

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 | R | G | Y | O | B | W |

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

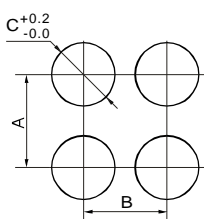
| HBY5 | ☆ | ★ | — | □ | ■ | / | ◇ | ◆ | / | △ | / | ▲ | / | ◎ |
|----------------|--|---|---|---|--|--|---|---|---|---|---|---|---|---|
| Code of series | Structure type: E plastic type E1 simple type No letter means metal head. | The front shape: J double head type: flat head with flat head. S double 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

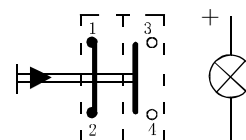
| | |
|-----------------------|--|
| Operating Temperature | - 25°C~+55°C(no freezing) |
| Operating Humidity | 45 ~ 85%RH(no condensation) |
| Operating Altitude | Installation site can't be over 2000m above sea level. |
| Contact Material | - silver - silver alloy - gold-clad silver, cladding thickness 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 ² , Max : 2×1.5mm ² or 1×2.5mm ² (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




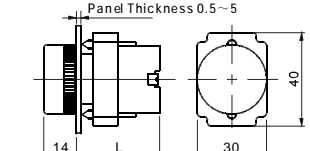

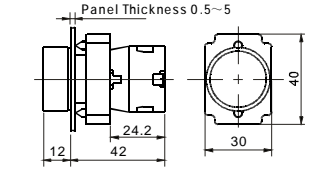

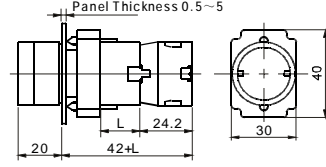

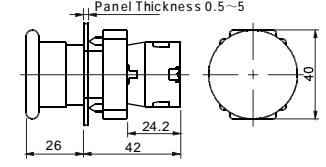

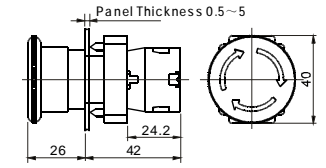

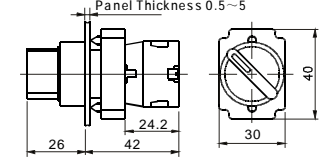

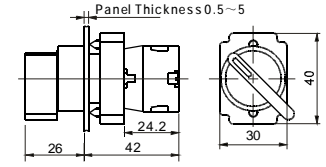
Circuit Diagram



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>⊙ Lamp Voltage ≤60V, L=18; >60V, L=23.</p> | <p>R G Y O B W</p> |
|  | Momentary | HBY5 - □/△/○ |  | <p>R G Y O B W N</p> <p>⊙ Can't be used with lamp. ⊙ Protective Degree: IP40, IP65, IP67 IP67 should be installed with seal cover.</p> |
|  | Momentary | HBY5 - □D/△/▲/○ |  <p>⊙ Lamp Voltage ≤60V, L=18; >60V, L=23.</p> | <p>R G Y O B W</p> <p>⊙ Protective Degree: IP40, IP65, IP67 IP67 should be installed with seal cover.</p> |
|  | Momentary | HBY5 - □M/△/○ |  | <p>R G</p> <p>⊙ Can't be used with lamp. ⊙ Protective Degree: IP40, IP65</p> |
|  | Push-lock Turn- reset | HBY5 - □TS/△/○ |  | <p>R G</p> <p>⊙ Can't be used with lamp. ⊙ The dimension of head is: Ø30mm, Ø40mm, Ø60mm</p> |
|  | <p>L R 90° position maintain</p> <p>L R 90° 2 position return</p> <p>L C R 45° 3 position maintain</p> <p>L C R 45° 3 position half return</p> <p>L C R 45° 3 position self return</p> | <p>HBY5 - □X/21/○</p> <p>HBY5 - □X/23/○</p> <p>HBY5 - □X/31/○</p> <p>HBY5 - □X/32/○</p> <p>HBY5 - □X/33/○</p> |  | <p>N</p> <p>⊙ Can't be used with lamp. ⊙ Protective Degree: IP40, IP65</p> |
|  | <p>L R 90° 2 position maintain</p> <p>L R 90° 2 position return</p> <p>L C R 45° 3 position maintain</p> <p>L C R 45° 3 position half return</p> <p>L C R 45° 3 position self return</p> | <p>HBY5 - □XB/21/○</p> <p>HBY5 - □XB/23/○</p> <p>HBY5 - □XB/31/○</p> <p>HBY5 - □XB/32/○</p> <p>HBY5 - □XB/33/○</p> |  | <p>N</p> <p>⊙ Can't be used with lamp. ⊙ Protective Degree: IP40, IP65</p> |


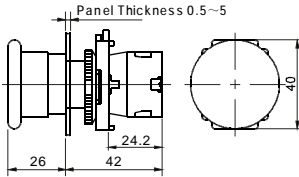

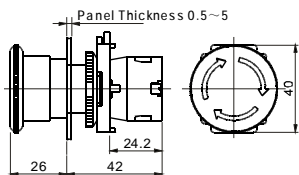


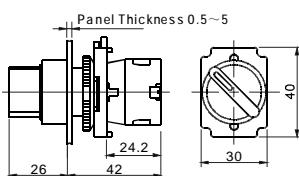






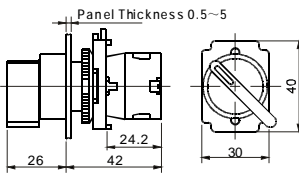






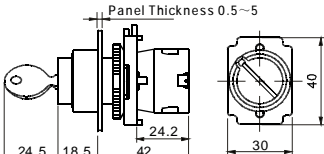





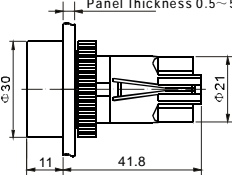
| Shape | Operating Type | Type Number | Dimensions | Remarks |
|-------|--------------------------------|--------------|------------|--|
| | 90° 2 position maintain | HBY5-□Y/21/○ | | <ul style="list-style-type: none"> Can't be used with lamp. Two keys are supplied. The key can be pulled out in one 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/○ | | |
| | Flat Head with Flat Head | HBY5J-□ | | <ul style="list-style-type: none"> Red & Green Can't be used with lamp. |
| | Flat Head with long head | HBY5S-□ | | |
| | Flat Head with Flat Head | HBY5J-□D/▲ | | <ul style="list-style-type: none"> Red & Green |
| | Flat Head with Long head | HBY5S-□D/▲ | | |

⊙ When lamp voltage type is AC/DC, L=18; AC, L=23.


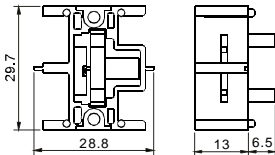
Cutline of Economical Type

| Shape | Operating Type | Type Number | Dimensions | Remarks |
|-------|----------------|----------------|------------|--|
| | Pilot Lamp | HBY5E-D/△/▲ | | <ul style="list-style-type: none"> R G Y B W |
| | Momentary | HBY5E-□/△/○ | | <ul style="list-style-type: none"> 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. |
| | Momentary | HBY5E-□D/△/▲/○ | | <ul style="list-style-type: none"> R G Y O B W Protective Degree: IP40, IP65, IP67 IP67 should be installed with seal cover. |

⊙ Lamp voltage ≤ 60V, L=18; > 60V, L=23.

| Shape | Operating Type | Type Number | Dimensions | Remarks |
|---|--|----------------|---|---|
|  | Momentary | HBY5E-□M/△/○ |  | R G ○ Can't be used with lamp. ○ Protective Degree: IP40, IP65 |
|  | Push-lock Turn-reset | HBY5E-□TS/△/○ |  | R G ○ The dimension of head is: Φ30mm Φ40mm Φ60mm ○ Can't be used with lamp. |
|  |  90° 2 position maintain | HBY5E-□X/21/○ |  | N ○ Can't be used with lamp. ○ Protective Degree: IP40, IP65 |
| |  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/○ | | |
|  |  90° 2 position maintain | HBY5E-□XB/21/○ |  | N ○ Can't be used with lamp. ○ Protective Degree: IP40, IP65 |
| |  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/○ | | |
|  |  90° 2 position maintain | HBY5E-□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. |
| |  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 | | |
|  | Momentary | HBY5E1-□/△/○ |  | R G Y O B W N ○ Can't be used with lamp. ○ Protective Degree: IP40, IP 65, IP67 IP67 should be installed with seal cover. |
| | Alternate | HBY5E1-□Z/△/○ | | |

Accessory

| | | | | |
|---|-----------|---------|--|---|
|  | Accessory | HBY5-F1 |  | ○ Alternate function can be added to momentary type using this fitting. |
|---|-----------|---------|--|---|