

SERIES 48EM:



ACTUAL SIZE



FLEX-TECH MINIATURE SEALED PUSHBUTTON SWITCHES

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.

KEY FEATURES:

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

APPLICATIONS

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

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		
					PK - Black with Standby Symbol		
					WH - White		

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

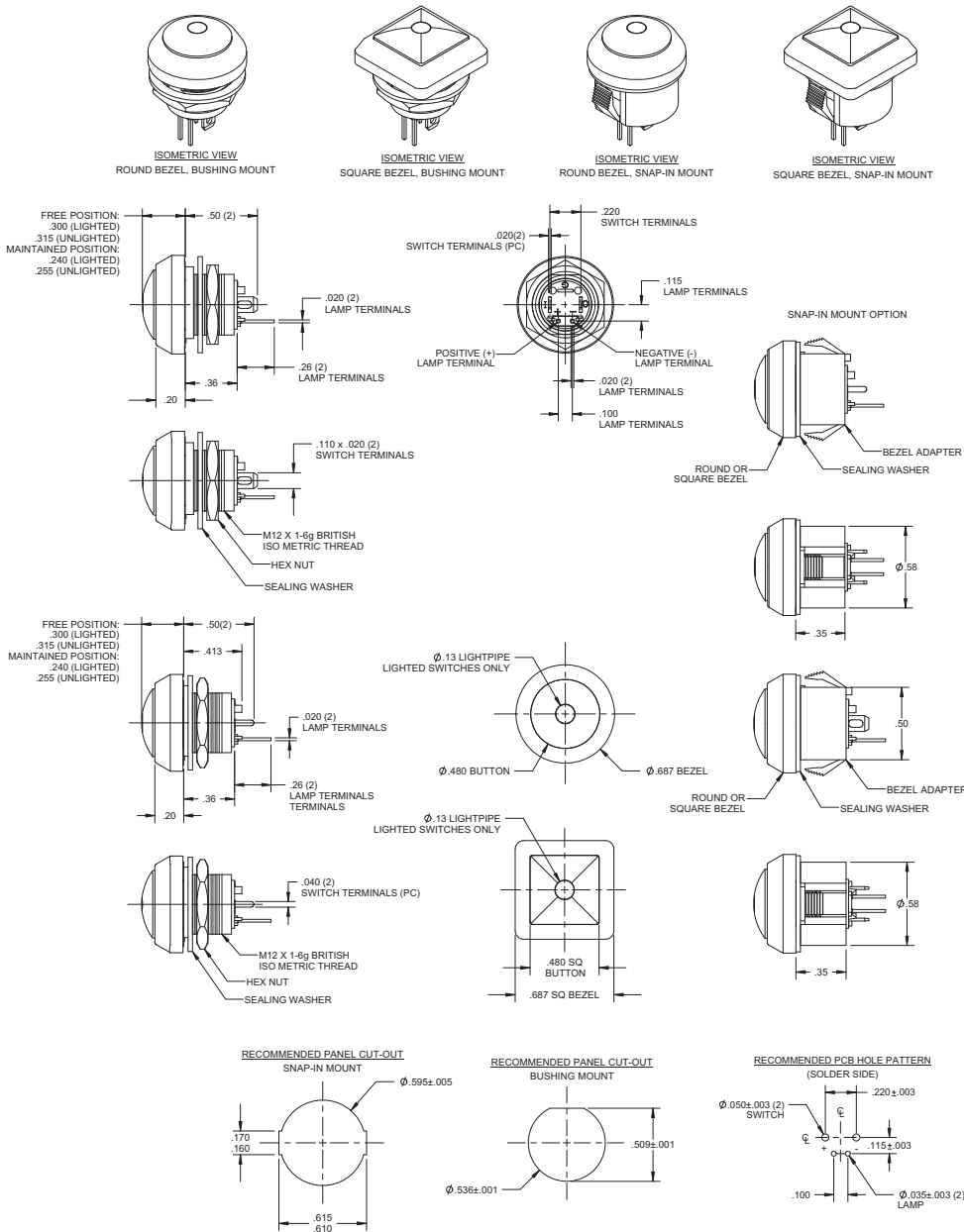
STANDARDS / AGENCY / RATINGS:



SERIES 48: ELECTRO-MECHANICAL MINIATURE SEALED

PUSHBUTTON SWITCHES

PRODUCT DRAWINGS



MECHANICAL / ELECTRICAL CHARACTERISTICS:

- Circuit:**
SPST-NO-DB
- Button travel (nominal):**
0.09 inches / 2.3 mm
- Operating force (nominal):**
3N / 306 grams
- Contact bounce (nominal):**
1 millisecond
- Panel thickness:**
0.02 – 0.12 inches / 0.5 – 3mm
- Temperature index:**
-40° F to + 185° F
- LED operating temperature:**
-13° F to +185° F /
-25° C to +85° C
- Current ratings (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:**
50 mΩ max (initial)
- Torque (max):**
10 inch pounds

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IN2CONNECT
 ELECTRONIC CONNECTORS

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

PUSHBUTTON SWITCHES

12MM MINIATURE HALL-EFFECT SEALED

This rugged sealed pushbutton switch uses a Hall-Effect sensor to achieve extremely long life, up to 1,000,000 cycles momentary. This switch is suited for harsh environments where long life and reliability are needed.

Series 48SS



APPLICATIONS

- Communications
- Data entry
- Hand-held control modules
- Outdoor controls
- Mass transport controls
- Instrumentation

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KEY FEATURES:

- 1,000,000 cycles momentary
- Momentary and maintained action
- Hall-Effect technology
- Choice of LED colors (or non-lighted versions)
- Panel sealed to IP67
- Variety of Button colors
- Square and round versions available
- Solder, PC terminals or Wireleads

ACTUAL SIZE



IN2CONNECT
ELECTRONIC CONNECTORS

ORDERING INFORMATION:

Switch Function	Switch Termination	Module Type	Bezel Type	LED Color †	Button Color	Mounting Type	Voltage Resistor
Momentary	Solder Tabs	48-3	RB - Round, Black	N - None	RD - Red	B - Bushing	If Blank*
Maintained	Solder Tabs	48-4	SB - Square, Black	R - Red	GR - Green	S - Snap-fit	05 - 5V forward
Momentary	PC	48-7	RC - Round, Chrome	G - Green	BK - Black		
Maintained	PC	48-6	SC - Square, Chrome	Y - Yellow	BL - Blue		
Momentary	Wire Leads	48-C		A - Amber	YL - Yellow		
Maintained	Wire Leads	48-D		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).

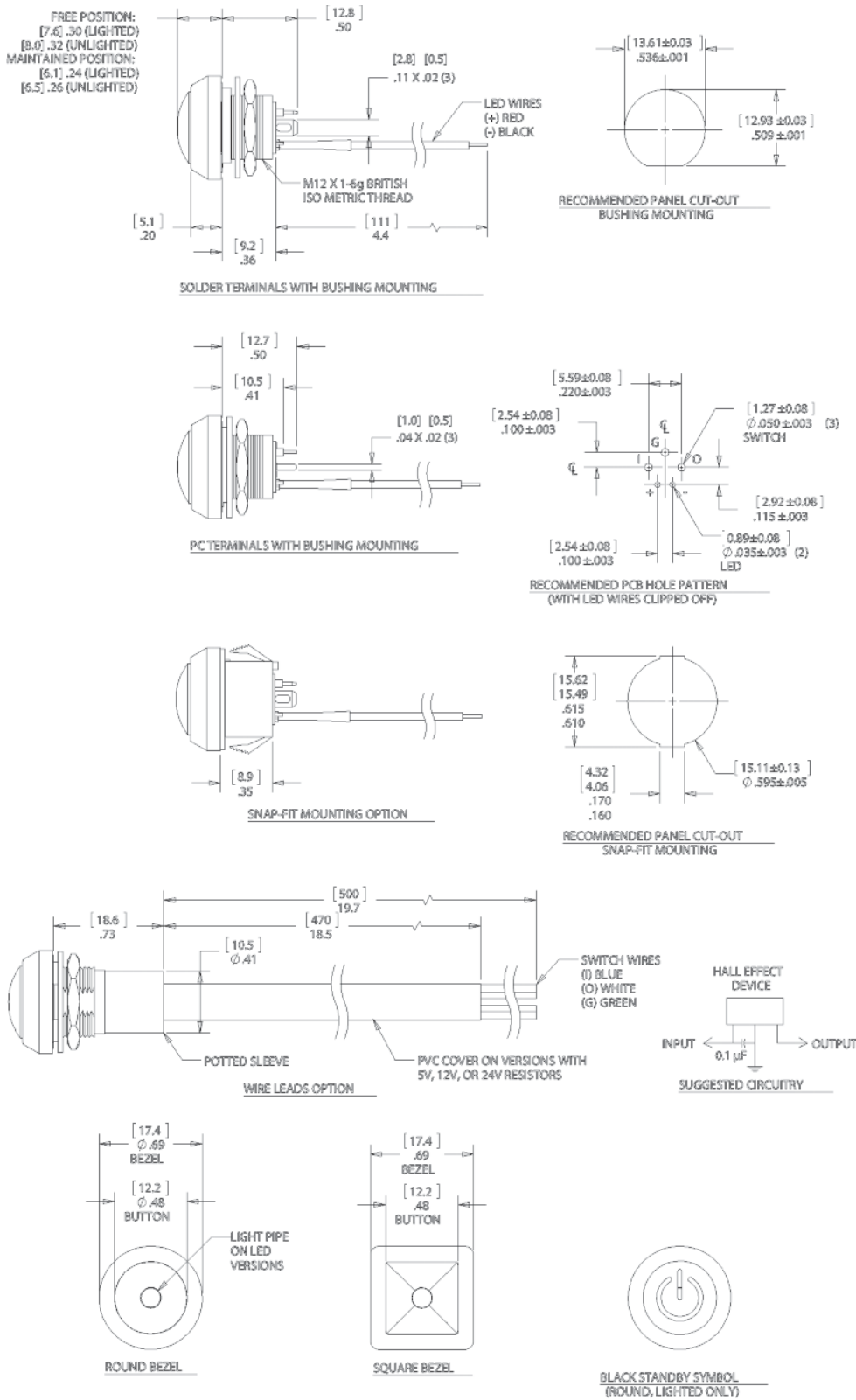
STANDARDS / AGENCY / RATINGS:



SERIES 48: 12MM MINIATURE HALL-EFFECT SEALED

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

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

SUPPLY VOLTAGE:

4.2V TO 24V, 26.5 MAX

SUPPLY CURRENT:

B<Brp, Vcc=12V:
3mA TYP to 8mA MAX

B>Bop, Vcc=12V:
4mA TYP to 8mA MAX

OUTPUT LOAD:

SINKING (I out MAX = 25mA)

REVERSE BATTERY VOLTAGE:
-30V MAX

REVERSE OUTPUT CURRENT:
-50mA MAX

SWITCH LIFE:

MOMENTARY: 1,000,000 CYCLES
MAINTAINED: 50,000 CYCLES

WIRE LEADS:

UL STYLE 1007
26 AWG, STRANDED

C48 SERIES - SCREW TERMINALS

KEY FEATURES:

- Screw Terminals
- Momentary or maintained action
- Silver contacts
- Large choice of button colours
- Choice of LED colours (or non-illuminated versions)
- Long life
- Solder or PC terminals
- Panel sealed to IP67
- Square and round bezel versions available



MECHANICAL/ELECTRICAL CHARACTERISTICS

Circuit:

SPST-NO-DB

Button Travel (nominal):

2.3mm (0.09")

Life (Mechanical):

20,000 cycles nominal

Operating Force (nominal):

3N (306 grams)

Contact Bounce (nominal):

1 millisecond

Panel Thickness:

0.5 ~ 3.0mm

Temperature (Operating):

-40°C to + 85°C

Current Ratings (resistive):

10mA @ 12VDC, 200,000 cycles (momentary)

10mA @ 12VDC, 20,000 cycles (maintain)

Dielectric Strength:

1000V AC

Insulation Resistance

1 GΩ

Contact Resistance:

50 mΩ

Torque (maximum) (Fixing Nut):

1.2 Nm

C48 Series - Miniature Sealed Pushbuttons Screw Terminals

This multi-option sealed pushbutton series offers the utmost in choices of mounting style, button colours, terminations, bezels, lighting and momentary or maintained switching.

The Series 48 offers all these options in one compact package size.

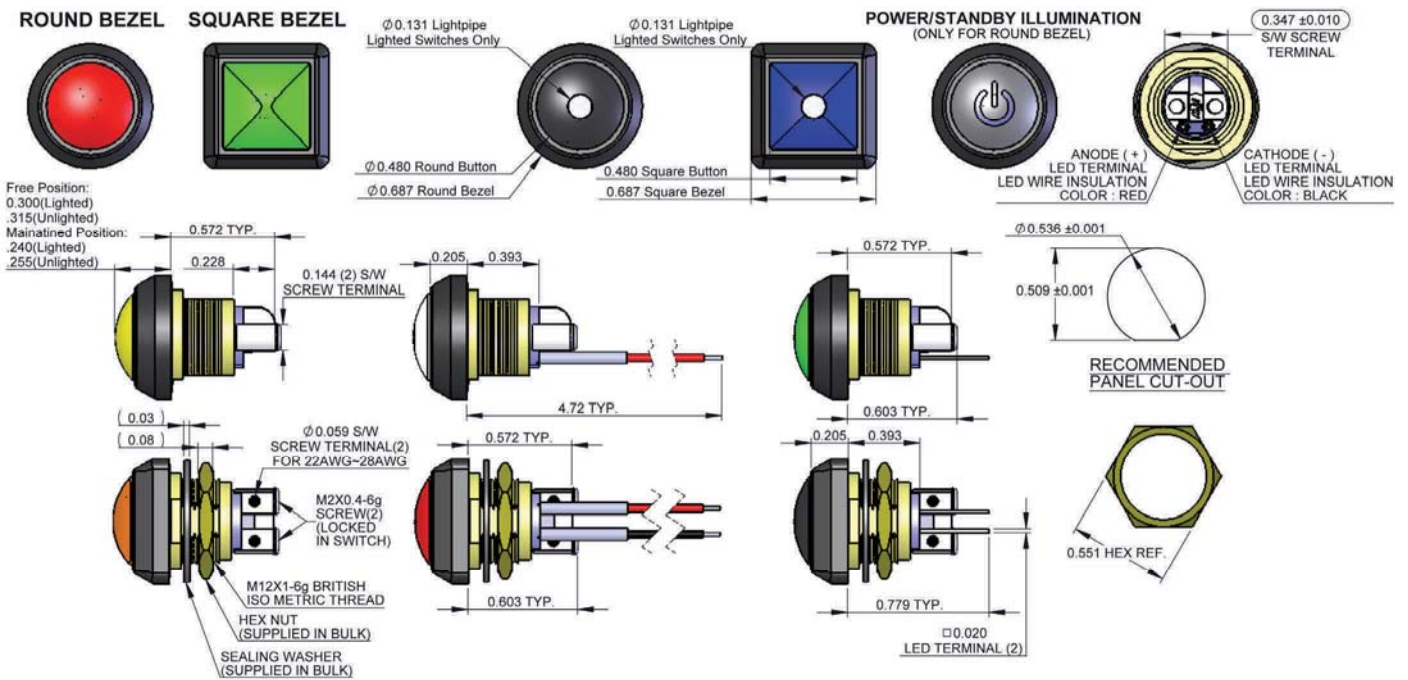
Contact us to learn more about the options available!

TYPICAL APPLICATIONS:

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

C48 SERIES - SCREW TERMINALS

DIMENSIONS & ILLUMINATION OPTIONS:



How To ORDER:

C48- X XX X XX X XX												
SWITCH FUNCTION CODE	SWITCH FUNCTION DESCRIPTION	BEZEL TYPE CODE	BEZEL TYPE DESCRIPTION	LED COLOR CODE	LED COLOR	BUTTON COLOR CODE	BUTTON COLOR	MOUNTING TYPE CODE	MOUNTING TYPE	LED INLET VOLTAGE CODE		LED INLET VOLTAGE
1	MECHANICAL MOMENTARY, SCREW TERMINAL	RB	ROUND, BLACK	N	NONE	RD	RED	B	BUSHING	NONE- WIRELEADS	IF BLANK*	(SEE NOTE)
2	MECHANICAL MAINTAINED, SCREW TERMINAL	SB	SQUARE, BLACK	G	GREEN	GR	GREEN			05		5V
E	MECHANICAL MOMENTARY, SCREW TERMINAL	RC	ROUND, CHROME	R	RED	BK	BLACK					
F	MECHANICAL MAINTAINED, SCREW TERMINAL	SC	SQUARE, CHROME	A	AMBER	BL	BLUE					
				B	BLUE	YL	YELLOW					
				W	WHITE	OR	ORANGE					
				Y	YELLOW	WH	WHITE					
				RB	RED/BULE	CR	CHROME					
				RG	RED/GREEN	PK	POWER/STANDBY BLACK					