



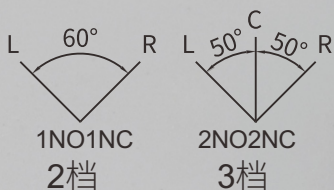
中国·蓝波
LANBOO

蓝波大电流开关
Pioneer of High-Current Switches

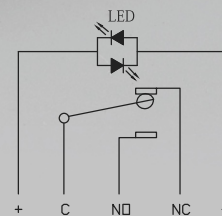
CCC CE RoHS ENEC Intertek ISO9001 多项专利

LB19/22X5 规格书

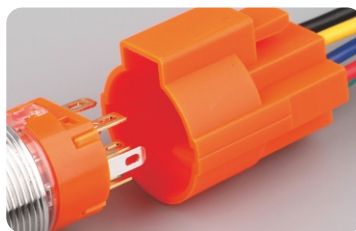
大手柄旋钮开关



常规LED颜色



带灯 大旋柄



专用插件 防误碰设计



镀金插脚 银触点



头部防水 高亮LED

型号说明/选型，写法举例：LB19X5-X22Z/R5-24V-/S/2(L)黑色

对应编号	LB	●●	●	—	●	●●	●	/	●	●●	/	●	●	L	●
	1	2	3		4	5	6		7	8		9	10	11	12
1	LB	LANBOO 蓝波代码													
2	安装孔径	19、22mm													
3	系列号	X5—带定位防水双开带灯旋钮系列													
4	头部形状	X—旋柄													
5	开关组合	11—1NO1NC 1常开1常闭触点，22—2NO2NC 2常开2常闭触点，快动单触点													
6	动作形式	Z—保持式													
7	发光颜色	R—红色、G—绿色，定制：Y—黄色、W—白色、B—蓝色													
8	LED 电压	5-24V、220V,定制：3-8V、25-48V、110V,AC/DC 通用													
9	外壳材质	S—不锈钢，定制：N—铜镀铬													
10	档位	2—2档，3—3档													
11	(L)	内部代码													
12	旋柄颜色	无备注默认为银色。通常有【黑色】可选													

性能参数

开孔直径	对应孔径+0.2mm,例如：LB19X5为19.2mm
外壳	304 不锈钢 (RoHS),可定制:N—H57/59铜镀铬
手柄	PC镀铬银色、黑色 (RoHS),V2级阻燃
透光材料	PC(RoHS),V2级阻燃



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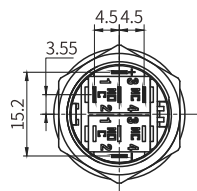
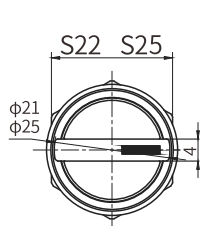
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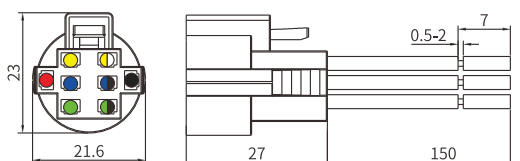
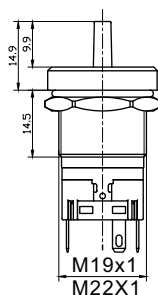
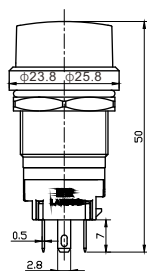
LB19/22X5 规格书

大手柄旋钮开关

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AgSnO2(RoHS)	
底座	PC(RoHS),V2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	
旋转力	2档: 约4N,3档: 约5N	
旋转角度	2档: 60°,3档: 各50°	
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1mm²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 (3脚) 20~35N, 带灯 (8脚) 40~65N(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IP65,防撞IK10(参考GB/T 20138)	
约定发热电流	Ith: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)	2500VAC,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	阻性负载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	2档: 25万次、3档: 20万次 (参考GB/T14048.5)	
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	ZL201930471066.2	
质保	66 个月	



外形尺寸



● 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



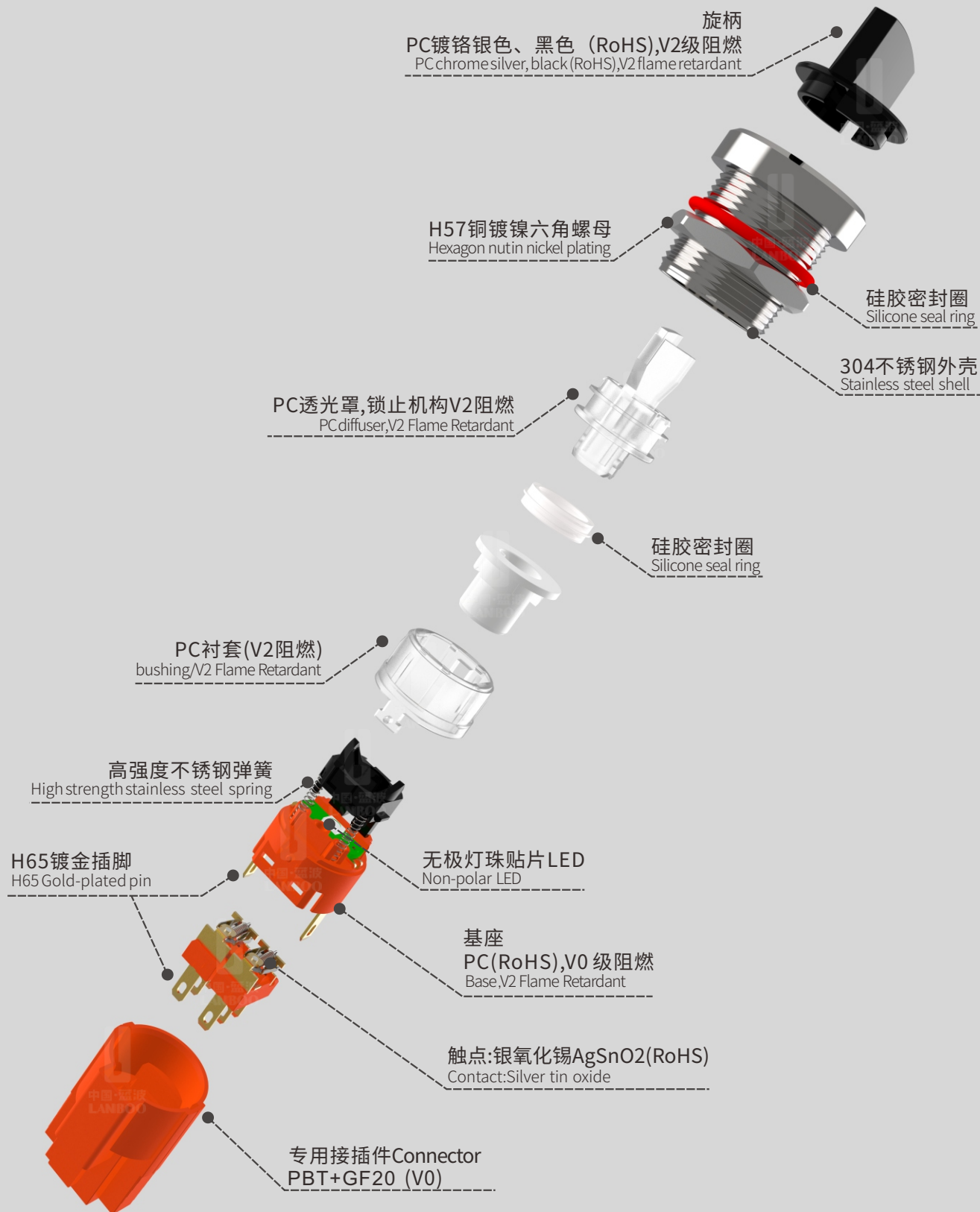
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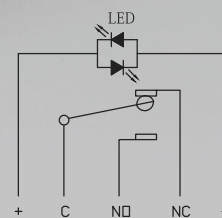
LB19/22X5 Specification

New Knob switch

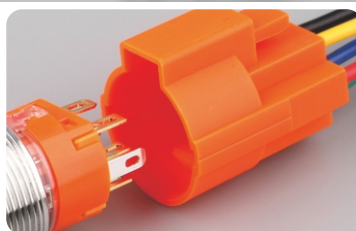


LED Color

R G B



With LED, big handle



Connector



Gold Plated pins/Silver



Head waterproof, high brightness LED

Model Description/Selection, Example: LB19X5-X22Z/R5-24V/S/2(L)Black

The Corresponding Number		LB	●●	●	—	●	●●	●	/	●	●●	/	●	●	L	●
		1	2	3		4	5	6		7	8		9	10	11	12
1	LB	LANBOO														
2	Install Diameter	19、22mm														
3	Series No	X5 - With positioning waterproof double open with light knob series														
4	Head Shape	X - rotary handle														
5	Switch Combination	11 -1NO1NC , 22 - 2NO2NC 2 , quick moving single contact														
6	Action Form	Retentive														
7	LED Color	R -Red, G -Green, custom: Y -Yellow, W -White, B -Blue														
8	LED Voltage	5-24V, 220V, customized: 3-8V, 25-48V, 110V, AC/DC general purpose														
9	Shell Material	S -Stainless steel, customized: N -Copper chrome plating														
10	Gear	2-2 gears, 3-3 gears														
11	(L)	Internal code														
12	Screw The Handle Color	No notes default to silver.Usually there is a black option														

The performance parameters

Hole Diameter	Corresponding aperture +0.2mm, for example: LB19X5 is 19.2mm
Shell	304 stainless steel (RoHS), customizable: H57/59 chrome plated brass (RoHS)
Handle	PC chrome silver, black (RoHS), V2 flame retardant
Pervious To Light Material	PC (RoHS), V2 flame retardant



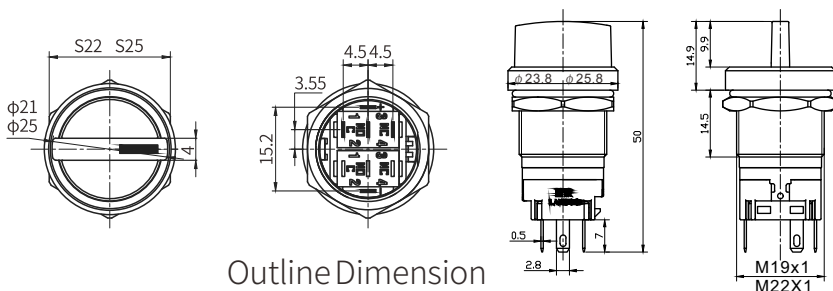
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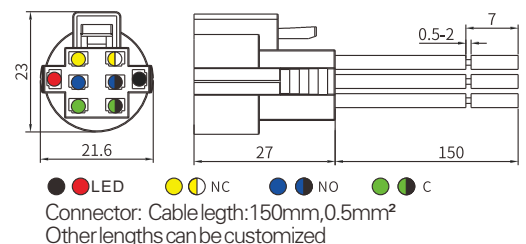
LB19/22X5 Specification

New Knob switch

Nut	H57/59 Nickel copper plating, customizable: 304 stainless steel (RoHS)	
O-Ring	Silica gel (RoHS)	
Contact Material	AgSnO2 silver oxide (RoHS)	
Base Seat	PC (RoHS), V2 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	
Rotating Force	2 Gears: About 4N, 3 Gears: About 5N	
Rotation Angle	2 Gears: 60°, 3 Gears: Each 50°	
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, 30N 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 40~65N	
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~+55°C	
Storage Ambient Humidity	Packing in good condition, 45~90%RH	
Protection Level	IP65, IK10 (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	2500VAC, 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	Resistance load 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	2 gear: 250,000, 3 gear: 200,000 (refer to GB/T14048.5)	
ESD Electrostatic	Body mode: 2KV, customizable 8KV	
LED Rated Current	≤24V, ≤20mA; >24V, ≤10mA	
LED Bead Type	Chip nonpolar dual chip LED	
LED Resistance	Built-in Resistance	
LED Life	≥50000h (Reference)	
Certificate	CCC UL CE RoHS REACH	
Patent No.	ZL201930471066.2	
Quality Assurance	66 Months	



Outline Dimension



Connector