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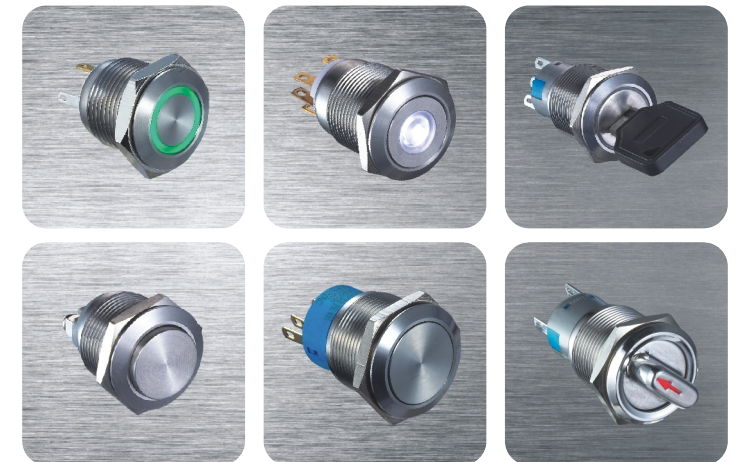
红波按钮[®]
HONGBO Push Button

HBAN

Push Button Switch

Millions of iterations, consistent quality

2012 Metal Waterproof Push
Button Handbook



HBAN
红波按钮[®]
HONGBO Push Button

上海红波电器有限公司
SHANGHAI HONGBO ELECTRIC CO.,LTD.

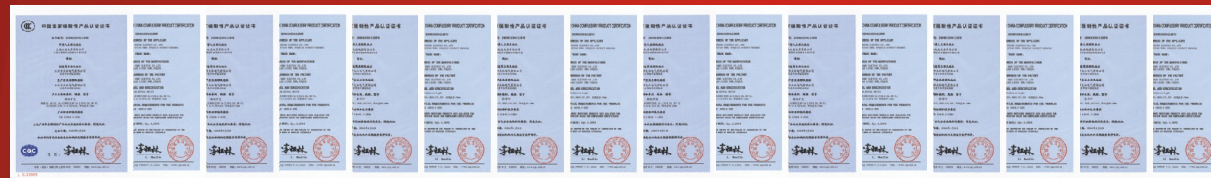
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上海红波电器有限公司
SHANGHAI HONGBO ELECTRIC CO.,LTD.



Brief Introduction



Shanghai Hongbo Electric Co., Ltd. is a professional manufacturer of push button switch, indicator lights, signal lamp, buzzers, high-intensity and damage and resistance metal push button switch, our products are widely used in machinery, machine tools, electric power, electronics, production control, medical, banks, ships, automation and other industries. We have state-of-the-art production, laboratory equipment and testing apparatus, and insist on the quality of survival, to serve and promote the development quality management service support system, to ensure that the product of the index is quality controlled state. After years of pioneering spirit, the company has now made a number of patents, the products have passed national mandatory CCC certification, with high quality and cost-effective, favored by the majority of users. We sincerely welcome people to join together to create brilliant.

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Model Explanation

HBGQ	★	■	-	□	◇	/	◆	/	△	/	▲	/	◎
Series Number	Mounting Hole Size	The Front Shape	Contact Configuration	Lamp Type	Terminal Type	Color of Lamp and Colorized Button	Lamp Voltage	The Crust Material					
	8 Φ8mm 12 Φ12mm 16 Φ16mm 19 Φ19mm	B Domed F Flat Round H High Round S Square	10 1NO	D Dot E Ring	J Pin Terminal No letter means screw terminal.	R Red G Green Y Yellow O Orange B Blue W White N Black	AC/DC 6V AC/DC 12V AC/DC 24V AC/DC 36V Other voltage can be made to order	N Nickel-plated Brass G Gold-plated Brass S Stainless Steel A Zn-al Alloy(Black) T Zn-al Alloy(Silver White) PC Engineering plastics					

Note: Please carefully read the product specification, then select the appropriate code according to different symbols in the table.

Switch Structure Explanation

Type	Symbol	Diagram	Explanation
X			Switch with two terminal breakpoints slow moving contact
Y			Individual products can be customized Y-type normally closed switch, refer to product description.

LED Lamp Specifications

Lamp Type	Bi-directional LED lamp (AC DC Universal)	<p>Lamp Equivalent Circuit</p> <p>AC-DC Universal LED lamp, terminal differentiate between positive and negative; lamp beads built-in protection resistors, no external.</p>
Rated Voltage	1.8V、2.8V、6V、12V、24V、36V、220V	
Rated Current	about 15mA	
Color	R G O B W	
Life	50000 hours (reference value)	

Note: For unidirectional DC LED lamp can be customized; other voltage specifications can request custom.

Installation Effect Preview



HBGQ8F-D/△/▲

Signal Lamp

- Mounting Hole Size: Φ8mm
- Voltage Class: ≤220V
- Rated Current: 15mA
- Lamp Type: LED
- Lamp Color: Red / Green / Yellow / Orange / Blue / White
- The Crust Material: Nickel-plated Brass, Stainless Steel
- Protection Degree: IP67

HBGQ12F-D/△/▲

Signal Lamp

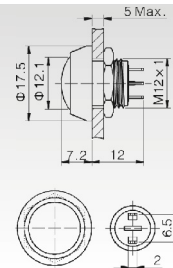
- Mounting Hole Size: Φ12mm
- Voltage Class: ≤220V
- Rated Current: 15mA
- Lamp Type: LED
- Lamp Color: Red / Green / Yellow / Orange / Blue / White
- The Crust Material: Nickel-plated Brass, Stainless Steel
- Protection Degree: IP67

Specifications		HBGQ8F-D/△/▲	HBGQ12F-D/△/▲				
Terminal Type		Pin Terminal 1.8×0.4mm)	Pin Terminal (1.8×0.4mm)				
Dielectric Strength		1100VAC	2000 VAC				
Operating Temperature		-20℃ ~ +55℃	-20℃ ~ +55℃				
Panel Thickness		1 ~ 10mm	1 ~ 10mm				
Torque		5 ~ 14Nm	5 ~ 14Nm				
Protection Degree		IP67,IK10	IP67,IK10				
Material	Shade	PC	PC				
	Case	Nickel-plated Brass	Nickel-plated Brass				
	Base	PBT	PBT				
	RoHS	Can be made to order	Can be made to order				
Lamp Parameters	Type	LED	LED				
	Rated Voltage	6V/12V/24V/36V/110V/220V	6V/12V/24V/36V/110V/220V				
	Rated Current	15mA	15mA				
	Color	R G Y O B W	R G Y O B W				
	Life	50000Hours	50000Hours				
Current Limiting Resistor Configuration Table (Recommended Value)	Rated Voltage	6V	12V	24V	36V	Formula $R = \frac{U-U_e}{I_e}$	
	Current Limiting Resistor R	R Y O	210Ω, 1/4W	510Ω, 1/2W	1.2kΩ, 3/4W		2.2kΩ, 1W
		G B W	160Ω, 1/4W	460Ω, 1/2W	1.2kΩ, 3/4W		2.2kΩ, 1W

● **HBGQ12B-10/A/J**



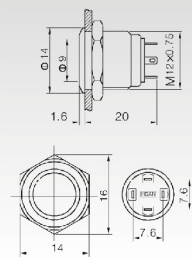
- Mounting Hole Size: $\Phi 12\text{mm}$
- Switch Rating: 2A/36VDC
- Contact Configuration: 1NO (1NC can be customized)
- Operation Type: Momentary
- The Front Shape: Domed
- The Crust Material: Zn-al Alloy
- Protection Degree: IP65,IK08
- Mechanical lifetime: 1,000,000
- Pin Terminal: 2 x 0.5mm



● **HBGQ12F-10/N/J**



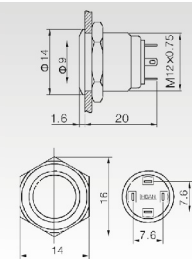
- Mounting Hole Size: $\Phi 12\text{mm}$
- Switch Rating: 2A/36VDC
- Contact Configuration: 1NO (1NC can be customized)
- Operation Type: Momentary
- The Front Shape: Flat Round
- The Crust Material: Nickel-plated Brass, Stainless Steel
- Protection Degree: IP65,IK08
- Mechanical lifetime: 1,000,000
- Pin Terminal: 2 x 0.5mm



● **HBGQ12F-10/E/N/J**



- Mounting Hole Size: $\Phi 12\text{mm}$
- Switch Rating: 2A/36VDC
- Contact Configuration: 1NO (1NC can be customized)
- Operation Type: Momentary
- The Front Shape: Flat Round
- The Crust Material: Nickel-plated Brass, Stainless Steel
- Protection Degree: IP65,IK08
- Mechanical lifetime: 1,000,000
- Pin Terminal: 2.5 x 0.5mm
- High Round

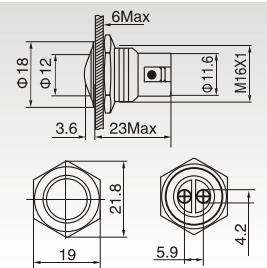


Specifications	HBGQ12B-10/J/ Δ /A	HBGQ12F-10/J/ Δ /A	HBGQ12F-10E/J/ Δ /▲/ \odot
Terminal Type	Pin Terminal(2 x 0.5mm)	Pin Terminal(2.5 x 0.5mm)	Pin Terminal(2.5 x 0.5mm)
Switch Type	X(Two terminal breakpoints slow moving contact)	X(Two terminal breakpoints slow moving contact)	X(Two terminal breakpoints slow moving contact)
Switch Specifications	2A/36VDC	2A/36VDC	2A/36VDC
Contact Resistance	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$
Insulation Resistance	$\geq 1000\text{M}\Omega$	$\geq 1000\text{M}\Omega$	$\geq 1000\text{M}\Omega$
Dielectric Strength	2000VAC	2000VAC	2000VAC
Operating Temperature	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$
Mechanical Life	>1,000,000 times	>1,000,000 times	>1,000,000 times
Electrical Life	>200,000 times	>200,000 times	>200,000 times
Panel Thickness	1 ~ 5mm	1 ~ 5mm	1 ~ 10mm
Torque	5 ~ 14Nm	5 ~ 14Nm	5 ~ 14Nm
Operating Pressure	About 5N	About 5N	About 4N
Operating Stroke	About 2.5mm	About 2.5mm	About 1.5mm
Protection Degree	IP65,IK08	IP65,IK08	IP65,IK08
Material	Contact	Silver Alloy	Silver Alloy
	Button	PBT	PBT
	Case	Zn-al Alloy	Nickel-plated Brass
	Base	PBT	PBT
RoHS	Can be made to order	Can be made to order	Can be made to order
Head Color	R G Y O B W N	Mirror Surface	Mirror Surface

● **HBGQ16B-10/ \odot**



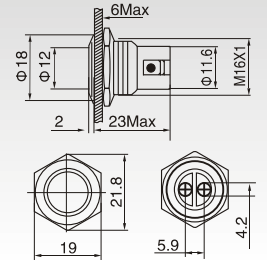
- Mounting Hole Size: $\Phi 16\text{mm}$
- Switch Rating: 2A/36VDC
- Contact Configuration: 1NO (1NC can be customized)
- Operation Type: Momentary
- The Front Shape: Domed
- The Crust Material: Stainless Steel
- Protection Degree: IP65,IK08



● **HBGQ16F-10/ \odot**



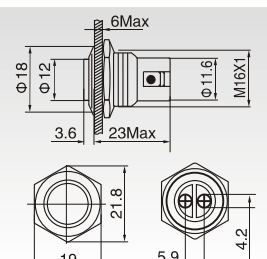
- Mounting Hole Size: $\Phi 16\text{mm}$
- Switch Rating: 2A/36VDC
- Contact Configuration: 1NO (1NC can be customized)
- Operation Type: Momentary
- The Front Shape: Flat Round
- The Crust Material: Stainless Steel
- Protection Degree: IP65,IK08



● **HBGQ16H-10/ \odot**



- Mounting Hole Size: $\Phi 16\text{mm}$
- Switch Rating: 2A/36VDC
- Contact Configuration: 1NO (1NC can be customized)
- Operation Type: Momentary
- The Front Shape: High Round
- The Crust Material: Stainless Steel
- Protection Degree: IP65,IK08

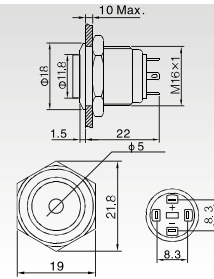


Specifications	HBGQ16B-10/ \odot	HBGQ16F-10/ \odot	HBGQ16H-10/ \odot
The Front Shape	Domed	Flat Round	High Round
Terminal Type	Screw Terminal	Screw Terminal	Screw Terminal
Switch Type	X(Two terminal breakpoints slow moving contact)	X(Two terminal breakpoints slow moving contact)	X(Two terminal breakpoints slow moving contact)
Switch Specifications	2A/36VDC	2A/36VDC	2A/36VDC
Contact Resistance	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$
Insulation Resistance	$\geq 1000\text{M}\Omega$	$\geq 1000\text{M}\Omega$	$\geq 1000\text{M}\Omega$
Dielectric Strength	2000VAC	2000VAC	2000VAC
Operating Temperature	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$
Mechanical Life	>1,000,000 times	>1,000,000 times	>1,000,000 times
Electrical Life	>200,000 times	>200,000 times	>200,000 times
Panel Thickness	1 ~ 6mm	1 ~ 6mm	1 ~ 6mm
Torque	5 ~ 14Nm	5 ~ 14Nm	5 ~ 14Nm
Operating Pressure	About 4N	About 4N	About 4N
Operating Stroke	About 1.5mm	About 1.5mm	About 1.5mm
Protection Degree	IP65,IK08	IP65,IK08	IP65,IK08
Material	Contact	Silver Alloy	Silver Alloy
	Button	tainless Steel: Mirror Surface, Spiral Pattern	tainless Steel: Mirror Surface, Spiral Pattern
	Case	tainless Steel: Mirror Surface, Spiral Pattern	tainless Steel: Mirror Surface, Spiral Pattern
	Base	PBT	PBT
RoHS	Can be made to order	Can be made to order	Can be made to order

● **HBGQ16H-10D/J/△/▲/◎**



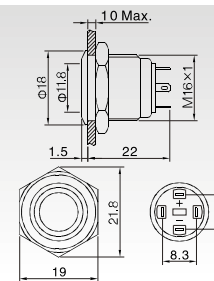
- Mounting Hole Size: $\Phi 16\text{mm}$
- Switch Rating: 2A/36VDC
- Contact Configuration: 1NO
- Operation Type: Momentary
- The Crust Material: Stainless Steel
- Illuminated Type: Dot
- Protection Degree: IP65,IK08



● **HBGQ16F-10E/J/△/▲/◎**



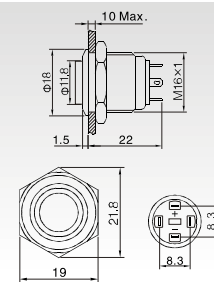
- Mounting Hole Size: $\Phi 16\text{mm}$
- Switch Rating: 2A/36VDC
- Contact Configuration: 1NO
- Operation Type: Momentary
- The Crust Material: Stainless Steel
- Illuminated Type: Ring
- Protection Degree: IP65,IK08



● **HBGQ16H-10E/J/△/▲/◎**



- Mounting Hole Size: $\Phi 16\text{mm}$
- Switch Rating: 2A/36VDC
- Contact Configuration: 1NO
- Operation Type: Momentary
- The Crust Material: Stainless Steel
- Illuminated Type: Ring High Button
- Protection Degree: IP65,IK08

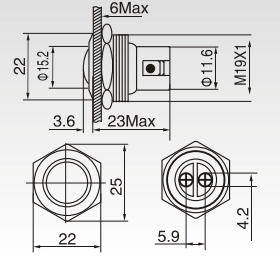


Specifications	HBGQ16F-10D/J/△/▲/◎	HBGQ16F-10E/J/△/▲/◎	HBGQ16H-10E/J/△/▲/◎
The Front Shape	Flat Round	Flat Round	High Round
Terminal Type	Pin Terminal(2 × 0.5mm)	Pin Terminal(2 × 0.5mm)	Pin Terminal(2 × 0.5mm)
Switch Type	X(Two terminal breakpoints slow moving contact)	X(Two terminal breakpoints slow moving contact)	X(Two terminal breakpoints slow moving contact)
Switch Specifications	2A/36VDC	2A/36VDC	2A/36VDC
Contact Resistance	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$
Insulation Resistance	$\geq 1000\text{M}\Omega$	$\geq 1000\text{M}\Omega$	$\geq 1000\text{M}\Omega$
Dielectric Strength	2000VAC	2000VAC	2000VAC
Operating Temperature	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$
Mechanical Life	>1,000,000 times	>1,000,000 times	>1,000,000 times
Electrical Life	>200,000 times	>200,000 times	>200,000 times
Panel Thickness	1 ~ 10mm	1 ~ 10mm	1 ~ 10mm
Torque	5 ~ 14Nm	5 ~ 14Nm	5 ~ 14Nm
Operating Pressure	About 4N	About 4N	About 4N
Operating Stroke	About 1.8mm	About 1.8mm	About 1.8mm
Protection Degree	IP65,IK08	IP65,IK08	IP65,IK08
Material	Contact	Silver Alloy	Silver Alloy
	Button	tainless Steel: Mirror Surface, Spiral Pattern	tainless Steel: Mirror Surface, Spiral Pattern
	Case	tainless Steel: Mirror Surface, Spiral Pattern	tainless Steel: Mirror Surface, Spiral Pattern
	Base	PBT	PBT
RoHS	Can be made to order	Can be made to order	Can be made to order

● **HBGQ19B-10/◎**



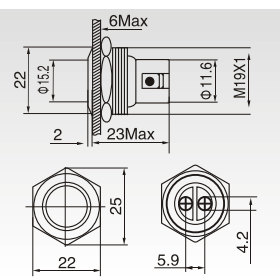
- Mounting Hole Size: $\Phi 19\text{mm}$
- Switch Rating: 2A/36VDC
- Contact Configuration: 1NO (1NC can be customized)
- Operation Type: Momentary
- The Front Shape: Domed
- The Crust Material: Stainless Steel, Nickel-plated Brass, Gold-plated Brass
- Protection Degree: IP65,IK09



● **HBGQ19F-10/◎**



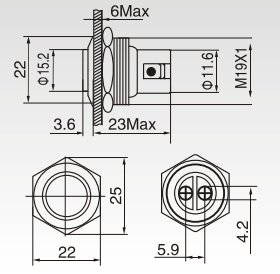
- Mounting Hole Size: $\Phi 19\text{mm}$
- Switch Rating: 2A/36VDC
- Contact Configuration: 1NO (1NC can be customized)
- Operation Type: Momentary
- The Front Shape: Flat Round
- The Crust Material: Stainless Steel, Nickel-plated Brass, Gold-plated Brass
- Protection Degree: IP65,IK09



● **HBGQ19H-10/◎**



- Mounting Hole Size: $\Phi 19\text{mm}$
- Switch Rating: 2A/36VDC
- Contact Configuration: 1NO (1NC can be customized)
- Operation Type: Momentary
- The Front Shape: High Round
- The Crust Material: Stainless Steel, Nickel-plated Brass, Gold-plated Brass
- Protection Degree: IP65,IK09



Specifications	HBGQ19B-10/◎	HBGQ19F-10/◎	HBGQ19H-10/◎
The Front Shape	Domed	Flat Round	High Round
Terminal Type	Screw Terminal	Screw Terminal	Screw Terminal
Switch Type	X(Two terminal breakpoints slow moving contact)	X(Two terminal breakpoints slow moving contact)	X(Two terminal breakpoints slow moving contact)
Switch Specifications	2A/36VDC	2A/36VDC	2A/36VDC
Contact Resistance	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$
Insulation Resistance	$\geq 1000\text{M}\Omega$	$\geq 1000\text{M}\Omega$	$\geq 1000\text{M}\Omega$
Dielectric Strength	2000VAC	2000VAC	2000VAC
Operating Temperature	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$
Mechanical Life	>1,000,000 times	>1,000,000 times	>1,000,000 times
Electrical Life	>200,000 times	>200,000 times	>200,000 times
Panel Thickness	1 ~ 10mm	1 ~ 10mm	1 ~ 10mm
Torque	5 ~ 14Nm	5 ~ 14Nm	5 ~ 14Nm
Operating Pressure	About 4N	about 4N	About 4N
Operating Stroke	About 1.8mm	About 1.8mm	About 1.8mm
Protection Degree	IP65,IK09	IP65,IK09	IP65,IK09
Material	Contact	Silver Alloy	Silver Alloy
	Button	tainless Steel: Mirror Surface, Spiral Pattern	tainless Steel: Mirror Surface, Spiral Pattern
	Case	tainless Steel: Mirror Surface, Spiral Pattern	tainless Steel: Mirror Surface, Spiral Pattern
	Base	PBT	PBT
RoHS	Can be made to order	Can be made to order	Can be made to order

Model Explanation

HBS2	GQ	★	—	□	■	◇	/	△	/	▲	/	◎	/	☆
Series Number	Modified Code	The Front Shape F Flat Round H High Round C Concave Round G High-concave Round	Contact Configuration 11 1NO1NC 22 2NO2NC	Operation Type Z Latching Push Button No letter means momentary push button	Lamp Type D Dot E Ring	Color of Lamp and Colorized Button R Red G Green Y Yellow O Orange B Blue W White	Lamp Voltage AC/DC 6V AC/DC 12V AC/DC 24V AC/DC 36V Other voltage can be made to order	S Stainless Steel	Protection Degree IP67					

Note: Please carefully read the product specification, then select the appropriate code according to different symbols in the table.

LED Lamp Specifications

Lamp Type	Bi-directional LED lamp (AC DC Universal)			Lamp Equivalent Circuit
Color	R G Y O B W			
Life	50000 hours (reference value)			
Rated Voltage	AC/DC6V	AC/DC12V	AC/DC110V	
	AC/DC24V	AC/DC36V	AC/DC220V	
Rated Current	About 15mA		about 3mA	
Step-down Way	Internal Resistor		Using the 6V lamp beads, need an external resistor.	

Note: For unidirectional DC LED lamp can be customized; other voltage specifications can request custom.

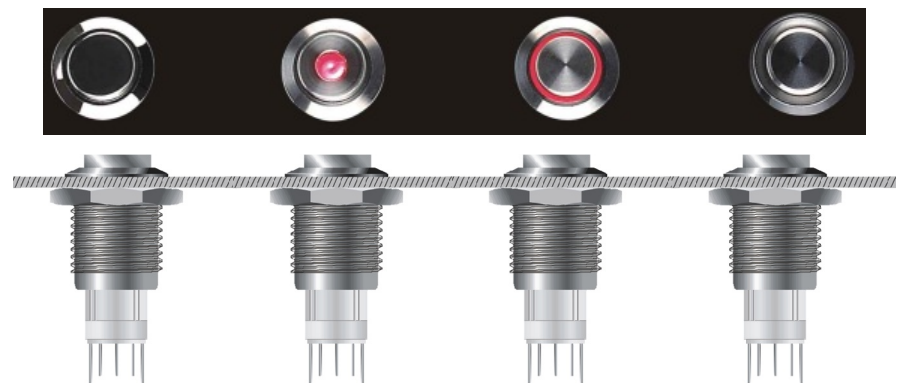
Switch Structure Explanation

Type	C
Diagram	
Symbol	
Explanation	Single breakpoint has three terminals snap-action changeover contacts switch

Pin Description

Can be configured up to two sets of switches.
C1, NO1, NC1 and C2, NO2 and NC2, respectively, as a set of switches; C foot utility pin and NO pin is normally open foot, the foot of the NC pin is normally closed; +, - pin light bead pin, the conventional lamp bead configuration of positive and negative distinction; Relatively independent of lamp beads and switch through the switch or the external circuit to control the status of the lamp beads.

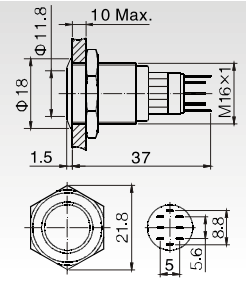
Installation Effect Preview



HBS2GQF-□■/◎/☆



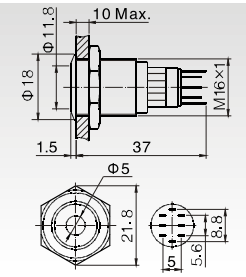
- Mounting Hole Size: $\Phi 16\text{mm}$
- Switch Rating: 3A/250VAC
- Contact Configuration: 1NO1NC/2NO2NC
- Operation Type: Momentary, Latching
- The Front Shape: Flat Round
- The Crust Material: Stainless Steel, Nickel-plated Brass
- Protection Degree: IP67,IK09



HBS2GQF-□■D/△/▲/◎/☆



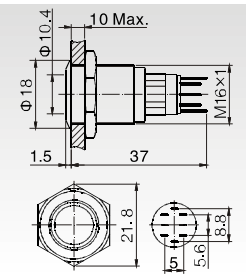
- Mounting Hole Size: $\Phi 16\text{mm}$
- Switch Rating: 3A/250VAC
- Contact Configuration: 1NO1NC/2NO2NC
- Operation Type: Momentary, Latching
- The Front Shape: Flat Round
- The Crust Material: Stainless Steel, Nickel-plated Brass
- Illuminated Type: Dot
- Protection Degree: IP67,IK09



HBS2GQF-□■E/△/▲/◎/☆



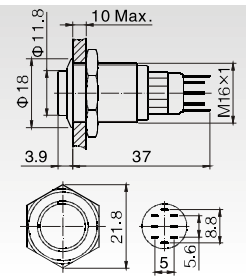
- Mounting Hole Size: $\Phi 16\text{mm}$
- Switch Rating: 3A/250VAC
- Contact Configuration: 1NO1NC/2NO2NC
- Operation Type: Momentary, Latching
- The Front Shape: Flat Round
- The Crust Material: Stainless Steel, Nickel-plated Brass
- Illuminated Type: Ring
- Protection Degree: IP67,IK09



HBS2GQH-□■/◎/☆



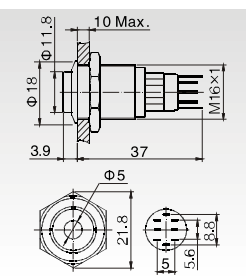
- Mounting Hole Size: $\Phi 16\text{mm}$
- Switch Rating: 3A/250VAC
- Contact Configuration: 1NO1NC/2NO2NC
- Operation Type: Momentary, Latching
- The Front Shape: High Round
- The Crust Material: Stainless Steel, Nickel-plated Brass
- Protection Degree: IP67,IK09



HBS2GQH-□■D/◎/☆



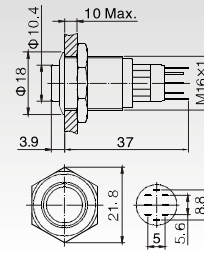
- Mounting Hole Size: $\Phi 16\text{mm}$
- Switch Rating: 3A/250VAC
- Contact Configuration: 1NO1NC/2NO2NC
- Operation Type: Momentary, Latching
- The Front Shape: High Round
- The Crust Material: Stainless Steel, Nickel-plated Brass
- Illuminated Type: Dot
- Protection Degree: IP67,IK09



☉ HBS2GQH-□■E/△/▲/◎/☆



- Mounting Hole Size: $\phi 16\text{mm}$
- Switch Rating: 3A/250VAC
- Contact Configuration: 1NO1NC/2NO2NC
- Operation Type: Momentary, Latching
- The Front Shape: High Round
- The Crust Material: Stainless Steel, Nickel-plated Brass
- Illuminated Type: Ring
- Protection Degree: IP67,IK09



Specifications	HBS2GQF-□■/◎/☆ HBS2GQH-□■/◎/☆	HBS2GQF-□■D/△/▲/◎/☆ HBS2GQH-□■D/△/▲/◎/☆	HBS2GQF-□■E/△/▲/◎/☆ HBS2GQH-□■E/△/▲/◎/☆
The Front Shape	Flat Round High Round	Flat Round High Round	Flat Round High Round
Terminal Type	Pin Terminal(2.8 × 0.4mm)	Pin Terminal(2.8 × 0.4mm)	Pin Terminal(2.8 × 0.4mm)
Switch Type	C(Single breakpoint snap-action changeover contacts)	C(Single breakpoint snap-action changeover contacts)	C(Single breakpoint snap-action changeover contacts)
Switch Specifications	Ith:3A Ui:250VAC	Ith:3A Ui:250VAC	Ith:3A Ui:250VAC
Contact Resistance	≤50mΩ	≤50mΩ	≤50mΩ
Insulation Resistance	≥1000MΩ	≥1000MΩ	≥1000MΩ
Dielectric Strength	2000VAC	2000VAC	2000VAC
Operating Temperature	-20℃ ~ +55℃	-20℃ ~ +55℃	-20℃ ~ +55℃
Mechanical Life	>200,000 times	>200,000 times	>200,000 times
Electrical Life	>50,000 times	>50,000 times	>50,000 times
Panel Thickness	1 ~ 10mm	1 ~ 10mm	1 ~ 10mm
Torque	5 ~ 14Nm	5 ~ 14Nm	5 ~ 14Nm
Operating Pressure	2.5~4N	2.5~4N	2.5~4N
Operating Stroke	约2.8mm	约2.8mm	约2.8mm
Protection Degree	IP40/IP67,IK09	IP40/IP67,IK09	IP40/IP67,IK09
Material	Contact	Silver Alloy	Silver Alloy
	Button	tainless Steel: Mirror Surface, Spiral Pattern	tainless Steel: Mirror Surface, Spiral Pattern
	Case	tainless Steel: Mirror Surface, Spiral Pattern	tainless Steel: Mirror Surface, Spiral Pattern
	Base	PBT	PBT
	RoHS	Can be made to order	Can be made to order
Lamp Parameter	Lamp Type	Non-illuminated	Dot-illuminated (LED) Ring-illuminated (LED)
	Rated Voltage	---	6V / 12V / 24V / 110V / 220V
	Color	---	R G Y O B W
	Life	---	50000 hours

☉ Model Explanation

Series Number	Modified Code	Contact Configuration	Operation Type	Lamp Type	Terminal Type	Color of Lamp and Colorized Button	Lamp Voltage
HBS1	GQ	11 1NO1NC	Z Latching Push Button Y 钥匙钮 No letter means momentary push button	D Dot E Ring	L Screw Terminal No letter means pin terminal	L Red R Red G Green Y Yellow O Orange B Blue W White	AC/DC 6V AC/DC 12V AC/DC 24V AC/DC 110V AC/DC 220V Other voltage can be made to order

Note: Please carefully read the product specification, then select the appropriate code according to different symbols in the table.

☉ LED Lamp Specifications

Lamp Type	Bi-directional LED lamp (AC DC Universal)			Lamp Equivalent Circuit	
Rated Voltage	AC/DC6V	AC/DC12V	AC/DC110V		<p>AC-DC Universal LED lamp, terminal differentiate between positive and negative; lamp beads built-in protection resistors, no external.</p>
	AC/DC24V	AC/DC36V	AC/DC220V		
Rated Current	About 15mA		about 3mA		
Color	R G Y O B W				
Life	50000 hours (reference value)				

Note: For unidirectional DC LED lamp can be customized; other voltage specifications can request custom.

☉ Switch Structure Explanation

Type	Za
Diagram	
Symbol	
Explanation	With a four-terminal double break snap-action changeover contacts switch

☉ Pin Description

	<p>1,2 is normally closed contact NC. 3,4 is normally open contact NO. +, - pin light bead pin, the conventional lamp bead configuration of positive and negative distinction; Relatively independent of lamp beads and switch through the switch or the external circuit to control the status of the lamp beads.</p>
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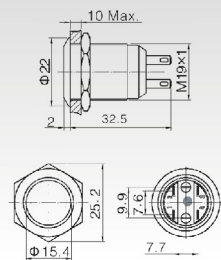
☉ Installation Effect Preview



● **HBS1GQ-11** □ ■ / ○ / ☆



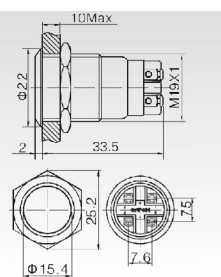
- Mounting Hole Size : $\Phi 19\text{mm}$
- Switch Rating: 5A/250VAC
- Contact Configuration: 1NO1NC
- Operation Type: Momentary, Latching
- The Crust Material: Stainless Steel
- Protection Degree: IP65,IK09



● **HBS1GQ-11** □ ■ / ○ / ☆



- Mounting Hole Size : $\Phi 19\text{mm}$
- Switch Rating: 5A/250VAC
- Contact Configuration: 1NO1NC
- Operation Type: Momentary, Latching
- The Crust Material: Stainless Steel
- Protection Degree: IP65,IK09

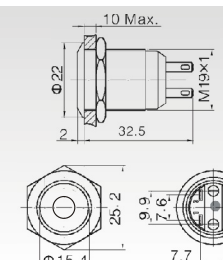


Specifications	HBS1GQ-11 ■	HBS1GQ-11/L ■
The Front Shape	Flat Round	Flat Round
Terminal Type	Pin Terminal(2.8 × 0.5mm)	Screw Terminal
Switch Type	ZA (Double breakpoint snap-action changeover contacts)	ZA (Double breakpoint snap-action changeover contacts)
Switch Specifications	Ith:5A Ui:250VAC	Ith:5A Ui:250VAC
Contact Resistance	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$
Insulation Resistance	$\geq 1000\text{M}\Omega$	$\geq 1000\text{M}\Omega$
Dielectric Strength	2000VAC	2000VAC
Operating Temperature	-20℃ ~ +55℃	-20℃ ~ +55℃
Mechanical Life	>1,000,000 times	>1,000,000 times
Electrical Life	>50,000 times	>50,000 times
Panel Thickness	1 ~ 10mm	1 ~ 10mm
Torque	5 ~ 14Nm	5 ~ 14Nm
Operating Pressure	About 4N	About 4N
Operating Stroke	About 2.5mm	About 2.5mm
Protection Degree	IP65(IP67 can be customized), IK09	IP65(IP67 can be customized), IK09
Material	Contact	Silver Alloy
	Button	Stainless Steel
	Case	Stainless Steel
	Base	PC
	RoHS	Can be made to order

● **HBS1GQ-11D** / △ / ▲



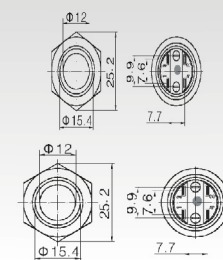
- Mounting Hole Size : $\Phi 19\text{mm}$
- Switch Rating: 5A/250VAC
- Contact Configuration: 1NO1NC
- Operation Type: Momentary
- The Crust Material: Stainless Steel
- Illuminated Type: Dot
- Protection Degree: IP65,IK09



● **HBS1GQ-11E** / △ / ▲



- Mounting Hole Size : $\Phi 19\text{mm}$
- Switch Rating: 5A/250VAC
- Contact Configuration: 1NO1NC
- Operation Type: Momentary
- The Crust Material: Stainless Steel
- Illuminated Type: Ring-illuminated
- Protection Degree: IP65,IK09

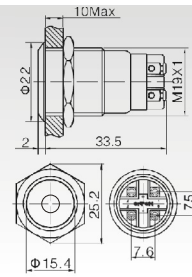


Specifications	HBS1GQ-11D/△/▲	HBS1GQ-11E/△/▲
The Front Shape	Flat Round	Flat Round
Terminal Type	Pin Terminal(2.8 × 0.5mm)	Pin Terminal(2.8 × 0.5mm)
Switch Type	ZA (Double breakpoint snap-action changeover contacts)	ZA (Double breakpoint snap-action changeover contacts)
Switch Specifications	Ith:5A Ui:250VAC	Ith:5A Ui:250VAC
Contact Resistance	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$
Insulation Resistance	$\geq 1000\text{M}\Omega$	$\geq 1000\text{M}\Omega$
Dielectric Strength	2000VAC	2000VAC
Operating Temperature	-20℃ ~ +55℃	-20℃ ~ +55℃
Mechanical Life	>1,000,000 times	>1,000,000 times
Electrical Life	>50,000 times	>50,000 times
Panel Thickness	1 ~ 10mm	1 ~ 10mm
Torque	5 ~ 14Nm	5 ~ 14Nm
Operating Pressure	About 4N	About 4N
Operating Stroke	About 2.5mm	About 2.5mm
Protection Degree	IP65(IP67 can be customized), IK09	IP65(IP67 can be customized), IK09
Material	Contact	Silver Alloy
	Button	Stainless Steel
	Case	Stainless Steel
	Base	PC
	RoHS	Can be made to order
Lamp Parameter	Lamp Type	Dot-illuminated (LED)
	Rated Voltage	6V / 12V / 24V / 110V / 220V
	Color	R G Y O B W
	Life	50000 hours

☉ **HBS1GQ-11D/L/△/▲**



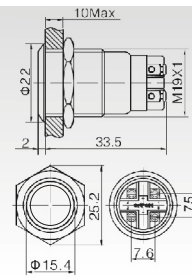
- Mounting Hole Size : Φ19mm
- Switch Rating: 5A/250VAC
- Contact Configuration: 1NO1NC
- Operation Type: Momentary, Latching
- The Crust Material: Stainless Steel
- Illuminated Type: Dot
- Protection Degree: IP65,IK09



☉ **HBS1GQ-11E/L/△/▲**



- Mounting Hole Size : Φ19mm
- Switch Rating: 5A/250VAC
- Contact Configuration: 1NO1NC
- Operation Type: Momentary, Latching
- The Crust Material: Stainless Steel
- Illuminated Type: Ring
- Protection Degree: IP65,IK09



Specifications	HBS1GQ-11D/L/△/▲	HBS1GQ-11E/L/△/▲
The Front Shape	Flat Round	Flat Round
Terminal Type	Screw Terminal	Screw Terminal
Switch Type	ZA (Double breakpoint snap-action changeover contacts)	ZA (Double breakpoint snap-action changeover contacts)
Switch Specifications	Ith:5A Ui:250VAC	Ith:5A Ui:250VAC
Contact Resistance	≤50mΩ	≤50mΩ
Insulation Resistance	≥1000MΩ	≥1000MΩ
Dielectric Strength	2000VAC	2000VAC
Operating Temperature	-20℃ ~ +55℃	-20℃ ~ +55℃
Mechanical Life	>1,000,000 times	>1,000,000 times
Electrical Life	>50,000 times	>50,000 times
Panel Thickness	1 ~ 10mm	1 ~ 10mm
Torque	5 ~ 14Nm	5 ~ 14Nm
Operating Pressure	About 4N	About 4N
Operating Stroke	About 2.5mm	About 2.5mm
Protection Degree	IP65(IP67 can be customized), IK09	IP65(IP67 can be customized), IK09
Material	Contact	Silver Alloy
	Button	Stainless Steel
	Case	Stainless Steel
	Base	PA
Lamp Parameter	RoHS	Can be made to order
	Lamp Type	Dot-illuminated (LED)
	Rated Voltage	6V / 12V / 24V / 110V / 220V
	Color	R G Y O B W
	Life	50000 hours

☉ **Model Explanation**

Series Number	Modified Code	Contact Configuration	操作类型	Lamp Type	◆选择钮及钥匙钮的操作位置	Color of Lamp and Colored Button	带灯部分或蜂鸣器的工作电压
HBS1	AGQ	11 1NO1NC 22 2NO2NC	Z 自锁按钮 X 选择钮 Y 钥匙钮 M 蜂鸣器 SM 闪光 蜂鸣器 无字母代表自复按钮	D Dot E Ring	2 二位置 3 三位置	R Red G Green Y Yellow O Orange B Blue W White	AC/DC 6V AC/DC 12V AC/DC 24V AC/DC 110V AC/DC 220V Other voltage can be made to order

Note: Please carefully read the product specification, then select the appropriate code according to different symbols in the table.

☉ **LED Lamp Specifications**

Lamp Type	Bi-directional LED lamp (AC DC Universal)			Lamp Equivalent Circuit
Rated Voltage	AC/DC6V	AC/DC12V	AC/DC110V	
Rated Current	About 15mA		about 3mA	
Color	R G Y O B W			
Life	50000 hours (reference value)			

Note: For unidirectional DC LED lamp can be customized; other voltage specifications can request custom.

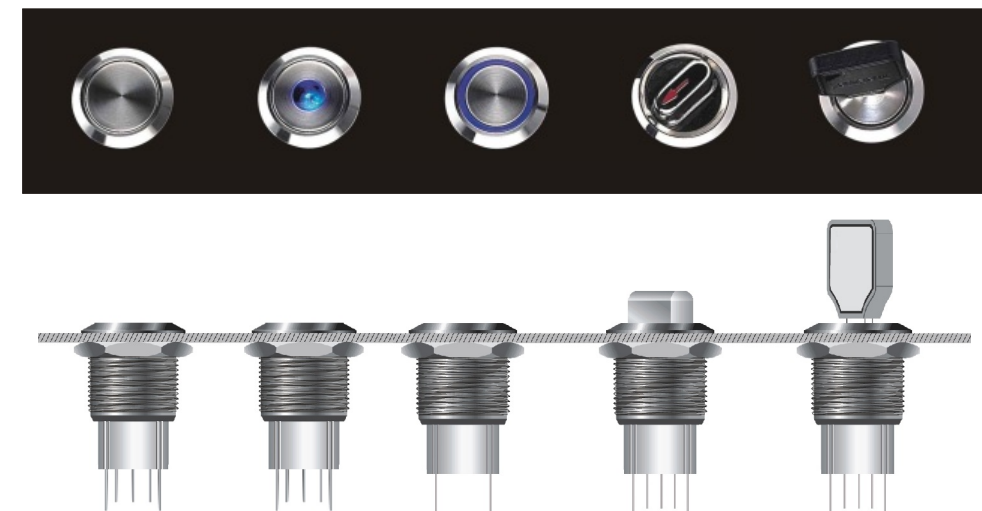
☉ **Switch Structure Explanation**

Type	C
Diagram	
Symbol	
Explanation	具有三个端子的单断点快动转换触头开关

☉ **Pin Description**

	<p>最多可配置两组开关。 C1、NO1、NC1和C2、NO2、NC2分别为两组开关；C脚为公用脚，NO脚为常开脚，NC脚为常闭脚；+、-脚为灯珠引脚，常规灯珠配置无正负极区分。 灯珠与开关相对独立，可通过开关或外围电路控制灯珠状态。</p>
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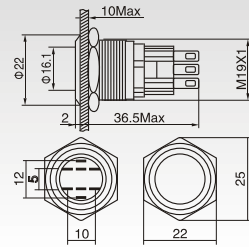
☉ **Installation Effect Preview**



◎ HBS1-AGQ-□■/○/☆



- Mounting Hole Size : $\Phi 19\text{mm}$
- Switch Rating: 5A/250VAC
- Contact Configuration: 1NO1NC/2NO2NC
- Operation Type: Momentary, Latching
- The Crust Material: Stainless Steel
- Protection Degree: IP67,IK09

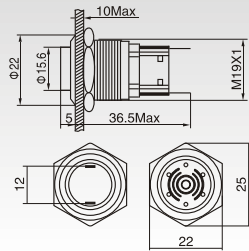


◎ HBS1-AGQ-SM/▲



Illuminated buzzer

- Mounting Hole Size: $\Phi 19\text{mm}$
- Rated Voltage: DC12V/DC24VAC 110V/AC220V
- Pronunciation Type: Buzzing/ Flash Buzzer
- Sound Intensity: $\approx 80\text{dB}(1\text{m})$
- The Crust Material: Stainless Steel
- Protection Degree : IP50,IK04



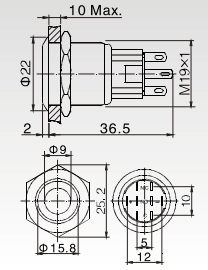
Specifications	HBS1-AGQ-□■	HBS1-AGQ-■/▲
The Front Shape	Flat Round	平圆形孔状
Terminal Type	Pin Terminal(2.8×0.5mm)	Pin Terminal(2.8×0.5mm)
Switch Type	C(Single breakpoint snap-action changeover contacts)	---
Switch Specifications	Ith:5A Ui:250VAC	---
Contact Resistance	$\leq 50\text{m}\Omega$	---
Insulation Resistance	$\geq 1000\text{M}\Omega$	---
Dielectric Strength	2000VAC	2000VAC
Operating Temperature	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$
Mechanical Life	>1,000,000 times	---
Electrical Life	>50,000 times	---
Panel Thickness	1 ~ 10mm	1 ~ 10mm
Torque	5 ~ 14Nm	5 ~ 14Nm
Operating Pressure	3~5N	---
Operating Stroke	About 3.1mm	---
Protection Degree	IP67,IK09	IP50,IK04
Material	Contact	Silver Alloy
	Button	Stainless Steel
	Case	Stainless Steel
	Base	PBT
RoHS	Can be made to order	Can be made to order
Lamp Parameter	Lamp Type	---
	Rated Voltage	---
	Color	---
	Life	$\geq 80\text{dB} (1\text{m})$

◎ HBS1-AGQ-□■D/△/▲



Dot-illuminated high switches

- Mounting Hole Size : $\Phi 19\text{mm}$
- Switch Rating: 5A/250VAC
- Contact Configuration: 1NO1NC/2NO2NC
- Operation Type: Momentary, Latching
- The Crust Material: Stainless Steel
- Illuminated Type: Dot
- Protection Degree: IP67,IK09

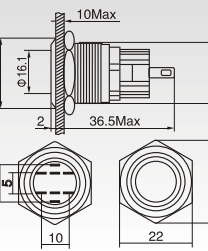


◎ HBS1-AGQ-□■E/△/▲



Ring-illuminated high switches

- Mounting Hole Size : $\Phi 19\text{mm}$
- Switch Rating: 5A/250VAC
- Contact Configuration: 1NO1NC/2NO2NC
- Operation Type: Momentary, Latching
- The Crust Material: Stainless Steel
- Illuminated Type: Ring
- Protection Degree: IP67,IK09

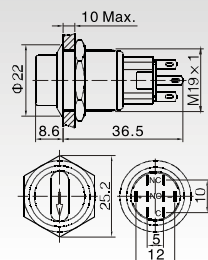


Specifications	HBS1-AGQ-□■D/△/▲	HBS1-AGQ-□■E/△/▲
The Front Shape	Flat Round	Flat Round
Terminal Type	Pin Terminal(2.8×0.5mm)	Pin Terminal(2.8×0.5mm)
Switch Type	C(Single breakpoint snap-action changeover contacts)	C(Single breakpoint snap-action changeover contacts)
Switch Specifications	Ith:5A Ui:250VAC	Ith:5A Ui:250VAC
Contact Resistance	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$
Insulation Resistance	$\geq 1000\text{M}\Omega$	$\geq 1000\text{M}\Omega$
Dielectric Strength	2000VAC	2000VAC
Operating Temperature	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$
Mechanical Life	>1,000,000 times	>1,000,000 times
Electrical Life	>50,000 times	>50,000 times
Panel Thickness	1 ~ 10mm	1 ~ 10mm
Torque	5 ~ 14Nm	5 ~ 14Nm
Operating Pressure	3~5N	3~5N
Operating Stroke	About 3.1mm	About 3.1mm
Protection Degree	IP67,IK09	IP67,IK09
Material	Contact	Silver Alloy
	Button	Stainless Steel
	Case	Stainless Steel
	Base	PBT
RoHS	Can be made to order	Can be made to order
Lamp Parameter	Lamp Type	Dot-illuminated (LED)
	Rated Voltage	6V / 12V / 24V / 110V / 220V
	Color	R G Y O B W
	Life	50000 hours

◎ HBS1-AGQ-□X/◆●/△/▲



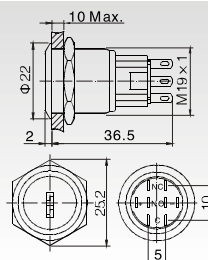
- Mounting Hole Size: $\Phi 19\text{mm}$
- Switch Rating: 5A/250VAC
- Contact Configuration : 1NO1NC/2NO2NC
- Operating Position: Position Two/ Position Three
- Operation Type: Keep Momentary
- The Crust Material: Stainless Steel
- Illuminated Type: Arrow Indicate
- Protection Degree: IP65



◎ HBS1-AGQ-□Y/◆●



- Mounting Hole Size: $\Phi 19\text{mm}$
- Switch Rating: 5A/250VAC
- Contact Configuration : 1NO1NC/2NO2NC
- Operation Type: Position Two: Keep/Momentary
Position Three: Keep
- The Crust Material: Stainless Steel



Specifications	HBS1-AGQ-□X/◆●/△/▲	HBS1-AGQ-□Y/◆●
The Front Shape	Knob	Key-lock
Terminal Type	Pin Terminal(2.8×0.5mm)	Pin Terminal(2.8×0.5mm)
Switch Type	Structure III	Structure III
Switch Specifications	Ith:5AUi:250VAC	Ith:5AUi:250VAC
Contact Resistance	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$
Insulation Resistance	$\geq 1000\text{M}\Omega$	$\geq 1000\text{M}\Omega$
Dielectric Strength	2000VAC	2000VAC
Operating Temperature	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$	$-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$
Mechanical Life	>500,000 times	>500,000 times
Electrical Life	>50,000 times	>50,000 times
Panel Thickness	1 ~ 10mm	1 ~ 10mm
Torque	5 ~ 14Nm	5 ~ 14Nm
Operating Pressure	---	---
Operating Stroke	---	---
Protection Degree	IP65	---
Material	Contact	Silver Cadmium Oxide
	Button	Stainless Steel
	Case	Stainless Steel
	Base	PBT
Lamp Parameter	Lamp Type	Arrow
	Rated Voltage	R G O B W
	Color	1.8V, 2.8V, 6V, 2V, 24V, 110V, 220V
	Life	50000 hours

◎ Model Explanation

HBGQ-	★	-	□	■	/	◇	/	△	/	▲
Series Number	Modified Code	Contact Configuration	Operation Type	Lamp Type	Color of Lamp and Colorized Button	Lamp Voltage				
	22: $\phi 22\text{mm}$ 25: $\phi 25\text{mm}$	11 1NO1NC 22 2NO2NC	Z Latching Push Button No letter means momentary push button	D Dot E Ring	R Red G Green Y Yellow O Orange B Blue W White	AC/DC 6V AC/DC 12V AC/DC 24V AC/DC 110V AC/DC 220V Other voltage can be made to order				

Note: Please carefully read the product specification, then select the appropriate code according to different symbols in the table.

◎ LED Lamp Specifications

Lamp Type	Bi-directional LED lamp (AC DC Universal)			Lamp Equivalent Circuit	
Rated Voltage	AC/DC6V	AC/DC12V	AC/DC110V		<p>AC-DC Universal LED lamp, terminal differentiate between positive and negative; lamp beads built-in protection resistors, no external.</p>
Rated Current	About 15mA		about 3mA		
Color	R G Y O B W				
Life	50000 hours (reference value)				

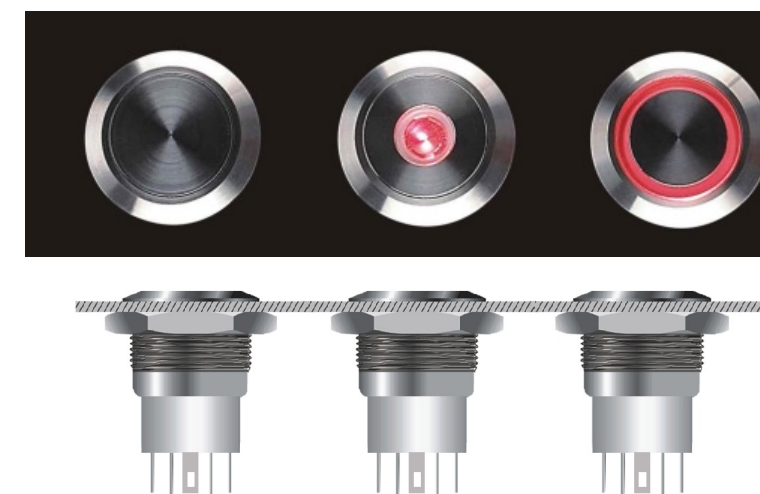
Note: For unidirectional DC LED lamp can be customized; other voltage specifications can request custom.

◎ Switch Structure Explanation ◎ Pin Description

Type	Za
Diagram	
Symbol	
Explanation	With a four-terminal double break snap-action changeover contacts switch

	HBGQ22	HBGQ25
Diagram		
Symbol		
Explanation	1, 2, 3, 4, a set of switches; 1 and 2 normally closed contact NC 3,4 normally open contact Number Relatively independent of lamp beads and switch through the switch or the external circuit to control the status of the lamp beads.	

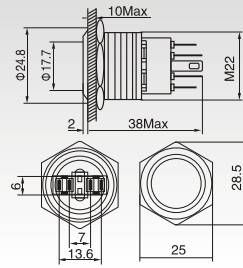
◎ Installation Effect Preview



● HBGQ22-11 ■



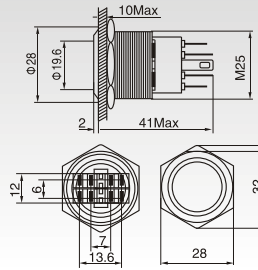
- Mounting Hole Size : $\Phi 22\text{mm}$
- Switch Rating: 5A/250VAC
- Contact Configuration: 1NO1NC
- Operation Type: Momentary, Latching
- The Crust Material: Stainless Steel
- Protection Degree: IP65,IK10



● HBGQ25-□ ■



- Mounting Hole Size : $\Phi 25\text{mm}$
- Switch Rating: 5A/250VAC
- Contact Configuration: 1NO1NC/2NO2NC
- Operation Type: Momentary, Latching
- The Crust Material: Stainless Steel
- Protection Degree: IP65,IK10



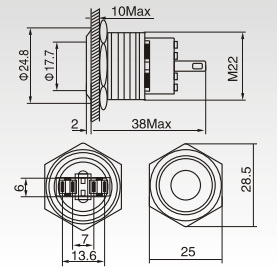
Specifications	HBGQ22-11 ■	HBGQ25-□ ■
The Front Shape	Flat Round	Flat Round
Terminal Type	Pin Terminal(2.8 × 0.5mm)	Pin Terminal(2.8 × 0.5mm)
Switch Type	Za (Double breakpoint snap-action changeover contacts)	Za (Double breakpoint snap-action changeover contacts)
Switch Specifications	Ith:5A Ui:250VAC	Ith:5A Ui:250VAC
Contact Resistance	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$
Insulation Resistance	$\geq 1000\text{M}\Omega$	$\geq 1000\text{M}\Omega$
Dielectric Strength	2000VAC	2000VAC
Operating Temperature	-20℃ ~ +55℃	-20℃ ~ +55℃
Mechanical Life	>1,000,000 times	>1,000,000 times
Electrical Life	>50,000 times	>50,000 times
Panel Thickness	1 ~ 6mm	1 ~ 6mm
Torque	5 ~ 14Nm	5 ~ 14Nm
Operating Pressure	About 5.5N	5.5~7N
Operating Stroke	About 2.5mm	About 2.8mm
Protection Degree	IP65,IK10	IP65,IK10
Material	Contact	Silver Alloy
	Button	Stainless Steel
	Case	Stainless Steel
	Base	PA
	RoHS	Can be made to order

● HBGQ22-11 ■ D/△/▲



Dot-illuminated switches

- Mounting Hole Size : $\Phi 22\text{mm}$
- Switch Rating: 5A/250VAC
- Contact Configuration: 1NO1NC
- Operation Type: Momentary, Latching
- The Crust Material: Stainless Steel
- Illuminated Type: Dot
- Protection Degree: IP65,IK10

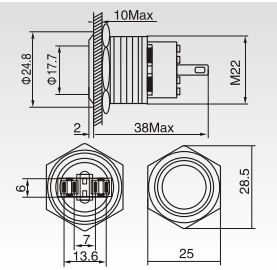


● HBGQ22-11 ■ E/△/▲



Ring-illuminated Switches

- Mounting Hole Size : $\Phi 22\text{mm}$
- Switch Rating: 5A/250VAC
- Contact Configuration: 1NO1NC
- Operation Type: Momentary, Latching
- The Crust Material: Stainless Steel
- Illuminated Type: Ring
- Protection Degree: IP65,IK10

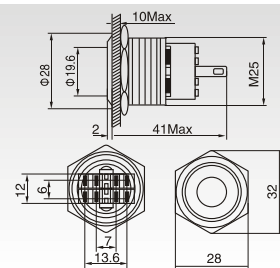


Specifications	HBGQ22-11 ■ D/△/▲	HBGQ22-11 ■ E/△/▲
The Front Shape	Flat Round	Flat Round
Terminal Type	Pin Terminal(2.8 × 0.5mm)	Pin Terminal(2.8 × 0.5mm)
Switch Type	ZA(Double breakpoint snap-action changeover contacts)	ZA(Double breakpoint snap-action changeover contacts)
Switch Specifications	Ith:5A Ui:250VAC	Ith:5A Ui:250VAC
Contact Resistance	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$
Insulation Resistance	$\geq 1000\text{M}\Omega$	$\geq 1000\text{M}\Omega$
Dielectric Strength	2000VAC	2000VAC
Operating Temperature	-20℃ ~ +55℃	-20℃ ~ +55℃
Mechanical Life	>1,000,000 times	>1,000,000 times
Electrical Life	>50,000 times	>50,000 times
Panel Thickness	1 ~ 8mm	1 ~ 8mm
Torque	5 ~ 14Nm	5 ~ 14Nm
Operating Pressure	About 5.5N	About 5.5N
Operating Stroke	About 2.5mm	About 2.5mm
Protection Degree	IP65,IK10	IP65,IK10
Material	Contact	Silver Alloy
	Button	Stainless Steel
	Case	Stainless Steel
	Base	PA
	RoHS	Can be made to order
Lamp Parameter	Lamp Type	Dot-illuminated (LED)
	Rated Voltage	6V / 12V / 24V / 110V / 220V
	Color	R G Y O B W
	Life	50000 hours

● HBGQ25-□■D/△/▲



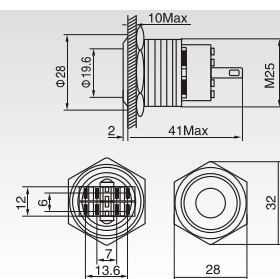
- Mounting Hole Size : $\Phi 25\text{mm}$
- Switch Rating: 5A/250VAC
- Contact Configuration: 1NO1NC/2NO2NC
- Operation Type: Momentary, Latching
- The Crust Material: Stainless Steel
- Illuminated Type: Dot
- Protection Degree: IP65,IK10



● HBGQ25-□■E/△/▲



- Mounting Hole Size : $\Phi 25\text{mm}$
- Switch Rating: 5A/250VAC
- Contact Configuration: 1NO1NC
- Operation Type: Momentary, Latching
- The Crust Material: Stainless Steel
- Illuminated Type: Ring
- Protection Degree: IP65,IK10



Specifications	HBGQ25-□D/△/▲■	HBGQ25-□E/△/▲■
The Front Shape	Flat Round	Flat Round
Terminal Type	Pin Terminal(2.8 × 0.5mm)	Pin Terminal(2.8 × 0.5mm)
Switch Type	ZA(Double breakpoint snap-action changeover contacts)	ZA(Double breakpoint snap-action changeover contacts)
Switch Specifications	Ith:5A Ui:250VAC	Ith:5A Ui:250VAC
Contact Resistance	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$
Insulation Resistance	$\geq 1000\text{M}\Omega$	$\geq 1000\text{M}\Omega$
Dielectric Strength	2000VAC	2000VAC
Operating Temperature	-20°C ~ +55°C	-20°C ~ +55°C
Mechanical Life	>1,000,000 times	>1,000,000 times
Electrical Life	>50,000 times	>50,000 times
Panel Thickness	1 ~ 10mm	1 ~ 10mm
Torque	5 ~ 14Nm	5 ~ 14Nm
Operating Pressure	5.5~7N	5.5~7N
Operating Stroke	About 2.8mm	About 2.8mm
Protection Degree	IP65,IK10	IP65,IK10
Material	Contact	Silver Alloy
	Button	Stainless Steel
	Case	Stainless Steel
	Base	PA
	RoHS	Can be made to order
Lamp Parameter	Lamp Type	Dot-illuminated (LED)
	Rated Voltage	6V / 12V / 24V / 110V / 220V
	Color	R G Y O B W
	Life	50000 hours

● IP Protection Degree Explanation

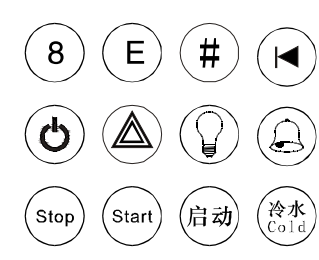

The first digital (to prevent the entry of solid foreign objects)			Second digital (to prevent water harmful effects)		
IP	Requirement	Example	IP	Briefly	Waterproof
0	Unprotected		0	Unprotected	Unprotected
1	50mm diameter spherical objects may not enter, and not touch the dangerous parts. Such as the arm.		1	Prevent the vertically falling drops of water to allow a small amount of water to enter.	Vertical drips of water
2	Diameter 12.5mm spherical objects must not enter, hinged test means and dangerous parts have sufficient clearance. Such as a finger.		2	Prevent the shell in the range of 15° tilted vertically falling drops of water to allow a small amount of water to enter.	And the vertical plane of 15° drips
3	Allowed to enter the trial with 2.5mm in diameter. Such as tools.		3	Prevent vertical to 60° range of watering, allow a small amount of water to enter.	A small amount of water spray
4	1mm in diameter test with will not be allowed to enter. Such as metal wire.		4	Splashing water to prevent any direction, allowing a small amount of water to enter.	Any direction of the splashing
5	Allow limited dust to enter (no harmful deposits).		5	To prevent water spray, allowing a small amount of water to enter.	Water spray in any direction
6	Completely prevent dust from entering.		6	Prevent strong water spray, allowing a small amount of water to enter.	Water spray in any direction
			7	Prevent the impact of 15mm ~ 1m deep soaking.	Short-term flooding
			8	Prevent long-term immersion in water under pressure.	Continuous immersion in water

● Crust Protection Degree Explanation

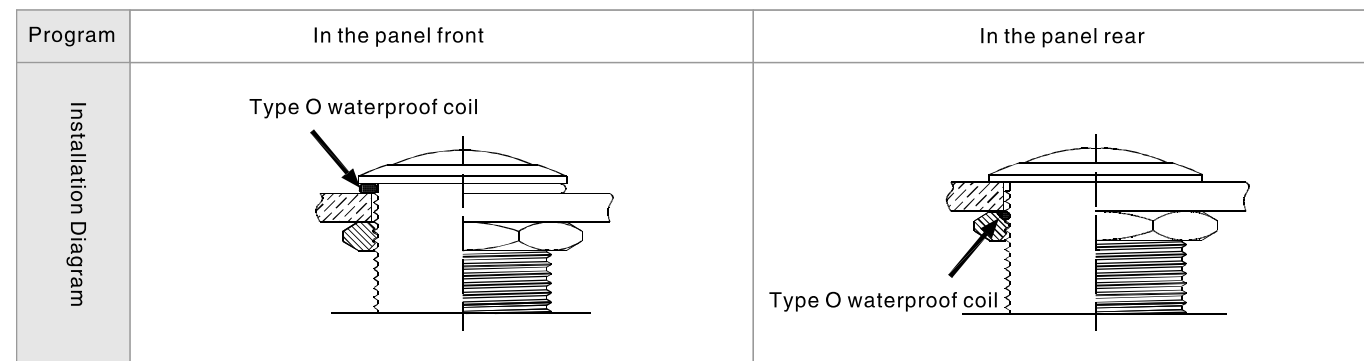
Protection Degree	Hammer Quality A	H: The Hammer initial height H	Hit capacity	Hit diagram	Explanation
IK01	150g	10cm	0.15J		The same parts of the shell by three times the energy of the appropriate level of mechanical shock, do not make the switch to be adversely affected.
IK02	200g	10cm	0.20J		
IK03	250g	15cm	0.35J		
IK04	250g	20cm	0.50J		
IK05	350g	20cm	0.70J		
IK06	250g	40cm	1J		
IK07	500g	40cm	2J		
IK08	1.25Kg	40cm	5J		
IK09	2.50Kg	40cm	10J		
IK10	5.0Kg	40cm	20J		

Note: Meet the standards GB/T 20138-2006, IEC 62262: 2002
The experimental standard: GB/T2423.55-2006, IEC60068-2-75: 1997

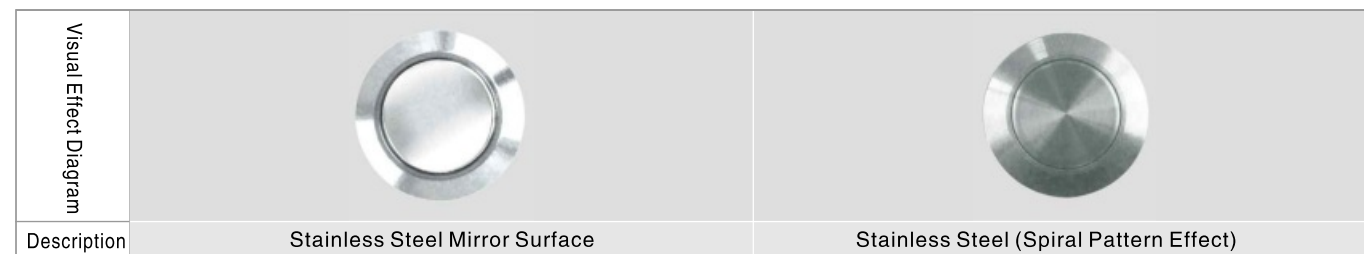
Labeling Program

Product Model	Maximum identity range	Identification Sample	Effect Diagram
HBGQ16	Φ10 mm	 <p>More icon symbols see P39.</p>	
HBGQ16-E	Φ8 mm		
HBGQ19	Φ13 mm		
HBS2GQ	Φ10 mm		
HBS2GQ-E	Φ8.5 mm		
HBS1GQ	Φ13 mm		
HBS1GQ-E	Φ10 mm		
HBS1-AGQ	Φ13.5 mm		
HBS1-AGQ-E	Φ11.5 mm		
HBGQ22	Φ15 mm		
HBGQ22-E	Φ12 mm		
HBGQ25	Φ22.5 mm		
HBGQ25-E	Φ13 mm		

Waterproof coil installation method



Visual contrast of the crust material



Note: The crust can be customized processing of color (crust material will be diverted to use aluminum).

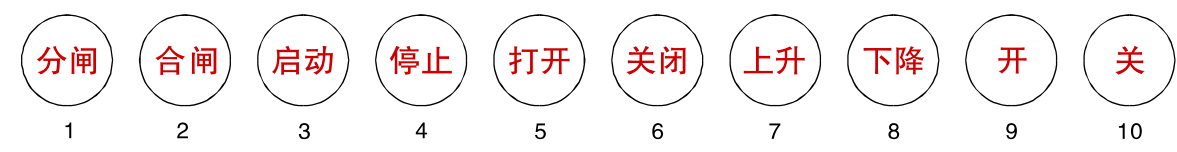
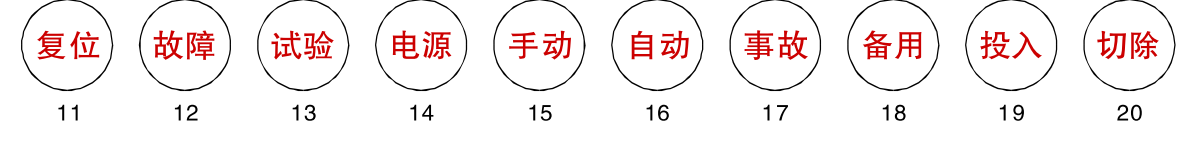
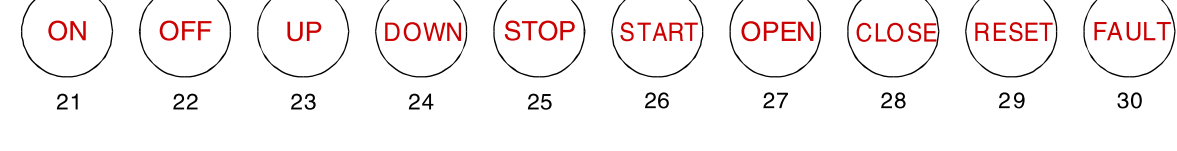
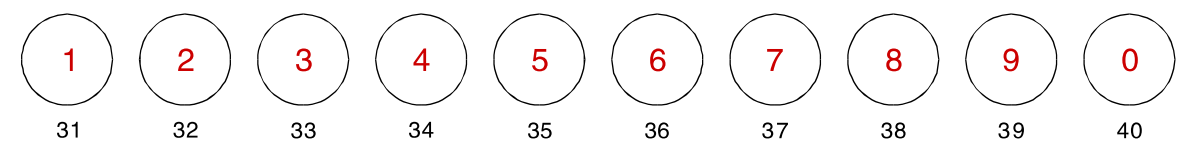
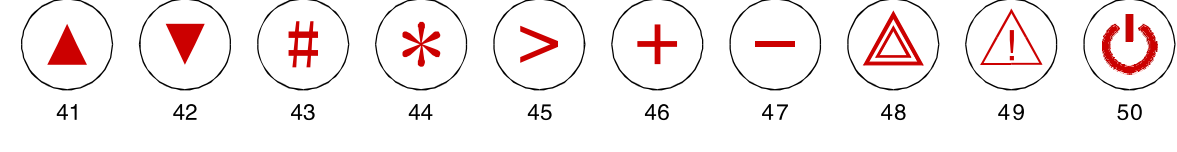
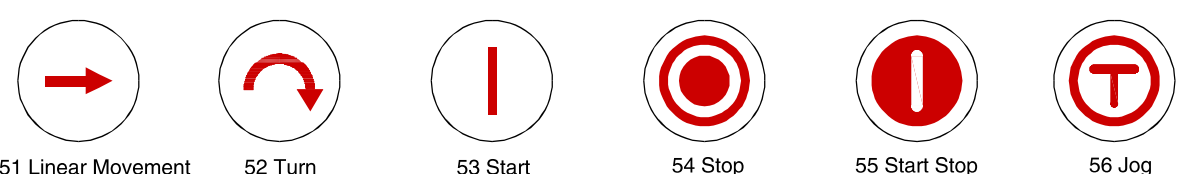
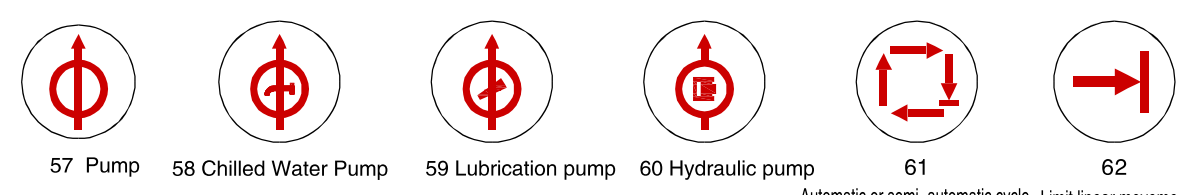
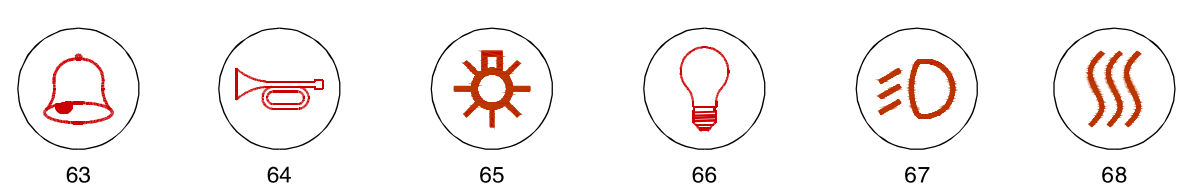
Some products Welding Note

- Any incorrect welding operation may lead to product plastic deformation, the switch is bad contact. Users in the use of pin type button switch, signal light, the phenomenon of improper welding cause damage occurred, therefore I would urge users in the terminal operation is important to note the following points:
- Select the appropriate electric iron, to speed up the welding speed, it is recommended to use 20W soldering iron within 3 seconds to complete welding.
 - The amount of flux must be welded to make the switch to pin down.
 - Maximize the use of the plug wire terminal connection, to avoid the welded connection.

Ordering Information

- Control "model explanation" when ordering, please fill out the model code to specify the content and products.
- All products can be customized aluminum casing, the surface color processing (custom color cover).
- The level of protection for all products is limited to the front of the panel.

Identifies examples

Text identity	
	
	
Numbers and symbols	
	
ISO Symbols	
	
Special Symbols	

Note: The above symbols need to be customized.