30.5 mm Pushbuttons
T series & E34

Powering Business Worldwide

Control and indication

Eaton 30.5 mm pushbuttons

Eaton's 30.5mm pushbuttons are versatile, durable, rugged, & stand the test of time in even the most hostile environments.

The range includes momentary, illuminated & mushroom head pushbuttons, selector switches, indicating lights & push-pull units.

The T Series Chrome 30.5 mm pushbutton line features a zinc die cast construction with chrome-plated housing & mounting nut. The same durable construction is also available with the corrosive resistant E34 line of pushbuttons.

All operators are IP66 rated to protect against dirt & moisture. Additionally, most devices come complete with grounding hardware to prevent electrical shock. Rugged metal construction, handsome appearance, extra features, & competitive prices makes Eaton's 30.5mm range of pushbuttons the logical choice for OEM's & board builders looking for value, durability, & reliability.

Features

- Die-cast metal housings create robust & heavy-duty devices that can endure repetitive & heavy handed use in industrial environments.
- IP66 rated for protection against dirt & moisture.
- The corrosion resistant E34 range can with stand extremely harsh environments.
- Contact blocks are colour coded (green for N.O. & red for N.C.) to permit easy identification & troubleshooting.
- Up to 6 contact blocks can stack on each other, allowing for up to 12 circuits per operator.
- Heavy-duty zinc die cast construction
- Enclosed silver contacts with reliability nibs
- 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.
- Diaphragm seals with drainage holes
- Grounding nibs on the operator casing.
- Logic level contact blocks have palladium tipped contacts to ensure circuit integrity down to 1mA @ 5V AC/DC.
- Bright, long-lasting & vibration-proof LED's are available for illuminated operators.

Standards

- CE EN60947-5-1
- UL 508 — File No. 131568
- CSA C22.2 No. 14 — File No. LR68551

Contact blocks

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 improve performance in dry circuit, corrosive, fine dust & other contaminated atmospheres. Under normal environmental conditions, the minimum operational voltage is 5V & the minimum operational current is 1 mA, AC/DC. For operation under a wider range of environmental conditions, logic level contact blocks with inert palladium tipped contacts are recommended. Diaphragm Seal with Drainage Holes 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 every time.

Grounding nibs

Most operators have green earthing screws to prevent electrical shock. Operators also have "grounding nibs" — four metal points on the operator casting designed to bite through most paints & other coatings on metal panels to enhance the ground connection when the operator is securely tightened.

Standard Pushbuttons

Chrome, T Series pushbuttons

Chrome

The 30.5 mm pushbutton line features a zinc die cast construction with chrome-plated housing & mounting nut.

Applications for the chrome operators:

- Aggregate
- Automotive
- Construction Vehicles
- Industrial Equipment
- Material Handling
- Metal Forming
- Metal Stamping
- Mining
- Petrochemical
- Pulp & Paper

Corrosion Resistant, E34 Pushbuttons

Corrosion resistant

Eaton's Corrosion Resistant E34 Range of 30.5 mm pushbuttons features the same rugged die cast construction of our T Series with an additional two-layer 100% solid thermosetting cathodic epoxy coating. This coating provides a smooth flat black smooth, flat back, corrosion resistant surface that has passed a demanding 600 hour salt spray test.

Applications for corrosion resistant operators:

- Automotive
- Chemical Plants
- Food & Beverage
- Food Service Equipment
- Industrial Equipment
- Mining
- Pulp & Paper
- Waste Water Treatment Plants

Ultraviolet light

E34 cathodic coating is not recommended for use in applications where exposure to ultraviolet light exists, use chrome operators.

Standard Pushbuttons, flush, extended & half-shrouded buttons,

Flush button

Colour	Chrome	Corrosion resistant
Black	**T101**	**E34PB1**
Red	**T102**	**E34PB2**
Green	**T103**	**E34PB3**
Yellow	**T104**	**E34PB4**
Grey	**T105**	**-**
White	**T106**	**E34PB5**
Brown	**T107**	**-**
Blue	**T108**	**E34PB6**

Extended button

Colour	Chrome	Corrosion resistant
Black	**T111**	**E34EB1**
Red	**T112**	**E34EB2**
Green	**T113**	**E34EB3**
Yellow	**T120**	**E34EB4**
White	**T116**	**-**
Blue	**T118**	**E34EB6**

Half-shrouded

Colour	Chrome	Corrosion resistant
Black	**T501**	**E34EVB1**
Red	**T502**	**E34EVB2**
Green	**T503**	**E34EVB3**
Yellow	**T504**	**E34EVB4**
Blue	**T508**	**E34EVB6**

Base mounted contact blocks

Description	Item no.
1NO 1NC	**T6**
2NO	**T7**
2NC	**T8**
1NC	**T52**
1NO	**T54**
1LONC 1ECNO	**T56**
1LONC 1ECNO	**T58**

Logic level contact blocks

Description	Item no.
1NO 1NC	**T1E**
2NO	**T2E**
2NC	**T3E**
1NC	**T51E**
1NO	**T53E**

Standard contact blocks

Description	Item no.
1NO 1NC	**T1P**
2NO	**T2P**
2NC	**T3P**
1NC	**T51P**
1NO	**T53P**
2NO 2NC	**T44**
1LONC 1ECNO	**T55**
1ECNO 1NO	**T57**
1LONC	**T71**
2LONC	**T45**

T1P

T44

T57

NO = Normally Open, NC = Normally Closed, LONC = Late Open Normally Closed,
ECNO = Early Close Normally Open, Logic Level contact blocks have palladium contacts.

STEP 1

Select Pushbutton operator above.

STEP 2

Select contact block above

Control and indication

Eaton 30.5 mm pushbuttons

Mushroom operators momentary

Mushroom button 38.1mm

Colour	Chrome	Corrosion resistant
Black	**T121**	**E34LB1**
Red	**T122**	**E34LB2**
Green	**T123**	**E34LB3**
Yellow	**T124**	**E34LB4**
Blue	**T129**	**E34LB6**

Palm head button 63.5mm zinc

Colour	Chrome	Corrosion resistant
Black	**T171**	**E34JB1**
Red	**T172**	**E34JB2**
Red (Emergency Stop)	**T17213**	**E34JB2N**
Green	**T173**	**E34JB3**

Accessories for complete push-pull operators*

Description	Item no.
Padlock Assembly Kit	**6-A474**
Replacement Locking Tongue	**6-A475**
Padlock with Chain	**52-A1617**

Legend Plates

Engraving	Material	Item no.
STOP Pull to reset	Metal	**D2179-53CP**
STOP Pull to reset	Plastic	**E34LP179**

* For use with push-pull mushroom operators maintained.

STEP 1

Select Pushbutton operator above.

STEP 2

Select contact block.

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Mushroom operators components

Bare shaft operator for mushroom or palm pushbutton

Description	Item no.
Momentary, Spring Return	**T100**
Auto-Latch - Twist Base to Release	**T140**

38.1 Mushroom button for bare shaft operators

Colour	Item no.
Black	**T281**
Red	**T282**
Green	**T283**
Yellow	**T284**
Blue	**T288**

63.5Mm palm button (anodized aluminium) for bare shaft operators

Colour	Item no.
Black	**T291**
Red	**T292**
Green	**T293**

STEP 1

Select bare shaft operator above.

STEP 2

Select mushroom button above

STEP 3

Select contact block.

(previous page)

Push-pull mushroom operators maintained

T129P

T176P

T129M

E34129S

Push-pull operators complete padlockable

Head diameter	Colour	Material	Chrome	Corrosion resistant
45mm	Red	Zinc	**T129P**	**E34129P**
63.5mm	Red	Zinc	**T176P**	**E34176P**

Push-pull operators complete non-padlockable

Head diameter	Colour	Material	Chrome	Corrosion resistant
38mm	Red	Plastic	**T129S**	**E34129S**
45mm	Red	Zinc	**T129M**	**E34129M**
63.5mm	Red	Zinc	**T176M**	**E34176M**

STEP 1

Select Pushbutton operator above.

STEP 2

Select contact block.

(previous page)

Push-Pull operators components

Push-pull operators

Description	Position	Chrome	Corrosion resistant
Maintained Push & Pull	2	**T5**	**E34GDB**
Momentary Push & Pull	3	**T4**	**E34GEB**
Maintained Push & Momentary Pull	3	**T9**	**E34GFB**

38.1Mm mushroom button for push-pull operators

Description	Colour	Item no.
Operator Head	Black	**E34C1**
Operator Head	Red	**E34C2**
Operator Head	Red (Emergency Stop)	**10250TB63**
Operator Head	Green	**E34C3**

63.5Mm palm button (anodized aluminium) for push-pull operators

description	Colour	Item no.
Operator Head	Red	**E34J2**
Operator Head	Red (Emergency Stop)	**E34J2N8**

STEP 1

Select push-pull operator above.

STEP 2

Select mushroom button above

STEP 3

Select contact block.

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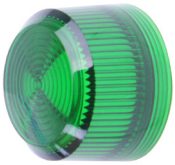
Control and indication

Eaton 30.5 mm pushbuttons

Illuminated operators, indicating light lenses



Plastic lenses

Colour	Plastic
Red	**E34H2**
Green	**E34H3**
Amber	**E34H9**
Clear	**E34H0**
Yellow	**E34H4**
White	**E34H5**
Blue	**E34H6**

Glass lenses (chrome)

colour	Glass (chrome)
Red	**TC7N**
Green	**TC8N**
Amber	**TC9N**
Clear	**TC11N**
White	**TC12N**
Blue	**TC10N**

Glass lenses (corrosion resistant)

Colour	Glass (corrosion resistant)
Red	**E34G2**
Green	**E34G3**
Amber	**E34G9**
Clear	**E34G0**
Yellow	**E34G4**
White	**E34G5**
Blue	**E34G6**

Indicating Light Units

Direct voltage indicating light unit

Description	Voltage	Chrome	Corrosion resistant
Direct voltage - order bulb separately	6 - 240V	**T197N**	**E34FB 197L***

See next page for bulbs.
Can be used with LEDs.
*LED only 6-240V

Resistor type indicating light units

Description	Voltage	Chrome	Corrosion resistant
Resistor Type 120V bulb supplied	110/120	**T201N**	**E34RB120**
	220/240	**T202N**	**E34RB240**

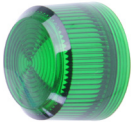
Incandescent bulb indicating light units

Description	Voltage	Chrome	Corrosion resistant
With incandescent bulb supplied	6	**T197N/2**	**E34FB06**
	12	**T197N/3**	**E34FB12**
	24	**T197N/4**	**E34FB24**
	48	**T197N/5**	**E34FB48**
	110	**T197N/7**	**E34FB110**
	240	**T197N/8**	**E34FB240**

Transformer type indicating light units

Description	Voltage	Chrome	Corrosion resistant
Transformer Type 6V Secondary bulb supplied	110/120	**T181N**	**E34TB120**
	220/240	**T182N**	**E34TB240**
	380/415	**T183N**	**E34TB380**
	440/480	**T184N**	**E34TB480**
	550/600	**T185N**	**E34TB600**
	415	**-**	**E34TB415**

STEP 1



Select a lens from above.

STEP 2

Select indicating light above

STEP 3

Select bulb (if not supplied)

(next page)

STEP 4

Select contact block.

(previous page)

Illuminated operators, illuminated pushbutton lenses

Plastic illuminated lenses

Colour	Plastic
Red	**E34V2**
Green	**E34V3**
Amber	**E34V9**
Clear	**E34V0**
Yellow	**E34V4**
White	**E34V5**
Blue	**E34V6**

Glass illuminated lenses (chrome)

Colour	Glass (chrome)
Red	**TC13N**
Green	**TC14N**
Amber	**TC15N**
Clear	**TC17N**
White	**TC18N**
Blue	**TC16N**

Glass illuminated lenses (chrome) (corrosion resistant)

Colour	Glass (chrome)
Red	**E34P2**
Green	**E34P3**
Amber	**E34P9**
Clear	**E34P0**
Yellow	**E34P4**
White	**E34P5**
Blue	**E34P6**

Press-to-test light units

Press-To-Test Indicating Lights - Direct Voltage

Description	Supply voltage	Chrome	Corrosion resistant
Direct voltage order bulb separately	6-240V	**T230N**	**E34FPB**
	380/415	**T413**	**E34XB380**

See next page for bulbs.
Can be used with LEDs.

Press-to-test indicating lights - transformer type

Description	Supply voltage	Chrome	Corrosion resistant
Transformer Type 6V, 1W secondary bulb supplied	110/120	**T221N**	**E34TPB120**
	220/240	**T222N**	**E34TPB240**
	380/415	**T223N**	**E34TPB380**

Press-to-test indicating lights - resistor type

Description	Supply voltage	Chrome	Corrosion resistant
Resistor Type 120V, bulb supplied	110/120	**T231N**	**E34RPB120**
	220/240	**T240N**	**E34RPB240**

Illuminated pushbutton light units

Illuminated pushbuttons - transformer type

Description	Supply voltage	Chrome	Corrosion resistant
Transformer type 6V secondary bulb supplied	110/120	**T411**	**E34XB120**
	220/240	**T412**	**E34XB1240**
	380/415	**T413**	**E34XB380**
	440/480	**T414**	**E34XB480**

Direct Voltage Indicating Light Unit

Description	Supply voltage	Chrome	Corrosion resistant
Direct voltage - order bulb separately	6 - 240V	**T441**	**E34CB 497L***

See next page for bulbs.
Can be used with LEDs.

*LED only 6-240V

STEP 1

Select a lens from above.

STEP 2

Select light from above

STEP 3

Select bulb (if not supplied)

(next page)

STEP 4

Select contact block.

(previous page)

Control and indication

Eaton 30.5 mm pushbuttons

Illuminated operators, push-pull mushroom lenses

Illuminated push-pull operators

Standard push-pull lenses

Colour	Item no.
Red	**E34M2**
Red (Emergency Stop)	**E34M2N8**
Green	**E34M3**
Amber	**E34M9**
Clear	**E34M0**
White	**E34M5**
Blue	**E34M6**

Side lighted anodised aluminium lenses

Colour	Item no.
Red	**10250TC57**
Red (Emergency Stop)	**10250TC63**
Green	**10250TC58**
Amber	**10250TC64**
Clear	**10250TC62**
White	**10250TC61**
Blue	**10250TC59**

Illuminated push-pull operators

Description	Supply voltage	Chrome	Corrosion resistant
Maintained Push & Pull	2	**T5**	**E34GDB**
Momentary Push & Pull	3	**T4**	**E34GEB**
Maintained Push & Momentary Pull	3	**T9**	**E34GFB**

Light units for illuminated push-pull operators

Direct voltage light modules for push-pull operators

Description	Voltage	Item no.
Direct Voltage	6-240V	**10250T70**

Order bulb separately - see next page for bulbs.
Can be used with LEDs.

Transformer type light modules for push-pull operators

Description	Voltage	Item no.
Transformer Type 6V secondary bulb supplied	110/120	**10250T63**
	220/240	**10250T65**
	380/415	**10250T66**
	440/480	**10250T67**

Resistor type light modules for push-pull operators

Description	Voltage	Item no.
Resistor Type 120V bulb supplied	120	**10250T80**
	240	**10250T81**

STEP 1

Select a lens from above.

STEP 2

Select push-pull operator from above

STEP 3

Select light unit from above

STEP 4

Select bulb (if not supplied)

STEP 5

Select contact block.

(previous page)

Illuminated operators, bulbs

Incandescent bulbs

Supply voltage	Watts	Item no.
6.3V	0.9W	**28-2225-33**
24V	1.2W	**28-2225-13**
130V	2.2W	**28-2225-24**

Super bright LED bulbs
(recognisable in outdoor daylight applications - ac/dc)

Colour	6-12V	24V	120V
Red	**E22LED612RN**	**E22LED024RN**	**E22LED120RN**
Green	**E22LED612GN**	**E22LED024GN**	**E22LED120GN**
Yellow	**E22LED612YN**	**E22LED024YN**	**E22LED120YN**
White	**E22LED612WN**	**E22LED024WN**	**E22LED120WN**

Bright LED bulbs - single chip (ac/dc)

Colour	6V	12V	24V
Red	**21BA9SL6R**	**21BA9SL12R**	**21BA9SL24R**
Green	**21BA9SL6V**	**21BA9SL12V**	**21BA9SL24V**
Yellow	**21BA9SL6G**	**21BA9SL12G**	**21BA9SL24G**
White	**21BA9SL6W**	**21BA9SL12W**	**21BA9SL24W**

Bright LED bulbs - single chip (ac/dc)

Colour	110V	240V
Red	**21BA9SL110R**	**21BA9SL240R**
Green	**21BA9SL110V**	**21BA9SL240V**
Yellow	**21BA9SL110Y**	**21BA9SL240A**
White	**21BA9SL110W**	**21BA9SL240W**

Neon bulbs

Supply voltage	Colour	Item no.
110V	Clear	**BA9S110N**
240V	Clear	**BA9S240N**
240V	Green	**BA9S240NG**
240V	Red	**BA9S240NR**

Control and indication

Eaton 30.5 mm pushbuttons

Selector switch operators,

2 Position selector switches

Description (M = Maintained, S = Spring Return)	Chrome	Corrosion resistant
M M	**T4011**	**E34VFB**
M S	**T4081**	**E34VEB**

3 Position selector switches

Description (M = Maintained S = Spring Return)	Cam code*	Chrome	Corrosion resistant
M M M	2	**T4022**	**E34VGB**
	3	**T4023**	**E34VHB**
	4	**T4024**	**-**
	6	**T4026**	**-**
S M M	2	**T4032**	**E34VJB**
	3	**T4033**	**E34VKB**
S M S	2	**T4042**	**E34VLB**
	3	**T4043**	**E34VMB**
M M S	2	**T4052**	**E34VNB**
	3	**T4053**	**E34VPB**

4 Position selector switches

Description (M = Maintained, S = Spring Return)	Cam code*	Chrome	Corrosion resistant
Maintained	7	**T4067**	**E34VTB**

* See cam selection chart to determine cam code.

E34K1

T341M

E34L1

E34A1

Selector switch knobs & levers

Knobs & levers

Description	Material	Item no.
Knob	Plastic	**E34K1**
	Metal	**T341M**
Lever	Plastic	**E34L1**
	Plastic	**E34A1***

* For maintained operators only.

Selector switches & joystick operators, cam selection guide

Cam selection chart showing contact sequence

Item No. of contact block	Circuit ①	Position selector switch					
		2	**3**	**3**	**3**	**3**	**4**
		Cam code no. 1	Cam code no. 2	Cam code no. 3	Cam code no. 4	Cam code no.6	Cam code no.7
T1P	A.N.C.	XO	OXO	OXX	XOO	XOO	XOOO
	B.N.O.	OX	OOX	OOX	OXO	OXO	OXOO
T1P	A.N.O.	OX	XOX	XOO	OXX	OOX	OOXO
	B.N.C.	XO	XXO	XXO	XOX	OOX	OOOX
T2P	A.N.O.	OX	XOX	XOO	OXX	OOX	OOXO
	B.N.O.	OX	OOX	OOX	OXO	OXO	OXOO
T3P	A.N.C.	XO	OXO	OXX	XOO	XOO	XOOO
	B.N.C.	XO	XXO	XXO	XOX	OOX	OOOX

Switching angle 60° between each position. Rated for ac only. Refer to actual installation instructions given with each switch for additional switching combinations. To determine the number of the cam you require & the correct contact block, select the contact sequence desired from table above. O = contacts open, x = contacts closed. The cam number is shown at top of column. The item number of the appropriate contact block is shown in column 1. At extreme left of table.

① Each contact block contains two contact circuits. The top set of contacts is identified as 'circuit a' & the lower set as 'circuit b' is indicated in the table. The chart shows the contact arrangements with the three contact blocks available & in each operator position. Additional contacts are obtainable by stacking contact blocks up to a maximum of 6 blocks (12 circuits). A maximum of 2 can be used with cam 6.

STEP 1

Select bare shaft operator

(previous page)

STEP 2

Choose cam based on contact sequence from cam selection guide table above (applies to 3 position selector switches only)

STEP 3

Select knob or lever

STEP 3

Select contact block.

(previous page)

Key operated selector switches

2 Position key operated selector switches

2 Position	Cam	Key removal	Chrome	Corrosion resistant
M M	-	Right & Left	**T15113**	**E34KFB3**
M S	-	Left Only	**T15712**	**E34KEB2**

Spare key

Description	Item no.
Replacement Keys (2)	**TA152**

Other key codes are available contact eaton for more information.

3 Position key operated selector switches

3 Position	Cam	Key removal	Chrome	Corrosion resistant
M M M	2	Left Right & Centre	**T15227**	**E34KGB7**
	3	Left Right & Centre	**T15237**	**E34KHB7**
	4	Left Right & Centre	**T15247**	**-**
	6	Left Right & Centre	**T15267**	**-**
M S M	2	Right & Centre	**T15325**	**E34KJB5**
	3	Right & Centre	**T15335**	**E34KKB5**
M S S	2	Centre Only	**T15424**	**E34KLB4**
	3	Centre Only	**T15434**	**E34KMB4**

STEP 1

Select switch operator

STEP 2

Choose cam based on contact sequence from cam selection guide table above (applies to 3 position selector switches only)

STEP 3

Select contact block.

(previous page)

Control and indication

Eaton 30.5 mm pushbuttons

2 position Operator

Latched Operator

4 position without latch

Selector switches & joystick operators, joystick operators

Two-Position Joystick Operators
The device mounts in the standard 30.5 mm mounting hole.

Four-Position Joystick Operators
The joystick operated control unit is intended for AC application only. The panel area required for the 4-position operator is equivalent to two standard pushbutton operators.

Latched Joystick Operators
The latch holds the lever in the centre position. The trigger latch must be released before lever can moved into any position.

2 Position joystick operator

Description	Item no.
2 position operator - Momentary Up & Down	**T452**

4 Position joystick operators (spring return only)

Description	Item no.
4 position - Without Latch	**T450**
4 position - With Latch	**T460**

4 Position joystick operators (maintained)

Description	Item no.
4 position - Without Latch	**10250 T451_***
4 position - With Latch	**10250 T461_***

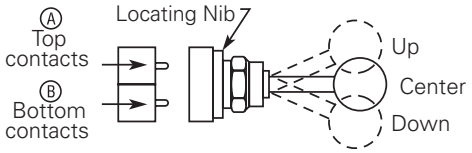
*Maintained Position
For maintained position (non-spring return), locate required maintained position or positions of operating lever in the Maintained table below & add appropriate Suffix Number to the Item Number selected from the table above.

Maintained positions

Up	Down	Left	Right	Suffix No.*
X	—	—	—	1
—	X	—	—	2
—	—	X	—	3
—	—	—	X	4
X	X	—	—	5
X	—	X	—	6
X	—	—	X	7
—	X	X	—	8
—	X	—	X	9
—	—	X	X	10
X	X	X	—	11
X	X	—	X	12
X	—	X	X	13
—	X	X	X	14
X	X	X	X	15

Two-position joystick operators - contact block operation

Figure 1, A and B Mounting Location



Up
NC contact at the top is closed
NO at the bottom is closed

Centre
All NC and NO contacts are open (1/2 Way) late Opening NC is closed

Down
NC contact at the bottom is closed
NO at the top is closed

Contact block selection & mounting

Handle position			Contact block		Mounting location	
Up	Centre	Down			Top	Bottom
Left	Centre	Right	Item no.	Type	A	B
X	O	O	T51P	1NC		
O	O	X	T51P	1NC		
O	X	O	T45	2LONC		
X O	O O	O X	T3P	1NC 1NC		
X O	X X	O X	T45	1LONC 1LONC		
X O O V	O O O O	O X X O	T44	1NC 1NO 1NC 1NO		

X = closed circuit, O = open circuit.

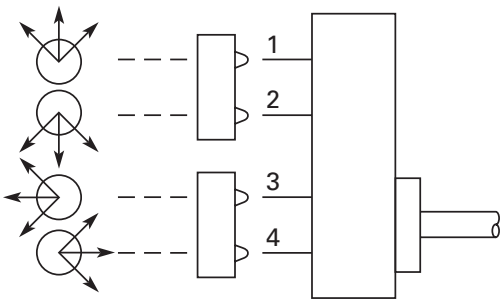
NO = Normally Open, NC = Normally Closed, LONC = Late Opening Normally Closed.

Four circuits in single block depth — rated 300V max.

Four-position joystick operators - contact block operation

Contact blocks mount directly on the back of the operator. For reliable operation, the maximum number of contact blocks that should be installed behind each operator lever is 2 (4 contacts total). Figure 2 identifies the circuits activated by each of the eight possible lever positions. Contact block plungers 1, 2, 3, 4 are depressed (change state) when handle is in the position indicated by arrows in Figure 2.

Figure 2, Circuit Activation



Application caution

Joystick operators are not recommended on certain DC applications above 24V DC which may involve lightly engaging the contacts (teasing) to achieve speed control, positioning, jogging, etc. Excessive arcing & deterioration of the contacts will occur.

Pushbuttons, Control station and Enclosures

Standard pushbuttons, flush, extended & half-shrouded buttons,

Diecast aluminium enclosures

Standard

No. Of holes	Single - depth T series	Corrosion resistant
1	**TN1**	**E34N1**
2	**TN2**	**E34N2**
3	**TN3**	**E34N3**
4	**TN4**	**E34N4**

Corrosion resistant

No. of holes	Double depth T series	Corrosion resistant
1	**TN11**	**E34N11**
2	**TN12**	**E34N12**
3	**TN13**	**E34N13**
4	**TN14**	**E34N14**
6	**TN15**	**-**

1-2 Hole: 3/4 inch conduit entry hole, 2-6 hole: 1 inch conduit bottom-entry hole, 1.5 Inch unf thread IP66.


TN4


TN2


TN11

Stainless steel enclosures

Stainless steel

No. of holes	316 Stainless
1	**XBS130**
2	**XBS230**
3	**XBS330**
4	**XBS430**
6	**XBS630**
8	**XBS830**
9	**XBS930**

Fibreglass enclosures

Fibreglass

No. of holes	Item no.
1	**TFG11**
2	**TFG12**
3	**TFG13**

20mm non-threaded conduit bottom-entry hole IP66, UV stabilised.


XBS330


TFG12

Assembled control stations

Push-pull stop stations (padlockable)

Operator head	Contacts	Item no.
Metal mushroom 45mm	1LONC	**10250T700M**
	1ECNO,1LONC	**10250T701M**
Metal palm 63.5mm	1LONC	**10250T700P**
	1ECNO,1LONC	**10250T701P**

10250T700P

"Staylock" push-pull stop stations (non-padlockable)

Operator head	Contacts	Padlock included	Item no.
Metal Mushroom 45mm	1LONC	NO	**ESM9/5**
	1LONC	YES	**ESM9/5P**
	1ECNO,1LONC	NO	**ESM9/6**
	1ECNO,1LONC	YES	**ESM9/6P**
Metal Palm 63.5mm	1LONC	NO	**ESP6/5**
	1LONC	YES	**ESP6/5P**
	1ECNO,1LONC	NO	**ESP6/6**
	1ECNO,1LONC	YES	**ESP6/6P**

ESM9/6

Stop start pushbutton station

Description	Item no.
Fibreglass Enclosure. Start: green pushbutton with boot Stop: red padlockable mushroom with boot	**T3500**


T3500

TA38

TA2

TA26

10250TA64

TA48

TA85

TA25

10250TA6
E34TA6

10250TA12
E34TA12

10250TA15
E34TA15

TA56
10250TA56Y

10250ED1241

TA8

TA22

Accessories

Padlock attachments	Description	Item no.
With hinged transparent flap. For flush or extended pushbuttons, & knob-operated selector switches	Plastic Cover	**TA38**
For flush stop button. Permits locking NC contacts in open position with padlock. Prevents operation of button. Will not lock NO contact	Chrome	**TA2**
	Corrosion resistant	**E34TA2**
For extended pushbutton. Permits locking NC contacts in open position with padlock	Chrome	**TA26**
For illuminated pushbuttons. Locks in down position only	Chrome	**10250TA64**

Boots	Colour	Item no.
Protective boot for flush pushbutton operators	Clear	**10250TA46**
	Blue	**91000TA46**
	Black	**TA47**
	Red	**TA48**
	Green	**TA49**
	Yellow	**TA50**
Protective boot for extended pushbutton operators	Black	**TA3**
	Red	**TA4**
	Green	**TA10**
	Clear	**TA85**
Protective boot for illuminated pushbuttons.	Clear	**TA25**
Protective boot for momentary mushroom operators on page 295. Not suitable for use with T140 operator.	Black	**TA88**

Shrouds & guards	Description	Item no.
Shroud for Mushroom Head Operator	Prevents accidental operation. Not for push-pull operators. Momentary operators only	**10250TA6 E34TA6**
Extended Retaining Nut	Replaces standard nut & provides guard for flush head pushbutton operators.	**10250TA12 E34TA12**
Guard for Illuminated Pushbutton	Guard for Illuminated Pushbutton	**10250TA15 E34TA15**
Shroud	For jumbo mushroom head operator. Available in Grey & Yellow (Not for push-pull operators, momentary operators only.)	**TA56 10250TA56Y**
Half Shroud – Yellow	For jumbo mushroom head operator.	**10250ED1241**

Hardware & kits	Description	Item no.
Fingerproof Shroud	10 per Package Fits new style contact blocks & light units.	**10250TA101**
Spacer Ring	Used when legend plate is not required.	**TA8**
Base Mounting Spacers	Equivalent to contact block in depth — Complete with screws, washers, etc. For use in pushbutton stations for base mounting contact blocks. 1 Block Deep 2 Blocks Deep	**TA22** **TA23**

Accessories

Special operators & attachments	Description	Item no.
Wobble Stick	Complete with retaining nut — fits standard button.	**TA5**
Maintained Contact Attachment	Mechanically interlocks two buttons & provides position indication for one. Use with two pushbutton operators & one or more contact blocks.	**TA1**


TA5


TA1

Hole plugs	Description	Item no.
Plug	For unused holes — Steel, painted grey	**10250TA7**
Stainless Steel Plug	For unused holes — Stainless Steel - Square	**E30KT5**


10250TA7

Tools	Description	Item no.
Octagonal Tool	Octagonal notched to fit over selector switch lever	**10250TA95**
Tool for Tightening Boots	Used to install boot	**TA96**
Allen Key	Used for removal of jumbo mushroom head.	**10250TA102**


10250TA95


TA96


10250TA102

Special light modules	Description	Item no.
Flasher Module	Changes any AC illuminated device to a controlled flashing light. 24V s 120V	**TFL2** **TFL1**

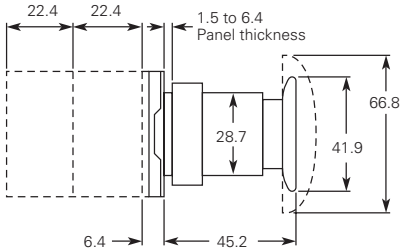

TFL2

Legend Plates

Description	Item no.
Aluminium T-Range, large size, black unless marked “red”	**TJ_ _**
Aluminium T-Range, medium size, black unless marked “red”	**TM_ _**
Stainless steel T-Range, medium size, black, blank	**TM36S**
Stainless steel T-Range, medium size, red, blank	**TM37S**
Plastic E34 range universal size, black unless marked “red”	**E34SP_ _**

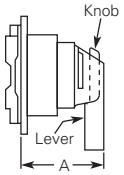
Legend	T-Range large Item no.	T-Range medium Item no.	E34 universal Item no.
Blank	**TJ36**	**TM36**	**TSP76**
Blank (red)	**TJ37**	**TM37**	**TSP77**
Off (red)	**TJ24**	**TM24**	**E34SP24**
On	**TJ25**	**TM25**	**E34SP25**
Run	**TJ31**	**TM31**	**E34SP31**
Start	**TJ33**	**TM33**	**E34SP33**
Stop (red)	**TJ34**	**TM34**	**E34SP34**

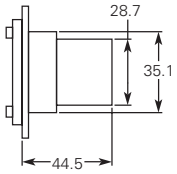
30.5mm Pushbuttons, dimensions & technical data



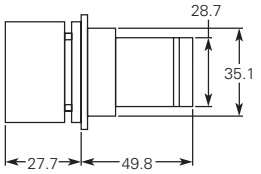
Push-Pull Switch

Operator	Dim. A
Knob	35.1
Lever	38.1

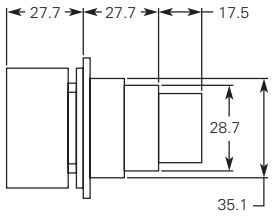




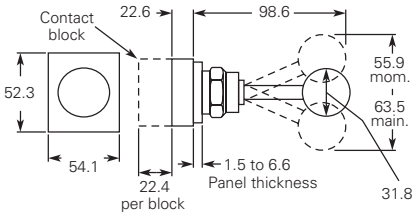
Key operated selector switch



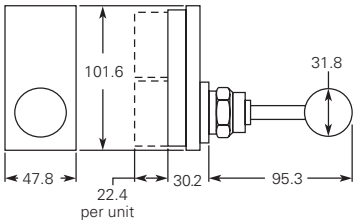
Illuminated Selector Switch



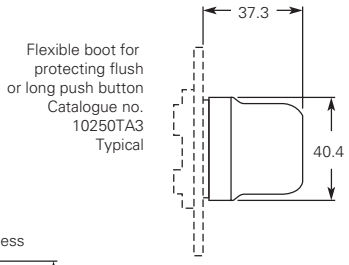
Illuminated Pushbutton

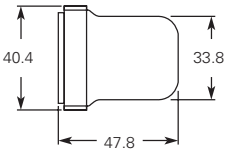


2-position joystick operator

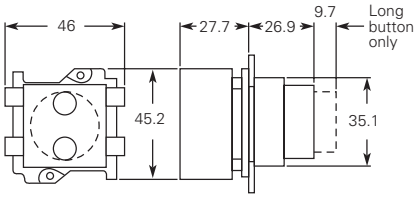


4-position joystick operator

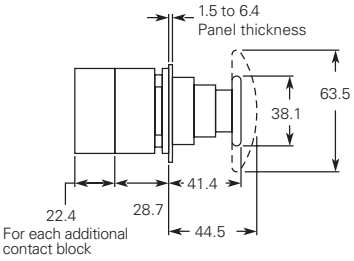




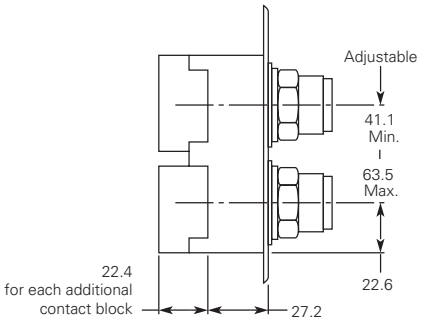
Transparent flexible boot for illuminated pushbutton
Catalogue no. 10250TA25



Flush and long pushbutton half shroud is the same as the long pushbutton with lower half of guard ring cut back



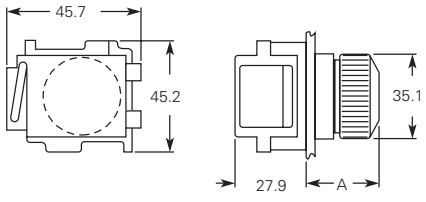
Mushroom and jumbo head pushbutton



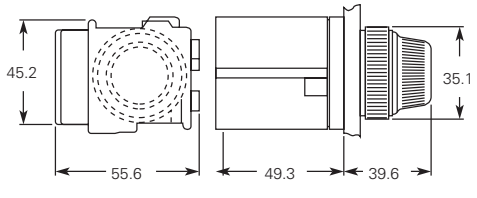
Maintained Pushbutton
Catalog No. 10250TA66
Typical

Lens	Dimension A
Plastic	35.1
Glass	39.6

Approximate Dimensions in mm



Indicating Light – Transformer Type



Press-To-Test Indicating Light – Transformer Type

Diecast aluminium enclosure dimensions

	Wide	High	Single depth	Double depth
1	98.6	101.6	57.2	76.3
2	98.6	149.4	57.2	76.3
3	98.6	196.9	57.2	76.3
4	98.6	244.6	57.2	76.3

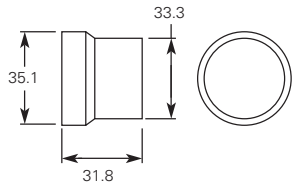
Fibreglass enclosure dimensions

	Wide	High	Deep
1	97	100	75
2	97	150	75
3	97	200	75

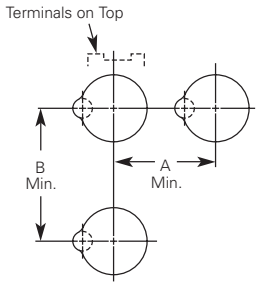
316 Stainless steel enclosure dimensions

	Wide	High	Deep
1	120	120	84
2	120	160	84
3	120	220	84
4	120	280	84

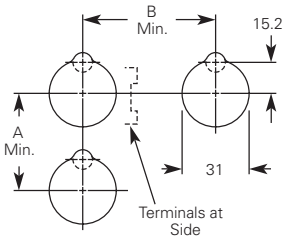
30.5mm Pushbuttons, dimensions & technical data



Extended Retaining Nut
Catalog No. 10250TA12



Horizontal Rows



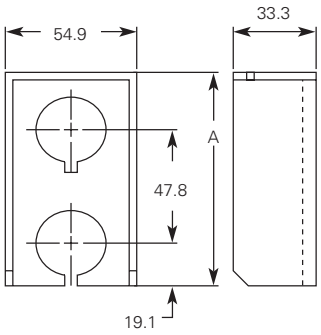
Vertical Rows

Panel drilling and minimum spacing

Legend plate	Dim. in mm A Min	B Min.
1 or 2 Circuit contact blocks		
Small or None	41.4	57.2
Standard	44.5	57.2
Jumbo ①	57.2	57.2
Extra Large	63.5	66
4 Circuit contact block 10250T44		
Small or None	47.8	57.2
Standard	47.8	57.2
Jumbo ①	57.2	57.2
Extra Large	63.5	66

① If Jumbo plates are to be placed one above the other vertically, add 3.3 to minimum dimensions listed.

Note: Locating nib hole or notch is 3.45 - 3.56 mm #29 drill.



Multiple Button Guard

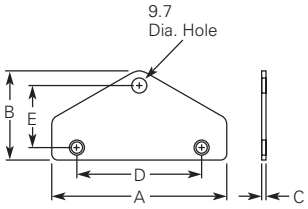
Number of elements	Dimension A
2	101.6
3	149.4
4	202.2
7	339.9

Legend plate	Dim. in mm A	B
1/2 Round Legend Plates		
Small	39.6	23.1
Standard	40.4	27.2
Jumbo	52.3	38.9
Square Legend Plates		
Small	40.4 Sq.	22.9
Standard	44.5 Sq.	26.9②
Jumbo	55.6 Sq.	38.1
Extra Large	62.0 Sq.	41.4

② For plastic legend plate, Dimension B is 28.4

Enclosure size (No. of elements)	Dimensions in inches (mm) Wide A	High B	Deep C	Mounting D	E
2, 3, & 4	95.3	49.3	3.3	68.3	35.1
6 & 7	101.6	55.6	3.3	73.2	41.4

Approximate Dimensions in mm



Chain Hook Bracket

Control and indication

Eaton 30.5 mm pushbuttons

Dimensions & Technical data

Features

- Heavy-duty zinc die cast construction
- Enclosed silver contacts with reliability nibs
- Diaphragm seals with drainage holes
- Grounding nibs on the operator casing

Benefits

- Reliability nibs improve contact reliability even under dry circuit & fine dust conditions
- Drainage holes prevent buildup of liquid inside the operator which can prevent operation in freezing environments
- Grounding nibs bite through paint & other coatings to provide secure ground

Contact operation

Slow make & 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.

Standards & certifications

- CE EN60947-5-1
- UL 508 — File No. 131568
- CSA C22.2 No. 14 — File No. LR68551

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

Technical data & specifications

Mechanical ratings:

- Frequency of operation: All pushbuttons 6000 operations/hr, Key & lever selector switches 3000 operations/hr, Auto-latch devices 1200 operations/hr.
- Life: Pushbuttons 10 x 106 operations, Contact blocks: 10 x 106 operations, PresTest units 10 x 106 operations, Lever & key selector switches 0.25 x 106 operations, Twist to release pushbuttons 0.3 x
  106 operations,
- Shock resistance: Duration 20 mS 5g

Climate conditions:

- Operating Temperature (-17° to 66°C), Storage Temperature (-40° to 80°C), Altitude 2,000m (6,562 ft.), Humidity Max. 95% RH @ 60°C

Terminals:

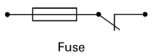
- Marking: NC-NO on the contact block to meet the NEMA requirements. Dual marking system 1 – 2 for normally closed, 3 – 4 for normally open to meet BS5472 (Cenelec EN50 005)
- Clamps: Terminals are saddle clamp type for 1 x 22 AWG (0.34 mm2) to 2 x 14 AWG (2.5 mm2) conductors
- Torque = 7 lb-in (0.8 Nm)
- Degree of protection against direct electrical contact: IP2X with fingerproof shroud

Light units:

- Transformers: will withstand short circuit for 1 hour per IEC 60997-5-1
- Bulbs — average life: Transformer type 20,000 hrs., Resistor/ direct voltage type 2500 hrs. minimum @ rated V, LED 60,000 to 100,000 hrs.

Electrical ratings:

- Insulation: Ui = 660V AC or DC
- Thermal: Ith = 10A
- 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, 660V AC, 460V DC, BS88-2, IEC 60269-2-1



-
- UL rating: A600, P600: AC load life duty cycle 1200 operations/ hour (– 10A: 110V pf 0.4 – 1 x 106 operations, – 5A: 250V pf 0.4 – 1 x 106 operations, – 2A: 660V pf 0.4 – 1 x 106 operations)
- Switching capacity: AC15 rated make/break (11 x Ie at 1.1 x Ue),
  (– 6A: 120V pf 0.3, – 4A: 240V pf 0.3, – 2A: 660V pf 0.3).
  DC13 rated make/break (1.1 x Ie at 1.1 x Ue), (– 1.0A: 125V L/R 0.95 at 300 mS, – .55A: 250V L/R 0.95 at 300 mS, – .1A: 660V L/R 0.95 at 300 mS, – 10A: 110V pure resistive)
- Maximum ratings for logic level & hostile atmosphere application: Maximum amperes: 0.5A
  Maximum volts: 120V AC/DC

Contact block

Meet or exceed NEMA rating designations **A600, A300 and B300 AC P600 DC**

Description	Volts SC 50 or 60 Hz				Volts DC		
	120	240	480	60	24	125	250
Make and Emerg. Interruptimng 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
Voltampress(VA)							
Make and Emerg. Interruptimng capacity	7200	7200	7200	7200	138	138	138
Normal load break	720	720	720	720	138	138	138

Eaton's electrical business is a global leader with expertise in power distribution and circuit protection; backup power protection; control and automation; lighting and security; structural solutions and wiring devices; solutions for harsh and hazardous environments; and engineering services. Eaton is positioned through its global solutions to answer today's most critical electrical power management challenges.

Eaton is a power management company with 2016 sales of $19.7 billion. Eaton provides energy efficient solutions that help our customers effectively manage electrical, hydraulic and mechanical power more efficiently, safely and sustainably. Eaton has approximately 95,000 employees and sells products to customers in more than 175 countries.

For more information, visit www.eaton.com.

Powering Business Worldwide

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