# 22MM IEC **PILOT DEVICES**

**series 22 iec**

## SERIES 22
## PRODUCT PROFILE

c3controls line of **22mm IEC Pilot Devices** includes a wide range of push buttons, pilot lights, selector switches, special operators, and accessories, all engineered for superior durability and long life. We offer multiple cap types for our push buttons, including flush, extended, and mushroom caps, and our light units are available in multi voltage and full voltage.

## THE MOST INNOVATIVE LINE OF
## AMERICAN ENGINEERED 22 IEC PILOT DEVICES

| | |
|---|---|
| ✓ **Proven** | Our 22mm IEC operators are UL Listed and CE marked meeting global standards requirements. |
| ✓ **Environmentally Secure** | With 4/4X and IP66 ratings, our 22mm line of pilot devices are built to last and withstand dust, corrosion, ice, and rain. |
| ✓ **Easy to Install** | Our "snap-on" contact blocks are color coded for quick circuit identification and feature 35° angled captive terminal screws and self-lifting pressure plates for fast and easy wiring. |
| ✓ **Quick & Simple** | The latching mechanism enables the user to wire the contact blocks & light modules separate from the operator and outside the confined space of the control panel. |
| ✓ **Low Profile** | The 22mm line assumes the lead in the industry with the shortest depth behind the panel. |
| ✓ **Rugged Design** | Manufactured to be the highest quality—inside and out. With its metal appearance and sleek design, you know you are getting the quality you deserve. |
| ✓ **Visible Certifications** | Our product certifications and electrical ratings are clearly marked on the outside of the contact blocks for easy reference during installation. |
| ✓ **Heavy Duty** | Polyester construction provides superior durability, corrosion resistance, moisture rejection and electrical insulation. |
| ✓ **Flexible** | Our contact blocks can be stacked 2 deep and up to 3 across for a total of 6 circuits, providing the flexibility to operate multiple control circuits from a single operator. |
| ✓ **Convenient** | Reduce inventory with our interchangeable modular design, providing endless options for appropriate operator interface. |
| ✓ **Limited Lifetime Warranty*** | Every product is backed by our limited lifetime warranty— unmatched in the industry—bringing you quality components that perform in the most demanding applications. |
| ✓ **Guaranteed Same-Day Shipping*** | Product availability reduces inventory, and improves cash-flow— saving you money. With c3controls any order for standard catalog items received by 6:00pm ET is guaranteed to ship same-day. |
| ✓ **Advantage Pricing** | Our approach to product development, manufacturing, and focus on servicing the OEM and Electrical Equipment Builder reduces cost. The result—the best value in the industry. |

*See c3controls Terms & Conditions

## UNIQUE FEATURES

**Shorter Depth & Rugged Design**

- Our compact line saves you space behind the panel with our shorter contact blocks and light modules delivering the shortest depth 22mm Pilot Devices engineered in the USA. And with our metal appearance you get quality and durability inside and out.

**EN418 Emergency Stop Operators**

- c3controls maintained push-twist-release operators meet the global compliance standards for EN418—Safety of Machinery, and they feature a unique trigger action and are available in both non-illuminated and illuminated versions.

**Exclusive Multi-Voltage Lights**

- Our multi-voltage light units—the only U.S. engineered multi-voltage light in the industry!—operate at any voltage from 20V to 277V AC or DC without losing intensity, making them easily interchangeable across multiple applications.

**One Cam Design**

- Our single cam design eliminates the need for multiple cam and selector switch configurations, reducing inventory and saves you labor time and costs.

**Save Time with Dual Push Buttons**

- With the ability to combine the functionality of two operators in one space, our Dual Push Buttons save you in labor costs and time spent in installation. Our dual push buttons are available in both illuminated and non-illuminated versions making them perfect for any application.

## SPECIFICATIONS

### 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 | Incand. | Very Good | N/A |
| FVB12 | 756 | 14V | 0.31 | 15,000 | 80 | Incand. | Good | N/A |
| FVB24 | 757 | 28V | 0.62 | 7,500 | 80 | Incand. | Good | N/A |
| FVB55 | 1835 | 55V | 1.1 | 5,000 | 50 | Incand. | Good | N/A |
| FVB120 | ** | 130V | 0.36 | 10,000 | 20 | Incand. | Good | N/A |
| LED6 | ** | 6V† | | 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 |
| W22UNR-12L | ** | 12V AC/DC† | Varies w/Color 2000 mcd Typical | 100,000 | < 18 | LED* | Excellent | < 3 mA |
| W22UNR-24L | ** | 24V AC/DC† | | 100,000 | < 18 | LED* | Excellent | < 3 mA |
| W22UNR-120L | ** | 110-130V AC/DC† | | 100,000 | < 18 | LED* | Excellent | < 3 mA |
| W22UNR-240L | ** | 220-240V AC/DC† | | 100,000 | < 18 | LED* | Excellent | < 3 mA |

\* Specify Lamp color when ordering

\*\* Designates a lamp design optimized for c3controls Illuminated Devices.

† LED voltage tolerance is +/-10%

### MULTI-VOLTAGE POWER CONSUMPTION & CURRENT DRAW

| System Voltage (V) | AC Current Draw (mA) | DC Current Draw (mA) | Power Consumption (W) |
|---|---|---|---|
| 24 | 21 | 20 | |
| 48 | 17 | 7 | |
| 120 | 3.5 | — | |
| 125 | — | 3 | AC: <1 DC: <1/2 |
| 240 | 2.5 | — | |
| 250 | — | 2 | |
| 277 | 2.5 | — | |

### DIELECTRIC STRENGTH (MECHANICAL CONTACTS)   2200V for 1 Minute

### STANDARD CONTACTS

| | Utilization Category | | Make Rating | Break Rating | Ith Thermal Current |
|---|---|---|---|---|---|
| | IEC | UL | | | |
| AC | AC-15 | A600 | 7200VA | 720VA | 10A |
| DC | DC-13 | Q600 | 69VA | 69VA | 2.5A |

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 2.5A=Ith.

### ENVIRONMENTAL RATINGS

| | |
|---|---|
| | Type 1, 2, 3, 3R, 4/4X, 12, 13 |
| | Non-Illuminated and Illuminated Push-Twist-Release Operators for Indoor Use Only |
| | IP-66 (per EN 60529) |
| Operating Temperature | -40° C to +55° C (-40° F to +131° F) |
| Storage Temperature | -40° C to +85° C (-40° F to +185° F) |

### TERMINAL & WIRING CONSIDERATION

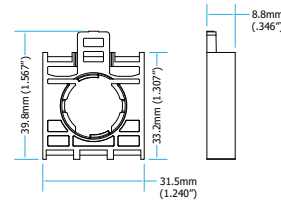| | |
|---|---|
| Wire: AWG 22 -12 CU | (Copper only - Solid & Stranded) [.5 ~ 4mm²] One or two wires permitted per termination. |
| Recommended Torque | 7-10 lb-in [.8 Nm] |

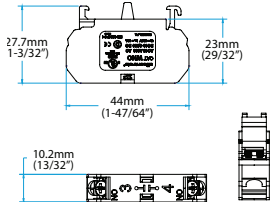### ROHS COMPLIANCE   For RoHS compliance documentation by product, refer to www.c3controls.com.

*For complete ratings and detailed specifications refer to www.c3controls.com.*
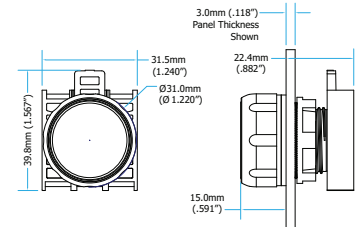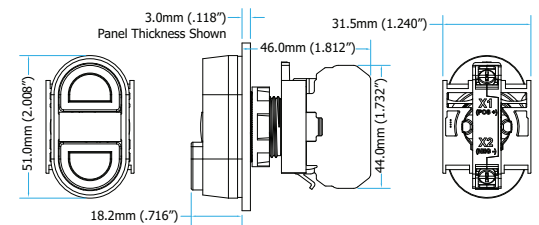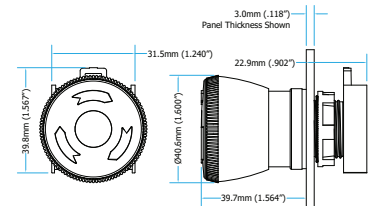
## DIMENSIONS

Latching Device



Contact Block



Non-Illuminated Operator (shown with Flush Cap)



Illuminated Full Voltage and Multi-Voltage Dual Push Button Operators (shown with 1 Flush Cap and 1 Extended Cap)



2-Position Push-Twist Release Maintained Non-Illuminated Operator (shown with 40mm [1-9/16"] Mushroom Cap)



## CERTIFICATIONS

**Conformity to Standards:**
**PILOT DEVICES**
UL 508
CSA C22.2 No. 14
IEC 60947-1, 60947-5-1

**Certifications:**
UL File #: E68568 (Guide NKCR, NKCR7)

CE Marked (per EU Low Voltage Directive 2006/95/EC and RoHS Directive 2011/65/EU)

**MULTI-VOLTAGE LIGHT MODULES**
UL 508
IEC 60947-1, 60947-5-1

UL File #: E68568 (Guide NKCR, NKCR7)

CE Marked (per EU Low Voltage Directive 2006/95/EC and RoHS Directive 2011/65/EU)

*Visit www.c3controls.com to download product certifications.*