

Company's operation philosophy

- **Honest And Sincerity**
 Treat customers, suppliers, shareholders and employees with sincerity and honesty; give conscientious responsibility to the society.
- **Excellence**
 To reach the goal of company's growth, The plant encourages research, development and innovation with the spirit of transcending ourselves.
- **Sharing**
 Create team benefits and share achievements by labors' specialization, division and the integration of common values.

The plant has established its own mold's research and development center. The research and development of precise mold and operating technology fulfill the various specifications requirements of switches and provide an integrated solution to capacity management.



Quality Control Is An Insistence For Perfection

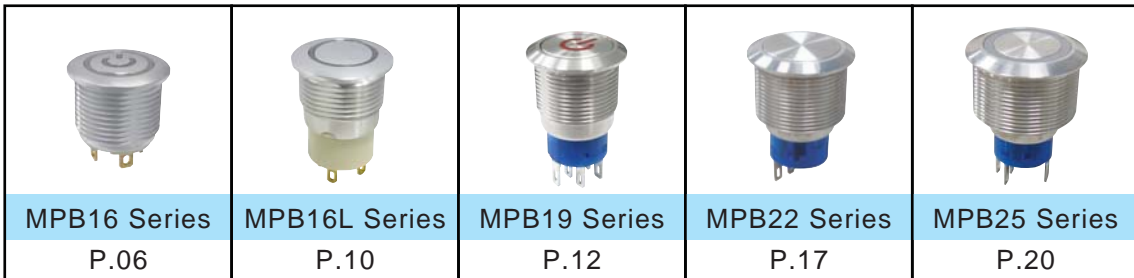
The plant insists on product's stability and quality. In September, 1997 and June, 2000, The plant has passed ISO9002 and ISO9001 international standard certifications respectively. In 2010, The plant has successfully adopted the new version of ISO9001. The company's products have passed the stringent inspections of TUV and UL

INDEX

◆ Sub-miniature Pushbutton Switches



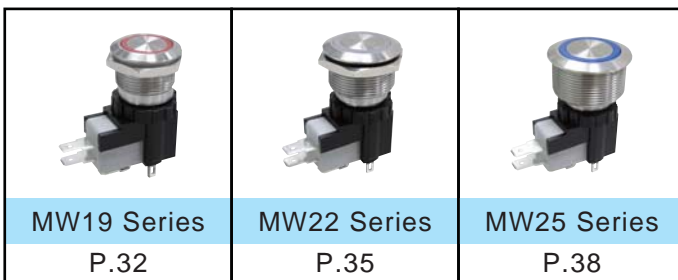
◆ Metal Pushbutton Switches



◆ Short Metal Pushbutton Switches



◆ High Current Metal Pushbutton Switches



◆ Illuminated Pushbutton Switches



◆ Capacitive Switches



◆ Piezo Switches





Sub-Miniature Pushbutton Switches

PF

SPECIFICATION:

MAX. CURRENT/VOLTAGE RATING WITH RESISTIVE LOAD :

400mA 32VAC - 200 mA 50VDC - 125 mA 125VAC.

INITIAL CONTACT RESISTANCE : 50mΩmax.

INSULATION RESISTANCE : 1GΩmin.at 500VDC.

DIELECTRIC STRENGTH : 1,500 VAC rms.

ELECTRICAL LIFE AT FULL LOAD : 500,000 cycles.

OPERATING TEMPERATURE : -30°C to 85°C.

PANEL THICKNESS : 1.5 mm (.059) min. -4 mm (.157) max.

TOTAL TRAVEL : 1.5 mm(.059)

OPERATING FORCE : 3N~6N

CONTACT BOUNCE : 10 ms.

MECHANICAL LIFE : 1,000,000 cycles.

TORQUE : 0.5 Nm max.applied to nut

DEGREE OF PROTECTION: IP68

MANUAL SOLDERING:

Use soldering iron of 30 watts, controlled at 350°C approximately 5 seconds while applying solder.

WAVE SOLDERING:

Recommended Soldering Temperature: 260 ± 5°C

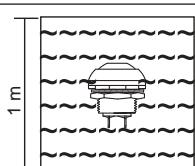
※ Ambient temperature of the soldered Surface of PC board.110°C Max.

Duration of Solder Immersion: Max 5 sec.(PCB is 1.6mm in thickness)



IP 68 for the whole series:

Protected against the effects of immersion up to 1 m water(60min)



MATERIALS

CAP: Polyamide 6/6.

PLUNGER: PFS6:PC / PFS7:Polyamide 6/6.

RUBBER: Silicone.

BUSHING: Polyamide 6/6.

CASE: Diallyl phthalate (DAP)(UL94v-0).

TERMINAL/CONTACTS:Gold over silver plated.

HOW TO ORDER

PF

Model NO.

PFS6 SP Off-Mom.

PFS7 SP On-Mom.(Without LED)

Bushing

B2 Threaded bushing

Cap Color

0 **M** Flat,Matte

A **S** Round,Bright(Non-LED)

G **S** High,Bright(Non-LED)

* Only flat cap available with LED.

CAP COLOR	ITEM NO.		
White	01M	A1S	G1S
Black (Std)	02M	A2S	G2S
Red (Std)	03M	A3S	G3S
Yellow	05M	A5S	G5S
Green	06M	A6S	G6S
Blue	07M	A7S	G7S

* Besides standard color, other colors need to check stocks available.

LED Color

ITEM NO	COLOR
L00	Without LED
L01	White
L03	Red
L05	Yellow
L06	Green
L07	Blue

Additional hardware

05 Additional hardware

RoHS soldering

S Rohs & Lead Free

Seal

A Sealed (STD)

Contact material

C Gold over silver

Terminations

M1 3.50 high,Solder lug(PFS6 only,Non-LED)

3.40 high,Solder lug(with LED and PFS7 Non-LED)

M2 5.50 high,Solder lug(PFS6 only,Non-LED)

M3 8.20 high,Solder lug(PFS6 only,Non-LED)

M4 3.50 high,PC thru-hole(PFS6 only,Non-LED)

EXAMPLE:

PFS6B2A2SM1CAS05L00(Without LED)

PFS6B20 MM1CAS05L

└─ CAP color ─┬─ LED Color

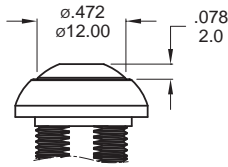
SWITCH FUNCTION

NO. POLES	MODEL NO.	SWITCH FUNCTION		CONNECTED TERMINALS / SCHEMATIC	
		POS.1	POS.2	POS.1	POS.2
SP	PFS6	OFF	MOM(ON)	OPEN	CLOSE
SP	PFS7	ON	MOM(OFF)	CLOSE	OPEN

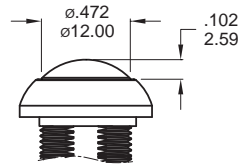
MOM=MOMENTARY

CAP OPTIONS

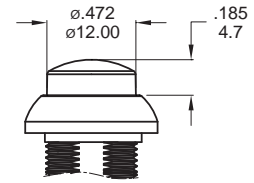
FLAT



ROUND Non-LED

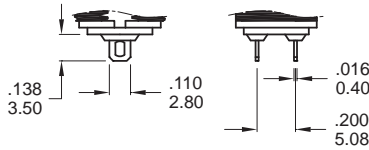


HIGH Non-LED

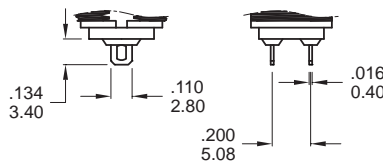


TERMINATION OPTIONS

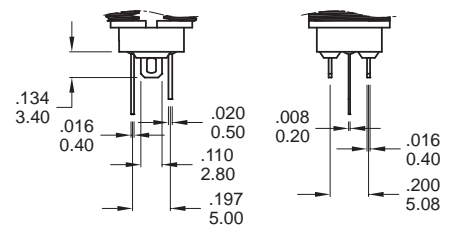
M1 Solder lug



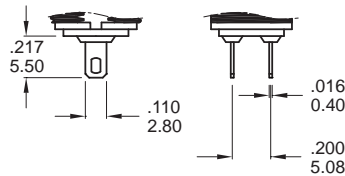
M1 Solder lug (PAS7)



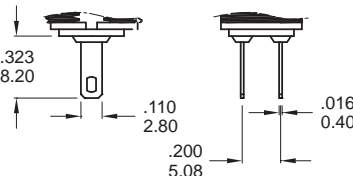
M1 Solder lug (PAS6, With LED)



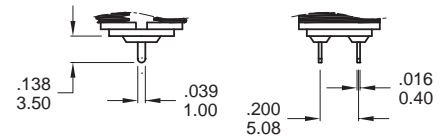
M2 Solder lug



M3 Solder lug

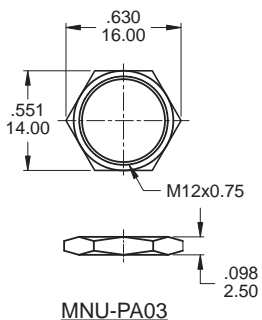


M4 PC Thru-hole

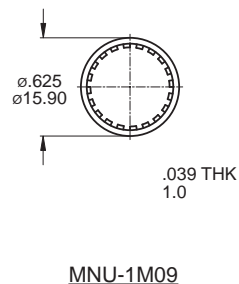


HARDWARE

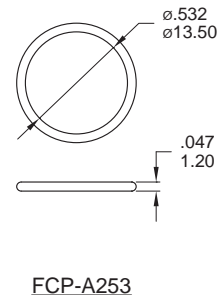
M12 NUT



LOCK WASHER

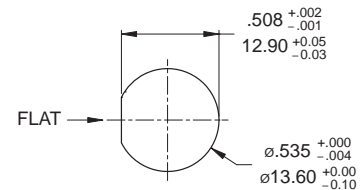


O-RING



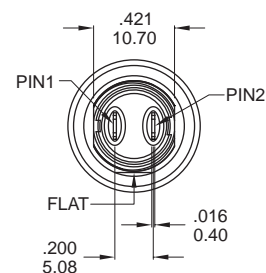
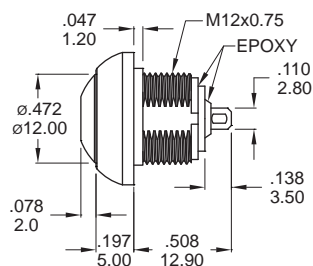
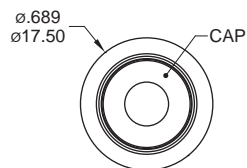
PANEL CUT-OUT

THICKNESS: 1.5 mm ~ 4.0 mm



Sub-Miniature Pushbutton Switches

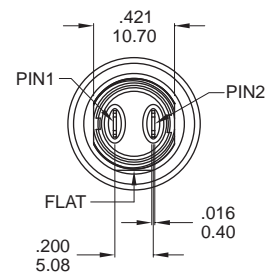
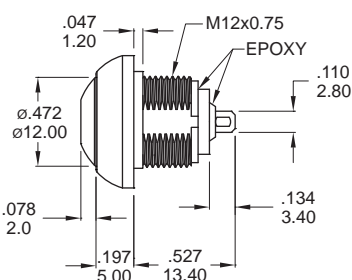
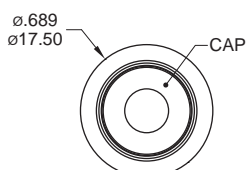
SPST



Bottom View

Part No. Shown :
PFS6B207MM1CAS05L00

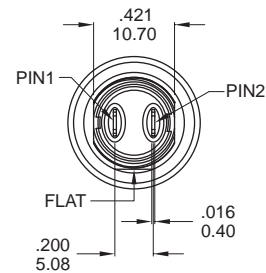
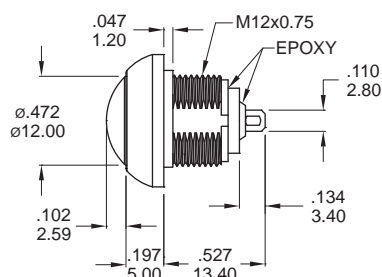
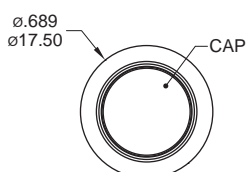
SPST



Bottom View

Part No. Shown :
PFS7B202M1CAS05L00

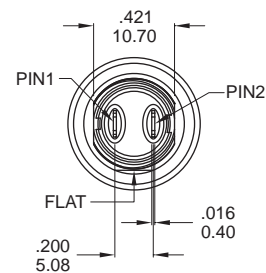
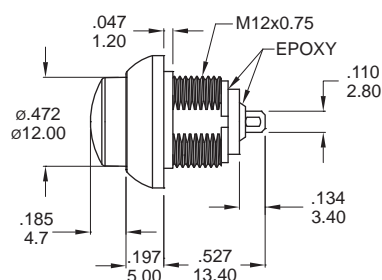
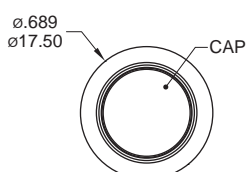
SPST



Bottom View

Part No. Shown :
PFS6B2A3S1CAS05L00

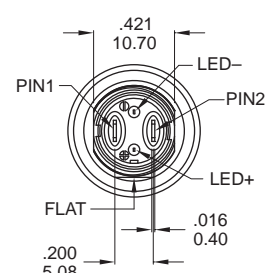
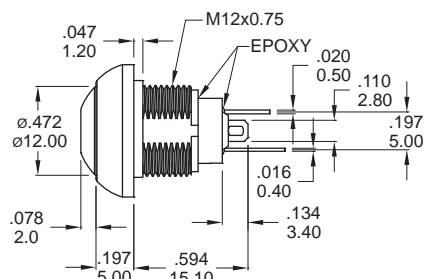
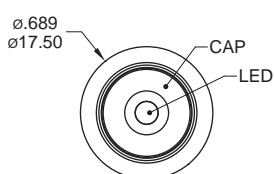
SPST



Bottom View

Part No. Shown :
PFS6B2G2S1CAS05L00

SPST



Bottom View

Part No. Shown :
PFS6B205M1CAS05L01

SPECIFICATION

MAX. CURRENT/VOLTAGE RATING WITH RESISTIVE LOAD :

400mA 32VAC - 200 mA 50VDC - 125 mA 125VAC.

INITIAL CONTACT RESISTANCE : 100mΩmax.

※When the switches with the wire assembly, we only test the electric conduction and will not test the contact resistance on the wire.

INSULATION RESISTANCE : 1GΩmin.at 500VDC.

DIELECTRIC STRENGTH : 1,500 VAC rms.

ELECTRICAL LIFE AT FULL LOAD : 500,000 cycles.

OPERATING TEMPERATURE : -30°C to 85°C.

PANEL THICKNESS : 1.5 mm (.059) min. -4 mm (.157) max.

TOTAL TRAVEL : 1.5 mm(.059)

OPERATING FORCE : 3N~6N

CONTACT BOUNCE : 10 ms.

MECHANICAL LIFE : 1,000,000 cycles.

TORQUE : 0.5 Nm max.applied to nut

DEGREE OF PROTECITON: IP68

MANUAL SOLDERING:

Use soldering iron of 30 watts, controlled at 350°C approximately 5 seconds while applying solder.

WAVE SOLDERING:

Recommended Soldering Temperature: 260 ± 5°C

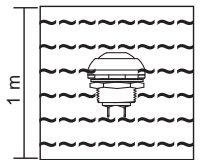
※ Ambient temperature of the soldered Surface of PC board.110°C Max.

Duration of Solder Immersion: Max 5 sec.(PCB is 1.6mm in thickness)



IP 68 for the whole series:

Protected against the effects of immersion up to 1 m water(60min)



MATERIALS

CAP: Polyamide 6/6.

PLUNGER: PFS6:PC / PFS7:Polyamide 6/6.

RUBBER: Silicone.

BUSHING: Polyamide 6/6.

CASE: Diallyl phthalate (DAP)(UL94v-0).

TERMINAL/CONTACTS:Gold over silver plated.

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

HOW TO ORDER

PF

Model NO. _____

PFS6 SP Off-Mom.

PFS7 SP On-Mom.(Without LED)

Bushing _____

B2 Threaded bushing

Cap Color _____

0 **M** Flat,Matte

A **S** Round,Bright(Non-LED)

G **S** High,Bright(Non-LED)

* Only flat cap available with LED.

CAP COLOR	ITEM NO.		
	Matte	Bright	Bright
White	01M	A1S	G1S
Black (Std)	02M	A2S	G2S
Red (Std)	03M	A3S	G3S
Yellow	05M	A5S	G5S
Green	06M	A6S	G6S
Blue	07M	A7S	G7S

* Besides standard color, other colors need to check stocks available.

Terminations _____

M1 Solder lug(STD)

Wire

S001 500mm leads cylinder(PFS6 only)

S002 90mm leads cylinder,stripping wire(PFS6 only)

S003 100mm leads cylinder(PFS6 only)

Y001 500mm leads heat shrink

Y002 90mm leads heat shrink,stripping wire

Y003 100mm leads heat shrink

LED Color

ITEM NO	COLOR
L00	Without LED
L01	White
L03	Red
L05	Yellow
L06	Green
L07	Blue

Additional hardware

05 Additional hardware

* See page 2

RoHS soldering

S Rohs & Lead Free

Seal

A Sealed (STD)

Contact material

C Gold over silver

EXAMPLE:

PFS6B202MM1CAS05L03-S001

└ Wire code

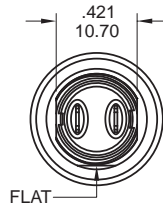
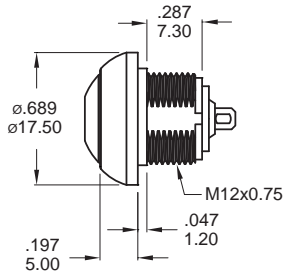
SWITCH FUNCTION

NO. POLES	MODEL NO.	SWITCH FUNCTION		CONNECTED TERMINALS / SCHEMATIC	
		POS.1	POS.2	POS.1	POS.2
SP	PFS6	OFF	MOM(ON)	OPEN	CLOSE
SP	PFS7	ON	MOM(OFF)	CLOSE	OPEN

MOM=MOMENTARY

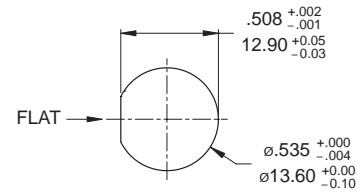
BUSHING

B2



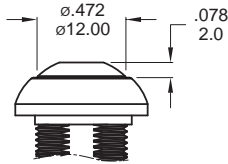
PANEL CUT-OUT

THICKNESS: 1.5 mm ~ 4.0 mm

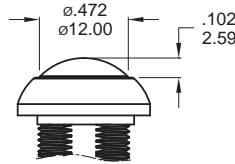


CAP OPTIONS

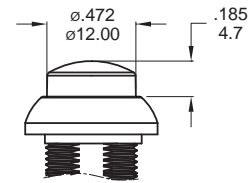
FLAT



ROUND Non-LED

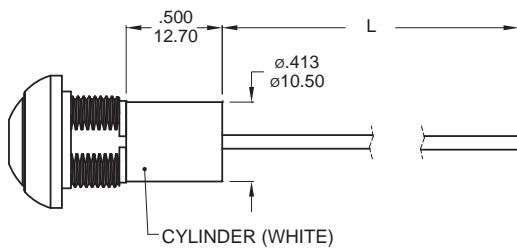


HIGH Non-LED



WIRE OPTIONS

SXXX Only for model type PFS6



WIRE LENGTH

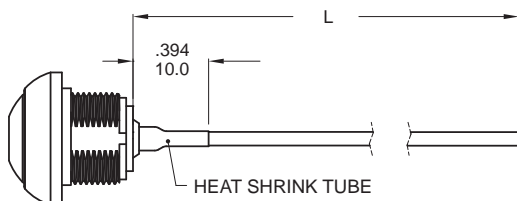
CODE	DIM "L"
S001	500±10(19.7±.394)
S002 *	90±5(3.54±.197)
S003	100±5(3.94±.197)
Y001	500±10(19.7±.394)
Y002 *	90±5(3.54±.197)
Y003	100±5(3.94±.197)



* Stripping wire for code S002 and Y002.

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

YXXX



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

MPB16

16mm Metal Pushbutton Switches

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



SPECIFICATIONS

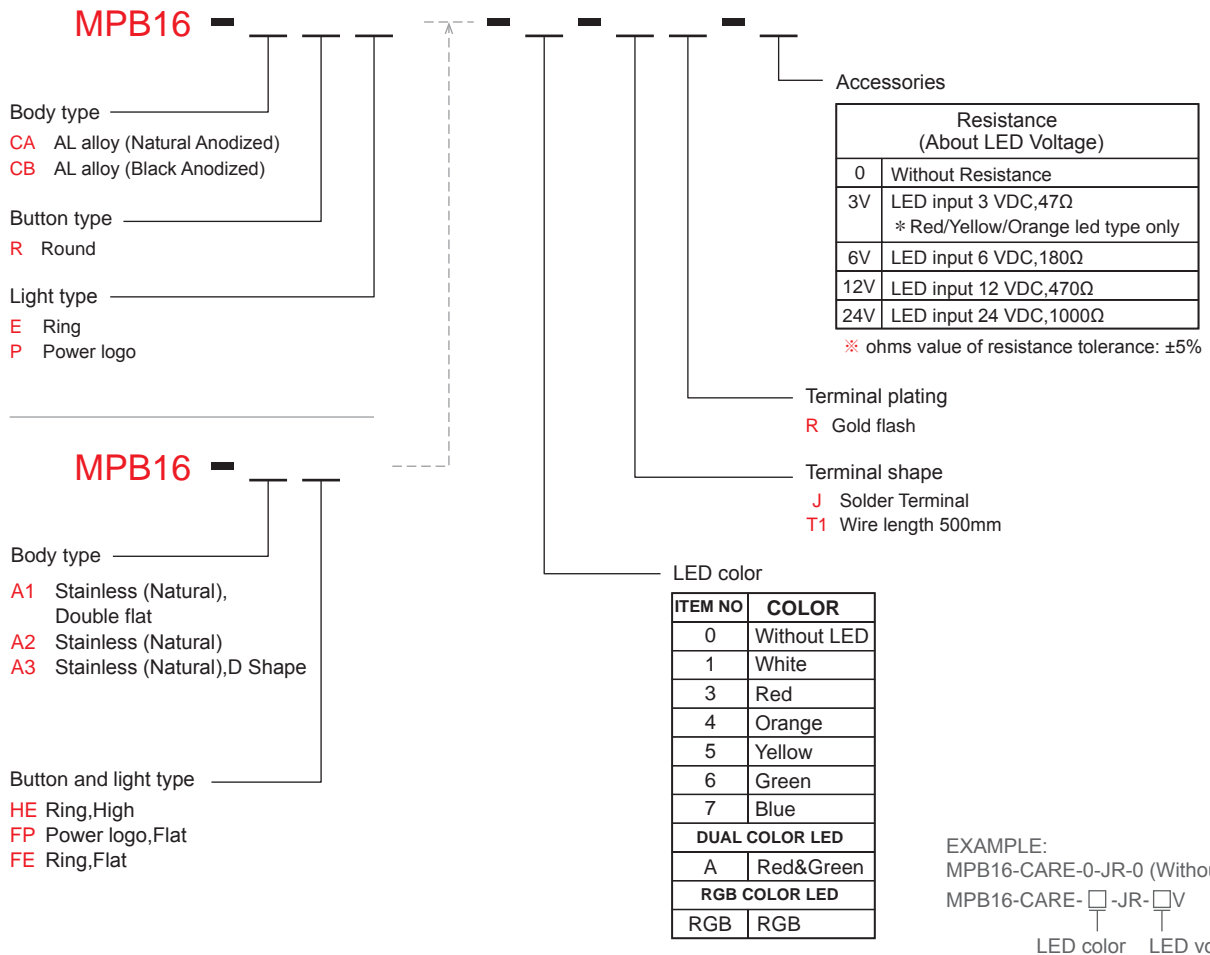
- RATING** : 2A/36VDC
 - ELECTRICAL LIFE** : 200,000 make-and-break cycles at full load
 - MECHANICAL LIFE** : 1,000,000 cycles
 - INSULATION RESISTANCE** : 1,000 MΩ min. at 500VDC
 - DIELECTRIC STRENGTH** : 2,000V RMS @ sea level
 - CONTACT RESISTANCE** : 50 mΩ max.
 - OPERATION TEMPERATURE** : -20°C~+70°C
 - 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).

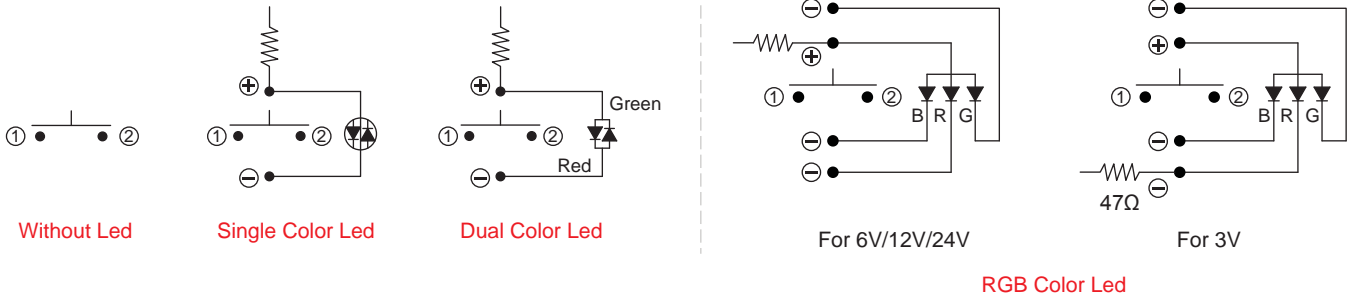
HOW TO ORDER



16mm Metal Pushbutton Switches

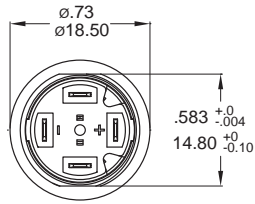
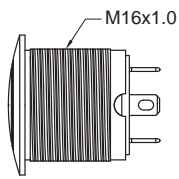
CIRCUIT

※ According to the input voltage adjustment resistance

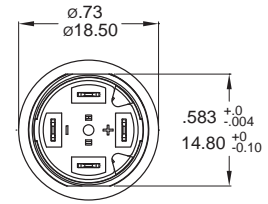
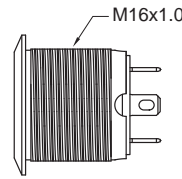


BODY TYPE

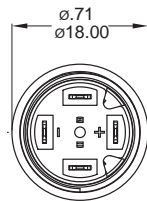
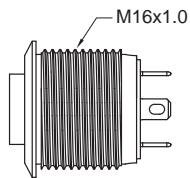
CA/CB Aluminum alloy



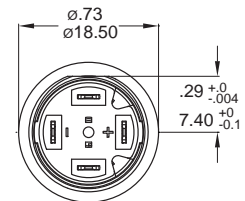
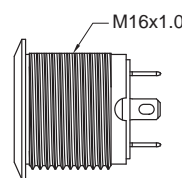
A1 Stainless Steel



A2 Stainless Steel



A3 Stainless Steel (D Shape)

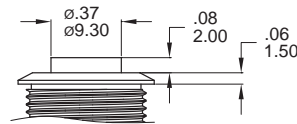


BUTTON TYPE

R Round Button



H High Button

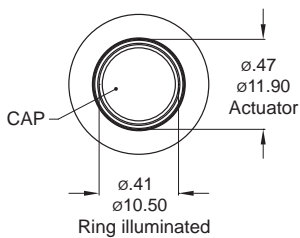


F Flat Button

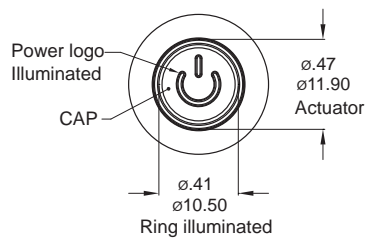


LIGHT TYPE

E Ring, Round

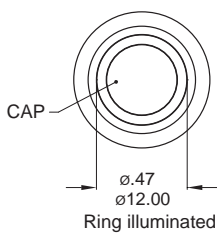


P Power logo, Round

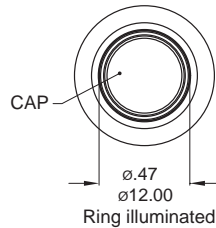


* E, P light type only for CA, CB body.
* HE, FE, FP light type only for A1, A2, A3 body.

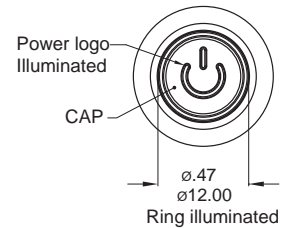
HE Ring, High



FE Ring, Flat



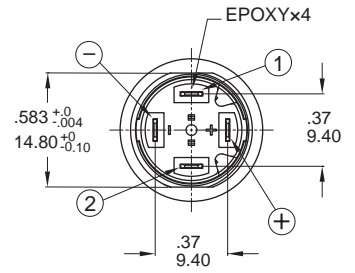
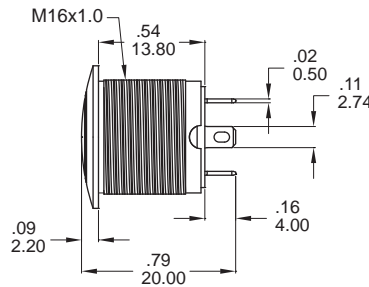
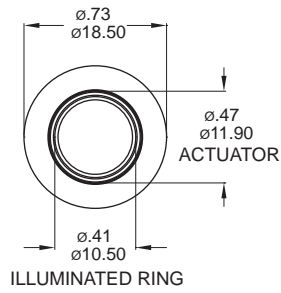
FP Power logo, Flat



MPB16

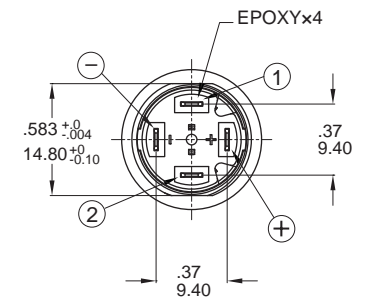
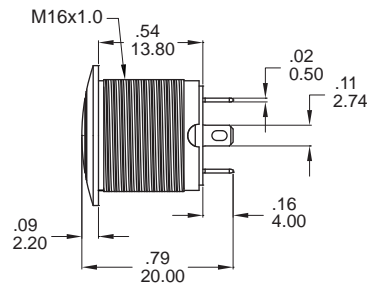
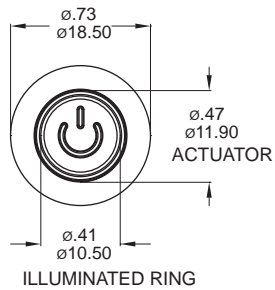
16mm Metal Pushbutton Switches

E Ring



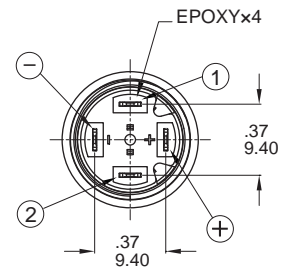
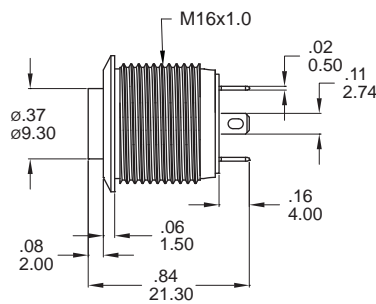
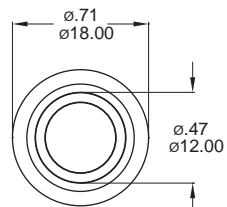
Part No. Shown :
MPB16-CARE-□-JR-0V

P Power logo



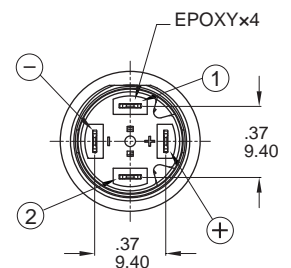
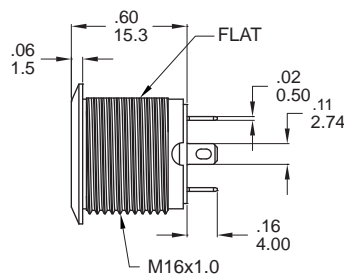
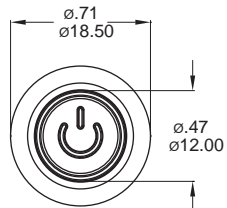
Part No. Shown :
MPB16-CBRE-□-JR-0V

HE Ring



Part No. Shown :
MPB16-A2HE-□-JR-0V

FP Power logo



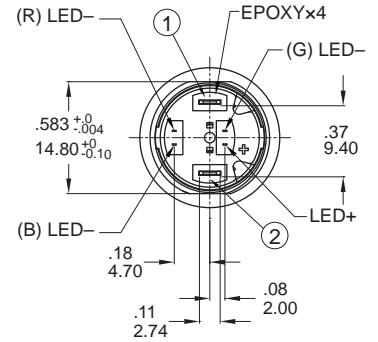
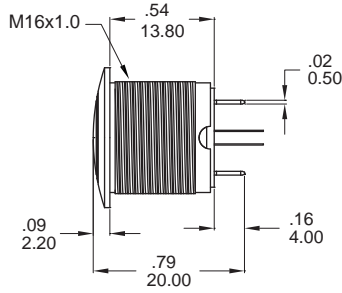
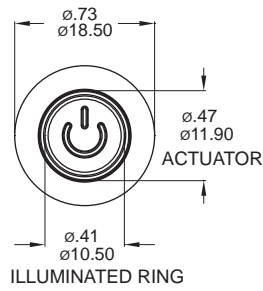
Part No. Shown :
MPB16-A3FP-□-JR-0V

16mm Metal Pushbutton Switches

P Power logo

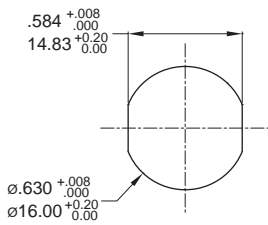


Part No. Shown :
MPB16-CARP-RGB-JR-0V

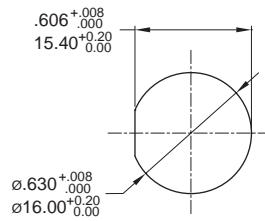


PANEL CUTOUT

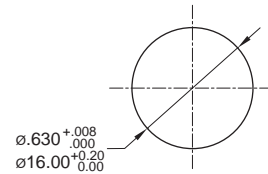
CA/CB/A1 Type



A3 Type

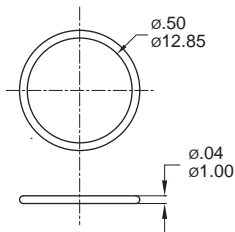


A2 Type

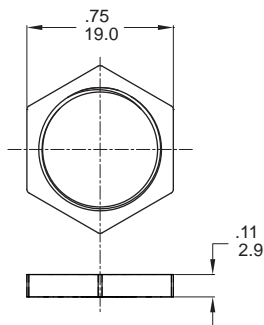


HARDWARE

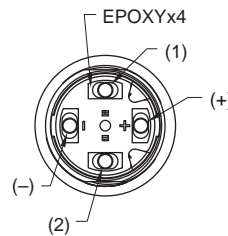
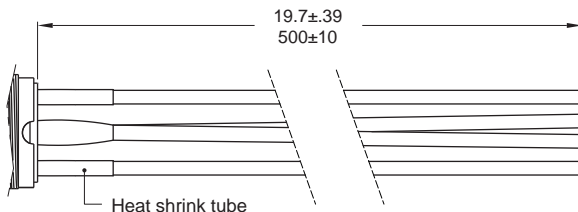
O-RING



M16 NUT



T1 ※ Wire=Multi-wire lead AWG20, section 0.6mm², UL approved

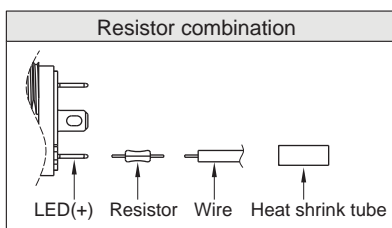


Non-LED

DESCRIPTION	WIRE COLOR
TERMINAL 1	BLACK
TERMINAL 2	BLACK

With LED

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



MPB16L

16mm Metal Pushbutton Switches(LOCK)

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



SPECIFICATIONS

- RATING** : 2A/36VDC.
- ELECTRICAL LIFE** : 100,000 Make-And-Break cycles at full load.
- INSULATION RESISTANCE** : 1,000MΩ Min. at 500VDC.
- DIELECTRIC STRENGTH** : 2,000V RMS@sea level.
- CONTACT RESISTANCE** : 50mΩ Max. @1A/12VDC(Initial value)
- OPERATION TEMPERATURE** : -20°C~+70°C
- TRAVEL**: About 2.3mm.
- OPERATION PRESSURE** : 4.5N±1.5N
- INGRESS PROTECTION** : IP67
- TORQUE** : 11.5 kgf · cm
- THICKNESS** : 6.0mm (Max.)
- CAP Keeps same high.**
- Current limiting resistor is required to limit LED forward current to 20mA.**



MATERIALS

- BUSHING** : Aluminum alloy, Anodized.
- BASE** : Nylon 6/6.
- ACTUATOR** : POM.
- CAP** : PC, Aluminum alloy, Anodized.
- SPRING** : Steel.
- SEALING** : Silicone.
- O-Ring** : Silicone.
- TERMINAL** : Brass, Coin silver, Gold flash plated.
- CONTACT** : Brass, Coin silver, Gold flash plated.
- NUT** : Brass (Nickel Plated).

HOW TO ORDER

MPB16L

- Body type
- CA AL alloy (Natural Anodized)
 - CB AL alloy (Black Anodized)

- Button type
- R Round

- Light type
- E Ring
 - P Power logo

LED color

ITEM NO	COLOR
00	Without LED
SINGLE COLOR LED	
01	White
03	Red
05	Yellow
06	Green
07	Blue
DUAL COLOR LED	
36	Red&Green
37	Red&Blue
71	Blue&White

- ※ OFF=Without light
ON=LED Blue light
Ex : 07
- ※ OFF(Red);ON(Green)
Ex : 36

Accessories

Resistance (About LED Voltage)	
3V	LED Input Voltage 3VDC (Without Resistance)
6V	LED input 6 VDC,180Ω
12V	LED input 12 VDC,470Ω
24V	LED input 24 VDC,1000Ω

※ ohms value of resistance
tolerance: ±5%

Terminal plating

- R Gold flash

Terminal shape

- J Solder terminal
- T1 Wire length 500mm

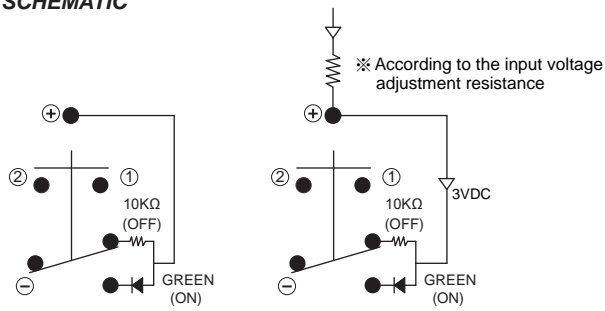
EXAMPLE:

MPB16L-CARE- 00-JR(Without LED)

MPB16L-CARE- -JR-3V

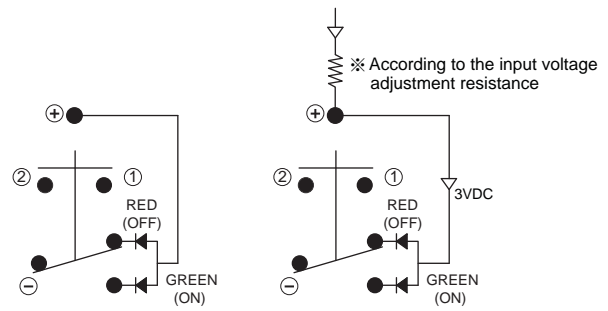
LED color

SCHEMATIC



Single Color Led

* Push-OFF, Without light
Push-ON, LED Green light (Latching)

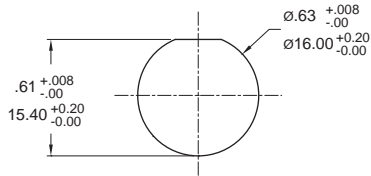


Dual Color Led

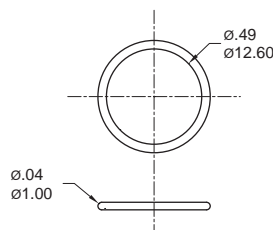
* Push-OFF, LED Red light
Push-ON, LED Green light (Latching)

PANEL CUTOUT

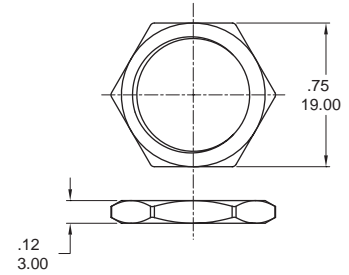
Panel Thickness : 6.0mm Max.



HARDWARE

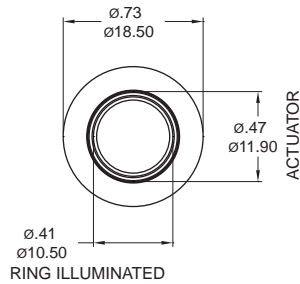


O-RING

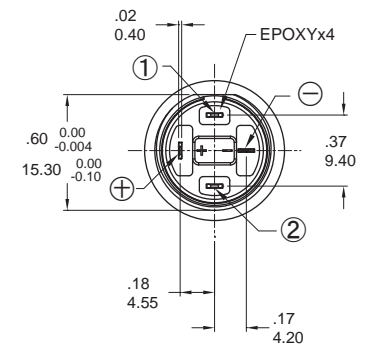
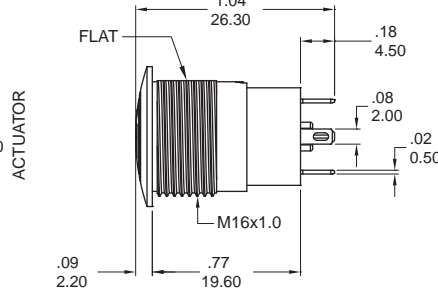


NUT

R Ring

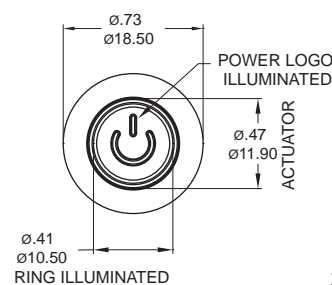


RING ILLUMINATED

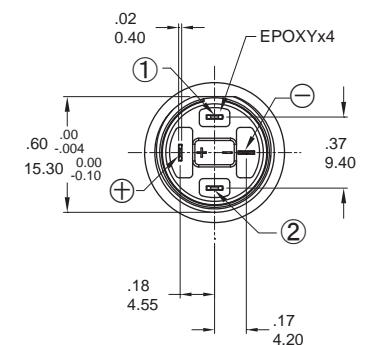
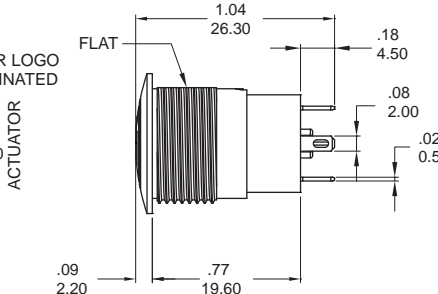


Part No. Shown :
MPB16L-CARE-□□-JR-3V

P Power logo



RING ILLUMINATED



Part No. Shown :
MPB16L-CBRP-□□-JR-3V

MPB19

19mm Metal Pushbutton Switches



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



SPECIFICATIONS

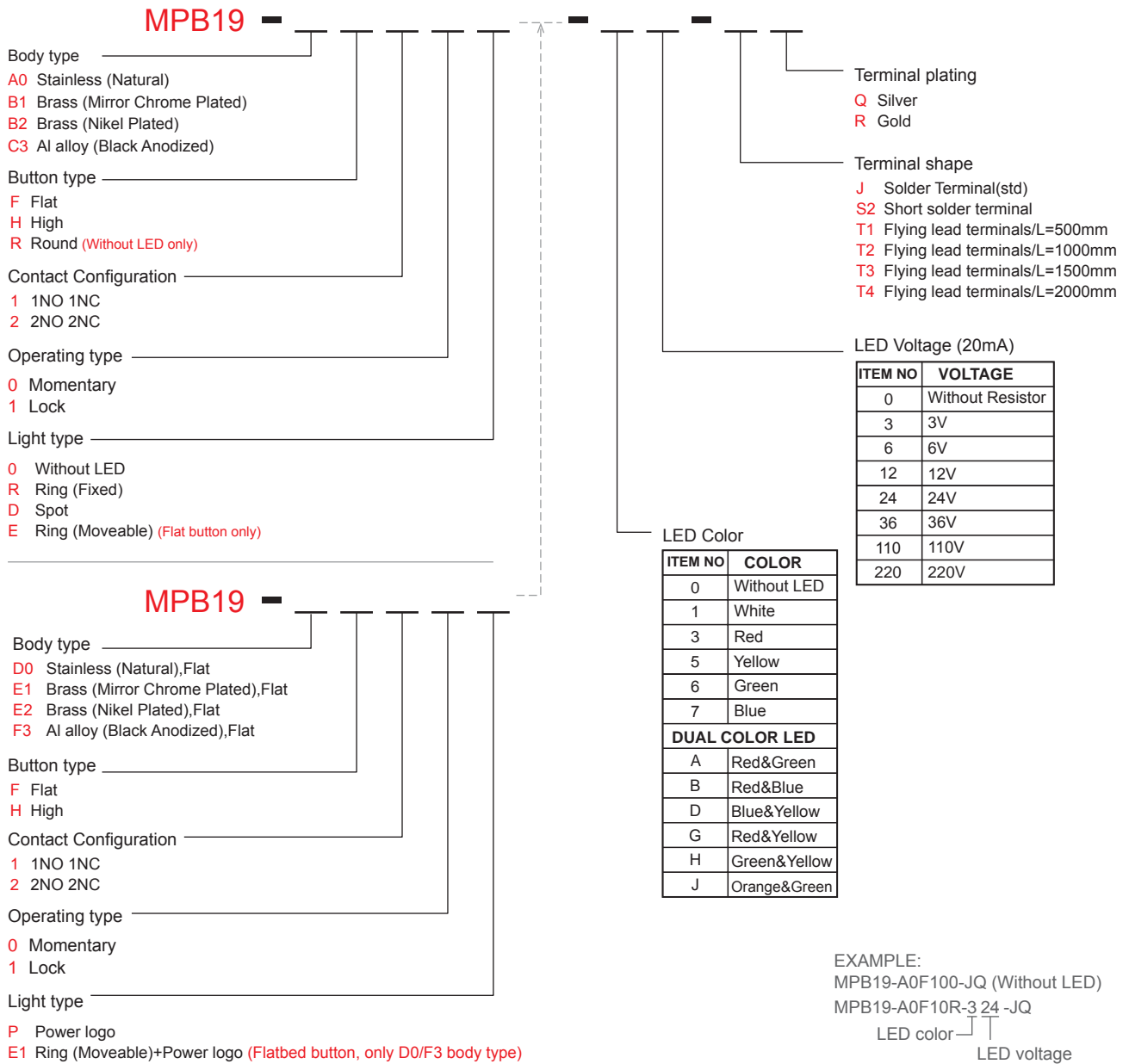
- RATING** : 1th 5A/250VAC resistive load 3A/250VAC
- CONTACT RESISTANCE** : 50 mΩ max. @ 1A 12VDC (initial value)
- INSULATION RESISTANCE** : 1,000 MΩ min. at 500VDC
- DIELECTRIC STRENGTH** : 2,000V RMS @ sea level
- OPERATION TEMPERATURE** : -20°C to 55°C
- MECHANICAL LIFE** : Momentary 1,000,000 cycles
Self-lock 500,000 cycles
- ELECTRICAL LIFE** : 50,000 make-and-break cycles at full load
- TORQUE** : 5~14Nm
- PANEL THICKNESS** : 10mm (Ø19.20mm)
- OPERATION PRESSURE** : 1Pole 2.5±1N / 2Poles 3.5±1N
- TRAVEL** : About 3.2mm
- INGRESS PROTECTION** : IP67, IK10(Stainless)



MATERIALS

- BUSHING** : Stainless Steel / Nickel plated brass / Aluminum alloy
- BASE** : PBT(UL 94-V0) , PC(UL 94-V2)
- ACTUATOR** : PC(UL 94-V2) ; Stainless Steel
/ Nickel plated brass / 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



19mm Metal Pushbutton Switches

CIRCUIT

POSITION 1

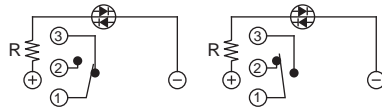


POSITION 2

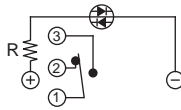


Without LED (1 Pole)

POSITION 1

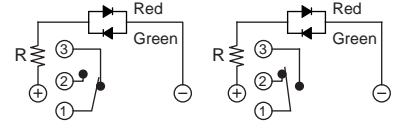


POSITION 2

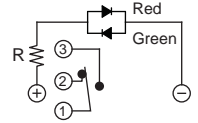


Single Color Led (1 Pole)

POSITION 1

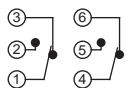


POSITION 2

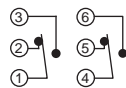


Dual Color Led (1 Pole)

POSITION 1

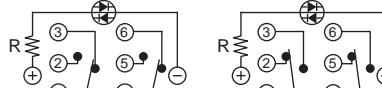


POSITION 2

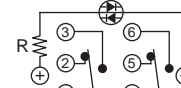


Without LED (2 Poles)

POSITION 1

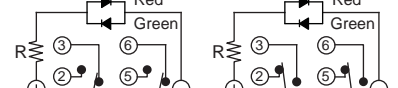


POSITION 2

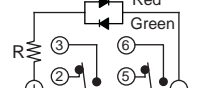


Single Color Led (2 Poles)

POSITION 1



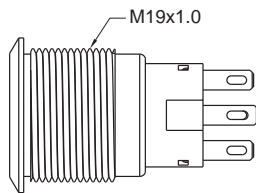
POSITION 2



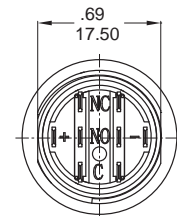
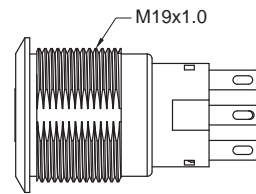
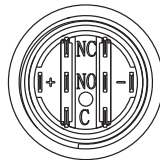
Dual Color Led (2 Poles)

BODY TYPE

A0/B1/B2/C3 Body

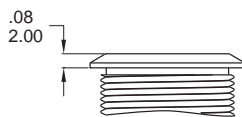


D0/E1/E2/F3 Body (Flat)



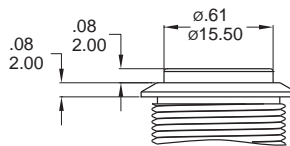
BUTTON TYPE

F Flat Button

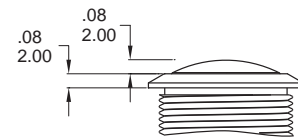


H High Button

* Ring (Moveable) light type is inapplicable

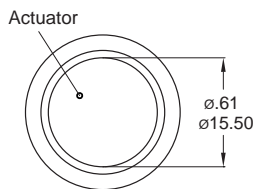


R Round Button

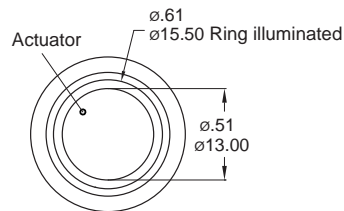


LIGHT TYPE

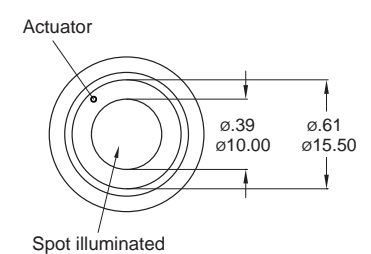
O Without LED



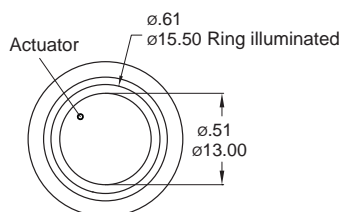
R Ring (Fixed)



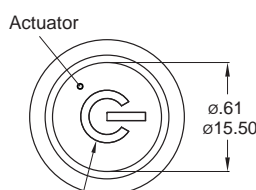
D Spot



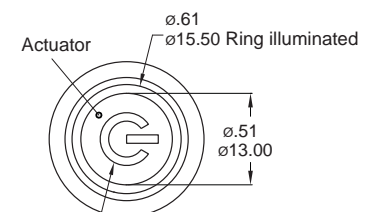
E Ring (Moveable)



P Power logo



E1 Ring (Moveable)+Power logo



* Only for A0,B1,B2,C3 body.

Power logo illuminated

* Only for D0,E1,E2,F3 body.

Power logo illuminated

* E1 light type only for D0,F3 body.

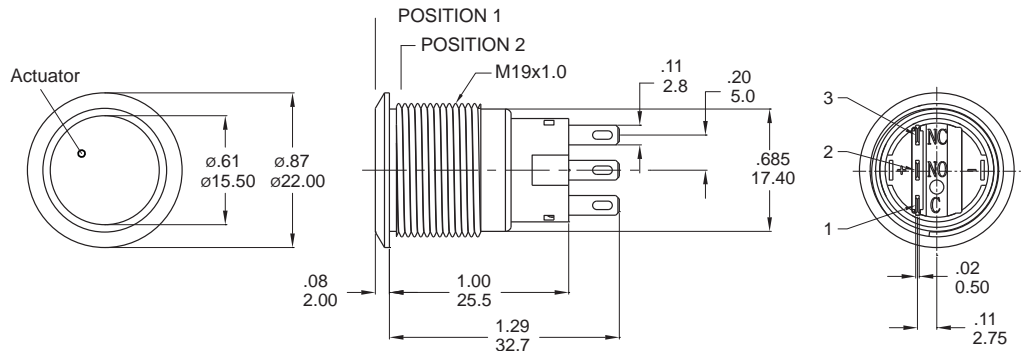
MPB19

19mm Metal Pushbutton Switches

0 Without LED



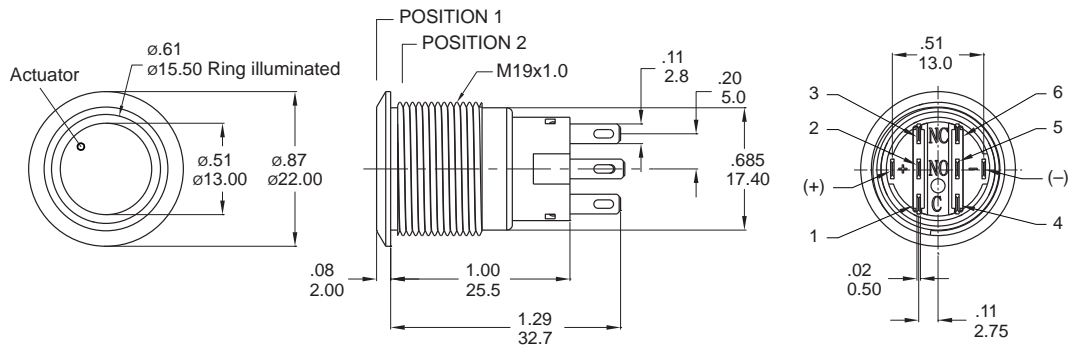
Part No. Shown :
MPB19-A0F1□0-JQ



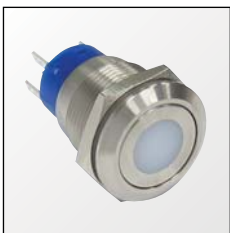
R Ring (Fixed)



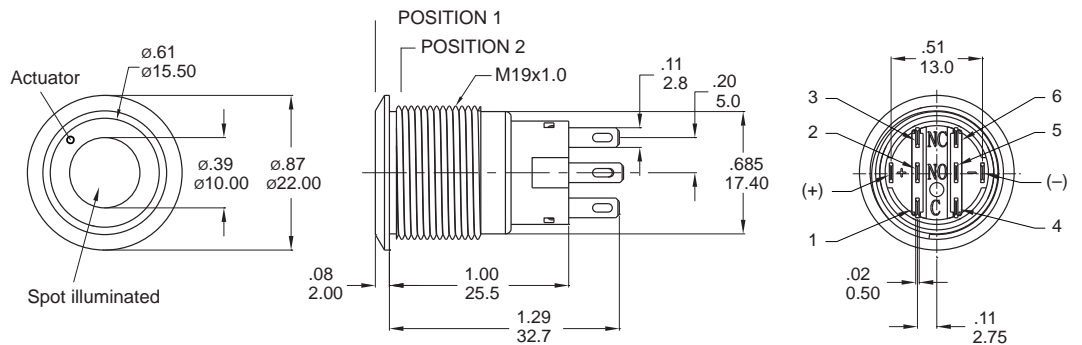
Part No. Shown :
MPB19-A0F2□R-□□-JQ



D Spot



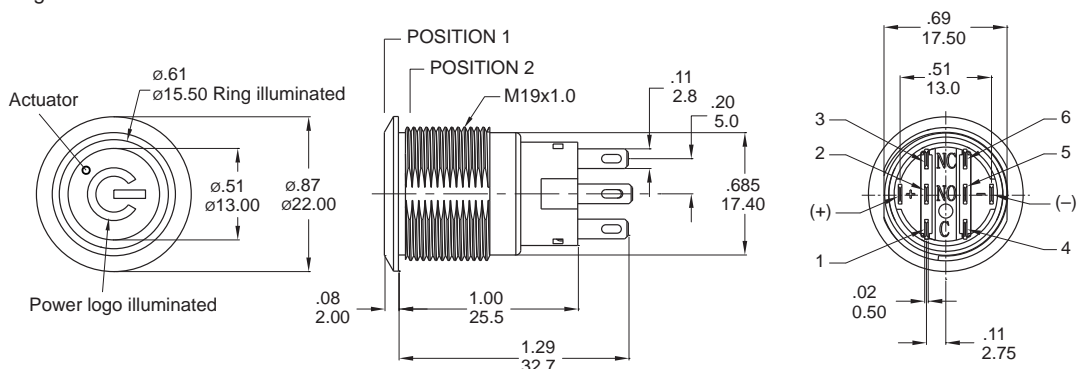
Part No. Shown :
MPB19-A0F2□D-□□-JQ



E1 Ring (Moveable)+Power logo
(Flat Button only)

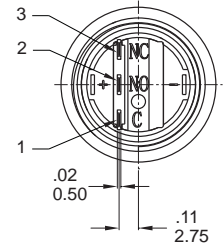
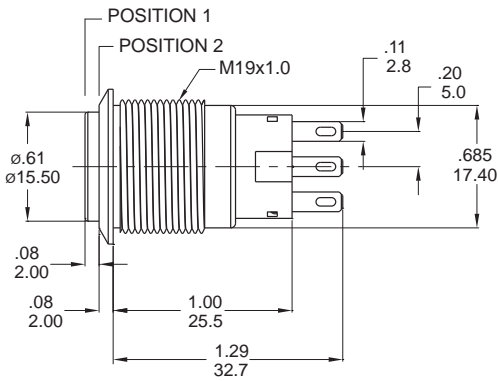
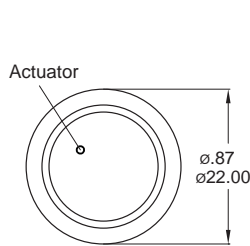


Part No. Shown :
MPB19-D0F2□E1-□□-JQ



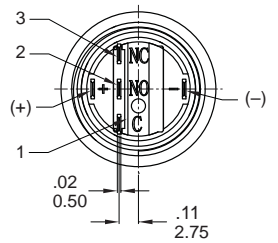
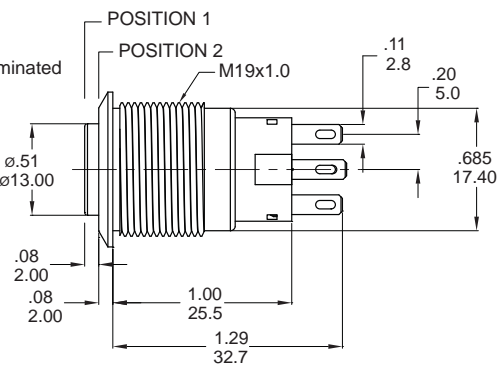
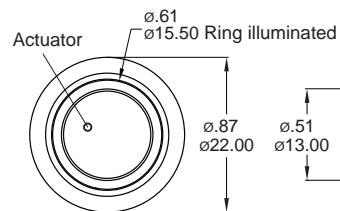
19mm Metal Pushbutton Switches

0 Without LED



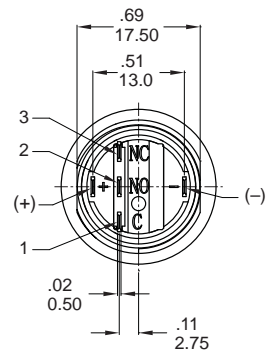
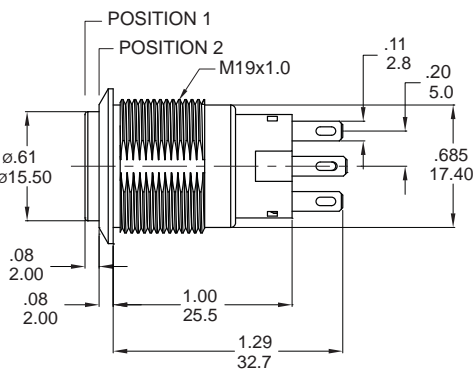
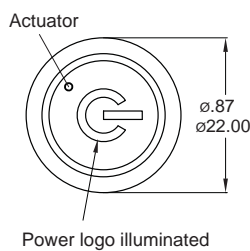
Part No. Shown :
MPB19-A0H1□0-JQ

R Ring (Fixed)



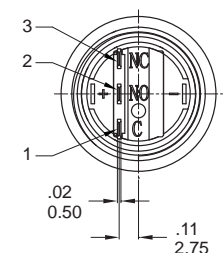
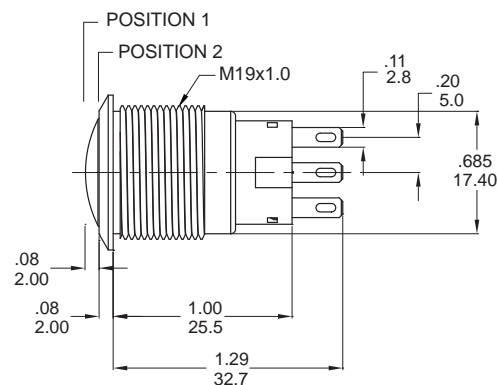
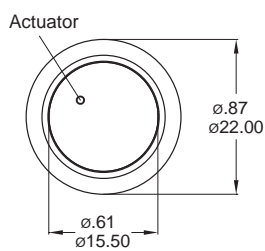
Part No. Shown :
MPB19-A0H1□R-□□-JQ

P Power logo



Part No. Shown :
MPB19-D0H1□P-□□-JQ

0 Without LED only



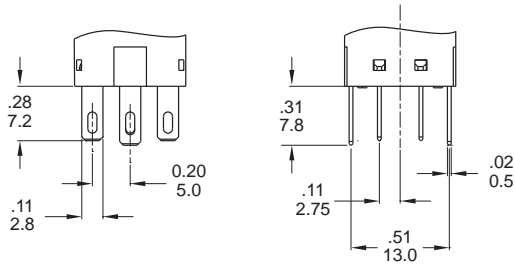
Part No. Shown :
MPB19-A0R1□0-JQ

MPB19

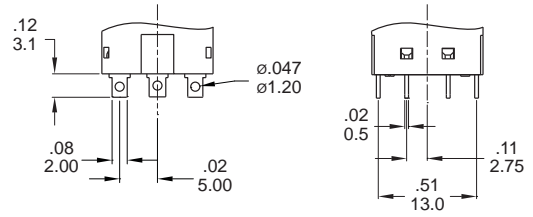
19mm Metal Pushbutton Switches

TERMINAL TYPE

J Solder terminal (std)

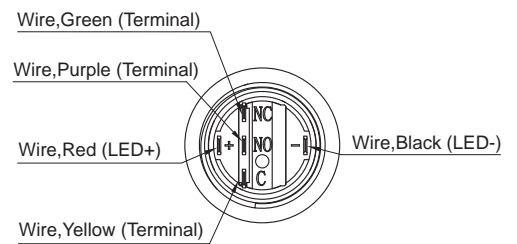
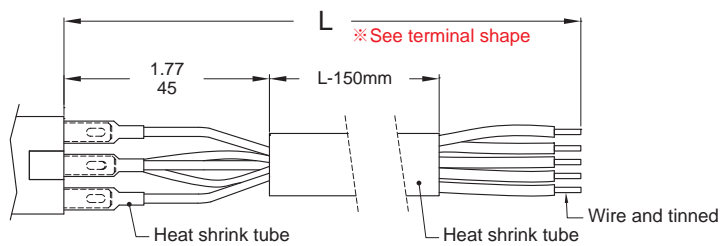


S2 Short solder terminal



Wire (Flying lead Terminals)

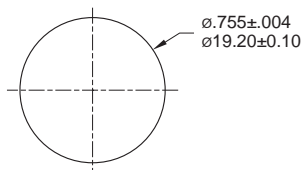
※ Wire=UL 3385,18AWG,300V(Black/Yellow/Green/Red/Purple)



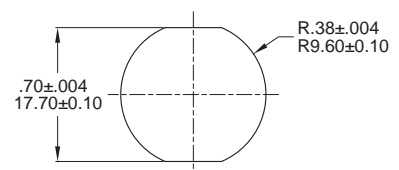
O/R/D/E Light Type

PANEL MOUNTING

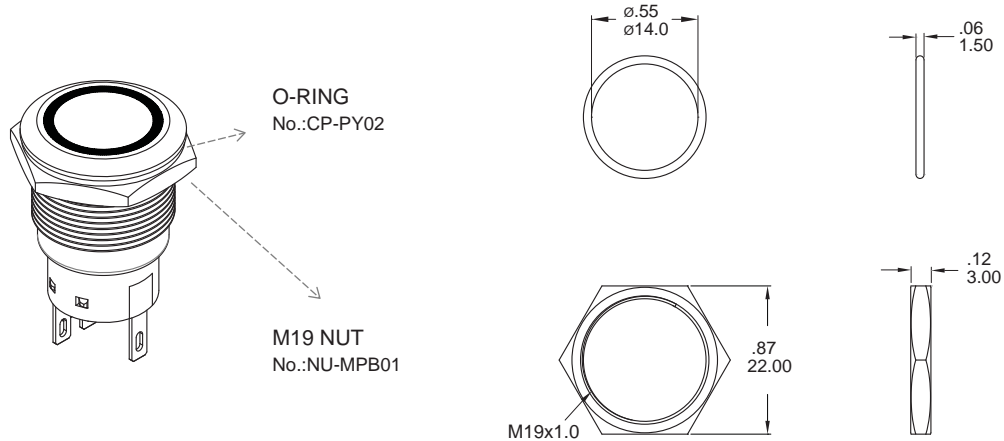
Max. Panel thickness: 10.0mm[.39]



P Light Type



ASSEMBLED VIEW



O-RING INSTALLATION

Proposal	In front of the panel	Behind the panel
Installation Diagram		



IP 67
ACCORDING TO
EN 60529:1989+A1:2001
IEC 60529:2001



22mm Metal Pushbutton Switches

MPB22



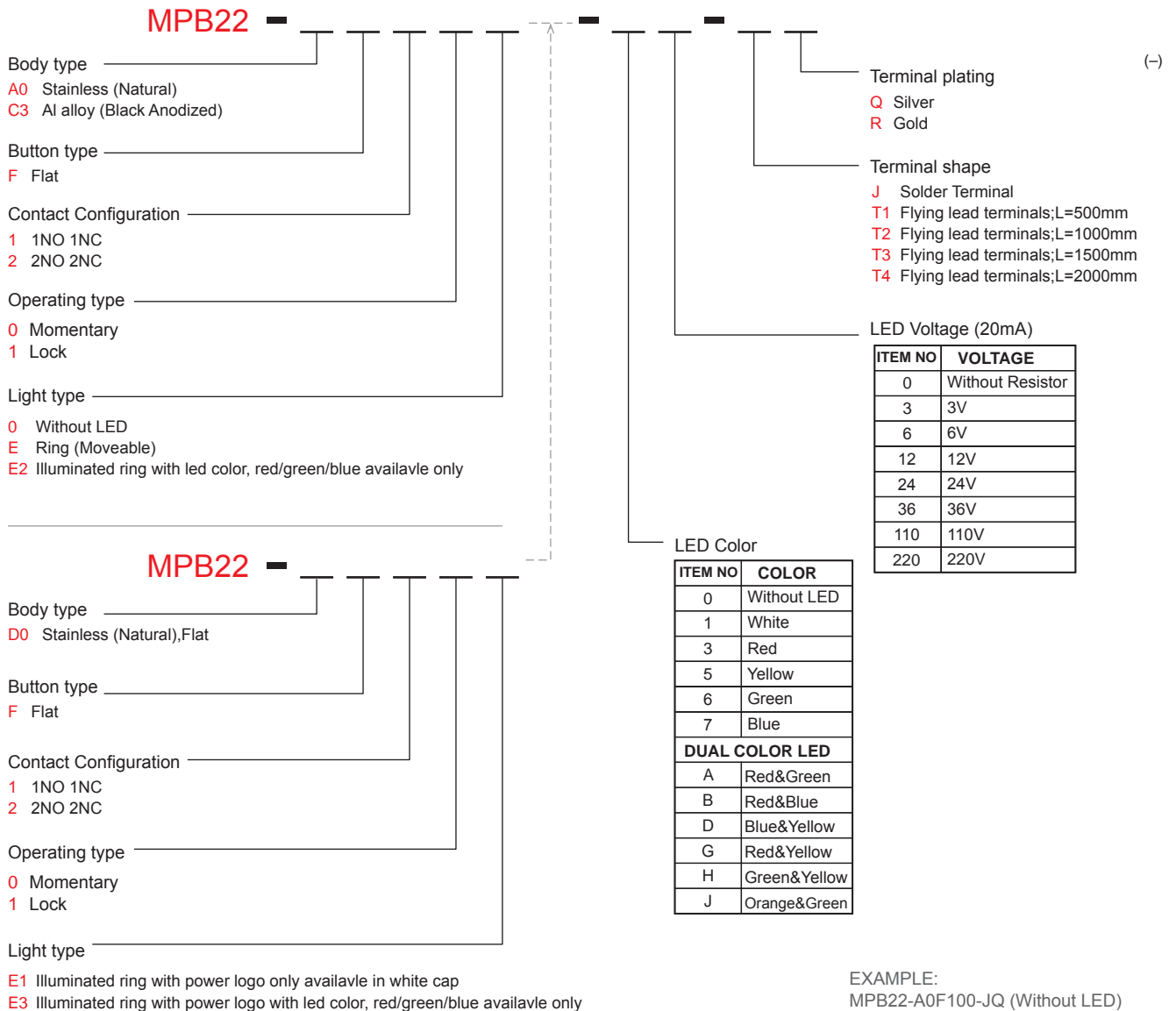
SPECIFICATIONS

- RATING** : 1th 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 (Ø22.20mm)
- 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



EXAMPLE:
 MPB22-A0F100-JQ (Without LED)
 MPB22-A0F10E-3 24 -JQ
 LED color | LED voltage

MPB22

22mm Metal Pushbutton Switches

CIRCUIT

POSITION 1

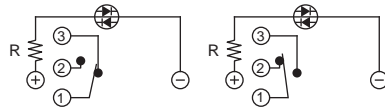


Without LED (1 Pole)

POSITION 2

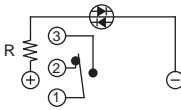


POSITION 1

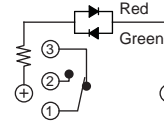


Single Color Led (1 Pole)

POSITION 2

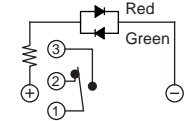


POSITION 1

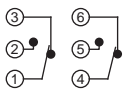


Dual Color Led (1 Pole)

POSITION 2

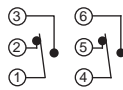


POSITION 1

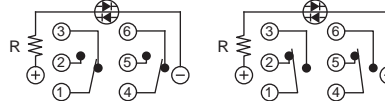


Without LED (2 Poles)

POSITION 2

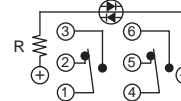


POSITION 1

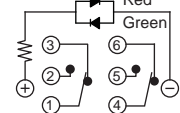


Single Color Led (2 Poles)

POSITION 2

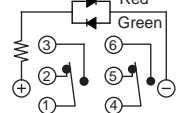


POSITION 1

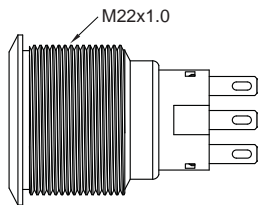


Dual Color Led (2 Poles)

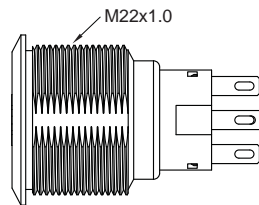
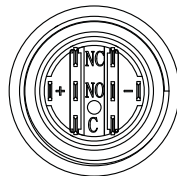
POSITION 2



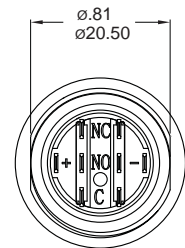
BODY TYPE



A0 / C3 Body

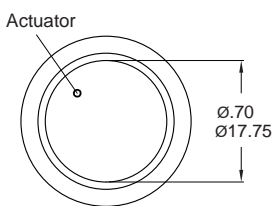


D0 Body (Flat)

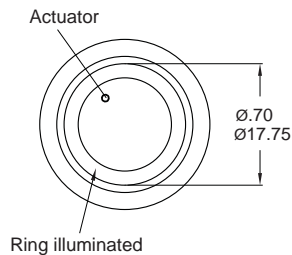


LIGHT TYPE

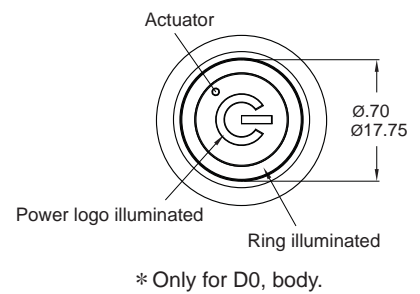
0 Without LED



E Ring (Moveable)

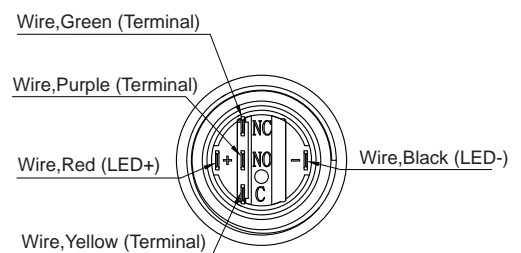
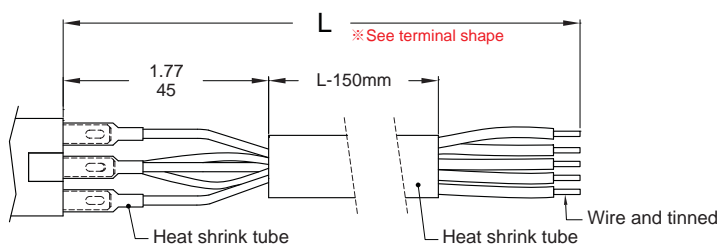


E3 Ring+Power logo



Wire (Flying lead Terminals)

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



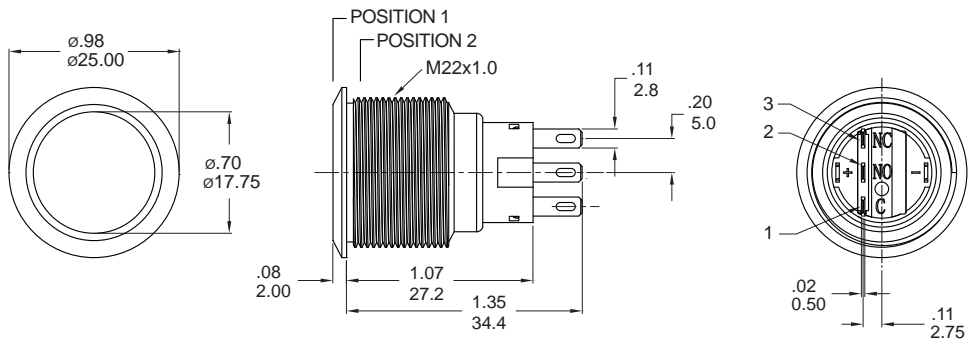
22mm Metal Pushbutton Switches

LIGHT TYPE

0 Without LED



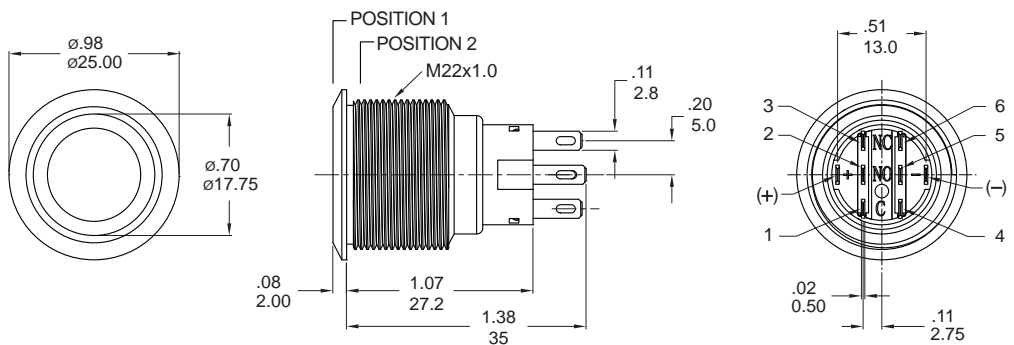
Part No. Shown :
MPB22-A0F1□0-JQ



E Ring(Moveable)



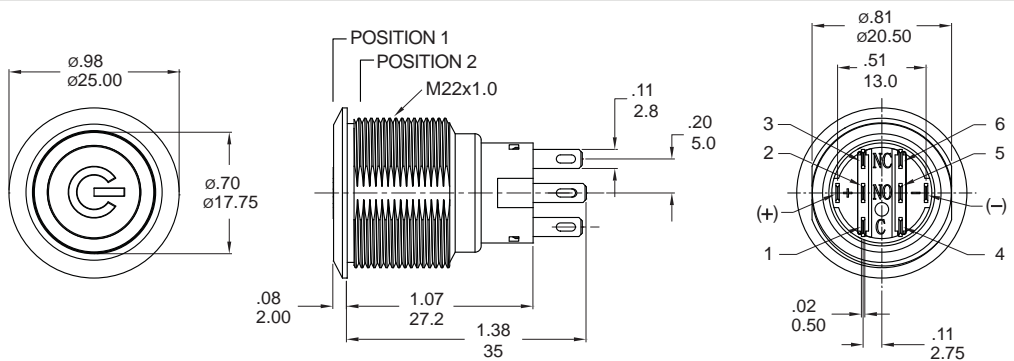
Part No. Shown :
MPB22-A0F2□E-□□-JQ



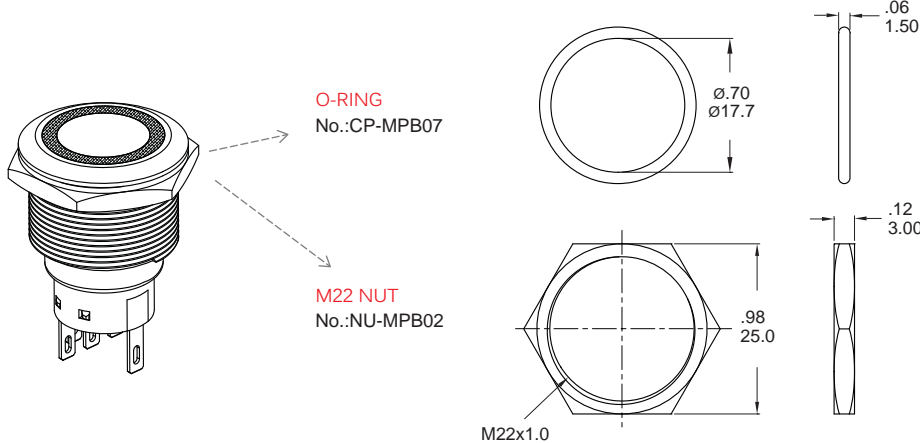
E3 Ring+Power logo



Part No. Shown :
MPB22-D0F2□E3-□□-JQ

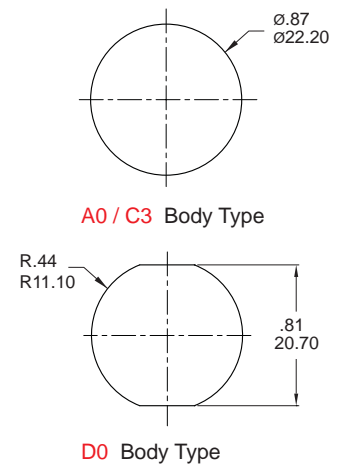


ASSEMBLED VIEW

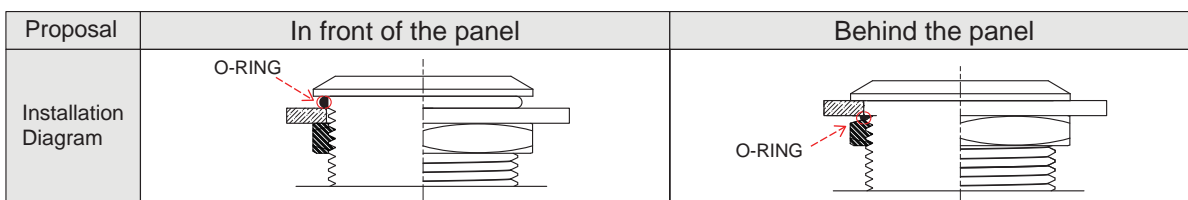


PANEL MOUNTING

Max. Panel thickness: 10.0mm[.39]



O-RING INSTALLATION



25mm Metal Pushbutton Switches

CIRCUIT

POSITION 1

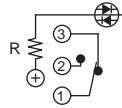


POSITION 2

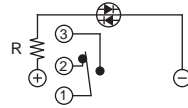


Without LED (1 Pole)

POSITION 1

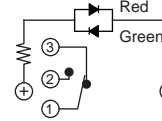


POSITION 2

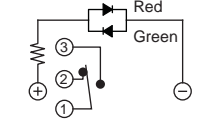


Single Color Led (1 Pole)

POSITION 1

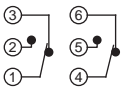


POSITION 2

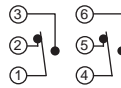


Dual Color Led (1 Pole)

POSITION 1

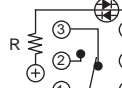


POSITION 2



Without LED (2 Poles)

POSITION 1

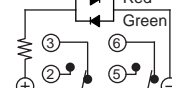


POSITION 2



Single Color Led (2 Poles)

POSITION 1

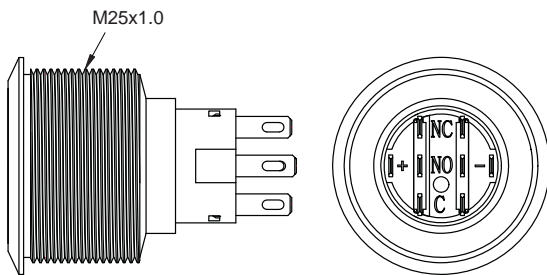


POSITION 2

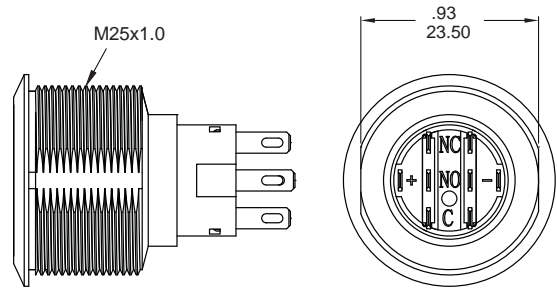


Dual Color Led (2 Poles)

BODY TYPE



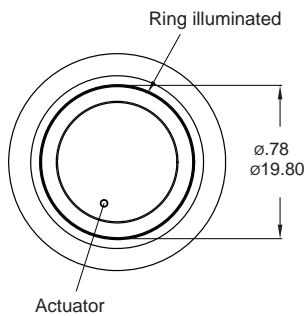
A0 / C3 Body



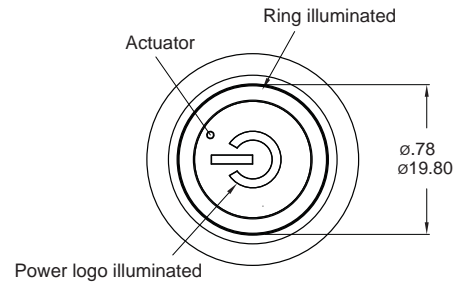
D0 Body (Flat)

LIGHT TYPE

E Ring (Moveable)



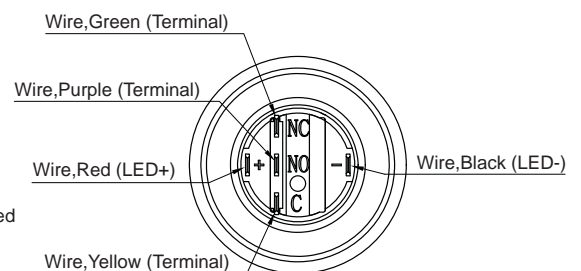
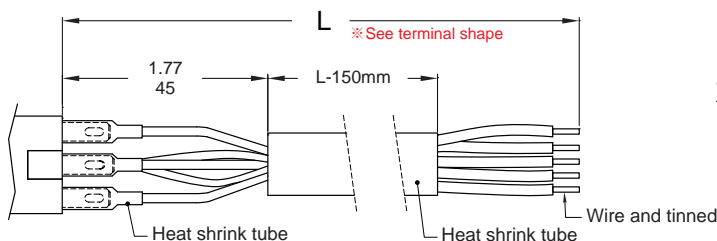
E3 Ring+Power logo



* Only for D0 body type.

Wire (Flying lead Terminals)

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



MPB25

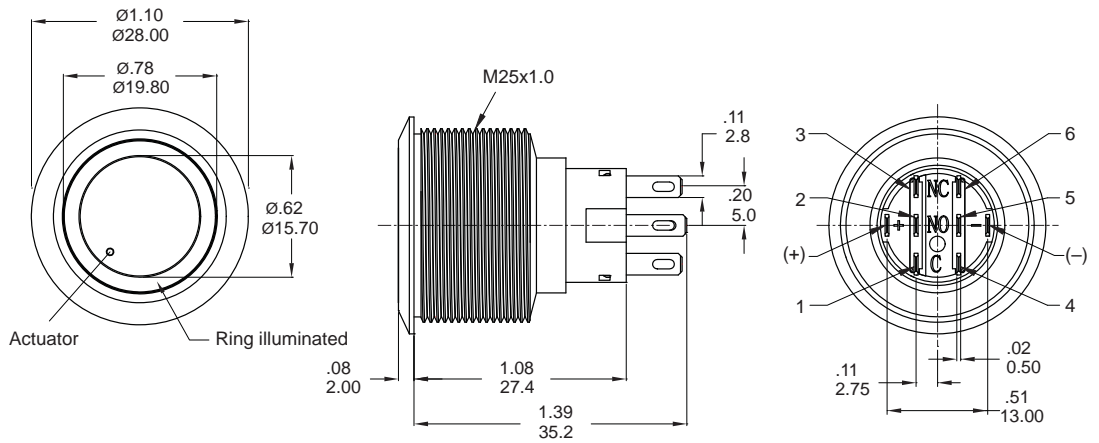
25mm Metal Pushbutton Switches

LIGHT TYPE

R Ring(Moveable)



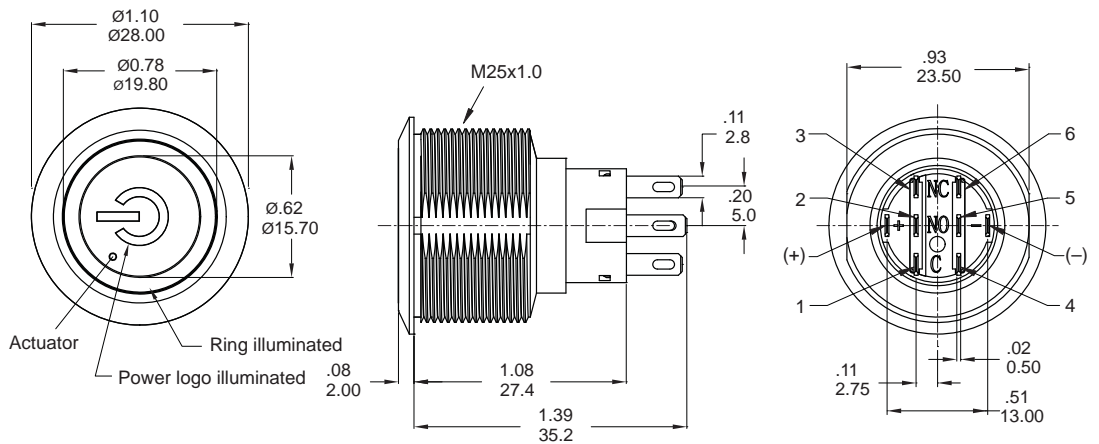
Part No. Shown :
MPB25-A0F2□□E-□□-JQ



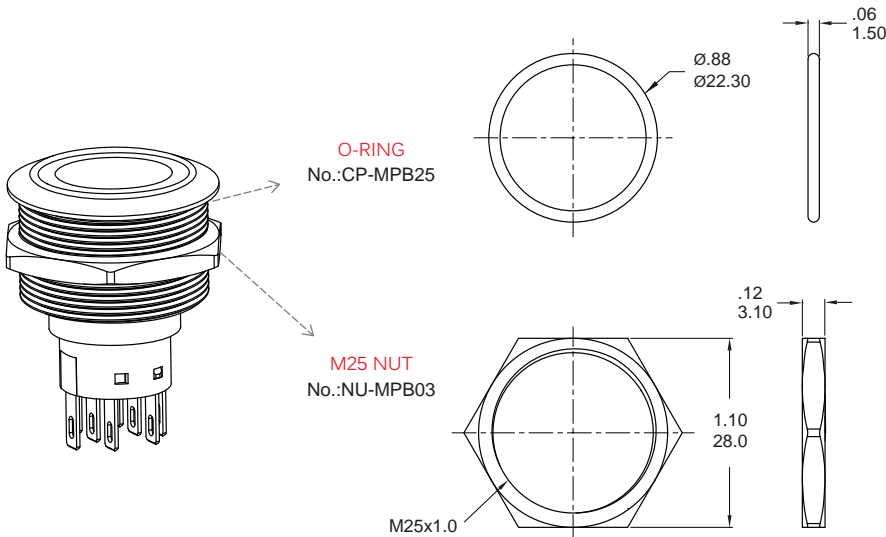
E3 Ring+Power logo



Part No. Shown :
MPB25-D0F2□□E3-□□-JQ

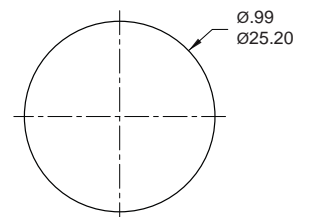


ASSEMBLED VIEW

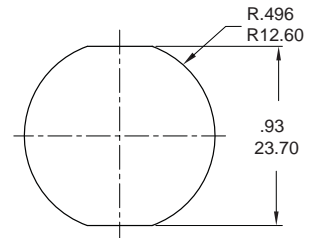


PANEL MOUNTING

Max.Panel thickness: 10.0mm[0.39]

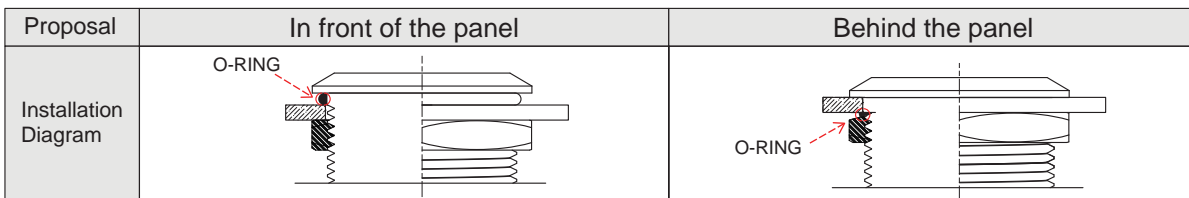


A0 / C3 Body Type



D0 Body Type

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

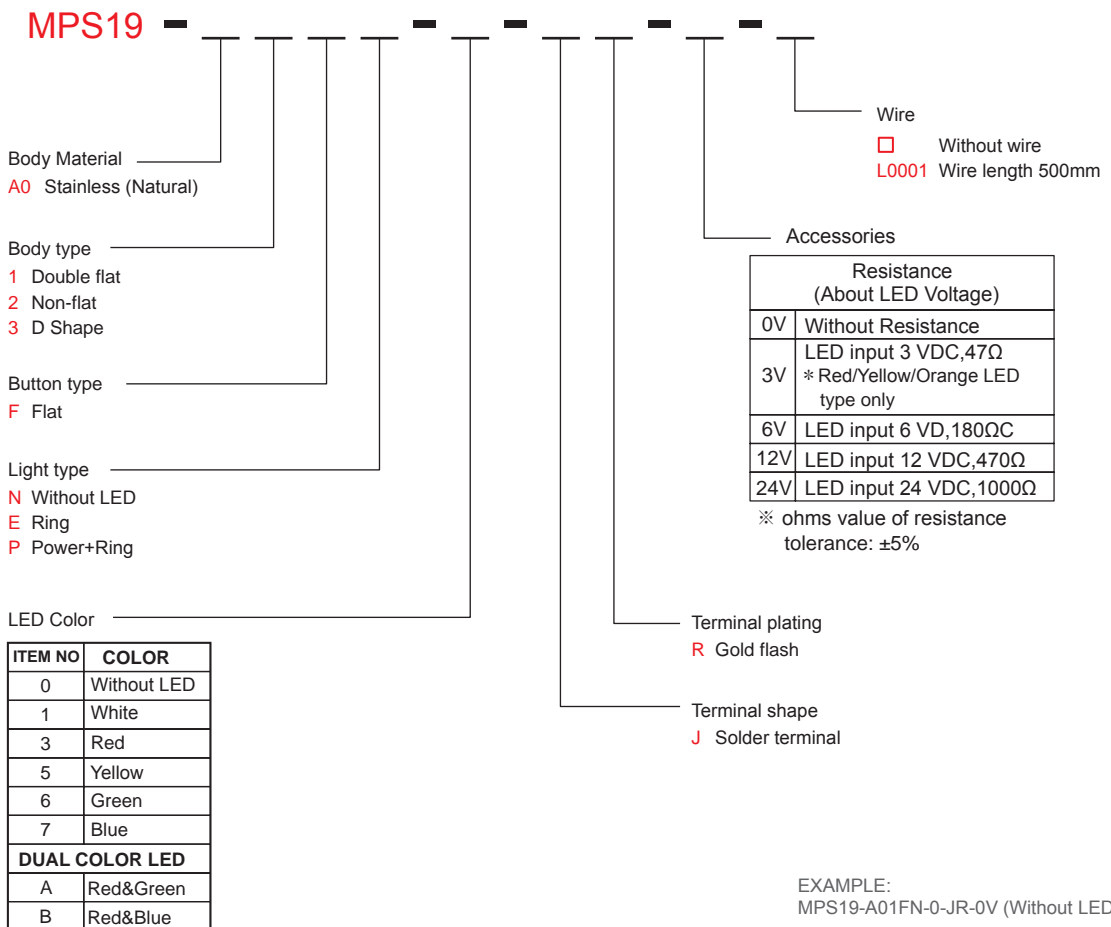
O-Ring : Silicone,Black

TERMINAL : Brass, Gold flash plated

CONTACT : Brass, Silver alloy

HEX NUT : Brass, Nickel plated

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)

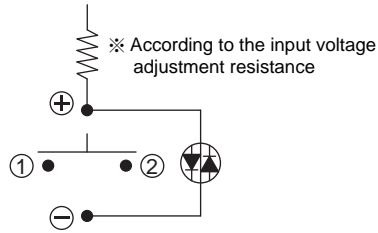
MPS19

19mm Short Metal Pushbutton Switches

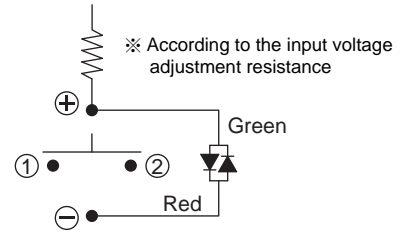
CIRCUIT



Without Led



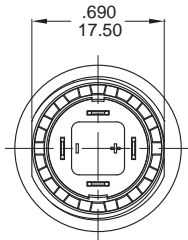
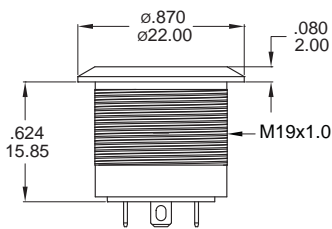
Single Color Led



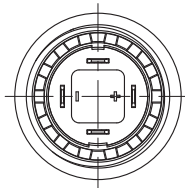
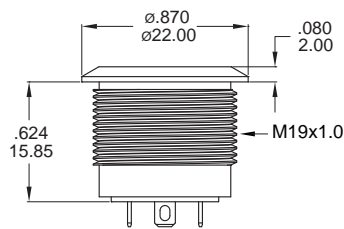
Dual Color Led

BODY TYPE

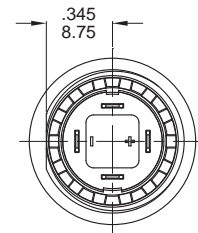
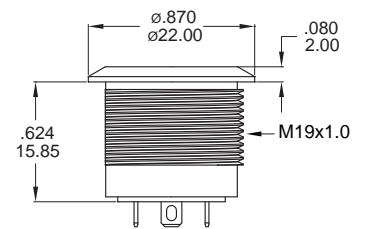
Double flat



Non-flat

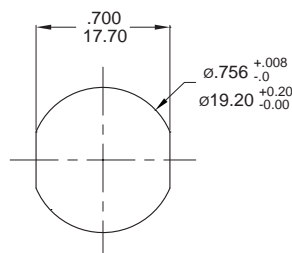


D Shape

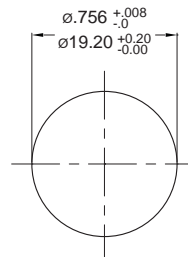


PANEL CUTOUT

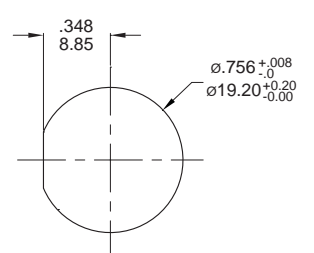
Thickness: 6.0mm(Max.)



Double flat



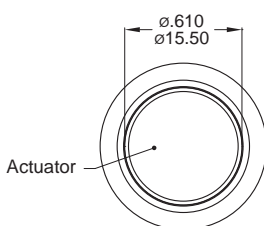
Non-flat



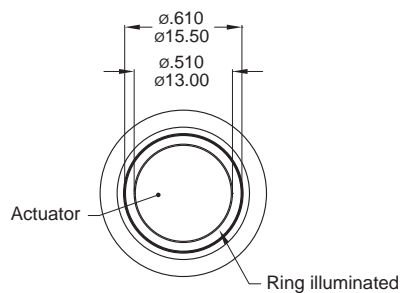
D Shape

LIGHT TYPE

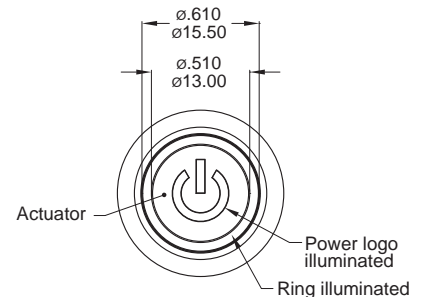
N Without LED



E Ring



P Power+Ring



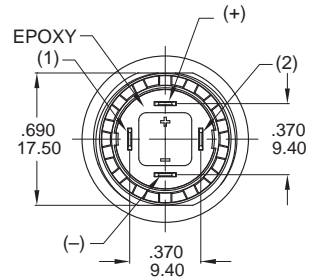
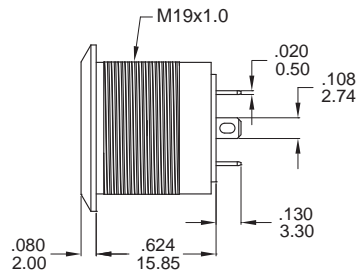
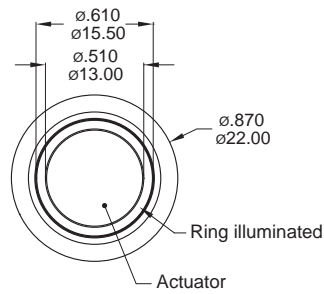
19mm Short Metal Pushbutton Switches

LIGHT TYPE

E Ring



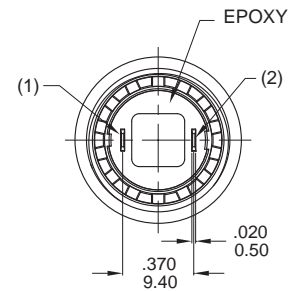
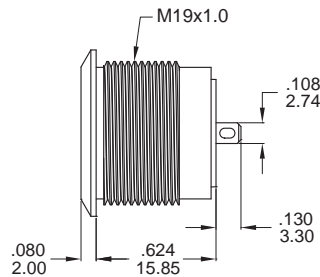
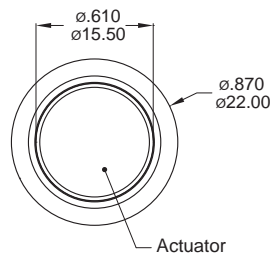
Part No. Shown :
MPS19-A01FE-□-JR-□V



N Without LED



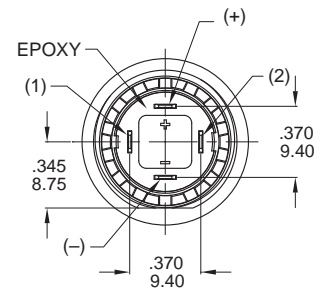
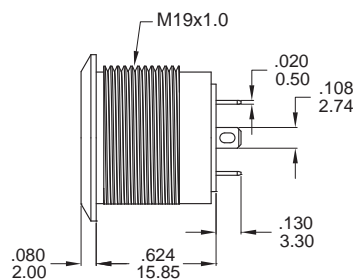
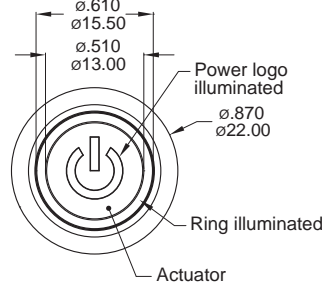
Part No. Shown :
MPS19-A02FN-0-JR-0V



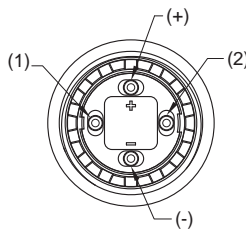
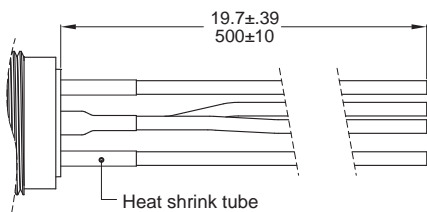
P Power+Ring



Part No. Shown :
MPS19-A03FP-□-JR-□V



L0001 ※Wire=Multi-wire lead AWG20,section 0.6mm²,UL approved

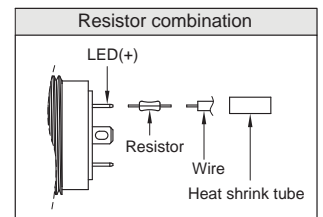


Non-LED

Description	Wire color
Terminal 1	Black
Terminal 2	Black

With LED

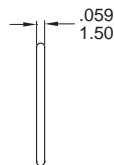
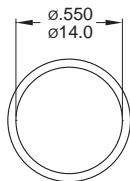
Description	Wire color
Terminal 1	Black
Terminal 2	Black
LED+	Red
LED-	Green



ADDITIONAL

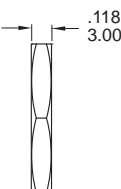
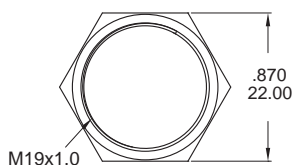
O-RING

No.:CP-PY02

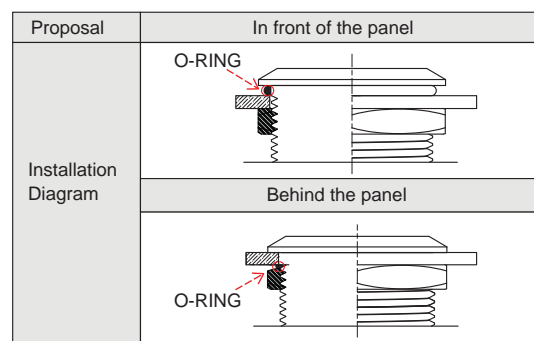


M19 NUT

No.:NU-MPB01



O-RING INSTALLATION



MPS22

22mm Short Metal Pushbutton Switches

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



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 1.8±0.2mm

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

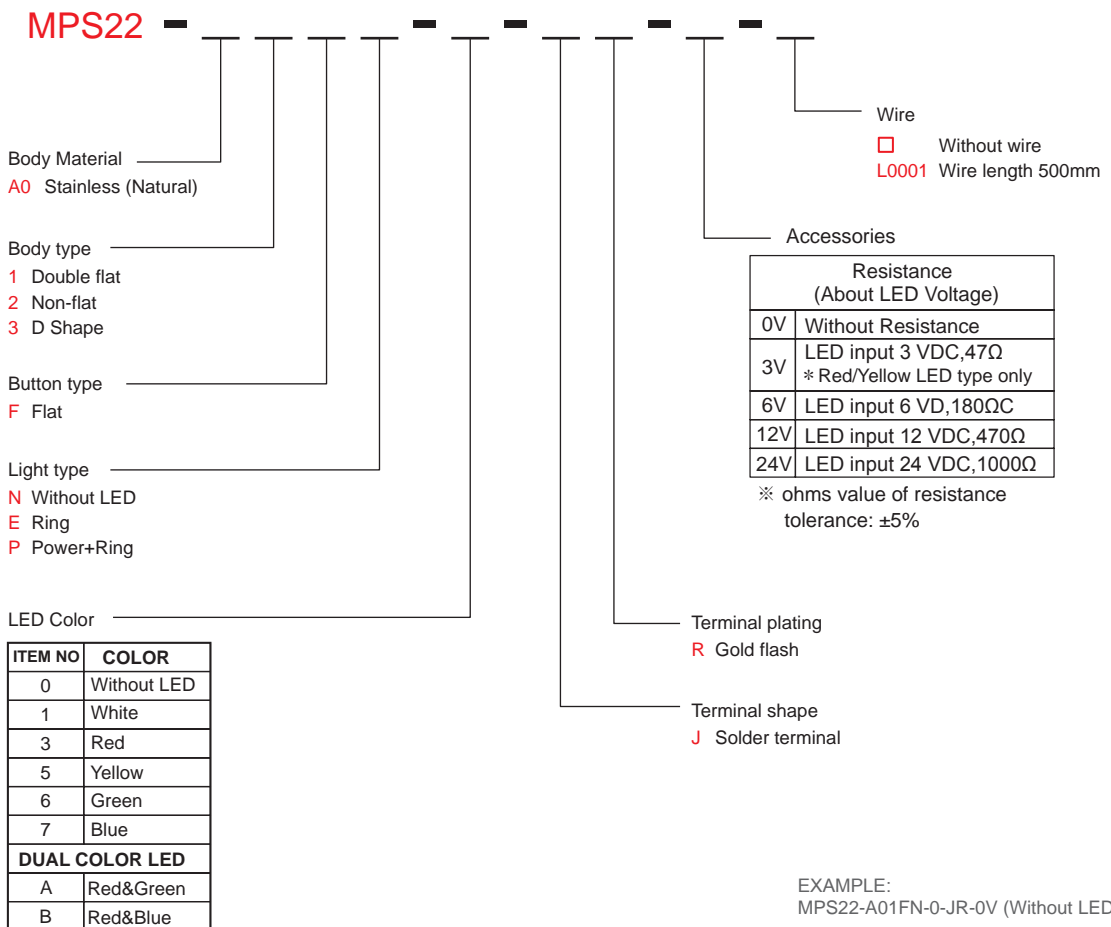
O-Ring : Silicone,Black

TERMINAL : Brass, Gold flash plated

CONTACT : Brass, Silver alloy

HEX NUT : Brass, Nickel plated

HOW TO ORDER



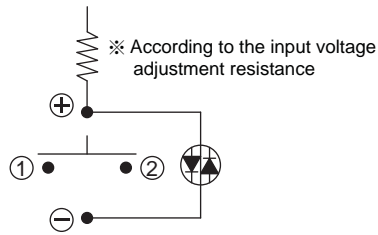
EXAMPLE:
MPS22-A01FN-0-JR-0V (Without LED)
MPS22-A01FE-□-JR-□V
LED color LED voltage
MPS22-A01FE-3-JR-12V-L0001(Wire)

22mm Short Metal Pushbutton Switches

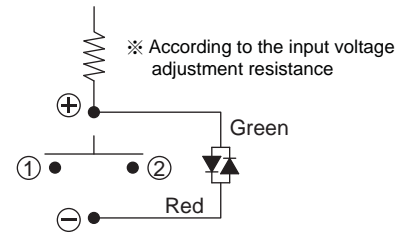
CIRCUIT



Without Led



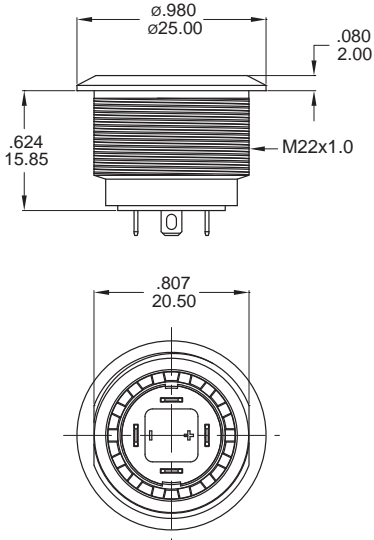
Single Color Led



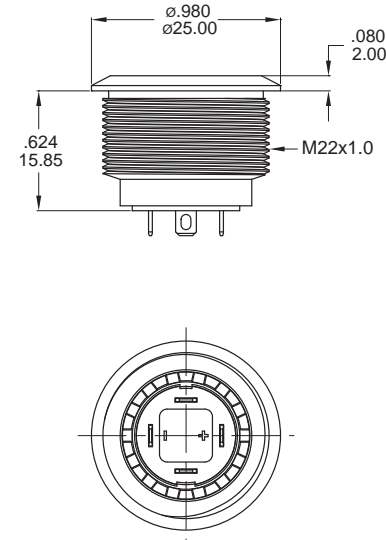
Dual Color Led

BODY TYPE

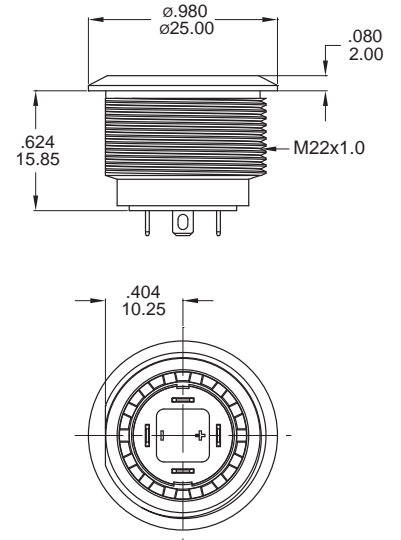
Double flat



Non-flat

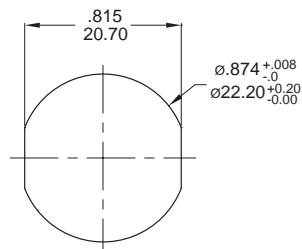


D Shape

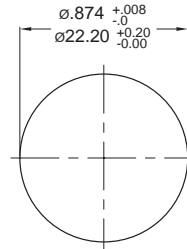


PANEL CUTOUT

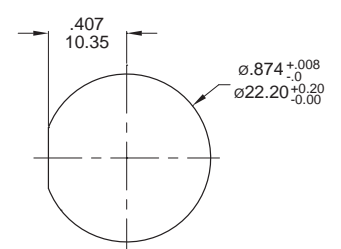
Thickness: 6.0mm(Max.)



Double flat



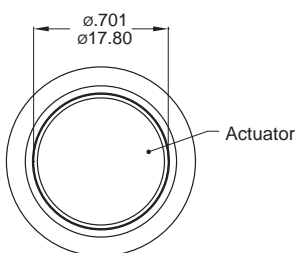
Non-flat



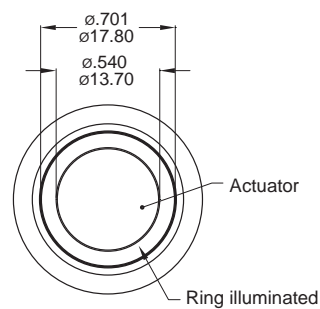
D Shape

LIGHT TYPE

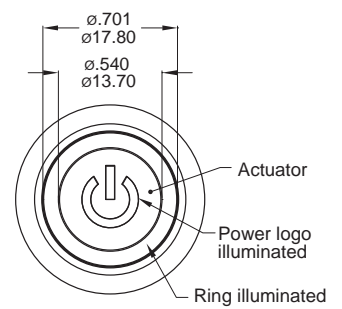
N Without LED



E Ring



P Power+Ring



MPS22

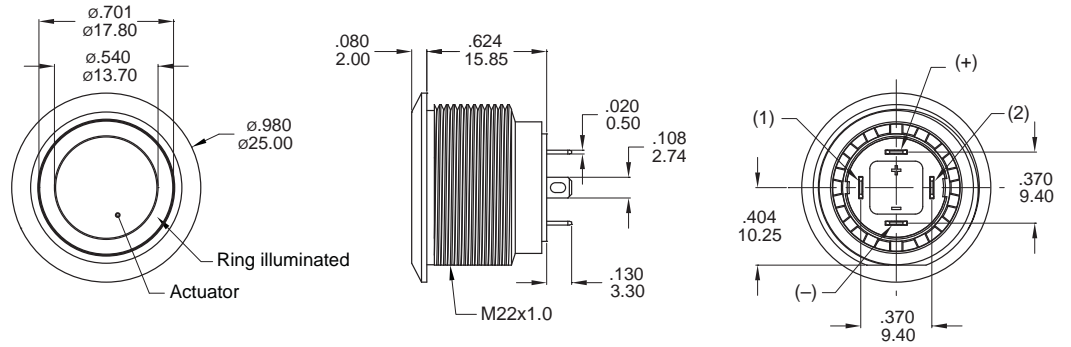
22mm Short Metal Pushbutton Switches

LIGHT TYPE

E Ring



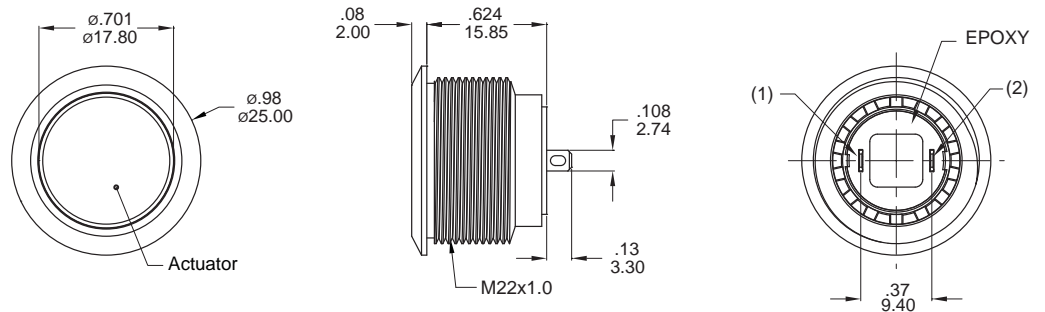
Part No. Shown :
MPS22-A03FE-□-JR-□V



N Without LED



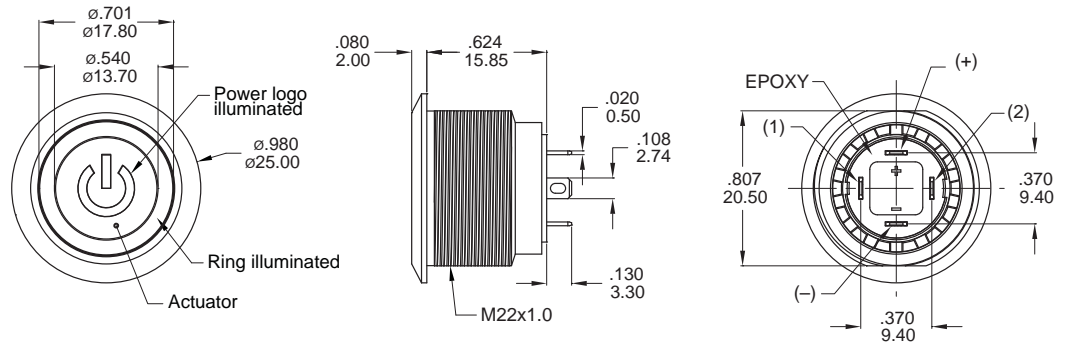
Part No. Shown :
MPS22-A02FN-0-JR-0V



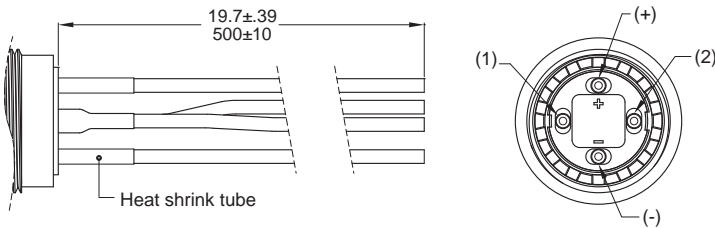
P Power+Ring



Part No. Shown :
PS22-A01FP-□-JR-□V



L0001 ※Wire=Multi-wire lead AWG20,section 0.6mm²,UL approved

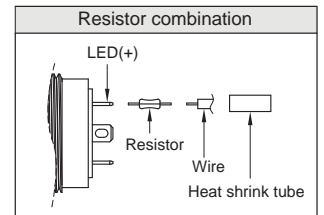


Non-LED

Description	Wire color
Terminal 1	Black
Terminal 2	Black

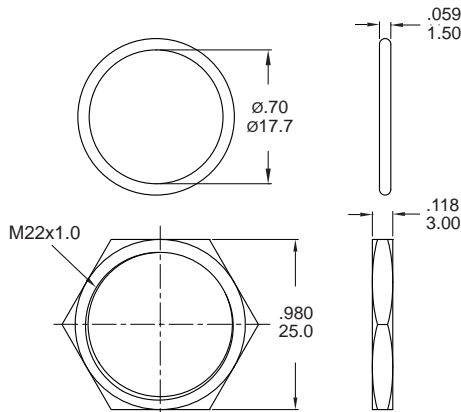
With LED

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



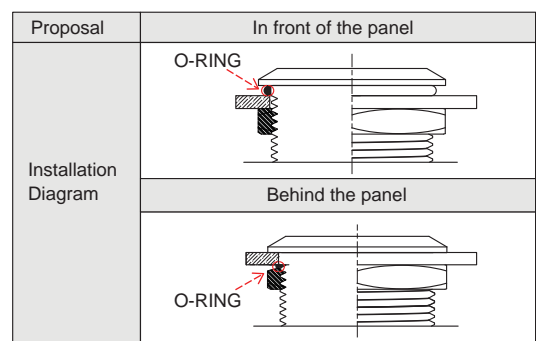
ADDITIONAL

O-RING No.:CP-MPB07



M22 NUT No.:NU-MPB02

O-RING INSTALLATION



SPECIFICATIONS

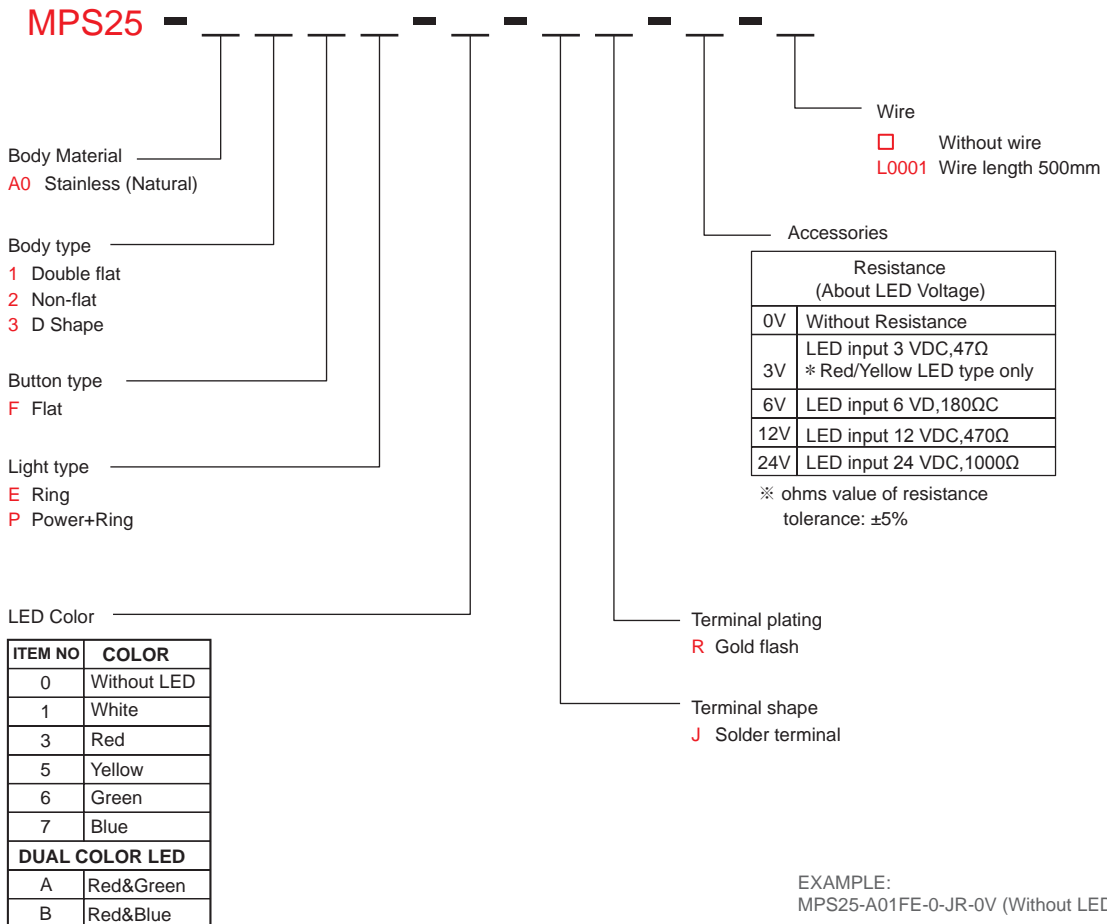
- RATING :** 2A/36VDC
 - ELECTRICAL LIFE:** 200,000 make-and-break cycles at full load.
 - MECHANICAL LIFE:** 1,000,000. Cycles
 - DIELECTRIC STRENGTH:** 2,000V RMS@sea level
 - CONTACT RESISTANCE:** 50mΩ MAX.@1A 12VDC(initial value)
 - OPERATING TEMPERATURE:** -20°C to 70°C
 - TRAVEL:** ABOUT 1.8±0.2mm
 - 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, Black
- TERMINAL :** Brass , Gold flash plated
- CONTACT :** Brass, Silver alloy
- HEX NUT :** Brass, Nickel plated

HOW TO ORDER

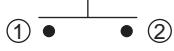


EXAMPLE:
MPS25-A01FE-0-JR-0V (Without LED)
MPS25-A01FE-□-JR-□V
LED color LED voltage
MPS25-A01FE-3-JR-12V-L0001(Wire)

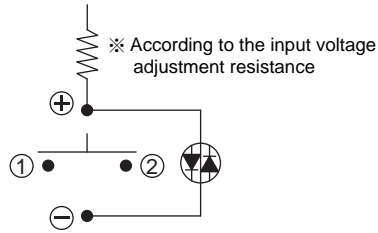
MPS25

25mm Short Metal Pushbutton Switches

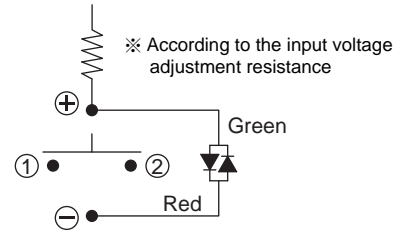
CIRCUIT



Without Led



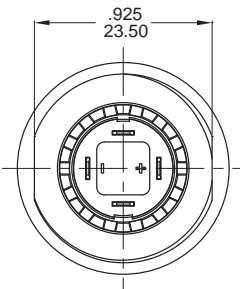
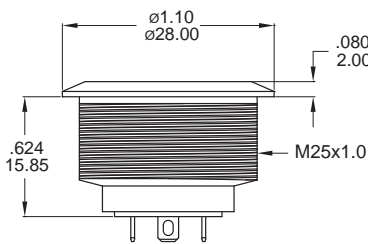
Single Color Led



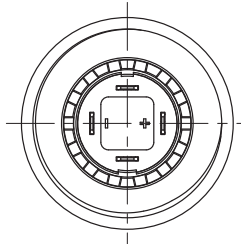
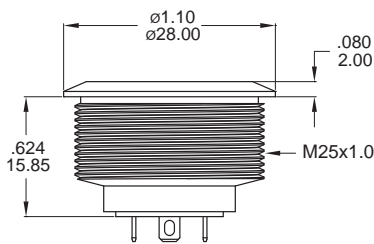
Dual Color Led

BODY TYPE

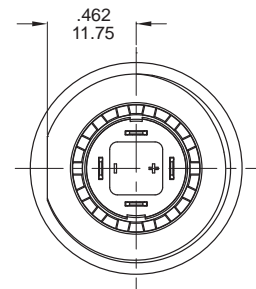
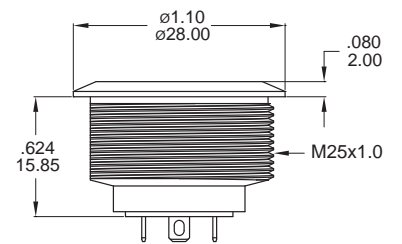
Double flat



Non-flat

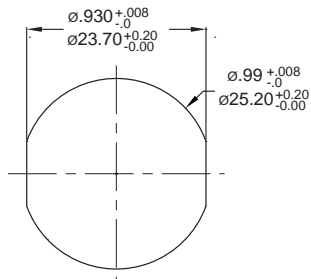


D Shape

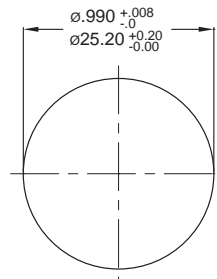


PANEL CUTOUT

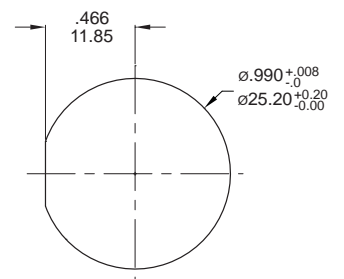
Thickness: 6.0mm(Max.)



Double flat



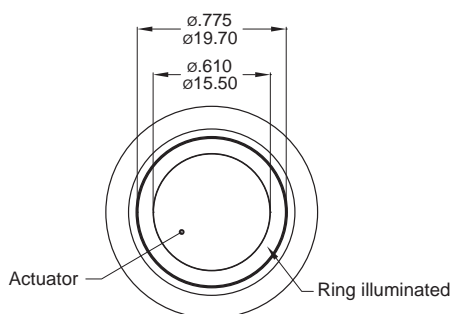
Non-flat



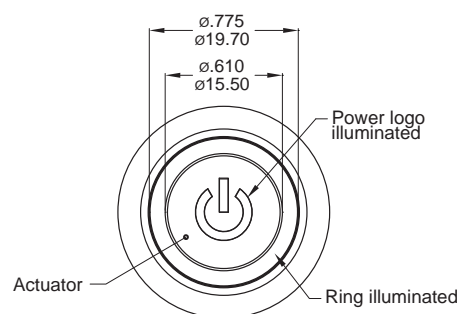
D Shape

LIGHT TYPE

E Ring



P Power+Ring



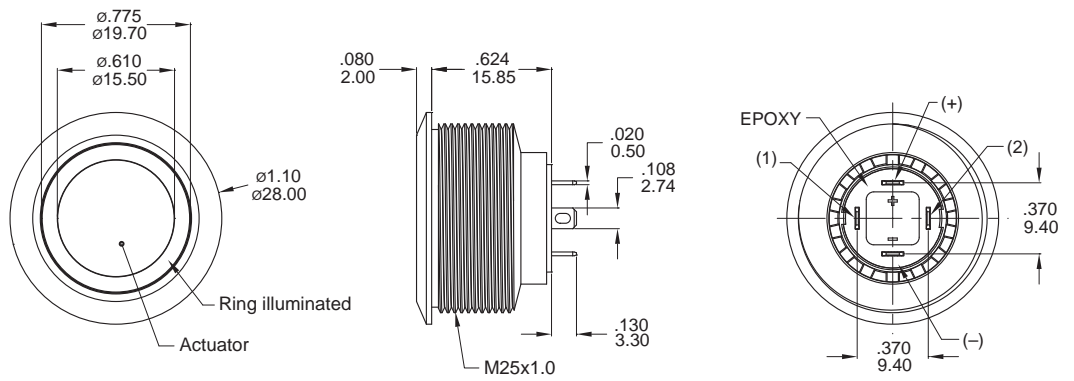
25mm Short Metal Pushbutton Switches

LIGHT TYPE

E Ring



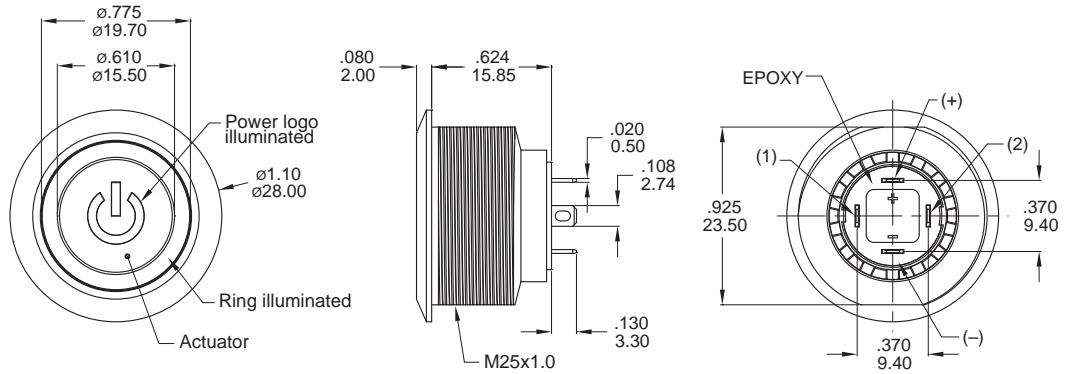
Part No. Shown :
MPS25-A02FE-□-JR-□V



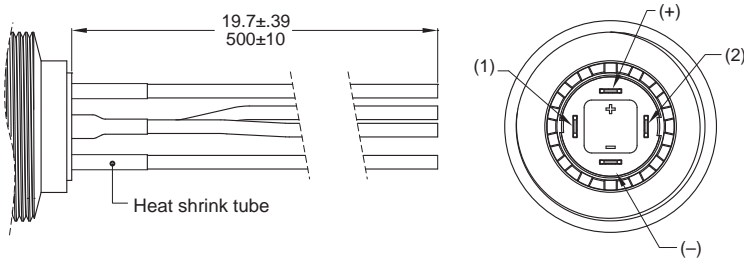
P Power+Ring



Part No. Shown :
MPS25-A01FP-□-JR-□V



L0001 ※Wire=Multi-wire lead AWG20,section 0.6mm²,UL approved

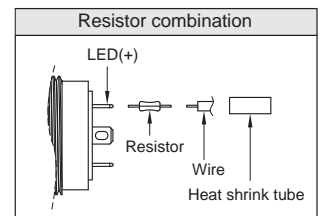


Non-LED

Description	Wire color
Terminal 1	Black
Terminal 2	Black

With LED

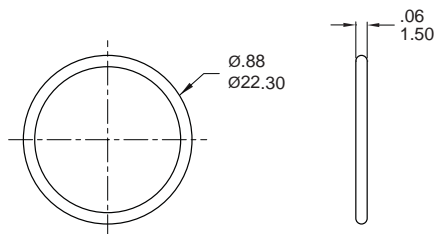
Description	Wire color
Terminal 1	Black
Terminal 2	Black
LED+	Red
LED-	Green



ADDITIONAL

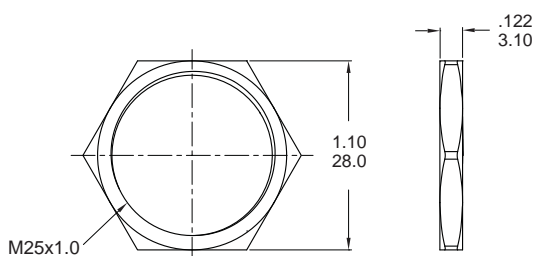
O-RING

No.:CP-MPB25

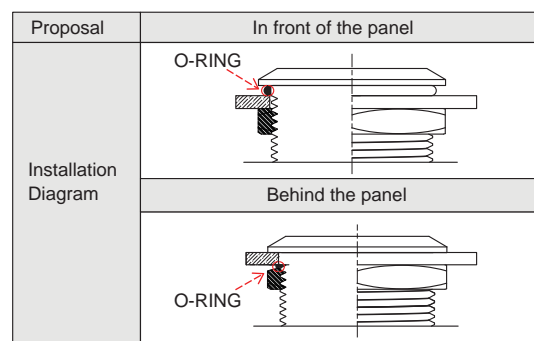


M25 NUT

No.:NU-MPB03



O-RING INSTALLATION



MW19

19mm High Current Metal Pushbutton Switches



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



SPECIFICATIONS

- RATING** : 16A, 26A 250/125VAC.
- CONTACT RESISTANCE** : 50 mΩ max. @ 1A 12VDC (initial value)
- INSULATION RESISTANCE** : 100 MΩ min. at 500VDC
- DIELECTRIC STRENGTH** : 1,500V RMS @ sea level
- OPERATION TEMPERATURE** : -25°C to 85°C
- MECHANICAL LIFE** : Momentary 1,000,000 cycles
Latching 500,000 cycles
- ELECTRICAL LIFE** : 16A /125&250VAC 50,000 CYCLES
26A /125&250VAC 10,000 CYCLES
- OPERATION PRESSURE** : 3.5±1.5N
- TRAVEL** : About 3.2mm
- INGRESS PROTECTION** : IP67, IK08(Stainless)
- TORQUE**: 1~3Nm.

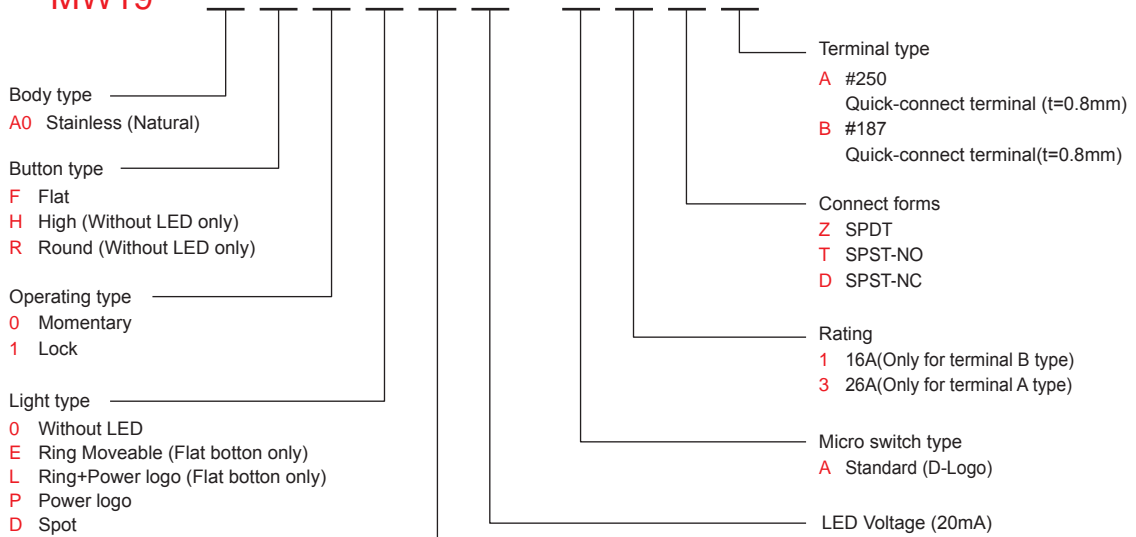


MATERIALS

- BUSHING** : Stainless Steel
- BASE** : PBT(UL 94-V0) , PC(UL 94-V2)
- ACTUATOR** : PC ; Stainless Steel
- INNER ASSEMBLY** : POM / PA66.
- SPRING** : Steel.
- SEALING** : Silicone.
- O-Ring** : Silicone.
- TERMINAL**: Brass, Silver plated.
- HEX NUT** : Nickel plated brass.

HOW TO ORDER

MW19



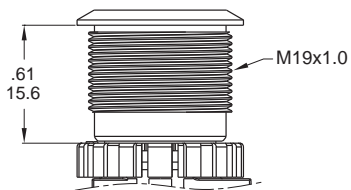
ITEM NO	COLOR
0	Without LED
1	White
3	Red
5	Yellow
6	Green
7	Blue
DUAL COLOR LED	
A	Red&Green
B	Red&Blue

ITEM NO	VOLTAGE
0	Without resistor
3	3V
6	6V
12	12V
24	24V
36	36V
110	110V
220	220V

EXAMPLE:
 MW19-A0R0000-A3ZA(Without LED)
 MW19-A0F0E □ □ -A3ZA
 LED color □ □ LED voltage

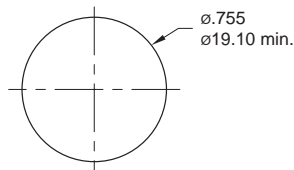
BODY TYPE

A0



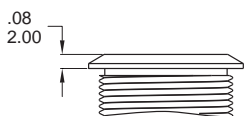
PANEL MOUNTING

Max. Panel thickness: 10.0mm[.39]

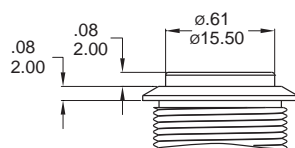


BUTTON TYPE

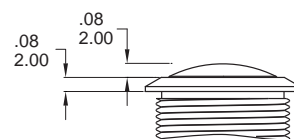
F Flat Button



H High Button

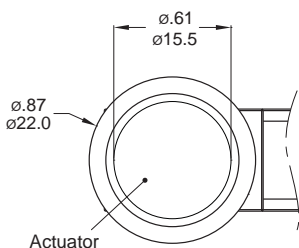


R Round Button (Without LED only)

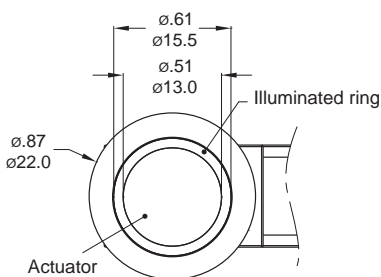


LIGHT TYPE

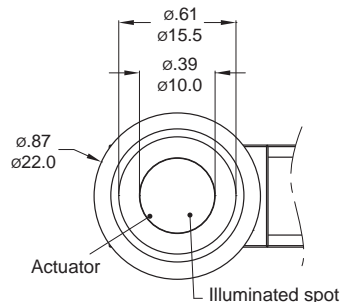
O Without LED



E Ring Moveable

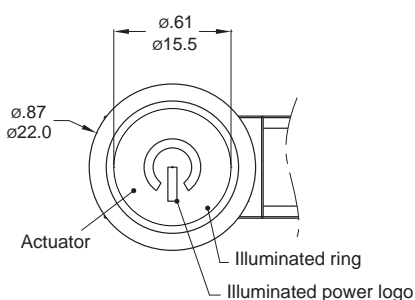


D Spot

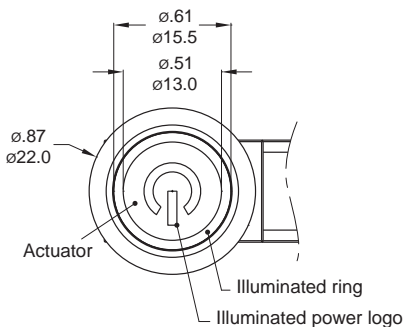


* Flat bottom for E light type only.

P Power logo



L Ring+Power logo

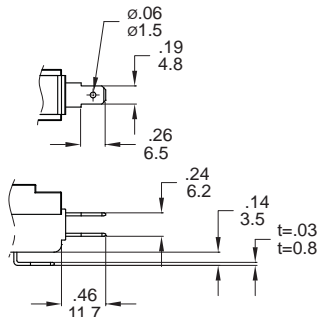


* Flat bottom for L light type only.

TERMINAL TYPE

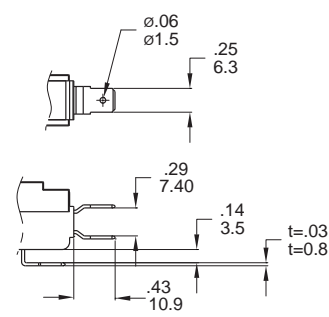
#187 Only 16A

Quick-connect
terminal (t=0.8mm[.03])



#250 Only 26A

Quick-connect
terminal (t=0.8mm[.03])



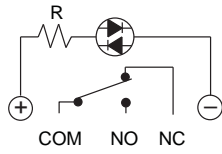
MW19

19mm High Current Metal Pushbutton Switches

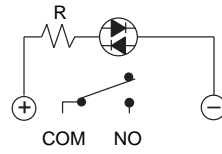
CIRCUIT



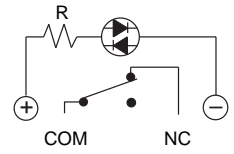
Non-LED



SPDT



SPST-NO



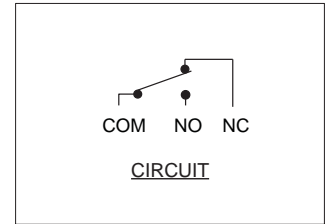
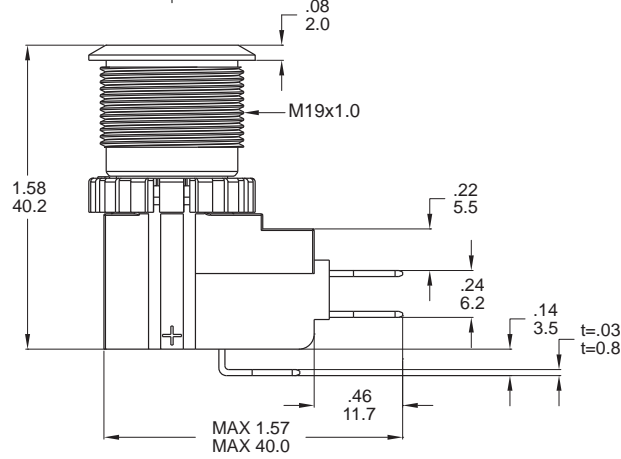
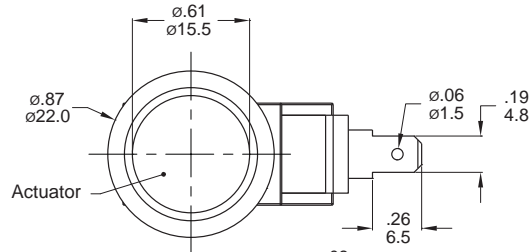
SPST-NC

DIMENSION

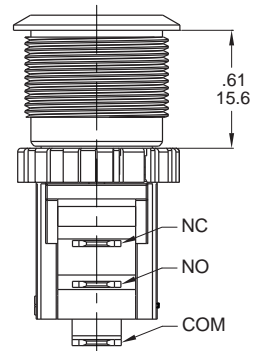
0 Without LED



Part No. Shown :
MW19-A0F0000-A1ZB



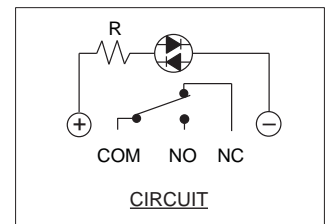
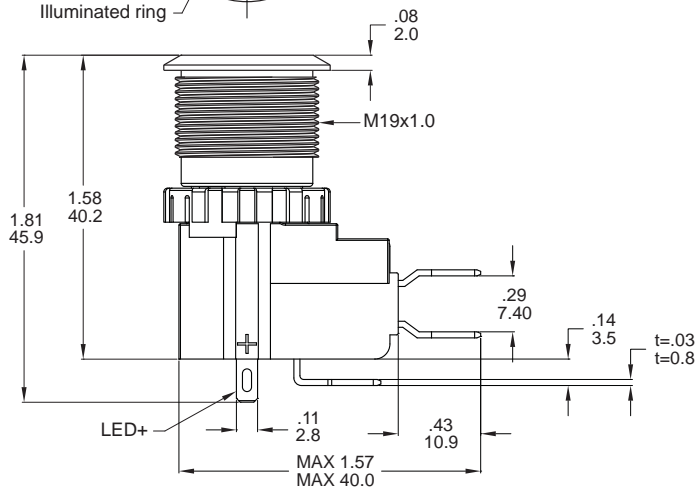
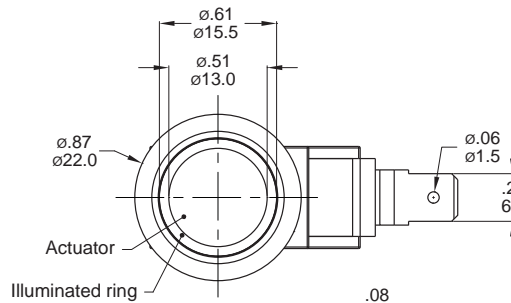
CIRCUIT



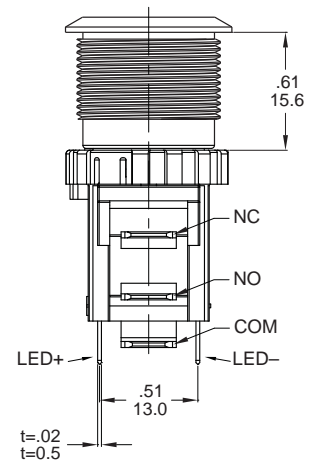
E Ring Moveable
(Flat bottom only)



Part No. Shown :
MW19-A0F0E3-A3ZA



CIRCUIT





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



22mm High Current Metal Pushbutton Switches

MW22

SPECIFICATIONS

- RATING** : 16A, 26A 250/125VAC.
- CONTACT RESISTANCE** : 50 mΩ max. @ 1A 12VDC (initial value)
- INSULATION RESISTANCE** : 100 MΩ min. at 500VDC
- DIELECTRIC STRENGTH** : 1,500V RMS @ sea level
- OPERATION TEMPERATURE** : -25°C to 85°C
- MECHANICAL LIFE** : Momentary 1,000,000 cycles
Latching 500,000 cycles
- ELECTRICAL LIFE** : 16A /125&250VAC 50,000 CYCLES
26A /125&250VAC 10,000 CYCLES
- OPERATION PRESSURE** : 3.5±1.5N
- TRAVEL** : About 3.2mm
- INGRESS PROTECTION** : IP67, IK08(Stainless)
- TORQUE**: 1~3Nm.

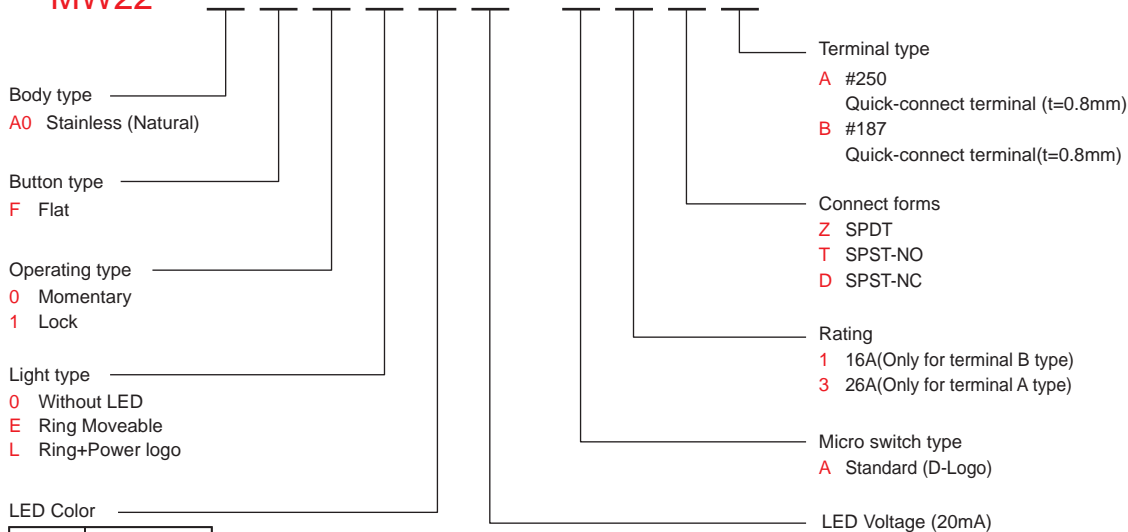


MATERIALS

- BUSHING** : Stainless Steel
- BASE** : PBT(UL 94-V0) , PC(UL 94-V2)
- ACTUATOR** : PC ; Stainless Steel
- INNER ASSEMBLY** : POM / PA66.
- SPRING** : Steel.
- SEALING** : Silicone.
- O-Ring** : Silicone.
- TERMINAL**: Brass, Silver plated.
- HEX NUT** : Nickel plated brass.

HOW TO ORDER

MW22



Body type
A0 Stainless (Natural)

Button type
F Flat

Operating type
0 Momentary
1 Lock

Light type
0 Without LED
E Ring Moveable
L Ring+Power logo

LED Color

ITEM NO	COLOR
0	Without LED
1	White
3	Red
5	Yellow
6	Green
7	Blue
DUAL COLOR LED	
A	Red&Green
B	Red&Blue

ITEM NO	VOLTAGE
0	Without resistor
3	3V
6	6V
12	12V
24	24V
36	36V
110	110V
220	220V

EXAMPLE:
MW22-A0R0000-A3ZA(Without LED)
MW22-A0F0E □ □ -A3ZA
LED color □ □ LED voltage

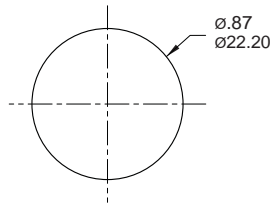
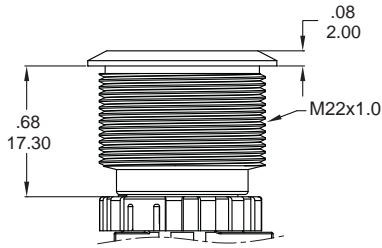
MW22

22mm High Current Metal Pushbutton Switches

A0

PANEL MOUNTING

Max. Panel thickness: 10.0mm[.39]

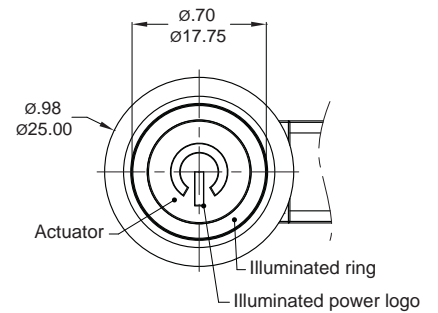
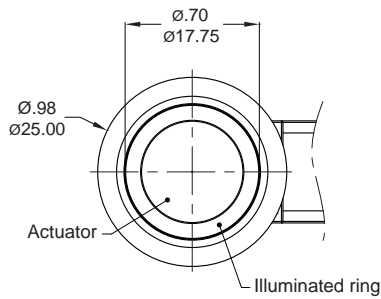
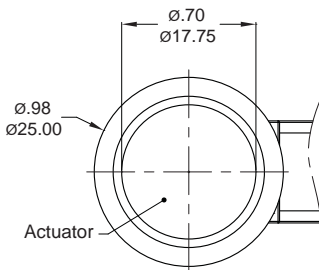


LIGHT TYPE

0 Without LED

E Ring Moveable

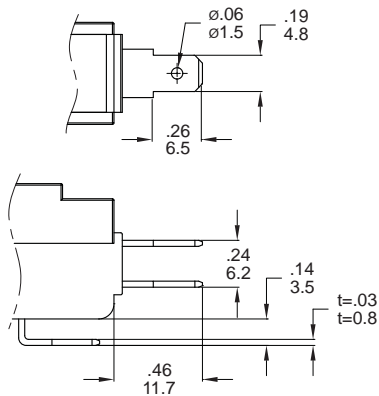
L Ring+Power logo



TERMINAL TYPE

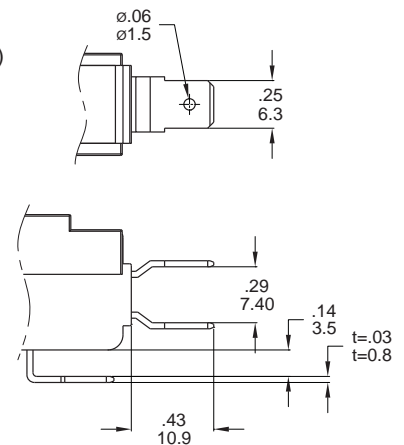
#187 Only 16A

Quick-connect terminal (t=0.8mm[.03])

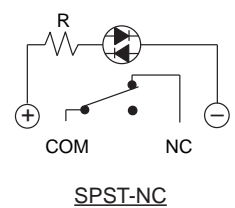
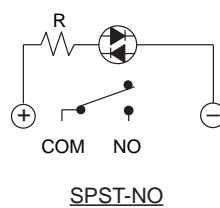
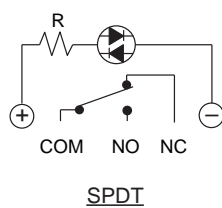
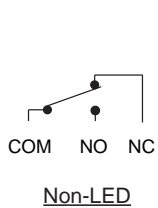


#250 Only 26A

Quick-connect terminal (t=0.8mm[.03])



CIRCUIT



22mm High Current Metal Pushbutton Switches

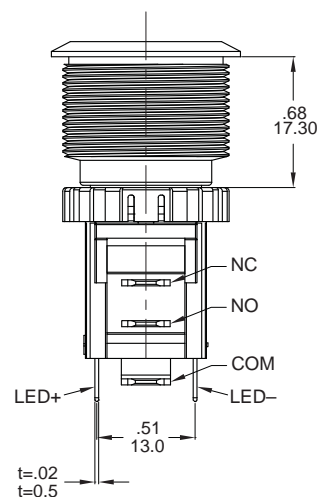
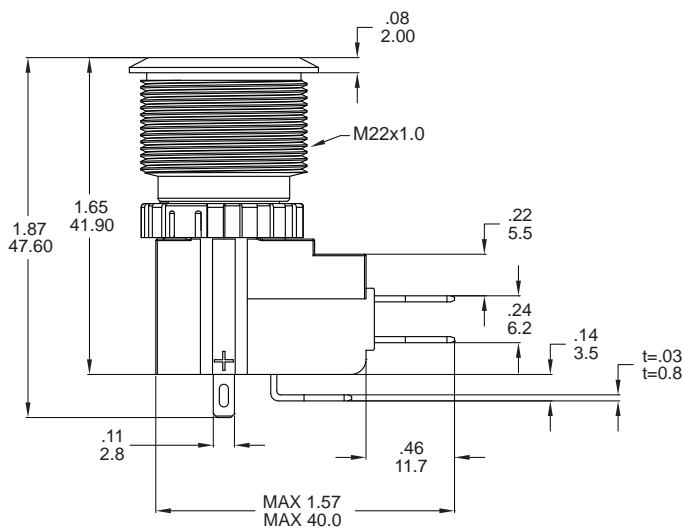
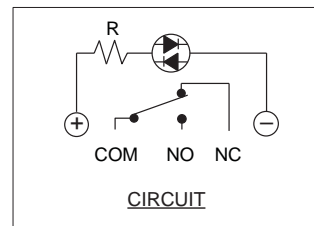
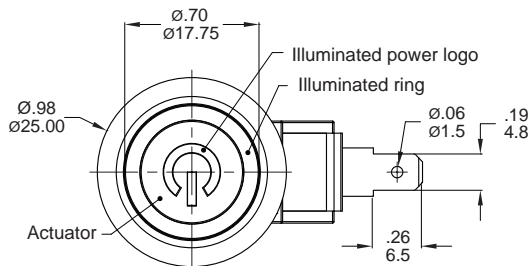
MW22

DIMENSION

L Ring+Power logo



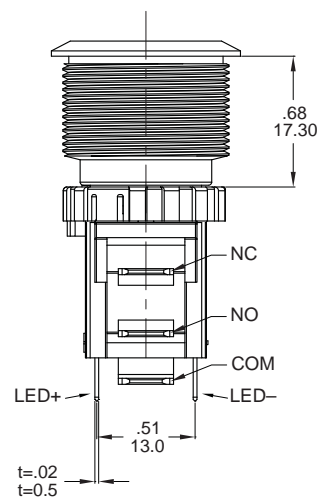
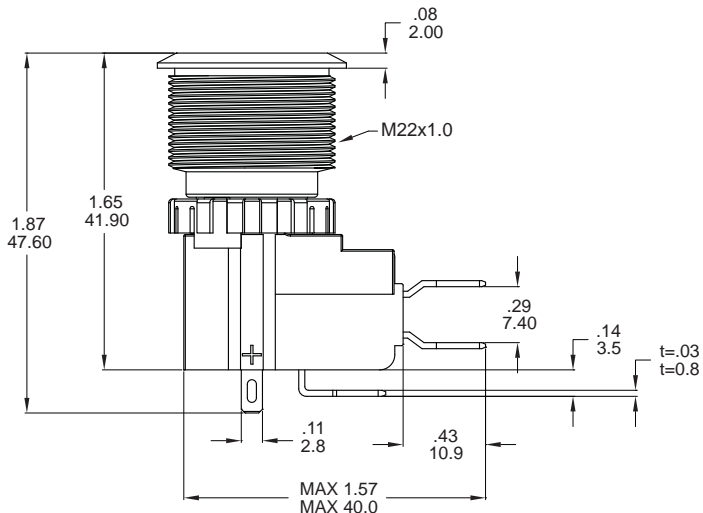
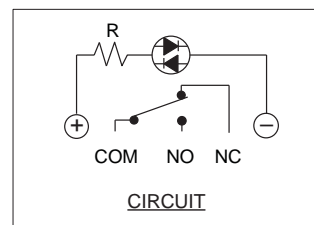
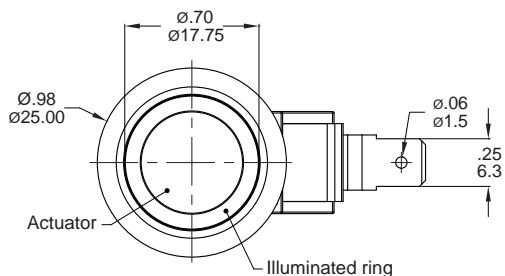
Part No. Shown :
MW22-A0F1L7□-A1ZB



E Ring Moveable



Part No. Shown :
MW22-A0F0E6□-A3ZA



MW25

25mm High Current Metal Pushbutton Switches



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



SPECIFICATIONS

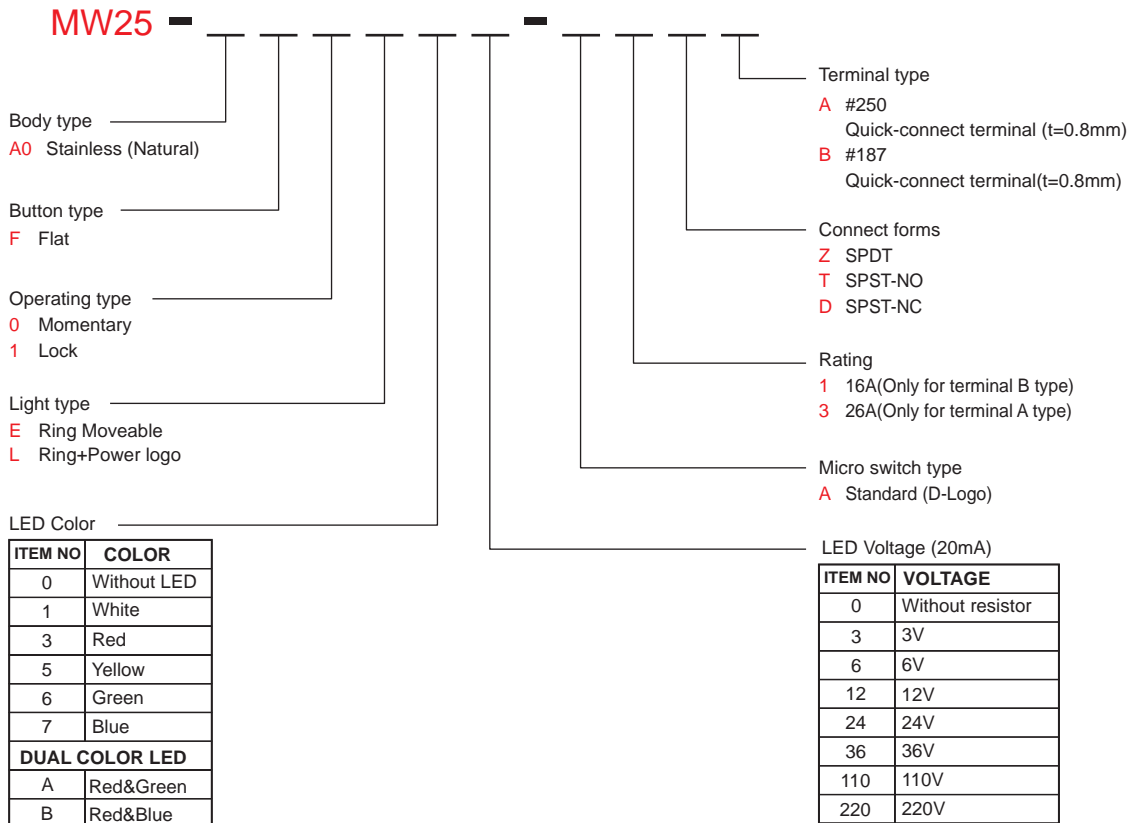
- RATING** : 16A, 26A 250/125VAC.
- CONTACT RESISTANCE** : 50 mΩ max. @ 1A 12VDC (initial value)
- INSULATION RESISTANCE** : 100 MΩ min. at 500VDC
- DIELECTRIC STRENGTH** : 1,500V RMS @ sea level
- OPERATION TEMPERATURE** : -25°C to 85°C
- MECHANICAL LIFE** : Momentary 1,000,000 cycles
Latching 500,000 cycles
- ELECTRICAL LIFE** : 16A /125&250VAC 50,000 CYCLES
26A /125&250VAC 10,000 CYCLES
- OPERATION PRESSURE** : 3.5±1.5N
- TRAVEL** : About 3.2mm
- INGRESS PROTECTION** : IP67, IK08(Stainless)
- TORQUE**: 1~3Nm.



MATERIALS

- BUSHING** : Stainless Steel
- BASE** : PBT(UL 94-V0) , PC(UL 94-V2)
- ACTUATOR** : PC ; Stainless Steel
- INNER ASSEMBLY** : POM / PA66.
- SPRING** : Steel.
- SEALING** : Silicone.
- O-Ring** : Silicone.
- TERMINAL**: Brass, Silver plated.
- HEX NUT** : Nickel plated brass.

HOW TO ORDER



EXAMPLE:
MW25-A0R0E00-A3ZA(Without LED)
MW25-A0F0E -A3ZA
LED color LED voltage

25mm High Current Metal Pushbutton Switches

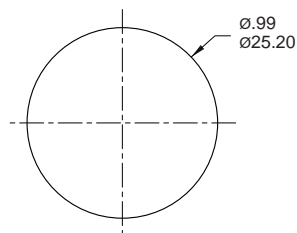
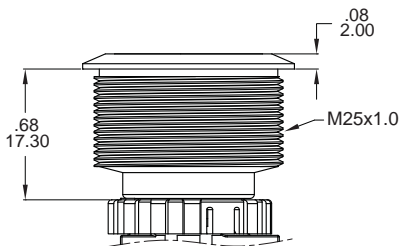
MW25

BODY TYPE

A0

PANEL MOUNTING

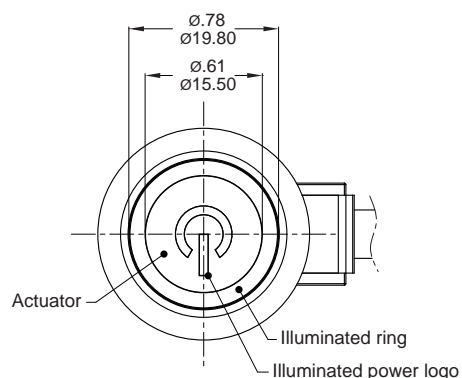
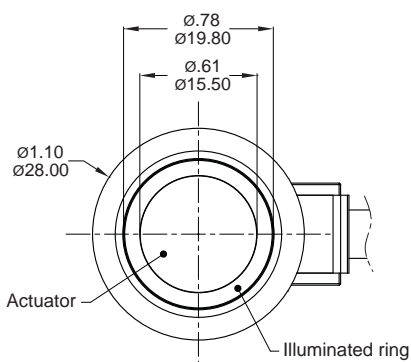
Max. Panel thickness: 10.0mm [.39]



LIGHT TYPE

E Ring Moveable

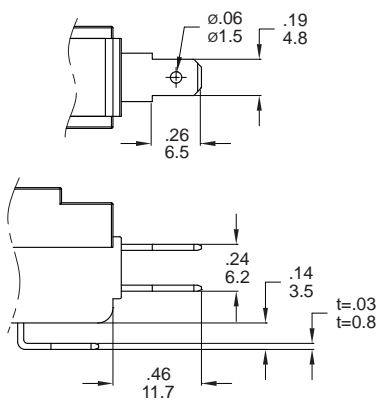
L Ring+Power logo



TERMINAL TYPE

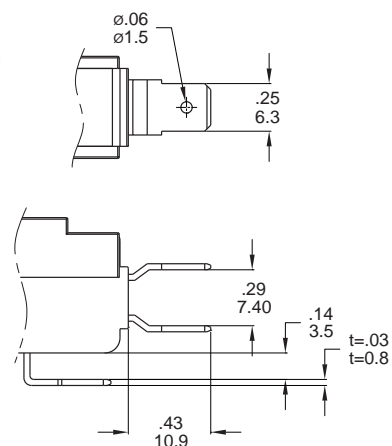
#187 Only 16A

Quick-connect terminal (t=0.8mm [.03])

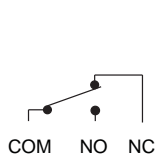


#250 Only 26A

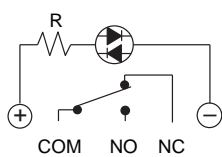
Quick-connect terminal (t=0.8mm [.03])



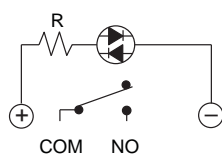
CIRCUIT



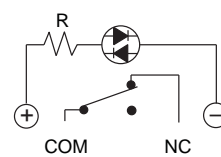
Non-LED



SPDT



SPST-NO



SPST-NC

MW25

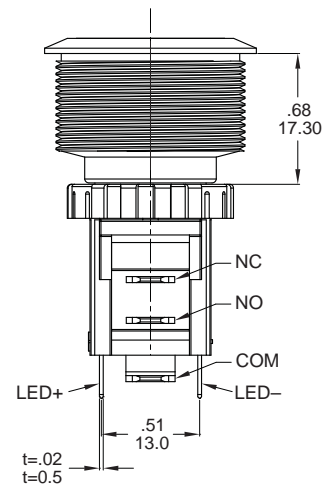
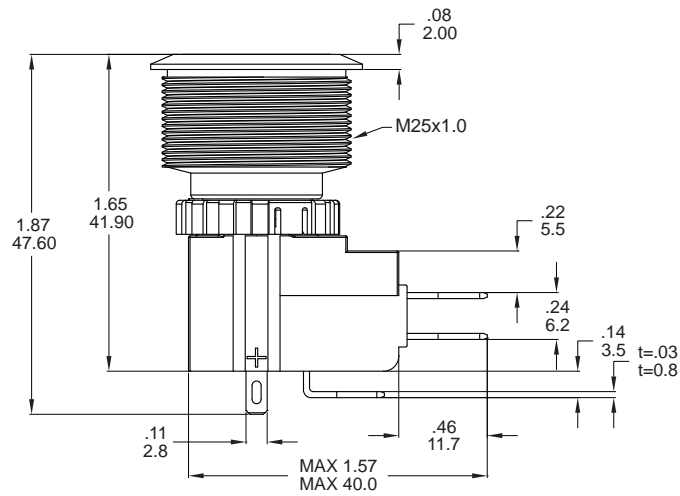
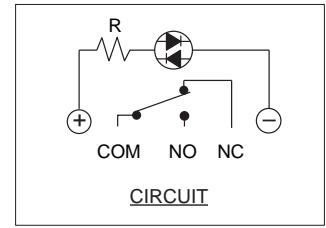
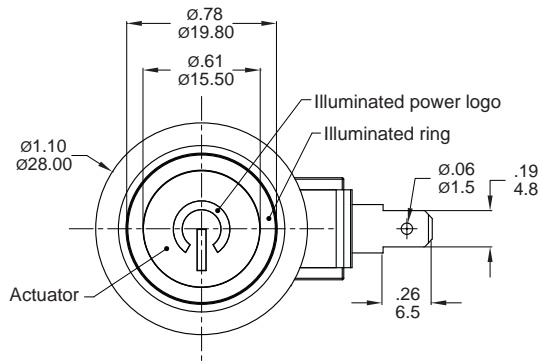
25mm High Current Metal Pushbutton Switches

DIMENSION

L Ring+Power logo



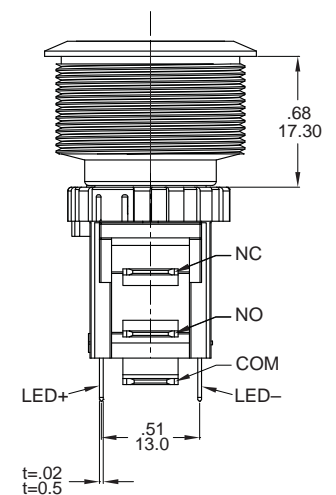
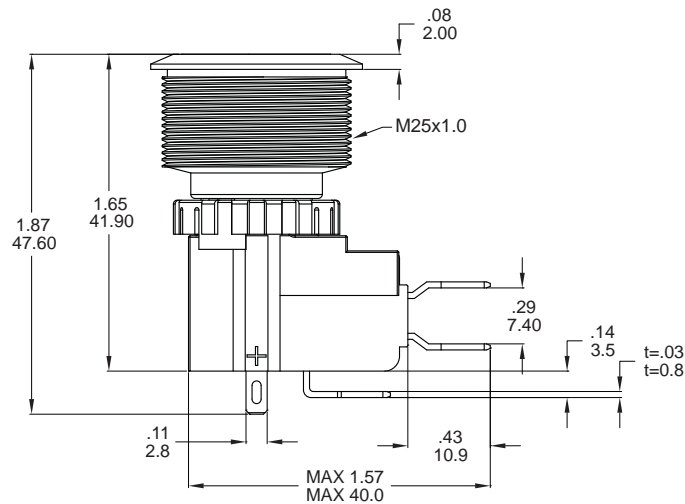
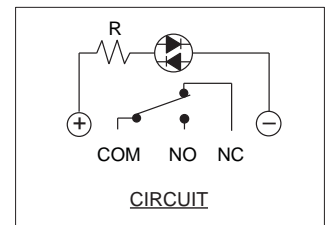
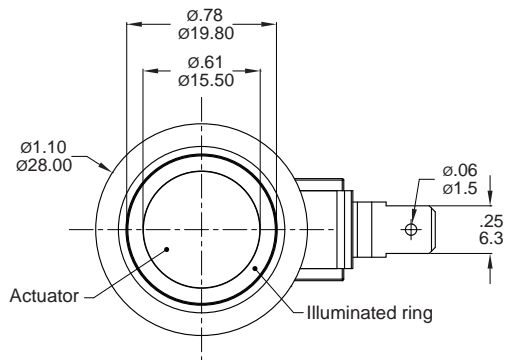
Part No. Shown :
MW25-A0F1L1□-A1ZB



E Ring Moveable



Part No. Shown :
MW25-A0F0E7□-A3ZA





22mm Illuminated Pushbutton Switches

KPB22

SPECIFICATIONS

RATING : 1th 5A/250VAC. resistive load 3A/250VAC.
CONTACT RESISTANCE : 50mΩ MAX.@1A 12VDC(initial value).
INSULATION RESISTANCE : 1,000MΩ MIN at 500VDC.
DIELECTRIC STRENGTH : 2,000V RMS@sea level.
OPERATION TEMPERATURE : -20°C to 55°C.
MECHANICAL LIFE : Momentary 1,000,000 cycles
 Lock 500,000 cycles
ELECTRICAL LIFE : 50,000 make-and-break cycles at full load.
TORQUE : 1~3Nm.
PANEL THICKNESS : 6mm (Ø22.00mm)
OPERATION PRESSURE : 1Pole 2.5±1N / 2Poles 3.5±1N
TRAVEL : ABOUT 3.2mm.
INGRESS PROTECTION : IP65



MATERIALS

BEZEL : PC
BASE : PBT(UL 94-V0) & PC(UL 94-V2)
ACTUATOR : PC & POM.
INNER ASSEMBLY : POM. / PA66.
SPRING : Stainless steel.
SEALING : Silicone.
O-Ring : Silicone.
TERMINAL / CONTACT : Brass, Silver plated.
HEX NUT : PC.

HOW TO ORDER

KPB22

Bezel color
 8 Silver

Actuator Type
 000 Transparent Actuator,below all LED color available
 100 White Actuator,below all LED color available
 200 Black Actuator,Non-LED
 300 Transparent Red Actuator,LED in Red only.
 400 Transparent Orange Actuator,LED in Yellow only.
 600 Transparent Green Actuator,LED in Green only.
 700 Transparent Blue Actuator,LED in Blue only.
 800 Silver Actuator,Non-LED
 8P1 Silver Actuator+White power,below all LED color available
 8P2 Silver Actuator+Black power,Non-LED
 8P3 Silver Actuator+Red power,LED in red only
 8P6 Silver Actuator+Green power,LED in Green only
 8P7 Silver Actuator+Blue power,LED in Blue only

Button type
 F Flat

Contact configuration
 1 1NO 1NC
 2 2NO 2NC

Operating type
 0 Momentary
 1 Lock

Terminal plating
 Q Silver
 R Gold

Terminal shape
 J Solder terminal

LED voltage (20mA)

ITEM NO	VOLTAGE
0	Without LED or resistor
3	3V
6	6V
12	12V
24	24V
36	36V
110	110V
220	220V

LED color

ITEM NO	COLOR
0	Without LED
1	White
3	Red
5	Yellow
6	Green
7	Blue

EXAMPLE:

KPB22-88P1-F10-□□-JQ

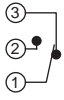
LED color □ □ LED voltage

KPB22

22mm Illuminated Pushbutton Switches

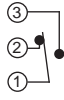
CIRCUIT

POSITION 1

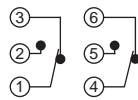


Without LED (1 Pole)

POSITION 2

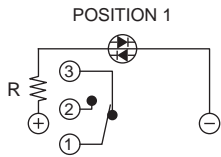
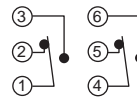


POSITION 1

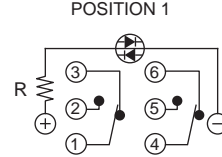
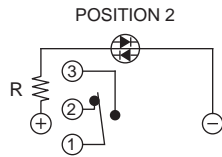


Without LED (2 Poles)

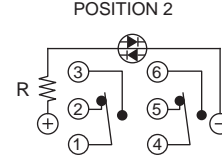
POSITION 2



Single Color Led (1 Pole)

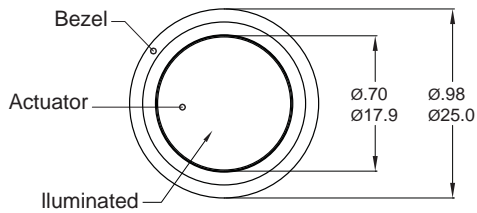


Dual Color Led (2 Poles)

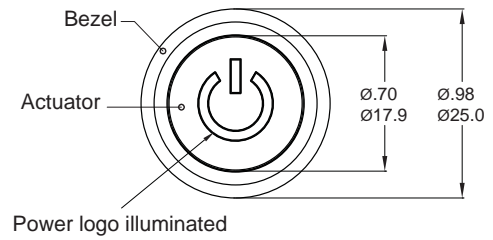


ACTUATOR TYPE

X00 Transparent Actuator

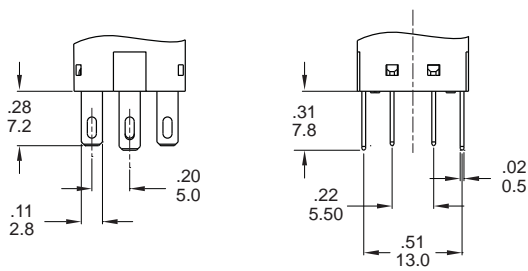


8PX Power



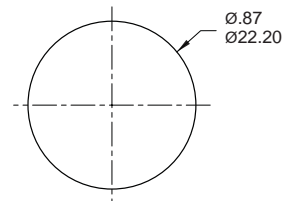
TERMINAL TYPE

J Solder terminal (std)



PANEL MOUNTING

Max. Panel thickness: 6.0mm [.24]



O-RING INSTALLATION

Proposal	In front of the panel
Installation Diagram	

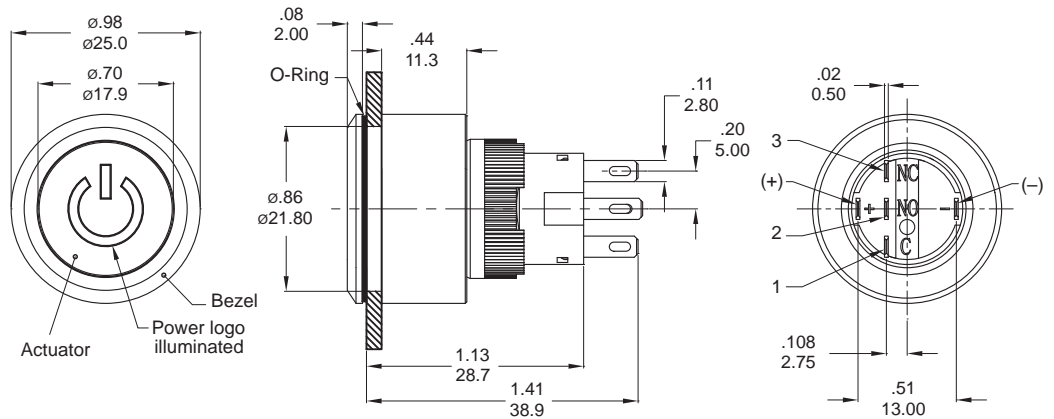
22mm Illuminated Pushbutton Switches

ACTUATOR TYPE

8P1



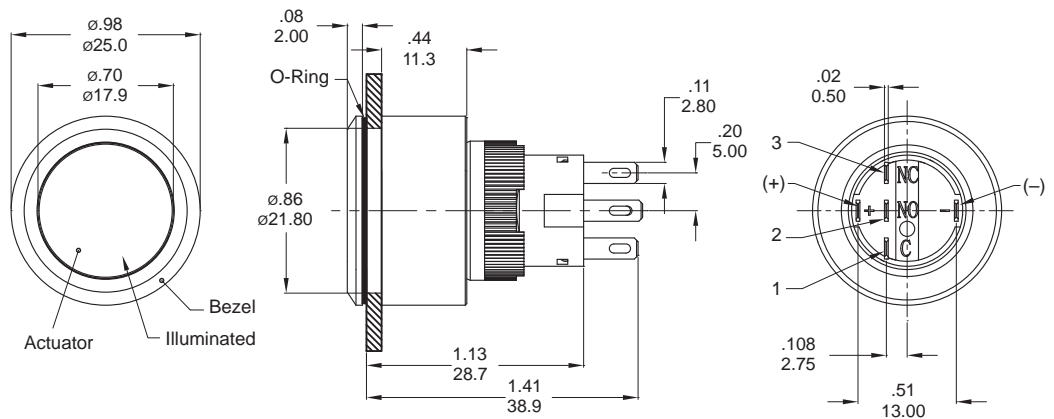
Part No. Shown :
KPB22-88P1-F10-□□-JQ



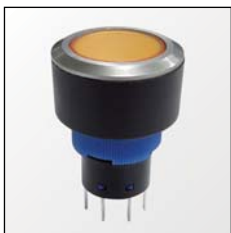
000



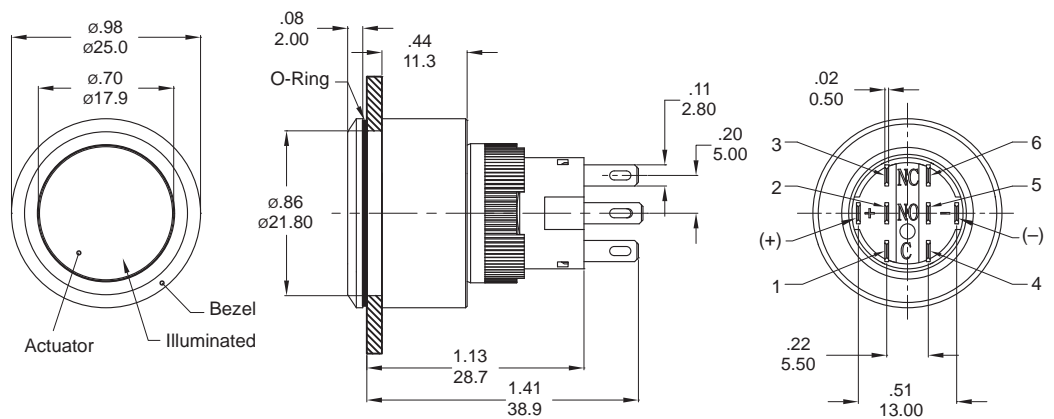
Part No. Shown :
KPB22-8000-F10-□□-JQ



400



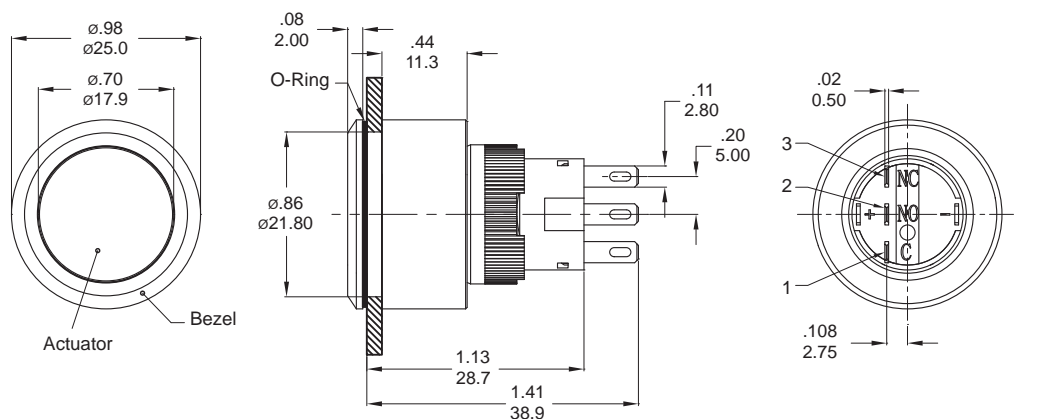
Part No. Shown :
KPB22-8400-F20-5□□-JQ



800 Non-LED



Part No. Shown :
KPB22-8800-F10-JQ



SPECIFICATIONS

RATING : 5-24V / 1A DC

OPERATING LIFE : 50 MILLION CYCLE MIN.

CONTACT RESISTANCE : 1Ω MAX.

OPERATING TEMPERATURE: -20°C to 65°C.

MATERIALS

BUSHING: Aluminum alloy / Stainless steel.

CAP : PC ; Aluminum alloy / Stainless steel.

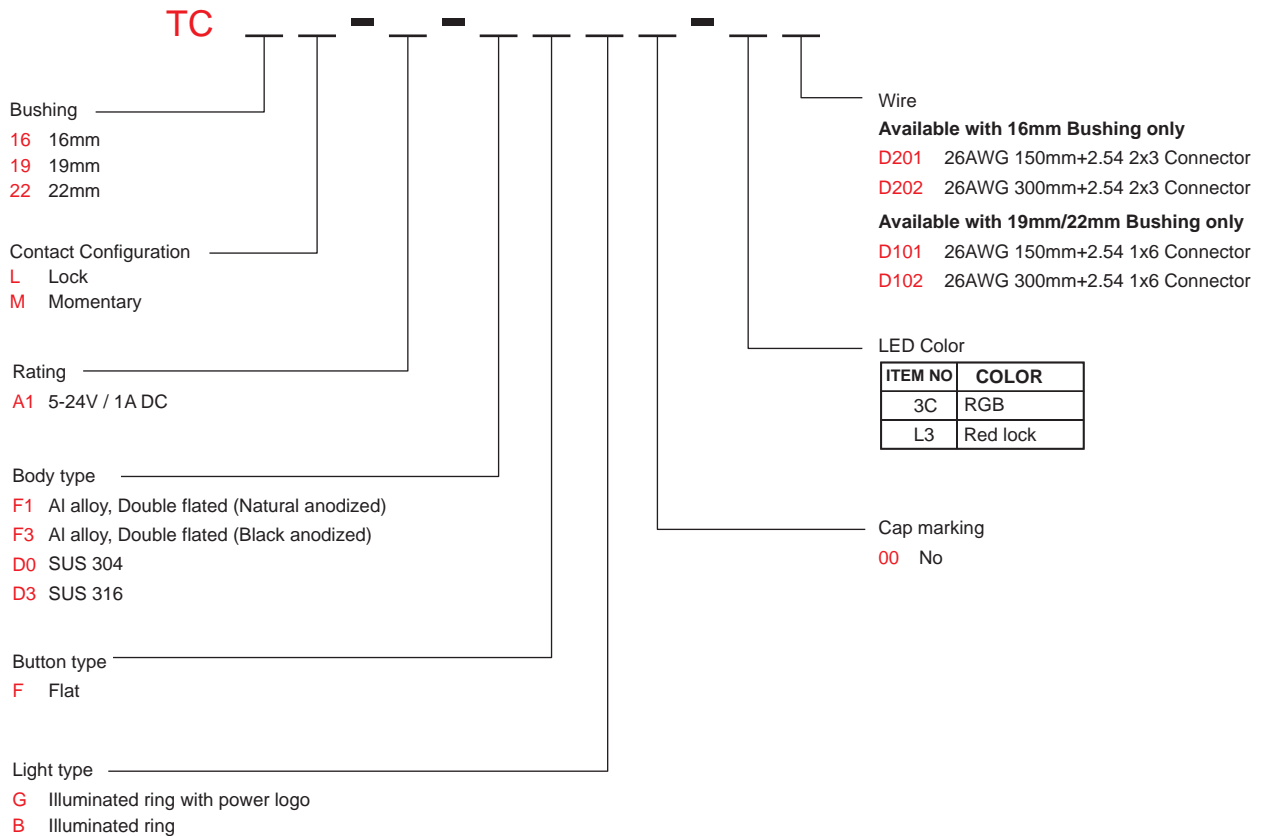
SEALING : Silicone,EPOXY.

O-RING: Silicone.

HEX NUT : Nickel plated brass.



HOW TO ORDER



EXAMPLE:

TC16M-A1-F1FG00-3CD201

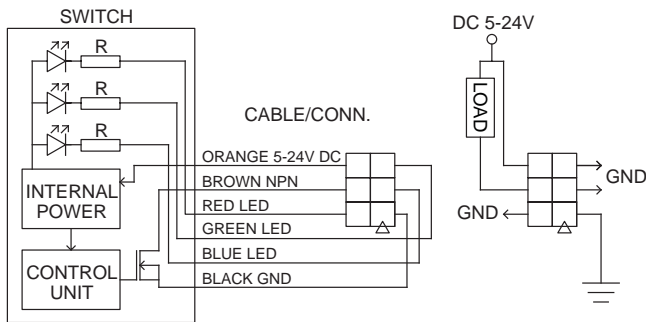
TC19M-A1-F1F□00-3CD101

Light type Wire

CIRCUIT

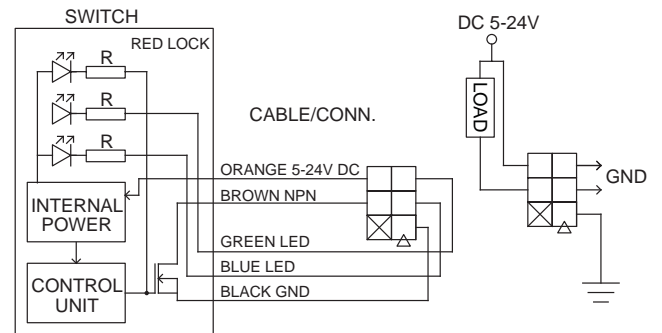
3C color led application diagram

Available with 16mm Bushing only



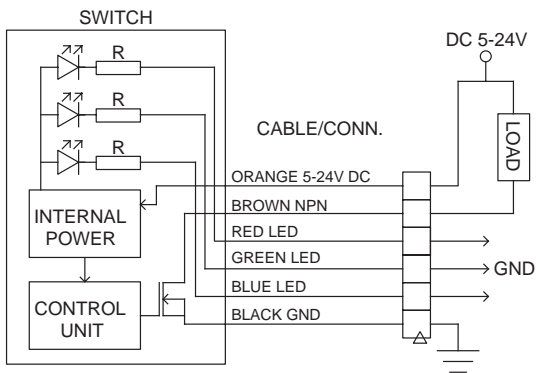
L3 color led application diagram

Available with 16mm Bushing only



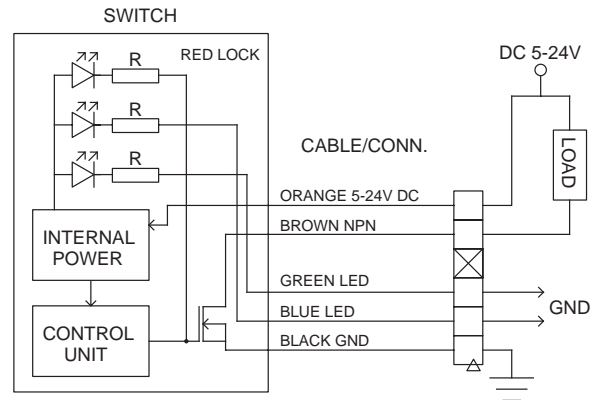
3C color led application diagram

Available with 19mm/22mm Bushing only



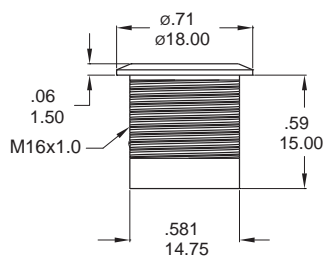
L3 color led application diagram

Available with 19mm/22mm Bushing only

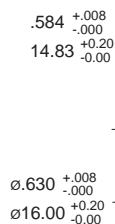


BUSHING

16mm

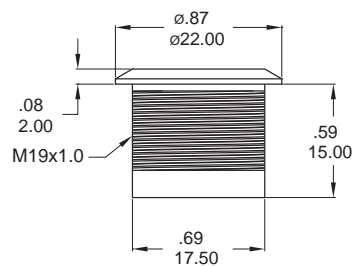


PANEL CUTOUT

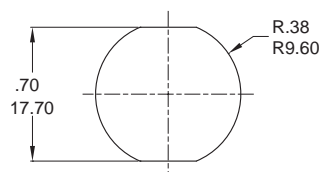


Max. Panel thickness: 8.0mm [.315] (Max.)

19mm

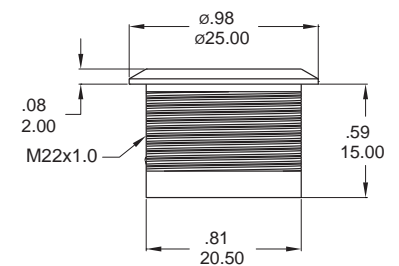


PANEL CUTOUT

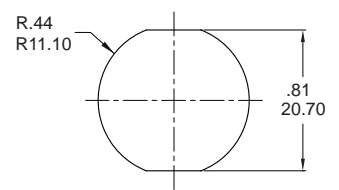


Max. Panel thickness: 10.0mm [.394]

22mm



PANEL CUTOUT



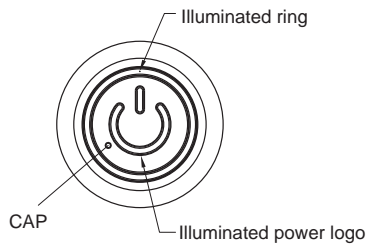
Max. Panel thickness: 10.0mm [.394]

TC

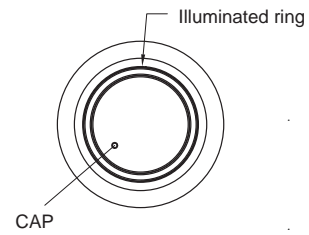
Capacitive switches

LIGHT TYPE

G Illuminated Ring with Power logo

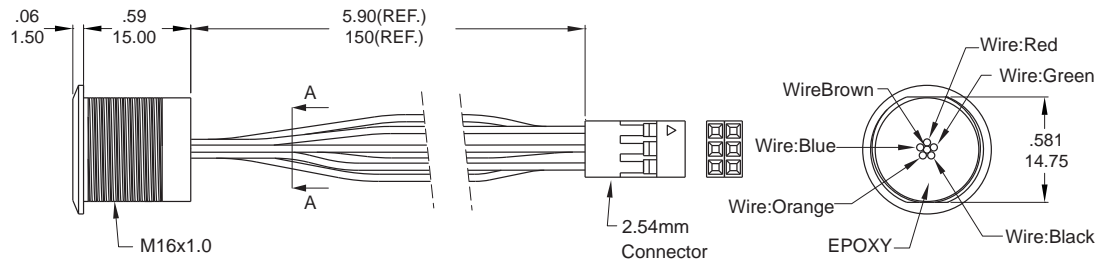


B Illuminated Ring



BUSHING

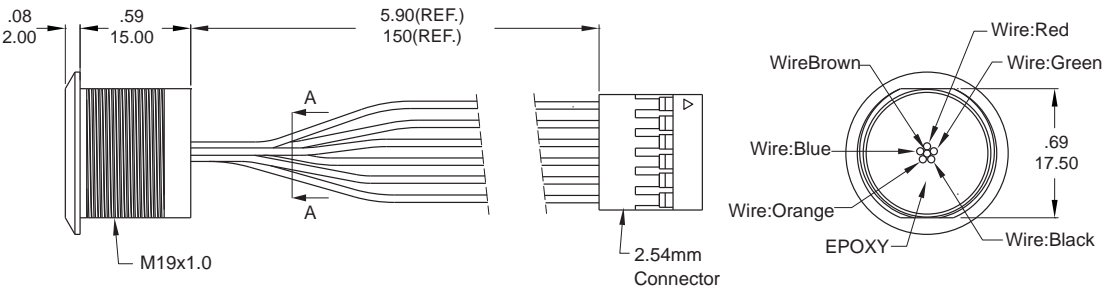
TC16



Part No. Shown :
TC16□-A1-F1FB00-3CD201

SECTION A-A

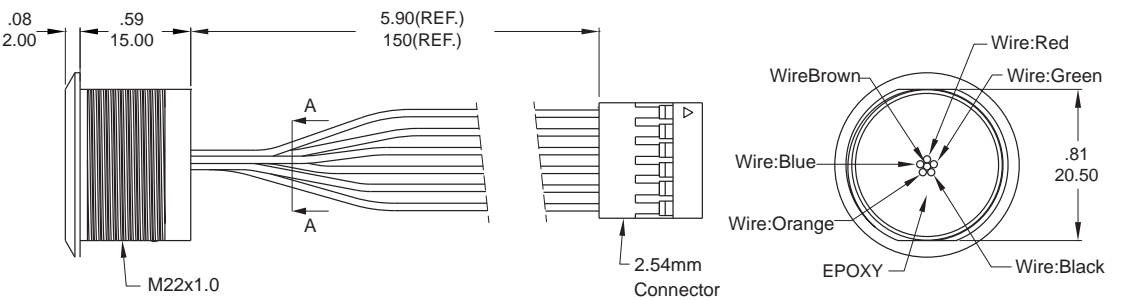
TC19



Part No. Shown :
TC19□-A1-F1FG00-3CD101

SECTION A-A

TC22



Part No. Shown :
TC22□-A1-F1FG00-3CD101

SECTION A-A



Piezo switches (Pulse)

TZ

SPECIFICATIONS

RATING : 5-24VADC/1A PULSE MODE.

OPERATING LIFE : 50 MILLION CYCLE MIN.

CONTACT RESISTANCE : 1Ω MAX.

OPERATING TEMPERATURE: -20°C to 65°C.

MATERIALS

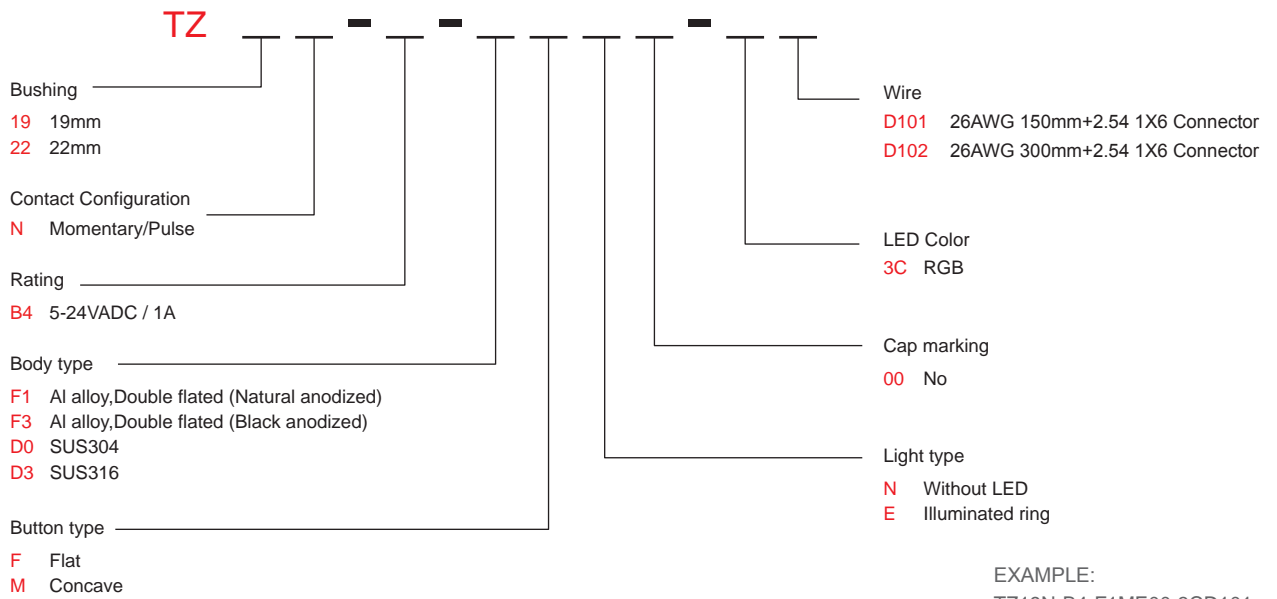
BUSHING: Aluminum alloy / Stainless steel.

SEALING : Silicone,EPOXY.

HEX NUT : Nickel plated brass.

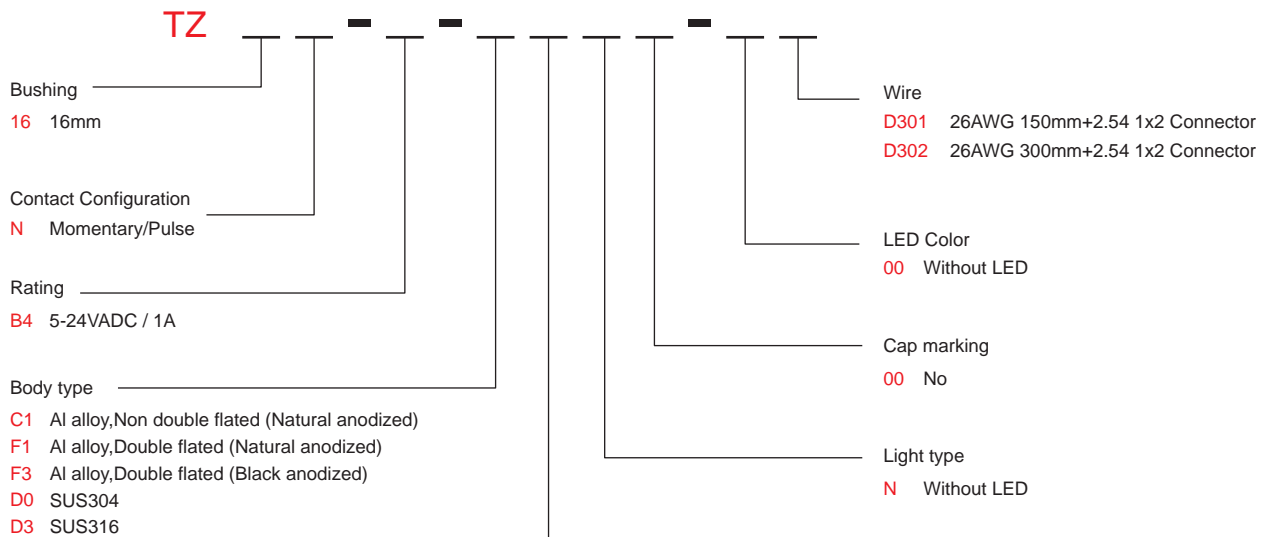


HOW TO ORDER



EXAMPLE:
TZ19N-B4-F1ME00-3CD101
Wire

HOW TO ORDER

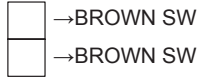


EXAMPLE:
TZ16N-B4-C1HN00-00D301
Wire

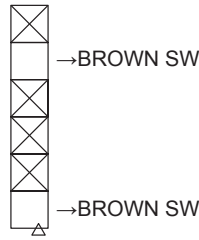
CIRCUIT

00 Without led application diagram

Available with 16mm Bushing only

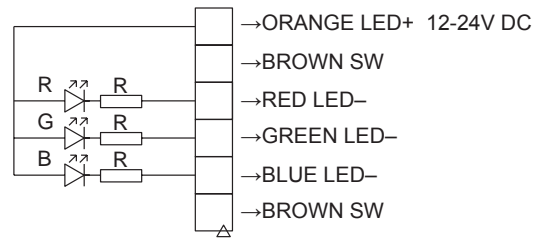


Available with 19mm/22mm Bushing only



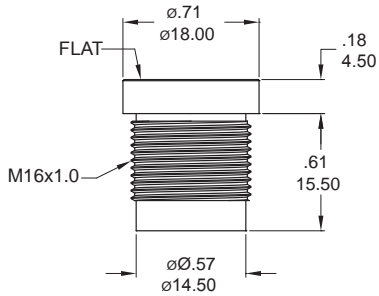
3C Color led application diagram

Available with 19mm/22mm Bushing only

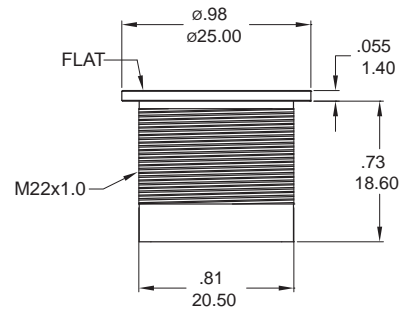
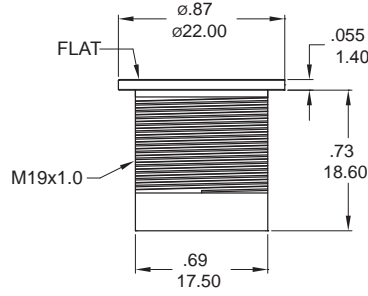


BUSHING

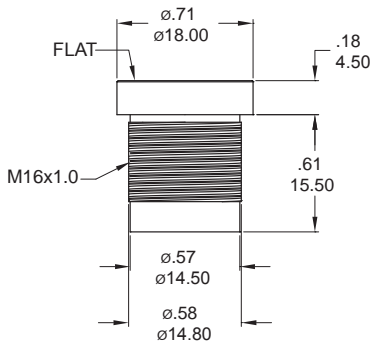
F Flat button type Non double flated



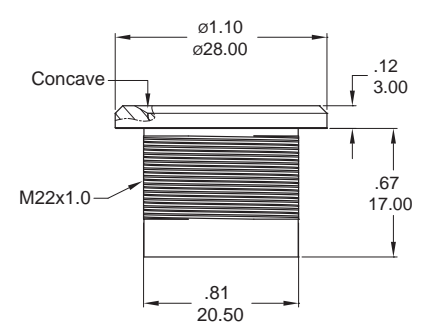
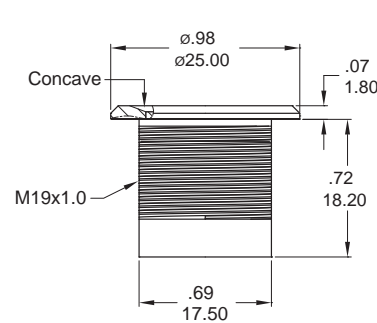
F Flat button type Double flated



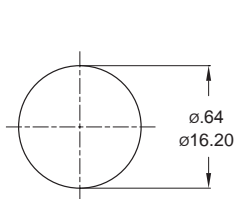
F Flat button type Double flated



M Concave button type Double flated

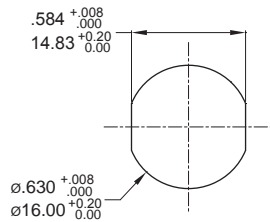


PANEL CUTOUT

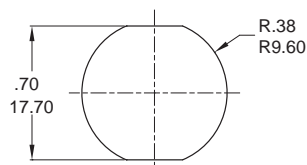


Non double flated

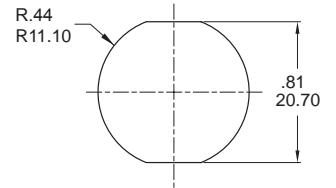
Available with 16mm Bushing only
Max.Panel thickness:8.0mm[.315](Max.)



Double flated



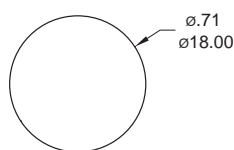
Available with 19mm Bushing only
Max.Panel thickness:10.0mm[.394]



Available with 22mm Bushing only
Max.Panel thickness:10.0mm[.394]

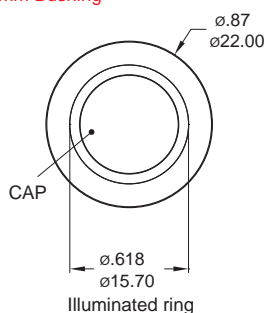
CIRCUIT

F Flat button type (Without led)

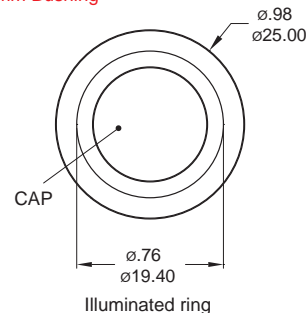


F Flat button type (Illuminated ring)

19mm Bushing

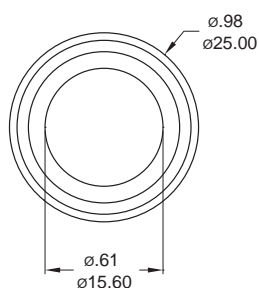


22mm Bushing

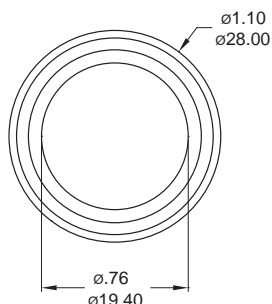


M Concave button type (Without led)

19mm Bushing

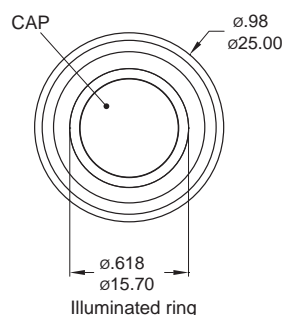


22mm Bushing

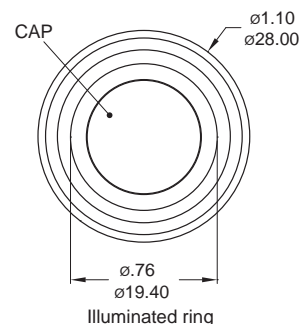


M Concave button type (Illuminated ring)

19mm Bushing

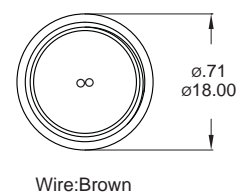
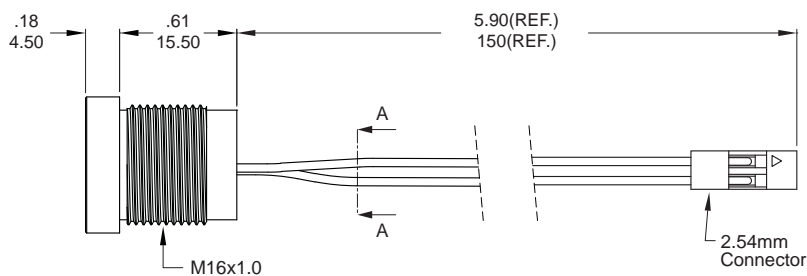


22mm Bushing



WIRE

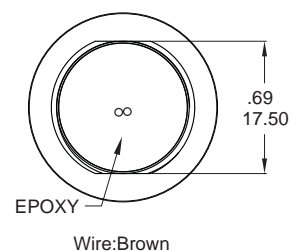
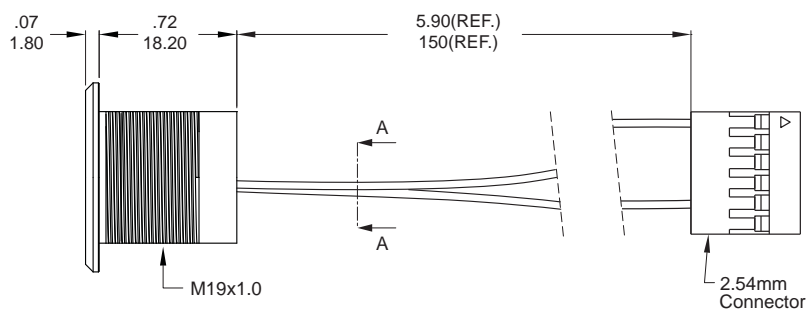
F Flat, Without led



Part No. Shown :
TZ16N-B4-C1HN00-00D301

SECTION A-A

M Concave, Without led

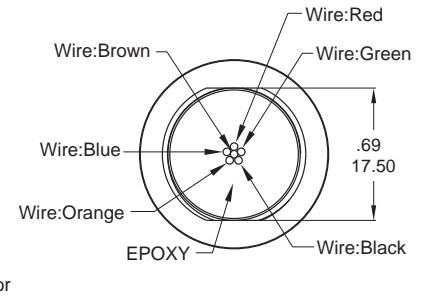
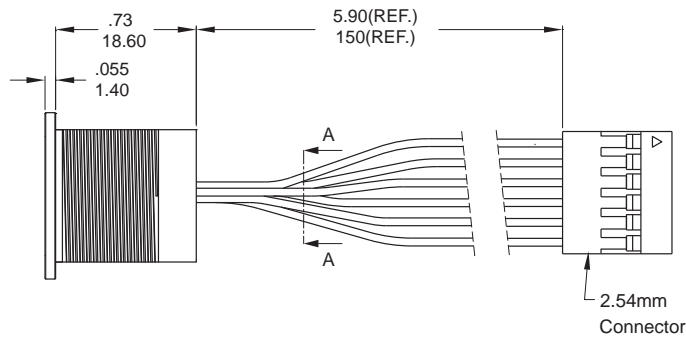


Part No. Shown :
TZ19N-B4-F1MN00-00D101

SECTION A-A

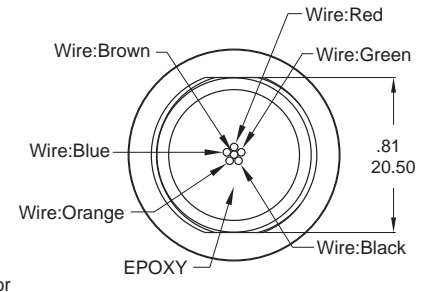
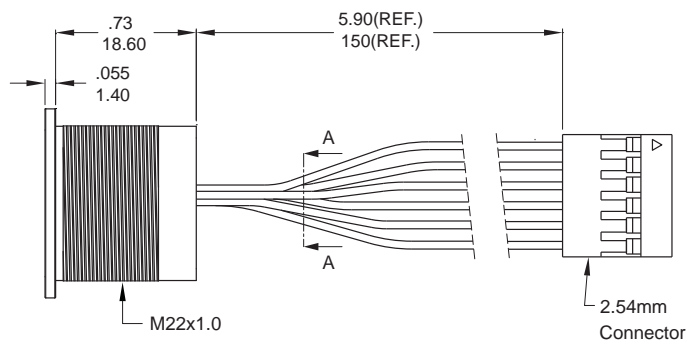
Piezo switches (Pulse)

F Flat,Illuminated ring



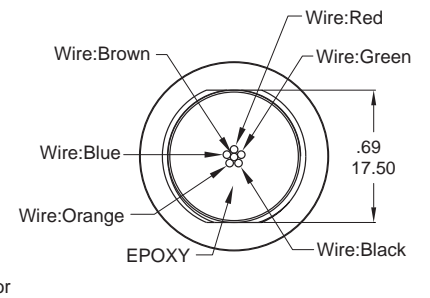
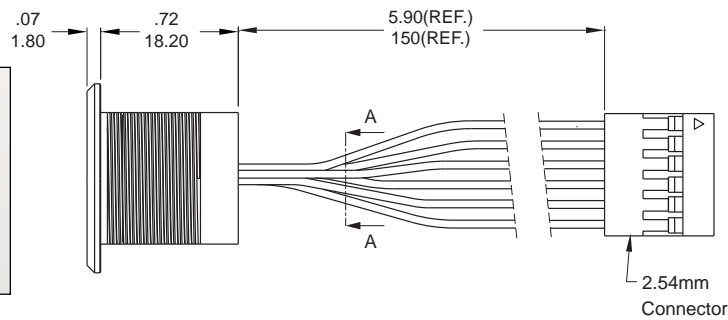
Part No. Shown :
TZ19N-B4-F1FE00-3CD101

F Flat,Illuminated ring



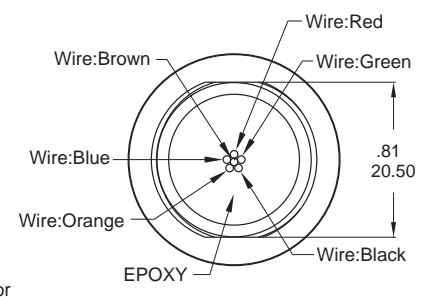
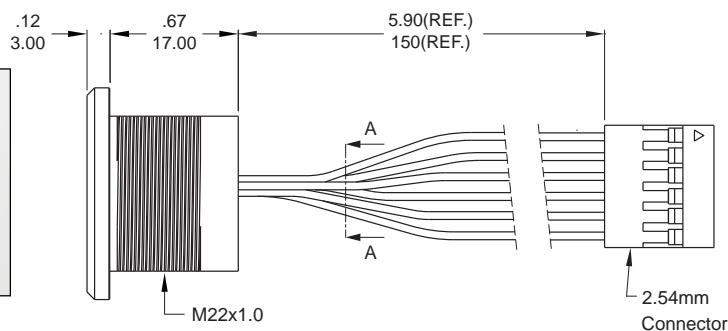
Part No. Shown :
TZ22N-B4-F1FE00-3CD101

M Concave,Illuminated ring



Part No. Shown :
TZ19N-B4-F1ME00-3CD101

M Concave,Illuminated ring



Part No. Shown :
TZ22N-B4-F1ME00-3CD101