

# PUSHBUTTON SWITCHES

## 12MM MINIATURE SEALED ELECTRO-MECHANICAL

This rugged multi-option sealed pushbutton series offers the utmost in choices of mounting styles, colors, terminations, bezels, lighting and momentary or alternate-action switching. The Series 48 offers all these options in one compact package size.

### APPLICATIONS

- Office equipment
- Medical equipment
- Industrial machinery
- Outdoor controls
- Mass transportation
- Food processing equipment

### KEY FEATURES:

- Momentary or maintained action
- Gold contacts
- Many button colors
- Choice of LED colors (or non-lighted versions)
- Long life
- Solder, PC terminals or Wireleads
- Panel sealed to IP 67



ACTUAL SIZE

### ORDERING INFORMATION:

Switch Function	Switch Termination	Module Type	Bezel Type	LED Color †	Button Color	Mounting Type	Voltage Resistor
Momentary	Solder Tabs	48-1	RB - Round, Black	N - None	RD - Red	B - Bushing	If Blank*
Maintained	Solder Tabs	48-2	SB - Square, Black	R - Red	GR - Green	S - Snap-fit	05 - 5V forward
Momentary	PC	48-5	RC - Round, Chrome	G - Green	BK - Black		
Maintained	PC	48-6	SC - Square, Chrome	Y - Yellow	BL - Blue		
Momentary	Wire Leads	48-A		A - Amber	YL - Yellow		
Maintained	Wire Leads	48-B		B - Blue	OR - Orange		
				W - White	CR - Chrome		
				RB - Red / Blue	PK - Black with Standby Symbol		
				RG - Red / Green	WH - White		

48-

† Lighted switches come with wires on LEDs to protect from solder heat.

\* Current limiting resistor is required to limit LED forward current to 20 mA (not included).

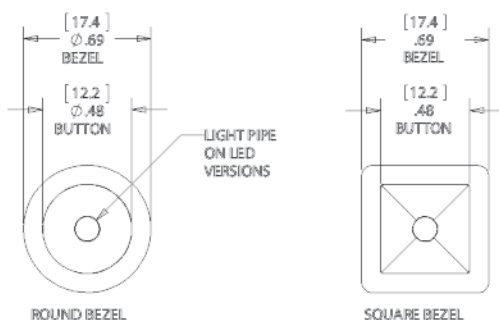
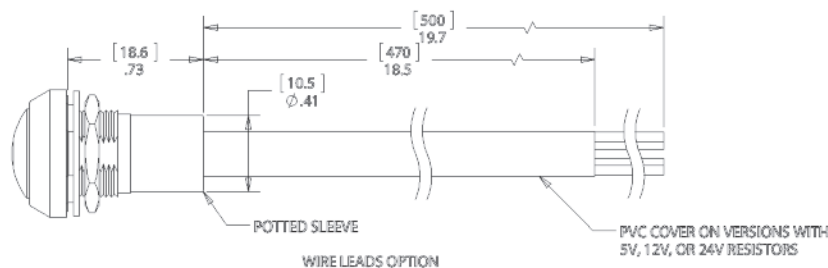
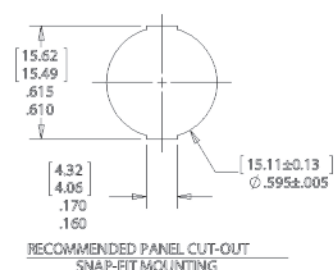
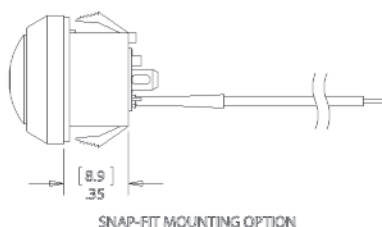
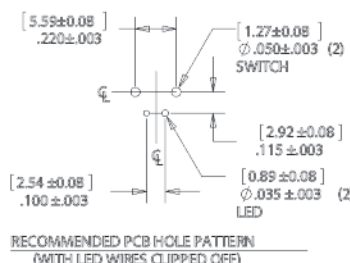
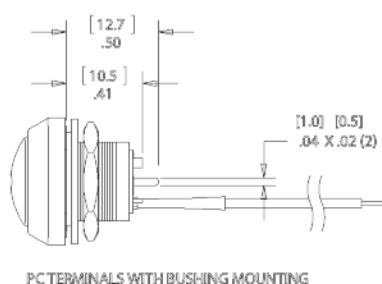
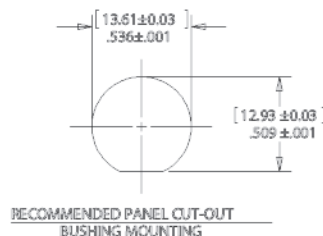
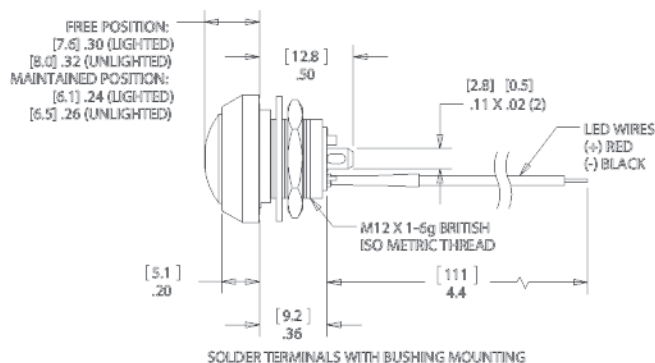
### STANDARDS / AGENCY / RATINGS:



# SERIES 48: 12MM MINIATURE SEALED ELECTRO-MECHANICAL

# PUSHBUTTON SWITCHES

## PRODUCT DRAWINGS



[MILLIMETERS]  
INCHES

## MECHANICAL CHARACTERISTICS

### CIRCUIT:

SPST-NO-DB (FORM X)

### BUTTON TRAVEL (NOM):

[2.3] .09

### OPERATING FORCE (NOM):

[3N] 306g

### CONTACT BOUNCE (NOM):

1 ms

### PANEL THICKNESS:

BUSHING MOUNTING: [0.5-3.0]  
.02-.12

SNAP-FIT MOUNTING: [1.3-3.0]  
.05-.12

### NUT TORQUE (MAX):

[11.5 kgf/cm] 10 lb/in

### HARDWARE

BUSHING MOUNTING: BULK  
PACKAGED SEALING WASHER  
AND HEX NUT ARE INCLUDED.

## ENVIRONMENTAL SPECIFICATIONS

### ACTUATOR INGRESS

#### PROTECTION:

IP67

### OPERATING TEMPERATURE:

[-40 C to +85 C] -40 F to +185 F

## ELECTRICAL SPECIFICATIONS

### CURRENT RATING (resistive):

250mA @ 12VDC, 100K CYCLES

150mA @ 28VDC, 150K CYCLES  
(MOMENTARY)

100mA @ 48VDC, 100K CYCLES

10mA @ 12VDC, 1 MILLION CYCLES  
(MOMENTARY)

### DIELECTRIC STRENGTH:

1,000 VAC

### INSULATION RESISTANCE:

1G OHM

### CONTACT RESISTANCE:

50m OHMS

### WIRE LEADS:

UL STYLE 1007

26 AWG, STRANDED