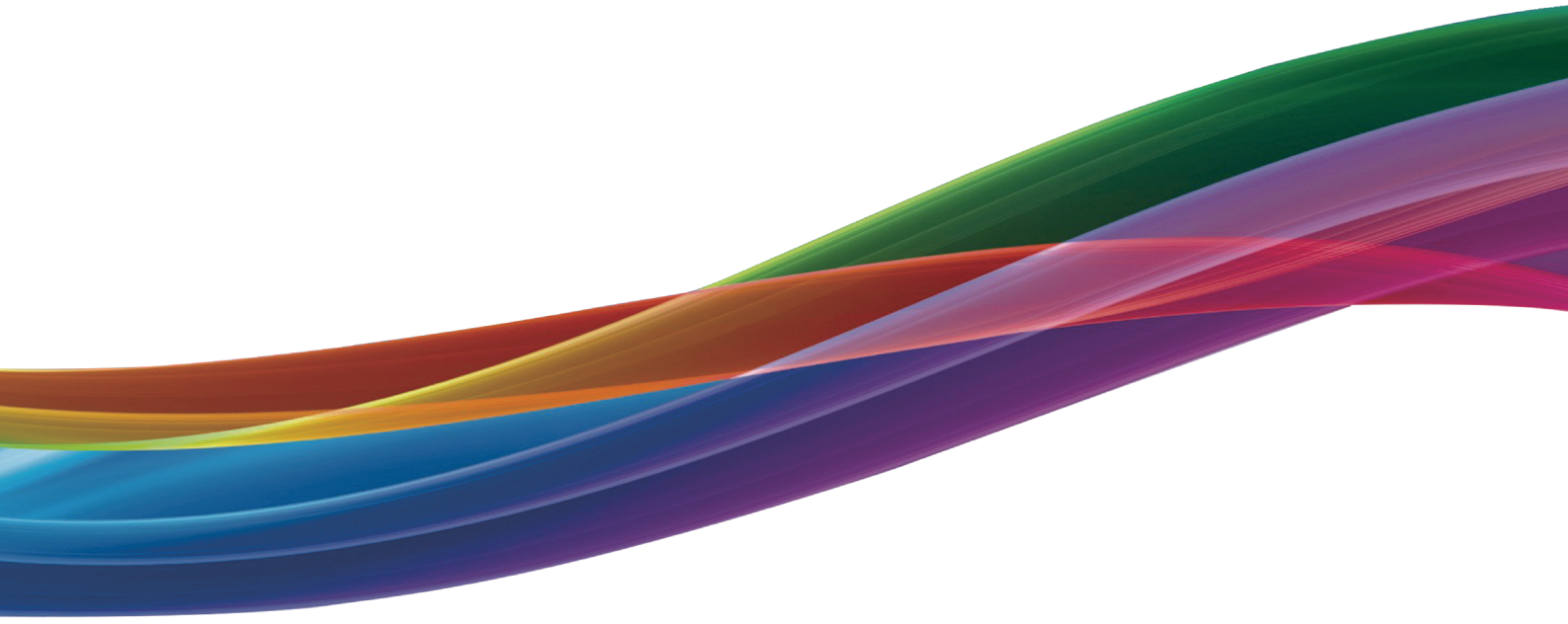
BALSEAL

Integrity · Reliability · Sustainability



PUSH BUTTON &INDICATOR Product Selection Manual

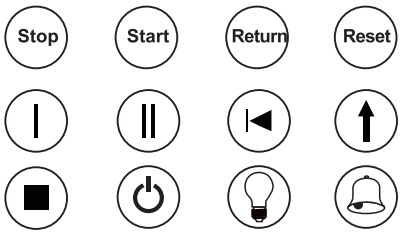
Waterproof Metal Button & Indicator
Automation Components

Rev.6.1,2021-02-10

- Mounting Diameter: 12, 16, 19, 22, 25 mm
- Ingress Protection: Ip67
- Gold-plated Contacts
- Ultra-bright Cool White LED Indicator
- Custom Logo Available
- Custom Colors & Sizes Available
- Compliant with CCC, CE and RoHS Standards



Customized Special Pattern



Compliant with Standards: IEC60947-5-1, GB14048.5

Model Selection

BAJ	22	–	P	–	T	–	11	–	G	–	20	–	*
Series Code	**Dimensions** 12:12mm 16:16mm 19:19mm 22:22mm 25:25mm		**Head Shape** P: Flat Head H: High Head U: Curved Head PD: Flat Head Illuminated HD: Raised Head Illuminated DD: Curved Head Illuminated GD: Raised Curved Head Illuminated		**Action Type** None: Momentary Pushbutton T: Latching Pushbutton		**Contact Form** 11:1NO+1NC 22:2NO+2NC		**Color** G: R: B: W: Y:		**Voltage** 22: AC220V 21: AC110V 20: DC24V 19: DC12V 18: DC6.3V		**Special Requirements** None: Standard Stainless Steel G: Chrome-plated Brass T: Nickel-plated Brass

Contact Rating

Rated Insulation Voltage	250			
Thermal Current	3A, current not exceeding the maximum rated value allowed			
Rated Operational Voltage				
Rated Operational Current	12V	24V	110V	220V
AC Resistive Load	--	--	5A	3A
AC Inductive Load	--	--	3A	2A
DC Resistive Load	5A	5A	1A	0.5A
DC Inductive Load	2A	2A	0.2A	0.1A
Contact Material	Silver with Gold Plating			

Minimum Applicable Load: 3V AC/DC, 5mA (Reference Value)
Applicable range depends on operating environment and load type

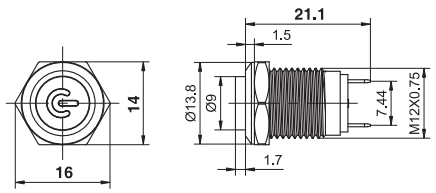
Lamp Specs

LED Type	Bi-directional LED (AC/DC Universal)
Rated Voltage	3V. 6V. 12V. 24V. 36V. 110V. 220VAC/DC
Rated Current	≈15mA ≈2mA
Illumination Color	
Life	40,000 hours (Reference Value)
LED Equivalent Circuit	 Built-in Resistor: For 6V LED, external resistor is required. Bi-directional AC/DC LED has no polarity at terminals. LEDs for 60V and below come with built-in protection circuit.

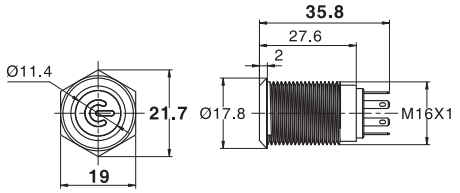
Unidirectional DC LED is available on request, other voltage specifications can be customized.

※The above data are initial values

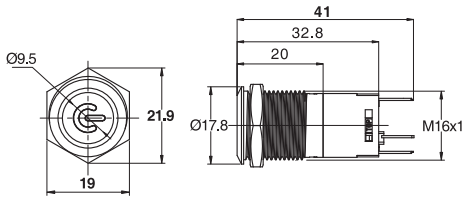
12: Power Symbol Pushbutton



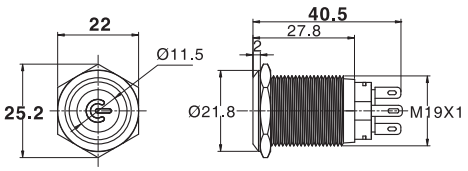
16: Power Symbol Pushbutton



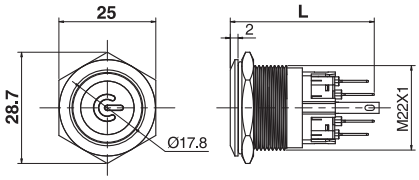
16: Power Symbol Pushbutton



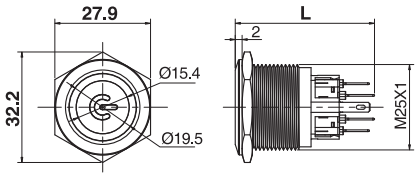
19: Power Symbol Pushbutton



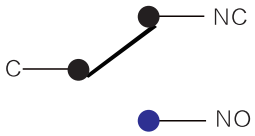
22: Power Symbol Pushbutton



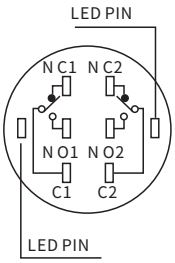
25: Power Symbol Pushbutton



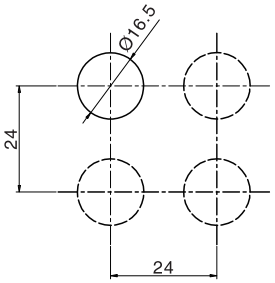
Contact Configuration



Terminal Description

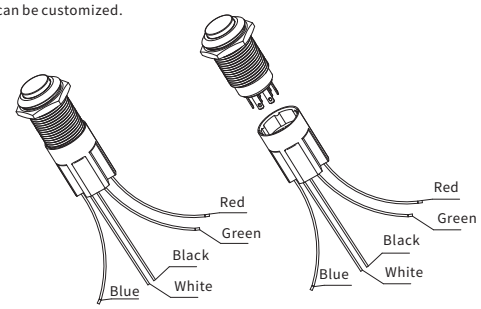


Mounting Dimensions



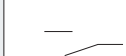
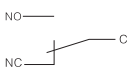
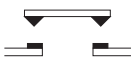
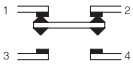
Connector

Quick connection, safe and easy to wire.
Cable length can be customized.



Connector

Switch Structure Description

Type	No.1	No.2	No.3
Sign			
Diagram			
Explanation	Using two terminals, double-break and slow-motion contact. Y type NC switch can be made to order for individual product, pls check the product description.		

- Mounting Diameter: 12, 16, 19, 22, 25 mmIngress
- Protection: Ip67
- Gold-plated Contacts
- Ultra-bright Cold Light LED Indication
- Custom Symbols Available
- Custom Colors & Sizes Available
- Compliant with CCC, CE, RoHS



Compliant with Standards: IEC60947-5-1, GB14048.5

Model Selection

BAJ	12	–	P	–	T	–	11	–	G	–	20	–	*
Series Code	**Dimensions** 12:12mm 16:16mm 19:19mm 22:22mm 25:25mm		**Head Shape** P: Flat Head H: High Head DD: Curved Head Illuminated GD: Raised Curved Head Illuminated		**Action Type** None: Momentary Pushbutton T: Latching Pushbutton		**Contact Form** 11:1NO+1NC 22:2NO+2NC		**Color** G: R: B: W: Y:		**Voltage** 22: AC220V 21: AC110V 20: DC24V 19: DC12V 18: DC6.3V		**Special Requirements** None: Standard Stainless Steel G: Chrome-plated Brass T: Nickel-plated Brass

Contact Rating

Rated Insulation Voltage		250		
Thermal Current		3A: Current not exceeding the maximum rated value permitted by temperature		
Rated Operational Voltage				
Rated Operational Current	12V	24V	110V	220V
AC Resistive Load	--	--	5A	3A
AC Inductive Load	--	--	3A	2A
DC Resistive Load	5A	5A	1A	0.5A
DC Inductive Load	2A	2A	0.2A	0.1A
Contact Material		Silver with Gold Plating		

Applicable Load: 3V AC/DC, 5mA (Reference Value)
Applicable range depends on operating environment and load type

Lamp Specs

LED Chip Type	Bidirectional LED Chip (AC/DC Universal)
Rated Voltage	3V. 6V. 12V. 24V. 36V. 110V. 220VAC/DC
Rated Current	≈15mA ≈2mA
Light Color	Green Red Blue White Yellow
Service Life	40000小时(参考值)
LED Chip Equivalent Circuit	 Built-in Resistor: 6V LED chips require external resistors.AC/DC universal LED chips have no polarity on terminals. Chips below 60V are equipped with built-in protection circuits.

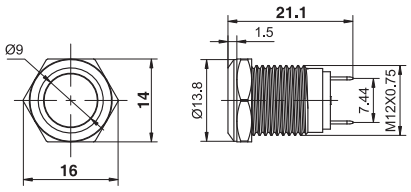
Unidirectional DC LED chips are available on request, and other voltage specifications can be customized.

※The above data are initial values

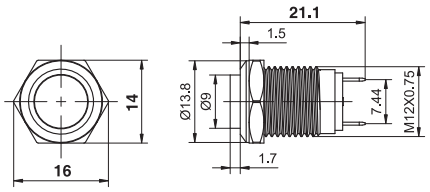
Technical Parameters

Protection Grade	IP 67
Contact Type	C:1NO+1NC/2NO+2NC
Maximum Current	250V AC/DC
Current	3A
Minimum Load	5V AC/DC 1mA
Contact Material	silver plated glod
Terminal Type	110" Solder/Quick Connect
Operating Temperature	-25°to+55℃
Operating Humidity	45to 85% RH
Contact Resistance	50M Ω maximum
Insulation Resistance	100M Ω minimum(500V DC megger)
Vibration Resistance	10 tp 55Hz,amplitude 1.2mm p-p
IP Rating	>10g
Electrical Life	100,000 operations minimum
Mechanical Life	Matntained:1,000,000 operations minimum
	Momentary:1,000,000 operations minimum
Withstand Voltage	Switch Unit:2000V AC,1 min.between live/dead part and terminals of different poles;
	1000V AC,1 minute between terminals of the same pole;
	1500V AC,1 minute between contact and lamp terminals.
	Illumination Unit:2000V AC, 1 min.between live part/ground
Soldering Temperature	20W/5 seconds or 260℃/3 seconds

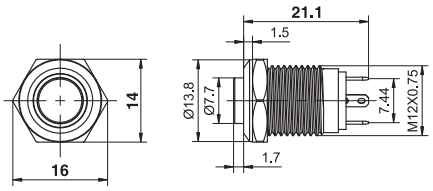
Flush Button



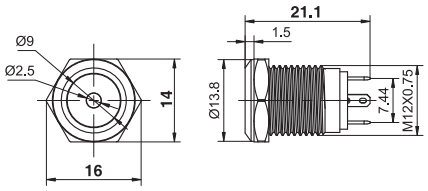
High Raised Button



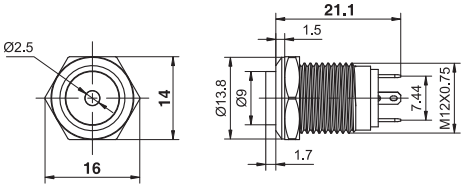
High Raised Illuminated Button



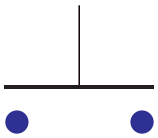
Flush Illuminated Button



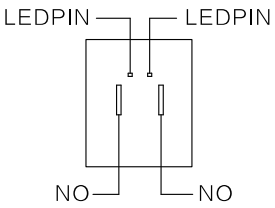
High Raised Button with Head Illumination



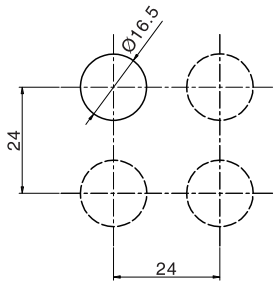
Contact Configuration



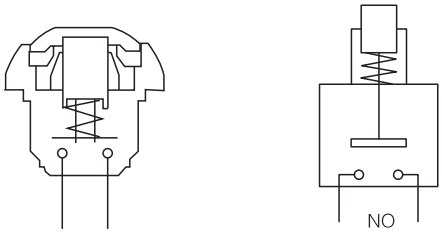
Terminal Description



Mounting Dimensions



Structure Diagram



Switch Structure Description

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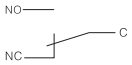
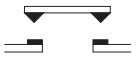
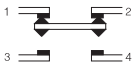
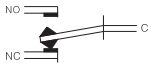
Sign			
Diagram			
Explanation	Using two terminals, double–break and slow–motion contact. Y type NC switch can be made to order for individual product, pls check the product description.		

- Mounting Diameter: 12, 16, 19, 22, 25 mm
- IP Rating: Ip67
- Gold-plated Contacts
- Super-bright Cold Light LED Indication
- Customizable Symbols
- Customizable Colors and Dimensions
- Compliant with CCC, CE and RoHS



Compliant with Standards: IEC60947-5-1, GB14048.5

Model Selection

BAJ	16	–	P	–	T	–	11	–	G	–	20	–	*
Series Code	**Dimensions** 12:12mm 16:16mm 19:19mm 22:22mm 25:25mm		**Head Shape** P: Flat Head H: High Head U: Curved Head PD: Flat Head Illuminated HD: Raised Head Illuminated DD: Curved Head Illuminated GD: Raised Curved Head Illuminated		**Action Type** None: Momentary Pushbutton T: Latching Pushbutton		**Contact Form** 11:1NO+1NC 22:2NO+2NC		**Color** G: R: B: W: Y:		**Voltage** 22: AC220V 21: AC110V 20: DC24V 19: DC12V 18: DC6.3V		**Special Requirements** None: Standard Stainless Steel G: Chrome-plated Brass T: Nickel-plated Brass

Contact Rating

Rated Insulation Voltage	250			
Thermal Current	3A: Current not exceeding the maximum rated value permitted by temperature			
Rated Operational Voltage				
Rated Operational Current	12V	24V	110V	220V
AC Resistive Load	--	--	5A	3A
AC Inductive Load	--	--	3A	2A
DC Resistive Load	5A	5A	1A	0.5A
DC Inductive Load	2A	2A	0.2A	0.1A
Contact Material	Silver with Gold Plating			

Applicable Load: 3V AC/DC, 5mA (Reference Value)
Applicable range depends on operating environment and load type

Lamp Specs

LED Chip Type	Bidirectional LED Chip (AC/DC Universal)
Rated Voltage	3V. 6V. 12V. 24V. 36V. 110V. 220VAC/DC
Rated Current	≈15mA ≈2mA
Light Color	Green Red Blue White Yellow
Service Life	40,000 hours (for reference only)
LED Chip Equivalent Circuit	 Built-in Resistor: 6V LED chips require external resistors.AC/DC universal LED chips have no polarity on terminals. Chips below 60V are equipped with built-in protection circuits.

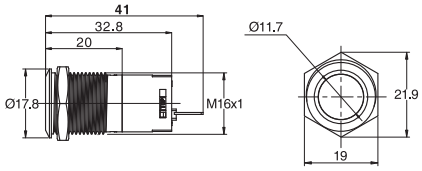
Unidirectional DC LED chips are available on request, and other voltage specifications can be customized.

※The above data are initial values

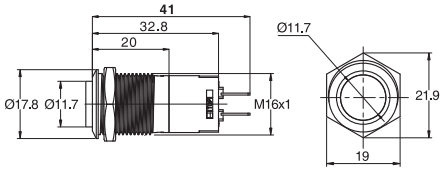
技术参数

IP Rating	IP 67
Contact Type	C:1NO+1NC/2NO+2NC
Rated Voltage	250V AC/DC
Thermal Current	3A
Minimum Load	5V AC/DC 1mA
Contact Material	silver plated glod
Terminal Type	110" Solder/Quick Connect
Operating Temperature	-25°to+55°C
Operating Humidity	45to 85% RH
Contact Resistance	50M Ω maximum
Insulation Resistance	100M Ω minimum(500V DC megger)
Vibration Resistance	10 tp 55Hz,amplitude 1.2mm p-p
Shock Resistance	>10g
Electrical Life	100,000 operations minimum
Mechanical Life	Matntained:1,000,000 operations minimum
	Momentary:1,000,000 operations minimum
Dielectric Withstand Voltage	Switch Unit:2000V AC,1 min.between live/dead part and terminals of different poles;
	1000V AC,1 minute between terminals of the same pole;
	1500V AC,1 minute between contact and lamp terminals.
	lllumination Unit:2000V AC, 1 min.between live part/ground
Soldering Condition	20W/5 seconds or 260°C/3 seconds

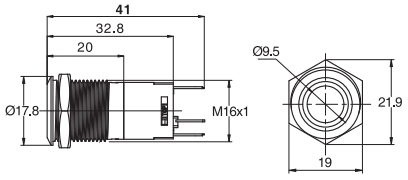
lush Butto



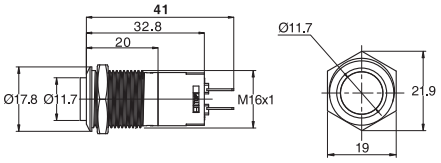
Raised Button



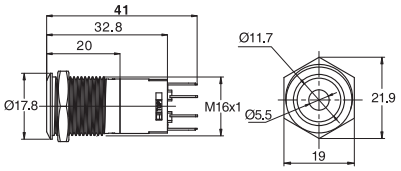
Illuminated Flush Button



Illuminated Raised Button



Illuminated Flush Button



Model Selection

BAJ	16	–	X2	–	L	–	D	–	11	–	G	–	20	–	*
Series Code	Dimensions		Head Shape		Action Type		Indicator Light		Contact Form		Color		Voltage		Special Requirements

Dimensions
12:12mm
16:16mm
19:19mm
22:22mm
25:25mm

Head Shape
X2: 2-Position Selector Switch
X3: 3-Position Selector Switch
Y2: 2-Position Key Switch
Y3: 3-Position Key Switch
Z: Emergency Stop Button

Action Type
None: Default
L: Momentary
R: Momentary
F: L/R Momentary

Indicator Light
None: Non-illuminated
D: Illuminated

Contact Form
11:1NO+1NC
22:2NO+2NC

Color
G:
R:
B:
W:
Y:

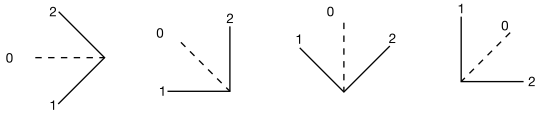
Voltage
22: AC220V
21: AC110V
20: DC24V
19: DC12V
18: DC6.3V

Special Requirements
None: Standard Stainless Steel
G: Chrome-plated Brass
T: Nickel-plated Brass

Handle Position & Key Switch

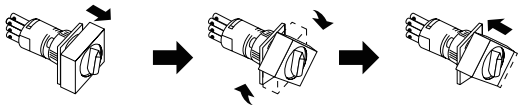
The selection position can be changed by rotating the flange with a unique locking structure. The flange features a locking function that engages every 45° of rotation, preventing rotational shift. It allows easy panel mounting.

【Example of 3-position Selection Type】



Selection Position at Factory Delivery

Method for Changing Selection Angle

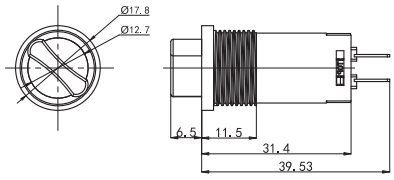


First, pull the flange firmly to release the lock, then the flange can be rotated.Press down at any 45° selection angle position to lock it.

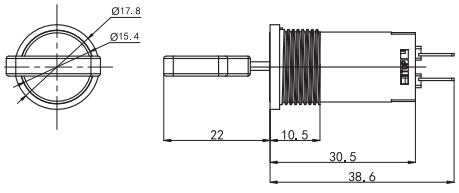
Selector and Key Switch Handle Positon

Operation					Contact	↖	↑	↗
90° 2 Positon	Maintained		Momentary		SPDT	NO NC C		NO NC C
					DPDT	NO NC NO NC C C		NO NC NO NC C C
90° 3 Positon	Maintained	Left lock Right reset	Left reset Right lock	Momentary	TPDT	NO NC NO NC C C	NO NC NO NC C C	NO NC NO NC C C

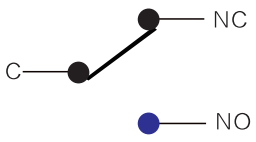
Selector Switch



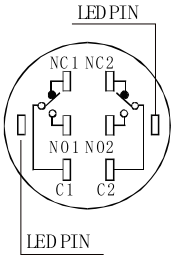
Key Switch



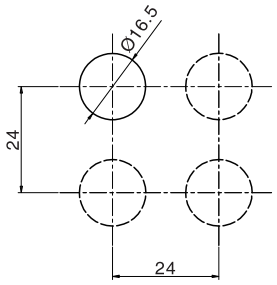
Contact Configuration



Terminal Description

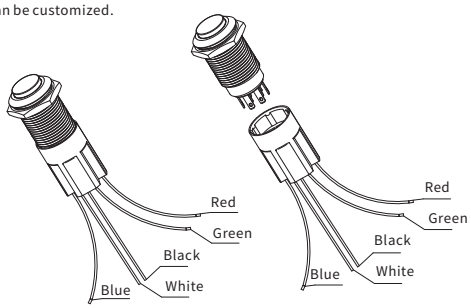


Mounting Dimensions



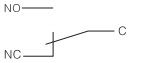
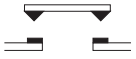
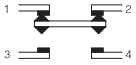
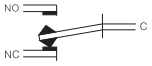
Connector

Quick connection, safe and easy to wire.
Cable length can be customized.



Connector

Switch Structure Description

Type	No.1	No.2	No.3
Sign			
Diagram			
Explanation	Using two terminals, double-break and slow-motion contact. Y type NC switch can be made to order for individual product, pls check the product description.		

- Mounting Diameter: 12, 16, 19, 22, 25 mm
- IP Rating: Ip67
- Gold-plated Contacts
- Super-bright Cold Light LED Indication
- Customizable Symbols
- Customizable Colors and Dimensions
- Compliant with CCC, CE and RoHS Standards



Compliant with Standards: IEC60947-5-1, GB14048.5

Model Selection

BAJ	19	–	P	–	T	–	11	–	G	–	20	–	*
Series Code	**Dimensions** 12:12mm 16:16mm 19:19mm 22:22mm 25:25mm		**Head Shape** P: Flat Head H: High Head U: Curved Head PD: Flat Head Illuminated HD: Raised Head Illuminated DD: Curved Head Illuminated GD: Raised Curved Head Illuminated		**Action Type** None: Momentary Pushbutton T: Latching Pushbutton		**Contact Form** 11:1NO+1NC 22:2NO+2NC		**Color** G: R: B: W: Y:		**Voltage** 22: AC220V 21: AC110V 20: DC24V 19: DC12V 18: DC6.3V		**Special Requirements** None: Standard Stainless Steel G: Chrome-plated Brass T: Nickel-plated Brass

Contact Rating

Rated Insulation Voltage	250			
Thermal Current	3A, current not exceeding the maximum rated value allowed			
Rated Operational Voltage				
Rated Operational Current	12V	24V	110V	220V
AC Resistive Load	--	--	5A	3A
AC Inductive Load	--	--	3A	2A
DC Resistive Load	5A	5A	1A	0.5A
DC Inductive Load	2A	2A	0.2A	0.1A
Contact Material	Silver with Gold Plating			

Minimum Applicable Load: 3V AC/DC, 5mA (Reference Value)
Applicable range depends on operating environment and load type

Lamp Specs

LED Type	Bi-directional LED (AC/DC Universal)
Rated Voltage	3V. 6V. 12V. 24V. 36V. 110V. 220VAC/DC
Rated Current	≈15mA ≈2mA
Illumination Color	
Life	40,000 hours (Reference Value)
LED Equivalent Circuit	 Built-in Resistor: For 6V LED, external resistor is required. Bi-directional AC/DC LED has no polarity at terminals. LEDs for 60V and below come with built-in protection circuit.

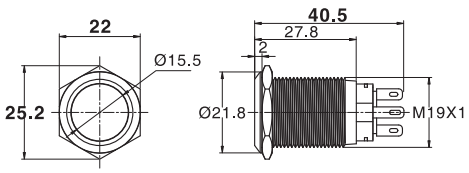
Unidirectional DC LED is available on request, other voltage specifications can be customized.

※The above data are initial values

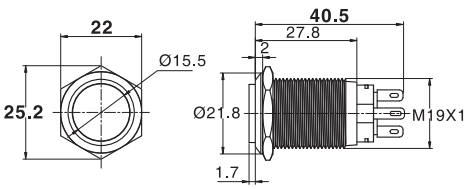
Technical Parameters

IP Rating	IP 67
Contact Type	C:1NO+1NC/2NO+2NC
Rated Voltage	250V AC/DC
Thermal Current	3A
Minimum Load	5V AC/DC 1mA
Contact Material	silver plated glod
Terminal Type	110" Solder/Quick Connect
Operating Temperature	-25°to+55°C
Operating Humidity	45to 85% RH
Contact Resistance	50M Ω maximum
Insulation Resistance	100M Ω minimum(500V DC megger)
Vibration Resistance	10 tp 55Hz,amplitude 1.2mm p-p
Shock Resistance	>10g
Electrical Life	100,000 operations minimum
Mechanical Life	Matntained:1,000,000 operations minimum
	Momentary:1,000,000 operations minimum
Dielectric Withstand Voltage	Switch Unit:2000V AC,1 min.between live/dead part and terminals of different poles;
	1000V AC,1 minute between terminals of the same pole;
	1500V AC,1 minute between contact and lamp terminals.
	lllumination Unit:2000V AC, 1 min.between live part/ground
Soldering Condition	20W/5 seconds or 260°C/3 seconds

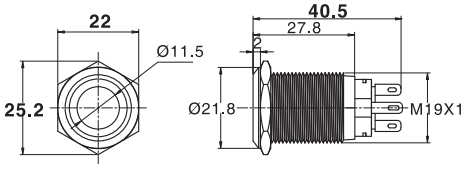
Flush Button



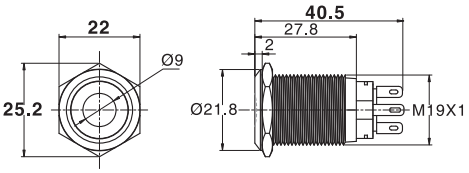
Raised Button



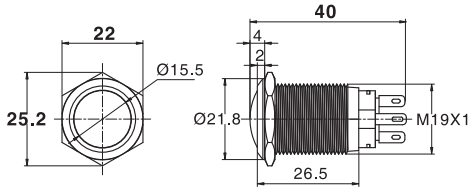
Illuminated Raised Button



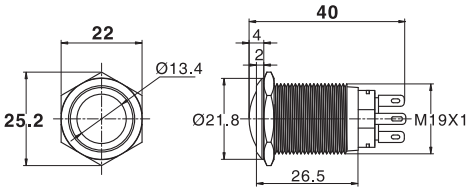
Illuminated Flush Button



Curved Button



Illuminated Curved Button



Model Selection

BAJ	19	–	X2	–	L	–	D	–	11	–	G	–	20	–	*
Series Code	Dimensions		Head Shape		Action Type		Indicator Light		Contact Form		Color		Voltage		Special Requirements

Dimensions
12:12mm
16:16mm
19:19mm
22:22mm
25:25mm

Head Shape
X2: 2-Position Selector Switch
X3: 3-Position Selector Switch
Y2: 2-Position Key Switch
Y3: 3-Position Key Switch
Z: Emergency Stop Button

Action Type
None: Default
L: Momentary
R: Momentary
F: L/R Momentary

Indicator Light
None: Non-illuminated
D: Illuminated

Contact Form
11:1NO+1NC
22:2NO+2NC

Color
G:
R:
B:
W:
Y:

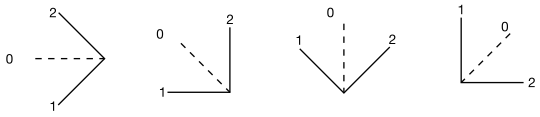
Voltage
22: AC220V
21: AC110V
20: DC24V
19: DC12V
18: DC6.3V

Special Requirements
None: Standard Stainless Steel
G: Chrome-plated Brass
T: Nickel-plated Brass

Handle Position & Key Switch

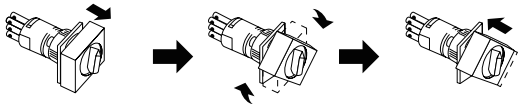
The selection position can be adjusted by rotating the flange with a special locking structure. The flange has a locking mechanism that clicks into place every 45° of rotation, which prevents unwanted rotational drift and enables easy panel mounting.

【Example of 3-position Selector Type】



Selection Position at Factory Delivery

Method for Changing Selection Angle

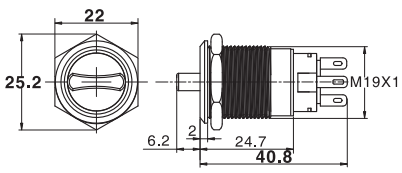


First, pull the flange firmly to release the lock, then the flange can be rotated.Press down at any 45° selection angle position to lock it.

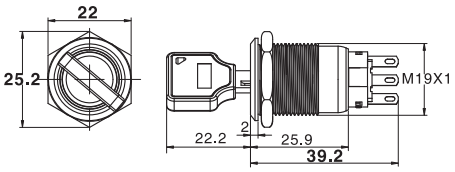
Selector and Key Switch Handle Positon

Operation					Contact	↖	↑	↗
90° 2 Positon	Maintained		Momentary		SPDT	NO NC C		NO NC C
					DPDT	NO NC NO NC C C		NO NC NO NC C C
90° 3 Positon	Maintained	Left lock Right reset	Left reset Right lock	Momentary	TPDT	NO NC NO NC C C	NO NC NO NC C C	NO NC NO NC C C

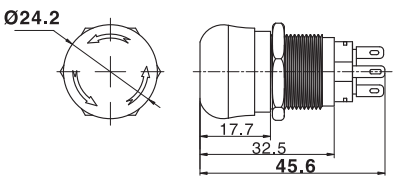
Selector Switch



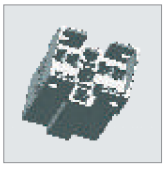
Key Switch



Emergency Stop Button (E-Stop Button)



Button Accessories

Appearance	Name	Type	Specifications	Material
	Insulated terminal cover	BP-KP	The Welding foot Protective sleeve	Milk white nylon resin
	Socket	BP-16S114	Solder terminal	PA66
		BP-16S113	Terminal	PA66
	Mount hole	F16-S	Rubber plug	PA66
	Connector	BP-F16-C		
		BP-F19-C		
		BP-F22-C		
		BP-F25-C		

- Mounting Diameter: 8, 12, 16, 19, 22, 28, 30 mm
- IP Rating: IP67 & IK10, Explosion-proof
- Curved, Flat and Recessed lens options for attractive appearance
- Ultra-thin panel design
- AC/DC universal LED lamp
- Compliant with IEC60947-5-1 and GB14048.5
- Compliant with CE and RoHS



Compliant with Standards: IEC60947-5-1, GB14048.5

Model Selection

BAJ	19	–	P	–	A	–	G	–	20	–	*
Series Code	**Dimensions** 06:6mm 08:08mm 12:12mm 16:16mm 19:19mm 22:22mm 28:28mm 30:30mm		**Head Shape** U: Domed H: High Head P: Flat Head N: Recessed Head		**Contact Form** A: Screw Terminal P: Solder Type		**Color** G: R: B: W: Y:		**Voltage** 22: AC220V 21: AC110V 20: DC24V 19: DC12V 18: DC6.3V		**Special Requirements** None: Standard Stainless Steel G: Chrome-plated Brass T: Nickel-plated Brass

Contact Rating

Illumination Voltage	Operating Voltage (Min. to Max.)	Operating Current (Typical for all variants)	LED Color	(Prominent)	(Flush)
24VDC(No Resistor)	1.8-2.5VDC	20mA	R:	7500mcd	2000mcd
12VDC	10.8-13.2VDC	20mA	G:	4100mcd	250mcd
24VDC	21.6-26.4VDC	20mA	Y:	2500mcd	350mcd
28VDC	25.2-30.8VDC	20mA	B:	1300mcd	300mcd
110VAC	99-121VDC	6mA	W:	1900mcd	200mcd
230VAC	207-253VDC	3mA			
Maximum Voltage		5V			
Average Service Life		50.000 hours			
Operating Temperature Range		-40-+85℃			

Lamp Specs

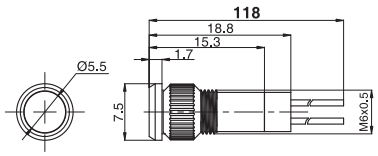
LED Type	Bi-directional LED (AC/DC Universal)
Rated Voltage	3V.6V.12V.24V.36V.110V.220VAC/DC
Rated Current	≈15mA About ≈15mA
Illumination Color	
Service Life	40,000 hours (for reference only)
Equivalent Circuit of LED	 Built-in Resistor: No external resistor required Adopts AC/DC universal bi-directional LED. The terminals are non-polarized. Protection circuit is built into the LED unit.

Unidirectional DC LED is available on request, other voltage specifications can be customized.

※The above data are initial values

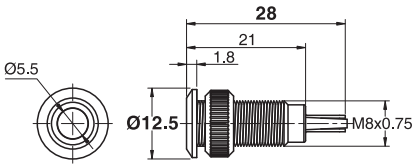
Ø6mm Metal Indicator Light

Recessed Indicator Light, Solder Terminal Type

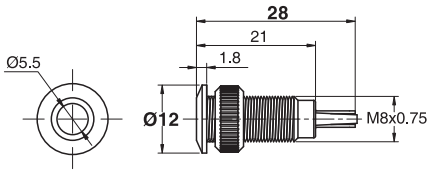


Ø8mm Metal Indicator Light

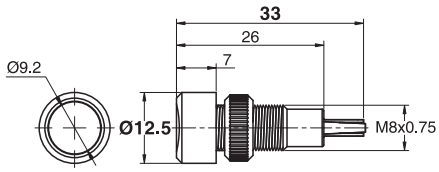
Curved Indicator Light, Solder Terminal Type



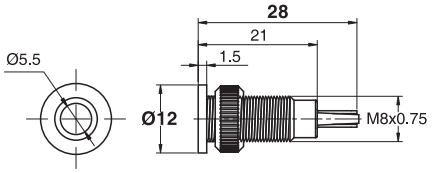
Raised Indicator Light, Solder Terminal Type



Raised Indicator Light, Solder Terminal Type

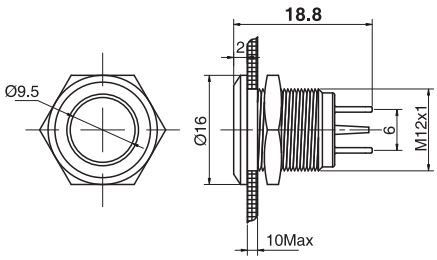


Flat / Flush Indicator Light, Solder Terminal Type

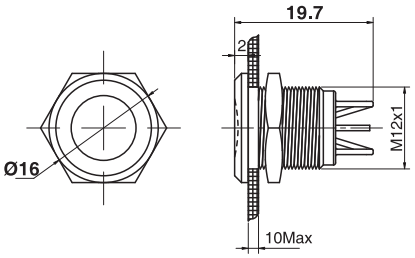


Ø12mm Metal Indicator Light

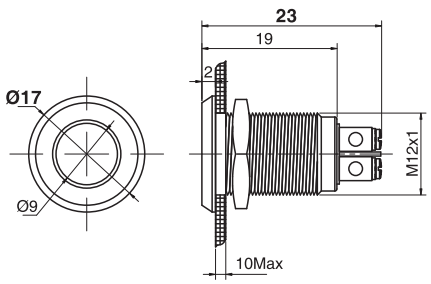
Recessed Indicator Light, Solder Terminal Type



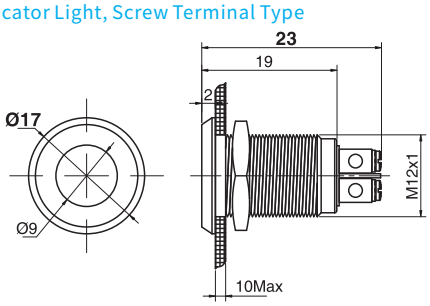
Flat / Flush Indicator Light, Solder Terminal Type



Recessed Indicator Light, Screw Terminal Type



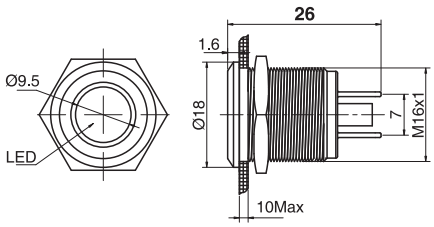
Flat / Flush Indicator Light, Screw Terminal Type



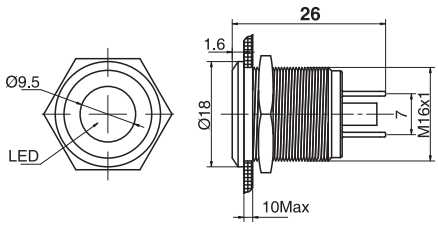
※The above data are initial values

Ø16mm Metal Indicator Light

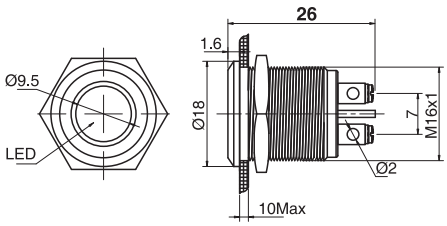
Recessed Indicator Light, Solder Terminal Type



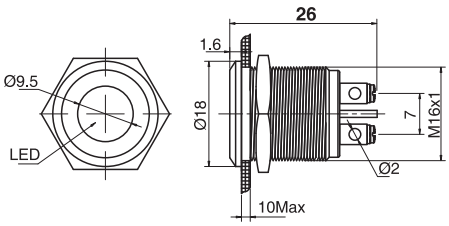
Flat / Flush Indicator Light, Solder Terminal Type



Recessed Indicator Light, Screw Terminal Type

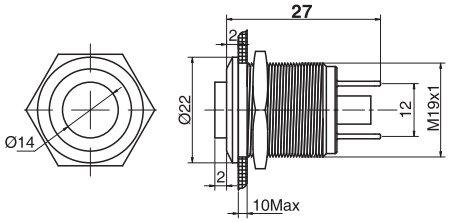


Flat / Flush Indicator Light, Screw Terminal Type

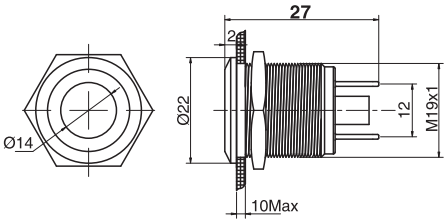


Ø19mm Metal Indicator Light

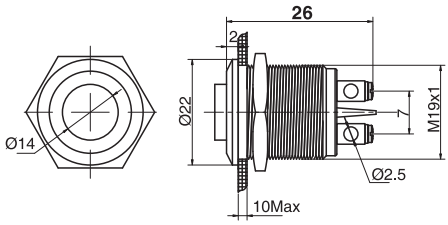
Raised Indicator Light, Solder Terminal Type



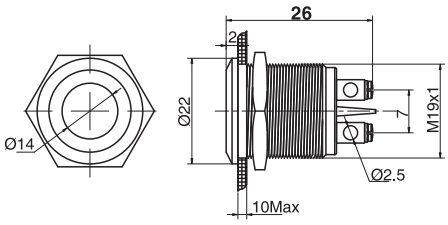
Flat / Flush Indicator Light, Solder Terminal Type



Raised Indicator Light, Solder Terminal Type



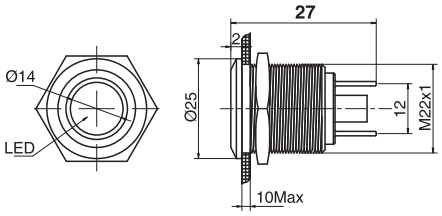
Raised Indicator Light, Screw Terminal Type



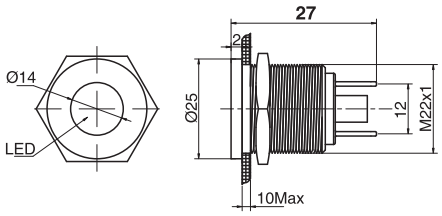
※The above data are initial values

Ø22mm Metal Indicator Light

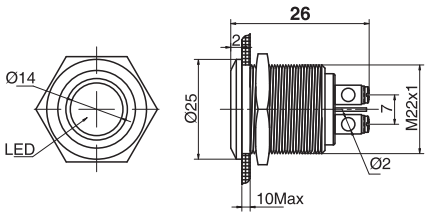
Recessed Indicator Light, Solder Terminal Type



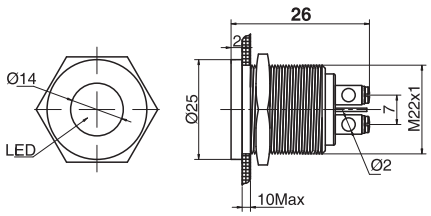
Flat / Flush Indicator Light, Solder Terminal Type



Recessed Indicator Light, Screw Terminal Type

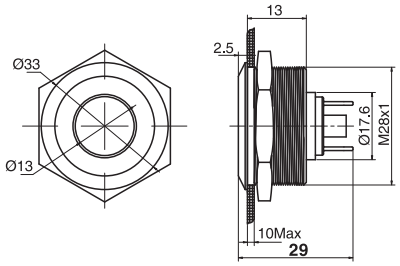


Flat / Flush Indicator Light, Screw Terminal Type

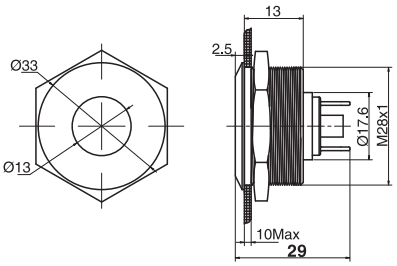


Ø28mm Metal Indicator Light

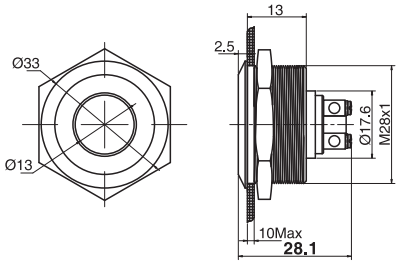
Recessed Indicator Light, Solder Terminal Type



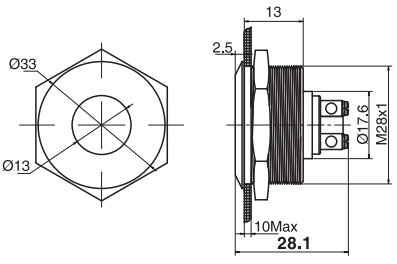
Flat / Flush Indicator Light, Solder Terminal Type



Recessed Indicator Light, Screw Terminal Type



Flat / Flush Indicator Light, Screw Terminal Type



※The above data are initial values

Ø2219mm Buzzer

Compliant with Standards: IEC60947-5-1, GB14048.5

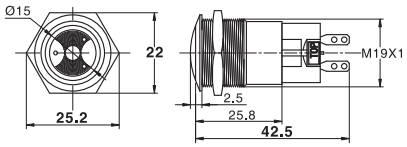
Model Selection

BAS	19	–	D	–	FM	–	G	–	20	–	*
Series Code	**Dimensions** 06:6mm 08:08mm 12:12mm 16:16mm 19:19mm 22:22mm 28:28mm 30:30mm		**Indicator Light** None: Non-illuminated D: Illuminated		**Sound Type** F: Buzzer FM: Flashing Buzzer		**Color** G: R: B: W: Y:		**Voltage** 22: AC220V 21: AC110V 20: DC24V 19: DC12V 18: DC6.3V		**Special Requirements** None: Standard Stainless Steel G: Chrome-plated Brass T: Nickel-plated Brass

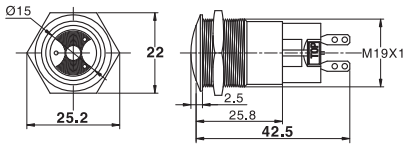
Technical Parameters

Name / Appearance	Illuminated Version	Head Shape	Sound Intensity	Sound Type	Illumination Color
	Non-illuminated	Flat Round Mesh Type	⩾85dB at 0.1 meter	Buzzer / Flashing Buzzer	R: G: Y: B: W:
	Illuminated	Flat Round Mesh Type	⩾85dB at 0.1 meter	Buzzer / Flashing Buzzer	R: G: Y: B: W:

Buzzer



Illuminated Buzzer



※The above data are initial values

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