

## HBY5 Series Pushbutton Switches

### Product Overview

HBY5 series are suitable to industrial control circuit with AC 50Hz or 60Hz, 0~380V rated voltage and 0~220V DC operating voltage, used for the control of magnetic starter, contactor, relay and other electric circuit.

### Specs

The product has two types: normal type and economical type, containing pilot lamp, pushbuttons, illuminated pushbuttons, mushroom push button, emergency pushbuttons, selector switches, key-lock switches, mushroom key-lock switches, double head switches, The installation hole is  $\Phi 22\text{mm}$ . It used in wide area.

### Performancs

Using high quality inflaming retarding materials. Switch unit is separated independently, the insulating performance and anti-vibration is very well. The product meets standards of IEC60947-5-1, GB14048.5 etc.

### Structure

The switch unit is slow-break and self-cleaning. It uses modular combination mode and you can combine from one to eight switch units optional, so can make the product meet the requirement of many special control circuits. It can be connected more safely and installed firmly. Economical plastic type can be used in acid environment.

### Protective Degree

The standard is IP40 and some types can reach IP67 with the seal cover.

### Switch Ratings

Rated Insulation Voltage	Ui: 660V					
Thermal Current	Ith: 10A					
Rated Voltage	24V	48V	110V	220V	380V	500V
Direct Current	10A	5A	2.2A	1.1A		
Alternating Current P.F=0.7			10A	6A	4A	2A

### Lamp Ratings

Lamp Type	AC LED Lamp		
Rated Voltage	AC/DC 6V	AC/DC 12V	AC/DC 24V
	AC 110V	AC 220V	AC 380V
Lamp Life	40,000 hours		
Lamp Color	<span style="color:red">R</span> <span style="color:green">G</span> <span style="color:yellow">Y</span> <span style="color:orange">O</span> <span style="color:blue">B</span> <span style="color:white">W</span>		

Note: 1. The lamp contains current-limiting resistor inside and doesn't need connect outside.  
2. The standard is using AC/DC LED lamp, DC LED lamp, dual-color LED lamp and other voltages can be customized. customized if you need.

### Implication of Type

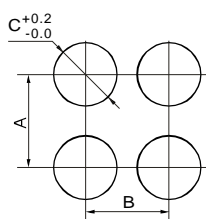
HBY5									☆	★	—	□	■	/	◇	◆	/	△	/	▲	/	◎
Code of series	Structure type: E plastic type E1 simple type No letter means metal head.	The front shape: J double head type: flat head with flat head. S double head type: flat head with long head. No letter means round	Contact Structure: 01 1NC 10 1NO 11 1NO1NC 22 2NO2NC Can be freely combined according to your needs.	Operating type: D pilot lamp Z alternate type X selector type XB lever type Y key-lock type M mushroom type TS emergency type No letter means momentary	◇ expresses selector and key-lock operating position: 2 two position 3 three position ◆ expresses operating type: 1 maintain 2 half return 3 self return	Color: R red G green Y yellow O orange B blue W white N black	Lamp Voltage (Please check the lamp rating)	Protective Degree: P IP65 FP IP67 No letter means IP40														

### Specifications

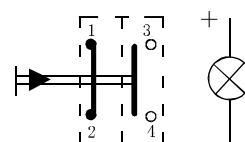
Operating Temperature	- 25°C ~ + 55°C (no freezing)
Operating Humidity	45 ~ 85% RH (no condensation)
Operating Altitude	Installation site can't be over 2000m above sea level.
Contact Material	- silver - silver alloy - gold-clad silver, cladding thickness is 3 μm
Contact Resistance	≤ 50m
Insulation Resistance	≥ 100M
Dielectric Strength	3000V, Alternating Current 50Hz
Vibration Resistance	50Hz, Amplitude 1.0mm p-p
Shock Resistance	≥ 10g
Life	Mechanical Momentary: ≥ 1,000,000 times; alternate, selector: ≥ 500,000 times; key-lock, emergency: ≥ 200,000 times
	Electrical 5万 times ≥
Terminal	Screw terminal, connecting ability: Min: 1 × 0.5mm <sup>2</sup> , Max: 2 × 1.5mm <sup>2</sup> or 1 × 2.5mm <sup>2</sup> (with or without connecting link)
Operation	Operation strength: 800gf ~ 2200gf, according to the quantity of switch units Operation travel: About 5.5mm (For push button type)
Pollution Degree	3 degrees

### Installation Dimensions

Panel thickness is 0.5~5mm




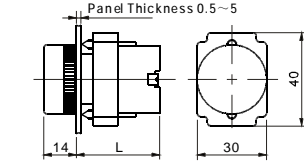

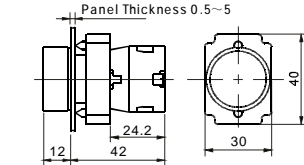

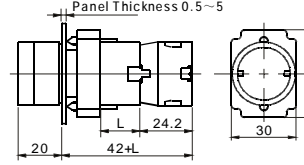

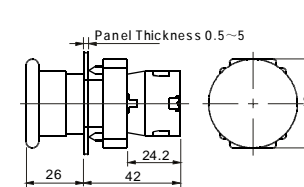

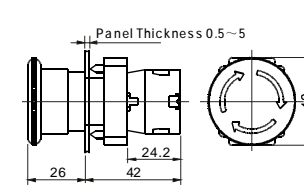






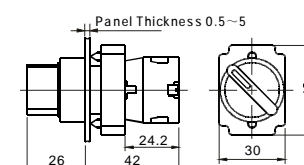






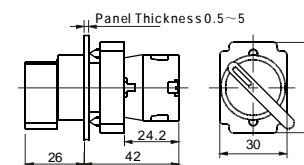
### Circuit Diagram



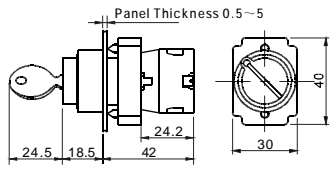





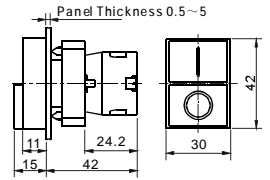

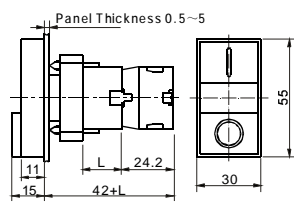


Switch code: 11  
1, 2 are normal closed;  
3, 4 are normal opened.


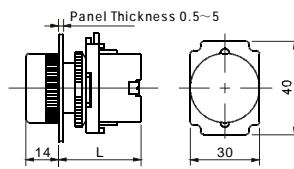

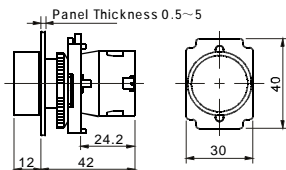

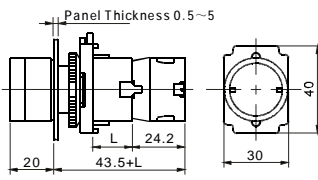
Type	A	B	C	Remarks
Normal, Key-lock	≥ 50mm	≥ 40mm	Φ22 or Φ25	Can be used in 25mm installation hole with a diameter changing circle. A and B are both the minimum dimensions..
Lever	≥ 55mm	≥ 40mm		
Mushroom	≥ 50mm	≥ 50mm		
Big Mushroom	≥ 70mm	≥ 70mm		


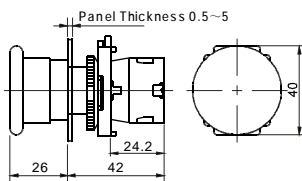

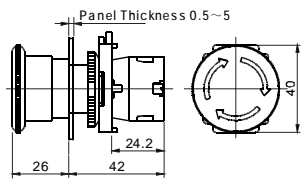


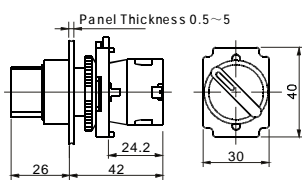






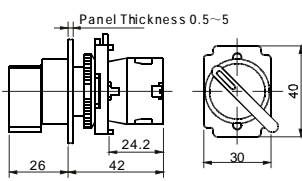






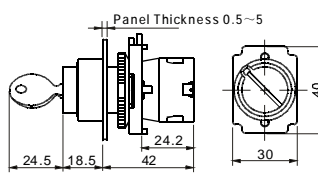





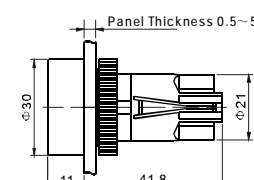
### Cutline of Normal Type

Shape	Operating Type	Type Number	Dimensions	Remarks
	Pilot Lamp	HBY5-D/△/▲	 <p>Panel Thickness 0.5~5</p> <p>14 L 30 40</p> <p>⊙ Lamp Voltage ≤60V, L=18; &gt;60V, L=23.</p>	<div>R</div> <div>G</div> <div>Y</div> <div>O</div> <div>B</div> <div>W</div>
	Momentary	HBY5-□/△/○	 <p>Panel Thickness 0.5~5</p> <p>12 24.2 42 30 40</p>	<div>R</div> <div>G</div> <div>Y</div> <div>O</div> <div>B</div> <div>W</div> <div>N</div> <p>⊙ Can't be used with lamp.</p> <p>⊙ Protective Degree: IP40, IP65, IP67</p> <p>IP67 should be installed with seal cover.</p>
	Momentary	HBY5-□D/△/▲/○	 <p>Panel Thickness 0.5~5</p> <p>20 L 24.2 42+L 30 40</p> <p>⊙ Lamp Voltage ≤60V, L=18; &gt;60V, L=23.</p>	<div>R</div> <div>G</div> <div>Y</div> <div>O</div> <div>B</div> <div>W</div> <p>⊙ Protective Degree: IP40, IP65, IP67</p> <p>IP67 should be installed with seal cover.</p>
	Momentary	HBY5-□M/△/○	 <p>Panel Thickness 0.5~5</p> <p>26 24.2 42 30 40</p>	<div>R</div> <div>G</div> <p>⊙ Can't be used with lamp.</p> <p>⊙ Protective Degree: IP40, IP65</p>
	Push-lock Turn-reset	HBY5-□TS/△/○	 <p>Panel Thickness 0.5~5</p> <p>26 24.2 42 30 40</p>	<div>R</div> <div>G</div> <p>⊙ Can't be used with lamp.</p> <p>⊙ The dimension of head is: Φ30mm, Φ40mm, Φ60mm</p>
	<div>  90° position maintain         </div> <div>  90° 2 position return         </div> <div>  45° 3 position maintain         </div> <div>  45° 3 position half return         </div> <div>  45° 3 position self return         </div>	<div>HBY5-□X/21/○</div> <div>HBY5-□X/23/○</div> <div>HBY5-□X/31/○</div> <div>HBY5-□X/32/○</div> <div>HBY5-□X/33/○</div>	 <p>Panel Thickness 0.5~5</p> <p>26 24.2 42 30 40</p>	<div>N</div> <p>⊙ Can't be used with lamp.</p> <p>⊙ Protective Degree: IP40, IP65</p>
	<div>  90° 2 position maintain         </div> <div>  90° 2 position return         </div> <div>  45° 3 position maintain         </div> <div>  45° 3 position half return         </div> <div>  45° 3 position self return         </div>	<div>HBY5-□XB/21/○</div> <div>HBY5-□XB/23/○</div> <div>HBY5-□XB/31/○</div> <div>HBY5-□XB/32/○</div> <div>HBY5-□XB/33/○</div>	 <p>Panel Thickness 0.5~5</p> <p>26 24.2 42 30 40</p>	<div>N</div> <p>⊙ Can't be used with lamp.</p> <p>⊙ Protective Degree: IP40, IP65</p>


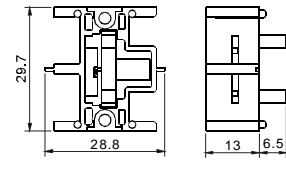
Shape	Operating Type	Type Number	Dimensions	Remarks
Key-lock Switch 	 90° 2 position maintain	HBY5-□Y/21/○		◎ Can't be used with lamp. ◎ Two keys are supplied. The key can be pull out in one position or in both position. ◎ Protective Degree: IP40, IP65
	 90° 2 position return	HBY5-□Y/23/○		
	 45° 3 position maintain	HBY5-□Y/31/○		
	 45° 3 position half return	HBY5-□Y/32/○		
	 45° 3 position self return	HBY5-□Y/33/○		
Double Head 	Flat Head with Flat Head	HBY5J-□		◎ Red & Green ◎ Can't be used with lamp.
	Flat Head with long head	HBY5S-□		
Illuminated Double Head 	Flat Head with Flat Head	HBY5J-□D/▲		◎ Red & Green
	Flat Head with Long head	HBY5S-□D/▲		

## Cutline of Economical Type

Shape	Operating Type	Type Number	Dimensions	Remarks
Pilot Lamp 	Pilot Lamp	HBY5E-D/△/▲		R G Y B W
Flat Head 	Momentary	HBY5E-□/△/○		R G Y O B W N ◎ Can't be used with lamp. ◎ Protective Degree: IP40, IP65, IP67 IP67 should be installed with seal cover.
Illuminated Pushbutton 	Momentary	HBY5E-□D/△/▲/○		R G Y O B W ◎ Protective Degree: IP40, IP65, IP67 IP67 should be installed with seal cover.

Shape	Operating Type	Type Number	Dimensions	Remarks
Mushroom 	Momentary	HBY5E-□M/△/○		<div><div><div>R</div><div>G</div></div><div><div>⊙ Can't be used with lamp.</div><div>⊙ Protective Degree: IP40,IP65</div></div></div>
Emergency Type 	Push-lock Turn-reset	HBY5E-□TS/△/○		<div><div><div>R</div><div>G</div></div><div><div>⊙ The dimension of head is: Φ30mm Φ40mm Φ60mm</div><div>⊙ Can't be used with lamp.</div></div></div>
Selector Switch 	 90° 2 position maintain	HBY5E-□X/21/○		<div><div>N</div><div><div>⊙ Can't be used with lamp.</div><div>⊙ Protective Degree: IP40,IP65</div></div></div>
	 90° 2 position return	HBY5E-□X/23/○		
	 45° 3 position maintain	HBY5E-□X/31/○		
	 45° 3 position half return	HBY5E-□X/32/○		
	 45° 3 position self return	HBY5E-□X/33/○		
Lever Switch 	 90° 2 position maintain	HBY5E-□XB/21/○		<div><div>N</div><div><div>⊙ Can't be used with lamp.</div><div>⊙ Protective Degree: IP40,IP65</div></div></div>
	 90° 2 position return	HBY5E-□XB/23/○		
	 45° 3 position maintain	HBY5E-□XB/31/○		
	 45° 3 position half return	HBY5E-□XB/32/○		
	 45° 3 position self return	HBY5E-□XB/33/○		
Key-lock Pushbutton 	 90° 2 position maintain	HBY5E-□Y/21		<div><div><div>⊙ Can't be used with lamp.</div><div>⊙ Two keys are supplied. The key can be pull out in one position or in both position.</div></div></div>
	 90° 2 position return	HBY5E-□Y/23		
	 45° 3 position maintain	HBY5E-□Y/31		
	 45° 3 position half return	HBY5E-□Y/32		
	 45° 3 position self return	HBY5E-□Y/33		
Economical Pushbutton 	Momentary	HBY5E1-□/△/○		<div><div><div>R</div><div>G</div><div>Y</div><div>O</div></div><div><div>B</div><div>W</div><div>N</div></div><div><div>⊙ Can't be used with lamp.</div><div>⊙ Protective Degree: IP40,IP 65, IP67 IP67 should be installed with</div></div></div>
	Alternate	HBY5E1-□Z/△/○		

### Accessory

<b>Alternate Module</b> 	Accessory	HBY5-F1		<ul style="list-style-type: none"> <li>⊙ Alternate function can be added to momentary type using this fitting.</li> </ul>
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