

12MM MIRROR 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 12mm Metal Switches 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:

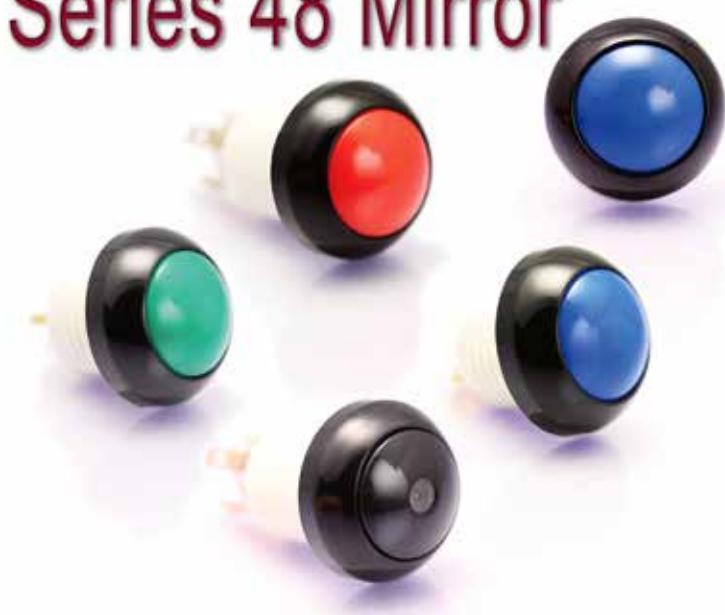
- Momentary or maintained action
- Mirror Surface
- Many button colors
- Choice of LED colors (or non-lighted versions)
- Long life
- Solder, PC terminals or Wireleads
- Panel sealed to IP 67

ORDERING INFORMATION:

48-

Series:	Switch Function:	LED Color: [#]	Button Color:	Mounting Type:	Voltage Resistor:	Special Request:
BLANK Gold Contact IP67	A Momentary, Wireleads B Maintaine, Wireleads E Momentary, Solder Terminal F Maintaine, Solder Terminal G Momentary, PC Terminal H Maintaine, PC Terminal	N None R Red A Amber Y Yellow G Green B Blue W White RG Red/Green RB Red/Blue	BK Black RD Red GR Green BL Blue YL Yellow OR Orange WH White	B Bushing	BLANK* See Spec. Table 5 5V 12 12V 24 24V	BLANK N/A xxx Per Customer Special Request
S Silver Contact IP67	1 Momentary, Solder Terminal 2 Maintaine, Solder Terminal 5 Momentary, PC Terminal 6 Maintaine, PC Terminal A Momentary, Wireleads B Maintaine, Wireleads					
G Silver Contact IP67/2A	1 Momentary, Solder Terminal 2 Maintaine, Solder Terminal 5 Momentary, PC Terminal 6 Maintaine, PC Terminal A Momentary, Wireleads B Maintaine, Wireleads					
SA Silver Contact IP67/5A	1 Momentary, Solder Terminal A Momentary, NO Wireleads C Momentary, NC Wireleads E Momentary, NO/NC Wireleads 2 Maintaine, Solder Terminal B Maintaine, NO Wireleads D Maintaine, NC Wireleads F Maintaine, NO/NC Wireleads	N None G Green R Red B Blue W White				<p>#Lighted switches come with wires on LEDs to protect from solder heat.</p> <p>* Current limiting resistor is required to limit LED forward current to 20 mA (not included).</p>

Series 48 Mirror

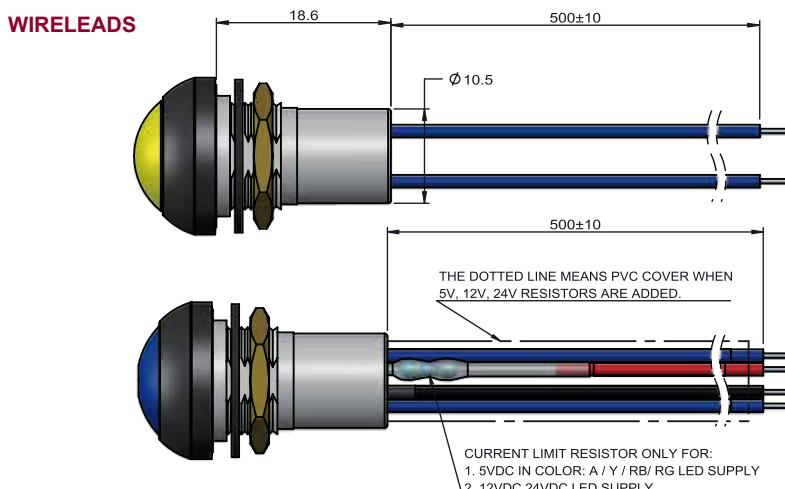
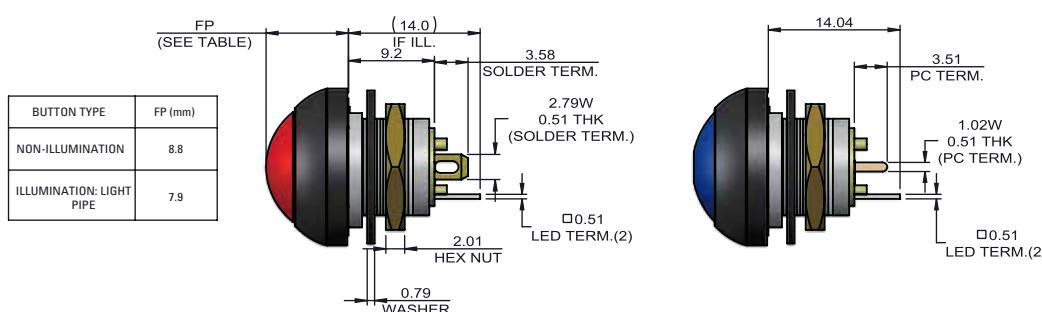


12MM MIRROR MINIATURE SEALED ELECTRO-MECHANICAL

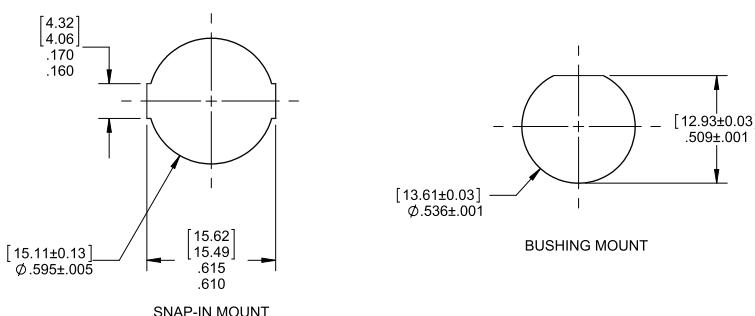
PRODUCT DRAWINGS



48 SERIES



RECOMMENDED PANEL CUT-OUT



Designs and specifications are subject to change without notice due to product improvement.

MECHANICAL CHARACTERISTICS

SPST-NO-DB (FORM X)

BUTTON TRAVEL (NOM):

[2.3mm] .09"

OPERATING FORCE (NOM):

[3N] 306g

CONTACT BOUNCE (NOM):

1 ms

PANEL THICKNESS:

BUSHING MOUNTING: [0.5-3.0mm]

.02"-.12"

NUT TORQUE (MAX):

[6 kgf-cm] 5.2 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):

48 (Momentary)

10mA @ 12VDC, 1 MILLION CYCLES

48 (Maintained)

50K CYCLES NOMINAL

DIELECTRIC STRENGTH:

1,000 VAC

INSULATION RESISTANCE:

1G OHM

CONTACT RESISTANCE:

50m OHMS (Non-Wireleads)
250m OHMS (Wireleads)

WIRE LEADS:

UL STYLE 1007
26 AWG, STRANDED

PUSHBUTTON SWITCHES

12MM MIRROR MINIATURE SEALED ELECTRO-MECHANICAL

MECHANICAL CHARACTERISTICS

CIRCUIT:

SPST-NO-DB (FORM X)

BUTTON TRAVEL (NOM):

[2.3mm] .09"

OPERATING FORCE (NOM):

[3N] 306g

CONTACT BOUNCE (NOM):

1 ms

PANEL THICKNESS:

BUSHING MOUNTING: [0.5-3.0mm]

.02"-.12"

NUT TORQUE (MAX):

[6 kgf-cm] 5.2 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):

G48 (Momentary)

2A @ 24VDC, 40k CYCLES

1A @ 250VDC, 40k CYCLES

G48 (Maintained)

2A @ 24VDC, 20k CYCLES

1A @ 250VDC, 20k CYCLES

S48 (Momentary)

10mA @ 12VAC, 200k CYCLES

S48 (Maintained)

20K CYCLES NOMINAL

DIELECTRIC STRENGTH:

1,000 VAC

INSULATION RESISTANCE:

1G OHM

CONTACT RESISTANCE:

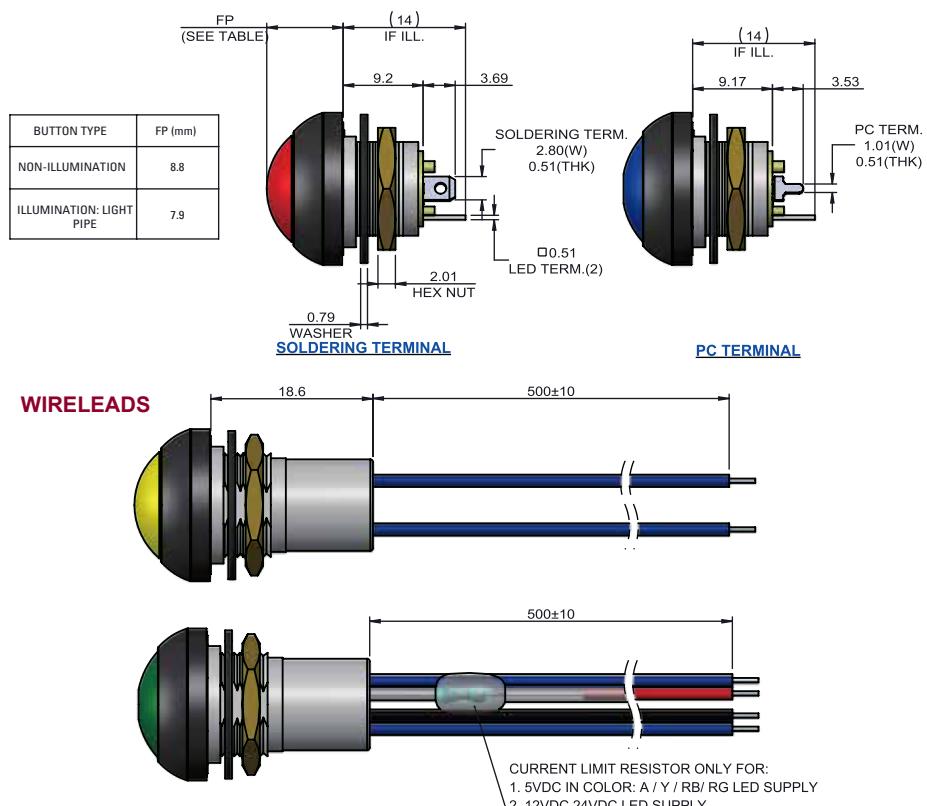
50m OHMS

WIRE LEADS:

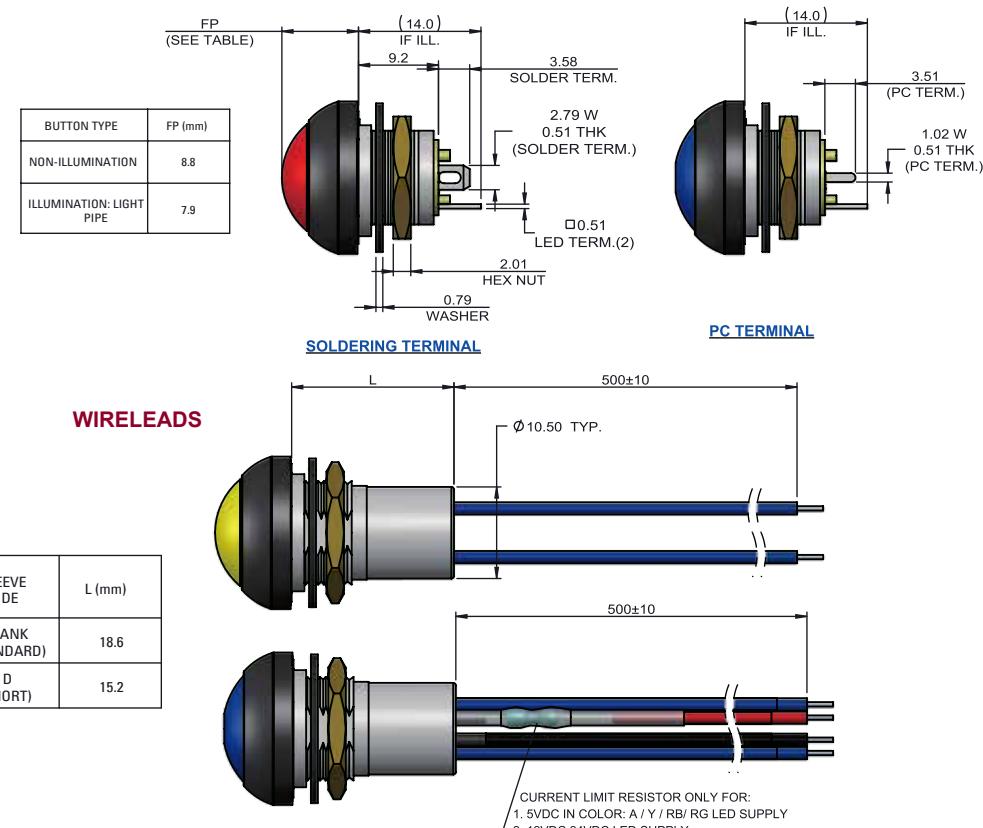
UL STYLE 1007

26 AWG, STRANDED

G48 SERIES

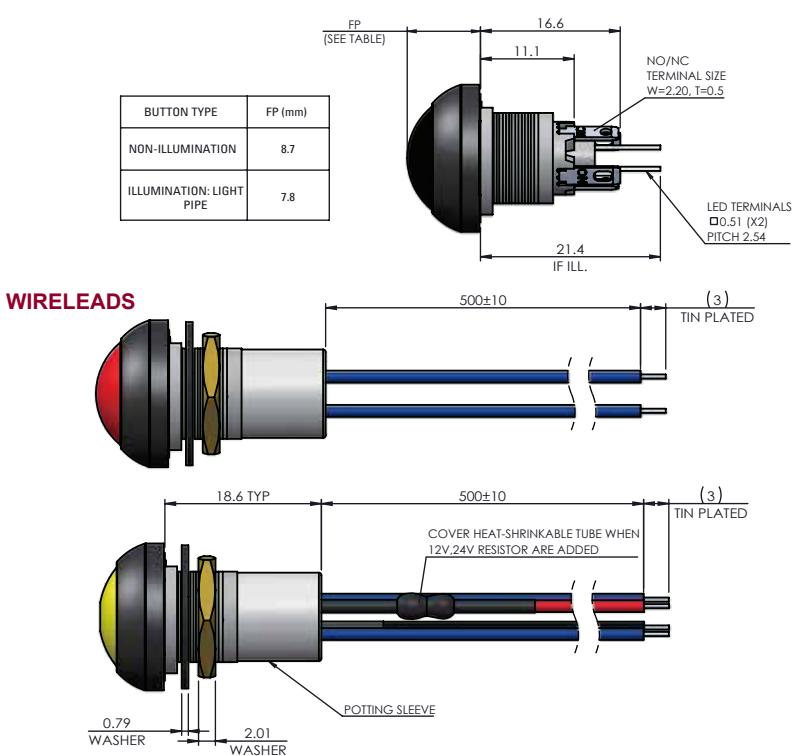


S48 SERIES

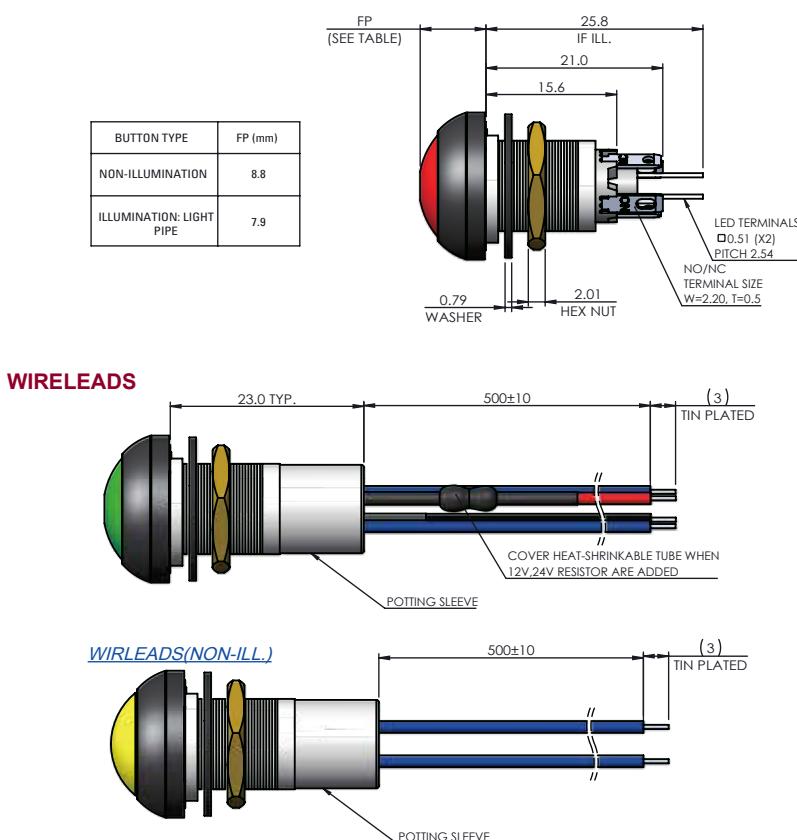


12MM MIRROR MINIATURE SEALED ELECTRO-MECHANICAL

SA48 SERIES (MOMENTARY)



SA48 SERIES (MAINTAIN)



ELECTRICAL SPECIFICATIONS

CIRCUIT:

SPDT-DB (Form X)

PRETRAVEL (Nominal):

[1.27mm] .050"

OVERTRAVEL (Nominal):

[0.25mm] .010"

TOTAL TRAVEL (Nominal):

[1.52mm] .060"

OPERATING FORCE (Nominal):

5.15N [525g]

RELEASE FORCE (Nominal):

3.45N [340g]

PANEL THICKNESS:

Bushing Mount:
0.020" - 0.118" [0.5 - 3.0mm]

CONTACTS:

Silver

NUT TORQUE FORCE:

Max 5.2 lb-in [6 kgf-cm]

ACTUATOR INGRESS PROTECTION:

IP67 (Front Panel)

OPERATING TEMPERATURE:

-40° to +185°F [-40° to +85°C]

CURRENT RATINGS (Nominal):

5A@ 28 VDC ,25k Cycles

5A@ 125/250 VAC, 25k Cycles

ELECTRICAL SPECIFICATIONS

DIELECTRIC STRENGTH:

1,000 VAC

INSULATION RESISTANCE:

1GΩ

CONTACT RESISTANCE:

Max 50mΩ (Non-Wirelead)

Max 250mΩ (Wirelead)