

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.

Series 48-EM



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
- Metal, Plastic bezel / housing
- Raised button
- Snap action in SA series

ORDERING INFORMATION:

Series:	Module Type:	Switch Function:	Switch Termination:	Bezel Type:	Led [#]	Button [@] Color:	Mounting Type:	Voltage Resistor:
BLANK Gold Contact IP67	48-1	Momentary	Solder	Plastic Bezel:	N None	(H)RD Red (for High Button)	B Bushing	If Blank*
S Silver Contact IP67	48-2	Maintained	Solder	RB Round, Black	R Red	(H)GR Green (for High Button)	S Snap-fit	05 5V
N Silver Contact	48-5	Momentary	PC	SB Square, Black	G Green	(H)BK Black (for High Button)		Forward
C Silver Contact Screw Terminal IP67	48-6	Maintained	PC	Metal Bezel:	Y Yellow	(H)BL Blue (for High Button)		12 12V
G Silver Contact IP67/2A	48-A	Momentary	Wire Leads	RMB Round, Matte Black [§]	A Amber	(H)YL Yellow (for High Button)		Forward
SA Silver Contact IP67/5A	48-B	Maintained	Wire Leads	RMG Round, Glossy Black [§]	B Blue	(H)OR Orange (for High Button)		24 24V
				RMS Round, Velour Chrome [§]	W White	(H)WH White (for High Button)		Forward
				RMC Round, Bright Chrome [§]	PK Standby Symbol			

ACTUAL SIZE

STANDARDS / AGENCY / RATINGS:



[#] Lighted switches come with wires on LEDs to protect from solder heat.

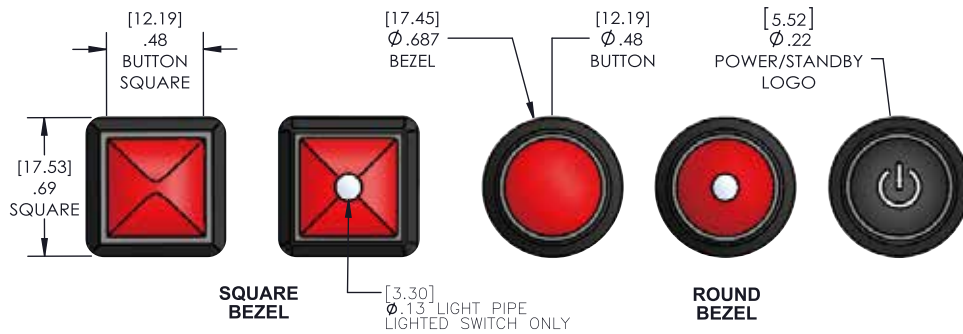
[§] Metal Bezel only for Momentary.

[@] H_ _ only for High Button type.

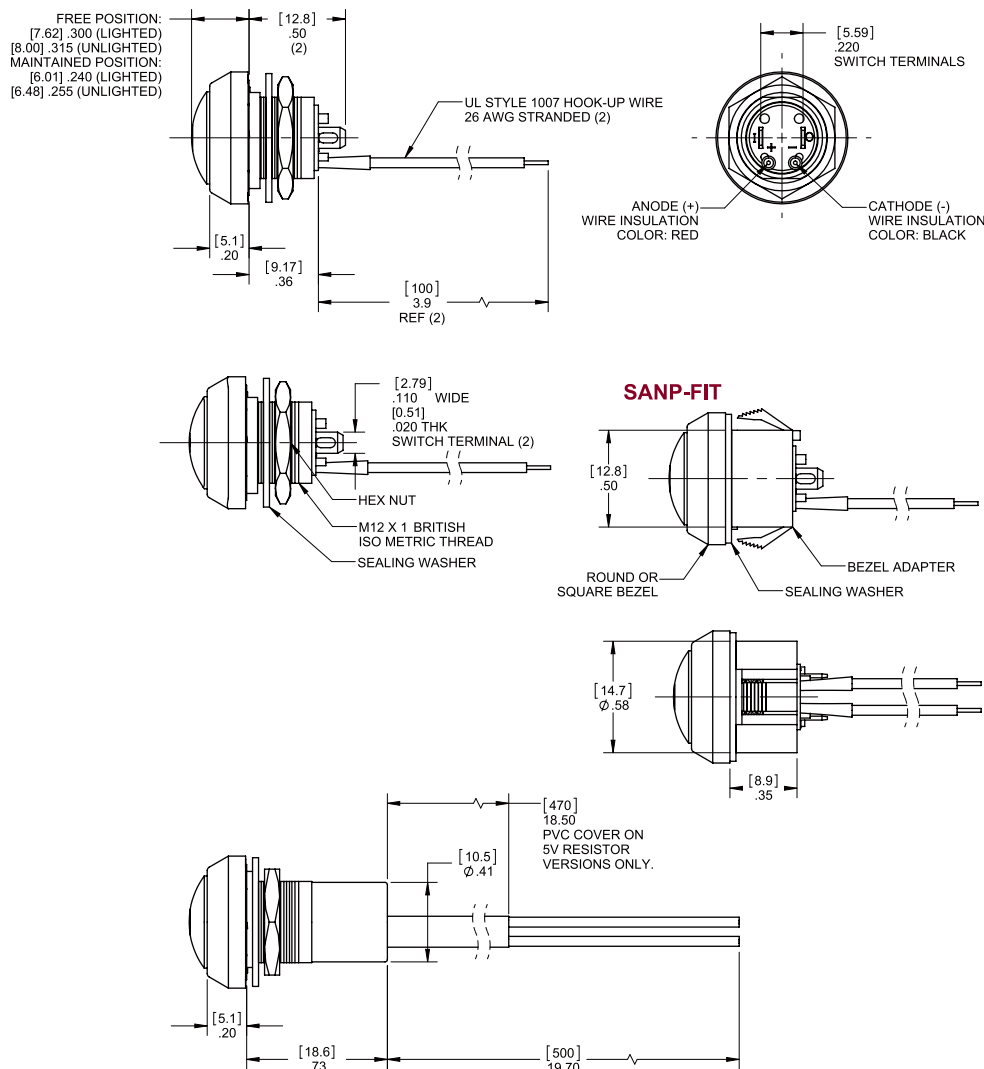
* Current limiting resistor is required to limit LED forward current to 20 mA (not included).

SERIES 48: 12MM MINIATURE SEALED ELECTRO-MECHANICAL

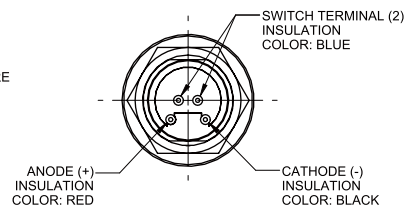
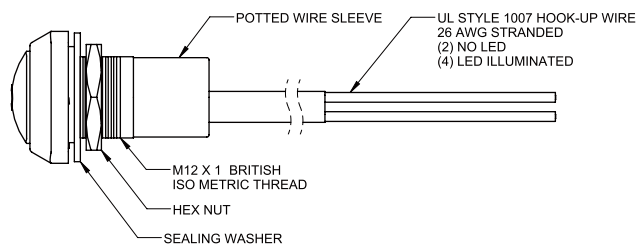
PRODUCT DRAWINGS



48 SERIES



WIRELEADS



MECHANICAL CHARACTERISTICS

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):
 [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)
 250mA @ 12VDC, 100K CYCLES
 150mA @ 28VDC, 150K CYCLES
 100mA @ 48VDC, 100K CYCLES
 10mA @ 12VDC, 1 MILLION CYCLES
48 (Maintained)
 50K CYCLES NOMINAL

DIELECTRIC STRENGTH:
 1,000 VAC
INSULATION RESISTANCE:
 1G OHM
CONTACT RESISTANCE:
 50m OHMS
WIRE LEADS:
 UL STYLE 1007
 26 AWG, STRANDED

ITW Switches
 SENSORS, SWITCHES, ELECTRONIC CONTROLS

800.544.3354

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):

[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):

S48 / N48 (Momentary)

10mA @ 12VDC, 200K CYCLES

S48 / N48 (Maintained)

20K CYCLES NOMINAL

G48 (Momentary)

2A @ 24VDC, 40K CYCLES

2A @ 250VAC, 40K CYCLES

G48 (Maintained)

2A @ 24VDC, 20K CYCLES

2A @ 250VAC, 20K CYCLES

SA48

5A @ 28VDC, 25K CYCLES

5A @ 125/250VAC, 25K CYCLES

DIELECTRIC STRENGTH:

1,000 VAC

INSULATION RESISTANCE:

1G OHM

CONTACT RESISTANCE:

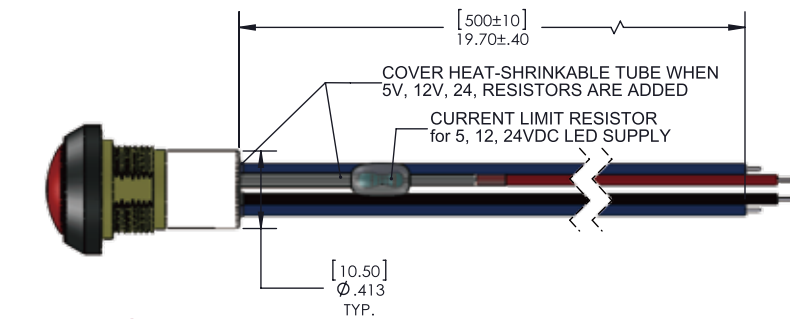
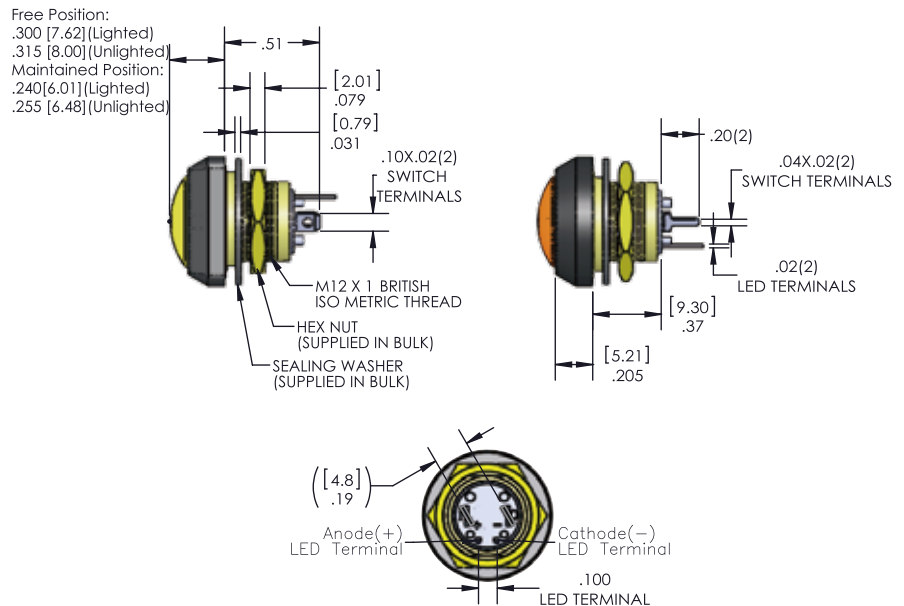
50m OHMS

WIRE LEADS:

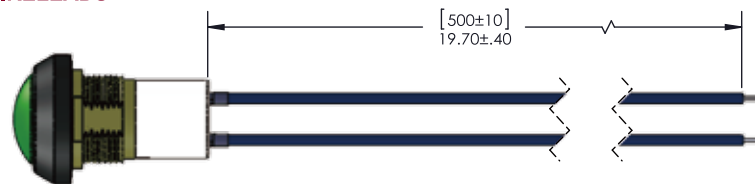
UL STYLE 1007

26 AWG, STRANDED

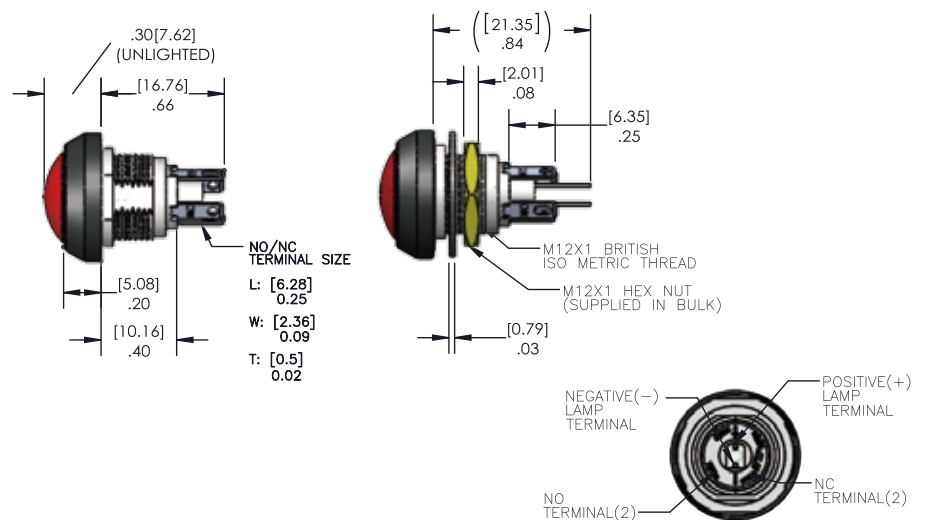
G48/ N48/ S48 SERIES



WIRELEADS

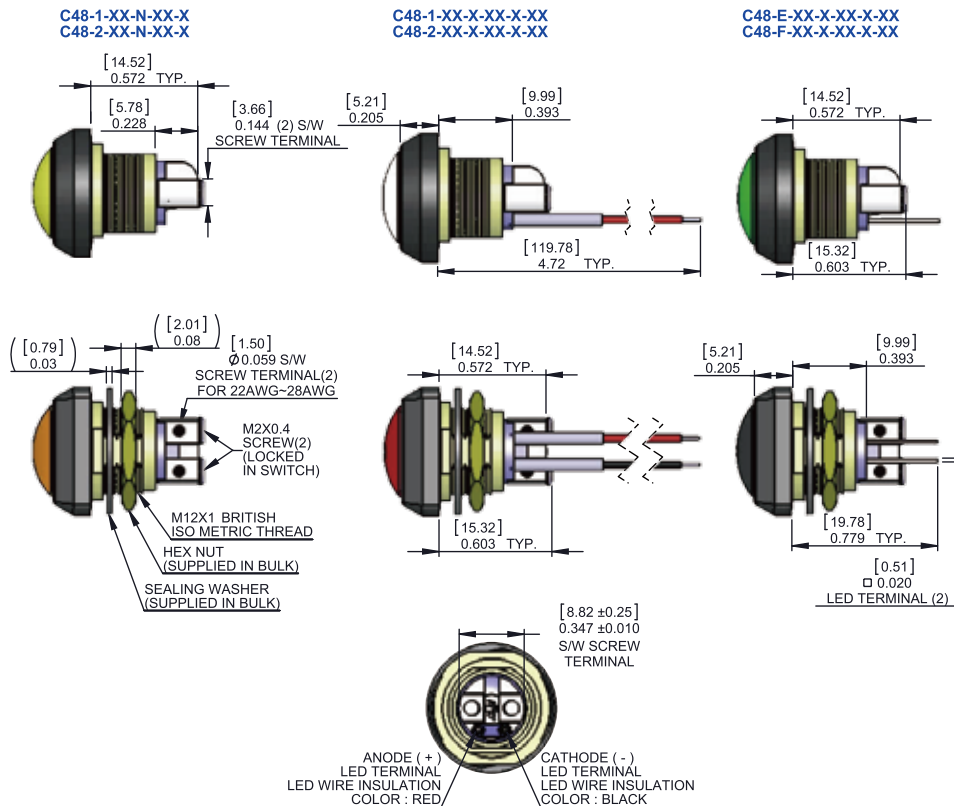


SA48 SERIES

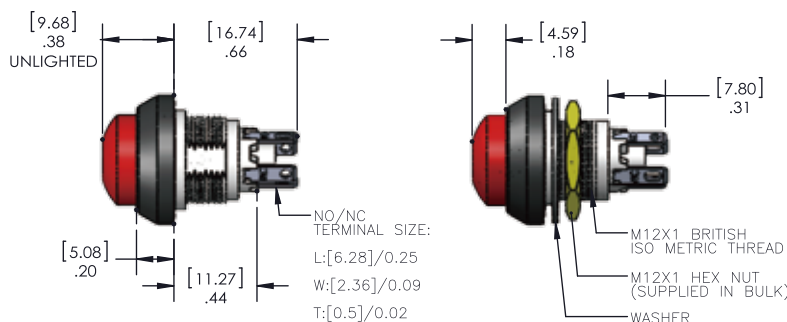


SERIES 48: 12MM MINIATURE SEALED ELECTRO-MECHANICAL

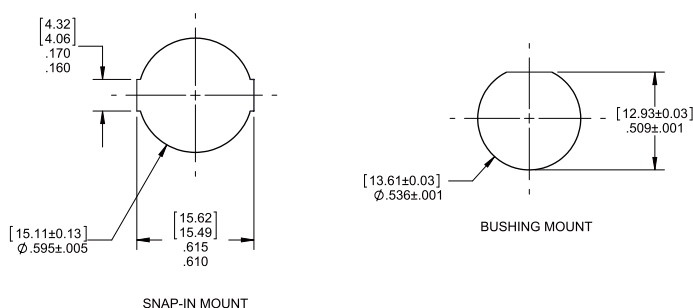
C48 SERIES



HIGH BUTTON TYPE



RECOMMENDED PANEL CUT-OUT



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):

[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):

C48 (Momentary)

10mA @ 12VDC, 200K CYCLES

C48 (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

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [itw switches manufacturer](#):

Other Similar products are found below :

[MP648-16\(50\)](#) [SDBS25PN](#) [76-1024](#) [48M-111B](#) [76-959034](#) [181541B](#) [MDJ15](#) [DA15POLF](#) [48M-111G](#) [22-204](#) [DC37PF](#) [DB25SNF](#) [DB25SF](#)
[76-9510/4044](#) [49-59115](#) [40-2-5](#) [76-9513/4044G](#) [76-9113/439088](#) [SDAX15SNT](#) [SDD50PTD](#) [59-900091](#) [48M210N](#) [ES1020](#) [SDB25PNTD](#)
[DE9SNF](#) [DAC15P](#) [H48M-112B/4044](#) [40-2-10](#) [57-112R](#) [76-9116/439088](#) [76-9112/439088](#) [DE9PF](#) [HDAX26SNT](#) [48-1-RB-G-BK-B](#)
[48M112R](#) [H48M-112G/4044](#) [57M110N](#) [H48M-212B/4044](#) [H48M-212R/4044](#) [57M-211B](#) [49-59116](#) [4959213](#) [48M110N](#) [4959113](#) [1640401](#)
[76-9711/439088R](#) [76-9440/439088B](#) [48-1-RB-R-BK-B](#) [76-1266](#) [76-9450/439088R](#)