

# What's New in **HUMAN MACHINE INTERFACE**

Human Machine Interface products are devices that are actuated by a person to direct the operation of another device and/or indicate the status of an operating system (equipment or machine). Human Machine Interface products can be electromechanical devices, for example an emergency stop push button that stops the movement of a conveyor. Simple LED pilot lights or tower lights can provide visual indication that a machine is functioning properly. Human Machine Interface products can also be electronic, for example a touch-screen monitor/display.

Pages  
144 & 207



## **Unibody LED Pilot Lights, Non-Relampable**

available in two sizes; 30mm and 22mm, both with full voltage LED options in 24, 120 and 240 volts, and five color options.

Page 205



## **22mm IEC Momentary Non-Illuminated Reset Push Buttons**

designed to actuate the reset function of a Series 320 Overload Relay from outside of the enclosure.

Page 209



## **22mm IEC 20V-240V AC/DC Multi-Voltage Light Module, Relampable**

eliminates the headache of matching multiple lights with multiple voltages. The modular design of our light module can be used with 22mm IEC pilot lights, illuminated push buttons, push-to-test lights, and illuminated selector switches. *A c3 Exclusive!*

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## **IEC Tower Lights and Accessories**

stackable design allows up to four modules in a single assembly.

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## **16mm 20V-240V Multi-Voltage Pilot Lights, Relampable**

eliminates the headache of matching multiple lights with multiple voltages. *A c3 Exclusive!*

# HUMAN MACHINE INTERFACE

30mm Industrial Pilot Devices



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30mm Pilot Devices for Hazardous Duty



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22mm IEC Pilot Devices



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World Tower Lights



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Cam Switches



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22mm NEMA Pilot Devices



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16mm Indicating Lights



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13mm Pilot Lights



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Enclosures



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c3controls' 30mm Industrial Pilot Devices offer superior quality at an affordable price. These modular devices feature a rugged, all-polyester construction, are UL listed and are rated Type 4/4X as standard for watertight and corrosion resistance. c3's pilot devices are also listed for Type 1, 2, 3, 3R, 12 and 13 requirements. Our multi-voltage LED light unit can be operated at any voltage from 20V to 240V AC or DC.

# 30MM Industrial PILOT DEVICES

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Push Buttons 126

Special Operators 137

Pilot Lights 140

Selector Switches 146

Legend Plates 150

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Specifications 154

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NOTE: The scope (range, description, price, specifications, dimensions, etc.) of the product featured in this section is subject to change without notice. Refer to [www.c3controls.com](http://www.c3controls.com) for product updates.

**Conformity to Standards:**

UL 508, 1604

CSA C22.2 No. 14, 213  
IEC 60947-1, 60947-5-1

**Certifications:**

UL File #: E68568 (Guide NKCR, NKCR7);  
E157436 (Guide NOIV)

















CSA File #: LR47446  
CE Marked (per EU Low Voltage Directive  
2006/95/EC and 93/68/EEC)



Visit [www.c3controls.com](http://www.c3controls.com) to download product certifications.

## SELECT YOUR CONTACT BLOCK

### MODULAR CONTACT BLOCK CONFIGURATION

CODE	DESCRIPTION	CONTACT SYMBOL	COLOR	PRICE
<b>SILVER CONTACTS</b>				
CBNO	Normally Open Contact Block		Green/Clear	\$ 6.00
CBNO-IP20	Normally Open Contact Block with IP20 Guarded Terminals		Green/Clear	\$ 8.00
CBNC	Normally Closed Contact Block		Red/Clear	\$ 6.00
CBNC-IP20	Normally Closed Contact Block with IP20 Guarded Terminals		Red/Clear	\$ 8.00
CBEM	Early Make Contact Block		White/Clear	\$ 8.00
CBEM-IP20	Early Make Contact Block with IP20 Guarded Terminals		White/Clear	\$10.00
CBDB	Delayed Break Contact Block		Black/Clear	\$ 8.00
CBDB-IP20	Delayed Break Contact Block with IP20 Guarded Terminals		Black/Clear	\$10.00
<b>GOLD PLATED CONTACTS</b>				
CBNOG	Normally Open Contact Block		Green/Amber	\$10.00
CBNOG-IP20	Normally Open Contact Block with IP20 Guarded Terminals		Green/Amber	\$12.00
CBNCG	Normally Closed Contact Block		Red/Amber	\$10.00
CBNCG-IP20	Normally Closed Contact Block with IP20 Guarded Terminals		Red/Amber	\$12.00
CBEMG	Early Make Contact Block		White/Amber	\$12.00
CBEMG-IP20	Early Make Contact Block with IP20 Guarded Terminals		White/Amber	\$14.00
CBDBG	Delayed Break Contact Block		Black/Amber	\$12.00
CBDBG-IP20	Delayed Break Contact Block with IP20 Guarded Terminals		Black/Amber	\$14.00

### STANDARD RATING DESIGNATIONS

#### A600 RATING DESIGNATION

A600 (7,200 VA Make and 720 VA Break),  
600V AC Maximum  
Maximum Continuous Thermal Current, Ith: 10A

#### P300 RATING DESIGNATION

P300 (138 VA Make and 138 VA Break),  
250V DC Maximum  
Maximum Continuous Thermal Current, Ith: 5A



**Our Contact Blocks save you time and money** by offering the flexibility to operate multiple control circuits from a single pilot device. Most operators can be stacked 4 deep and up to 2 across, providing a total of 8 circuits per operator in any combination. Compared to others, our quick install snap-on feature makes installing multiple blocks a “snap” — they install in less time than it takes to pick up a screwdriver! And our heavy-duty construction ensures that these contact blocks stay connected.

### Tired of wiring contact blocks in cramped spaces?

Our unique 35 degree angled terminals provide ease of wiring for quick installation. In fact, you can wire the contact blocks outside the tight space of the control panel, then simply “snap-on” to the operator. All terminal screws have self-lifting captive wire clamps to speed wiring.

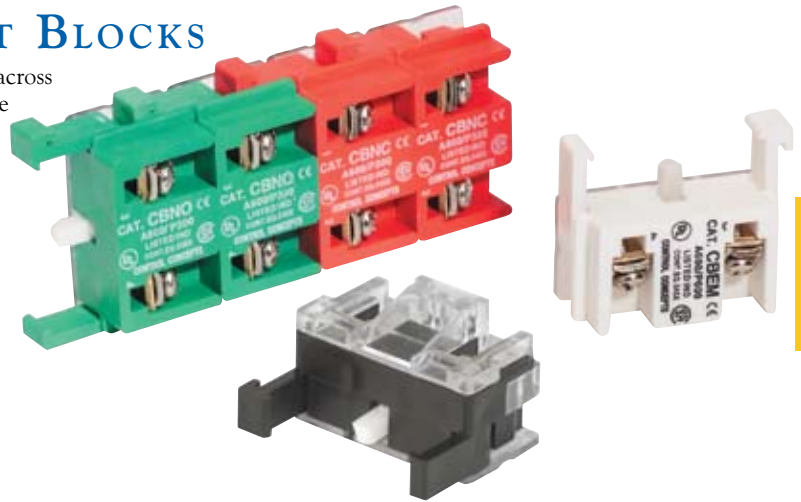
**Enhanced safety with field installable IP20 terminal guards** are transparent to maintain terminal visibility. Their construction provides easy access to the device terminals - making wiring fast and convenient, and they snap securely in place without the use of tools.  
NOTE: IP20 terminal guards must be installed before wiring.

For convenient terminal marking our IP20 terminal guards utilize Series WTB2 markers (see page 332), simplifying wiring and troubleshooting.

## 30MM STANDARD CONTACT BLOCKS

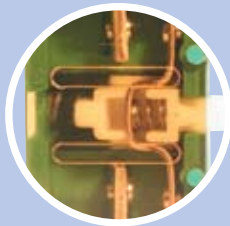
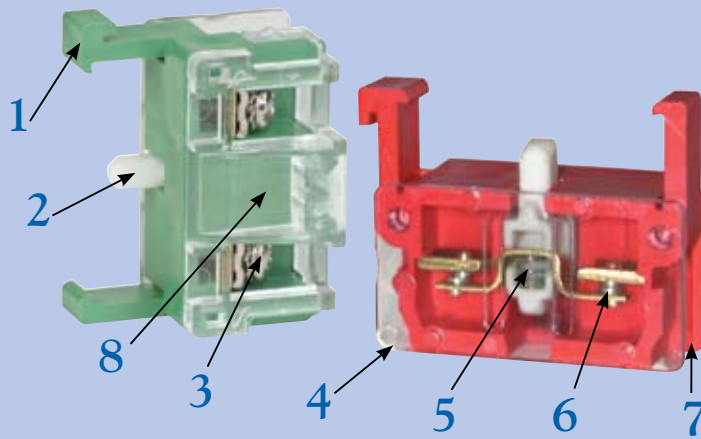
Our standard contact blocks are stackable 4 deep and up to 2 across on most operators for a total of 8 circuits per operator. They are color coded for instant circuit identification to minimize wiring errors and to speed the wiring process. You can combine contact block types to achieve your desired function.

Also refer to pages 162-163 for our complete selection of Hermetically Sealed and Factory Sealed Contact Blocks in our 30mm H-Line section.



### UNIQUE PRODUCT FEATURES

C3CONTROLS MANUFACTURES THE MOST INNOVATIVE, USER-FRIENDLY LINE OF CONTACT BLOCKS ON THE MARKET TODAY!



**NOTE:** Gold plated contacts are available on standard blocks for dry circuit applications. The cover will be gold (amber) in place of clear.

1. Vibration resistant snap-on assembly simplifies installation.
2. Self-lubricating thermoplastic stroker prevents sticking and corrosive build-up that is often associated with other competitor products.
3. 35 degree angle plated steel terminal screws with captive pressure plates facilitate wiring and protect against corrosion.
4. Clear V0 plastic covers resist combustion and aid in visual confirmation of circuit configuration.
5. Stainless steel spring for protection in corrosive environments.
6. Built-in self-wiping cleaning action and high point contact pressure for low-level switching. Silver contact rivets provide long life in normal control circuits.
7. Color-coded body for quick circuit identification (green = NO, red = NC, white = EM, black = DB).
8. Optional IP20 terminal guards protect against accidental contact with live parts. Can be ordered separately as an accessory or factory assembled providing the convenience of a single catalog number.

#### AVAILABLE CONTACT BLOCKS FOR ORDINARY LOCATIONS





## IT'S EASY TO BUILD YOUR OWN PUSH BUTTON

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

### Momentary Push Buttons (Non-Illuminated)

PBO - I II III IV V VI

Example: To build one of our most popular Push Buttons, the part number would be **PBO + II + III + IV + V + VI** or **PBO-FCGN-NO-IP20**

**NEW**  
EXPANDED  
PRODUCT  
OFFERING!



#### I. OPERATOR TYPE

CODE	DESCRIPTION	PRICE
PBO	Push Button Operator	\$ 8.40

#### II. CLAMP RING

CODE	DESCRIPTION	PRICE
(Blank)	Black Polyester (Type 4X)	—
A	Aluminum (Type 4)	\$ 2.00

#### III. CAP TYPE

CODE	DESCRIPTION	PRICE
(Blank)	Operator less Cap	—
FC	Flush Cap	\$ 2.40
GFC	Guarded Flush Cap	\$ 5.40
XC	Extended Cap	\$ 2.40
GXC	Guarded Extended Cap	\$ 5.40
MC	Mushroom Cap	\$ 8.00
JMC	Jumbo Mushroom Cap	\$10.00
SMC	Shrouded Mushroom Cap*	\$12.00
SJC	Shrouded Jumbo Mushroom Cap*	\$14.00

\*NOTE: Aluminum clamp rings are NOT an option for SMC or SJC.

#### IV. CAP COLOR

CODE	DESCRIPTION
(Blank)	Operator less Cap
BK	Black
BE	Blue
GN	Green
GY	Grey
RD	Red
WE	White
YW	Yellow

#### V. CONTACT BLOCK CONFIGURATION

CODE	DESCRIPTION	PRICE
(Blank)	Operator without Contact Blocks	—
NO	1 Normally Open Contact Block	\$ 6.00
NC	1 Normally Closed Contact Block	\$ 6.00
EM	1 Early Make Contact Block	\$ 8.00
DB	1 Delayed Break Contact Block	\$ 8.00
NO/NO	2 Normally Open Contact Blocks	\$12.00
NC/NC	2 Normally Closed Contact Blocks	\$12.00
NO/NC	1 Normally Open and 1 Normally Closed Contact Blocks	\$12.00

#### VI. OPTIONS

CODE	DESCRIPTION	PRICE/PC*
IP20	IP20 Guard	\$ 2.00

\*NOTE: When choosing the IP20 option, in order to achieve IP20 protection a terminal guard must be assembled on each contact block configuration, increasing the price \$2.00 for each guard.

DISCOUNT  
SCHEDULE **A**

## RUBBER BOOTS ALSO AVAILABLE

### Your Secondary Defense for Added Protection.

Chemicals on gloves, wash down areas and particularly harsh climates will do damage to any push button. Utilizing our state-of-the-art rubber boots protect both the operators and the circuits behind them.

Our Standard Rubber Boots feature a brass ring that is molded with Neoprene that has been modified to provide added pliability and protection against dust, freezing and thawing environments.

Our Fluorosilicone Rubber Boots feature a nickel-plated brass threaded ring that is insert molded into a special thermoset compound to withstand most applications in corrosive environments and perform well against more chemicals and vapors than Hypalon Boots.

### RUBBER BOOTS

#### STANDARD RUBBER BOOTS

CODE	COLOR	PRICE
RBBK	Black	\$15.00
RBGN	Green	\$15.00
RBRD	Red	\$15.00
RBYW	Yellow	\$15.00



#### FLUOROSILICONE RUBBER BOOTS

CODE	COLOR	PRICE
HRBBK	Black	\$18.00
HRBGN	Green	\$18.00
HRBRD	Red	\$18.00
HRBYW	Yellow	\$18.00



Example: To build one of our most popular Push Buttons with a Rubber Boot, replace **II, III & IV (Clamp Ring, Cap Type & Color)** with the code from the rubber boot chart above. The part number would be **PBO + (code from rubber boot chart above) + V + VI** or **PBO-RBGN-NO**.

NOTE: Rubber boots come standard with a built-in clamp ring and thrust washer. When installing operator we recommend that the thrust washer be placed behind the panel to prevent rotation.



## 30MM MOMENTARY NON-ILLUMINATED PUSH BUTTONS

c3controls goes the extra step to make sure that our products outlast the competition. Our 30mm Momentary Non-Illuminated Push Buttons are durable and flexible for a variety of uses. All c3controls 30mm operators are UL Listed and are rated Type 4/4X as standard for watertight and corrosion resistance. In addition, operators are also listed for Type 1, 2, 3, 3R, 12 and 13, and meet global standards requirements.

Product features include:

- Polyester construction for superior corrosion resistance, moisture rejection and electrical insulation.
- Optional polyester or polished aluminum clamp rings with coarse 16 pitch threads.
- #6 terminal screws with self-lifting captive wire clamps accommodate #22 through two #12 AWG wires (0.5 - 4mm<sup>2</sup>) per terminal.
- Operators conveniently mount in a round 1-13/64" (30.5mm) hole that is directly interchangeable with competitors units and eliminates the labor required for notching.



### UNIQUE PRODUCT FEATURES



1. Our revolutionary U-Cup seal is infused with a Teflon coating to eliminate cracking when exposed to harsh conditions such as heat, dryness and sunlight. The U-Cup seal rides easily along the stroker and keeps water, oils, dust and other corrosive particles in the air away from the contact blocks. This U-cup seal also acts like a squeegee and forms a permanent watertight seal that meets Type 4/4X with or without a rubber boot. *In fact, our push button was the first to be rated Type 4X without using a rubber boot!*
2. Our push buttons modular design provides endless options for appropriate operator interface with a variety of interchangeable cap types and colors which ultimately will save you time and money by reducing your inventory.

### SOME OF OUR POPULAR CONFIGURATIONS:



**SNAP-ON IP20  
TERMINAL GUARDS**  
protect against accidental  
contact with live parts.  
See page 152.

### MOMENTARY NON-ILLUMINATED PUSH BUTTON OPERATORS WITH POLYESTER CLAMP RING (TYPE 4X)

		FLUSH CAP		EXTENDED CAP	
	CAP COLOR	CATALOG NUMBER	PRICE	CATALOG NUMBER	PRICE
1NO	Black	PBO-FCBK-NO	\$16.80	PBO-XCBK-NO	\$16.80
	Green	PBO-FCGN-NO	\$16.80	PBO-XCGN-NO	\$16.80
	Red	PBO-FCRD-NO	\$16.80	PBO-XCRD-NO	\$16.80
1NC	Black	PBO-FCBK-NC	\$16.80	PBO-XCBK-NC	\$16.80
	Green	PBO-FCGN-NC	\$16.80	PBO-XCGN-NC	\$16.80
	Red	PBO-FCRD-NC	\$16.80	PBO-XCRD-NC	\$16.80
1 NO & 1 NC	Black	PBO-FCBK-NO/NC	\$22.80	PBO-XCBK-NO/NC	\$22.80
	Green	PBO-FCGN-NO/NC	\$22.80	PBO-XCGN-NO/NC	\$22.80
	Red	PBO-FCRD-NO/NC	\$22.80	PBO-XCRD-NO/NC	\$22.80

### MIX AND MATCH ANY COLOR AND MOMENTARY NON-ILLUMINATED PUSH BUTTON CAP





## IT'S EASY TO BUILD YOUR OWN PUSH BUTTON

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

### Maintained Push Buttons (Non-Illuminated)

#### 2-Position Push-Pull

**PBO** - **PP** - **IV** - **V** - **VI** - **VII**

Example: To build one of our most popular Push Buttons, the part number would be **PBO + II + PP + IV + V + VI + VII** or **PBO-PPMCGN-NO**

**NEW  
EXPANDED  
PRODUCT  
OFFERING!**



#### I. OPERATOR TYPE

CODE	DESCRIPTION	PRICE
PBO	Push Button Operator	\$ 8.40

#### II. CLAMP RING

CODE	DESCRIPTION	PRICE
(Blank)	Black Polyester (Type 4X)	—
Y	Yellow Polyester (Type 4X)	\$ 2.00
A	Aluminum (Type 4)	\$ 2.00

#### III. CAP FUNCTION

CODE	DESCRIPTION	PRICE
PP	Push-Pull Maintained	\$26.60

The 2-Position Push-Pull is maintained in both the push and pull positions. The primary application is "push" to "stop" and "pull" to "start".

**O = OPEN X = CLOSED**

MAINTAINED IN/MAINTAINED OUT					
1 CIRCUIT (1 NC)		2 CIRCUIT (1 NO/1 NC)		2 CIRCUIT (2NC)	
OUT	IN	OUT	IN	OUT	IN
NC	X	NC	X	NC	X
	O		O		O
		NO	O	NC	X
			X		O

#### IV. CAP TYPE

CODE	DESCRIPTION	PRICE
MC	Mushroom Cap	—
JMC	Jumbo Mushroom Cap	\$ 4.00

#### V. CAP COLOR

CODE	DESCRIPTION
BK	Black
BE	Blue
GN	Green
GY	Grey
RD	Red
WE	White
YW	Yellow

#### VI. CONTACT BLOCK CONFIGURATION

CODE	DESCRIPTION	PRICE
(Blank)	Operator without Contact Blocks	—
NO	1 Normally Open Contact Block	\$ 6.00
NC	1 Normally Closed Contact Block	\$ 6.00
EM	1 Early Make Contact Block	\$ 8.00
DB	1 Delayed Break Contact Block	\$ 8.00
NO/NO	2 Normally Open Contact Blocks	\$12.00
NC/NC	2 Normally Closed Contact Blocks	\$12.00
NO/NC	1 Normally Open and 1 Normally Closed Contact Blocks	\$12.00

#### VII. OPTIONS

CODE	DESCRIPTION	PRICE/PC*
IP20	IP20 Guard	\$ 2.00

\*NOTE: When choosing the IP20 option, in order to achieve IP20 protection a terminal guard must be assembled on each contact block configuration, increasing the price \$2.00 for each guard.

**DISCOUNT  
SCHEDULE A**

### SNAP-ON IP20 TERMINAL GUARDS

protect against accidental  
contact with live parts.  
See page 152.



### MIX AND MATCH ANY COLOR AND PUSH-PULL MAINTAINED NON-ILLUMINATED CAP



## 30MM MAINTAINED NON-ILLUMINATED PUSH BUTTONS

**THE MOST RUGGED EMERGENCY STOP AVAILABLE  
IN THE INDUSTRY!**

All c3controls 30mm operators are UL Listed and are rated Type 4/4X as standard for watertight and corrosion resistance. In addition, operators are also listed for Type 1, 2, 3, 3R, 12 and 13, and meet global standards requirements.

Product features include:

- Polyester construction for superior corrosion resistance, moisture rejection and electrical insulation.
- Optional polyester or polished aluminum clamp rings with coarse 16 pitch threads that easily thread on and won't cross thread or strip.
- All cap types are secured by the clamp ring once installed for tamper protection, unlike snap-on/snap-out caps used by others.
- #6 terminal screws with self-lifting captive wire clamps accommodate #22 through two #12 AWG wires (0.5 - 4mm<sup>2</sup>) per terminal.
- Operators conveniently mount in a round 1-13/64" (30.5mm) hole that is directly interchangeable with competitors units and eliminates the labor required for notching.



### UNIQUE PRODUCT FEATURES

#### We Put The Metal On The Inside — Where It Counts!



c3controls Emergency Stops contain a solid brass detent mechanism and are the best-engineered, most reliable heavy-duty emergency stop buttons in the world. This rugged design, which comes standard with a polyester clamp ring or optional aluminum clamp ring, ensures reliable operation in emergency applications, providing safe interruption of circuits, and much longer life when compared to any competitor's product. A stainless steel version is also available for corrosive environments (see pages 166-167).

### SOME OF OUR POPULAR CONFIGURATIONS:

#### 2-POSITION PUSH-PULL MAINTAINED NON-ILLUMINATED OPERATORS WITH POLYESTER CLAMP RING (TYPE 4X)

	1 CIRCUIT (1NC)		2 CIRCUIT (1 NO/1 NC)		2 CIRCUIT (2 NC)	
COLOR	CATALOG NUMBER	PRICE	CATALOG NUMBER	PRICE	CATALOG NUMBER	PRICE
Black	PB0-PPMCBK-NC	\$41.00	PB0-PPMCBK-NO/NC	\$47.00	PB0-PPMCBK-NC/NC	\$47.00
Green	PB0-PPMCGN-NC	\$41.00	PB0-PPMCGN-NO/NC	\$47.00	PB0-PPMCGN-NC/NC	\$47.00
Red	PB0-PPMCRD-NC	\$41.00	PB0-PPMCRD-NO/NC	\$47.00	PB0-PPMCRD-NC/NC	\$47.00
Yellow	PB0-PPMCYW-NC	\$41.00	PB0-PPMCYW-NO/NC	\$47.00	PB0-PPMCYW-NC/NC	\$47.00

## IT'S EASY TO BUILD YOUR OWN PUSH BUTTON

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

### Maintained Push Buttons (Non-Illuminated)

#### 2-Position Push-Twist Release

**PTR** - **TMC** - - - -  
I II III IV V VI

Example: To build one of our most popular Push Buttons, the part number would be **PTR + II + TMC + IV + V + VI** or **PTR-TMCGN-NO**

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#### I. OPERATOR TYPE

CODE	DESCRIPTION	PRICE
PTR	Push-Twist Release	\$30.00

#### II. CLAMP RING

CODE	DESCRIPTION	PRICE
(Blank)	Black Polyester (Type 4X)	—
Y	Yellow Polyester (Type 4X)	\$ 2.00
A	Aluminum (Type 4)	\$ 2.00

The linear push off twist to release style operator requires a "twist" for the "out" or "on" position and a linear "push" for the "in" or "off" position. The twist mushroom cap is marked with arrows identifying the direction for the twist release.

**O = OPEN X = CLOSED**

MAINTAINED IN/MAINTAINED OUT					
1 CIRCUIT (1 NC)		2 CIRCUIT (1 NO/1 NC)		2 CIRCUIT (2NC)	
OUT	IN	OUT	IN	OUT	IN
NC	X	NC	X	NC	X
	O	NO	O	NC	X
			X		O

#### III. CAP TYPE

CODE	DESCRIPTION	PRICE
TMC	Twist Mushroom Cap	\$ 8.00

#### IV. CAP COLOR

CODE	DESCRIPTION
BK	Black
BE	Blue
GN	Green
GY	Grey
RD	Red
WE	White
YW	Yellow

#### V. CONTACT BLOCK CONFIGURATION

CODE	DESCRIPTION	PRICE
(Blank)	Operator without Contact Blocks	—
NO	1 Normally Open Contact Block	\$ 6.00
NC	1 Normally Closed Contact Block	\$ 6.00
EM	1 Early Make Contact Block	\$ 8.00
DB	1 Delayed Break Contact Block	\$ 8.00
NO/NO	2 Normally Open Contact Blocks	\$12.00
NC/NC	2 Normally Closed Contact Blocks	\$12.00
NO/NC	1 Normally Open and 1 Normally Closed Contact Blocks	\$12.00

#### VI. OPTIONS

CODE	DESCRIPTION	PRICE/PC*
IP20	IP20 Guard	\$ 2.00

\*NOTE: When choosing the IP20 option, in order to achieve IP20 protection a terminal guard must be assembled on each contact block configuration, increasing the price \$2.00 for each guard.

**DISCOUNT**  
**SCHEDULE** **A**

## SOME OF OUR POPULAR CONFIGURATIONS:

### 2-POSITION PUSH-TWIST RELEASE MAINTAINED NON-ILLUMINATED OPERATORS WITH POLYESTER CLAMP RING (TYPE 4X)

	1 CIRCUIT (1NC)			2 CIRCUIT (1 NO/1 NC)			2 CIRCUIT (2 NC)	
COLOR	CATALOG NUMBER	PRICE		CATALOG NUMBER	PRICE		CATALOG NUMBER	PRICE
Black	PTR-TMCBK-NC	\$44.00		PTR-TMCBK-NO/NC	\$50.00		PTR-TMCBK-NC/NC	\$50.00
Green	PTR-TMCGN-NC	\$44.00		PTR-TMCGN-NO/NC	\$50.00		PTR-TMCGN-NC/NC	\$50.00
Red	PTR-TMCRD-NC	\$44.00		PTR-TMCRD-NO/NC	\$50.00		PTR-TMCRD-NC/NC	\$50.00
Yellow	PTR-TMCYW-NC	\$44.00		PTR-TMCYW-NO/NC	\$50.00		PTR-TMCYW-NC/NC	\$50.00

### AVAILABLE CAP COLORS FOR 2-POSITION AND 3-POSITION MAINTAINED NON-ILLUMINATED PUSH BUTTONS



Twist  
Mushroom Cap  
(1-1/2" (38mm) dia.)



Twist  
Mushroom Cap  
(1-1/2" (38mm) dia.)



Twist  
Mushroom Cap  
(1-1/2" (38mm) dia.)



Twist  
Mushroom Cap  
(1-1/2" (38mm) dia.)



Push-Pull  
Mushroom Cap  
(1-1/2" (38mm) dia.)



Push-Pull  
Mushroom Cap  
(1-1/2" (38mm) dia.)



Push-Pull  
Mushroom Cap  
(1-1/2" (38mm) dia.)

## IT'S EASY TO BUILD YOUR OWN PUSH BUTTON

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

### Maintained Push Buttons (Non-Illuminated)

#### 3-Position Push-Pull

**PP** **III** **IV** - **V** - **VI**

Example: To build one of our most popular Push Buttons, the part number would be **I + PP + III + IV + V + VI** or **PPMIRD-NC-DB**



#### I. CLAMP RING

CODE	DESCRIPTION	PRICE
(Blank)	Black Polyester (Type 4X)	—
Y	Yellow Polyester (Type 4X)	\$ 2.00
A	Aluminum (Type 4)	\$ 2.00

#### II. OPERATOR TYPE

CODE	DESCRIPTION	PRICE
PP	Push-Pull Maintained	\$27.00

#### III. OPERATOR FUNCTION

CODE	DESCRIPTION
MI	Momentary Out, Maintained Center, Maintained In
AC	Momentary Out, Maintained Center, Momentary In

#### IV. MUSHROOM CAP/COLOR

CODE	DESCRIPTION	PRICE
BK	Black	\$ 8.00
BE	Blue	\$ 8.00
GN	Green	\$ 8.00
GY	Grey	\$ 8.00
RD	Red	\$ 8.00
WE	White	\$ 8.00
YW	Yellow	\$ 8.00

#### V. CONTACT BLOCK CONFIGURATION

CODE	DESCRIPTION	PRICE
(Blank)	Operator without Contact Blocks	—
NC-DB	1 Normally Closed and 1 Delayed Break Contact Blocks	\$14.00
NO-NC	1 Normally Open and 1 Normally Closed Contact Blocks	\$14.00

#### VI. OPTIONS

CODE	DESCRIPTION	PRICE/PC*
IP20	IP20 Guard	\$ 2.00

\*NOTE: When choosing the IP20 option, in order to achieve IP20 protection a terminal guard must be assembled on each contact block configuration, increasing the price \$2.00 for each guard.

The 3-Position Push-Pull device is available in two basic styles. One version features the "out" position as momentary, the "center" position as maintained, and the "in" position as maintained. The other version features the "center" position as maintained while the "out" and "in" positions are momentary.

O = OPEN X = CLOSED

MOMENTARY OUT, MAINTAINED CENTER, MAINTAINED IN				MOMENTARY OUT, MAINTAINED CENTER, MOMENTARY IN			
	OUT	CENTER	IN		OUT	CENTER	IN
NC	X	O	O	NC	X	O	O
DB	X	X	O	DB	X	X	O
NO	O	O	X	NO	O	O	X
NC	X	O	O	NC	X	O	O

DISCOUNT SCHEDULE **A**



**SNAP-ON IP20 TERMINAL GUARDS**  
protect against accidental contact with live parts.  
See page 152.

### SOME OF OUR POPULAR CONFIGURATIONS:

#### 3-POSITION PUSH-PULL MAINTAINED NON-ILLUMINATED OPERATORS WITH POLYESTER CLAMP RING (TYPE 4X)

COLOR	MOMENTARY OUT, MAINTAINED CENTER, MAINTAINED IN		MOMENTARY OUT, MAINTAINED CENTER MOMENTARY IN	
	CATALOG NUMBER	PRICE	CATALOG NUMBER	PRICE
Black	PPMIBK-NC-DB	\$49.00	PPACBK-NC-DB	\$49.00
Green	PPMIGN-NC-DB	\$49.00	PPACGN-NC-DB	\$49.00
Red	PPMIRD-NC-DB	\$49.00	PPACRD-NC-DB	\$49.00
Yellow	PPMIYW-NC-DB	\$49.00	PPACYW-NC-DB	\$49.00

SEE BOTTOM OF PAGE 130 FOR CAP COLOR OPTIONS.

## IT'S EASY TO BUILD YOUR OWN PUSH BUTTON

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

### Momentary Push Buttons (Illuminated)\*

I II III - IV V VI - VII - VIII

Example: To build one of our most popular Push Buttons, the part number would be **I + II + III + IV + V + VI + VII + VIII** or **FVLUI20-IPBCGN-NO-IP20**

\*NOTE: Our momentary illuminated push buttons must be ordered as an assembled part. Contact blocks may be ordered separately.

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#### I. BASIC ILLUMINATED PUSH BUTTON OPERATOR

CODE	DESCRIPTION	PRICE
FVLU	Full Voltage	\$26.00
TFLU	Transformer (50/60 Hz)	\$38.00
RLU	Resistor	\$32.00
RTLU	Dual Input Remote Test	\$35.00

#### II. VOLTAGE BASED ON OPERATOR TYPE

CODE	DESCRIPTION
<b>FULL VOLTAGE</b>	
6	6V AC/DC
12	12V AC/DC
24	24V AC/DC
120	120V AC/DC
<b>TRANSFORMER</b>	
120	120V AC
240	240V AC
277	277V AC
480	480V AC
<b>RESISTOR</b>	
120	120V AC/DC
240	240V AC/DC
480	480V AC/DC (LED & Neon only)
<b>DUAL INPUT REMOTE TEST</b>	
6	6V AC/DC
12	12V AC/DC
24	24V AC/DC
120	120V AC/DC

#### III. LAMP TYPE/COLOR

CODE	COLOR	PRICE
<b>LED</b>		
LA	Amber	\$10.00
LB	Blue	\$10.00
LG	Green	\$10.00
LR	Red	\$10.00
LW	White	\$10.00
<b>INCANDESCENT</b>		
(Blank)	Clear†	—
†NOTE: Incandescent bulbs are not an option for RLU480.		
F	Clear Flashing Bulb*	\$ 4.00
*NOTE: Incandescent flashing bulbs available for any 6V full voltage or transformer application.		
<b>NEON†</b>		
NG	Green	—
NR	Red	—
†NOTE: Only Available in FVLUI20, RLU240 and RLU480.		
NL	No Lamp	— \$ 1.00

#### VI. LENS COLOR

CODE	DESCRIPTION
AR	Amber
BE	Blue
CR	Clear
GN	Green
RD	Red
WE	White
YW	Yellow

#### VII. CONTACT BLOCK CONFIGURATION

CODE	DESCRIPTION	PRICE
(Blank)	Operator without Contact Blocks	—
NO	1 Normally Open Contact Block	\$ 6.00
NC	1 Normally Closed Contact Block	\$ 6.00
EM	1 Early Make Contact Block	\$ 8.00
DB	1 Delayed Break Contact Block	\$ 8.00
NO-NO	2 Normally Open Contact Blocks	\$12.00
NC-NC	2 Normally Closed Contact Blocks	\$12.00
NO-NC	1 Normally Open and 1 Normally Closed Contact Blocks	\$12.00

#### IV. CLAMP RING

CODE	DESCRIPTION	PRICE
(Blank)	Black Polyester (Type 4X)	—
A	Aluminum (Type 4)	\$ 2.00

#### V. LENS TYPE

CODE	DESCRIPTION	PRICE
IPBC	Illuminated Push Button Lens	\$ 8.00
IPBCM	Illuminated Push Button Mushroom Lens	\$12.00
GIPBC	Guarded Illuminated Push Button Lens*	\$12.00
SIPBCM	Shrouded Illuminated Push Button Mushroom Lens*	\$16.00
*NOTE: Aluminum clamp rings are not an option for GIPBC or SIPBCM.		

#### VIII. OPTIONS

CODE	DESCRIPTION	PRICE/PC*
IP20	IP20 Guard	\$ 2.00

\*NOTE: When choosing the IP20 option, in order to achieve IP20 protection a terminal guard must be assembled on the light module and each contact block configuration, increasing the price \$2.00 for each guard.

IP20 terminal guards are not available for RTLU.

SEE PAGE 153 FOR LAMP REPLACEMENT CHART AND PAGE 154 FOR LAMP TECHNICAL DATA.

DISCOUNT  
SCHEDULE **A**

### MIX AND MATCH ANY COLOR AND MOMENTARY ILLUMINATED PUSH BUTTON LENS



Push Button Lens



Push Button Lens



Push Button Lens



Guarded Push Button Lens



Mushroom Lens (1-1/2" (38mm) dia.)



Mushroom Lens (1-1/2" (38mm) dia.)



Shrouded Mushroom Lens (1-1/2" (38mm) dia.)



## 30MM MOMENTARY ILLUMINATED PUSH BUTTONS

c3controls goes the extra step to make sure that our products outlast the competition. Our 30mm Momentary Illuminated Push Buttons are durable and flexible for a variety of uses. All c3controls 30mm operators are UL Listed and are rated Type 4/4X as standard for watertight and corrosion resistance. In addition, operators are also listed for Type 1, 2, 3, 3R, 12 and 13, and meet global standards requirements.

Product features include:

- Polyester construction for superior corrosion resistance, moisture rejection and electrical insulation.
- Optional polyester or polished aluminum clamp rings.
- Full voltage lights incorporate a unique insulated socket design to minimize accidental contact during lamp change.
- All lights use miniature bayonet base lamps to provide reliable lamp secureness.
- Available with Incandescent, Neon, or our LED lamps with leakage protection.
- #6 terminal screws with self-lifting captive wire clamps accommodate #22 through two #12 AWG wires (0.5 - 4mm<sup>2</sup>) per terminal.
- Operators conveniently mount in a round 1-13/64" (30.5mm) hole that is directly interchangeable with competitors units and eliminates the labor required for notching.



### UNIQUE PRODUCT FEATURES



1. Our revolutionary U-Cup seal is infused with a Teflon coating to eliminate cracking when exposed to harsh conditions such as heat, dryness and sunlight. The U-Cup seal rides easily along the stroker and keeps water, oils, dust and other corrosive particles in the air away from the contact blocks. This U-cup seal also acts like a squeegee and forms a permanent watertight seal that meets Type 4/4X standards.
2. All frictional parts are molded with an internal self lubricant to provide outstanding wear without troublesome greases used by others.
3. Our rugged Lexan™ caps can resist high impact for reliable performance in most environments even in high temperature ambients.

### SOME OF OUR POPULAR CONFIGURATIONS:

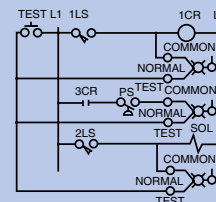
#### MOMENTARY ILLUMINATED PUSH BUTTON OPERATORS WITH POLYESTER CLAMP RING (TYPE 4X)

	LENS COLOR	PUSH BUTTON LENS CATALOG NUMBER	PRICE	MUSHROOM LENS CATALOG NUMBER	PRICE
Full Voltage	Amber	FVLU120-IPBCAR-NO-NC	\$46.00	FVLU120-IPBCMAR-NO-NC	\$50.00
	Green	FVLU120-IPBCGN-NO	\$40.00	FVLU120-IPBCMGN-NO	\$44.00
	Red	FVLU120-IPBCRD-NC	\$40.00	FVLU120-IPBCMRD-NC	\$44.00
Trans-former	Amber	TFLU120-IPBCAR-NO-NC	\$58.00	TFLU120-IPBCMAR-NO-NC	\$62.00
	Green	TFLU120-IPBCGN-NO	\$52.00	TFLU120-IPBCMGN-NO	\$56.00
	Red	TFLU120-IPBCRD-NC	\$52.00	TFLU120-IPBCMRD-NC	\$56.00
Resistor	Amber	RLU120-IPBCAR-NO-NC	\$52.00	RLU120-IPBCMAR-NO-NC	\$56.00
	Green	RLU120-IPBCGN-NO	\$46.00	RLU120-IPBCMGN-NO	\$50.00
	Red	RLU120-IPBCRD-NC	\$46.00	RLU120-IPBCMRD-NC	\$50.00
LED	Amber	TFLU120LA-IPBCAR-NO-NC	\$68.00	TFLU120LA-IPBCMAR-NO-NC	\$72.00
	Green	FVLU120LG-IPBCGN-NO	\$50.00	FVLU120LG-IPBCMGN-NO	\$54.00
	Red	FVLU120LR-IPBCRD-NC	\$50.00	FVLU120LR-IPBCMRD-NC	\$54.00

### DUAL INPUT REMOTE TEST

Our unique Dual Input Remote light unit can be used as an illuminated push button while also permitting the testing of a number of lights from a single push button. A diode circuit isolates the test supply from the normal supply.

The schematic shown represents a typical dual input application.





## IT'S EASY TO BUILD YOUR OWN PUSH BUTTON

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

### Maintained Push Buttons (Illuminated)

#### 2-Position Push-Pull

PPM - IMC - IX  
I II III IV V VI VII VIII IX

Example: To build one of our most popular Push Buttons, the part number would be **I + PPM + III + IV + V + IMC + VII + VIII + IX** or **FVPPM120-IMCGN-NO**

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#### I. BASIC ILLUMINATED PUSH BUTTON OPERATOR

CODE	DESCRIPTION	PRICE
FV	Full Voltage	—
TF	Transformer (50/60 Hz)	\$12.00
RL	Resistor	—

#### II. OPERATOR TYPE

CODE	DESCRIPTION	PRICE
PPM	Push-Pull Maintained	\$45.00

#### III. VOLTAGE BASED ON OPERATOR TYPE

CODE	DESCRIPTION
<b>FULL VOLTAGE</b>	
6	6V AC/DC
12	12V AC/DC
24	24V AC/DC
120	120V AC/DC
<b>TRANSFORMER</b>	
120	120V AC
240	240V AC
277	277V AC
480	480V AC
<b>RESISTOR</b>	
120	120V AC/DC
240	240V AC/DC
480	480V AC/DC (LED & Neon only)

The 2-Position Push-Pull is maintained in both the push and pull positions. The primary application is "push" to "stop" and "pull" to "start".

DISCOUNT  
SCHEDULE **A**

#### IV. LAMP TYPE/COLOR

CODE	COLOR	PRICE
<b>LED</b>		
LA	Amber	\$10.00
LB	Blue	\$10.00
LG	Green	\$10.00
LR	Red	\$10.00
LW	White	\$10.00
<b>INCANDESCENT</b>		
(Blank)	Clear†	—
†NOTE: Incandescent bulbs are not an option for RLPPM480.		
F	Clear Flashing Bulb*	\$ 4.00
*NOTE: Incandescent flashing bulbs available for any 6V full voltage or transformer application.		
<b>NEON†</b>		
NG	Green	—
NR	Red	—
†NOTE: Only Available in FVPPM120, RLPPM240 and RLPPM480.		
NL	No Lamp	— \$ 1.00

#### V. CLAMP RING

CODE	DESCRIPTION	PRICE
(Blank)	Black Polyester (Type 4X)	—
A	Aluminum (Type 4)	\$ 2.00

SEE PAGE 153 FOR LAMP REPLACEMENT CHART AND PAGE 154 FOR LAMP TECHNICAL DATA.

SEE PAGE 135 FOR CIRCUIT DIAGRAM CHART.

#### VI. LENS TYPE

CODE	DESCRIPTION	PRICE
IMC	Illuminated Push Button Mushroom Lens	\$12.00

#### VII. LENS COLOR

CODE	DESCRIPTION
AR	Amber
BE	Blue
CR	Clear
GN	Green
RD	Red
WE	White

#### VIII. CONTACT BLOCK CONFIGURATION

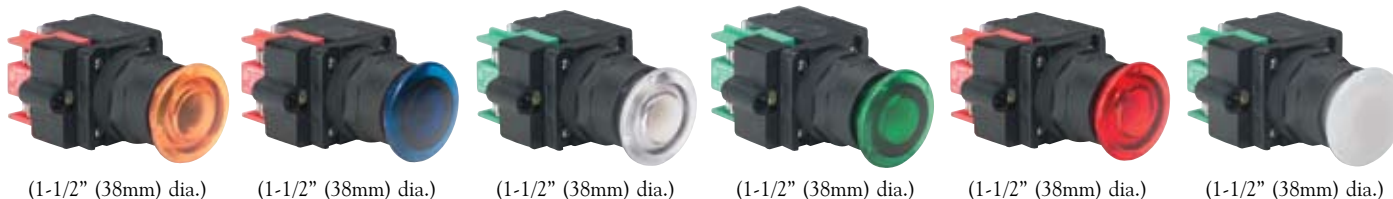
CODE	DESCRIPTION	PRICE
(Blank)	Operator without Contact Blocks	—
NO	1 Normally Open Contact Block	\$ 6.00
NC	1 Normally Closed Contact Block	\$ 6.00
EM	1 Early Make Contact Block	\$ 8.00
DB	1 Delayed Break Contact Block	\$ 8.00
NO-NO	2 Normally Open Contact Blocks	\$12.00
NC-NC	2 Normally Closed Contact Blocks	\$12.00
NO-NC	1 Normally Open and 1 Normally Closed Contact Blocks	\$12.00

#### IX. OPTIONS

CODE	DESCRIPTION	PRICE/PC*
IP20	IP20 Guard	\$ 2.00

\*NOTE: When choosing the IP20 option, in order to achieve IP20 protection a terminal guard must be assembled on each contact block configuration, increasing the price \$2.00 for each guard.

#### AVAILABLE LENS COLORS FOR 2-POSITION AND 3-POSITION MAINTAINED ILLUMINATED PUSH BUTTONS



## 30MM MAINTAINED ILLUMINATED PUSH BUTTONS

c3controls goes the extra step to make sure that our products outlast the competition. Our 30mm Maintained Illuminated Push Buttons are durable and flexible for a variety of uses. All c3controls 30mm operators are UL Listed and are rated Type 4/4X as standard for watertight and corrosion resistance. In addition, operators are also listed for Type 1, 2, 3, 3R, 12 and 13, and meet global standards requirements.

Product features include:

- Polyester construction for superior corrosion resistance, moisture rejection and electrical insulation.
- Optional polyester or polished aluminum clamp ring with coarse 16 pitch threads that easily thread on and won't cross thread or strip.
- Full voltage lights incorporate a unique insulated socket design to minimize accidental contact during lamp change.
- All lights use miniature bayonet base lamps to provide reliable lamp secureness.
- Available with Incandescent, Neon or our LED lamps with leakage protection.
- #6 terminal screws with self-lifting captive wire clamps accommodate #22 through two #12 AWG wires (0.5 - 4mm<sup>2</sup>) per terminal.
- Operators conveniently mount in a round 1-13/64" (30.5mm) hole that is directly interchangeable with competitors units and eliminates the labor required for notching.



### UNIQUE PRODUCT FEATURES



1. Our seal is infused with a coating to eliminate cracking when exposed to harsh conditions such as heat, dryness and sunlight. This seal also acts as a light reflector because it is white which increases light output and improves visibility from all angles.
2. All frictional parts are molded with an internal self lubricant to provide outstanding wear without troublesome greases used by others.
3. Our rugged Lexan™ caps can resist high impact for reliable performance in most environments even in high temperature ambients.

#### 2-POSITION PUSH-PULL MAINTAINED ILLUMINATED OPERATORS CIRCUIT DIAGRAM CHART

O = OPEN X = CLOSED

MAINTAINED IN/MAINTAINED OUT					
1 CIRCUIT (1 NC)			2 CIRCUIT (1 NO/1 NC)		
	OUT	IN		OUT	IN
NC	X	O	NC	X	O
			NO	O	X
			NC	X	O

#### 3-POSITION PUSH-PULL MAINTAINED ILLUMINATED OPERATORS CIRCUIT DIAGRAM CHART

O = OPEN X = CLOSED

MOMENTARY OUT, MAINTAINED CENTER, MAINTAINED IN				MOMENTARY OUT, MAINTAINED CENTER, MOMENTARY IN			
	OUT	CENTER	IN		OUT	CENTER	IN
NC	X	O	O	NC	X	O	O
DB	X	X	O	DB	X	X	O
NO	O	O	X	NO	O	O	X
NC	X	O	O	NC	X	O	O

### SOME OF OUR POPULAR CONFIGURATIONS:

#### 2-POSITION PUSH-PULL MAINTAINED ILLUMINATED OPERATORS WITH POLYESTER CLAMP RING (TYPE 4X)

	1 CIRCUIT (1NC)		2 CIRCUIT (1 NO/1 NC)		2 CIRCUIT (2 NC)	
TYPE	CATALOG NUMBER	PRICE	CATALOG NUMBER	PRICE	CATALOG NUMBER	PRICE
Transformer	TFPPM120-IMCRD-NC	\$75.00	TFPPM120-IMCRD-NO-NC	\$81.00	TFPPM120-IMCRD-NC-NC	\$81.00
Full Voltage	FVPPM120-IMCRD-NC	\$63.00	FVPPM120-IMCRD-NO-NC	\$69.00	FVPPM120-IMCRD-NC-NC	\$69.00
Resistor	RLPPM120-IMCRD-NC	\$63.00	RLPPM120-IMCRD-NO-NC	\$69.00	RLPPM120-IMCRD-NC-NC	\$69.00

## IT'S EASY TO BUILD YOUR OWN PUSH BUTTON

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

### Maintained 3-Position Push-Pull Push Buttons (Illuminated)

I    II    III    IV    V    VI    VII    VIII    IX

Example: To build one of our most popular Push Buttons, the part number would be **I + II + III + IV + V + IMC + VII + VIII + IX** or **FVMI120-IMCRD-NC-DB**

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#### I. BASIC ILLUMINATED PUSH BUTTON OPERATOR

CODE	DESCRIPTION	PRICE
FV	Full Voltage	—
TF	Transformer (50/60 Hz)	\$14.00
RL	Resistor	—

#### II. OPERATOR FUNCTION

CODE	DESCRIPTION	PRICE
MI	Momentary Out, Maintained Center, Maintained In	\$45.00
AC	Momentary Out, Maintained Center, Momentary In	\$45.00

#### III. VOLTAGE BASED ON OPERATOR TYPE

CODE	DESCRIPTION
<b>FULL VOLTAGE</b>	
6	6V AC/DC
12	12V AC/DC
24	24V AC/DC
120	120V AC/DC
<b>TRANSFORMER</b>	
120	120V AC
240	240V AC
277	277V AC
480	480V AC
<b>RESISTOR</b>	
120	120V AC/DC
240	240V AC/DC
480	480V AC/DC (LED & Neon only)

#### IV. LAMP TYPE/COLOR

CODE	COLOR	PRICE
<b>LED</b>		
LA	Amber	\$10.00
LB	Blue	\$10.00
LG	Green	\$10.00
LR	Red	\$10.00
LW	White	\$10.00
<b>INCANDESCENT</b>		
(Blank)	Clear†	—
†NOTE: Incandescent bulbs are not an option for RL480.		
F	Clear Flashing Bulb*	\$ 4.00
*NOTE: Incandescent flashing bulbs available for any 6V full voltage or transformer application.		
<b>NEON†</b>		
NG	Green	—
NR	Red	—
†NOTE: Only Available in FV120, RL240 and RL480.		
NL	No Lamp	— \$ 1.00

#### V. CLAMP RING

CODE	DESCRIPTION	PRICE
(Blank)	Black Polyester (Type 4X)	—
A	Aluminum (Type 4)	\$ 2.00

#### VI. LENS TYPE

CODE	DESCRIPTION	PRICE
IMC	Illuminated Push Button Mushroom Lens	\$12.00

#### VII. LENS COLOR

CODE	DESCRIPTION
AR	Amber
BE	Blue
CR	Clear
GN	Green
RD	Red
WE	White

#### VIII. CONTACT BLOCK CONFIGURATION

CODE	DESCRIPTION	PRICE
(Blank)	Operator without Contact Blocks	—
NC-DB	1 Normally Closed and 1 Delayed Break Contact Blocks	\$14.00
NO-NC	1 Normally Open and 1 Normally Closed Contact Blocks	\$14.00

#### IX. OPTIONS

CODE	DESCRIPTION	PRICE/PC*
IP20	IP20 Guard	\$ 2.00

\*NOTE: When choosing the IP20 option, in order to achieve IP20 protection a terminal guard must be assembled on each contact block configuration, increasing the price \$2.00 for each guard.

SEE PAGE 153 FOR LAMP REPLACEMENT CHART AND PAGE 154 FOR LAMP TECHNICAL DATA.

SEE PAGE 135 FOR CIRCUIT DIAGRAM CHART.

The 3-Position Push-Pull device is available in two basic styles. One version features the "out" position as momentary, the "center" as maintained, and the "in" position as maintained. The other version features the "center" position as maintained while the "out" and "in" positions are momentary.

DISCOUNT  
SCHEDULE **A**

### SOME OF OUR POPULAR CONFIGURATIONS:

SEE BOTTOM OF PAGE 134 FOR LENS COLOR OPTIONS.

#### 3-POSITION PUSH-PULL MAINTAINED OPERATORS WITH POLYESTER CLAMP RING (TYPE 4X)

TYPE	MOMENTARY OUT, MAINTAINED CENTER, MAINTAINED IN		MOMENTARY OUT, MAINTAINED CENTER, MOMENTARY IN	
	CATALOG NUMBER	PRICE	CATALOG NUMBER	PRICE
Transformer	TFMI120-IMCRD-NC-DB	\$85.00	TFAC120-IMCRD-NC-DB	\$85.00
Full Voltage	FVMI120-IMCRD-NC-DB	\$71.00	FVAC120-IMCRD-NC-DB	\$71.00
Resistor	RLMI120-IMCRD-NC-DB	\$71.00	RLAC120-IMCRD-NC-DB	\$71.00

## RESET PUSH BUTTON

Our unique Reset Push Button mounts in a standard 1-13/64" (30.5mm) hole and accepts either 20 hex head bolts or 20 thread rod to provide adjustable extension and save on all rod cutting and fitting labor.

Universal styles include two bolts to cover 1" to 3" (25.4mm to 76.2mm) space from cover to overload reset rod. It is rated Type 4/4X as standard.



CODE	DESCRIPTION	PRICE
RPB	Reset Push Button	\$ 9.00
RPB-B	RPB w/Bolts (1/4-20 x 1-3/4" & 3")	\$10.00
RPB-W	RPB w/Washers	\$10.00
RPB-BW	RPB w/Bolt & Washer Set	\$11.00
RPB BOLTS	2 Bolts (1/4-20 x 1-3/4" & 3")	\$ 1.00
RPB WASHERS	Washer Set	\$ 1.00

Special bolt lengths available — please consult factory (not available for guaranteed same day shipping).

## ALTERNATE ACTION BLOCK

Our snap-on Alternate Action Block mounts in position of a standard contact block to provide alternate "push-on/push-off" contact action.

It may be used with any momentary push button or momentary illuminated push button operator.

NOTE: Action Block comes standard using an Early-Make contact block.



CODE	DESCRIPTION	PRICE
AABEM	Alternate Action Block	\$18.00

## WOBBLE STICK

Designed primarily for use with pendant stations, the wobble stick may be mounted in oil tight or watertight stations. The unit has spring return action to center and may be operated from any angle. It is rated Type 4/4X as standard. We also offer an optional polished aluminum clamp ring – add prefix "A" to catalog code and increase the price \$2.00.

NOTE: Our Wobble Stick is a linear device similar to a push button. It is not a joystick or directional.



CODE	DESCRIPTION	PRICE
WS-NO/NC	w/1 NO & 1 NC	\$32.00
WS-NO-NO/NC-NC	w/2 NO & 2 NC	\$44.00

## CABLE PULL OPERATORS

Our unique low-energy cable pull operators are available in four styles and are UL Listed for Type 1, 2, 3, 3R, 4/4X, 12 and 13 requirements. We also offer an optional polished aluminum clamp ring – add prefix "A" to catalog code and increase the price \$2.00. Our cable pull operators are reverse spring biased to hold contact blocks in the operated position until a force (varies by operator) is applied to the included eyebolt. Contact operation is opposite of normal (i.e., CBNO is held closed and opens only when the eyebolt is pulled). Units are available with or without contact blocks and can be supplied in Type 4X surface mounting enclosures as a custom order (not available for guaranteed same day shipping). See pages 289-298 for a complete selection of our enclosures.

### MOMENTARY CABLE PULL OPERATOR

Constructed to withstand corrosive environments. It holds contact blocks in the operated position until a 4 - 6 pound force is applied to the included eyebolt.\*



CODE	DESCRIPTION	PRICE
CPO	Operator Only	\$44.00
CPO-NO	With CBNO held closed	\$50.00
CPO-NC	With CBNC held open	\$50.00

### BOOTED MOMENTARY CABLE PULL OPERATOR

Provides protection in the most severe environments, such as when sleet, freeze and thaw conditions are prevalent. It holds contact blocks in the operated position until a 4 - 6 pound force is applied to the included eyebolt.\*



CODE	DESCRIPTION	PRICE
CPORB4	Operator only with Type 4X Boot	\$60.00

NOTE: Not available with aluminum clamp ring.

### HEAVY-DUTY MOMENTARY CABLE PULL OPERATOR

Constructed of solid brass to provide the most reliable operation. It holds contact blocks in the operated position until a 13 pound force is applied to the included eyebolt.\*



CODE	DESCRIPTION	PRICE
HDCPO	Operator Only	\$50.00
HDCPO-NO	With CBNO held closed	\$56.00
HDCPO-NC	With CBNC held open	\$56.00

### PUSH-PULL MAINTAINED CABLE PULL OPERATOR

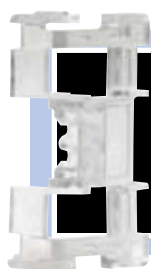
Operating head is provided with a latch detent mechanism to hold the operator in the pulled or "out" position when operated. It holds contact blocks in the operated position until a 4 - 6 pound force is applied to the included eyebolt. Requires a manual reset after actuation. Also available in solid stainless steel as a custom order (not available for guaranteed same day shipping) please consult the factory.\*



CODE	DESCRIPTION	PRICE
PPCPO	Operator Only	\$50.00
PPCPO-NO	With CBNO held closed	\$56.00
PPCPO-NC	With CBNC held open	\$56.00

\*NOTE: The c3controls Cable Pull Switch is a "pull operated" switch designed to be operated by pulling on a rope or cable. It is not designed to the Machine Directives for Emergency Devices for Safeguarding Machinery. It does not offer direct drive, positive break/positive transfer contacts. It is a spring operated momentary device that operates "slow make/slow break" normally open and normally closed contact blocks. Pulling the eyebolt collapses an internal spring, which allows contact blocks mounted on the rear of the operator to open or close and actuate the intended circuit. Releasing the eyebolt allows the internal spring to return and depress the contact blocks to their original state. The device is designed to provide in excess of 1 million mechanical operations and is frequently applied in overhead door applications.

DISCOUNT  
SCHEDULE **A**



**SNAP-ON IP20 TERMINAL GUARDS** protect against accidental contact with live parts, see page 152. Available for use with the special operators featured on this page, excludes reset push button.

## IT'S EASY TO BUILD YOUR OWN POTENTIOMETER

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

### Potentiometer Operators

POTO       -     
I      II      III      IV

Example: To build one of our most popular Potentiometer Operators, the part number would be **POTO + II + III + IV** or **POTO5K-TBW**



#### I. OPERATOR TYPE

CODE	DESCRIPTION	PRICE
POTO	Potentiometer Operator	\$36.00

#### II. CLAMP RING

CODE	DESCRIPTION	PRICE
(Blank)	Black Polyester (Type 4X)	—
A	Aluminum (Type 4)	\$ 2.00

#### III. RESISTANCE

CODE	DESCRIPTION	PRICE
(Blank)	Operator only	—
1k	1k Potentiometer	\$14.00
2.5k	2.5k Potentiometer	\$14.00
5k	5k Potentiometer	\$14.00
10k	10k Potentiometer	\$14.00

Special order values available — please consult factory (not available for guaranteed same day shipping).

#### IV. TERMINAL BLOCK

CODE	DESCRIPTION	PRICE
(Blank)	Operator only	—
TBW	Terminal Block installed and wired	\$10.00

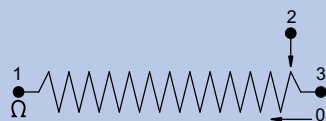
Terminal block kit may be ordered separately (part number TBK, price \$6.00) or installed and wired at the factory to the potentiometer operator.

DISCOUNT  
SCHEDULE

**LEGEND PLATES FOR POTENTIOMETER OPERATORS** are available for same day shipping. See pages 150-151 for complete selection.



### WIRING DIAGRAM



Clockwise knob rotation as seen from the front of the panel

2 is the common  
1→2 is decreasing resistance (↓ Ω)  
3→2 is increasing resistance (↑ Ω)



## 30MM POTENTIOMETER OPERATORS

Our single-turn Potentiometer Operators utilize standard 2 watt potentiometers with 1/4" (6.4mm) bushing and 7/8" (22.5mm) long slotted shafts. A 5/64" allen wrench is required for installation. All c3controls 30mm operators are UL Listed and are rated Type 4/4X as standard for watertight and corrosion resistance. In addition, operators are also listed for Type 1, 2, 3, 3R, 12 and 13, and meet global standards requirements. CSA File # LR-4744609.

Product features include:

- Polyester construction for superior corrosion resistance, moisture rejection and electrical insulation.
- Optional polyester or polished aluminum clamp rings.
- Standard 2 watt potentiometer.
- #6 terminal screws with self-lifting captive wire clamps accommodate #22 through two #12 AWG wires (0.5 - 4mm<sup>2</sup>) per terminal.
- Operators conveniently mount in a round 1-13/64" (30.5mm) hole that is directly interchangeable with competitors units.



### UNIQUE PRODUCT FEATURES



1. Our revolutionary U-Cup seal is infused with a Teflon coating to eliminate cracking when exposed to harsh conditions such as heat, dryness and sunlight.
2. All frictional parts are molded with an internal self-lubricant to provide outstanding wear without troublesome greases used by others that attracts dust and other particles in the area.
3. Three point terminal block and hardware.



## IT'S EASY TO BUILD YOUR OWN PILOT LIGHT

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

### Pilot Lights

I II III IV - PLL VI - VII

Example: To build one of our most popular Pilot Lights, the part number would be **I + II + III + IV + PLL + VI + VII** or **FVLU120LG-PLLGN**



#### I. BASIC PILOT LIGHT OPERATOR

CODE	DESCRIPTION	PRICE
FVLU	Full Voltage	\$26.00
TFLU	Transformer (50/60 Hz)	\$38.00
RLU	Resistor	\$32.00
RTLU	Dual Input Remote Test	\$35.00

#### II. VOLTAGE BASED ON OPERATOR TYPE

CODE	DESCRIPTION
<b>FULL VOLTAGE</b>	
6	6V AC/DC
12	12V AC/DC
24	24V AC/DC
120	120V AC/DC
<b>TRANSFORMER</b>	
120	120V AC
240	240V AC
277	277V AC
480	480V AC
<b>RESISTOR</b>	
120	120V AC/DC
240	240V AC/DC
480	480V AC/DC (LED & Neon only)
<b>DUAL INPUT REMOTE TEST</b>	
6	6V AC/DC
12	12V AC/DC
24	24V AC/DC
120	120V AC/DC
240	240V AC/DC

#### III. LAMP TYPE/COLOR

CODE	COLOR	PRICE
<b>LED</b>		
LA	Amber	\$10.00
LB	Blue	\$10.00
LG	Green	\$10.00
LR	Red	\$10.00
LW	White	\$10.00
<b>INCANDESCENT</b>		
(Blank)	Clear†	—
‡NOTE: Incandescent bulbs are not an option for RLU480.		
F	Clear Flashing Bulb*	\$ 4.00
*NOTE: Incandescent flashing bulbs available for any 6V full voltage or transformer application.		
<b>NEON†</b>		
NG	Green	—
NR	Red	—
†NOTE: Only Available in FVLU120, RLU240 and RLU480.		
NL	No Lamp	— \$ 1.00

SEE PAGE 153 FOR LAMP REPLACEMENT CHART AND PAGE 154 FOR LAMP TECHNICAL DATA.

#### IV. CLAMP RING

CODE	DESCRIPTION	PRICE
(Blank)	Black Polyester (Type 4X)	—
A	Aluminum (Type 4)	\$ 2.00

#### V. LENS TYPE

CODE	DESCRIPTION	PRICE
PLL	Pilot Light Lens	\$ 6.00

#### VI. LENS COLOR

CODE	DESCRIPTION
AR	Amber
BE	Blue
CR	Clear
GN	Green
RD	Red
WE	White

#### VII. OPTIONS

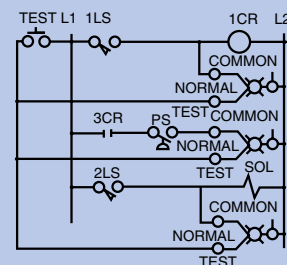
CODE	DESCRIPTION	PRICE
IP20	IP20 Guard	\$ 2.00

NOTE: IP20 terminal guards are not available for RTLU.

DISCOUNT SCHEDULE **A**

### DUAL INPUT REMOTE TEST

Our unique Dual Input Remote light unit can be used as a pilot light while also permitting the testing of a number of lights from a single push button. A diode circuit isolates the test supply from the normal supply. The schematic shown represents a typical dual input application.



#### AVAILABLE LENS COLORS FOR PILOT LIGHTS



## 30MM PILOT LIGHTS

Our 30mm Pilot Lights and Illuminated Push-To-Test Pilot Lights, when utilized with our LED lamps provide leakage protection, long-lasting life and high quality with tremendous resistance to shock and vibration. Our reflection technology and state-of-the-art LED lamps improve visibility from all angles. c3controls LED lamps last 100,000 hours — *that's 11.4 years!* Combine these LEDs with our full voltage, transformer or resistor packages for optimum durability. All c3controls 30mm operators are UL Listed and are rated Type 4/4X as standard for watertight and corrosion resistance. In addition, operators are also listed for Type 1, 2, 3, 3R, 12 and 13, and meet global standards requirements.

Product features include:

- Polyester construction for superior corrosion resistance, moisture rejection and electrical insulation.
- Full voltage lights incorporate a unique insulated socket design to minimize accidental contact during lamp change.
- All lights use miniature bayonet base lamps to provide reliable lamp secureness.
- Available with Incandescent, Neon, or our LED lamps with leakage protection.
- #6 terminal screws with self-lifting captive wire clamps accommodate #22 through two #12 AWG wires (0.5 - 4mm<sup>2</sup>) per terminal.
- Operators conveniently mount in a round 1-13/64" (30.5mm) hole that is directly interchangeable with competitors units and eliminates the labor required for notching.



**c3**  
**Exclusive!**

**Multi-Voltage Light!**  
See page 143.

30MM INDUSTRIAL PILOT DEVICES

### UNIQUE PRODUCT FEATURES



1. Compact, thin design is also vibration resistant.
2. Our seal is infused with a coating to eliminate cracking when exposed to harsh conditions such as heat, dryness and sunlight. This seal also acts as a light reflector because it is white which increases light output and improves visibility from all angles.
3. Our rugged Lexan™ lenses provide better visibility and can resist high impact for reliable performance in most environments, even in high temperature ambients.
4. We utilize premium 130V incandescent and LED lamps for improved, long-lasting life.

### SOME OF OUR POPULAR CONFIGURATIONS:

#### PILOT LIGHTS WITH POLYESTER CLAMP RING (TYPE 4X)

CATALOG NUMBER	DESCRIPTION	PRICE
FVLU120LG-PLLGN	Full Voltage 120V Green LED w/Green Lens	\$42.00
FVLU120LR-PLLRD	Full Voltage 120V Red LED w/Red Lens	\$42.00
FVLU120LA-PLLAR	Full Voltage 120V Amber LED w/Amber Lens	\$42.00

## IT'S EASY TO BUILD YOUR OWN PILOT LIGHT

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

### Push-To-Test Pilot Lights\*

**PTT** - **PTT** - **PTT** - **PTT** - **PTT** - **PTT** - **PTT** - **PTT**

Example: To build one of our most popular Pilot Lights, the part number would be **I + PTT + III + IV + V + VI + VII + VIII** or **FVPTT120-IPBCRD**

\*NOTE: Our push-to-test pilot lights must be ordered as an assembled part.

**NEW  
EXPANDED  
PRODUCT  
OFFERING!**



#### I. BASIC PUSH-TO-TEST OPERATOR

CODE	DESCRIPTION	PRICE
FV	Full Voltage	\$26.00
TF	Transformer (50/60 Hz)	\$38.00
RL	Resistor	\$32.00

#### II. OPERATOR TYPE

CODE	DESCRIPTION	PRICE
PTT	Push-To-Test	\$21.00

#### III. VOLTAGE BASED ON OPERATOR

CODE	DESCRIPTION
<b>FULL VOLTAGE</b>	
6	6V AC/DC
12	12V AC/DC
24	24V AC/DC
120	120V AC/DC
<b>TRANSFORMER</b>	
120	120V AC
240	240V AC
277	277V AC
480	480V AC
<b>RESISTOR</b>	
120	120V AC/DC
240	240V AC/DC
480	480V AC/DC (LED & Neon only)

#### IV. LAMP TYPE/COLOR

CODE	COLOR	PRICE
<b>LED</b>		
LA	Amber	\$10.00
LB	Blue	\$10.00
LG	Green	\$10.00
LR	Red	\$10.00
LW	White	\$10.00
<b>INCANDESCENT</b>		
(Blank)	Clear†	—
†NOTE: Incandescent bulbs are not an option for RLPTT480.		
F	Clear Flashing Bulb*	\$ 4.00
*NOTE: Incandescent flashing bulbs available for any 6V full voltage or transformer application.		
<b>NEON†</b>		
NG	Green	—
NR	Red	—
†NOTE: Only Available in FVPTT120, RLPTT240 and RLPTT480.		
NL	No Lamp	-\$ 1.00

#### V. CLAMP RING

CODE	DESCRIPTION	PRICE
(Blank)	Black Polyester (Type 4X)	—
A	Aluminum (Type 4)	\$ 2.00

#### VI. LENS TYPE

CODE	DESCRIPTION	PRICE
IPBC	Illuminated Push Button Lens	\$ 8.00
IPBCM	Illuminated Push Button Mushroom Lens	\$12.00
GIPBC	Guarded Illuminated Push Button Lens*	\$12.00
SIPBCM	Shrouded Illuminated Push Button Mushroom Lens*	\$16.00

\*NOTE: Aluminum clamp rings are not an option for GIPBC or SIPBCM.

#### VII. LENS COLOR

CODE	DESCRIPTION
AR	Amber
BE	Blue
CR	Clear
GN	Green
RD	Red
WE	White
YW	Yellow

#### VIII. OPTIONS

CODE	DESCRIPTION	PRICE
IP20	(3) IP20 Guards*	\$ 6.00

\*NOTE: Includes guards for light module and both contact blocks.

Push-To-Test Pilot Lights combine an illuminated push button with normally open and normally closed contact blocks factory wired for three-point wiring in standard push-to-test circuits.

SEE PAGE 153 FOR LAMP REPLACEMENT CHART AND PAGE 154 FOR LAMP TECHNICAL DATA.

DISCOUNT  
SCHEDULE **A**

## SOME OF OUR POPULAR CONFIGURATIONS:

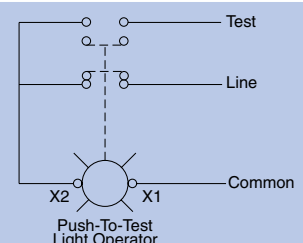
### PUSH-TO-TEST PILOT LIGHTS W/POLYESTER CLAMP RING (TYPE 4X)

CATALOG NUMBER	DESCRIPTION	PRICE
FVPTT120-IPBCAR	Full Voltage 120V w/Incandescent Lamp & Amber Lens	\$55.00
FVPTT120-IPBCGN	Full Voltage 120V w/Incandescent Lamp & Green Lens	\$55.00
FVPTT120-IPBCRD	Full Voltage 120V w/Incandescent Lamp & Red Lens	\$55.00

SEE BOTTOM OF PAGE 132 FOR PUSH-TO-TEST PILOT LIGHT LENS OPTIONS.

## WIRING DIAGRAM

Customer connections of line and test power supplies. Light unit is powered by the line circuit. Depressing the lens cap will disconnect the line and connect the test supply, confirming bulb status.



## IT'S EASY TO BUILD YOUR OWN PILOT LIGHT

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

### 20-240V Multi-Voltage Pilot Lights

30MV20-240      LW -      PLL      -     

I                      II                      III                      IV                      V                      VI                      VII

**NEW**  
EXPANDED  
PRODUCT  
OFFERING!



Example: To build one of our most popular Pilot Lights, the part number would be **30MV20-240 + II + LW + IV + PLL + VI + VII** or **30MV20-240DLW-PLL RD**

#### I. BASIC OPERATOR

CODE	DESCRIPTION	PRICE
30MV20-240	Multi-Voltage Pilot Light	\$60.00

#### II. LED LAMP FUNCTION

CODE	DESCRIPTION	PRICE
D	Standard	—
F	Flashing	\$10.00

#### III. LAMP TYPE/COLOR

CODE	DESCRIPTION
LW	LED White

#### IV. CLAMP RING

CODE	DESCRIPTION	PRICE
(Blank)	Black Polyester (Type 4X)	—
A	Aluminum (Type 4)	\$ 2.00

#### V. LENS TYPE

CODE	DESCRIPTION	PRICE
PLL	Pilot Light Lens	\$ 6.00

c3controls LED lamps last 100,000 hours — that's 11.4 years!

DISCOUNT  
SCHEDULE **A**

#### VI. LENS COLOR

CODE	DESCRIPTION
AR	Amber
BE	Blue
CR	Clear
GN	Green
RD	Red
WE	White

#### VII. OPTIONS

CODE	DESCRIPTION	PRICE
IP20	IP20 Guard	\$ 2.00

## UNIQUE PRODUCT FEATURES

**c3**  
**Exclusive!**



### ELIMINATE THE HEADACHE OF MATCHING SPECIFIC LAMPS WITH LIGHT UNITS!

With our state-of-the-art, super-bright integral white LEDs and printed circuit boards, this c3controls indicating light unit can be operated at any voltage from 20V to 240V AC or DC without losing light intensity. All you have to do is pick your lens color. An optional flashing unit is also available. This compact design is also rated Type 4/4X as standard. *All of this is achieved with just one light unit, reducing your inventory!*

## SOME OF OUR POPULAR CONFIGURATIONS:

### MULTI-VOLTAGE PILOT LIGHTS WITH POLYESTER CLAMP RING (TYPE 4X)

CATALOG NUMBER	DESCRIPTION	PRICE
30MV20-240DLW-PLLAR	Multi-Voltage 20-240V w/ White LED and Amber Lens	\$66.00
30MV20-240DLW-PLLGN	Multi-Voltage 20-240V w/ White LED and Green Lens	\$66.00
30MV20-240DLW-PLL RD	Multi-Voltage 20-240V w/ White LED and Red Lens	\$66.00

### AVAILABLE LENS COLORS FOR MULTI-VOLTAGE PILOT LIGHTS



## IT'S EASY TO BUILD YOUR OWN PILOT LIGHT

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

### Unibody Pilot Lights (Non-Relampable)

**30UNR** - **I** **II** **III** - **PNL** **V**

Example: To build one of our most popular pilot lights, the part number would be **30UNR + II + III + PNL + V** or **30UNR-120LR-PNLRD**



#### I. OPERATOR TYPE

CODE	DESCRIPTION	PRICE
30UNR	Unibody Light Unit, Non-Relampable	\$18.00

#### II. FULL VOLTAGE

CODE	DESCRIPTION
24	24V AC/DC
120	110 ~ 130V AC/DC
240	220 ~ 240V AC

#### III. LED COLOR

CODE	DESCRIPTION
LA	Amber
LB	Blue
LG	Green
LR	Red
LW	White

c3controls integral LED lamps last 60,000 hours — that's 6.8 years!

#### IV. LENS TYPE

CODE	DESCRIPTION
PNL	Pilot Light Lens, Non-Relampable

#### V. LENS COLOR

CODE	DESCRIPTION
AR	Amber
BE	Blue
CR	Clear
GN	Green
RD	Red

DISCOUNT  
SCHEDULE

**A**

SEE PAGE 154 FOR LAMP  
TECHNICAL DATA.

## SOME OF OUR POPULAR CONFIGURATIONS:

### UNIBODY PILOT LIGHTS, NON-RELAMPABLE

CATALOG NUMBER	DESCRIPTION	PRICE
30UNR-24LR-PNLRD	30mm Unibody Non-Relampable LED Pilot Light, 24V AC/DC, Red LED, Red Lens	\$18.00
30UNR-24LG-PNLGN	30mm Unibody Non-Relampable LED Pilot Light, 24V AC/DC, Green LED, Green Lens	\$18.00
30UNR-120LR-PNLRD	30mm Unibody Non-Relampable LED Pilot Light, 120V AC/DC, Red LED, Red Lens	\$18.00
30UNR-120LG-PNLGN	30mm Unibody Non-Relampable LED Pilot Light, 120V AC/DC, Green LED, Green Lens	\$18.00
30UNR-120LA-PNLAR	30mm Unibody Non-Relampable LED Pilot Light, 120V AC/DC, Amber LED, Amber Lens	\$18.00

### AVAILABLE LENS COLORS FOR UNIBODY PILOT LIGHTS





## 30MM UNIBODY NON-RELAMPABLE PILOT LIGHTS

Our 30mm Unibody Pilot Lights were designed with simplicity in function to save you valuable time and money. This full voltage light features integral LED lamps that provide great light output and leakage protection. Available in 24, 120 and 240 volts and five lens color options. Wiring is made easy by utilizing rear access captive mounting screws with side wire entry. All c3controls 30mm operators are UL Listed and are rated Type 4/4X as standard for watertight and corrosion resistance. In addition, operators are also listed for Type 1, 2, 3, 3R, 12, 13, IP65, and meet global standards requirements.

Product features include:

- Polyester construction for superior corrosion resistance, moisture rejection and electrical insulation.
- Vibration resistant compact design.
- Terminal screws with self-lifting captive wire clamps accommodate #22 through two #14 AWG wires (0.5 – 2mm<sup>2</sup>) per terminal.
- Operators conveniently mount in a round 1-13/64" (30.5mm) hole that is directly interchangeable with competitors units and eliminates the labor required for notching.



### UNIQUE PRODUCT FEATURES



1. High-tech integral LED lamps offer the latest and most current technology providing leakage protection, great light output and increased visibility from side views – *and lasts up to 60,000 hours!*
2. Compact, low power consumption energy saving design.
3. DC devices are bi-polar design, functionality is independent of which lead is connected to each terminal.
4. Rugged Lexan™ lenses provide better visibility and can resist high impact for reliable performance in most environments – even in high temperature ambients.
5. Low behind the panel depth to allow mounting into shallow enclosures.
6. IP20 guarded terminals prevent accidental contact with live parts.



## IT'S EASY TO BUILD YOUR OWN SELECTOR SWITCH

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

### Selector Switches

I - II - III - IV - V\* / VI\* - VII

Example: To build one of our most popular Selector Switches, the part number would be **I + II + III + IV + V + VI + VII** or **SSO3-SHWE-NO/NO**

\*NOTE: Contact block configurations are based on circuit designations (see charts below).



#### I. BASIC SELECTOR SWITCH OPERATOR FUNCTION

CODE	POS./FUNCTION	PRICE
SSO2	2/Maintained	\$12.00
SR0LR	2/Spring Return, L to R	\$21.00
SR0RL	2/Spring Return, R to L	\$21.00
SSO3	3/Maintained	\$12.00
SR0LC	3/Spring Return, L to C	\$21.00
SR0RC	3/Spring Return, R to C	\$21.00
SR0LRC	3/Spring Return, L & R to C	\$21.00
SSO4	4/Maintained	\$12.00
SR043	4/Spring Return, Pos. 4 to 3	\$21.00
SR01243	4/Spring Return, Pos. 1 to 2 and Pos. 4 to 3	\$21.00

#### II. CLAMP RING

CODE	DESCRIPTION	PRICE
(Blank)	Black Polyester (Type 4X)	—
A	Aluminum (Type 4)	\$ 2.00

#### III. HANDLE TYPE

CODE	DESCRIPTION	PRICE
SH	Standard	\$ 5.00
SL	Lever	\$ 5.00

#### IV. HANDLE INSERT COLOR

CODE	DESCRIPTION
BE	Blue
GN	Green
GY	Grey
RD	Red
WE	White
YW	Yellow

#### V. CONTACT BLOCK CONFIGURATION (LEFT SIDE)

CODE	DESCRIPTION	PRICE
(Blank)	Operator without Contact Blocks	—
NO	1 Normally Open Contact Block	\$ 6.00
NC	1 Normally Closed Contact Block	\$ 6.00
EM	1 Early Make Contact Block	\$ 8.00
DB	1 Delayed Break Contact Block	\$ 8.00
NO-NO	2 Normally Open Contact Blocks	\$12.00
NC-NC	2 Normally Closed Contact Blocks	\$12.00
NO-NC	1 Normally Open and 1 Normally Closed Contact Blocks	\$12.00

#### VI. CONTACT BLOCK CONFIGURATION (RIGHT SIDE)

CODE	DESCRIPTION	PRICE
(Blank)	Operator without Contact Blocks	—
NO	1 Normally Open Contact Block	\$ 6.00
NC	1 Normally Closed Contact Block	\$ 6.00
EM	1 Early Make Contact Block	\$ 8.00
DB	1 Delayed Break Contact Block	\$ 8.00
NO-NO	2 Normally Open Contact Blocks	\$12.00
NC-NC	2 Normally Closed Contact Blocks	\$12.00
NO-NC	1 Normally Open and 1 Normally Closed Contact Blocks	\$12.00

#### VII. OPTIONS

CODE	DESCRIPTION	PRICE/PC*
IP20	IP20 Guard	\$ 2.00

\*NOTE: When choosing the IP20 option, in order to achieve IP20 protection a terminal guard must be assembled on each contact block configuration, increasing the price \$2.00 for each guard.

Each operating handle is black with a factory assembled color insert.

DISCOUNT  
SCHEDULE **A**

#### CONTACT BLOCK SELECTION FOR 2-POSITION SELECTOR SWITCHES

CIRCUIT DESIG.	HANDLE POSITION		BLOCK CATALOG NUMBER	MOUNTING POSITION
	LEFT	RIGHT		
A	O	X	CBNO	EITHER
B	X	O	CBNC	EITHER

#### CONTACT BLOCK SELECTION FOR 3-POSITION SELECTOR SWITCHES

CIRCUIT DESIG.	HANDLE POSITION			BLOCK CATALOG NUMBER	MOUNTING POSITION
	LEFT	CENTER	RIGHT		
C	X	O	O	CBNO	LEFT
D	O	X	O	CBNC	EITHER
E	O	O	X	CBNO	RIGHT
F	O	X	X	CBDB	LEFT
G	X	O	X	CBEM	EITHER
H	X	X	O	CBDB	RIGHT

**O = OPEN    X = CLOSED**

#### CONTACT BLOCK SELECTION FOR 4-POSITION SELECTOR SWITCHES

CIRCUIT DESIG.	HANDLE POSITION				BLOCK CAT. #	MOUNTING POSITION
	LEFT	LT. CNT.	RT. CNT.	RIGHT		
I	X	O	O	O	CBNO	LEFT
J	O	X	O	O	CBNC	RIGHT
K	O	O	X	O	CBNC	LEFT
L	O	O	O	X	CBNO	RIGHT
M	O	X	X	X	CBDB	LEFT
N	X	O	X	X	CBEM	RIGHT
O	X	X	O	X	CBEM	LEFT
P	X	X	X	O	CBDB	RIGHT

## 30MM SELECTOR SWITCHES

With our unique universal cam design, c3controls Selector Switches offer multiple functions in a single device eliminating the need to install separate devices to perform individual functions based on contact block configuration. All operators feature polyester housings, are UL Listed, and are rated Type 4/4X as standard for watertight and corrosion resistance. In addition, operators are also listed for Type 1, 2, 3, 3R, 12 and 13, and meet global standards requirements. Add-on contact blocks are available for up to 8 circuits per operator. See pages 124-125 for our complete line of 30mm standard contact blocks.



### HANDLE POSITIONS

2-POSITION	3-POSITION	4-POSITION

### UNIQUE PRODUCT FEATURES

#### SAVE TIME & MONEY - WITH C3CONTROLS, ONE CAM DOES IT ALL!

1. One-Cam does it all vs. our competitors who need up to fifteen cams to perform the same function. This One-Cam design eliminates the need for multiple cam configurations and selector switch configuration nightmares, saving time, inventory, money, and ensuring 100% cam selection configuration accuracy.



2. Our revolutionary U-Cup seal is infused with a Teflon coating to eliminate cracking when exposed to harsh conditions such as heat, dryness and sunlight.



3. All frictional parts are molded with an internal self-lubricant to provide outstanding wear and smooth cam operations without troublesome greases used by others that attracts dust and other particles in the area.

### SOME OF OUR POPULAR CONFIGURATIONS:

#### 2-POSITION SELECTOR SWITCH OPERATORS WITH POLYESTER CLAMP RING (TYPE 4X)

CONTACT SYMBOL	CONTACT BLOCK MOUNTING POS. <small>Viewed from front of operator</small>	HANDLE POSITION O=OPEN X=CLOSED		TYPE OF OPERATOR	MAINTAINED POSITION		SPRING RETURN FROM RIGHT TO LEFT		SPRING RETURN FROM LEFT TO RIGHT	
		LEFT	RIGHT		CATALOG #	PRICE	CATALOG #	PRICE	CATALOG #	PRICE
	EITHER	O	X	STANDARD	SS02-SHWE-NO	\$23	SR0RL-SHWE-NO	\$32	SROLR-SHWE-NO	\$32
				LEVER	SS02-SLWE-NO	\$23	SR0RL-SLWE-NO	\$32	SROLR-SLWE-NO	\$32
	EITHER	X	O	STANDARD	SS02-SHWE-NC	\$23	SR0RL-SHWE-NC	\$32	SROLR-SHWE-NC	\$32
				LEVER	SS02-SLWE-NC	\$23	SR0RL-SLWE-NC	\$32	SROLR-SLWE-NC	\$32

#### 3-POSITION SELECTOR SWITCH OPERATORS WITH POLYESTER CLAMP RING (TYPE 4X)

CONTACT SYMBOL	CONTACT BLOCK MOUNTING POS. <small>Viewed from front of operator</small>	HANDLE POSITION O=OPEN X=CLOSED			TYPE OF OPERATOR	MAINTAINED POSITION		SPRING RETURN FROM LEFT TO CENTER		SPRING RETURN FROM RIGHT TO CENTER		SPRING RETURN FROM LEFT OR RIGHT TO CENTER	
		LEFT	CENTER	RIGHT		CATALOG #	PRICE	CATALOG #	PRICE	CATALOG #	PRICE	CATALOG #	PRICE
	LEFT	X	O	O	STANDARD	SS03-SHWE-NO/NO	\$29	SROLC-SHWE-NO/NO	\$38	SR0RC-SHWE-NO/NO	\$38	SROLRC-SHWE-NO/NO	\$38
	RIGHT	O	O	X	LEVER	SS03-SLWE-NO/NO	\$29	SROLC-SLWE-NO/NO	\$38	SR0RC-SLWE-NO/NO	\$38	SROLRC-SLWE-NO/NO	\$38

#### MIX AND MATCH ANY INSERT COLOR AND SELECTOR SWITCH HANDLE



Standard Handle



Standard Handle



Standard Handle



Lever Handle



Lever Handle



Lever Handle

## IT'S EASY TO BUILD YOUR OWN SELECTOR SWITCH

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

### Keyed Selector Switches

I    II    III    IV\*    V\*    VI

Example: To build one of our most popular Keyed Selector Switches, the part number would be **I + II + III + IV + V + VI** or **KOSS2KA-NO**

\*NOTE: Contact block configurations are based on circuit designations (see page 146 for circuit designation charts).



#### I. CLAMP RING

CODE	DESCRIPTION	PRICE
(Blank)	Black Polyester (Type 4X)	—
A	Aluminum (Type 4)	\$ 2.00

#### II. KEYED SELECTOR SWITCH OPERATOR FUNCTION

CODE	POS./FUNCTION	AVAIL. KEY REMOVAL POSITION(S)	PRICE
KOSS2	2/Maintained	KA,KR,KL	\$52.00
KOSSRL	2/Spring Return, R to L	KL	\$60.00
KOSSRLR	2/Spring Return, L to R	KR	\$60.00
KOSS3	3/Maintained	KA,KR,KL,KC, KLR,KLC,KRC	\$52.00
KOSSRLC	3/Spring Return, L to C	KC,KR,KRC	\$60.00
KOSSRLRC	3/Spring Return, R to C	KC,KL,KLC	\$60.00
KOSSRLRC	3/Spring Return, L & R to C	KC	\$60.00
KOSS4	4/Maintained*	KA	\$52.00

\*NOTE: Please consult factory for special key removal positions (not available for guaranteed same day shipping).

#### III. KEY REMOVAL POSITION

CODE	REMOVAL POSITION
KA	All
KR	Right Only
KL	Left Only
KC	Center Only
KLR	Left & Right Only
KLC	Left & Center Only
KRC	Right & Center Only

#### IV. CONTACT BLOCK CONFIGURATION (LEFT SIDE)

CODE	DESCRIPTION	PRICE
(Blank)	Operator without Contact Blocks	—
NO	1 Normally Open Contact Block	\$ 6.00
NC	1 Normally Closed Contact Block	\$ 6.00
EM	1 Early Make Contact Block	\$ 8.00
DB	1 Delayed Break Contact Block	\$ 8.00
NO-NO	2 Normally Open Contact Blocks	\$12.00
NC-NC	2 Normally Closed Contact Blocks	\$12.00
NO-NC	1 Normally Open and 1 Normally Closed Contact Blocks	\$12.00

#### V. CONTACT BLOCK CONFIGURATION (RIGHT SIDE)

CODE	DESCRIPTION	PRICE
(Blank)	Operator without Contact Blocks	—
NO	1 Normally Open Contact Block	\$ 6.00
NC	1 Normally Closed Contact Block	\$ 6.00
EM	1 Early Make Contact Block	\$ 8.00
DB	1 Delayed Break Contact Block	\$ 8.00
NO-NO	2 Normally Open Contact Blocks	\$12.00
NC-NC	2 Normally Closed Contact Blocks	\$12.00
NO-NC	1 Normally Open and 1 Normally Closed Contact Blocks	\$12.00

#### VI. OPTIONS

CODE	DESCRIPTION	PRICE/PC*
IP20	IP20 Guard	\$ 2.00

\*NOTE: When choosing the IP20 option, in order to achieve IP20 protection a terminal guard must be assembled on each contact block configuration, increasing the price \$2.00 for each guard.

DISCOUNT SCHEDULE **A**

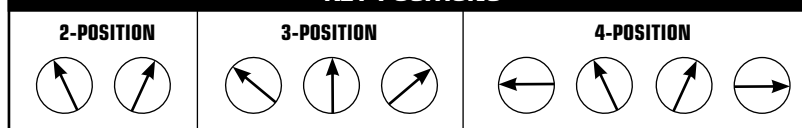
## KEYED SWITCH OPTIONS

**Alternate Key Combinations:** Up to 9 different key combinations (CC series) are available. To order locks keyed differently, please consult factory or specify on order and increase the price \$28.00 per operator.

**Master Keys:** A master key is available that works in all 9 CC series key combinations. To order, specify part number MK1250 (\$20.00 per set of two master keys).

**Extra or Replacement Keys:** Available for standard keyed selector switches only. To order, specify part number ES201 (\$4.00 per set of two keys).  
NOTE: Two keys come standard with each operator.

#### KEY POSITIONS



## 30MM KEYED SELECTOR SWITCHES

c3controls Keyed Selector Switches offer multiple functions in a single device eliminating the need to install separate devices with individual functions based on contact block configuration. All operators feature polyester housings and all locks are premium quality brass for superior corrosion resistance. Keys are made of extra heavy brass for long life. Our Keyed Selector Switches are UL Listed and are rated Type 4/4X as standard. In addition, operators are also listed for Type 1, 2, 3, 3R, 12 and 13, and meet global standards requirements. We also offer you the opportunity to choose the appropriate clamp ring for your specific work environment; polyester clamp rings, which are designed to provide you with a modern appearance, or polished aluminum clamp rings for those who prefer a shiny rugged metal appearance. Add-on contact blocks are available for up to 8 contacts per operator. See pages 124-125 for our complete line of 30mm standard contact blocks.



### UNIQUE PRODUCT FEATURES



**SAVE TIME & MONEY - WITH c3CONTROLS, ONE CAM DOES IT ALL!**

1. One-Cam does it all vs. our competitors who need up to fifteen cams to perform the same function. This One-Cam design eliminates the need for multiple cam configurations and selector switch configuration nightmares, saving time, inventory, money, and ensuring 100% cam selection configuration accuracy.
2. Our revolutionary U-Cup seal is infused with a Teflon coating to eliminate cracking when exposed to harsh conditions such as heat, dryness and sunlight.
3. All frictional parts are molded with an internal self-lubricant to provide outstanding wear and smooth cam operations without troublesome greases used by others that attract dust and other particles in the area.

### SOME OF OUR POPULAR CONFIGURATIONS:

#### 2-POSITION KEYED SELECTOR SWITCH OPERATORS WITH POLYESTER CLAMP RING (TYPE 4X)

CONTACT SYMBOL	CONTACT BLOCK MOUNTING POS. <small>Viewed from front of operator</small>	HANDLE POSITION O=OPEN X=CLOSED		TYPE OF OPERATOR	MAINTAINED POSITION		SPRING RETURN FROM RIGHT TO LEFT		SPRING RETURN FROM LEFT TO RIGHT	
		LEFT	RIGHT		CATALOG #	PRICE	CATALOG #	PRICE	CATALOG #	PRICE
1 NO 	EITHER	O	X	Key Removal Pos L R L & R	KOSS2KL-NO KOSS2KR-NO KOSS2KA-NO	\$58 \$58 \$58	KOSRRLKL-NO — —	\$66 — —	— KOSRLRKR-NO —	— \$66 —
1 NC 	EITHER	X	O	Key Removal Pos L R L & R	KOSS2KL-NC KOSS2KR-NC KOSS2KA-NC	\$58 \$58 \$58	KOSRRLKL-NC — —	\$66 — —	— KOSRLRKR-NC —	— \$66 —

#### 3-POSITION KEYED SELECTOR SWITCH OPERATORS WITH POLYESTER CLAMP RING (TYPE 4X)

CONTACT SYMBOL	CONTACT BLOCK MOUNTING POS. <small>Viewed from front of operator</small>	HANDLE POSITION O=OPEN X=CLOSED			TYPE OF OPERATOR	MAINTAINED POSITION		SPRING RETURN FROM LEFT TO CENTER		SPRING RETURN FROM RIGHT TO CENTER		SPRING RETURN FROM LEFT OR RIGHT TO CENTER	
		LEFT	CENTER	RIGHT		CATALOG #	PRICE	CATALOG #	PRICE	CATALOG #	PRICE	CATALOG #	PRICE
NO/NO 	LEFT RIGHT	X O	O O	O X	Key Rem Pos L R C	KOSS3KL-NO/NO KOSS3KR-NO/NO KOSS3KC-NO/NO	\$64 \$64 \$64	— KOSRLCKR-NO/NO KOSRLCKC-NO/NO	— \$72 \$72	KOSRRCKL-NO/NO — KOSRRCKC-NO/NO	\$72 — \$72	— — KOSRLCKC-NO/NO	— — \$72
					Key Rem Pos L & R L & C R & C	KOSS3KLR-NO/NO KOSS3KLC-NO/NO KOSS3KRC-NO/NO	\$64 \$64 \$64	— — KOSRLCKRC-NO/NO	— — \$72	— KOSRRCKLC-NO/NO —	— \$72 —	— — —	— — —

## IT'S EASY TO BUILD YOUR OWN LEGEND PLATE

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

### Legend Plates



Legend plates feature 2 lines of text with approximately 16 characters per line. Upper case is standard unless specified.

\*The tall legend plate (LPT) features 3 lines of text with approximately 16 characters per line and the Potentiometer legend plate comes standard with a scale and one or two lines of text, see chart D below.



### I. STANDARD LEGEND PLATE TYPE

CODE	DESCRIPTION	PRICE
LP	Standard 2" h x 2" w	\$2.00
LPN	Narrow 2" h x 1-3/4" w	\$2.00
LPS	Short 1-3/4" h x 2" w	\$2.00
LPT	*Tall 2-1/4" h x 2" w	\$2.50
LPR	Standard Round 2-25/64" Dia.	\$3.50
LPRM	Medium Round 2-3/4" Dia.	\$4.00
LPRJ	Jumbo Round 3-3/4" Dia.	\$4.50

### II. FACE AND LETTER COLOR

CODE	FACE COLOR	LETTER COLOR
AL	Aluminum	Black
(Blank)	Black	White
BE	Blue	White
GN	Green	White
RD	Red	White
WE	White	Black
YW	Yellow	Black

### III. LEGEND DESIGNATION

#### A. PUSH BUTTONS AND LIGHTS

CODE	DESCRIPTION
00	(Blank)
01	AUTO
02	CLOSE
31	CYCLE START
100	CYCLE STOP
03	DOWN
102	EMERGENCY
04	EMERGENCY STOP
06	FAST
101	FAULT
07	FORWARD
08	HAND
32	HIGH
33	IN
09	INCH
10	JOG
38	JOG FORWARD
39	JOG REVERSE
34	LOW
35	LOWER
11	MANUAL
26	MOTOR RUN
12	OFF
13	ON
14	OPEN
36	OUT
27	OVERLOAD
15	POWER OFF
16	POWER ON
30	PUSH TO RESET
17	PUSH TO TEST
37	RAISE
18	RESET
19	REVERSE
20	RUN
21	SLOW
22	START
23	STOP
24	TEST
29	TRIP
25	UP

#### B. 2-POSITION SELECTOR

CODE	LEGEND LEFT	LEGEND RIGHT
00	(Blank)	(Blank)
50	AUTO	HAND
68	AUTO	MANUAL
51	DOWN	UP
63	FAST	SLOW
52	FWD	REV
53	HAND	AUTO
73	HIGH	LOW
54	INCH	RUN
75	LEFT	RIGHT
70	LOCAL	REMOTE
55	MANUAL	AUTO
56	OFF	ON
57	ON	OFF
58	OPEN	CLOSE
65	PULL START	PUSH STOP
66	PUSH OFF	PULL ON
64	PUSH ON	PUSH OFF
67	PUSH TO STOP	PULL TO START
71	RAISE	LOWER
59	REV	FWD
60	RUN	JOG
69	SLOW	FAST
61	START	STOP
62	STOP	START
74	SUMMER	WINTER
72	UP	DOWN

#### C. 3-POSITION SELECTOR

CODE	LEGEND LEFT	LEGEND CENTER	LEGEND RIGHT
00	(Blank)	(Blank)	(Blank)
92	AUTO	OFF	HAND
93	AUTO	MAN	OFF
80	DOWN	OFF	UP
81	FWD	AUTO	REV
82	FWD	OFF	REV
83	HAND	OFF	AUTO
94	HIGH	OFF	LOW
99	JOG	OFF	AUTO
90	LOCAL	OFF	REMOTE
84	MANUAL	OFF	AUTO
89	OFF	RUN	START
85	OFF	START	RUN
86	OFF	1	2
95	OPEN	OFF	CLOSE
91	RAISE	OFF	LOWER
96	SLOW	OFF	FAST
97	SUMMER	OFF	WINTER
98	UP	OFF	DOWN
87	1	OFF	2
88	1	2	3

#### D. POTENTIOMETER

CODE	DESCRIPTION
40	Blank Legend 0 - 10
41	"SPEED" 0 - 10
43	Blank Legend 0 - 100
44	"SPEED" 0 - 100

### NOT FINDING WHAT YOU NEED IN A STANDARD PLATE?

We offer Special and Custom Engraving up to 12" x 24" (304.8mm x 609.6mm). Please consult factory or see page 151 for details. While our standard legend plates are available for same day shipping, our special and custom legend plates are not.

DISCOUNT  
SCHEDULE

**A**

### POPULAR CONFIGURATIONS:

#### LEGEND PLATES

CATALOG NO.	DESIGNATION	PRICE
LPRYW-04	EMERGENCY STOP	\$3.50
LPT-83	HAND OFF AUTO	\$2.50
LP-41	SPEED 0 - 10	\$2.00



## FEATURE BENEFITS

All Legend Plates are a 2-ply laminated plastic, laser engraved for a permanent and quality appearance and feature 2 lines of text with approximately 16 characters per line. Upper case is standard unless specified. The Potentiometer legend plate comes standard with a scale and one or two lines of text.

### IT'S EASY TO BUILD YOUR OWN LEGEND PLATE

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

#### Special Legend Plates



#### I. STANDARD LEGEND PLATE TYPE

CODE	DESCRIPTION	PRICE
LP	Standard 2" h x 2" w	\$2.00
LPN	Narrow 2" h x 1-3/4" w	\$2.00
LPS	Short 1-3/4" h x 2" w	\$2.00
LPT	*Tall 2-1/4" h x 2" w	\$2.50
LPR	Standard Round 2-25/64" Dia.	\$3.50
LPRM	Medium Round 2-3/4" Dia.	\$4.00
LPRJ	Jumbo Round 3-3/4" Dia.	\$4.50

\*The tall legend plate (LPT) features 3 lines of text with 16 characters per line.

DISCOUNT  
SCHEDULE **A**

#### II. FACE AND LETTER COLOR

CODE	FACE COLOR	LETTER COLOR
AL	Aluminum	Black
(Blank)	Black	White
BE	Blue	White
GN	Green	White
RD	Red	White
WE	White	Black
YW	Yellow	Black

#### III. LEGEND DESIGNATION

CODE	DESCRIPTION	PRICE
SP	Special Legend	\$7.00

NOTE: \$3.00 each when ordering 3 or more of the same exact legend plate.

Upon receipt of your order, legend plates will be set up as specified and a proof will be sent to you prior to production to ensure accuracy.

While our standard legend plates are available for same day shipping, our special and custom legend plates are not.

To order, submit your drawing to:

**Mail:** c3controls  
Attn: Customer Care  
P.O. Box 496  
Beaver, PA 15009  
**Fax:** 724.775.5283  
**Email:** legendplates@c3controls.com



TO HELP SIMPLIFY YOUR ORDER PROCESS, TEMPLATES ARE AVAILABLE BY CALLING OUR FACTORY AT 724.775.7926 OR REFERENCE ONE OF THE DRAWINGS ON PAGE 160.



(Sample custom plate)

## CUSTOM LEGEND PLATES

- Available in 2-ply 12" x 24" (304.8mm x 609.6mm) sheets of laminated plastic for custom laser engraving.
- **Add your Corporate Logo!** Send us your corporate logo electronically to promote your company image in a clean professional legend plate.
- Initial Set-Up Fee Per Legend Plate: \$25/hour (minimum fee \$25.00).
- \$1.00/Square Inch (minimum \$9.00).
- Design services available. Consult factory for details and hourly rate.
- While our standard legend plates are available for same day shipping, our special and custom legend plates are not.

To order, submit your drawing to:

**Mail:** c3controls  
Attn: Customer Care  
P.O. Box 496  
Beaver, PA 15009  
**Fax:** 724.775.5283  
**Email:** legendplates@c3controls.com



## EXTENDED CLAMP RINGS



We offer four types of 30mm extended clamp rings that guard against accidental operation. Use our Extended Clamp Rings (ECR or AECR) with flush caps, our Clear Guarded Clamp Ring (EECR) with illuminated push buttons and our Large Extended Clamp Ring (LECR) with flush or extended caps, which also provides easier access to your push buttons.

### FOR USE WITH NON-ILLUMINATED CAPS

CODE	DESCRIPTION	PRICE
ECR	Extended Ring	\$ 3.00
LECR	Large Extended Ring	\$ 5.00
AECR	Aluminum Extended Ring	\$ 5.00

### FOR USE WITH ILLUMINATED LENS

CODE	DESCRIPTION	PRICE
EECR	Guarded Clear Polyester Ring	\$ 4.00

## PANEL GASKETS



Our panel gaskets are constructed of Neoprene for long life and low compression set and provide a watertight seal. Panel gaskets are supplied to accommodate

different panel thickness. In order to meet Type 4/4X requirements, at least one 1/16" (1.6mm) gasket must be used. NOTE: All c3controls 30mm operators are provided with gaskets.

CODE	DESCRIPTION	PRICE
PG2	1/16" (1.6mm) Gasket	\$ 0.50
PG6	3/16" (4.8mm) Gasket	\$ 0.50

## THRUST & TRIM WASHERS



Anti-rotation device for use with 30mm push buttons, selector switches and pilot lights to provide additional protection from rotation and aid in

alignment. This product is optional with c3controls gasket technology.

CODE	DESCRIPTION	PRICE
TTW	30mm Anti-Rotation Washers	\$ 1.00

DISCOUNT  
SCHEDULE **A**

## LOCK OFF ATTACHMENTS

c3controls offers a wide variety of 30mm corrosive resistant lock-off attachments for maintained and momentary push buttons and selector switches. Our LOAX, LOAM and LOAP lock-offs permit locking operators in the depressed position. Our LOAFC lock-off covers and locks the operator so its position cannot be changed and features a 1/4" (6.4mm) diameter padlocking hasp.



LOAFC



LOAX/LOAM/LOAP

CODE	FITS	PRICE
LOAX	Standard Extended Cap	\$16.00
LOAM	Standard Momentary Mushroom Cap	\$16.00
LOAP	Push-Pull Maintained Mushroom Cap (PPMC) or Push Maintained Extended Cap (PMXC)	\$16.00
LOAFC	Most Push Buttons and Selector Switches	\$25.00

## GUARD ATTACHMENT



Our PPGD guards against accidental operation and is made of a high strength polyester material.

CODE	FITS	PRICE
PPGD	Maintained Push Buttons	\$20.00

## HOLE PLUG



Use to seal unused panel holes. Our hole plug comes with additional sealing panel gaskets to ease installation and is rated Type 4X.

CODE	DESCRIPTION	PRICE
HP	30mm Grey Hole Plug	\$ 4.00

## CLAMP RING WRENCH



To simplify tightening and loosening of standard polyester and aluminum 1-3/8" (34.9mm) octagonal clamp rings. Won't scratch your lens or panel.

CODE	DESCRIPTION	PRICE
CRW	30mm Clamp Ring Wrench	\$10.00

## PUSH MAINTAINED FLUSH AND EXTENDED CAPS



Use with a secondary standard cap and mechanical interlock to provide two button momentary/maintained operation

or use on adjacent operators with mechanical interlock to provide two-button maintained/maintained operation. Comes with our standard polyester clamp ring. An optional polished aluminum clamp ring is also available, add prefix "A" to catalog code and increase the price \$2.00.

COLOR	FLUSH CODE	EXTENDED CODE	PRICE
Black	PMFCBK	PMXCBK	\$22.00
Green	PMFCGN	PMXCGN	\$22.00
Red	PMFCRD	PMXCRD	\$22.00
Yellow	PMFCYW	PMXCYW	\$22.00

## MECHANICAL INTERLOCK



Our Mechanical Interlock features a 2" (50.8mm) center and can be used to interlock two adjacent operators. This may also be used to interlock a two-unit maintained/momentary assembly. NOTE: Factory installation recommended.

CODE	DESCRIPTION	PRICE
MI	30mm Mechanical Interlock	\$12.00

## IP20 TERMINAL GUARDS



Our IP20 terminal guards protect against accidental contact with live parts and can be ordered separately as an accessory or factory installed providing the convenience of a single catalog number. NOTE: IP20 terminal guards must be installed before wiring. For factory installed guards, refer to the operator page to determine the appropriate part number. For terminal marking convenience, our guards can be utilized with Series WTB2 markers (see page 332).

CODE	FITS	PRICE
CBIP20	Standard Contact Blocks	\$ 2.00
FVIP20	Full Voltage Illuminated Push Button Operators, Pilot Lights, Push-To-Test Light Modules and Multi-Voltage Pilot Lights	\$ 2.00
MLIP20	Resistor & Transformer Momentary Illuminated Push Button Operators and Pilot Lights	\$ 2.00

## LED, INCANDESCENT & NEON REPLACEMENT LAMPS

c3controls offers a full range of lamp options in a miniature bayonet base for direct interchangeability which provides flexibility in choosing the best lamp for each installation application. Multiple voltage options in Incandescent, LED and Neon lamps are available. Please refer to the chart at the bottom of the page to determine the appropriate replacement lamp based on your operator voltage. For lamp technical data, see page 154.

### LED Lamps

LED I II III

To order LED Lamps, the part number would be **LED + II + III**



#### I. LAMP TYPE

CODE	DESCRIPTION	PRICE
LED	LED Lamp	\$14.00

Our LED lamps feature built-in leakage protection.

#### II. VOLTAGE

CODE	DESCRIPTION
6	6V
12	12V
24	24V
130	130V

#### III. LAMP COLOR

CODE	DESCRIPTION
AR	Amber
BE	Blue
GN	Green
RD	Red
WE	White

### Incandescent Lamps



CODE	VOLTAGE	PRICE
FVB6	6V	\$ 2.00
FVB12	12V	\$ 2.00
FVB24	24V	\$ 2.00
FVB55	55V	\$ 4.00
FVB120	120V	\$ 4.00
FVB6F	*6V Flashing	\$ 6.00

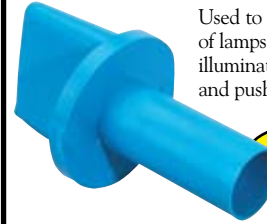
\*NOTE: There may be a 5-15 second delay before flashing begins.

### Neon Lamps



CODE	VOLTAGE	COLOR	PRICE
FVB120NG	120V	Green	\$ 2.00
FVB120NR	120V	Red	\$ 2.00

## LAMP REMOVAL TOOL



Used to facilitate the removal of lamps particularly in illuminated push buttons and push-to-test operators.

DISCOUNT SCHEDULE **C**

CODE	DESCRIPTION	PRICE
LRT	Lamp Removal Tool	\$ 4.00

DISCOUNT SCHEDULE **A**

NOTE: Discount Schedule A does not apply to Lamp Removal Tool.

### 30MM REPLACEMENT LAMP REFERENCE CHART (FOR REFERENCE ONLY - USE CHARTS ABOVE TO ORDER)

OPERATOR CODE	OPERATOR VOLTAGE	LED (ALL COLORS)	INCANDESCENT	NEON
FVLU6	Full Voltage 6V AC/DC	LED6	FVB6 or FVB6F	—
FVLU12	Full Voltage 12V AC/DC	LED12	FVB12	—
FVLU24	Full Voltage 24V AC/DC	LED24	FVB24	—
FVLU120	Full Voltage 120V AC/DC	LED130	FVB120	FVB120NG or FVB120NR
TFLU120	Transformer 120V AC	LED6	FVB6 or FVB6F	—
TFLU240	Transformer 240V AC	LED6	FVB6 or FVB6F	—
TFLU277	Transformer 277V AC	LED6	FVB6 or FVB6F	—
TFLU480	Transformer 480V AC	LED6	FVB6 or FVB6F	—
RLU120L	Resistor 120V AC/DC*	LED24	—	—
RLU120I	Resistor 120V AC/DC*	—	FVB55	—
RLU240L	Resistor 240V AC/DC*	LED24	—	—
RLU240I	Resistor 240V AC/DC*	—	FVB120	—
RLU240N	Resistor 240V AC/DC*	—	—	FVB120NG or FVB120NR
RLU480N	Resistor 480V AC/DC*	—	—	FVB120NG or FVB120NR
RTLU6	Dual Input 6V AC/DC	LED6	FVB6	—
RTLU12	Dual Input 12V AC/DC	LED12	FVB12	—
RTLU24	Dual Input 24V AC/DC	LED24	FVB24	—
RTLU120	Dual Input 120V AC/DC	LED130	FVB55	—

\*NOTE: Lamps are unique to Resistor Light Units. Refer to side of light unit for correct replacement lamp part number.

**30MM INDUSTRIAL PILOT DEVICES**

**ELECTRICAL RATINGS**

Lamp	Industry Number	Rated Volts	Lumens (MSCD)	Design Life (Hrs.)	Current Draw (mA)	Lamp Type	Shock & Vibration	Leakage Protection
FVB6	1866	6.3V	0.65	5,000	250	Incandescent	Very Good	N/A
FVB12	756	14V	0.31	15,000	80	Incandescent	Good	N/A
FVB24	757	28V	0.62	7,500	80	Incandescent	Good	N/A
FVB55	1835	55V	1.1	5,000	50	Incandescent	Good	N/A
FVB120	**	130V	0.36	10,000	20	Incandescent	Good	N/A
LED6	**	6V	Varies w/ Color 2000 mcd Typical	100,000	50	LED	Excellent	14 mA
LED12	**	12V		100,000	<20	LED	Excellent	4 mA
LED24	**	24V		100,000	<20	LED	Excellent	4 mA
LED130	**	120/130V		100,000	<10	LED	Excellent	2 mA
FVB120NG	—	95-135V	Typical (Glow)	25,000	<5	Neon/Green	Very Good	N/A
FVB120NR	—	95-135V	Typical (Glow)	25,000	<5	Neon/Red	Very Good	N/A
30UNR-24L	**	24V AC/DC	Varies w/ Color 2000 mcd Typical	60,000	<18	LED*	Excellent	<3 mA
30UNR-120L	**	110-130V AC/DC		60,000	<18	LED*	Excellent	<3 mA
30UNR-240L	**	220-240V AC		60,000	<18	LED*	Excellent	<3 mA

\*Specify lamp color when ordering.

\*\*Designates a lamp design optimized for c3controls illuminated devices. See LED replacement lamps on page 153.

**DIELECTRIC STRENGTH (TERMINAL TO GROUND) 2200V for 1 Minute**

STANDARD CONTACTS		Utilization Category					
			IEC	UL	Make Rating	Break Rating	Ith-Thermal Current
		AC	AC-15	A600	7200VA	720VA	10A
		DC	DC-13	P300	138VA	138VA	5A

Note: For AC voltage below 72V AC the max. allowed switching current is 10A = Ith. For DC voltages below 28V DC the max. allowed switching current is 5A = Ith. For switching applications below 24V/40mA - Hermetic REED contacts are recommended. Hermetic Reeds are also excellent in environments containing chemical vapors, oxidizing agents, and explosive gases. Please refer to the HAZARDOUS section of the Series 30 devices for more information. Available on c3controls' 30MM products only.

**ENVIRONMENTAL RATINGS**

TYPE 1, 2, 3, 3R, 4/4X, 12, 13, and IP65

Operating Temperature  
-40 to +131° F ( -40 to +55° C )

Storage Temperature  
-40 to +185° F ( -40 to +85° C )

Operating environments below freezing temperatures are assumed to be absent of freezing liquids or pollutants.

**TERMINAL & WIRING CONSIDERATION**

Wire- AWG 22-12 CU  
(Copper Only - Solid & Stranded) [.5 ~ 4 mm<sup>2</sup> ]  
One or Two wires permitted per termination

Recommended Tightening Torque  
7 lb-in (+3.0/-0.0 lb-in) — [.8 Nm ]

**MECHANICAL DESIGN LIFE CYCLES**

Push Buttons	
Momentary	5,000,000
Maintained	250,000
Selector Switches	500,000
All Other Devices	250,000
Standard Contact Blocks	10,000,000
Indicating Lights - Refer to the appropriate Lamp Data	

**OPERATING FORCES**

Pushbuttons (Operator Only)	
Momentary	1.3 lbs. [5.8 N]
Illuminated Momentary	2.8 lbs. [12.4 N]
Maintained	4 to 6 lbs. [17.9~26.7 N]
Illuminated Maintained	4.6 lbs. [20.5 N]
Reset Push Button	1.5 lbs. [6.7 N]
Selector Switches	
Maintained	1.7 in-lbs [.19 Nm]
Momentary	1.7 in-lbs [.19 Nm]
Key Operated	1.7 in-lbs [.19 Nm]
Cable Pull	
Standard	4 to 6 lbs. [17.9~26.7 N]
Heavy Duty	13 lbs. [57.8 N]
Push-Twist Release	4.7 lbs. [20.9 N]
Potentiometer	
2 Watt "J" Series	3-12 in-oz. [.11 Nm Max.] ( 300° Rotation )
Standard Contact Blocks	1 lb. [4.45 N]
Indicating Lights	Refer to the appropriate Lamp Data
Multi-Voltage Light	20-240 VAC/VDC (Burden .65W max.)
Transformer	2 VA

**MATERIALS**

Thermoplastic Polyester and Polyester Blends (UV Stabilized for outdoor use)

Operator Housings  
Operator Caps and Handles -  
Non-Illuminated (Glass Reinforced Grades)  
Mounting Rings and Nuts  
Thrust Washer  
Trim Washer

High Impact Polycarbonate  
(UV Stabilized for outdoor use)

Pilot Light Lens  
Transparent PB and Mushroom Caps

Custom Polymers

Certain CAM and Bearing parts are  
Teflon, Silicone, & Moly-Disulfide  
Impregnated for improved wearability  
Fluorosilicone and Thermoplastic  
Neoprene Boot Accessories

Seals

Neoprene Gaskets  
Thermoplastic - Molded Neoprene  
and alloy derivatives  
BUNA N - Rubber - Teflon Coated  
Thermoplastic - Elastomer Molded Seals  
Fluorosilicone - Boots

Metal: Brass & Stainless Steel

Push Pull Bushings  
Internal tubes for Maintained Devices  
Detents for Maintained Devices  
Springs (Stainless Steel throughout)

Aluminum

Optional Mounting Nut

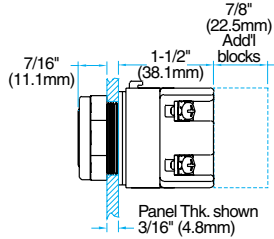
RoHS Compliance

For RoHS compliance documentation by product, refer to [www.c3controls.com](http://www.c3controls.com)

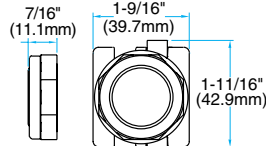
**MOMENTARY & MAINTAINED NON-ILLUMINATED PUSH BUTTONS**

Fully-assembled operators come standard with one 3/16" (4.8mm) and three 1/16" (1.6mm) gaskets.  
See mounting gasket specifications chart #3 on page 160.

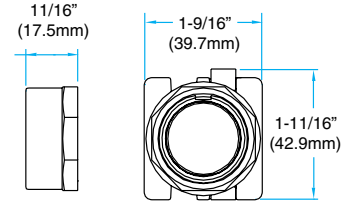
**NON-ILLUMINATED OPERATOR  
(SHOWN WITH FLUSH CAP)**



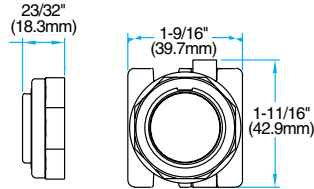
**MOMENTARY FLUSH CAP**



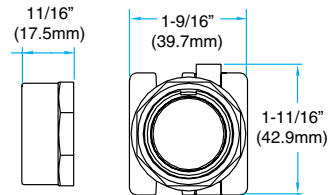
**MOMENTARY GUARDED FLUSH CAP**



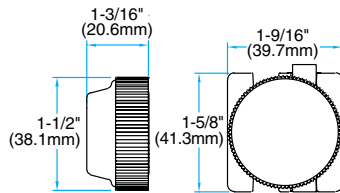
**MOMENTARY EXTENDED CAP**



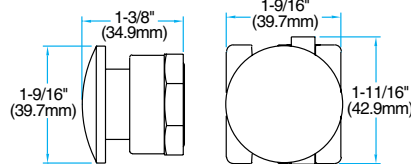
**MOMENTARY GUARDED  
EXTENDED CAP**



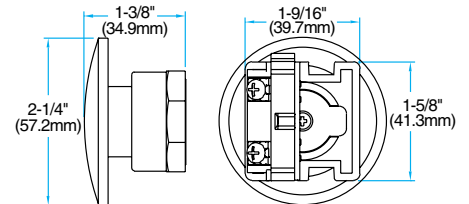
**MOMENTARY STANDARD  
RUBBER BOOT**



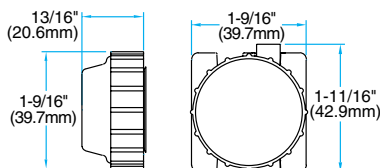
**MOMENTARY 1-1/2" (38MM)  
MUSHROOM CAP**



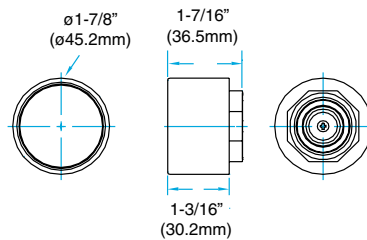
**MOMENTARY 2-1/4" (57.2MM)  
JUMBO MUSHROOM CAP**



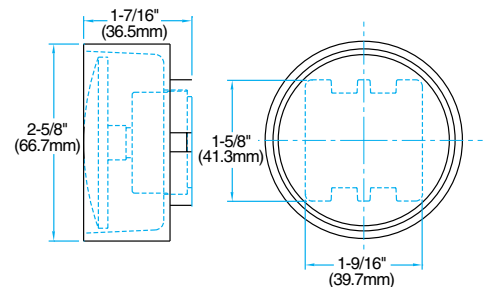
**MOMENTARY FLUROSILICONE  
RUBBER BOOT**



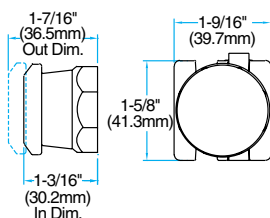
**MOMENTARY 1-1/2" (38MM)  
SHROUDED MUSHROOM CAP**



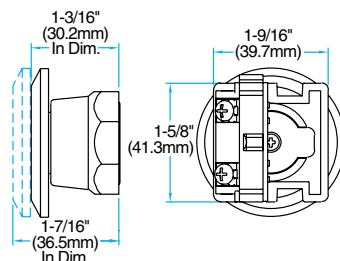
**MOMENTARY 2-1/4" (57.2MM)  
SHROUDED JUMBO MUSHROOM CAP**



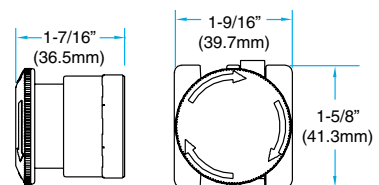
**2-POSITION PUSH-PULL  
MAINTAINED 1-1/2" (38MM)  
MUSHROOM CAP**



**2-POSITION PUSH-PULL MAINTAINED  
2-1/4" (57.2MM) JUMBO MUSHROOM CAP**



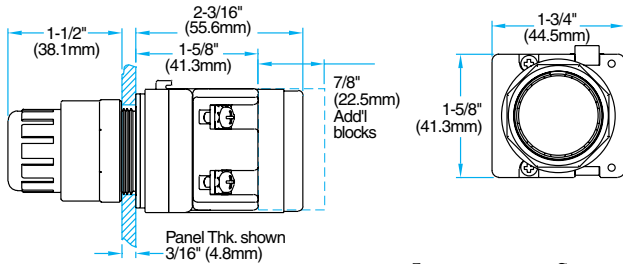
**2-POSITION PUSH-TWIST MAINTAINED  
1-1/2" (38MM) MUSHROOM CAP**



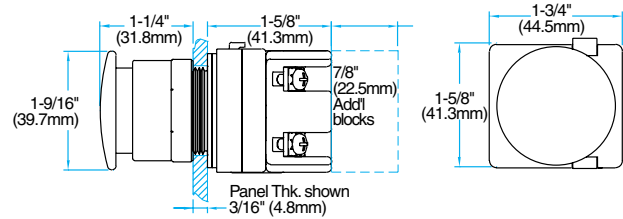
## MOMENTARY ILLUMINATED PUSH BUTTONS

Fully-assembled operators come standard with one 3/16" (4.8mm) and three 1/16" (1.6mm) gaskets.  
See mounting gasket specifications chart #3 on page 160.

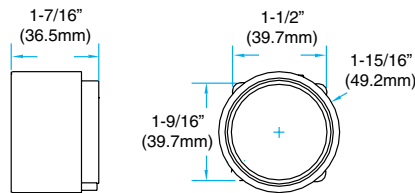
### ILLUMINATED FULL VOLTAGE, TRANSFORMER, RESISTOR AND DUAL-INPUT OPERATORS (SHOWN WITH IPBC)



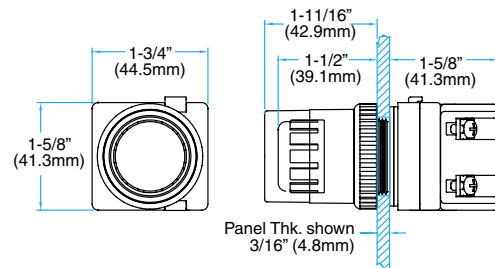
### ILLUMINATED FULL VOLTAGE OPERATORS (SHOWN WITH IPBC)



### ILLUMINATED SHROUDED MUSHROOM LENS (SIPBCM)



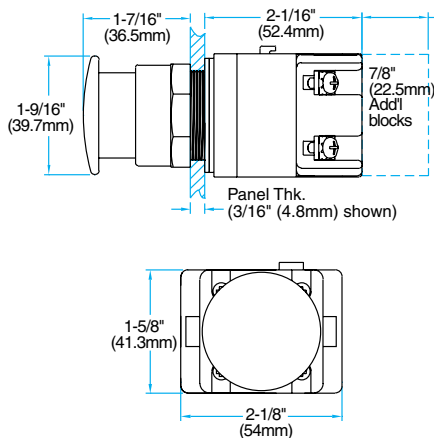
### ILLUMINATED GUARDED LENS (GIPBC)



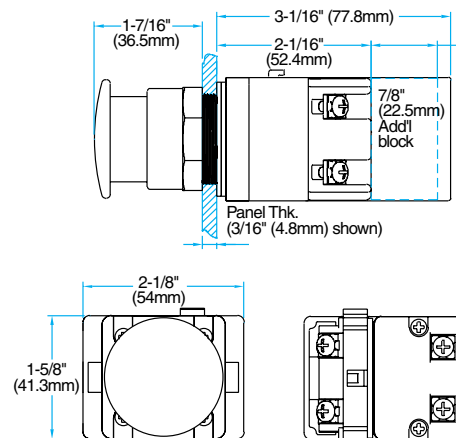
## 2 & 3 POSITION PUSH-PULL MAINTAINED ILLUMINATED PUSH BUTTONS

Fully-assembled operators come standard with one 3/16" (4.8mm) and three 1/16" (1.6mm) gaskets.  
See mounting gasket specifications chart #1 on page 160.

### ILLUMINATED FULL VOLTAGE OPERATOR (SHOWN WITH IMC)

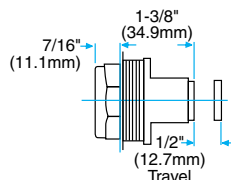


### ILLUMINATED TRANSFORMER AND RESISTOR OPERATORS (SHOWN WITH IMC)

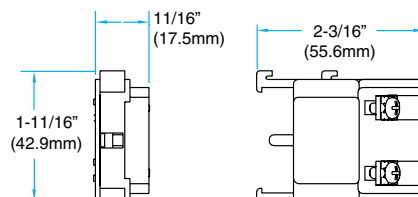


## RESET PUSH BUTTON

Fully-assembled operators come standard with one 3/16" (4.8mm) and three 1/16" (1.6mm) gaskets.  
See mounting gasket specifications chart #3 on page 160.



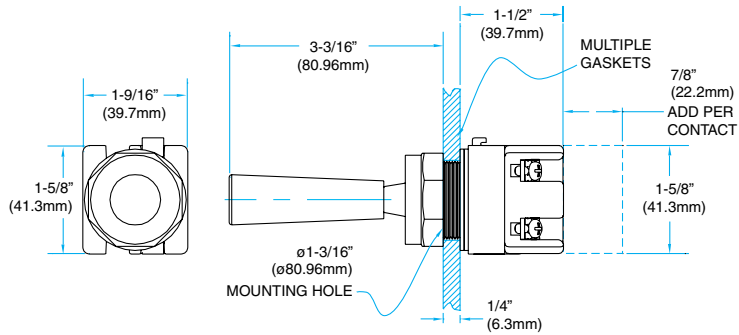
## ALTERNATE ACTION BLOCK





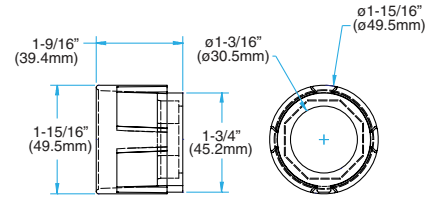
## WOBBLE STICK

Fully-assembled operators come standard with one 3/16" (4.8mm) and three 1/16" (1.6mm) gaskets.  
See mounting gasket specifications chart #3 on page 160.



## GUARD ATTACHMENT

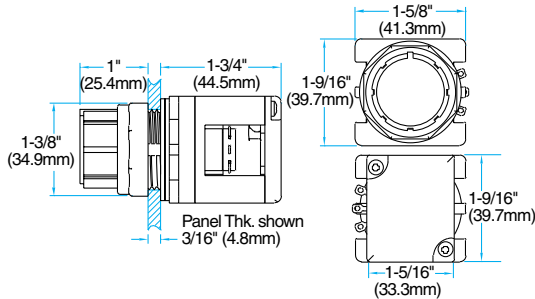
PPGD



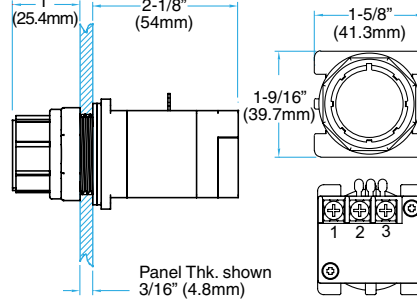
## POTENTIOMETER WITH & WITHOUT TERMINAL BLOCK

Fully-assembled operators come standard with one 3/16" (4.8mm) and three 1/16" (1.6mm) gaskets.  
See mounting gasket specifications chart #3 on page 160.

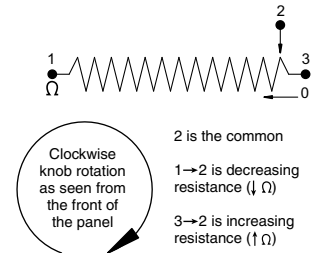
POTENTIOMETER OPERATOR  
(SHOWN WITHOUT TERMINAL BLOCK)



POTENTIOMETER OPERATOR  
(SHOWN WITH TERMINAL BLOCK)

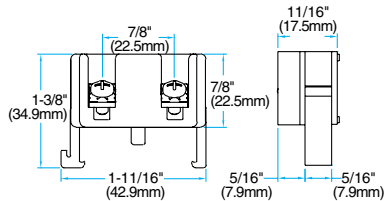


WIRING DIAGRAM

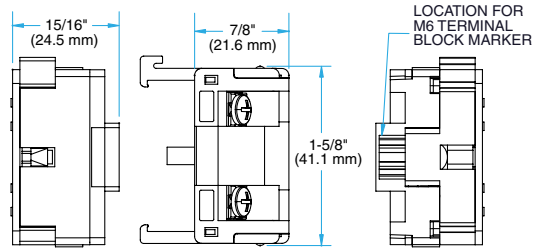


## CONTACT BLOCKS

CONTACT BLOCK



CONTACT BLOCK  
(SHOWN WITH IP20 TERMINAL GUARD)



A600 (AC) Rating Designation:

A600 (7200 VA Make and 720 VA Break), 600V AC Maximum, Maximum Continuous Thermal Current, Ith: 10A

P300 (DC) Rating

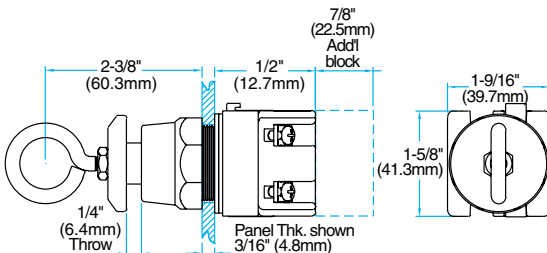
Designation:

P300 (138 VA Make and 138 VA Break), 250V DC Maximum, Maximum Continuous Thermal Current, Ith: 5A

## CABLE PULL OPERATORS

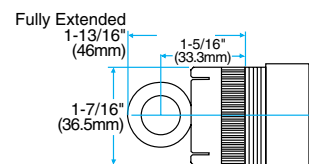
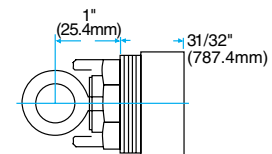
Fully-assembled operators come standard with one 3/16" (4.8mm) and three 1/16" (1.6mm) gaskets.  
See mounting gasket specifications chart #3 on page 160.

PUSH-PULL MAINTAINED CABLE PULL OPERATOR



MOMENTARY AND  
HEAVY DUTY  
CABLE PULL  
OPERATORS

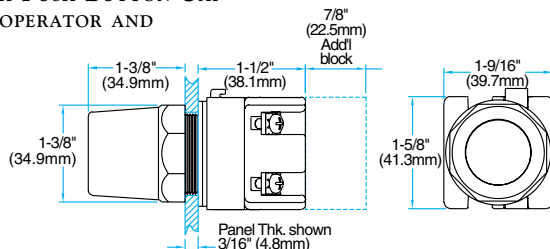
MOMENTARY  
BOOTED CABLE  
PULL OPERATOR



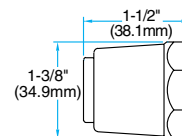
## MAINTAINED FLUSH & EXTENDED PUSH BUTTON CAPS

Fully-assembled operators come standard with one 3/16" (4.8mm) and three 1/16" (1.6mm) gaskets.  
See mounting gasket specifications chart #3 on page 160.

**MAINTAINED FLUSH PUSH BUTTON CAP**  
(SHOWN WITH AN OPERATOR AND  
CONTACT BLOCK)



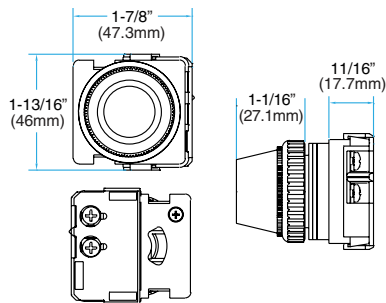
**MAINTAINED EXTENDED  
PUSH BUTTON CAP**



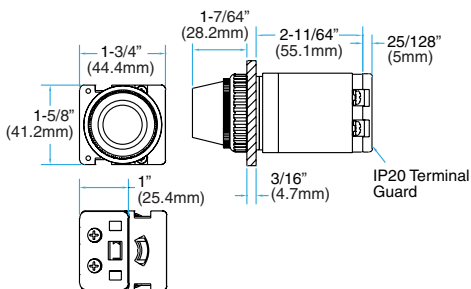
## PILOT LIGHTS

Fully-assembled operators come standard with one 3/16" (4.8mm) and two 1/16" (1.6mm) gaskets.  
See mounting gasket specifications chart #2 on page 160.

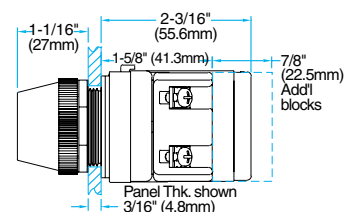
**FULL VOLTAGE PILOT LIGHT OPERATOR**  
(SHOWN WITH PLL AND IP20 TERMINAL  
GUARD)



**TRANSFORMER & RESISTOR PILOT LIGHT  
OPERATORS (SHOWN WITH PLL  
AND IP20 TERMINAL GUARD)**



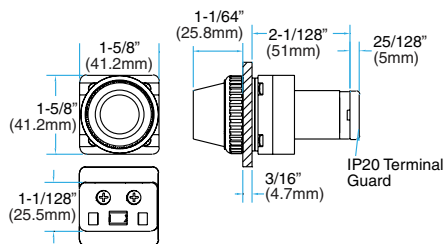
**DUAL INPUT  
PILOT LIGHT OPERATOR**  
(SHOWN WITH PLL)



## MULTI-VOLTAGE PILOT LIGHT

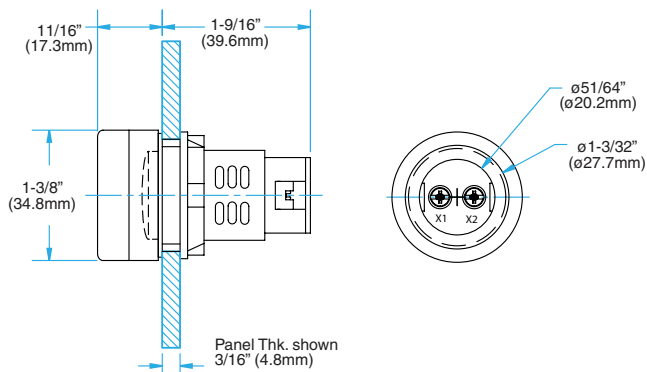
Fully-assembled operators come standard with four 1/16" (1.6mm) gaskets.  
See mounting gasket specifications chart #2 on page 160.

**MULTI-VOLTAGE PILOT LIGHT**  
(SHOWN WITH PLL AND IP20 TERMINAL GUARD)



## UNIBODY PILOT LIGHTS

**FULL VOLTAGE UNIBODY PILOT LIGHT OPERATOR**

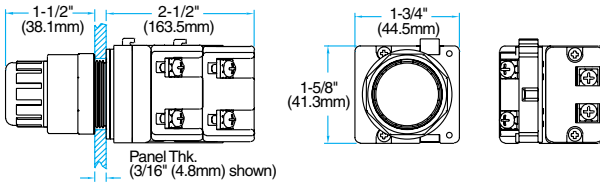


**VISIT [WWW.C3CONTROLS.COM](http://WWW.C3CONTROLS.COM) TO  
DOWNLOAD CAD DRAWINGS**

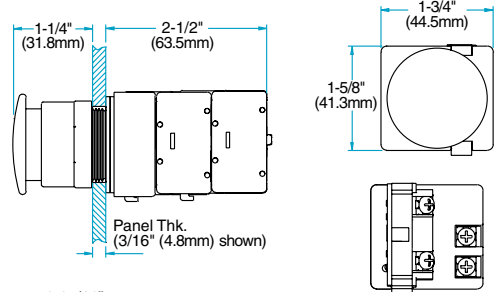
## PUSH-TO-TEST PILOT LIGHTS

Fully-assembled operators come standard with one 3/16" (4.8mm) and three 1/16" (1.6mm) gaskets.  
See mounting gasket specifications chart #1 on page 160.

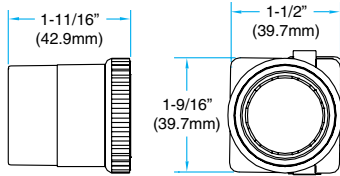
### FULL VOLTAGE, TRANSFORMER & RESISTOR PUSH-TO-TEST OPERATORS (SHOWN WITH IPBC)



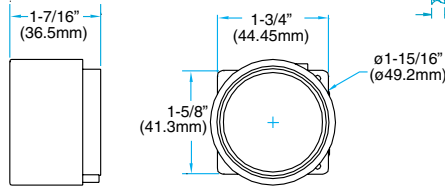
### FULL VOLTAGE, TRANSFORMER & RESISTOR PUSH-TO-TEST OPERATORS (SHOWN WITH IPBCM)



### GUARDED LENS



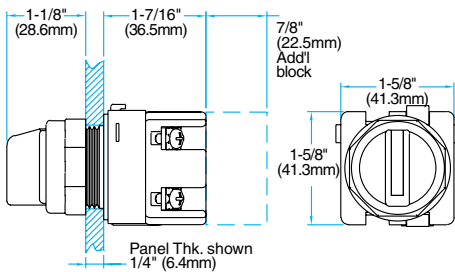
### SHROUDED MUSHROOMS LENS



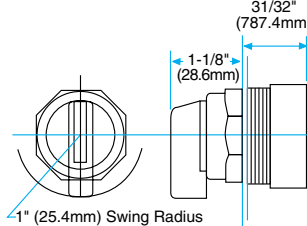
## SELECTOR SWITCHES

Fully-assembled operators come standard with one 3/16" (4.8mm) and three 1/16" (1.6mm) gaskets.  
See mounting gasket specifications chart #3 on page 160.

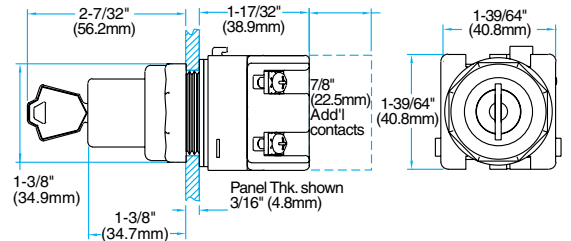
### SELECTOR SWITCH OPERATOR (SHOWN WITH STANDARD HANDLE)



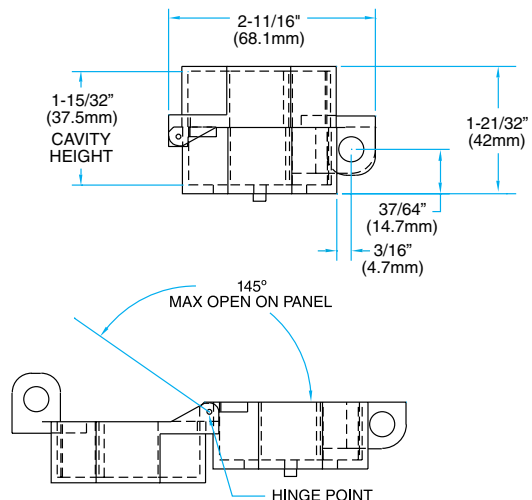
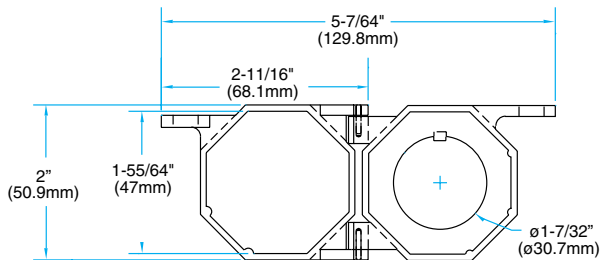
### SELECTOR SWITCH LEVER HANDLE



### KEYED SELECTOR SWITCH OPERATOR

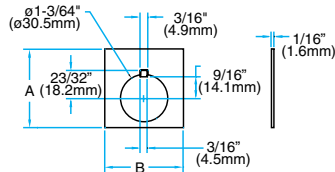


## LOCK-OFF ATTACHMENT

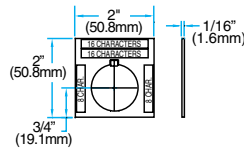


## LEGEND PLATES

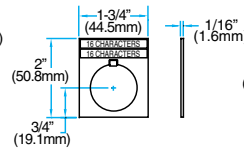
STANDARD LEGEND PLATE  
WITH BREAK-AWAY POSITIONING  
FOR OPTIONAL THRUST WASHER ACCESSORY



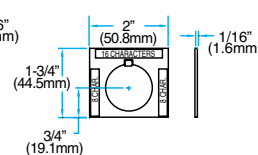
**LP-SP  
STANDARD**



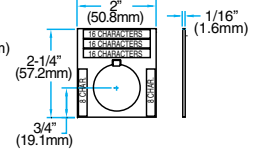
**LP-SP  
NARROW**



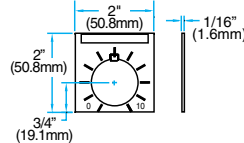
**LP-SP  
SHORT**



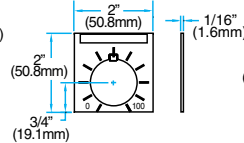
**LP-SP  
TALL**



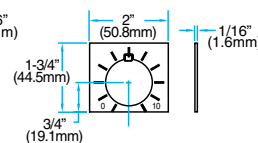
**LP-40-SP  
POT**



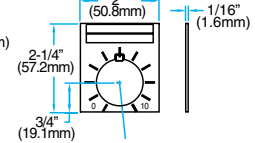
**LP-43-SP  
POT**



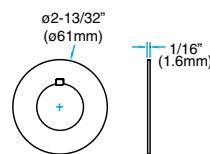
**LP-40-SP  
SHORT**



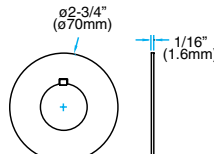
**LP-40-SP  
TALL**



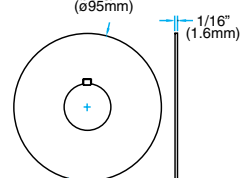
**LPR-SP  
STANDARD ROUND**



**LPRM-SP  
MEDIUM ROUND**



**LPRJ-SP  
JUMBO ROUND**



## MOUNTING GASKETS

**MOUNTING GASKETS CHART #1**

PANEL THICKNESS IN DECIMALS	# OF GASKETS NEEDED 3/16" & 1/16" (4.8MM) (1.6MM)
less than .080	1 3
.080 - .132	1 2
.133 - .185	1 1
.186 - .238	0 3
.239 - .291	0 2
.292 - .344	0 1

NOTE: Remove one 1/16" (1.6mm) gasket when using a legend plate.

**MOUNTING GASKETS CHART #2**

PANEL THICKNESS IN DECIMALS	# OF GASKETS NEEDED 3/16" & 1/16" (4.8MM) (1.6MM)
less than .080	1 2
.080 - .132	1 1
.133 - .185	0 3
.186 - .238	0 2
.239 - .291	0 1

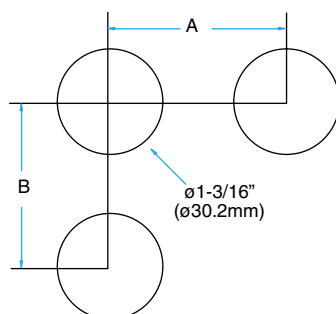
NOTE: Remove one 1/16" (1.6mm) gasket when using a legend plate.

**MOUNTING GASKETS CHART #3**

PANEL THICKNESS IN DECIMALS	# OF GASKETS NEEDED 3/16" & 1/16" (4.8MM) (1.6MM)
less than .080	1 5
.080 - .132	1 4
.133 - .185	1 3
.186 - .238	1 2
.239 - .291	1 1
.292 - .344	0 3

NOTE: Remove one 1/16" (1.6mm) gasket when using a legend plate.

## MOUNTING HOLE PATTERN



**MOUNTING HOLE PATTERN**

SPACING	A	B
Minimum	2" (50.8mm)	2" (50.8mm)
Standard	2-1/14" (57.2mm)	2-1/14" (57.2mm)