

PUSHBUTTON SWITCHES

12MM MINIATURE PANEL SEALED METAL SWITCHES

The 12M is a miniature switch designed for rugged environments. The housing is stainless steel and aluminum alloy. It is available as maintained or momentary action, electro-mechanical operation with Gold or Silver plated contacts and terminals. It is ideal for a multitude of applications.

Series 12M



APPLICATIONS

- Communications
- Hand-held Control Modules
- Security Equipment
- Food Processing
- Industrial Machinery
- Outdoor Controls
- Transportation: Mass-transit, Lift Truck

KEY FEATURES:

- Momentary or Maintained Action
- Stainless Steel/ Aluminum Housing
- Ring Illumination
- Variety of LED Colors
- Panel Sealed to IP67
- Gold or Silver Plated
- Solder, PC Terminal

ORDERING INFORMATION:

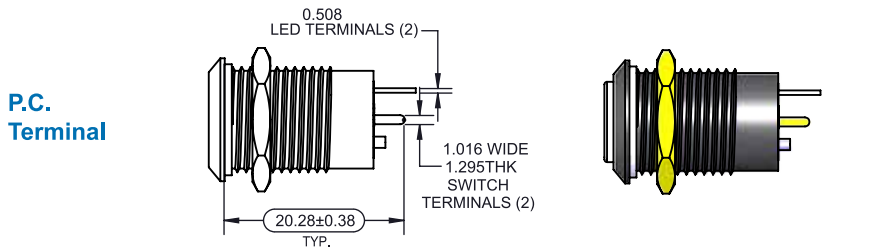
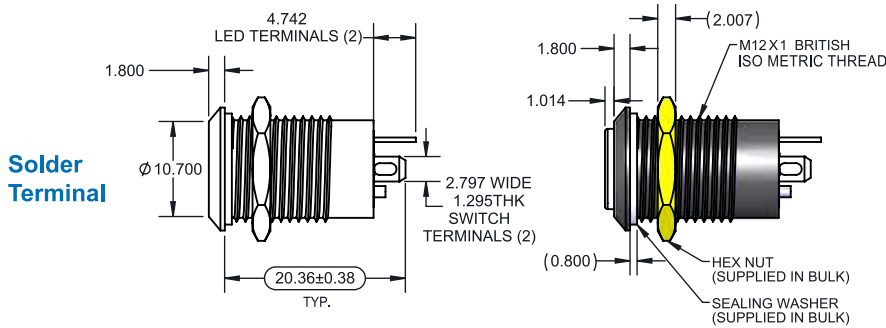
Series:	Switch Function:	Bezel Material/Color:	Button Material/Color:	Illumination:	LED Color:	Voltage Resistor:
Blank Gold Plated	A Mechanical, Momentary, Wireleads B Mechanical, Maintained, Wireleads E Mechanical, Momentary, Solder Terminal F Mechanical, Maintained, Solder Terminal G Mechanical, Momentary, PC Terminal H Mechanical, Maintained, PC Terminal	1 Stainless, Natural K Aluminum Alloy, Anodized, Black Y Aluminum Alloy, Anodized, Yellow R Aluminum Alloy, Anodized, Red G Aluminum Alloy, Anodized, Green S Aluminum Alloy, Anodized, Silver	1 Stainless, Natural K Aluminum Alloy, Anodized, Black Y Aluminum Alloy, Anodized, Yellow R Aluminum Alloy, Anodized, Red G Aluminum Alloy, Anodized, Green S Aluminum Alloy, Anodized, Silver	2 Ring Illumination	N None G Green R Red A Amber B Blue W White Y Yellow RB Red/Blue RG Red/Green	If Blank* 05 5V Forward 12 12V Forward** 24 24V Forward**
S Silver Plated	A Mechanical, Momentary, Wireleads B Mechanical, Maintained, Wireleads 1 Mechanical, Momentary, Solder Terminal 2 Mechanical, Maintained, Solder Terminal 5 Mechanical, Momentary, PC Terminal 6 Mechanical, Maintained, PC Terminal					



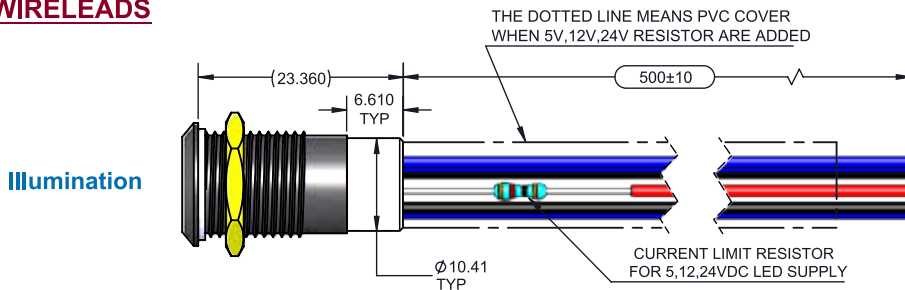
*Current limiting resistor is required to limit LED forward current to 20mA.(not included)
**12 and 24V resistors are available with wirelead versions only.

SERIES 12M: 12MM MINIATURE PANEL SEALED METAL SWITCHES

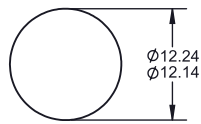
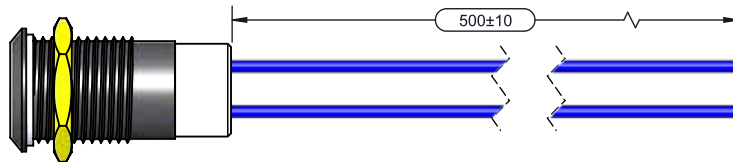
PRODUCT DRAWINGS



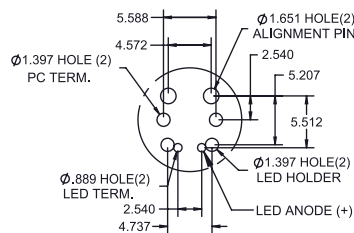
WIRELEADS



Non-Illumination



RECOMMENDED PANEL CUTOUT



RECOMMENDED P.C. BOARD HOLE PATTERN (FOR PC TERMINAL) COMPONENT SIDE

LED SPECIFICATIONS

LED CODE	LED		CIRCUITRY	Vf(VDC)		If (mA)
	Color 1	Color 2		Color 1	Color 2	
A	AMBER	—		1.6~2.0	—	20
R	RED	—		1.6~2.0	—	20
Y	YELLOW	—		1.6~2.0	—	20
B	BLUE	—		2.8~3.4	—	20
G	GREEN	—		2.8~3.4	—	20
W	WHITE	—	2.8~3.4	—	20	
RB	RED	BLUE		1.6~2.0	2.8~3.4	20
RG	RED	GREEN		1.6~2.0	2.8~3.4	20

Notes:
 1.) Lead Soldering Temperature (4mm form body) : 280°C for 5 seconds
 2.) Head Soldering Temperature (4mm form body) : 320°C for 3 seconds

MECHANICAL CHARACTERISTICS:

- Circuit:** SPST-NO-DB (Form X)
- Button Travel (Nominal):** 0.099inches [2.5mm]
- Operating Force (Nominal):** 3N [306g]
- Contact Bounce (Nominal):** 1ms
- Panel Thickness:** 0.020" - 0.236" [0.5 - 6.0mm]
- Nut Torque Force:** Max 5.2 lb-in [6 kgf-cm]

ENVIRONMENTAL SPECIFICATIONS:

- Actuator Ingress Protection:** IP67 (Front Panel)
- Operating Temperature:**
 - Non-illumination type:** -40° to +185° F [-40° to +85° C]
 - Illumination type:** -13° to +185° F [-25° to +85° C]

ELECTRICAL SPECIFICATIONS:

- Current Ratings: (Momentary)**
 - 12M Series:
 - 250mA@12VDC, 100k Cycles
 - 150mA@28VDC, 150k Cycles
 - 100mA@48VDC, 100k Cycles
 - 10mA@12VDC, 1000k Cycles
 - S12M Series:
 - 10mA@12VDC, 200k Cycles
- Current Ratings: (Maintained)**
 - 12M Series: 50,000 Cycles Nominal
 - S12M Series: 20,000 Cycles Nominal
- Dielectric Strength:** 1,000 VAC
- Insulation Resistance:** 1GΩ
- Contact Resistance:** Max 50mΩ (initial)

