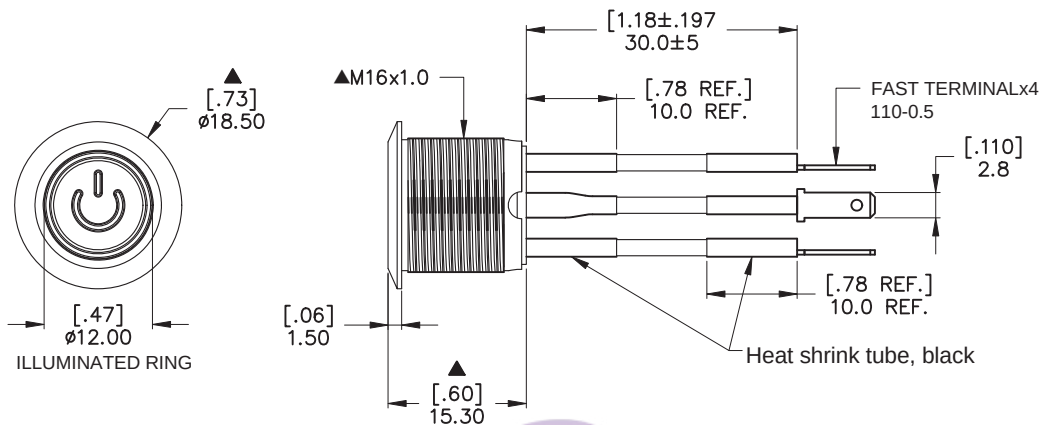


Multi-wire lead AWG20, section 0.6mm², UL approved

SWITCH	WIRE
Terminal 1	BLUE
Terminal 2	PURPLE
LED+	WHITE
LED-	GRAY

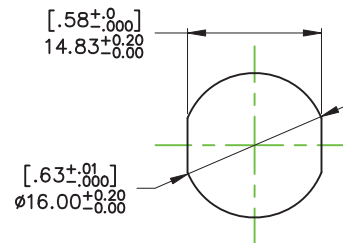
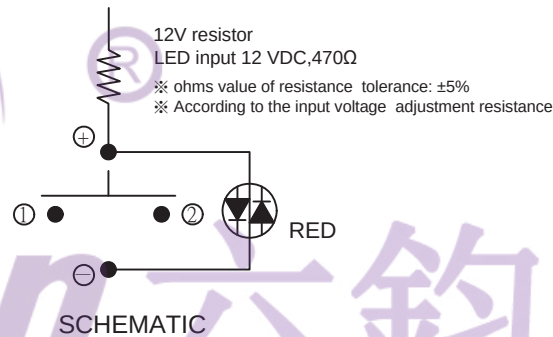
Specifications:

- Rating: 2A/36VDC.
 - Electrical Life: 200,000 make-and-break cycles at full load.
 - Mechanical Life: 1,000,000 Cycles.
 - Insulation Resistance: 1,000MΩ Min. at 500VDC.
 - Dielectric Strength: 2,000V RMS@sea level.
 - Contact Resistance: 50mΩMax.@1A/12VDC(initial value).
- Note: When the switches with the wire assembly, we only test the electric conduction and will not test the contact resistance on the wire.
- Operation Temperature: -20~+70°C.
 - Travel: About 2.0mm.
 - Operation Pressure: 4.5N±1.5N.
 - Ingress Protection: IP67.
 - Torque: 11.5 kgf · cm.
 - Current limiting resistor is required to limit LED forward current to 20mA.

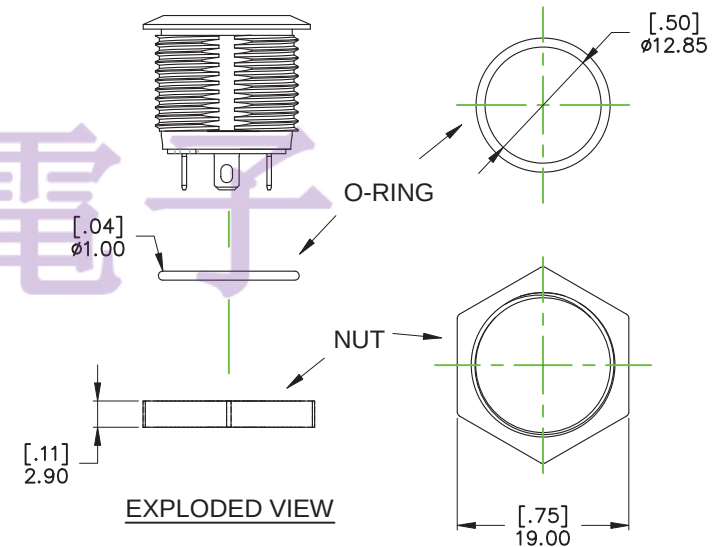
MATERIAL:

Bushing: Stainless.
Base: PBT.
Actuator: PC.
Cap: Stainless.
Spring: Steel.
Sealing: Silicone(Translucent).
O-ring: Silicone(Translucent).
Nut: Brass(Nickel Plated).
Terminal: Brass, Gold flash plated.
Contact: Silver alloy.

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PANEL CUTOUT
THICKNESS:8.0mm[.31](Max.)



EXPLODED VIEW

符號	原尺寸	修改後尺寸	變更日期	SCALE (比例): 1:1	TITLE 圖名	Metal push button switch ϕ 16			SIZE 圖紙	A4
1	(A)			TOLERANCE (公差): 0.00mm±0.25mm 0.0mm±0.40mm ANGULAR: ±5° FILE NAME: MPB16-0438	DWG NO. 圖號	MPB16-A1FP-3-T022R			UNIT 單位	inch mm
2	(B)				REV. 版本	A	DATE 日期	DEC - 27 - 2019	SHEET 張數	1 of 1
3	(C)				APPROVE 審核	顧睿豐	CHECK 確認	范憶雯	DRAW 製圖	IRENE
4	(D)									
5	(E)									

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1. Style :

This specification describes “Metal Pushbutton Switch ” , mainly used as signal switch of electric devices, with the general requirements of mechanical and electrical characteristic.

- ①Switch combination : Off-Mom. Single Pole
- ②Enclosure material : Aluminum alloy / Stainless steel.
- ③Operating Type : Momentary.
- ④Operating Temperature Range : -20 °C~+70 °C.
- ⑤Degrees of protection provided by enclosures
IP code: IP67.

2. Electrical Rating : 2A /36VDC (resistive load).

3. Type of Actuation : Pushbutton Switch.

4. Test Sequence :

	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
APPEARANCE	1	Visual Examination	By Visual Examination check without and out pressure & testing.	There shall be no defects that affect the serviceability of the product.
	2	Contact Resistance	To be measured between the two terminals associated with each switch pole.	50mΩ Max.
ELECTRIC PERFORMANCE	3	Insulation Resistance	Measurements shall be made following application of 500 VDC / 100mA potential across terminals and cover for 1 minute.	1000MΩ/500VDC min.
	4	Dielectric Withstanding Voltage	2000VAC(50Hz or 60Hz) / between terminals /1minute.	There shall be no breakdown or flashover.

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MECHANICAL PERFORMANCE

ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
5	Operation pressure	MODEL-1305N MECHANICAL TEST 500gram 、1000gram、 2000gram.	4.5N±1.5N
6	Operation Travel	Full Travel.	2.0mm±0.20
7	Torque	Applied to nut.	11.5kgf · cm.
8	Panel Thickness	Applied to nut.	8.0mm MAX.

OPERATING LIFE

9	Operating Life	Measurements shall be made following the test forth below : ① 2A / 36VDC.(resistive load) ② Electronics Life Test : 200,000 cycles. ③ Rate of Operation : 6-8 operation cycles per minute. ④ Operating force:8N (MAX).	①Dielectric Strength : between terminals :1000VAC. ②Insulation Resistance : 1000MΩ (at 500VDC)min. ③Contact Resistance : 150mΩ Max.
		① Mechanical Life Test : Resetable : 1,000,000 cycles. ② Operating force:8N (MAX).	④operation pressure: 3N±1.5N (for Mechanical Life Test).

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HUMIDITY RESISTANCE	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
	10	Resistance Low Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made: ① Temperature : $-20\pm 3^{\circ}\text{C}$. ② Time : 96 hours.	As shown in item 2~4.
	11	Resistance High Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made: ① Temperature : $70\pm 3^{\circ}\text{C}$. ② Time : 96 hours.	As shown in item 2~4.
	12	Resistance Humidity	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made: ① Temperature: $40\pm 2^{\circ}\text{C}$ ② Relative Humidity: 90~95% ③ Time: 96 hours.	① Contact Resistance: 100 mΩ Max. ② Insulation Resistance: 1000MΩ min.

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	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
HUMIDITY RESISTANCE	13	Salt spray Testing	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made: ①Temperature: $35 \pm 2^{\circ}\text{C}$. ②The ratio of salt-water : 5%. ③The spray amount of salt- water : 1~2 ml/h. ④Time: 48 hours.	The testing standard based on bubble, crack, And magnifying glass with gauge.
	14	Test of IP 67	Protected against the effects of Temporary immersion in water. (1m below the surface of the water for a duration of 30 min).	IP67 According to EN 60529 : 1991 + A1 : 2000 IEC 60529 : 2001
RoHS	15	HSF	Refer RoHS Standard : The electronic electrical machinery product limits with six big chemical materials.	Cd : 100ppm Pb : 1000ppm Hg : 1000ppm Cr6+ : 1000ppm PBB 、PBDE : 1000ppm
SOLDER HEAT RESISTANCE	16	Manual Soldering	■ hand Soldering : ①Soldering Temperature : 280°C. ②Duration of Solder Heated : 3 seconds (Max). ■ Precautions in Handling: ①Please make sure that there is no flux rose over the surface of the PCB.	①Shall be free from pronounced backlash and falling-off or breakage terminals. ②As shown in item 2~4.

Wiring:

1. Solder the terminals using a 60W soldering iron at 280°C within 3 seconds. (Sn-Ag-Cu type solder is recommended.)
2. When soldering, be sure to keep the soldering iron as far away from the housing as possible.
3. Also ensure that no tensile force is applied to the terminal. Do not bend the terminal or apply excessive force to the terminal.

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5. LED Specifications : (LED Without resistor)

Color	VF(v) Min.	VF(v) MAX.	IF(Typ.)
White	2.8	3.7	20mA
Red	1.7	2.5	20mA
yellow	1.7	2.5	20mA
Blue	2.8	3.7	20mA
Green	2.8	3.7	20mA
Orange (Amber)	1.7	2.5	20mA

legion 六鈞電子