



IP67 Anti-Vandal Push Button Switch HBS1AGQ16 Series

SPECIFICATIONS

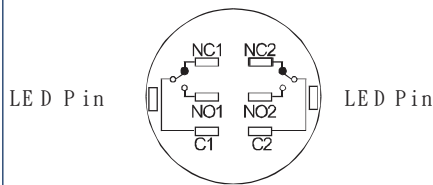
- Electrical Rating : 5A 250VAC
- Mechanical life: Over 200000 cycles
- Electrical life: Over 50000 cycles
- Contact resistance: <50mΩ
- Insulation resistance: >1000MΩ
- High voltage resistance: >2000VAC 1 min.
- Ambient temperature: -20~55°C
- IP Degree: IP67, IK08
- Torque: 5~14Nm
- Operation Pressure: 2.5~4N
- LED Life: over 40000 hours

MATERIALS

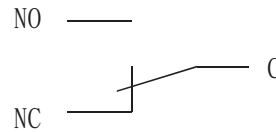
- Body/Button: Stainless Steel
- Base: PBT
- Contact: Silver alloy



Terminal Description



Switching Operation

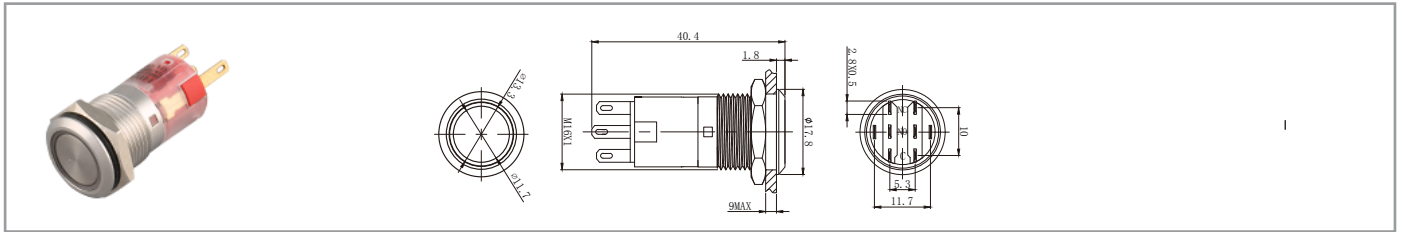
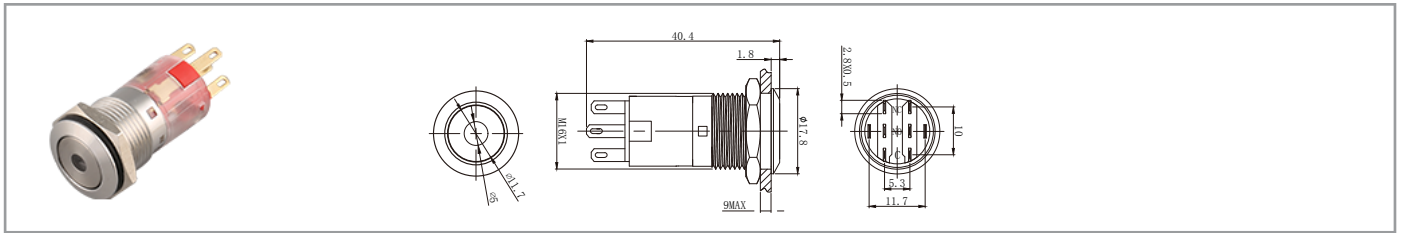
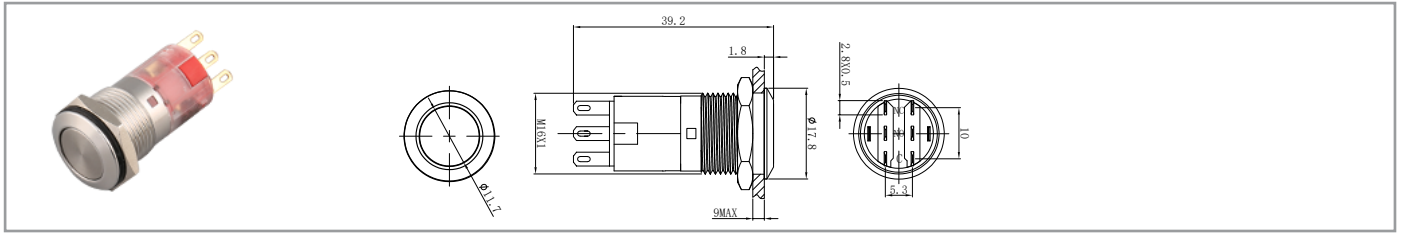


HOW TO ORDER

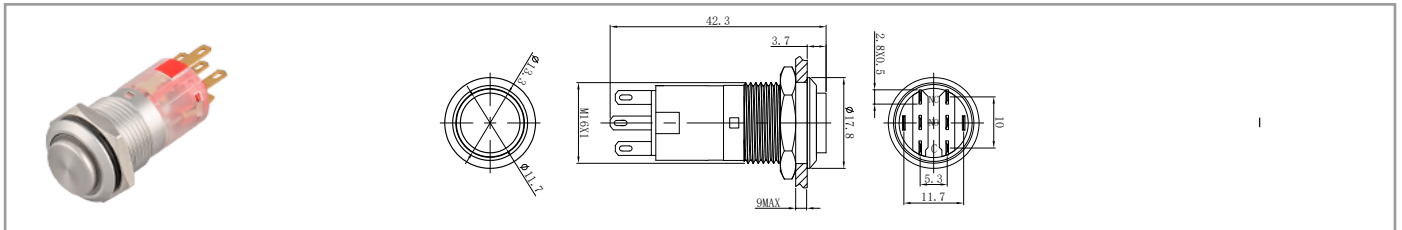
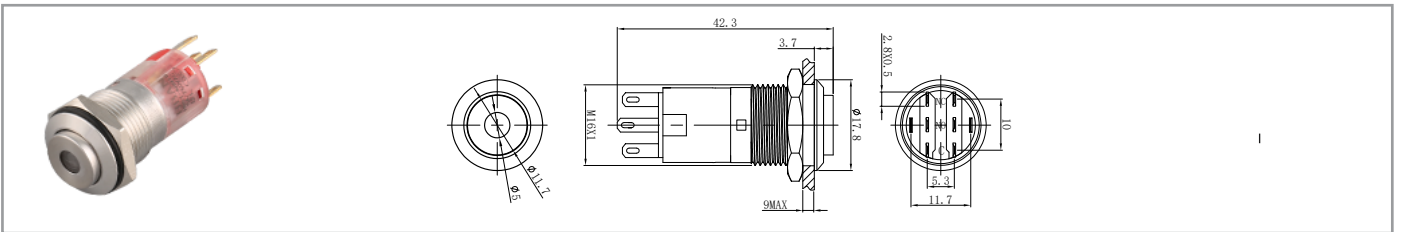
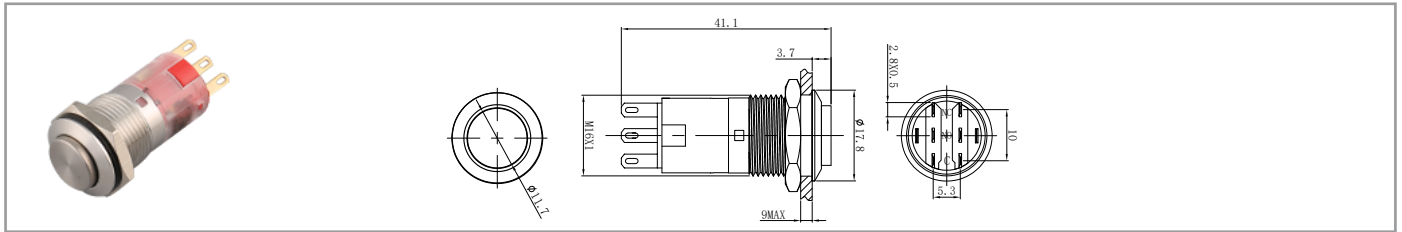
<b>HBS1AGQ16</b>	<b>F</b>	<b>11</b>	<b>D</b>		<b>R</b>	<b>24V</b>	<b>S</b>
Series	Switch Shape	Contact Configuration	LED Type	Function	LED Color	LED Voltage	Shell Material
	F Flat H High	11 1NO1NC 22 2NO2NC	D Dot E Ring	Momentary Z Latching ( : no letter)	R Red G Green Y Yellow O Orange B Blue W White	6V 12V 24V 36V 110V 220V	S:Stainless Steel



Dimension of HBS1AGQ16F series



Dimension of HBS1AGQ16H series





SPECIFICATIONS

- Electrical Rating : 5A 250VAC
- Mechanical life: Over 100000 cycles
- Electrical life: Over 50000 cycles
- Contact resistance: <50mΩ
- Insulation resistance: >1000MΩ
- High voltage resistance: >2000VAC 1 min.
- Ambient temperature: -20~55°C
- IP Degree: IP65
- Torque: 5~14Nm
- Operation Pressure: About 4N
- LED Life: over 50000 hours

MATERIALS

- Body/Button: Stainless Steel
- Base: PA
- Contact: Silver alloy

HOW TO ORDER

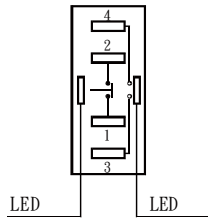
HBGQF	22	11	D	□	J	R	24V	S
Series	Switch Diameter	Contact Configuration	LED Type	Function	Terminal Type	LED Color	LED Voltage	Shell Material
	22 22mm 25 25mm	11 1NO1NC 22 2NO2NC (for GQ25 only)	D Dot E Ring	□ Momentary Z Latching (□ : no letter)	J:Pin Terminal	R Red G Green Y Yellow O Orange B Blue W White	6V 12V 24V 36V 110V 220V	S:Stainless Steel



Switch Configuration

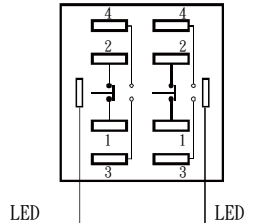
Terminal Description

HBGQF22



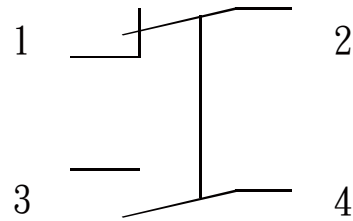
T1,T2 : NC T3,T4 : NO

HBGQF25



T1,T2 : NC T3,T4 : NO

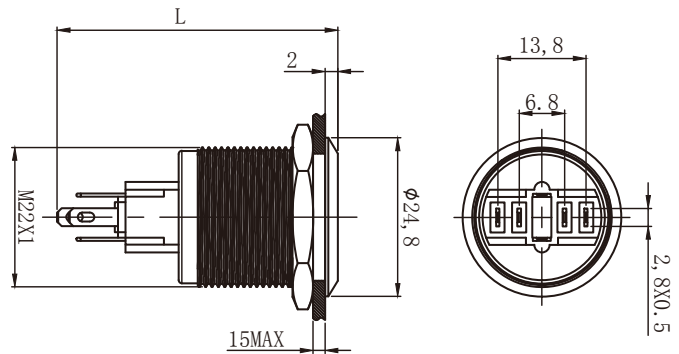
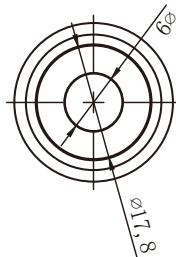
Switching Operation



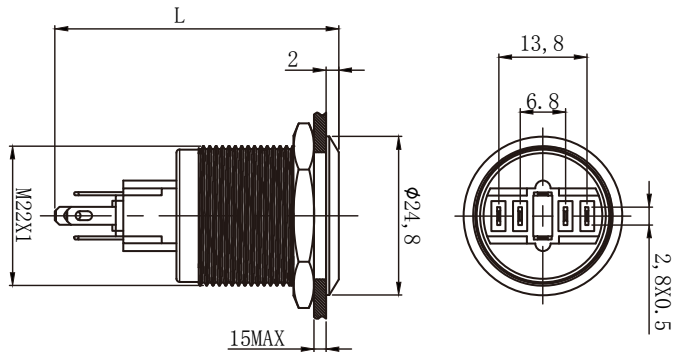
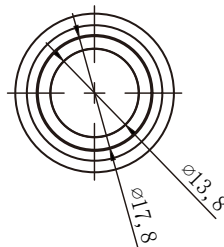
Dimension of HBGQF22 series



L: Momentary 38.5mm  
Latching 43.9mm



L: Momentary 38.5mm  
Latching 44.4mm

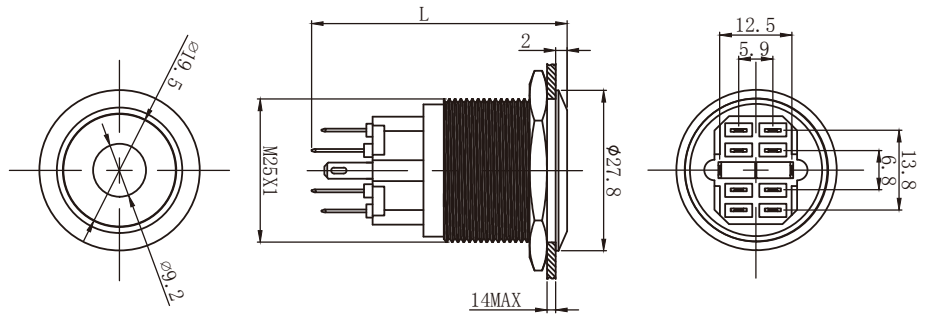




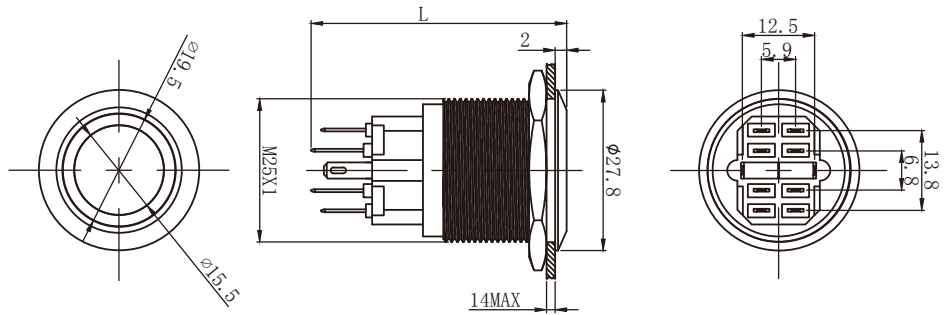
Dimension of HBGQF25 series



L: Momentary 41.5mm  
Latching 44.3mm



L: Momentary 14.5mm  
Latching 44.3mm



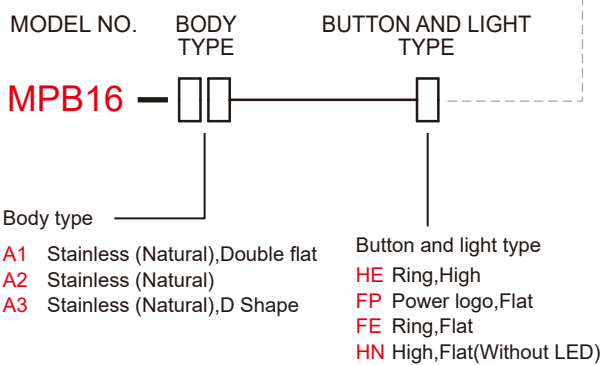
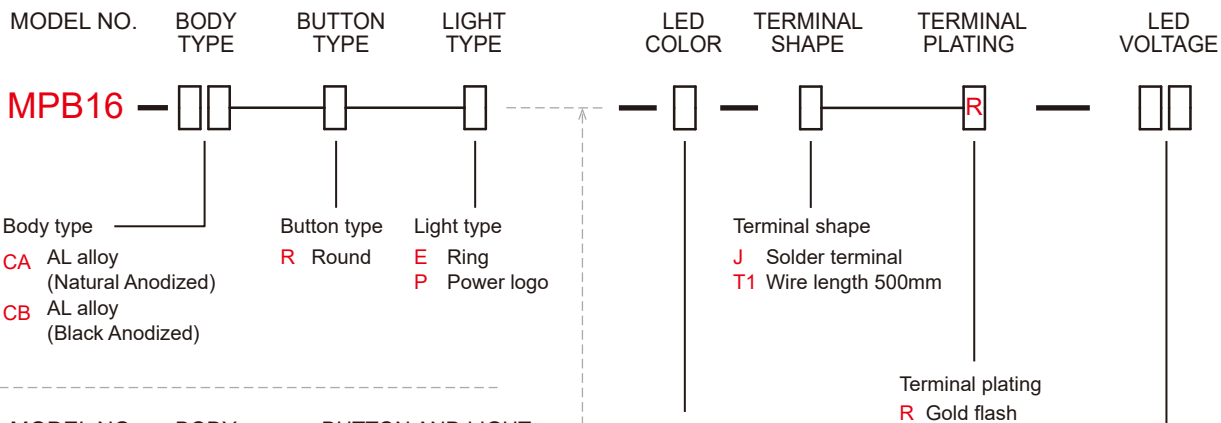

**SPECIFICATIONS**

**RATING** : Max : 2A / 36VDC ; Min : 0.5A / 12VDC.  
**ELECTRICAL LIFE** : 200,000 make-and-break cycles at full load  
**MECHANICAL LIFE** : 1,000,000 cycles  
**INSULATION RESISTANCE** : 1,000 MΩ min. at 500VDC  
**DIELECTRIC STRENGTH** : 2,000V RMS @ sea level  
**CONTACT RESISTANCE** : 50 mΩ max.  
**OPERATION TEMPERATURE** : -20°C~+70°C  
**TRAVEL**: About 2.0±0.20mm  
**OPERATION PRESSURE** : 4.5N±1.5N  
**INGRESS PROTECTION** : IP67  
**TORQUE** : 11.5 kgf · cm  
**THICKNESS** : 8.0mm (Max.)  
**Current limiting resistor is required to limit LED forward current to 20mA.**

**MATERIALS**

**BUSHING** : Aluminum alloy / Stainless Steel  
**BASE** : PBT (UL 94-V0)  
**ACTUATOR** : PC (Translucent UL 94-V2)  
**CAP** :Aluminum alloy / Stainless Steel  
**SPRING** : Steel.  
**SEALING** : Silicone (Translucent).  
**O-Ring** : Silicone (Translucent).  
**TERMINAL** : Brass ,Gold flash plated.  
**CONTACT** : Silver alloy.  
**HEX NUT** : Brass (Nickel plated).

**HOW TO ORDER**

 IP 67  
ACCORDING TO  
EN 60529:1997+A1:2001  
IEC 60529:2001


LED color

ITEM NO	COLOR
0	Without LED
1	White
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
<b>DUAL COLOR LED</b>	
A	Red&Green
<b>RGB COLOR LED</b>	
RGB	Red/Green/Blue

Accessories

Resistance (About LED Voltage)	
0V	Without Resistance
3V	LED input 3 VDC, 47Ω * Red/Yellow/Orange LED type only
6V	LED input 6 VDC, 180Ω
12V	LED input 12 VDC, 470Ω
24V	LED input 24 VDC, 1000Ω

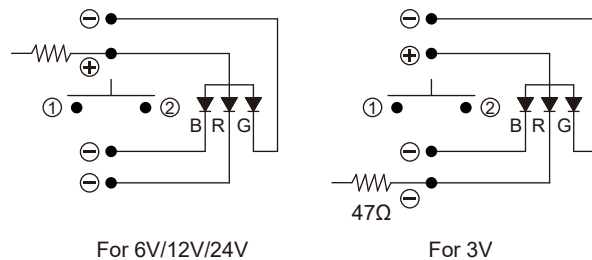
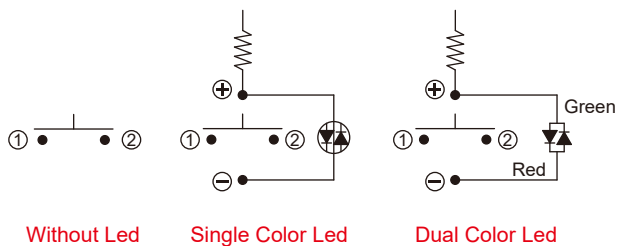
※ ohms value of resistance tolerance: ±5%

EXAMPLE:  
 MPB16-CARE-0-JR-0 (Without LED)  
 MPB16-CARE- [ ] -JR- [ ] V  
                   LED color LED voltage



**CIRCUIT**

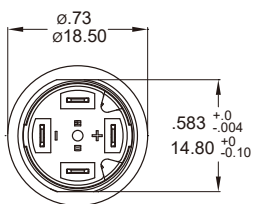
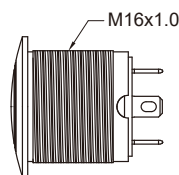
※ According to the input voltage adjustment resistance



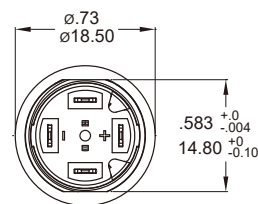
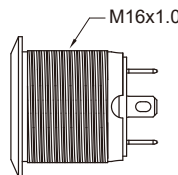
RGB Color Led

**BODY TYPE**

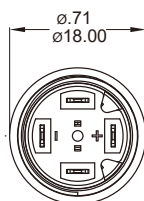
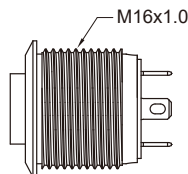
CA/CB Aluminum alloy



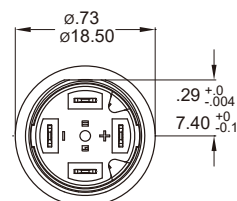
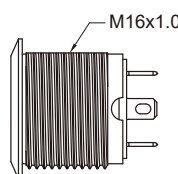
A1 Stainless Steel



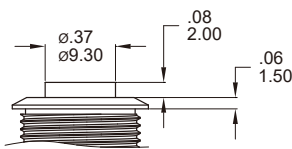
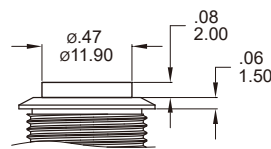
A2 Stainless Steel



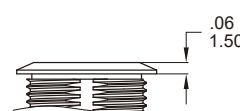
A3 Stainless Steel (D Shape)


**BUTTON TYPE**

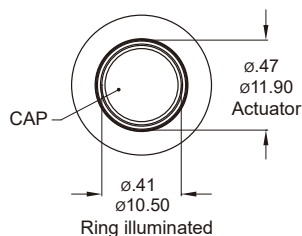
R Round


 H High,Flat  
Ring illuminated

 H High,Flat  
Without LED


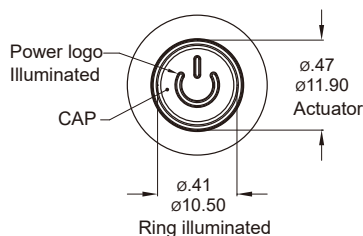
F Flat


**LIGHT TYPE**

E Ring,Round



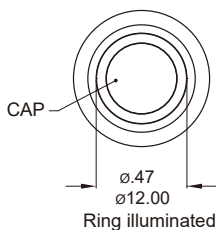
P Power logo,Round



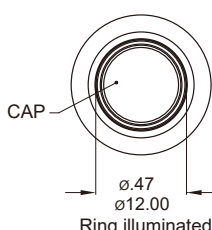
\* E,P light type only for CA,CB body.

\* HE,FE,FP light type only for A1,A2,A3 body.

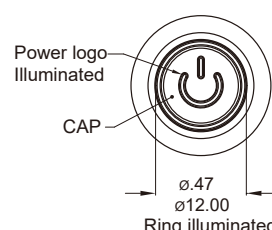
HE Ring,High



FE Ring,Flat

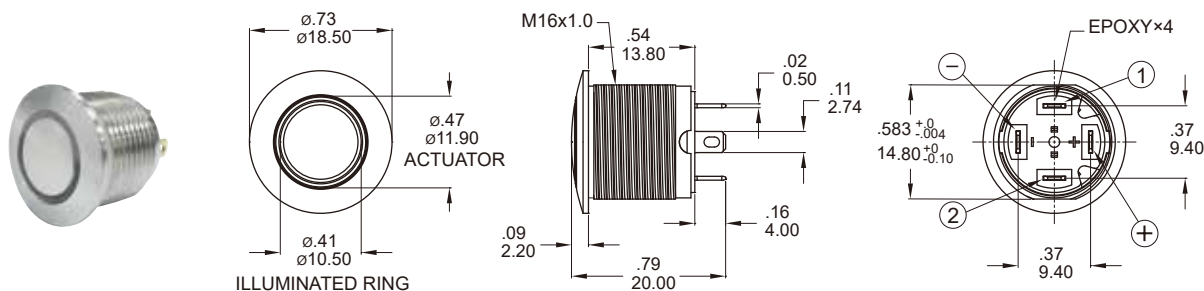


FP Power logo,Flat



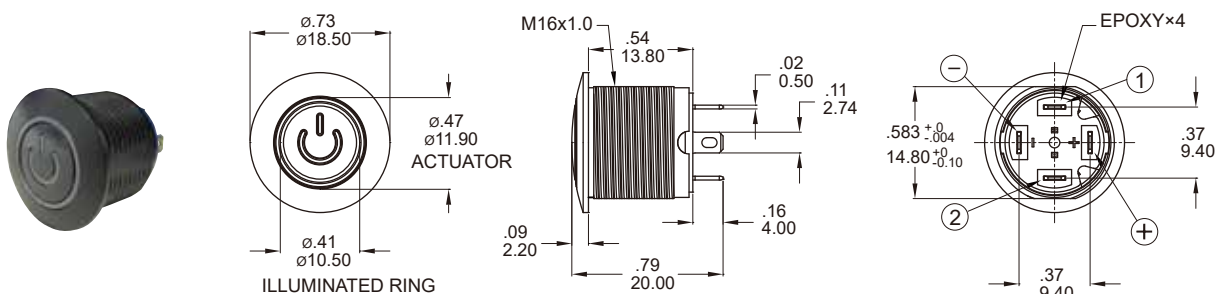
**DIMENSION**

**E Ring**



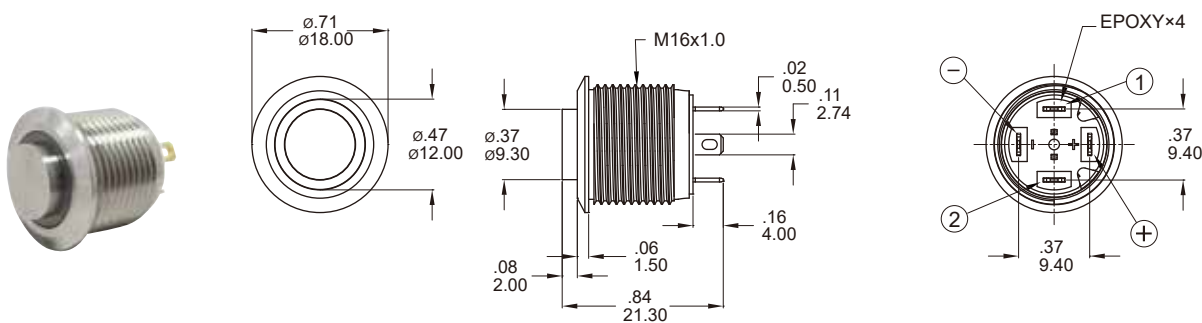
Part No. Shown : MPB16-CARE-□-JR-0V

**P Power logo**



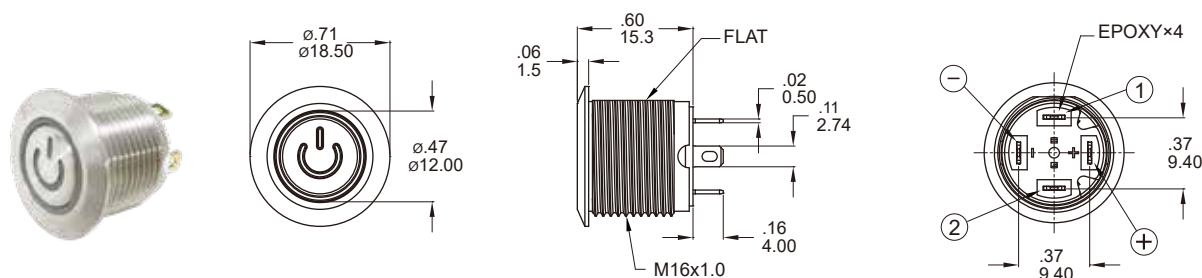
Part No. Shown : MPB16-CBRP-□-JR-0V

**HE Ring**



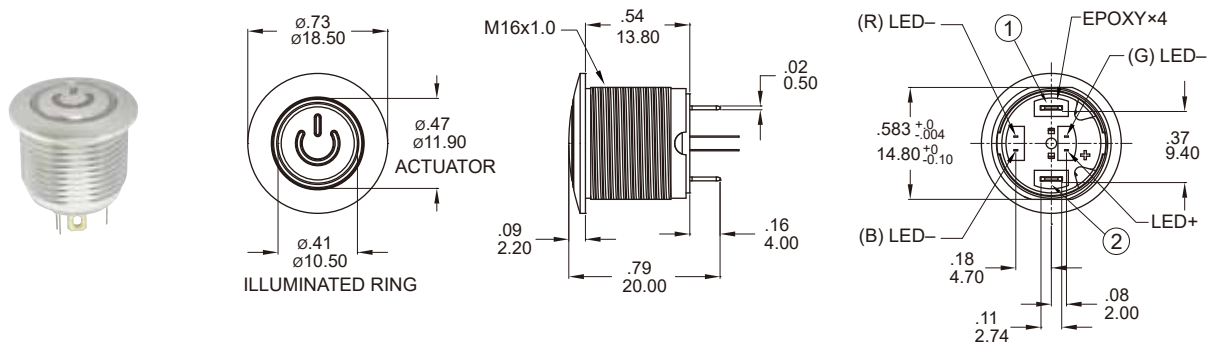
Part No. Shown : MPB16-A2HE-□-JR-0V

**FP Power logo**

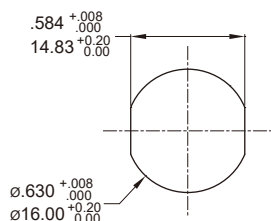
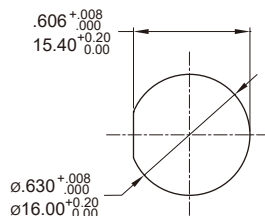
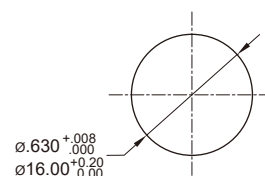
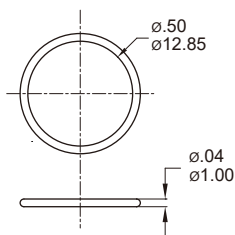
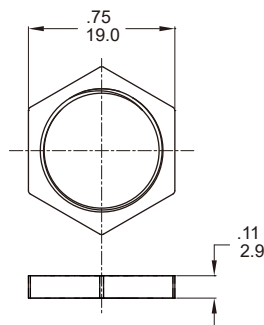
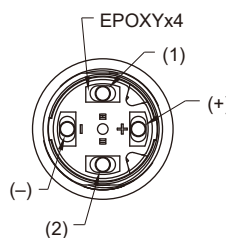
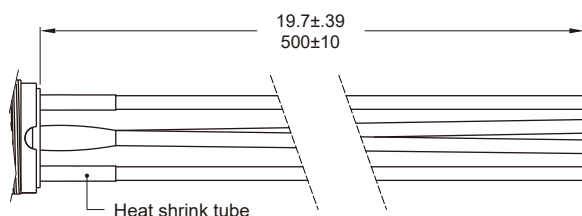


Part No. Shown : MPB16-A3FP-□-JR-0V



**DIMENSION**
**P** Power logo


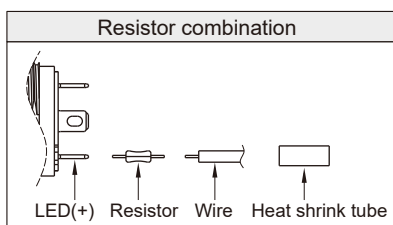
Part No. Shown : MPB16-CARP-RGB-JR-0V

**PANEL CUTOUT / HARDWARE**
**PANEL CUTOUT**
**CA/CB/A1 Type**

**A3 Type**

**A2 Type**

**HARDWARE**
**O-RING**

**M16 NUT**

**T1** ※ Wire=Multi-wire lead AWG20, section 0.6mm<sup>2</sup>, UL approved

**Non-LED**

DESCRIPTION	WIRE COLOR
TERMINAL 1	BLACK
TERMINAL 2	BLACK

**With LED**

DESCRIPTION	WIRE COLOR
TERMINAL 1	BLACK
TERMINAL 2	BLACK
LED+	RED
LED-	GREEN





**SPECIFICATIONS**

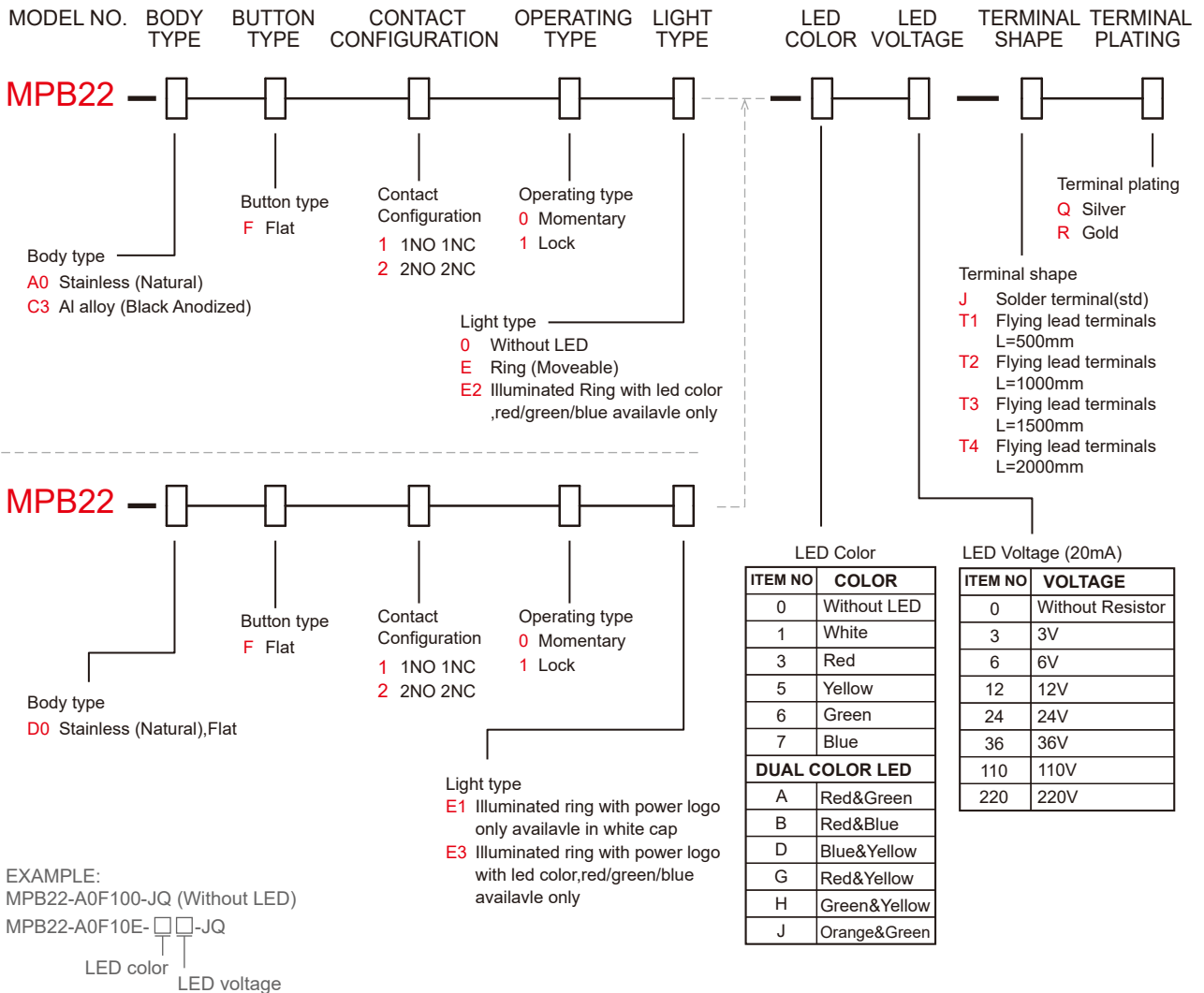
**RATING :** lth 5A/250VAC resistive load 3A/250VAC  
**CONTACT RESISTANCE :** 50 mΩ max. @ 1A 12VDC (initial value)  
**INSULATION RESISTANCE :** 1,000 MΩ min. at 500VDC  
**DIELECTRIC STRENGTH :** 2,000V RMS @ sea level  
**OPERATION TEMPERATURE :** -20°C to 55°C  
**MECHANICAL LIFE :** Momentary 1,000,000 cycles  
 Self-lock 500,000 cycles  
**ELECTRICAL LIFE :** 50,000 make-and-break cycles at full load  
**TORQUE :** 5~14Nm  
**PANEL THICKNESS :** 10mm (Ø22.00mm)  
**OPERATION PRESSURE :** 1Pole 2.5±1N / 2Poles 3.5±1N  
**TRAVEL :** About 3.2mm  
**INGRESS PROTECTION :** IP67, IK10(Stainless)

**MATERIALS**

**BUSHING :** Stainless Steel / Aluminum alloy  
**BASE :** PBT(UL 94-V0) , PC(UL 94-V2)  
**ACTUATOR :** PC; Stainless Steel / Aluminum alloy  
**INNER ASSEMBLY :** POM / PA66.  
**SPRING :** Spring steel.  
**SEALING :** Silicone.  
**O-Ring :** Silicone.  
**TERMINAL :** Brass,with silver or gold plated.  
**CONTACT :** Brass,coin silver,with silver or gold plated.  
**HEX NUT :** Nickel plated brass



**HOW TO ORDER**



**CIRCUIT**

POSITION 1

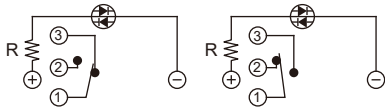


POSITION 2

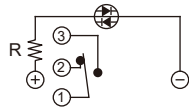


Without LED (1 Pole)

POSITION 1

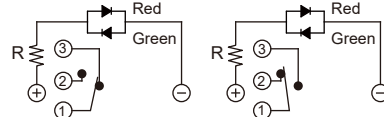


POSITION 2

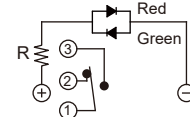


Single Color Led (1 Pole)

POSITION 1

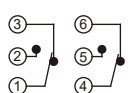


POSITION 2

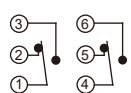


Dual Color Led (1 Pole)

POSITION 1

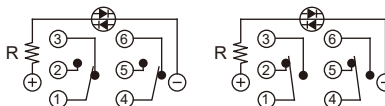


POSITION 2

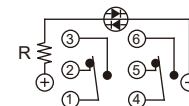


Without LED (2 Poles)

POSITION 1

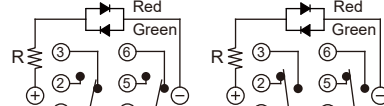


POSITION 2

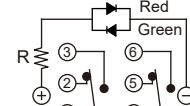


Single Color Led (2 Poles)

POSITION 1



POSITION 2

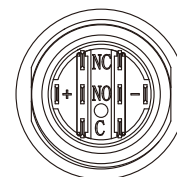
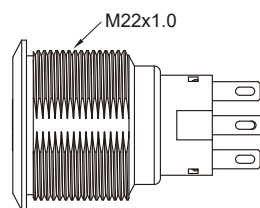
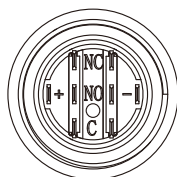
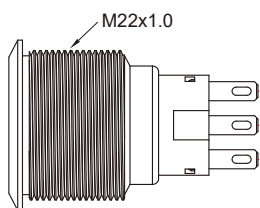


Dual Color Led (2 Poles)

**BODY TYPE**

**A0/C3** Body

**D0** Body (Flat)

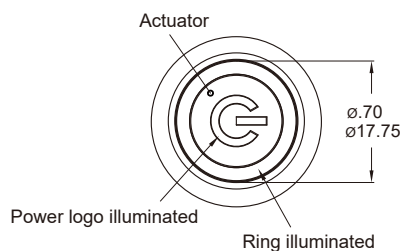
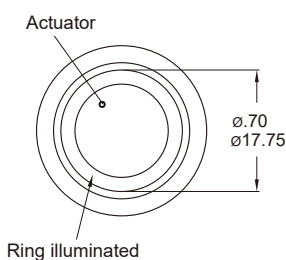
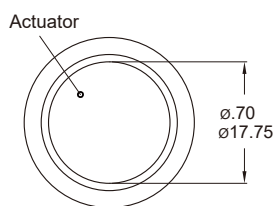


**LIGHT TYPE**

**0** Without LED

**E** Ring (Moveable)

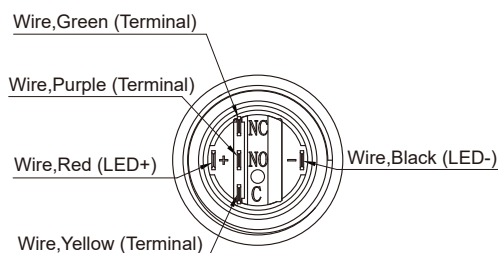
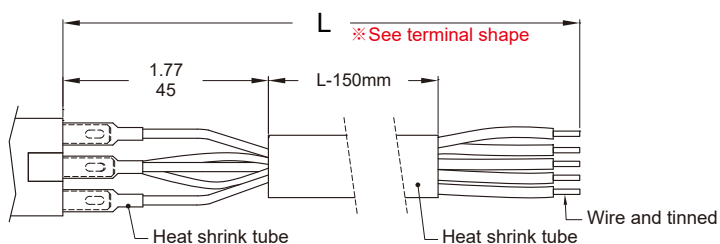
**E3** Ring+Power logo

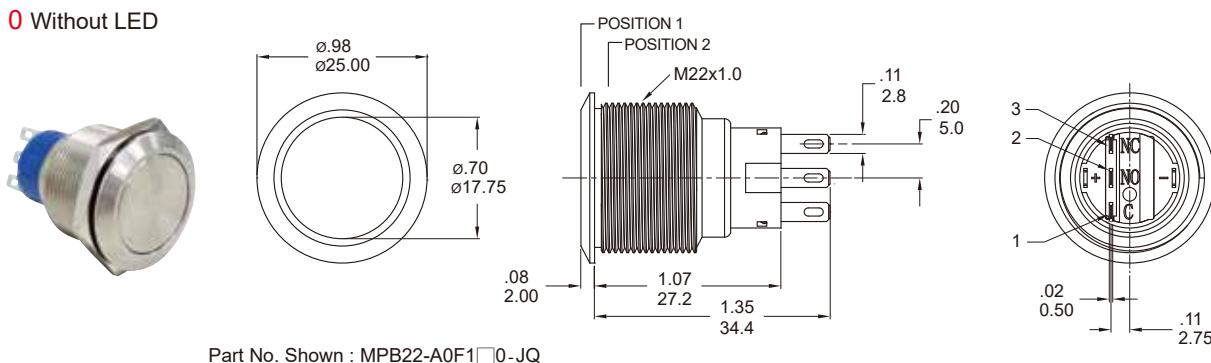


\* Only for D0 body.

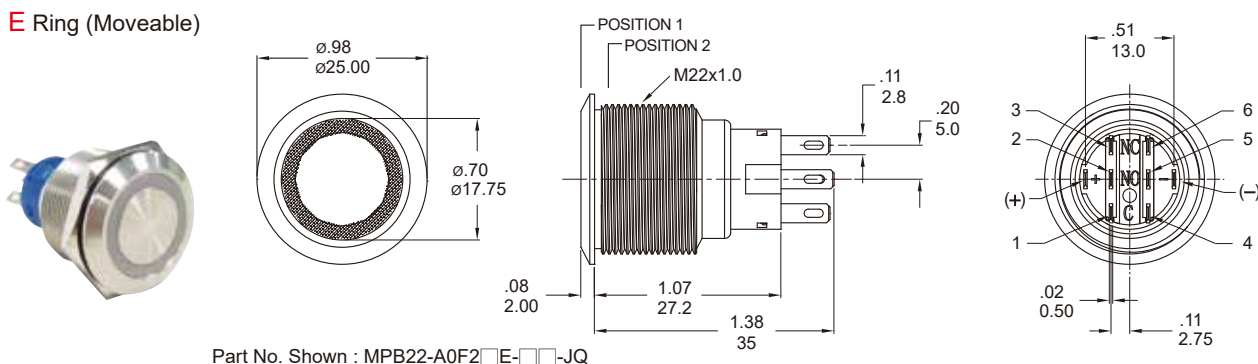
**Wire** (Flying lead Terminals)

※Wire=UL 3385,18AWG,300V(Black/Yellow/Green/Red/Purple)

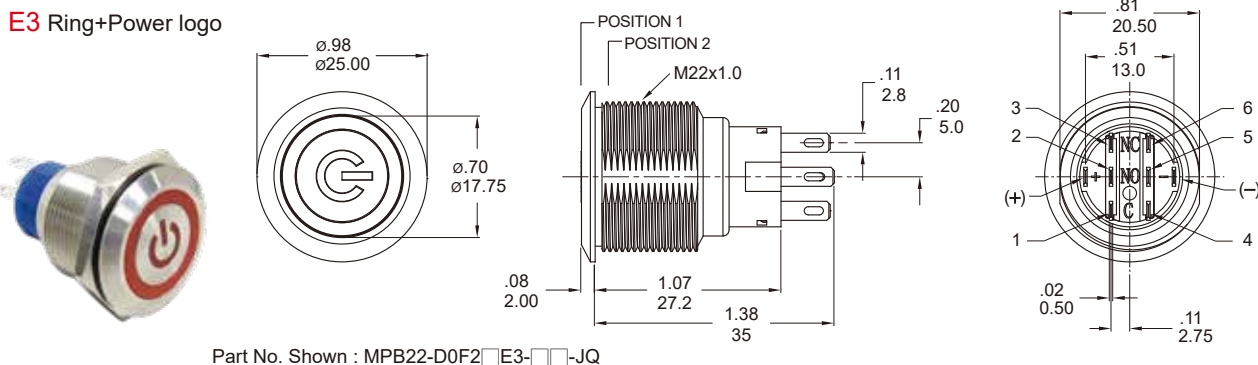


**LIGHT TYPE**
**0** Without LED


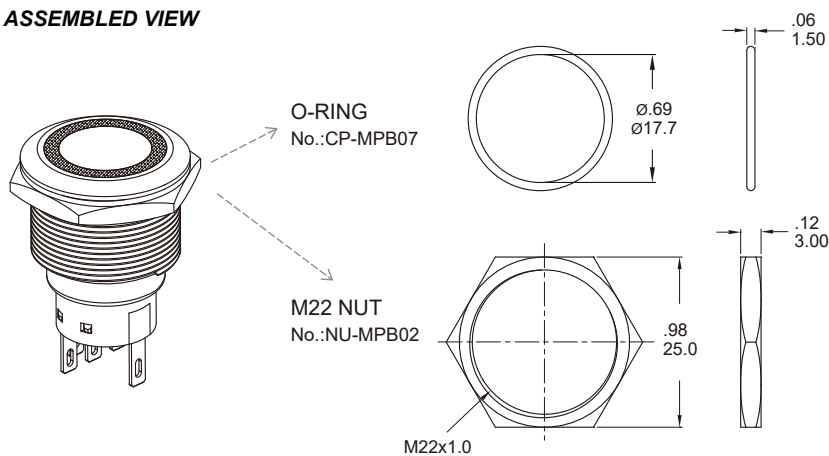
Part No. Shown : MPB22-A0F1□0-JQ

**E** Ring (Moveable)


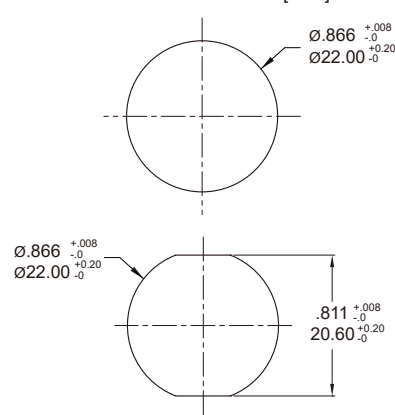
Part No. Shown : MPB22-A0F2□E-□□-JQ

**E3** Ring+Power logo


Part No. Shown : MPB22-D0F2□E3-□□-JQ

**ASSEMBLED VIEW**

**PANEL MOUNTING**

Max. Panel thickness: 10.0mm[.394]


**O-RING INSTALLATION**

Proposal	In front of the panel	Behind the panel
Installation Diagram		



**SPECIFICATIONS**

**RATING :** 2A/36VDC  
**ELECTRICAL LIFE:** 200,000 make-and-break cycles at full load.  
**MECHANICAL LIFE:** 1,000,000. Cycles  
**DIELECTRIC STRENGTH:** 2,000V RMS@sea level  
**CONTACT RESISTANCE:** 50mΩ MAX.@1A 12VDC(initial value)  
**OPERATING TEMPERATURE:** -20°C to 70°C  
**TRAVEL:** ABOUT 1.8mm  
**OPERATION PRESSURE:** 4.5±1.5N  
**INGRESS PROTECTION:** IP67,IK10(Stainless)  
**TORQUE:** 1~3Nm  
 Current limiting resistor is required to limit led forward current to 20mA

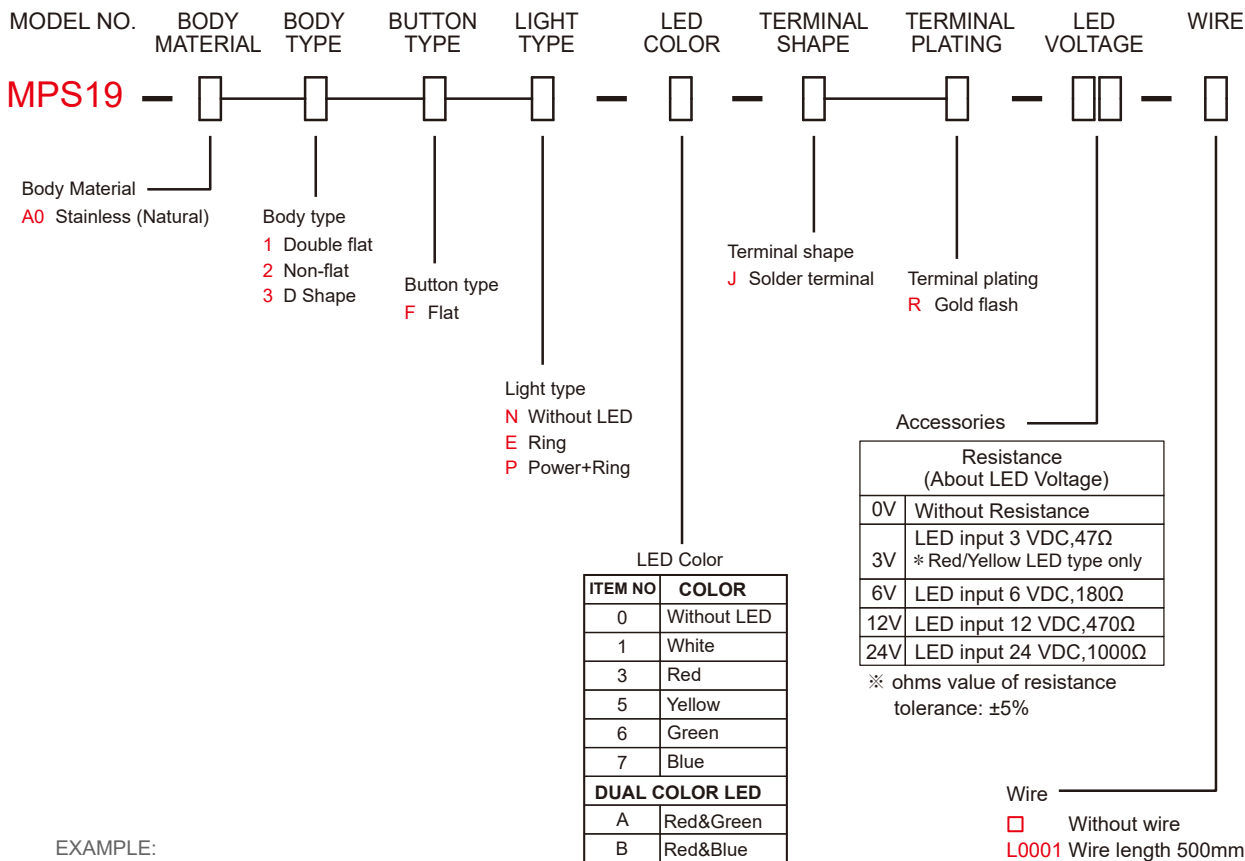
**MATERIALS**

**BUSHING :** Stainless Steel  
**BASE :** PA66,White UL-94V0  
**ACTUATOR :** PC, Translucent UL-94V2  
 Stainless Steel  
**INNER ASSEMBLY :** PC,Transparent UL-94V2  
**SPRING :** Spring steel  
**SEALING :** Silicone,Translucent  
**O-Ring :** Silicone  
**TERMINAL :** Brass ,Gold flash plated  
**CONTACT :** Brass,Sliver alloy  
**HEX NUT :** Brass,Nickel plated

IP 67  
 ACCORDING TO  
 EN 60529:1991+A1:2001  
 IEC 60529:2001

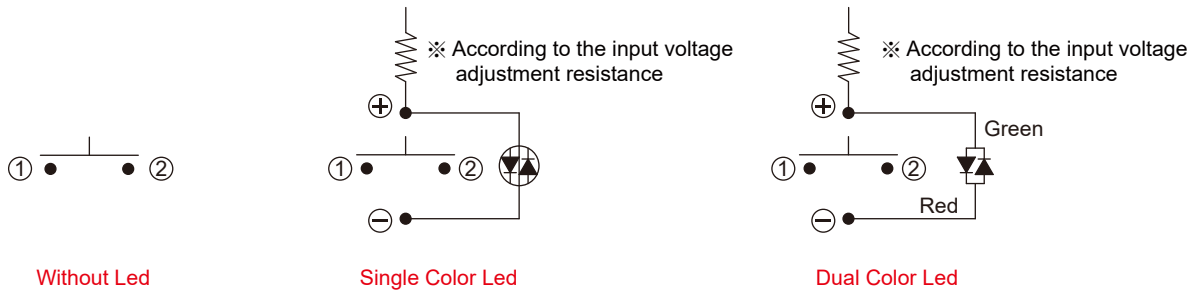


**HOW TO ORDER**



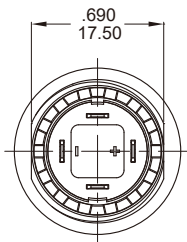
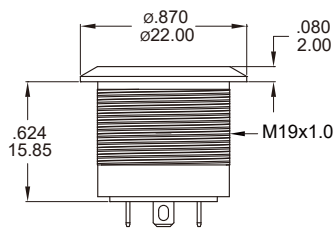
EXAMPLE:  
 MPS19-A01FN-0-JR-0V (Without LED)  
 MPS19-A01FE-[ ]-JR-[ ]V  
 LED color LED voltage  
 MPS19-A01FE-3-JR-12V-L0001(Wire)

**CIRCUIT**

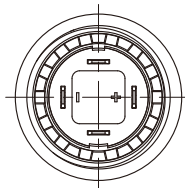
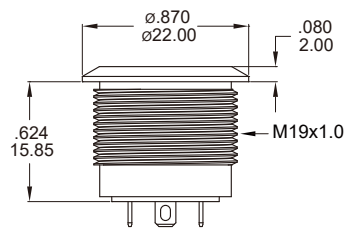


**BODY TYPE**

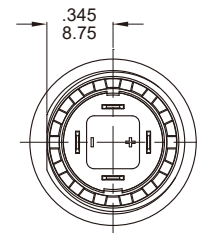
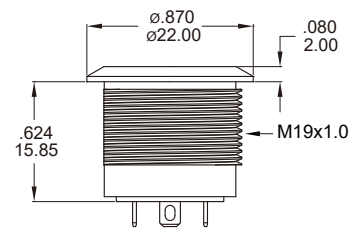
Double flat



Non-flat

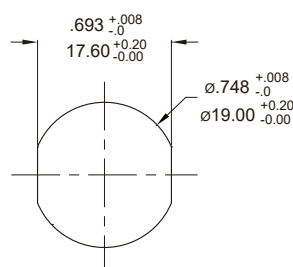


D Shape

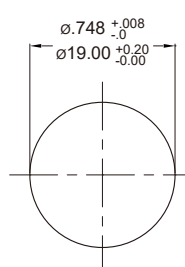


**PANEL CUTOUT**

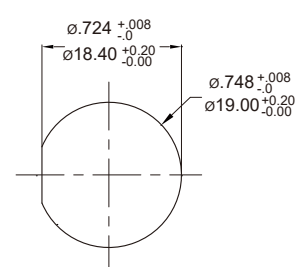
Thickness: 6.0mm(Max.)



Double flat



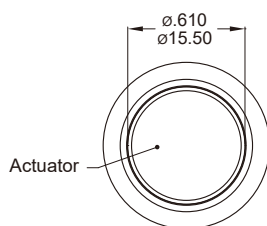
Non-flat



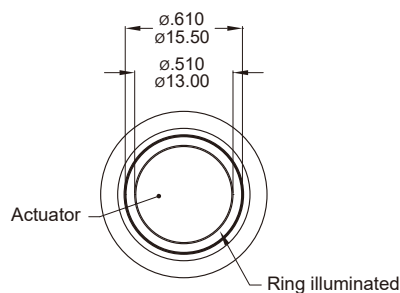
D Shape

**LIGHT TYPE**

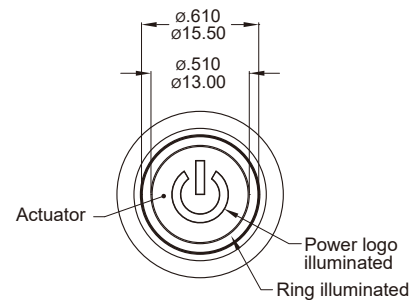
**N** Without LED



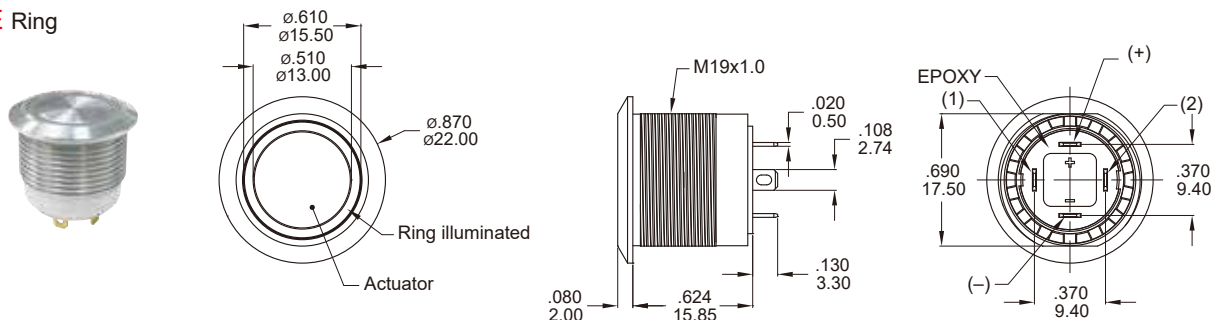
**E** Ring



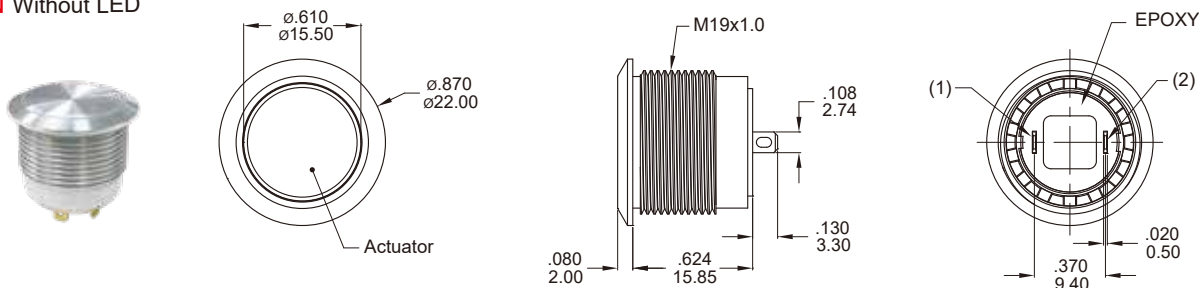
**P** Power+Ring



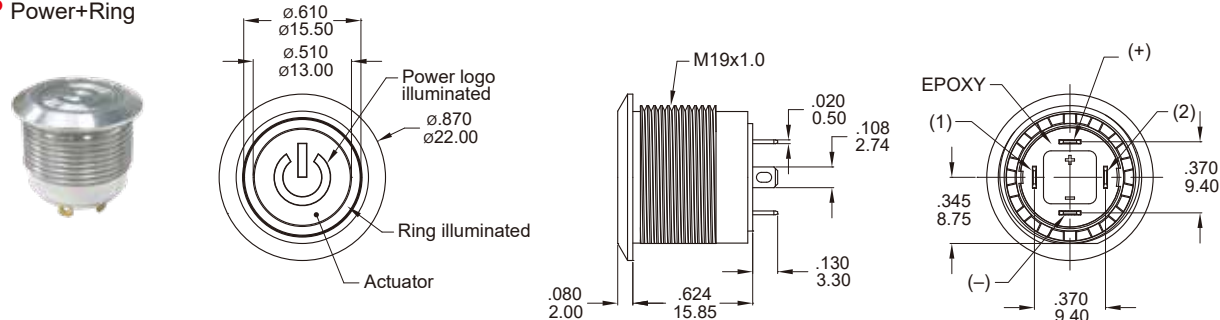


**LIGHT TYPE**
**E Ring**


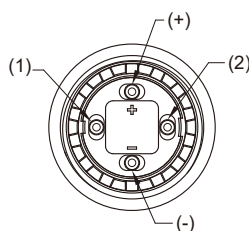
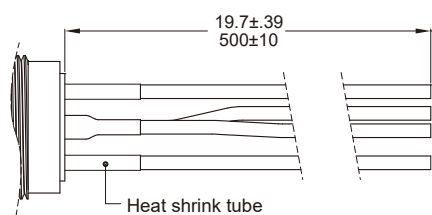
Part No. Shown : MPS19-A01FE-□-JR-□V

**N Without LED**


Part No. Shown : MPS19-A02FN-0-JR-0V

**P Power+Ring**


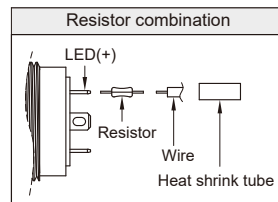
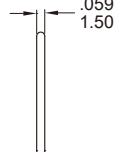
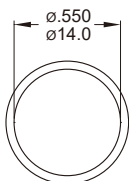
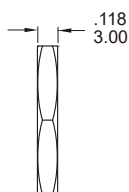
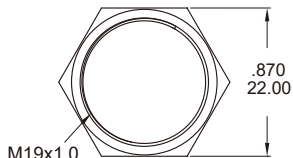
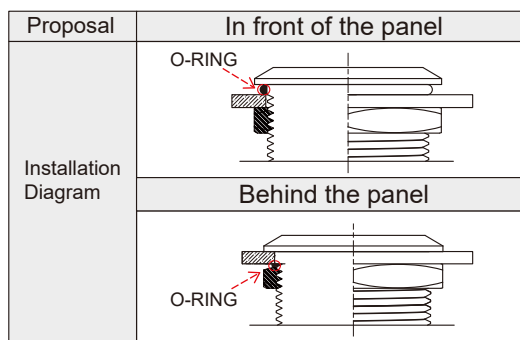
Part No. Shown : MPS19-A03FP-□-JR-□V

**L0001** ※ Wire=Multi-wire lead AWG20, section 0.6mm<sup>2</sup>, UL approved

**Non-LED**

Description	Wire color
Terminal 1	Black
Terminal 2	Black

**With LED**

Description	Wire color
Terminal 1	Black
Terminal 2	Black
LED+	Red
LED-	Green


**ADDITIONAL**
**O-RING**  
No.:CP-PY02

**M19 NUT**  
No.:NU-MPB01

**O-RING INSTALLATION**




SPECIFICATIONS

RATING : 2A/36VDC
ELECTRICAL LIFE: 200,000 make-and-break cycles at full load.
MECHANICAL LIFE: 1,000,000. Cycles
DIELECTRIC STRENGTH: 2,000V RMS@sea level
CONTACT RESISTANCE: 50mΩ MAX.@1A 12VDC(initial value)
OPERATING TEMPERATURE: -20°C to 70°C
TRAVEL: ABOUT 1.8mm
OPERATION PRESSURE: 4.5±1.5N
INGRESS PROTECTION: IP67,IK10(Stainless)
TORQUE: 1~3Nm
Current limiting resistor is required to limit led forward current to 20mA

MATERIALS

BUSHING : Stainless Steel
BASE : PA66,White UL-94V0
ACTUATOR : PC,Translucent UL-94V2
Stainless Steel
INNER ASSEMBLY : PC,Transparent UL-94V2
SPRING : Spring steel
SEALING : Silicone,Translucent
O-Ring : Silicone
TERMINAL : Brass ,Gold flash plated
CONTACT : Brass,Silver alloy
HEX NUT : Brass,Nickel plated

IP 67
ACCORDING TO
EN 60529:1991+A1:2001
IEC 60529:2001

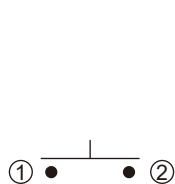


HOW TO ORDER

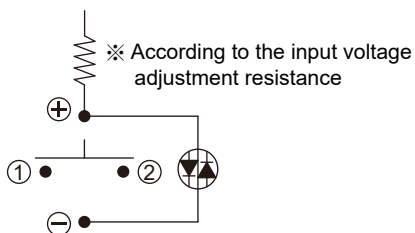
MODEL NO. BODY MATERIAL BODY TYPE BUTTON TYPE LIGHT TYPE LED COLOR TERMINAL SHAPE TERMINAL PLATING LED VOLTAGE WIRE
MPS25
Body Material: A0 Stainless (Natural)
Body type: 1 Double flat, 2 Non-flat, 3 D Shape
Button type: F Flat
Light type: E Ring, P Power+Ring
Terminal shape: J Solder terminal
Terminal plating: R Gold flash
LED Color table: ITEM NO, COLOR (0 Without LED, 1 White, 3 Red, 5 Yellow, 6 Green, 7 Blue)
Dual Color LED table: A Red&Green, B Red&Blue
Resistance table: 0V Without Resistance, 3V LED input 3 VDC, 47Ω, 6V LED input 6 VDC, 180Ω, 12V LED input 12 VDC, 470Ω, 24V LED input 24 VDC, 1000Ω
Wire: Without wire, L0001 Wire length 500mm

EXAMPLE:
MPS25-A01FE-0-JR-0V (Without LED)
MPS25-A01FE-□-JR-□V
LED color LED voltage

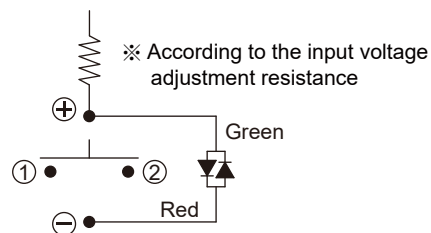
**CIRCUIT**



Without Led



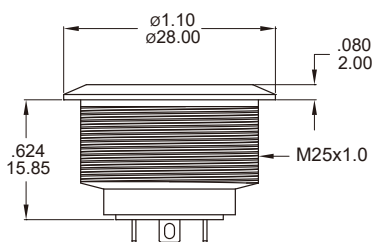
Single Color Led



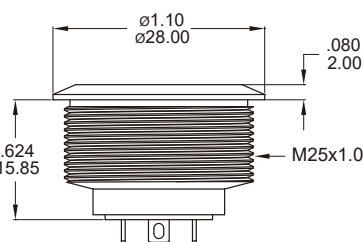
Dual Color Led

**BODY TYPE**

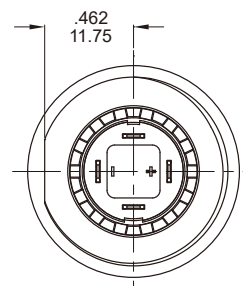
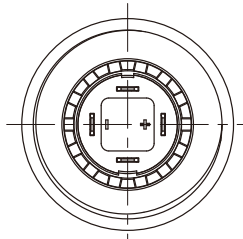
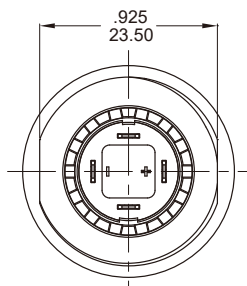
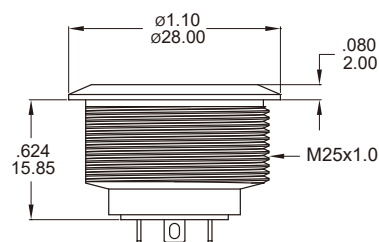
Double flat



Non-flat

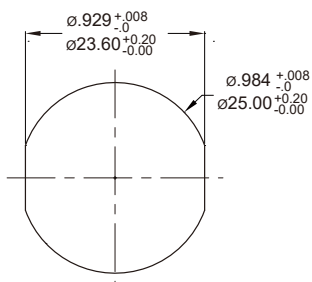


D Shape

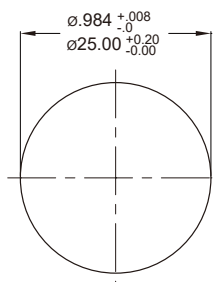


**PANEL CUTOUT**

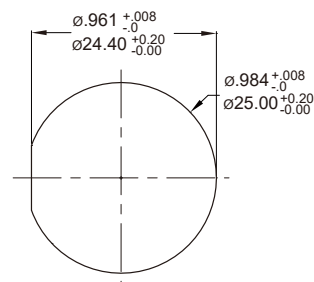
Thickness: 6.0mm(Max.)



Double flat



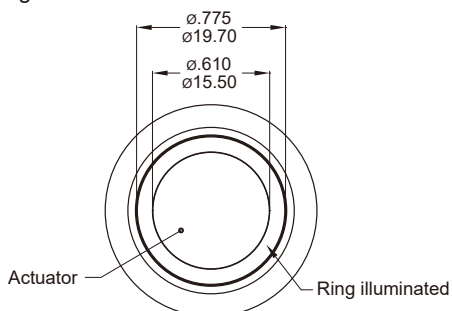
Non-flat



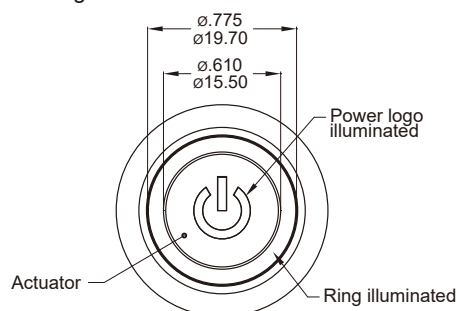
D Shape

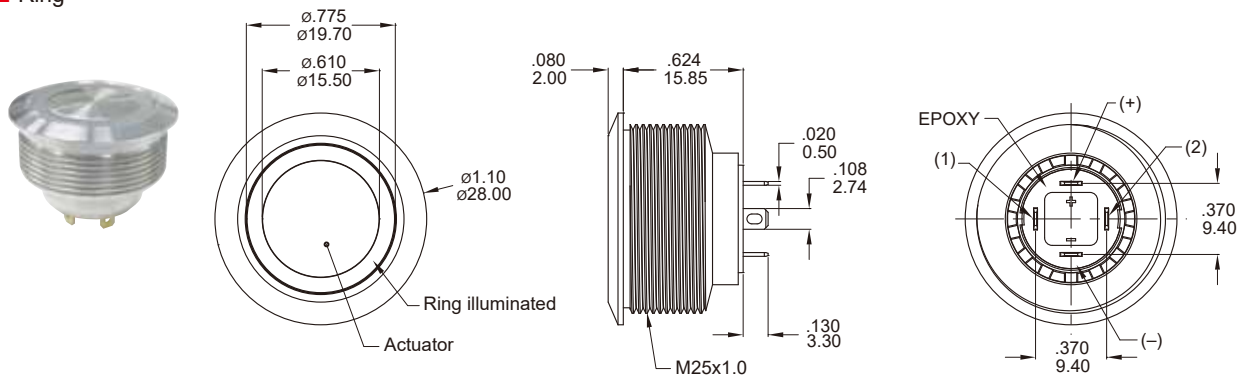
**LIGHT TYPE**

**E** Ring

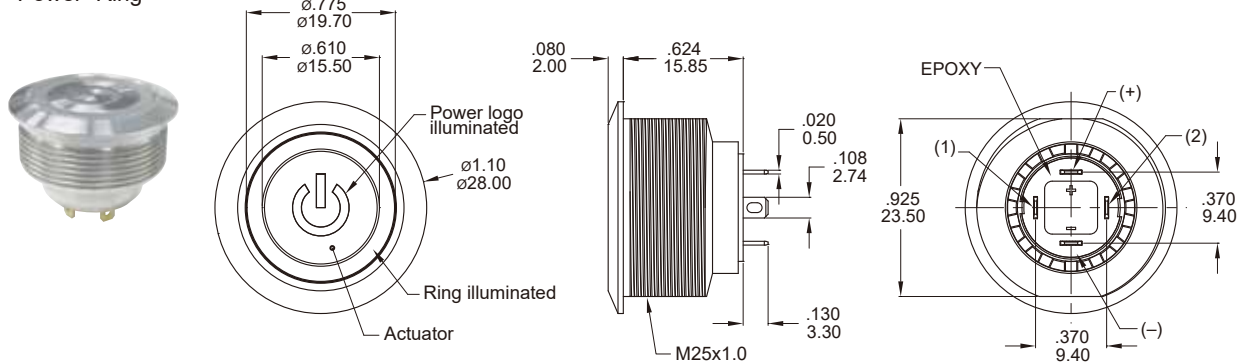


**P** Power+Ring

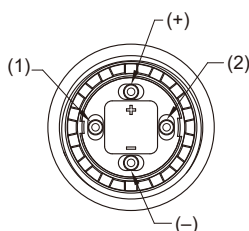
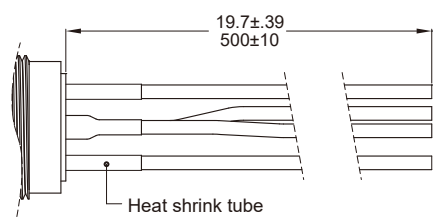


**LIGHT TYPE**
**E Ring**


Part No. Shown : MPS25-A02FE-□-JR-□V

**P Power+Ring**


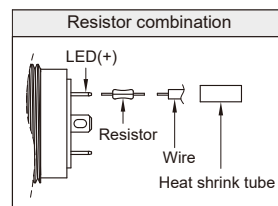
Part No. Shown : MPS25-A01FP-□-JR-□V

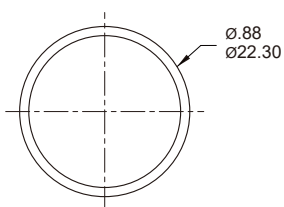
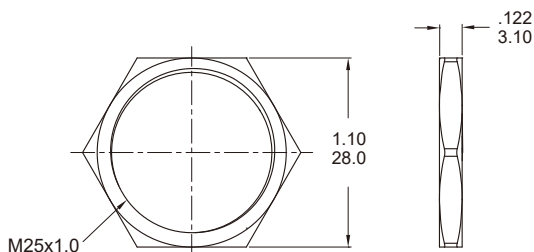
**L0001** ※ Wire=Multi-wire lead AWG20, section 0.6mm<sup>2</sup>, UL approved

**Non-LED**

Description	Wire color
Terminal 1	Black
Terminal 2	Black

**With LED**

Description	Wire color
Terminal 1	Black
Terminal 2	Black
LED+	Red
LED-	Green


**ADDITIONAL**

 O-RING  
No.:CP-MPB25

 M25 NUT  
No.:NU-MPB03

**O-RING INSTALLATION**
