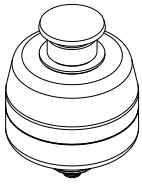
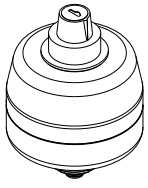
# OS80 Operator Stations

## Datasheet

*Key Operated Selector Switches and Mushroom Push Buttons in an 80 mm Lighted Housing*



Push Button



Key Operated Selector Switch

- Bright, large illuminated window for increased visibility
- Rugged, cost-effective and easy-to-install solutions for non-safety run start, stop, and bypass
- Easy actuation, tactile buttons and key operated selector switches provide a clear indication of actuation
- 12 V dc to 30 V dc operation
- Can be actuated with bare hands or any glove type, without worry of false tripping
- FDA-grade silicone cover withstands high pressure, high temperature washdown, and increases the product rating to IEC IP59; the cover is ECOLAB® certified to withstand aggressive cleaning procedures with chemicals used in the food processing industry

**WARNING: Not To Be Used for Personnel Protection**

**Never use this device as a sensing device for personnel protection. Doing so could lead to serious injury or death.** This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A sensor failure or malfunction can cause either an energized or de-energized sensor output condition.

## Models

### Key Operated Selector Switch Operator Stations

| 2 Position Switch | | | | | |
|---|---|---|---|---|---|
| Model | Operator | Illumination | | Contacts | Output |
| | | Color 1 | Color 2 | | |
| OS80K2MX1GRQ | 2 Position, Off-Momentary | Green (not activated) | Red (activated) | 1 NO | Color 1 active when input is active<br>Actuation activates Color 2 and output and overrides Color 1 |
| OS80K2MX1GYQ | 2 Position, Off-Momentary | Green (not activated) | Yellow (activated) | | |
| OS80K2LX1GRQ | 2 Position, Off-On | Green (not activated) | Red (activated) | | |
| OS80K2LX1GYQ | 2 Position, Off-On | Green (not activated) | Yellow (activated) | | |

| 3 Position Switch | | | | | |
|---|---|---|---|---|---|
| Model | Operator | Illumination | | Contacts | Output |
| | | Color 1 | Color 2 | | |
| OS80K3MX1GYQ | 3 Position, On-Off-Momentary | Green (not activated) | Yellow (activated) | 2 NO | Color 1 active when input is active<br>Actuation activates Color 2 and output and overrides Color 1 |
| OS80K3MX1GRQ | 3 Position, On-Off-Momentary | Green (not activated) | Red (activated) | 2 NO | |
| OS80K3MX3GYQ | 3 Position, On-Off-Momentary | Green (not activated) | Yellow (activated) | 1 NC/1 NO | |
| OS80K3MX3GRQ | 3 Position, On-Off-Momentary | Green (not activated) | Red (activated) | 1 NC/1 NO | |

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ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

## Push Button Operator Stations

| Model | Operator | Illumination | | Contacts | Output |
|---|---|---|---|---|---|
| | | Color 1 | Color 2 | | |
| **OS80PMMW1XWQ** | White, Momentary, Spring Return | N/A | White (activated) | 1 NO | Color 1 active when input is active<br>Actuation activates Color 2 and output and overrides Color 1 |
| **OS80PMMG1XGQ** | Green, Momentary, Spring Return | N/A | Green (activated) | | |
| **OS80PMMB1XBQ** | Blue, Momentary, Spring Return | N/A | Blue (activated) | | |
| **OS80PMMY1XYQ** | Yellow, Momentary, Spring Return | N/A | Yellow (activated) | | |
| **OS80PMMR1GRQ** | Red, Momentary, Spring Return | Green (not activated) | Red (activated) | | |
| **OS80PMMY1GYQ** | Yellow, Momentary, Spring Return | Green (not activated) | Yellow (activated) | | |
| **OS80PMLW1XWQ** | White, Latching, Pull to release | N/A | White (activated) | | |
| **OS80PMLG1XGQ** | Green, Latching, Pull to release | N/A | Green (activated) | | |
| **OS80PMLB1XBQ** | Blue, Latching, Pull to release | N/A | Blue (activated) | | |
| **OS80PMLY1XYQ** | Yellow, Latching, Pull to release | N/A | Yellow (activated) | | |
| **OS80PMLR1GRQ** | Red, Latching, Pull to release | Green (not activated) | Red (activated) | | |
| **OS80PMLY1GYQ** | Yellow, Latching, Pull to release | Green (not activated) | Yellow (activated) | | |

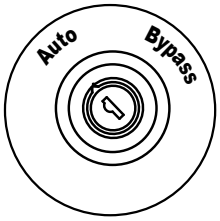
## Wiring

| Pin | Single Output Function | Dual Output Function |
|---|---|---|
| 1 (Brown) | + V dc | + V dc |
| 2 (White) | Color 1 PNP Input | Color 1 PNP Input |
| 3 (Blue) | 0 V dc | 0 V dc |
| 4 (Black) | NO or NC PNP Output* | NO or NC PNP Output* |
| 5 (Gray) | Not Used | NO or NC PNP Output* |

*Dependent on model

## Key Switch Positions

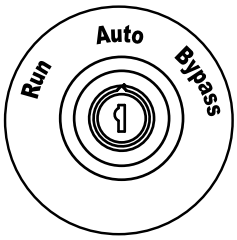
**2 Positions**




**Key**

Auto: Off
Bypass: Momentary or Latching

**3 Positions**




**Key**

Bypass: Latching
Auto: Off
Run: Momentary

# Keyswitch/Pushbutton Functionality

## 2-Position, 2-Color Lighted Keyswitch with 1 N.O. Output

**Note:** Keyswitch is either OFF/Momentary or OFF/ON

| Input (White) | Switch Position | Output (Black) | Light Function |
|---|---|---|---|
| Not Active | OFF | Not Conducting | OFF |
| Not Active | ON / Momentary | Conducting | Color 2 ON |
| Active | OFF | Not Conducting | Color 1 ON |
| Active | ON / Momentary | Conducting | Color 2 ON |

## 3-Position, 2-Color Lighted Keyswitch with 2 N.O. Outputs

**Note:** Keyswitch is Momentary/OFF/ON

| Input (White) | Switch Position | Output (Black) | Output (Gray) | Light Function |
|---|---|---|---|---|
| Not Active | OFF | Not Conducting | Not Conducting | OFF |
| Not Active | ON | Conducting | Not Conducting | Color 2 ON |
| Not Active | Momentary | Not Conducting | Conducting | Color 2 ON |
| Active | OFF | Not Conducting | Not Conducting | Color 1 ON |
| Active | ON | Conducting | Not Conducting | Color 2 ON |
| Active | Momentary | Not Conducting | Conducting | Color 2 ON |

## 3-Position, 2-Color Lighted Keyswitch with 1 N.O. and 1 N.C. Output

**Note:** Keyswitch is Momentary/OFF/ON

| Input (White) | Switch Position | Output (Black) | Output (Gray) | Light Function |
|---|---|---|---|---|
| Not Active | OFF | Not Conducting | Conducting | OFF |
| Not Active | ON | Conducting | Conducting | Color 2 ON |
| Not Active | Momentary | Not Conducting | Not Conducting | Color 2 ON |
| Active | OFF | Not Conducting | Conducting | Color 1 ON |
| Active | ON | Conducting | Conducting | Color 2 ON |
| Active | Momentary | Not Conducting | Not Conducting | Color 2 ON |

## 2-Color Lighted Pushbutton with 1 N.O. Output

**Note:** Pushbutton is either Momentary with Spring Return or Momentary with Latching and Pull to Release

| Input (White) | Pushbutton Position | Output (Black) | Light Function |
|---|---|---|---|
| Not Active | Not Depressed | Not Conducting | OFF |
| Not Active | Depressed | Conducting | Color 2 ON |
| Active | Not Depressed | Not Conducting | Color 1 ON |
| Active | Depressed | Conducting | Color 2 ON |

## 1-Color Lighted Pushbutton with 1 N.O. Output

**Note:** Pushbutton is either Momentary with Spring Return or Momentary with Latching and Pull to Release

| Input (White) | Pushbutton Position | Output (Black) | Light Function |
|---|---|---|---|
| Not Active | Not Depressed | Not Conducting | OFF |
| Not Active | Depressed | Conducting | Color 2 ON |

| Input (White) | Pushbutton Position | Output (Black) | Light Function |
|---|---|---|---|
| Active | Not Depressed | Not Conducting | OFF |
| Active | Depressed | Conducting | Color 2 ON |

## Installing the Silicone Cover

To properly install the FDA-grade silicone cover and achieve a IEC IP59 rating, follow these instructions.

1. Turn the cover inside-out, except for the top portion the button fits into.
2. Place the cover on the top of the push button.
3. Roll the cover onto the push button.
4. Continue rolling the cover down, around the base of the push button, until the entire button is covered.
5. Mount the push button and cover assembly to a bracket wide enough to cover the base of the assembly. The cover should be clamped firmly between the push button and the bracket.

## Specifications

**Supply Voltage and Current**
12 V dc to 30 V dc
135 mA per color; exclusive of load

**Supply Protection Circuitry**
Protected against reverse polarity and transient voltages

**Output Rating**
4 Amps at 12 to 24 V dc; 2.6 Amps at 30 V dc

**Output Response Time**
50 milliseconds On and Off

**Electrical Life**
Contacts rated for 1 million cycles

**Mechanical Life**
Push buttons and key switches rated for 1 million cycles

**Power-Up Delay**
300 milliseconds

**Construction**
**Housing:** Polycarbonate
**Button and Key Operated Selector Switch:** Polyamide

**Operating Conditions**
–25 °C to +55 °C (–13 °F to +131 °F)
45% to 85% RH (no condensation)
Storage Temperature: –40 °C to +70 °C (–40 °F to +158 °F)

**Environmental Rating**
IEC IP40

**Required Overcurrent Protection**

**WARNING:** Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table.
Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.
Supply wiring leads < 24 AWG shall not be spliced.
For additional product support, go to *www.bannerengineering.com*.

| Supply Wiring (AWG) | Required Overcurrent Protection (Amps) |
|---|---|
| 20 | 5.0 |
| 22 | 3.0 |
| 24 | 2.0 |
| 26 | 1.0 |
| 28 | 0.8 |
| 30 | 0.5 |

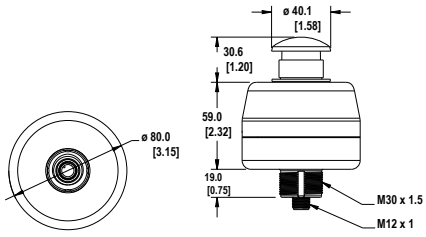
**Mounting**
M30 by 1.5 threaded base maximum torque 4.5 N·m (40 in·lbf)

**Connections**
Integral 5-pin M12/Euro-style quick disconnect

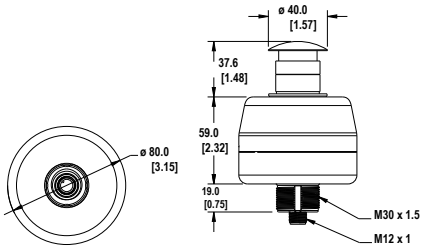
**Certifications**

## Dimensions

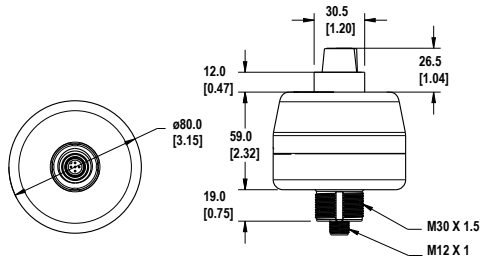
**Push Button – Momentary**




**Push Button – Latching**



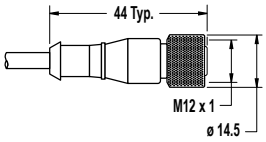
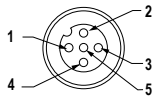
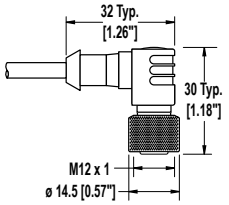
**Key Operator Selector Switch**




All measurements are listed in millimeters [inches], unless noted otherwise.

# Accessories

## Cordsets

| 5-Pin Threaded M12/Euro-Style Cordsets—Single Ended | | | | |
|---|---|---|---|---|
| **Model** | **Length** | **Style** | **Dimensions** | **Pinout (Female)** |
| **MQDC1-501.5** | 0.50 m (1.5 ft) | Straight |   |   1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black<br>5 = Gray |
| **MQDC1-506** | 1.83 m (6 ft) | | | |
| **MQDC1-515** | 4.57 m (15 ft) | | | |
| **MQDC1-530** | 9.14 m (30 ft) | | | |
| **MQDC1-506RA** | 1.83 m (6 ft) | Right-Angle |   | |
| **MQDC1-515RA** | 4.57 m (15 ft) | | | |
| **MQDC1-530RA** | 9.14 m (30 ft) | | | |

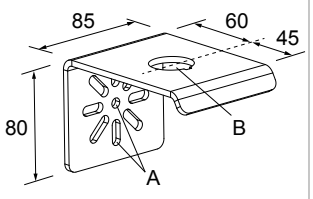
All measurements are listed in millimeters [inches], unless noted otherwise.

## Mounting Brackets

**SSA-MBK-EEC1**

- Single 30 mm hole
- 8 gauge steel, black finish (powder coat)
- Front surface for customer applied labels

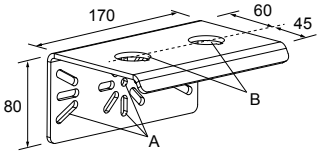
**Hole size:** A = ø 7 , B = ø 30




**SSA-MBK-EEC2**

- Two 30 mm holes
- 8 gauge steel, black finish (powder coat)
- Front surface for customer applied labels

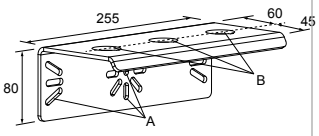
**Hole size:** A = ø 7 , B = ø 30



**SSA-MBK-EEC3**

- Three 30 mm holes
- 8 gauge steel, black finish (powder coat)
- Front surface for customer applied labels

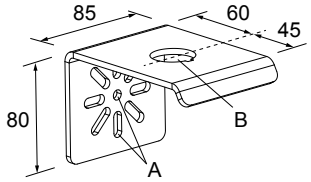
**Hole size:** A = ø 7 , B = ø 30




**SSA-MBK-EEC1-SS**

- Single 30 mm hole
- 8 gauge 316 stainless steel
- Front surface for customer applied labels

**Hole size:** A = ø 7 , B = ø 30




The SSA-MBK-EECx brackets offer:

- Horizontal and vertical (post) mounting
- Interchangeable positions of mounted devices (e.g. OTB/STB/VTB, E-Stop, K50s)

## Washdown Cover

| Model | For Push Button Models | Description |
|---|---|---|
| SSA-EB1P-ECWC | Push Button – Mushroom | FDA-grade silicone cover |

## Keys

| Model | Description |
|---|---|
| ACC-OS80-SPARE Keys | 10 Pack |

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## FCC Part 15 and CAN ICES-3 (B)/NMB-3(B)

This device complies with part 15 of the FCC Rules and CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules and CAN ICES-3 (B)/NMB-3(B). These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the manufacturer.



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