



头部防水IP67



多种灯光颜色及发光类型



镀金插脚/银触点



定制外壳颜色

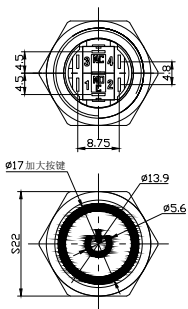
型号说明/选型，写法举例：LB19A-P11Z/ERB9-24V/S(L)

对应编号	LB	●●	●	-	●	●●	●	/	●	●	●●	/	●	L
	1	2	3		4	5	6		7	8	9		10	11
1	LB	LANBOO 蓝波代码												
2	安装孔径	19mm												
3	系列号	A—常规系列												
4	头部形状	P—平头、G—高头												
5	开关组合	11—1NO1NC 1常开1常闭触点，快动单触点												
6	动作形式	Z—自锁式（保持式），F—自复式（点动式）												
7	发光形状	E—环形、E+DY—环形+电源符号、DY—电源符号，定制：D—单点（中心灯）												
8	发光颜色	R—红色、G—绿色、B—蓝色，定制：Y—黄色、W—白色、双色、三色												
9	LED 电压	9-24V、220V,定制：3-8V、25-48V、110V,AC/DC 通用												
10	外壳材质	N—铜镀铬、S—不锈钢、A—铝氧化，可定制：ST—不锈钢镀钛												
11	(L)	内部代码												

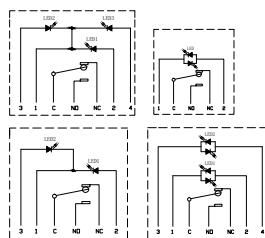
性能参数

开孔直径	对应孔径+0.2mm,例如：LB19A为19.2mm
外壳	H57/59铜镀铬、304不锈钢 (RoHS),6063铝氧化 (RoHS),可定制：ST—不锈钢镀钛
按键	316/304不锈钢 (RoHS),6063铝氧化 (RoHS),可定制：ST—不锈钢镀钛
透光材料	PC(RoHS),V2 级阻燃
螺母	H57/59 铜镀镍，可定制：304 不锈钢 (RoHS)

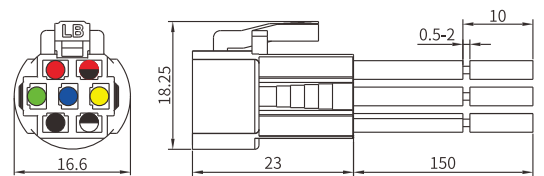
O型圈	硅胶 (RoHS)	
触点	银氧化锡AgSnO ₂ (RoHS)	
底座	PA66(RoHS),V0 级阻燃	
引脚	H65镀金/银 (RoHS)	
安装面板厚度	≤12mm	
拧紧力矩	0.8-1.2N.m	
螺纹验证	将螺母锁紧至垫圈明显变形, 然后拆下, 如此循环 5 次, 无异常	
动作行程	总行程: 3.15±0.1mm,接通过程: 1.8±0.2mm	
按压力	4±0.5N	
接线形式	引脚式, 可选配套接插件	
耐焊性	≤380°C(25~50W 电烙铁) ≤2 秒	
插片可焊性试验	各引脚分别焊接1mm ² 电线, 50N正向拉力后, 无脱落	
与线束的配合试验	150mm线长, ≤50mΩ, LED灯通电无闪烁, 拉开力: 无灯20~35N, 带灯 (5脚) 25~45N(卡扣松开情况下)	
引脚反向推力	≥50N 无位移, 1min	
头部防脱顶牛	≥200N,1min	
工作环境温度	-40°C~+80°C,非真空状态、不结冰情况下	
工作环境湿度	45~90%RH	
贮存环境温度	包装完好情况下, -40°C~+55°C	
贮存环境湿度	包装完好情况下, 45~90%RH	
防护等级	防水IP67(LB16A默认IP65,可定制IP67),防撞IK10(参考GB/T 20138)	
约定发热电流	I _{th} :5A,250VAC	
电阻性负载	AC-15:110V:1A,220V:0.5A	DC-13:12V/24V:1A
电感性负载	AC-15:110V/220V:0.2A	DC-13:110V:0.2A
接触电阻	≤50mΩ	
绝缘电阻	≥1000MΩ	
抗电强度(工频耐压)	1500VAC,50HZ,1min	
触点最小适用负载	3V AC/DC,5mA(参考值, 取决于环境与负载情况)	
耐振性	XYZ 三向, 60HZ,振幅 2mm	
产品防跌落	头部竖直跌落 1 米, 3 次, 能正常工作	
包装跌落	600mm 高度连续跌落 4 次, 产品无损坏	
温升	按 GB/T14048.5 标准中 8.3.3.3 条款	
盐雾试验	72h,3 个周期, (参考 GB/T 2423.18-2012)	
低温试验	-40°C,96h,接触电阻≤200mΩ、按压力变化值≤30%,LED 正常	
高温试验	80°C,96h,接触电阻≤200mΩ、按压力变化值≤30%,LED 正常	
高低温冲击试验 (含LED灯加速老化试验)	-40~+85°C,85%RH,40min/循环, 50个循环, 接触电阻≤200mΩ、按压力变化值≤30%,LED正常	
电气寿命	AC220V/1A,DC24V/1A:10万次, AC220V/3A,DC24V/3A:5万次, AC220V/5A,DC24V/5A:0.5万次, (参考GB/T14048.5)	
机械寿命	自锁: 30万次, 自复: 100万次, (参考GB/T14048.5)	
极限按压测试	在底部保持 5s 时间, 再松开, 4 次/min,进行 2000 次试验	
ESD静电	人体模式: 2KV,可定制 8KV	
LED额定电流	≤24V,≤20mA;>24V,≤10mA	
LED灯珠类型	贴片无极双芯片 LED	
LED降压方式	内置降压电阻	
LED寿命	≥50000h(参考值)	
产品认证	CCC CE RoHS(定制) REACH(定制)	
专利号	ZL201630425760.7、ZL201620677716.X	
质保	66 个月	



外形尺寸



原理图



● 灯脚线 ● 双色或三色灯脚线 ● NC线 ● NO线 ● C脚进线
 使用0.5mm²电线, 线长150mm,可定做其他规格线长

接插件



H57/59铜镀铬,铝氧化黑,可定制不锈钢
H57/59 Copper Chrome plating, aluminum oxide black, can be customized stainless steel

硅胶密封圈
Silicone seal ring

H57铜镀镍六角螺母
Hexagon nut in nickel plating

不锈钢/氧化黑数控按键
Stainless steel /Aluminum oxide black CNC button

PC(V2阻燃)
V2 Flame Retardant

硅胶密封圈
Silicone seal ring

桃心,自锁机构
Latching Mechanism

无极灯珠/双色双LED
双色单LED,三色单LED
Non-polar LED, Bi-color; Tri-color

弹性限位片
Elastic limit slice

衬套
Bushing

H65镀银插脚
H65 Silver-plated pin

锁钩
Locking Hook

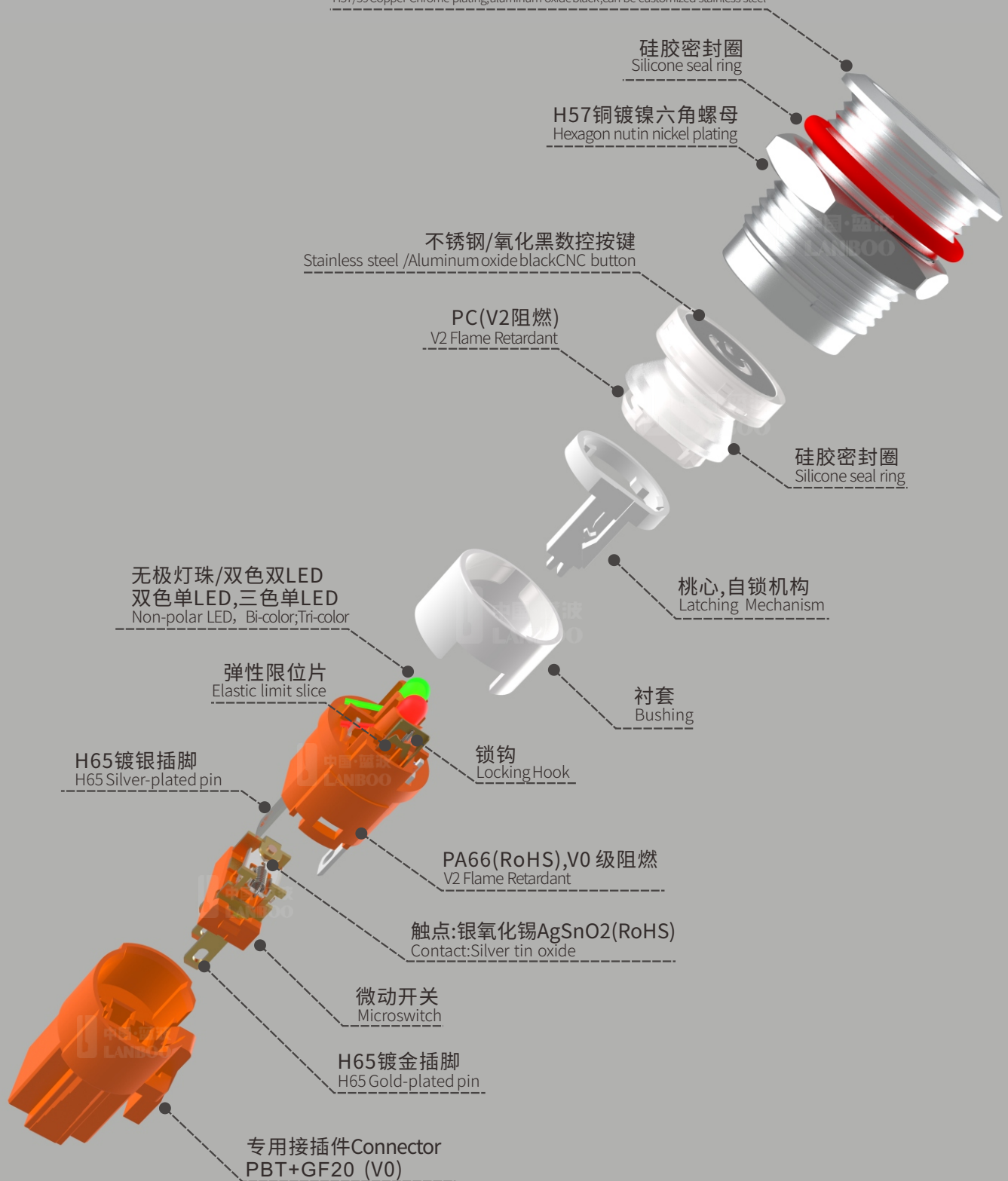
PA66(RoHS),V0级阻燃
V2 Flame Retardant

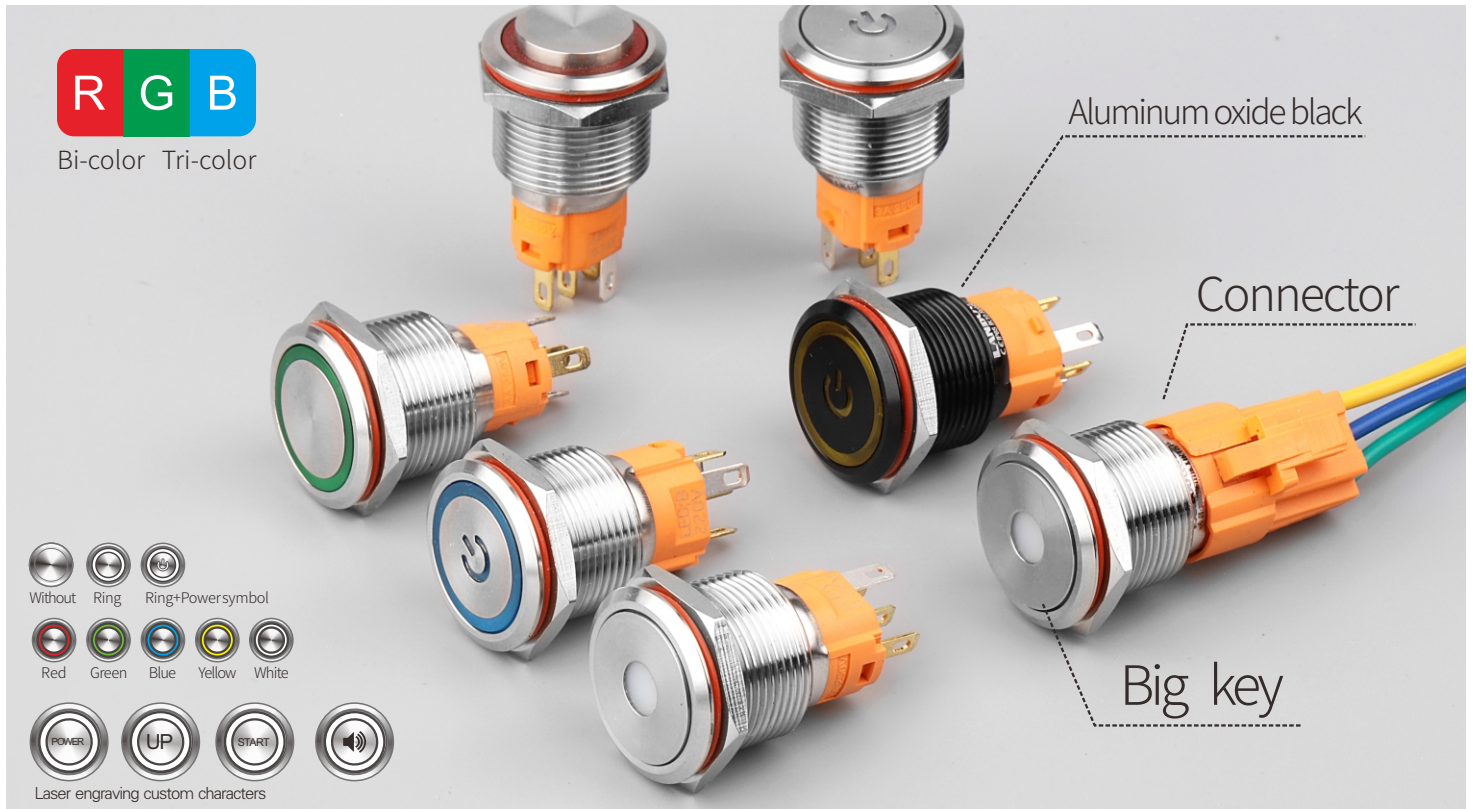
触点:银氧化锡AgSnO2(RoHS)
Contact: Silver tin oxide

微动开关
Microswitch

H65镀金插脚
H65 Gold-plated pin

专用接插件Connector
PBT+GF20 (V0)





Head waterproof IP67



Colorful LED



Gold Plated pins/Silver



Custom shell color

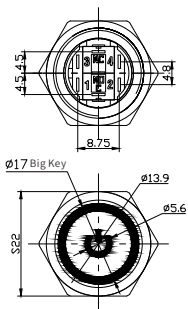
Model Description/Selection, Example:LB19A-PIIZ/ERB9-24V/S(L)

The Corresponding Number	LB	●●	●	—	●	●●	●	/	●	●	●●	/	●	L	
	1	2	3		4	5	6		7	8	9		10	11	
1	LB	LANBOO													
2	Install Diameter	19mm													
3	Series No.	A - Regular series													
4	Head Shape	P -flat head, G -tall head													
5	Switch Combination	1NO1NC													
6	Action Form	Latching,Momentary													
7	Luminous shape	E -Ring, E+DY -Ring + power symbol, DY -Power symbol, customized: D -Single point (center light)													
8	LED Color	R -Red, G -Green, B -Blue, Custom: Y -Yellow, W -White, Bi-color Tri-color													
9	LED Voltage	9-24V, 220V, customized: 3-8V, 25-48V, 110V, AC/DC general purpose													
10	Shell Material	N -Copper chrome plating, S -Stainless steel, A -Aluminum oxidation, customizable: ST -Stainless steel titanium plating													
11	(L)	Internal code													

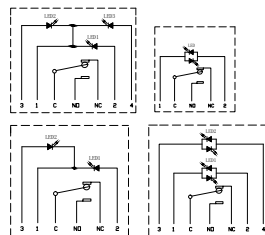
The performance parameters

Hole Diameter	Corresponding aperture +0.2mm, for example: LB19A is 19.2mm
Shell	H57/59 Copper chrome plating, 304 stainless steel (RoHS), 6063 aluminum oxide (RoHS), customizable: ST-stainless steel titanium plating
Key	316/304 stainless steel (RoHS), 6063 aluminum oxide (RoHS), can be customized: ST - stainless steel titanium plating
Pervious To Light Material	PC (RoHS), V2 flame retardant
Nut	H57/59 Nickel copper plating, customizable: 304 stainless steel (RoHS)
O-Ring	Silica gel (RoHS)

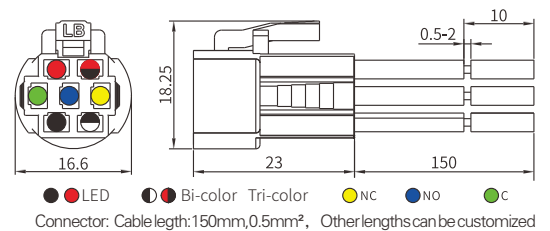
Contact Material	AgSnO2 silver oxide (RoHS)	
Base Seat	PA66 (RoHS), Grade V0 flame retardant	
Pins Material	H65 Gold plated/Silver (RoHS)	
Mounting Panel Thickness	≤12mm	
Nut Tightening torque	0.8-1.2N.m	
Thread Verification	Lock the nut until the washer is visibly deformed, then remove the nut. Repeat 5 times no abnormalities	
Action Stroke	Total stroke: 3.15±0.1mm, connecting stroke: 1.8±0.2mm	
Operation Pressure	4±0.5N	
Connection Mode	Pins , Special connector can be selected	
Soldering Resistance	≤380°C(25~50W) ≤2 Seconds,	
Pins Welding Strength	Each pin is welded with 1mm ² wire, 50N forward tension without falling off	
Matching test with wiring harness	Wires length 150 mm, ≤50mΩ Power on,LED flicker free, Pull force: Without LED 20~35N,With LED (5 Pins) 25~45N (When the buckle is loosened)	
Pin Reverse Thrust	≥50N, 1min	
Head Anti-off Strength	≥200N,1min	
Working Environment Temperature	-40°C~+80°C,Non-vacuum, non-freeze	
Working Environment Humidity	45~90%RH	
Storage Ambient Temperature	Packing in good condition, -40°C~+55°C	
Storage Ambient Humidity	Packing in good condition, 45~90%RH	
Protection Level	IP67 (LB16A default IP65, customizable IP67) IK10 (refer to GB/T 20138)	
Rated thermal current	Ith:5A,250VAC	
Resistive Load	AC-15:110V:1A,220V:0.5A	DC-13:12V/24V:1A
Inductive Load	AC-15:110V/220V:0.2A	DC-13:110V:0.2A
Contact Resistance	≤50mΩ	
Insulation Resistance	≥1000MΩ	
Dielectric Strength	1500VAC,50HZ,1min	
Min. Applicable Load For Contact	3V AC/DC,5mA(Reference value, depending on the environment and load)	
Resistance To Vibration	XYZ, 60HZ,The amplitude 2mm	
Product Fall-Proof	Head vertical drop 1 meter, 3 times, can work normally	
Packaging Fall-Proof	600mm height continuous drop for 4 times, no damage to the product	
Temperature Rise	According to clause 8.3.3.3 in GB/T14048.5 standard	
Salt Spray Test	72H, 3 cycles (refer to GB/T 2423.18-2012)	
Low Temperature Test	-40°C, 96h, Contact resistance≤200mΩ, Change in pressure≤30%, LED Normal	
High Temperature Test	80°C, 96h, Contact resistance≤200mΩ, Change in pressure≤30%, LED Normal	
High And Low Temperature Impact Test	-40~+85°C, 85%RH, 40min/Circulation, 50 Circulation, Contact resistance≤200mΩ, Change in pressure≤30% LED Normal	
Electrical Life	AC220V/1A, DC24V/1A: 100,000 times, AC220V/3A, DC24V/3A: 50,000 times, AC220V/5A, DC24V/5A: 5,000 times, (refer to GB/T14048.5)	
Mechanical Life	Latching: 300,000 times, Momentary: 1 million times, (refer to GB/T14048.5)	
Limit Press Test	Keep 5s at the bottom, release again, 4 times /min, conduct 2000 tests	
ESD Electrostatic	Body mode: 2KV, customizable 8KV	
LED Rated Current	≤24V,≤20mA;>24V,≤10mA	
LED Type	Patch nonpolar twin chip LED	
LED Resistance	Built-in Resistance	
LED Life	≥50000h(Reference)	
Certificate	CCC CE RoHS REACH	
Patent No.	ZL201630425760.7、ZL201620677716.X	
Quality Assurance	66 Months	



Outline Dimension



Schematic



Connector

 Connector: Cable length: 150mm, 0.5mm², Other lengths can be customized