

19MM PANEL SEALED METAL ELECTRO MECHANICAL

Built on the proven series 48 platform these rugged switches come in stainless steel or chrome plated housings with either momentary or maintained action and lighted or unlighted versions. The variety of options in this compact package size make the 48M ideal for many applications.

APPLICATIONS

- Outdoor Controls
- Security Equipment
- Medical Equipment
- Food Processing
- Military Equipment
- Industrial Machinery
- Transportation: Mass-transit, Lift Truck

KEY FEATURES:

- Momentary or Maintained Action
- Stainless Steel Housing
- Center Spot or Ring Illumination
- Variety of LED Colors
- Electro-Mechanical
- Panel Sealed to IP67
- RoHS Compliant Gold Plated Contact and Terminals
- SERIES 48M:19MM PANEL SEALED METAL
- 5A / 28VDC with UL 61058



ORDERING INFORMATION:

Series:	Switch Function:	Housing Material:	Illumination:	LED Color:	Voltage Resistor:
<b>Blank</b> Gold Contact IP67	<b>1</b> Mechanical, Momentary, Solder Terminal	<b>1</b> Stainless Steel, Natural	<b>0</b> Nin-lit	<b>N</b> None	If Blank*
<b>S</b> Silver Contact IP67	<b>2</b> Mechanical, Maintained, Solder Terminal	<b>2</b> Zinc Alloy, Velour Chrome Plated	<b>1</b> Center Spot Illumination	<b>G</b> Green	<b>05</b> 5V Forward
<b>N</b> Silver Contact	<b>5</b> Mechanical, Momentary, PC Terminal		<b>2</b> Ring Illumination	<b>R</b> Red	<b>12</b> 12V Forward
<b>C</b> Silver Contact Screw Terminal IP67	<b>6</b> Mechanical, Maintained, PC Terminal		<b>3</b> Standby Logo Illumination	<b>A</b> Amber	<b>24</b> 24V Forward
<b>G</b> Silver Contact IP67/2A	<b>A</b> Mechanical, Momentary, Wire Leads			<b>Y</b> Yellow	
<b>SA</b> Silver Contact IP67/5A	<b>B</b> Mechanical, Maintained, Wire Leads			<b>B</b> Blue	
	<b>9</b> Special, Digits Are in Serial Order			<b>W</b> White	
				<b>RB</b> Red / Blue	
				<b>RG</b> Red / Green	

48M-

\* Current limiting resistor is required to limit LED forward current to 20mA (not included).  
\*\* Resistor included, jacketed leads by special request.  
\*\*\* Resistor and jacketed leads included.

STANDARDS / AGENCY / RATINGS:



## SERIES 48M: 19MM PANEL SEALED METAL PUSHBUTTON

### PRODUCT DRAWINGS



NON - LIT



CENTER SPOT  
ILLUMINATION  
METAL BUTTON

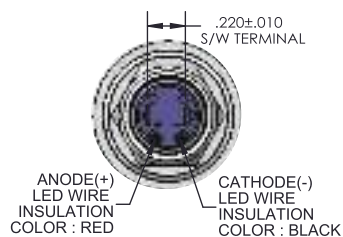
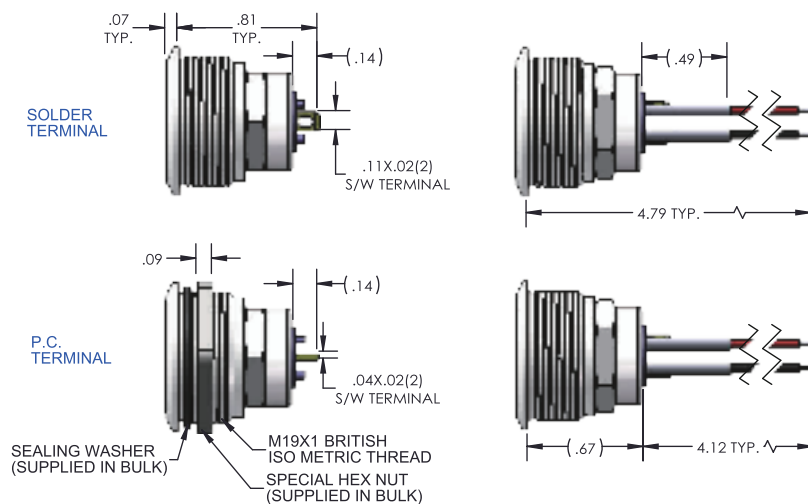


RING  
ILLUMINATION  
METAL BUTTON

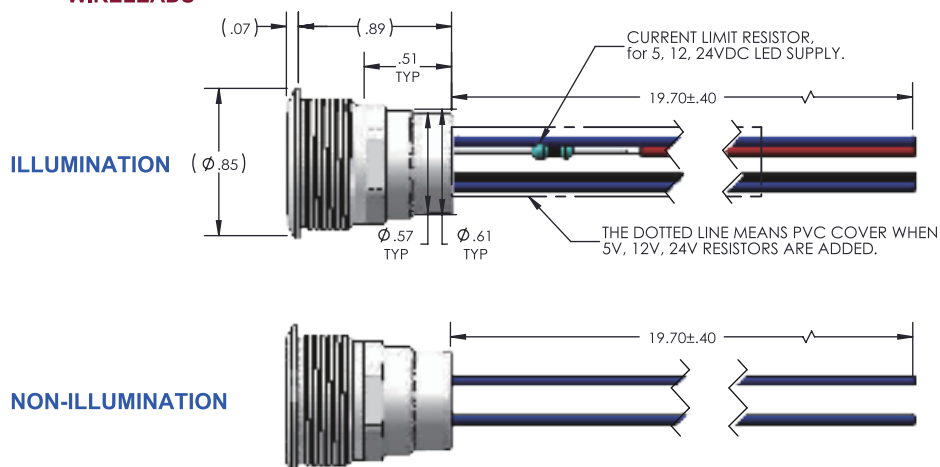


POWER/STANDBY  
ILLUMINATION  
METAL BUTTON

### 48M/ S48M/ N48M SERIES



### WIRELEADS



### MECHANICAL / ELECTRICAL CHARACTERISTICS:

#### CIRCUIT:

SPST-NO-DB

#### BUTTON TRAVEL(NOM):

0.09 inches / 2.3mm

#### OPERATING FORCE (NOM):

3N / 306g

#### CONTACT BOUNCE (NOM):

1 millisecond

#### PANEL THICKNESS:

0.20 - 0.120 inches / 0.5 - 3mm

#### TEMPERATURE INDEX:

-40°C to +85°C

#### TORQUE (MAX):

10 inch pounds

#### LED OPERATION TEMPERATURE:

-13°F to +185°F / -25°C to +85°C

#### CURRENT RATINGS (Resistive)

##### 48M (Momentary)

250mA @ 12VDC, 100k Cycles

150mA @ 28VDC, 150k Cycles

100mA @ 48VDC, 100k Cycles

10mA @ 12VDC, 1,000k Cycles

##### 48M (Maintained)

50,000 Cycles Nominal

##### S48M / N48M (Momentary)

10mA @ 12VDC, 200K Cycles

##### S48M / N48M (Maintained)

20K Cycles Nominal

### ELECTRICAL SPECIFICATIONS

#### DIELECTRIC STRENGTH:

1,000 VAC

#### INSULATION RESISTANCE:

1GΩ

#### CONTACT RESISTANCE:

50mΩ max (initial)

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#### OPERATING FORCE (NOM):

3N / 306g

#### CONTACT BOUNCE (NOM):

1 millisecond

#### PANEL THICKNESS:

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#### TEMPERATURT INDEX:

-40°C to +85°C

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10 inch pounds

#### LED OPERATION TEMPERATURE:

-13°F to +185°F / -25°C to +85°C

#### CURRENT RATINGS (Resistive)

#### C48M (Momentary)

10mA @ 12VDC, 200K Cycles

#### C48M (Maintained)

20K Cycles Nominal

#### SA48M (Momentary)

5A@28VDC, 125/250 VAC 25K Cycles  
Nominal

### ELECTRICAL SPECIFICATIONS

#### DIELECTRIC STRENGTH:

1,000 VAC

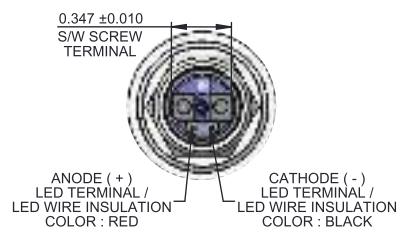
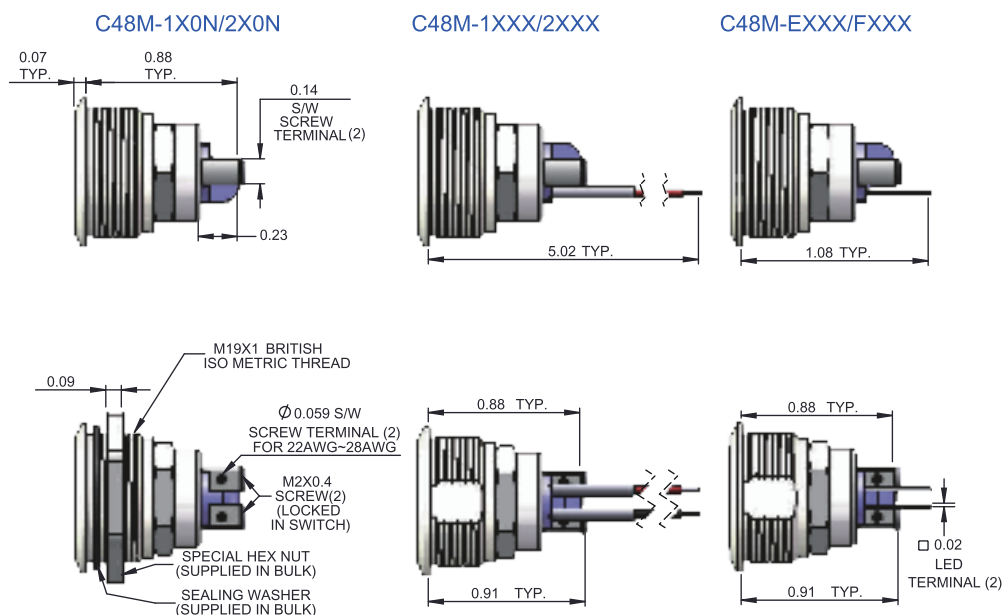
#### INSULATION RESISTANCE:

1GΩ

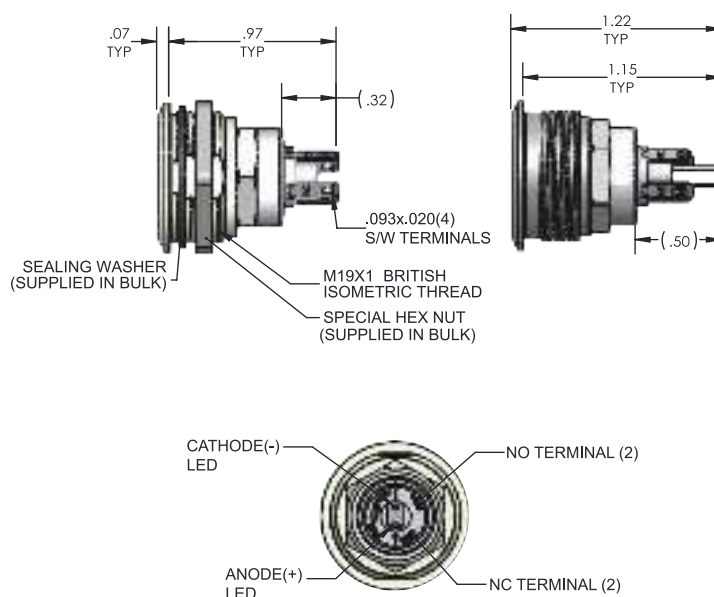
#### CONTACT RESISTANCE:

50mΩ max (initial)

### C48M SERIES

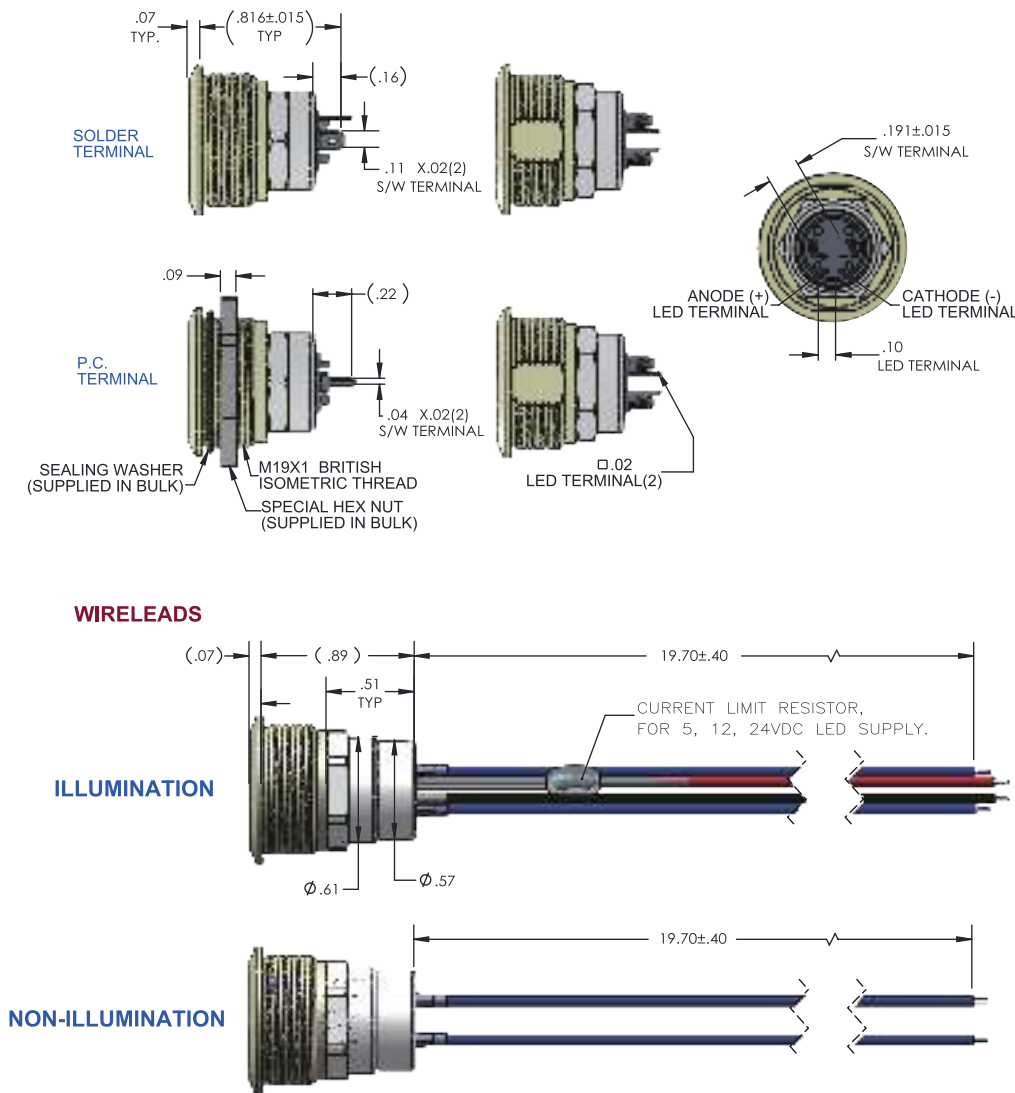


### SA48M SERIES



## SERIES 48M: 19MM PANEL SEALED METAL PUSHBUTTON

### G48M SERIES



### MECHANICAL / ELECTRICAL CHARACTERISTICS:

#### CIRCUIT:

SPST-NO-DB

#### BUTTON TRAVEL(NOM):

0.09 inches / 2.3mm

#### OPERATING FORCE (NOM):

3N / 306g

#### CONTACT BOUNCE (NOM):

1 millisecond

#### PANEL THICKNESS:

0.20 - 0.120 inches / 0.5 - 3mm

#### TEMPERATURE INDEX:

-40°C to +85°C

#### TORQUE (MAX):

10 inch pounds

#### LED OPERATION TEMPERATURE:

-13°F to +185°F / -25°C to +85°C

#### CURRENT RATINGS (Resistive)

##### G48M (Momentary)

2A @ 24VDC, 40K Cycles

2A @ 250VAC, 40K Cycles

##### G48M (Maintained)

2A @ 24VDC, 20K Cycles

2A @ 250VAC, 20K Cycles

### ELECTRICAL SPECIFICATIONS

#### DIELECTRIC STRENGTH:

1,000 VAC

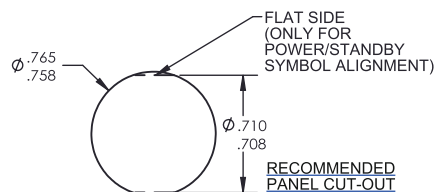
#### INSULATION RESISTANCE:

1GΩ

#### CONTACT RESISTANCE:

50mΩ max (initial)

### RECOMMENDED PANEL CUT-OUT



### PANEL MOUNTING AND CONSTRUCTION INFORMATION

The series 48M mounts easily into panels of minimum 0.20"(0.5mm) and maximum 0.177"(4.5mm) thicknesses. Front panel sealing to IP67 is achieved by a sealing o-ring fitted to the body of the switch before it is inserted into the panel hole cutout. It is held onto the panel by means of a metal hex nut tightened down to a torque of 10 inch pounds to achieve the correct sealing pressure.

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