

## HBS1-A 按钮开关系列

### 型号说明 Model Explanation

系列号 Series Number	头部形状 Front Shape	触点结构 Contact Configuration	操作类型 Operation Type	操作位置 Operation Position	带灯部分电压 LED Voltage	颜色 Color	防护等级 Degree of Protection
HBS1-A Ø16mm	Y: 圆形 F: 方形 J: 矩形 M: 蘑菇头 DF: 大方形 DJ: 大矩形 Y: Round F: Square J: Rectangle M: Mushroom DF: Big Square DJ: Big Rectangle	11: 1NO 1NC 22: 2NO 2NC	D: 指示灯 Z: 自锁按钮 X: 选择钮 Y: 钥匙钮 TS: 急停钮 B: 蜂鸣器 无字母: 自复按钮	◇ 选择钮及钥匙钮的操作位置 Operation position of Selector switch and Key lock switch 2: 二位置 2Position 3: 三位置 3Position ◆ 选择钮及钥匙钮动作类型 Action of Selector Switch and Key-lock Switch 1: 保持式 Latching 2: 右自复式 Right-momentary 3: 全自复式 Full-momentary 4: 左自复式 Left-momentary	见LED灯珠规格; 信号灯有两极 变色, 可定制。 See the table of LED Rating; LED poles change color, can be customized.	<b>R</b> Red <b>G</b> Green <b>Y</b> Yellow <b>O</b> Orange <b>B</b> Blue <b>W</b> White <b>N</b> Black <b>T</b> Transparent	IP40, IP65, IP67(IP67需 加装密封罩) IP40, IP65, IP67 (IP67 need cover)

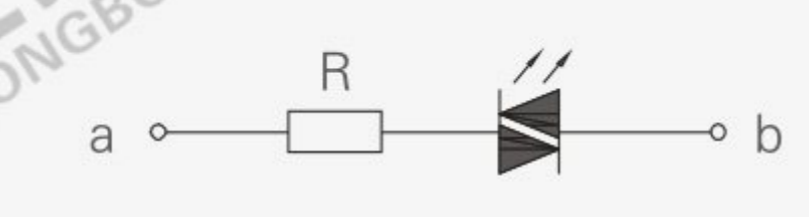
### 性能参数 Parameters

环境温度 Operating Temperature	-25℃~+55℃(无冰冻)照明开关本体周围 必须空气流通 (No freezing) Keep the air flowing around illuminated pushbutton	介电强度 Dielectric Strength	触点与灯珠引脚之间 Contact between lamp bead pin 2000V, AC50Hz, 1min
环境湿度 Operating humidity	45~85%RH(无结露) Non condensing	同极端子之间 Between same class terminal	1000V, AC50Hz, 1min
触点材料 Contact material	银 Silver 银氧化镉 Silver cadmium oxide 银镀金, 镀层厚3µm Silver plated gold, Plating thickness 3µm	不同电极端子之间 Between different electrode terminal	2000V, AC50Hz, 1min
接触电阻 Contact Resistance	≤50mΩ	机械寿命 Mechanical Life	100万次 1,000,000 times
绝缘电阻 Insulation Resistance	≥100MΩ	电气寿命 Electrical Life	3万次以上 Above 30,000 times
耐振动性 Vibration Resistance	50Hz, 振幅约1.2mm 50Hz, Amplitude about 1.2mm	接线 Wiring	焊接线直径 Dia of welding line 2×0.8mm <sup>2</sup> 最大铜线面积 Max copper wire area 0.75mm <sup>2</sup>
耐冲击性 Shock resistance	>10g	镀金接线插片 Wiring insert	2.8×0.5mm <sup>2</sup>
		操作行程 Operating distance	(按钮)约3mm (Buton) About 3mm

### 开关额定值 Switch Rating

发热电流 Conventional thermal current	5A	温度不超过最大额定值所允许的电流 5A Temperature not more than the maximum allowed continuous working current)	5A
额定电压 Rated Voltage	24V	125V(110V)	250V(220V)
直流 DC	2A	0.2A	0.1A
交流 AC	PF=1 PF=0.7	5A	5A 2A

### LED灯珠规格 LED Lamp Specifications

灯珠类型 Lamp Type	双向LED灯珠(交直流通用) Bi-directional LED lamp (AC DC Universal)	 <p>灯珠等效电路 Lamp Equivalent Circuit</p> <p>采用交直流通用的LED灯珠, 接线端子无正负极区分; 灯珠内置保护电阻, 不需外接。 AC-DC Universal LED lamp, terminal differentiate between positive and negative; lamp beads built-in protection resistors, no external.</p>
额定电压 Rated Voltage	1.8V、2.8V、6V、12V、24V、36V、110V、220V	
额定电流 Rated Current	约20mA about 20mA	
发光颜色 Color	<b>R</b> <b>G</b> <b>Y</b> <b>O</b> <b>B</b> <b>W</b>	
寿命 Life	50000小时(参考值) 50000 hours (reference value)	

注: 如需单向直流LED灯珠可定做; 其他电压规格可按要求定做。  
 Note: Unidirectional DC LED lamp can be customized if needed; other voltage specifications could be special made

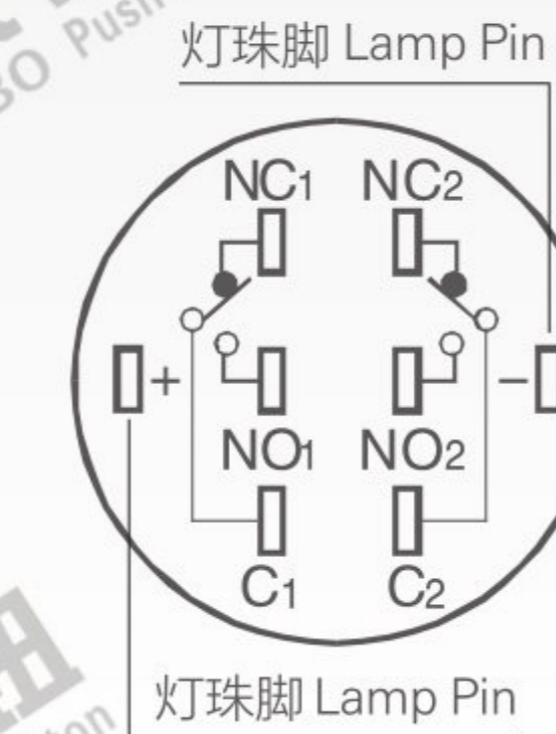
### 开关结构说明 Switch Structure Explanation

型式Type	符号Symbol	示意图Diagram	说明Explanation
C	NO NC		具有三个端子的单断点快动转换触头开关 Single breakpoint snap-action contacts switch with three terminals.

## HBS1-A Series Pushbutton Switches



### 引脚说明 Pin Description



- 最多可配置两组开关;
  - C1、NO1、NC1和C2、NO2、NC2分别为一组开关;
  - 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。
- Can be configured up to two sets of switches.
  - C1, NO1, NC1 and C2, NO2, NC2 are a set of switches respectively;
  - Pin C is utility pin and pin NO is normally open pin, pin NC is normally closed;
  - +, - pins are LED lamp pins, normal lamp configuration has no differentiate between positive and negative;
  - LED and switch pin are separated, but switch and external circuit can control the LED state by connecting the LED pin.

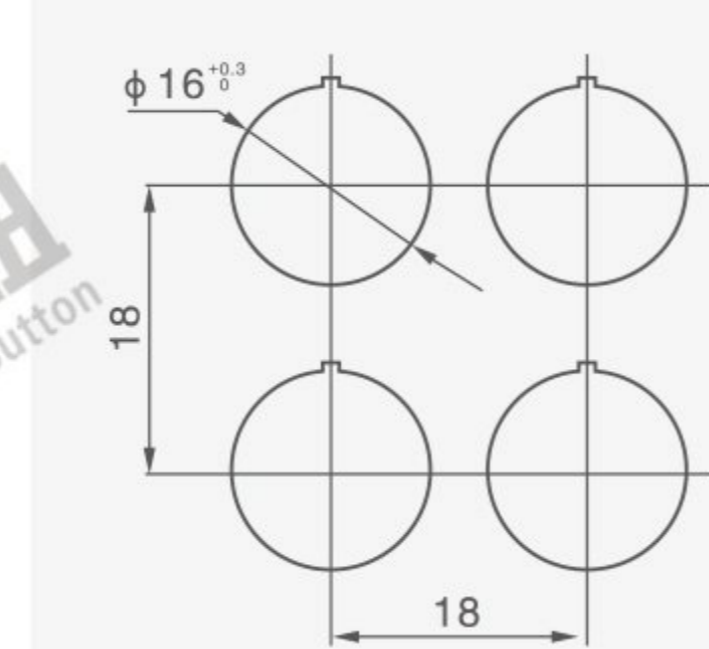
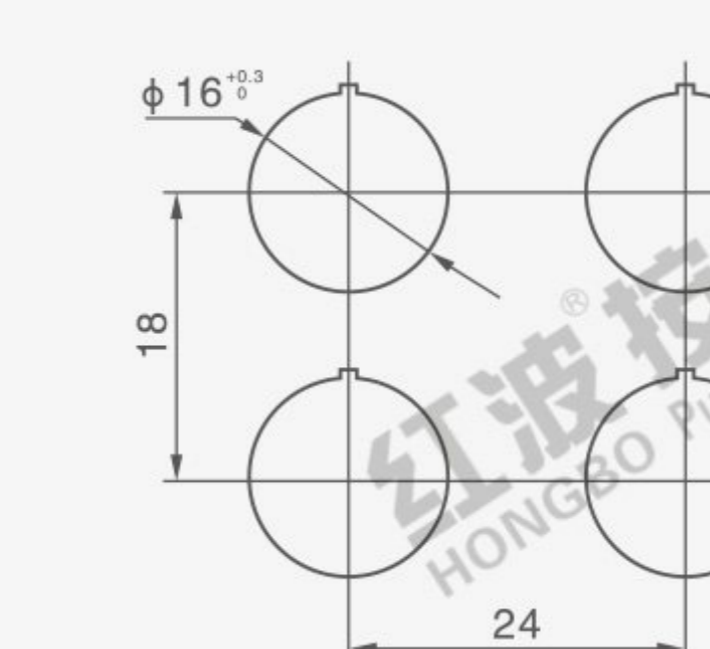
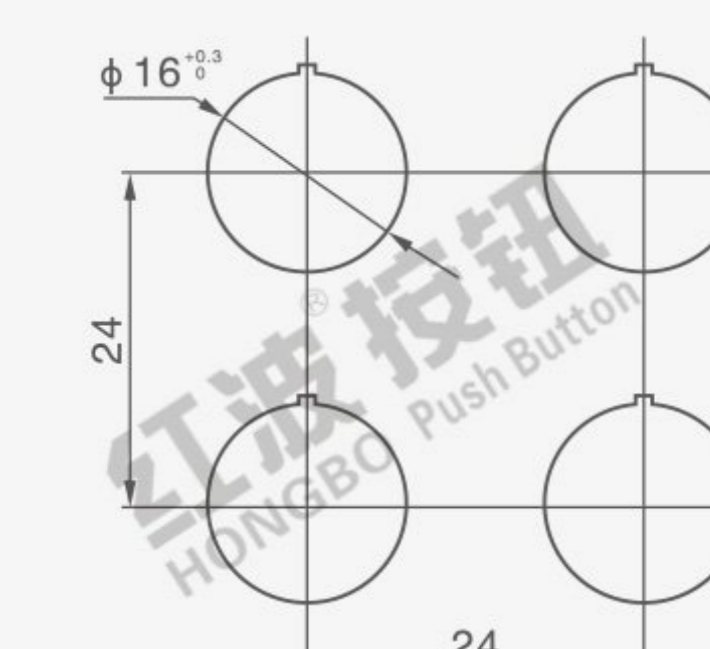
### 选择钮、钥匙钮操作位置 Operation position of Selector switch and Key switch

区分 Sort	复位方式 Reset Style		钥匙拔出位置/Key out Positon							
	自锁 Latching	自复 Momentary	A	B	C	D	E	F	G	
2段 2Position 代号 Code	⊗ 21	⊙ 23	⊗	⊙	⊗	⊙	⊗	⊙	⊗	⊙
3段 3Position 代号 Code	⊕ 31	⊖ 32	⊖	⊕	⊖	⊕	⊖	⊕	⊖	⊕

选择/钥匙开关旋转角度90°是基本 Selector/Key switches basic rotation angle 90°

操作位规格 Operation	触点 Contact
90° 2位 2 Position 自锁 Latching	1NO1NC 
90° 2位 2 Position 自复 Momentary	2NO2NC 
45° 3位 3 Position 自锁 Latching	3NO3NC 
45° 3位 3 Position 左锁右复 Left lock Right reset	
45° 3位 3 Position 左复右锁 Left reset Right lock	
45° 3位 3 Position 自复 Momentary	

### 安装孔尺寸 Mounting Hole Size

圆形 Round	矩形 Rectangle	蘑菇形 Mushroom
方形 Square	大矩形 Big Rectangle	大方形 Big Square
		

### 安装效果预览 Installation Effect Preview



面板的深度方向尺寸统一, 所有产品都为30.2mm。因此可减少控制框的厚度, 此外, 端子均从操作面板背面方向伸出, 方便配线作业。

The depth of panel is uniform, all products are 30.2mm, therefore, the thickness of control frame can be reduced, besides, the terminals are extended from the back of operation panel to take convenience for wiring.