

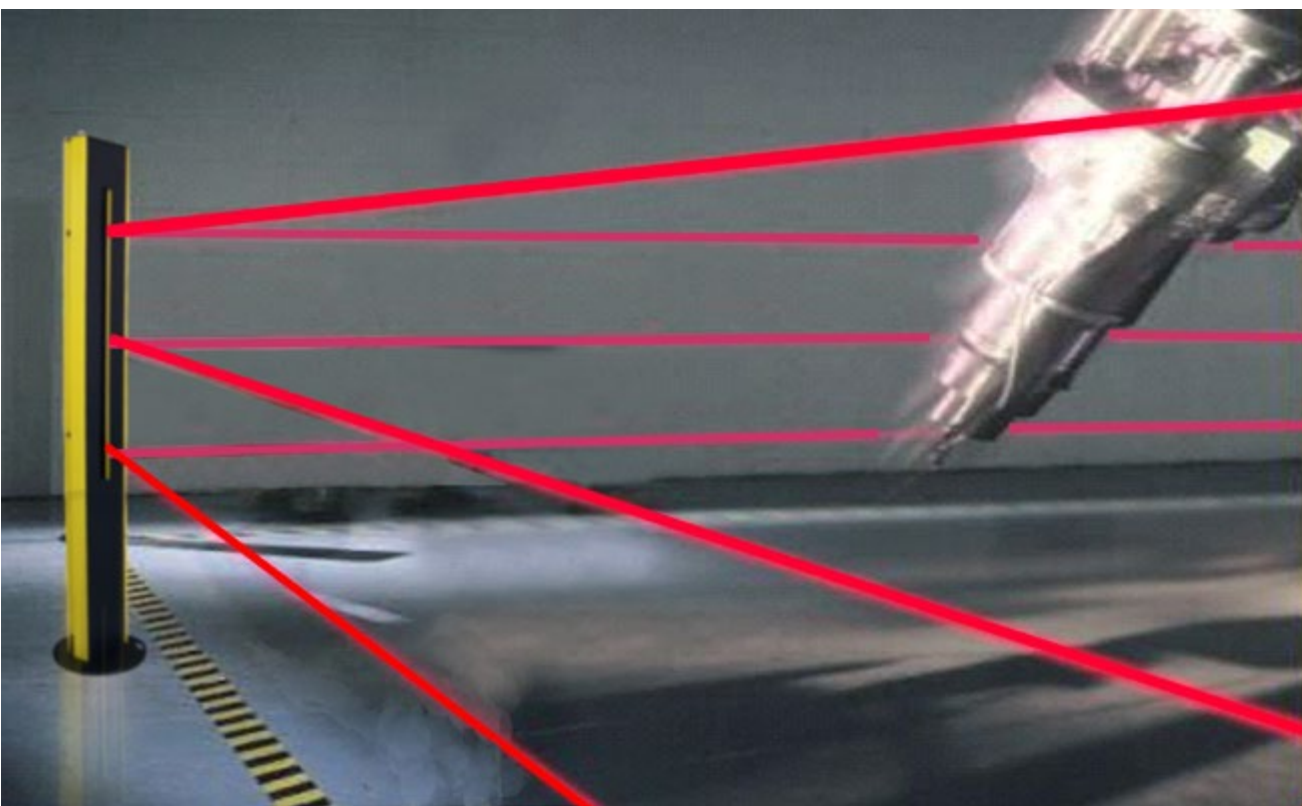


SQL系列区域安全防护光幕

SQL Series Area Safety Light Curtain

光电保护装置专业制造商 光电安全技术专家

Safety light curtain specialized manufacturer, optic-electronic safety technology expert



实现多面安全防护及单面长距离安全防护
Area Safeguarding, Long Distance



山东莱恩光电科技有限公司

SHANDONG LAIEN OPTIC-ELECTRONIC TECHNOLOGY CO., LTD.

我们致力于营造一个安全的作业环境！

We work hard to help you make a safer workplace.



山东莱恩光电科技有限公司是一家高起点、高标准的国家高新技术企业，是锻压机械标准化委员会成员单位。主要从事光电安全产品的研发、制造和销售，为机械加工、机械制造企业提供安全保护产品和技术解决方案。

专业的技术、先进的设备、成熟的工艺、完善的质量保证体系和丰富的安全保护从业经验，是我们为您提供优质产品和服务的保证。

主导产品光电保护装置，又称光电保护器、安全光幕、安全光栅，主要与具有潜在危险的机械设备配套，如冲压机械、剪切设备、金属切削设备、自动化装配线、自动化焊接线、机械传送搬运设备、危险区域，保护作业人员的人身安全。

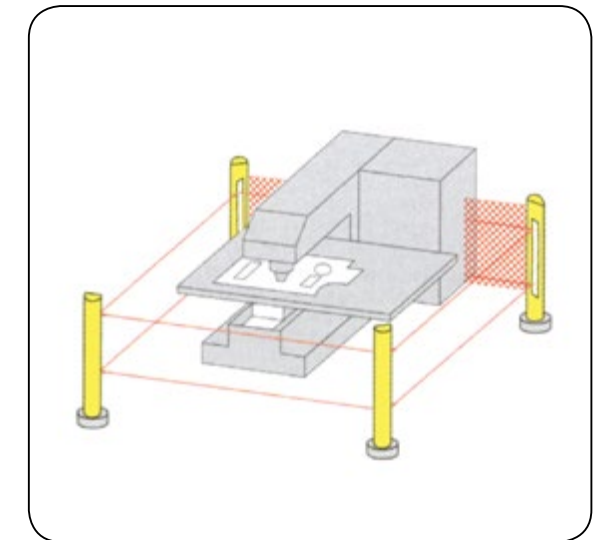
Shandong Laien optic-electronic technology Co., Ltd. is the high beginning, high standard technology corporation, is a member unit of the forging and stamping machinery standardization commission. It is mainly engaged in research, development, manufacture and sale of the photoelectric product. It is professional manufacturer, and mainly provides the safekeeping products and the safety work solution for the machine-finishing, manufacture factories.

Leading product is photoelectric protector, also named protector, safety light curtain, and safety grating. It is equipped for mechincal equipment with potential hazard, such as press machinery, shearing equipment, metal cutting equipment, automated assembly line, automated solder line, machinery transmission equipment, dangerous region, to protect opetator's personal safety.



应用领域 Application Area

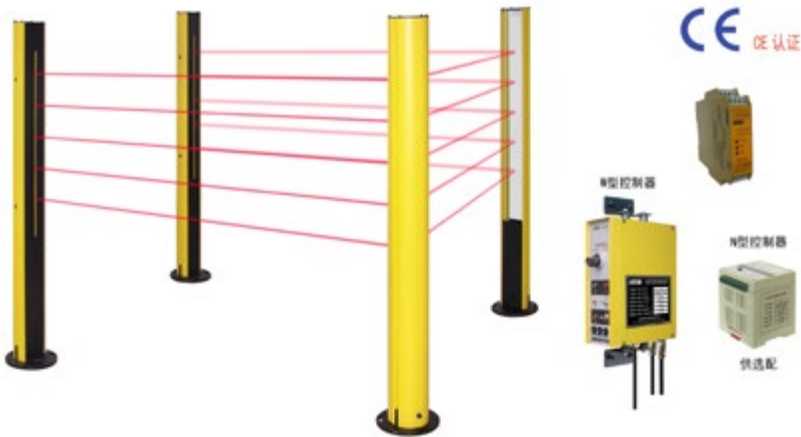
- 转塔冲床/Turret Punch Press
- 物流处理区域/Logistics Handling Area
- 码堆机/Stacking Machines
- 机器人工作区域/Industrial Robotics
- 装配站/Assembling Station
- 包装设备/Packing Machines
- 自动生产设备/Automatic Produce Equipments
- 其它危险区域周边防护/Other Dangerous Area



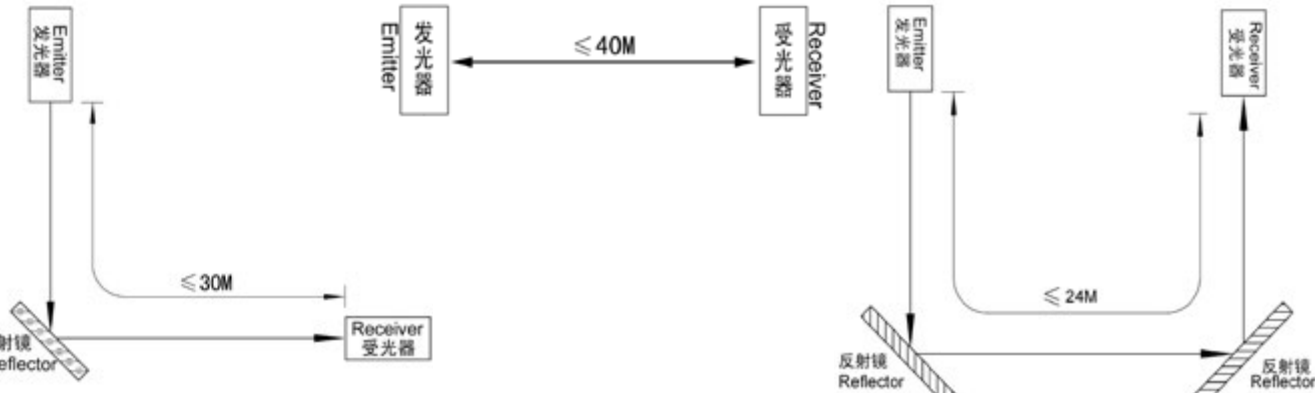
产品特性 Features

- 1、具有完善的自检功能，当SQL系列区域安全防护光幕失电或自身出现故障时，确保不向所控制的电器发出错误信号
- 2、抗干扰能力强，对电磁信号、频闪灯光、焊接弧光及周围光源具有良好的抗干扰能力
- 3、使用寿命长，继电器有效输出次数大于100万次，继电器达到使用寿命后，可更换
- 4、具有良好的抗振性能，元器件焊接采用SMD技术，并有多项抗振措施
- 5、可根据用户要求设置自锁功能，当光幕被遮挡时，输出电路自锁，光幕再次通光时，必须按动复位按钮，输出电路自锁状态解除
- 6、结构简单，接线方便
- 7、参照欧洲标准设计，安全可靠
- 8、快速响应能力，响应时间小于20ms，最大限度的避免了危险
- 9、双继电器安全信号输出，最大限度的增强了输出信号的可靠性
- 10、利用LED显示工作状态和故障状态，便于使用和故障判断
- 11、可提供双路NPN或PNP输出，此时用户应保证机械设备的后续控制电路安全可靠
- 12、通用性强，对光容易

1. **Pefect self-checking function**,ensure that the photoelectric protector don't send the mistaken signal to the controlled electrical equipment when it has faults.
2. **Immunity**,for the electromagnetism signal,the intense lamplight,the welding and surrounding light source has better immunity
3. **Durable life and High reliability** , the product service life is long and more than 10 million times (relay is removable) .
4. **Good Anti-vibration**
5. **The Self-locking Function**,If preset the self-locking function, the press slide stops moving after interception of light curtain. But the press can not be restart, when the light curtain is recovered to passing through state. It shall be restart by pressing the reset button.
6. **Simple Structure**,easy to wiring
7. **Refer to European standards**,safe and reliable
8. **Fast response ability**,response time $\leq 20ms$,ensure that the system the greatest degree to avoid danger.
9. **Two relays output** guarantee to at least 2 roads safety signal output,and the maximum avoid danger.
10. **Troubles Indicating Function**
11. **It can provide double roads NPN/PNP output**,and users shoud ensure that the mechanical equipment 's follow-up control circuit is safe and reliable.
12. **Easy Alignment**



- SQL系列区域安全防护光幕是一款抗振性能强，可实现多面保护的光电保护装置；利用反射镜，改变光线的传输方向，形成2面或3面的保护区域
光幕形式：发受光结合平面镜反射
光轴间距：40mm, 80mm, 320mm（可定制）
保护长度：1面≤40000mm, 2面≤30000mm, 3面≤24000mm
保护高度：320~1560mm（可定做）
- 标准配置：
2面保护：发光器/1支，反射镜/1支，受光器/1支，W型控制器/1只，信号电缆/3m、10m各1根，安装附件/1套
型号表述：SQL□□□□-W-2
3面保护：发光器/1支，反射镜/2支，受光器/1支，W型控制器/1只，信号电缆/3m、10m各1根，安装附件/1套
型号表述：SQL□□□□-W-3
- 可以选配N、SR型控制器：
配备控制电缆标准长度：W型 2.5m, N型 1.0m
可提供NPN、PNP输出，此时应保证后续控制电路符合安全要求，并提供DC24V电源
2面保护时，型号表述：SQL□□□□-NPN/PNP-2
3面保护时，型号表述：SQL□□□□-NPN/PNP-3
特别提示：
如果需要使用DC24V作为工作电源，订货时需特别说明
如果信号电缆、控制电缆需加长，订货时需特别说明

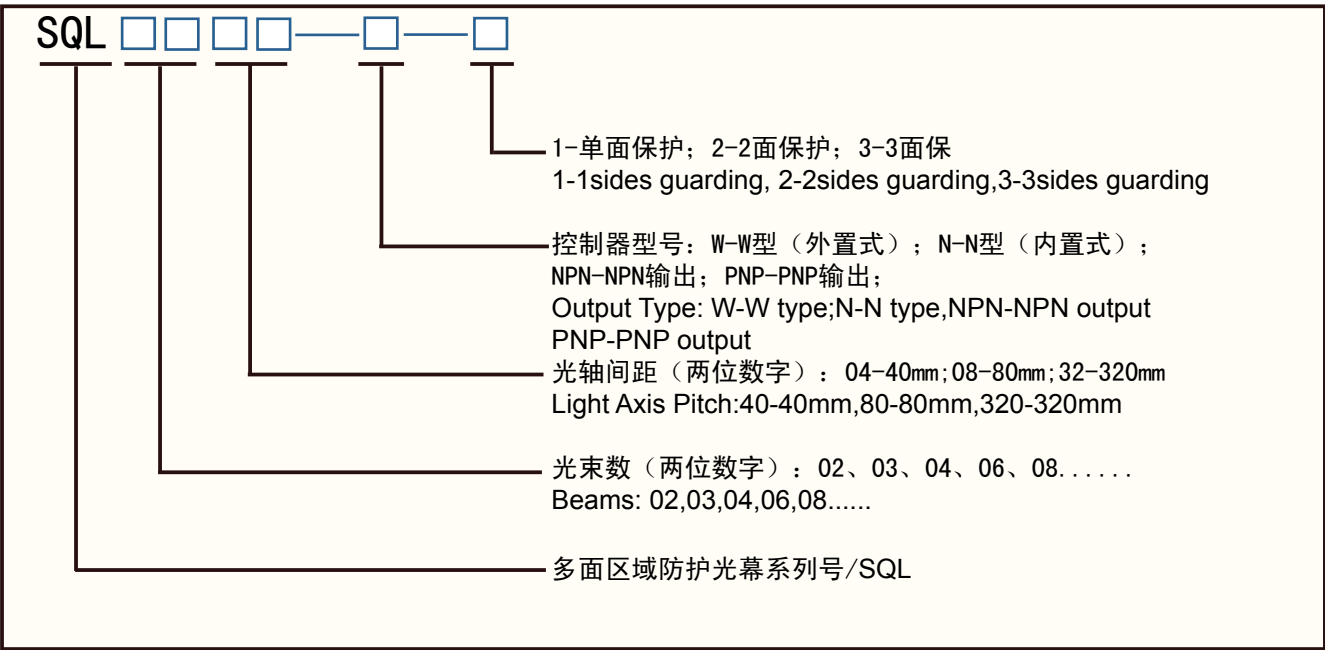


SQL safety light curtain features good anti-vibration, specially designed for area safeguarding; with using reflector to change the light beam transit direction to generate 2 sides or 3 sides light curtain.
Light Axis Pitch: 40mm, 80mm, 320mm (customized others).
Protection Range: 40000mm/1side, 30000mm/2sides, 24000mm/3sides
Protection Height: 320~1560mm(customized others)
Standard Configuration:
2 sides protection: Emitter/1pc, Receiver/1pc, Reflector/1pc, W controller/1pc, Signal Cables/3M, 10M each, Installation Parts/1set
Model Sample: SQL□□□□-W-2
3 sides protection: Emitter/1pc, Receiver/1pc, W controller/1pc, Signal Cables/3M, 10M each, Installation Parts/1set, SQL□□□□-W-3
N, SR controller for selection.
Standard Control Cable Length:
W type: 2.5M, N type: 1M
NPN/PNP output is available,
2 sides, Model Sample: SQL□□□□-NPN/PNP-2
3 sides, Model Sample: SQL□□□□-NPN/PNP-3
Note:
Please remark in order if need 24VDC power supply.
Please remark the cables length in order if need the same customized.

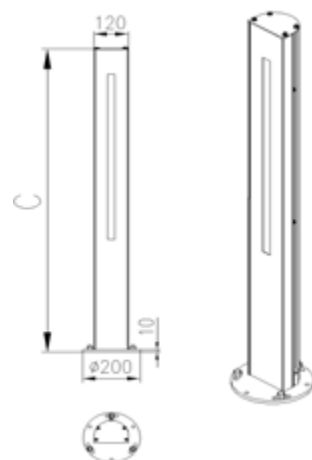
技术参数 Technical Parameters

工作电源/Power Supply	AC220/110V+/-15% or 24VDC
输出触电容/Contact Capacity	AC250V5A
功耗/Power Consumption	<15W
适用温度/Ambient temperature	-10°C ~ 55°C
环境湿度/Humidity	20°C, RH≤85%
响应时间/Response time	5~20ms
绝缘电阻/Insulating resistance	>100MΩ
介电强度/Dielectric strength	AC1500V, one minute, no sparkle appears
抗光干扰/Resistance to light interference	10000Lux (angle of incidence ≥5°)
保护高度/Protective height	H= (光轴数-1) * 光轴间距/ H= (beams-1) × light axis pitch
保护距离/Protective range	0-30000mm/2 sides, 0-24000mm/3 sides

规格说明 Model Specification



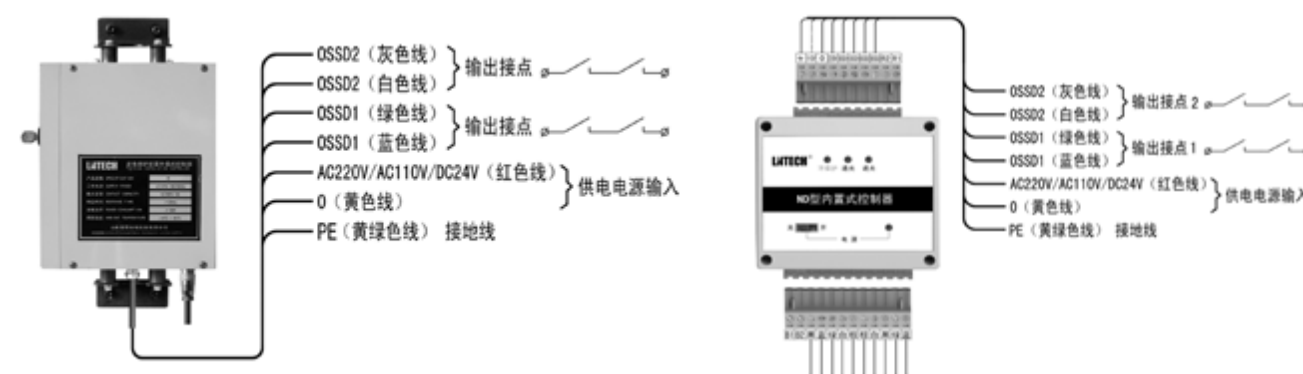
安装方式 Installation Ways



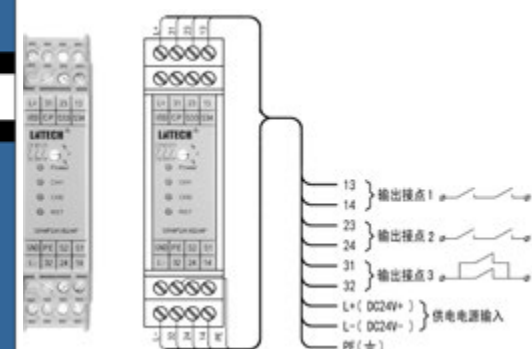
- 采用落地支架安装
- 抗振性能强，最大限度地减小了振动，延长了SQL系列区域安全防护光幕的使用寿命
- 防护罩的使用解决了传感器经常被碰撞而损坏的问题
- 为客户降低了生产成本，保障了安全防护的稳定性

- Landing Bracket
- Good anti-vibration, can decrease the vibration at large margin, prolong the SQL safety light curtains' application life.
- Protection shell can prevent sensors damaged from the collision.
- To reduce the production cost for customers, provide the stable safety guarding.

W, N及SR型控制器 W, N&SR controller



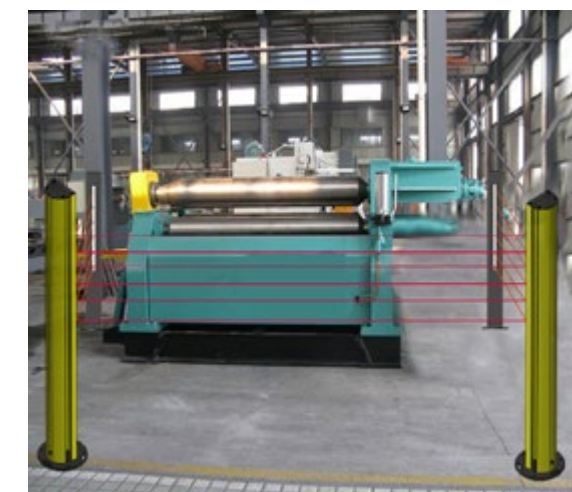
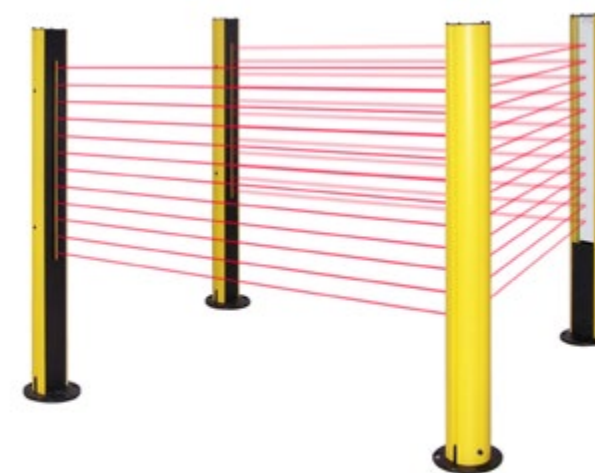
- ★ 出厂时，W型控制器供电电源设置为AC220V，如供电电源为AC110V，只需打开控制器盖，在电路板上找到转换开关，拨至“110”位置即可
- ★ N型控制器供电电源设置为AC220V，如供电电源为AC110V，只需将红色线压入AC110V端子即可，注意此时应将AC220V标识改为AC110V
- ★ 如需DC24V输入，请在订货时特别说明
- ★ W type controller's power source is setted for AC220V; if the power supply is AC110V, you should open the controller lid, and find the change-over switch on the electric circuit, and then switch to "110V" position.
- ★ For ND controller, there are 3 terminals to be used, they are "220V"/"0"/"110V" respectively, and according to the actual input voltage, connect corresponding terminals.
- ★ If the power source need to be DC24V, the special explanation should be made on order.



- 双通道操作：手动复位/自动复位
- 供电电压：DC24V
- 输出方式：2个常开和1个常闭
- 接线方式：插件式接线端子（笼式弹簧夹持端子）
- 显示方式：具有电源、通道1、通道2状态LED指示灯

- Double channel, manual/automatic reset
- Plug-in terminal
- 2N/O and 1N/C
- Short self-test
- Redundant circuit

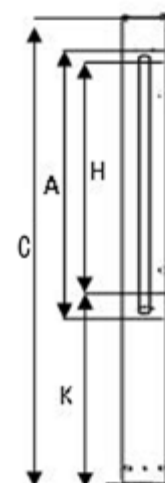
规格一览表和外形尺寸 Specification and External Size



- A: 传感器高度 C: SQL整体高度 J: 反射镜高度 A: sensor's height C: total height J: reflector height
- K: 最下一束光距离地下距离 H: 保护高度 K: distance from last beam to bracket bottom H: protection height

光轴间距 (light axis pitch) 80mm						
光束/Beam	规格/Specification	A	C	J	K	H
8	SQL0880	690	1150	990	407.5	560
12	SQL1280	1010	1470	1310	407.5	880
16	SQL1680	1330	1790	1630	407.5	1200
光轴间距 (light axis pitch) 160mm						
4	SQL04160	610	1070	910	407.5	480
6	SQL06160	930	1390	1230	407.5	800
8	SQL08160	1250	1710	1550	407.5	1120
光轴间距 (light axis pitch) 320mm						
2	SQL02320	690	1150	990	407.5	320
3	SQL03320	1010	1470	1310	407.5	640
4	SQL04320	1330	1790	1630	407.5	960

- 注：最下一束光到地面的距离可以根据客户要求定制，有多种选
- Note: K vaule is customized





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