63 (92.2)
3	5.00 (127.0)	8.63 (219.2)	2.50 (63.5) ②	3.25 (82.6)	5.50 (139.7)
4	5.00 (127.0)	10.50 (266.7)	2.50 (63.5) ②	3.25 (82.6)	7.25 (184.2)

Notes

- ① Depth given is for flat cover. Deep cover is 3/4 in (19.1 mm) deeper.
- ② Depth given includes pull box.

1.10

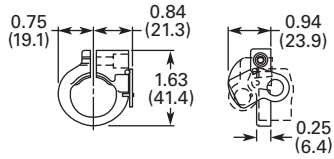
Pushbuttons and Indicating Lights

30.5 mm Corrosion Resistant Watertight/Oiltight—E34

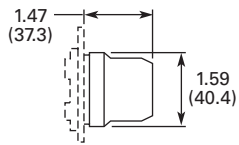
1

Approximate Dimensions in Inches (mm)

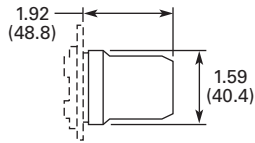
Padlocking Attachment for Flush Pushbutton Operators



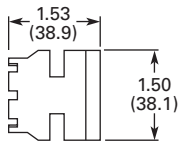
Flexible Weather Resistant Boot



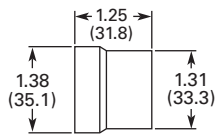
Transparent Boot



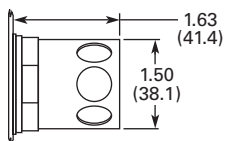
Shroud for Mushroom Head Operator



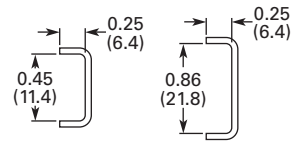
Extended Retaining Nut



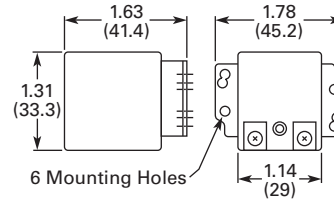
Guard for Illuminated Pushbutton



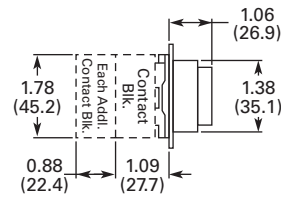
Contact Block Terminal Jumps



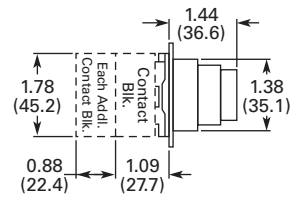
Master Test Module and Flasher Module



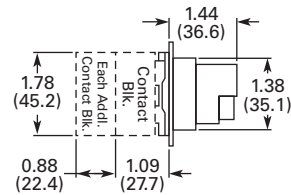
Flush Pushbutton



Extended Pushbutton

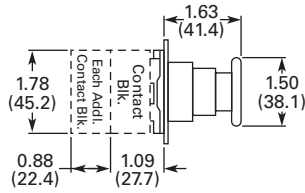


Half Shroud Pushbutton

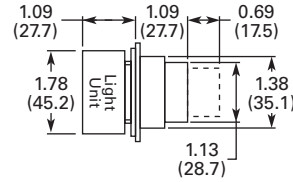


Approximate Dimensions in Inches (mm)

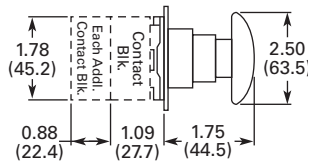
Mushroom Pushbutton



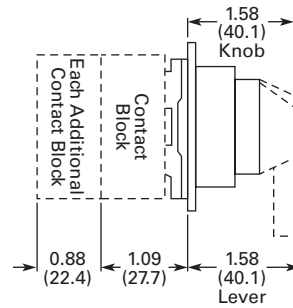
Illuminated Pushbutton



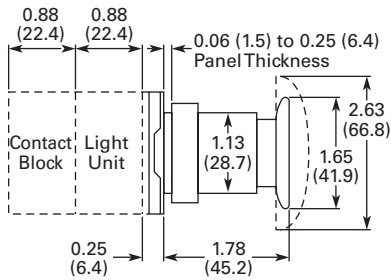
Jumbo Mushroom Pushbutton



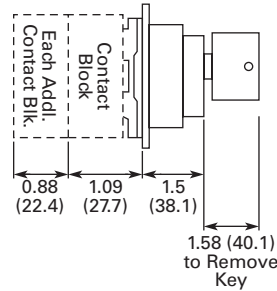
Selector Switch



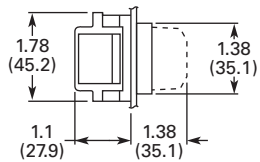
Push-Pull Switch



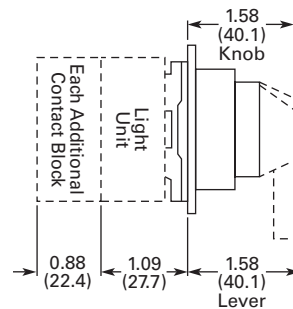
Key Selector Switch



Indicating Light



Illuminated Selector Switch



PresTest Indicating Light

