

Series 48EM

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		12 - 12V forward **
Maintained	PC	48-6	SC - Square, Chrome	Y - Yellow	BL - Blue		24 - 24V forward **
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		

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

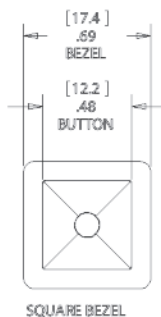
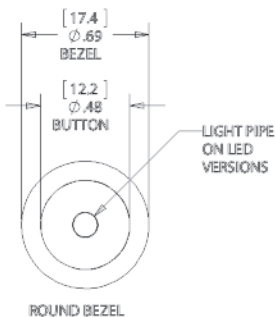
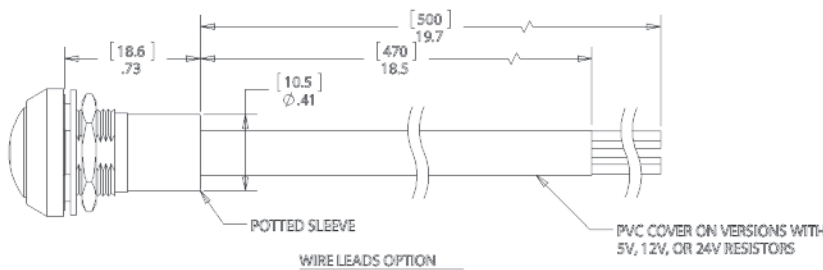
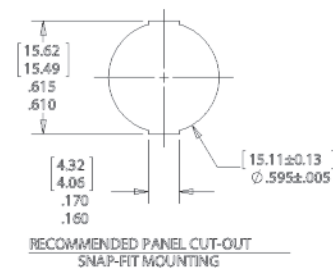
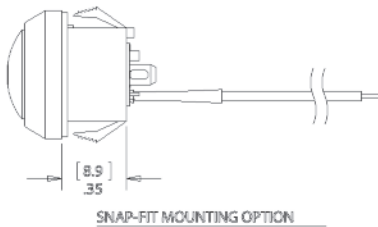
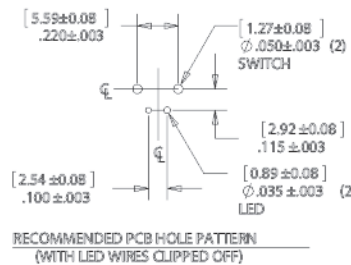
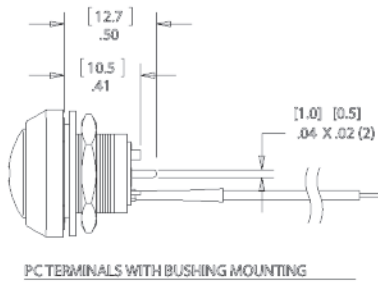
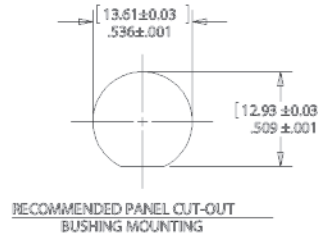
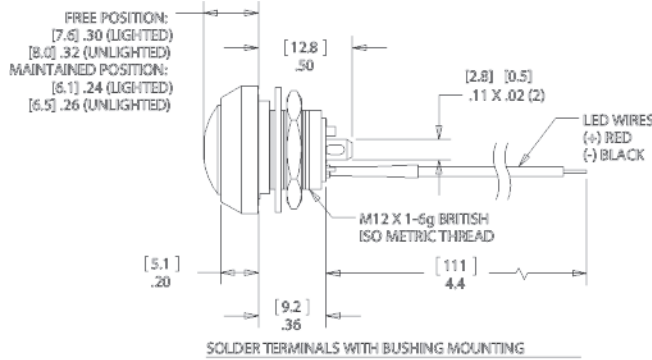
* Current limiting resistor is required to limit LED forward current to 20 mA (not included).

** 12 and 24 V resistors are available with wirelead versions only.

STANDARDS / AGENCY / RATINGS:



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