新达科技

全国服务热线

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新达
CYNDAR

专注高端品质

CE ISO9001:2015

科技，给见未来

Technology changes the future

COMPREHENSIVE
CATALOG OF SENSORS

传感器综合目录

安全光幕/安全激光雷达/安全地垫/安全触边/安全继电器

Safety light curtain/safety lidar/safety mat/safety edge/safety relay

2021版

光同步安全光幕-QX

Light synchronization safety light curtain

- 采用光同步技术
- 体积小巧,安装方便,超高性价比
- 能有效屏蔽99%干扰信号
- 极性、短路、过载保护、自检

- Using optical synchronization technology
- Small size, easy installation, super cost-effective
- Can effectively shield 99% of interference signals
- Polarity, short circuit, overload protection, self-check

广泛适用于压力机、液压机、油压机、剪板机、自动门等80%以上设备及其他危险场合。

It is widely used in more than 80% equipment such as presses, hydraulic presses, hydraulic presses, shears, automatic doors and other dangerous occasions.

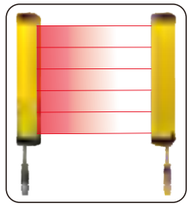
◆ 产品特点 Product characteristics

★ 自检功能完善：当安全传感器出现故障时，确保不向所控制的电器发送错误的信号；
★ 抗干扰能力强：系统对电磁信号，频闪灯光，焊接弧光及周围的光源具有良好的抗干扰能力；
★ 采用光同步，接线简单，节省安装时间；
★ 采用表面贴装技术，防震性能优越；
★ 符合国际电工学会IEC61496-1/2标准安全等级,TUV的CE认证；
★ 响应时间短（≤15ms）,安全可靠性能高；
★ 尺寸设计25mm*23mm,安装简单方便；
★ 所有电子元器件均采用全球知名品牌配件。

★ Perfect self-check function: When the safety screen protector fails, ensure that the wrong signal is not sent to the controlled electrical appliances.
★ Strong anti-interference ability: The system has good anti-interference ability to electromagnetic signal, stroboscopic light, welding arc and surrounding light source;
★ Using optical synchronization, simple wiring, saving installation time;
★ Surface mounting technology is adopted, which has superior seismic performance.
★ It conforms to IEC61496-1/2 standard safety grade and TUV CE certification.
★ The corresponding time is short (≤15ms), and the safety and reliability performance is high.
★ The size design is 25mm*23mm, the installation is simple and convenient;
★ All electronic components adopt world-renowned brand accessories.

◆ 产品配置 Product configuration

光幕由发光器、受光器组成。
The grating is composed of a light emitter and a light receiver.


发射器、接收器
emitter、receiver

+

T型螺母+圆型螺丝
T nut + round screw

+

数据线
data cable

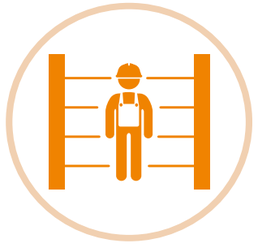
安全光幕控制器QCA
（选购件）
Safety light curtain controller QCA
(optional)

安全光幕双面控制器QCA2
（选购件）
Safety light curtain
double-sided controller QCA2
(optional)

◆ 分辨率 Resolving power

手指保护
间距10mm
Finger protective spacing

手掌保护
间距20mm
Palm protective spacing



手臂或身体保护
间距40mm
Arm or body protection spacing

◆ 产品技术参数 Technical parameters of products

光幕形式 Light curtain form	对射式Counter shooting		
光轴间距 Beam pitch	10mm	20mm	30mm
检测精度 Check the accuracy	18mm	28mm	38mm
光束数 Beam number	8、10...32	4、6···32	4、6···32
保护高度 Height of protection	光轴间距Beam pitch X (光束数Beam number−1)		
检测距离 Detection distance	30～3000mm 、30~6000mm		
响应时间 Response time	≤15ms		
抗光干扰 Anti light interference	10000Lux(入射角Incidence angle≥5°)		
外形尺寸 Outline size	25x23xLmm (L为发光器/受光器长度 L is the length of light emitter/receiver)		
防护等级 Protection level	IP65		
控制器 Controller	QCA QCA2		
电源电压 Supply voltage	DC12/24V AC110−220V(继电器输出Relay output)		
消耗电流 Consumption current	≤200mA		
输出 Output	NPN/PNP型，灌入电流500mA，电压1.5v以下，极性、短路、过载保护 NPN/PNP type, with current 500 mA and voltage less than 1.5 v, polarity, short circuit and overload protection		
输出状态 Output state	ON（接收指示绿灯Receiving Indicator Green Light)		
指示灯 Indicator light	投光器：电源指示灯（红色）；受光器：输出指示灯 通光（绿色）遮光（红色） Projector: Power indicator (red); Receiver: Output indicator (green) shading (red)		
光源 Light source	调制红外LED Modulated Infrared LED		
连接方式 Connection mode	圆形航空插座，配专用连接电缆，投光器3芯，受光器5芯 Circular aviation socket with special connecting cable, 3 cores of projector and 5 cores of receiver		
壳体材料 Shell material	铝合金，端盖：ABS增强尼龙 Aluminum alloy, end cover: ABS reinforced nylon		
耐环境光 Environmental light resistance	白炽光：受光面照度3000Lx；太阳光：受光面照度10000Lx Incandescent light: illumination of the receiving surface 3000Lx; sunlight: illumination of the receiving surface 10000Lx		
环境温度 Ambient temperature	工作时：−10~+40℃(但不结冰),保存时:−25~+55℃ When working: − 10 ~ + 40 C (but not freezing), when preserved: − 25 ~ + 55 C		
环境湿度 Ambient humidity	工作时：35~85%RH,保存时:35~95%RH Work: 35−85% RH, save: 35−95% RH		

◆ QX型安全光幕规格表说明如下：
The specifications of QX type safety screen are as follows

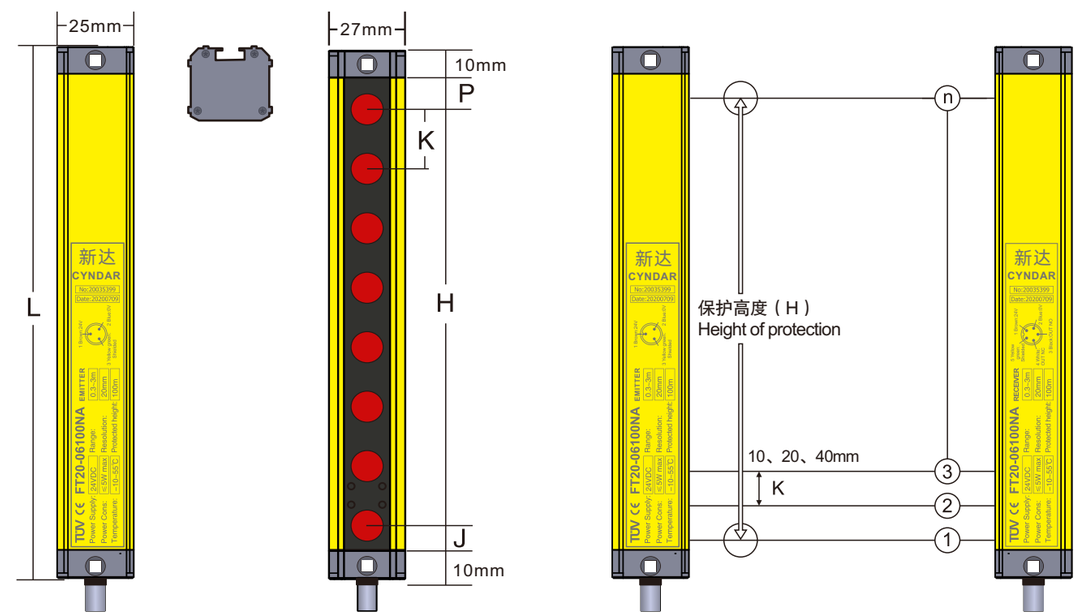
单位Unit: mm

Q X 2 0 0 6 100 N A □ (QX20-06100NA)

- □ 特殊标示
- A：0.3−3m
  B：0.3−6m
- N 信号输出方式：N:NPN输出 NO+NC
  Signal Output Mode P:PNP输出 PO+PC
- 100 保护高度100 ‘H=(n−1)*K = (6−1) *20’
  Protection height
- 06 光束数：04、06、08、10...200
  Beam number
- 20 光轴间距：10−10mm、20−20mm、40−40mm
  Beam pitch
- Q X 型号:QX系列安全光幕
  Model:QX Series Safety Screen

详细型号请见下一页规格表 Detailed models can be found in the specification sheet on the previous page.

◆ 外形尺寸 Dimensions



备注：
Remarks

H=（n−1）*K=保护高度
Height of detection

K:光轴间距
Optical axis spacing

L:光幕总长度
Total length of light screen

L=P+H+J+10mm+10mm

n:光轴数
Optical axis number

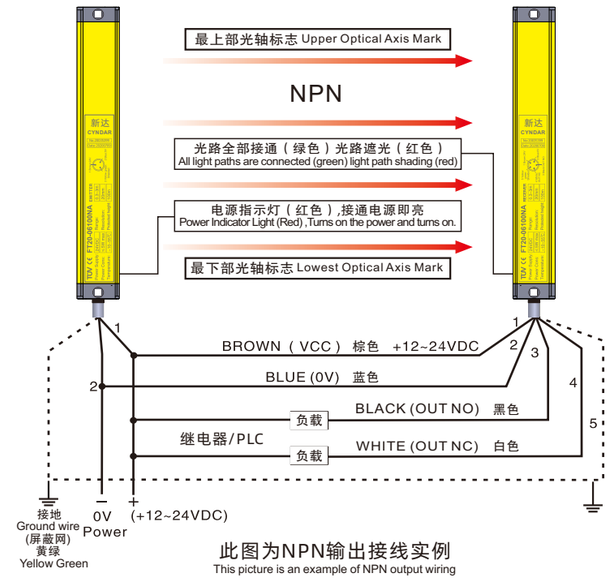
K(mm)	10	20	40
P(mm)	5	10	10
J(mm)	5	10	10

◆QX规格一览表 Specification List

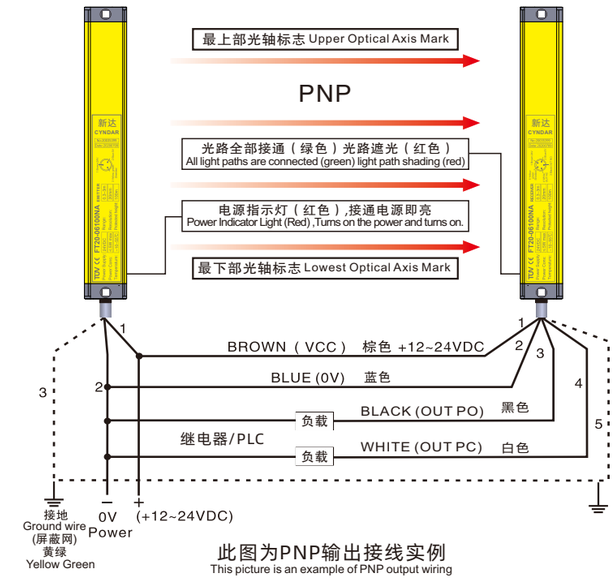
光轴间距 Beam pitch	光束数 Light beam	保护高度mm(H) Protection height	光幕高度mm(l) Screen height	产品型号 Product model	信号输出方式 Signal output mode		检测距离 Detection distance
					NPN	PNP	
10mm (K)	8	70	104	QX10-0870NA	N	P	0.3-3m
	10	90	124	QX10-1090NA	N	P	0.3-3m
	12	110	144	QX10-12110NA	N	P	0.3-3m
	14	130	164	QX10-14130NA	N	P	0.3-3m
	16	150	184	QX10-16150NA	N	P	0.3-3m
	18	170	204	QX10-18170NA	N	P	0.3-3m
	20	190	224	QX10-20190NA	N	P	0.3-3m
	22	210	244	QX10-22210NA	N	P	0.3-3m
	24	230	264	QX10-24230NA	N	P	0.3-3m
	26	250	284	QX10-26250NA	N	P	0.3-3m
	28	270	304	QX10-28270NA	N	P	0.3-3m
	30	290	324	QX10-30290NA	N	P	0.3-3m
	32	310	344	QX10-...NA	N	P	0.3-3m
	34	330	364	QX10-1981970NA	N	P	0.3-3m
	36	350	384	QX10-2001990NA	N	P	0.3-3m
	38	370	404	QX10-32310NA	N	P	0.3-3m
	40	390	424	QX10-34330NA	N	P	0.3-3m
	42	410	444	QX10-36350NA	N	P	0.3-3m
	44	430	464	QX10-38370NA	N	P	0.3-3m
	46	450	484	QX10-40390NA	N	P	0.3-3m
	...	...	...	QX10-42410NA	N	P	0.3-3m
	198	1970	2004	QX10-44430NA	N	P	0.3-3m
	200	1990	2024	QX10-46450NA	N	P	0.3-3m
20mm (K)	6	100	144	QX20-06100NA	N	P	0.3-3m
	8	140	184	QX20-08140NA	N	P	0.3-3m
	10	180	224	QX20-10180NA	N	P	0.3-3m
	12	220	264	QX20-12220NA	N	P	0.3-3m
	14	260	304	QX20-14260NA	N	P	0.3-3m
	16	300	344	QX20-16300NA	N	P	0.3-3m
	18	340	384	QX20-18340NA	N	P	0.3-3m
	20	380	424	QX20-20380NA	N	P	0.3-3m
	22	420	464	QX20-22420NA	N	P	0.3-3m
	24	460	504	QX20-24460NA	N	P	0.3-3m
	26	500	544	QX20-26500NA	N	P	0.3-3m
	28	540	584	QX20-28540NA	N	P	0.3-3m
	30	580	624	QX20-30580NA	N	P	0.3-3m
	32	620	664	QX20-32620NA	N	P	0.3-3m
	34	660	704	QX20-34660NA	N	P	0.3-3m
	36	700	744	QX20-36700NA	N	P	0.3-3m
	38	740	784	QX20-38740NA	N	P	0.3-3m
	40	780	824	QX20-40780NA	N	P	0.3-3m
	42	820	864	QX20-42820NA	N	P	0.3-3m
	44	860	904	QX20-44860NA	N	P	0.3-3m
	...	...	...	QX20-...NA	N	P	0.3-3m
	198	3940	3984	QX20-1983940NA	N	P	0.3-3m
	200	3980	4024	QX20-2003980NA	N	P	0.3-3m
40mm (K)	4	120	164	QX40-04120NA	N	P	0.3-3m
	6	200	244	QX40-06200NA	N	P	0.3-3m
	8	280	324	QX40-08280NA	N	P	0.3-3m
	10	360	404	QX40-10360NA	N	P	0.3-3m
	12	440	484	QX40-12440NA	N	P	0.3-3m
	14	520	564	QX40-14520NA	N	P	0.3-3m
	16	600	644	QX40-16600NA	N	P	0.3-3m
	18	680	724	QX40-18680NA	N	P	0.3-3m
	20	760	804	QX40-20760NA	N	P	0.3-3m
	22	840	884	QX40-22840NA	N	P	0.3-3m
	24	920	964	QX40-248920NA	N	P	0.3-3m
	26	1000	1044	QX40-261000NA	N	P	0.3-3m
	28	1080	1124	QX40-281080NA	N	P	0.3-3m
	30	1160	1204	QX40-301160NA	N	P	0.3-3m
	32	1240	1284	QX40-321240NA	N	P	0.3-3m
	34	1320	1364	QX40-341320NA	N	P	0.3-3m
	36	1400	1444	QX40-361400NA	N	P	0.3-3m
	38	1480	1524	QX40-381480NA	N	P	0.3-3m
	40	1560	1604	QX40-401560NA	N	P	0.3-3m
	42	1640	1684	QX40-421640NA	N	P	0.3-3m
	44	1720	1764	QX40-441720NA	N	P	0.3-3m
	46	1800	1844	QX40-461800NA	N	P	0.3-3m
	48	1880	1924	QX40-481880NA	N	P	0.3-3m
	50	1960	2004	QX40-501960NA	N	P	0.3-3m
	52	2040	2084	QX40-522040NA	N	P	0.3-3m
	54	2120	2164	QX40-542120NA	N	P	0.3-3m
	56	2200	2244	QX40-562200NA	N	P	0.3-3m
	58	2280	2324	QX40-582280NA	N	P	0.3-3m
	60	2360	2404	QX40-602360NA	N	P	0.3-3m
	62	2440	2484	QX40-622440NA	N	P	0.3-3m
	64	2520	2564	QX40-642520NA	N	P	0.3-3m
	66	2600	2644	QX40-662600NA	N	P	0.3-3m
	68	2680	2724	QX40-682680NA	N	P	0.3-3m
	70	2760	2804	QX40-702760NA	N	P	0.3-3m
	72	2840	2884	QX40-722840NA	N	P	0.3-3m
	74	2920	2964	QX40-742920NA	N	P	0.3-3m
	76	3000	3044	QX40-763000NA	N	P	0.3-3m
	78	3080	3124	QX40-783080NA	N	P	0.3-3m
	80	3160	3204	QX40-803160NA	N	P	0.3-3m
	...	...	...	QX40-...NA	N	P	0.3-3m
	198	7880	7924	QX40-1987880NA	N	P	0.3-3m
	200	7960	8004	QX40-2007960NA	N	P	0.3-3m

备注：输出方式详见上一页规格说明。特殊规格可另外订做，检测距离达3-6米需提前说明。
Note: The output mode is detailed in the specifications on the previous page. special specifications can be customized separately, and the detection distance up to 3-6M needs to be specified in advance.

◆ QX 三、五芯系列接线图：
QX three and five core series wiring diagram:

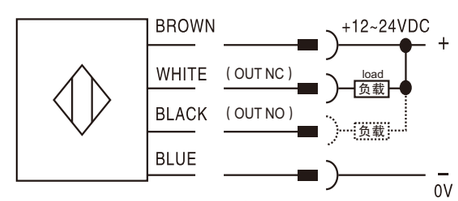


此图为NPN输出接线实例
This picture is an example of NPN output wiring

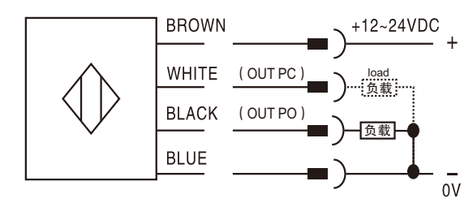


此图为PNP输出接线实例
This picture is an example of PNP output wiring

◆ QX信号输出选择(晶体管正常工作的实际输出)
QX signal output selection (actual output of transistor working normally)

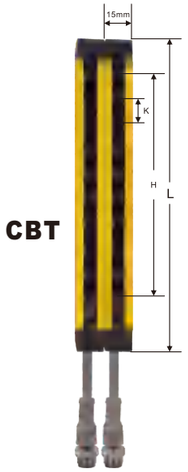


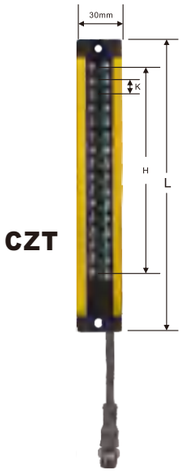
NPN(常闭/常开)

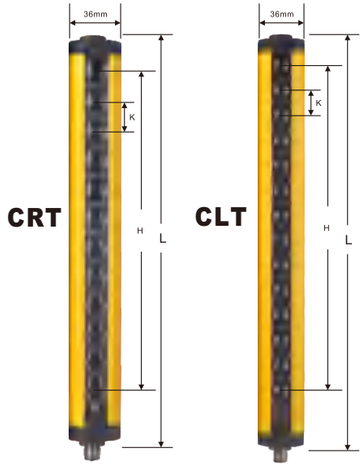


PNP(常闭/常开)

◆外观尺寸图
Appearance size chart

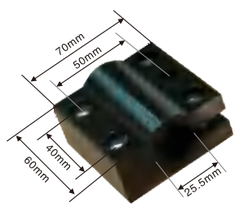


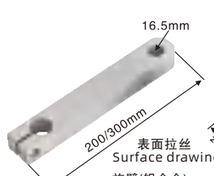




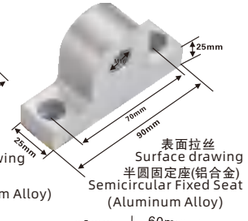
IP68Waterproof device

CAT/CST Mounting method at both ends

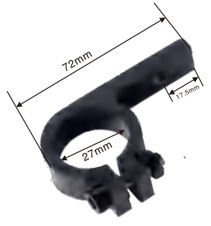




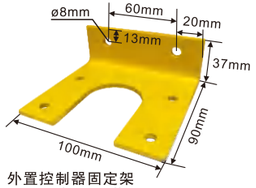
表面拉丝
Surface drawing
旋臂(铝合金)
Rotary Arm (Aluminum Alloy)



表面拉丝
Surface drawing
半圆固定座(铝合金)
Semicircular Fixed Seat
(Aluminum Alloy)

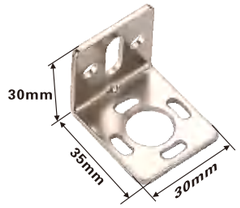


固定夹(铝合金)
Fixed Seat
(Aluminum Alloy)

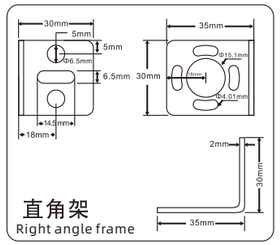


外置控制器固定架
External Controller
Fixed Clamp

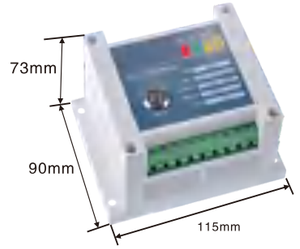
◆外观尺寸图
Appearance size chart



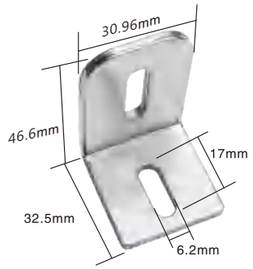
直角固定架
Right angle fixing frame



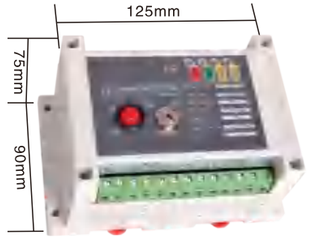
直角架
Right angle frame



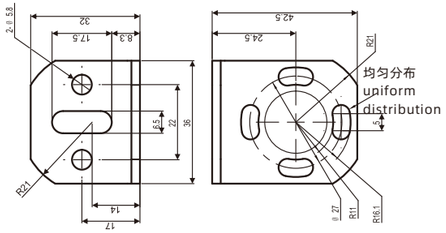
CCT\CAT内置控制器
CCT\CAT built-in controller

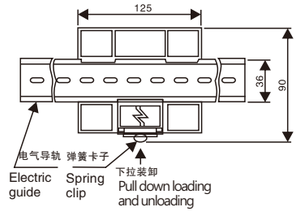


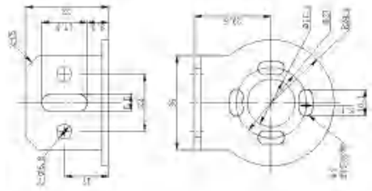
带防护套数据线
Data Line with
Protective Sheath

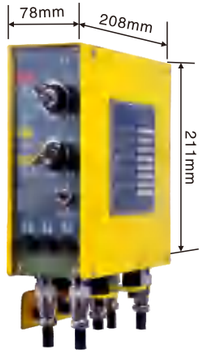


内置控制器QSN
QSN Built-in controller







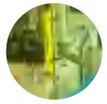


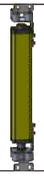
配件表 Accessory table

品名	形状 shape	型号 Model	描述 describe	备注 Remarks
内置式控制器	Built-in Controller	QCA	安装电控箱内与CCT、CAT安全光幕配套使用无源输出可直接接大功率负载 Installation of electronic control box with CCT, CAT safety light curtain and passive output can directly connect high-power load	选配件 Spare parts
内置式控制器	Built-in Controller	QET	安装电控箱内与CET、CTT安全光幕配套使用无源输出可直接接大功率负载 Installation of electronic control box with CET,CTT safety light curtain and passive output can directly connect high-power load	选配件 Spare parts
内置式控制器	Built-in Controller	QCA2	安装电控箱内与CCT、CAT安全光幕配套使用无源输出可直接接大功率负载 Installation of electronic control box with CCT,CAT safety light curtain and passive output can directly connect high-power load	选配件 Spare parts
内置式控制器	Built-in Controller	QSN	安装电控箱内与CST、CVT安全光幕配套使用无源输出可直接接大功率负载 Installation of electronic control box with CST, CVT safety light curtain and passive output can directly connect high-power load	选配件 Spare parts
内置式控制器	Built-in Controller	Tner-A31	安装电控箱内与CCT、CAT、CET、CTT双输出安全光幕配套使用无源输出可直接接大功率负载，提供4组无源开关信号 Installation of electronic control box and CCT, CAT, CET, CTT double output safety light curtain matching use of passive output can directly connect high-power load, provide four groups of passive switching signals	选配件 Spare parts
内置式控制器	Built-in Controller	LCS-SRA/B	安装电控箱内与CCT、CAT、CET、CTT双输出安全光幕配套使用无源输出可直接接大功率负载，提供4组无源开关信号 Installation of electronic control box and CCT, CAT, CET, CTT double output safety light curtain matching use of passive output can directly connect high-power load, provide four groups of passive switching signals	选配件 Spare parts
外置双面控制器	External Controller	QSWS	安装机器侧面QSW 双继电器无源输出 Install machine side QSW Dual relay passive output	选配件 Spare parts
外置单面控制器	External Controller	QSWS	安装机器侧面QSW 双继电器无源输出 Install machine side QSW Dual relay passive output	选配件 Spare parts
控制器固定架	Controller holder	QCA-06	用于CST外置控制器固定架 For CST external controller mounting bracket	标配件 Standard

五针五芯电缆	5-pin 5-core cable	QSN543 QA543	五针Φ16航空接头 带2.5x3.56m 屏蔽电缆 发射、接收单元 Five-pin Φ16 aviation joint with 2.5x3.56m shielded cable transmitting and receiving unit	标配 Standard
		QSN545 QA545	五针Φ16航空接头 带5m 屏蔽电缆 接收单元 Five-pin Φ16 aviation joint with 5m shielded cable	选配件 Spare parts
		QSN5410 QA5410	五针Φ16航空接头 带10m 屏蔽电缆 接收单元 Five-pin Φ16 aviation joint with 10m shielded cable	
五针五芯电缆	5-pin 5-core cable	QSW543	五针Φ16航空接头 带3m 屏蔽电缆 接收单元 Five-pin Φ16 aviation joint with 10m shielded cable	标配 Standard
		QSW545	五针Φ16航空接头 带5m 屏蔽电缆 接收单元 Five-pin Φ16 aviation joint with 10m shielded cable	选配件 Spare parts
		QSW5410	五针Φ16航空接头 带10m 屏蔽电缆 接收单元 Five-pin Φ16 aviation joint with 10m shielded cable	
七孔七芯数据线	7-hole 7-core data cable	QVW543	七孔Φ16航空接头 带3m 屏蔽电缆 接收单元 seven-hole Φ16 aviation joint with 3m shielded cable	标配 Standard
		QVW545	七孔Φ16航空接头 带5m 屏蔽电缆 接收单元 seven-hole Φ16 aviation joint with 3m shielded cable	选配件 Spare parts
		QVW5410	七孔Φ16航空接头 带10m 屏蔽电缆 接收单元 seven-hole Φ16 aviation joint with 3m shielded cable	
五针五芯电缆	5-pin 5-core cable	QC543	五针Φ12航空接头 带3m屏蔽电缆 接收单元 Five-pin Φ12 aviation joint with 3m shielded cable Receiver	标配 Standard
		QC545	五针Φ12航空接头 带5m屏蔽电缆 接收单元 Five-pin Φ12 aviation joint with 5m shielded cable Receiver	选配件 Spare parts
		QC5410	五针Φ12航空接头 带10m屏蔽电缆 接收单元 Five-pin Φ12 aviation joint with 10m shielded cable Receiver	
四孔四芯电缆	4-hole 4-core cable	QC433	四孔Φ12航空接头 带3m屏蔽电缆 接收单元 Four-hole Φ12 aviation joint with 3m shielded cable	标配 Standard
		QC435	四孔Φ12航空接头 带5m屏蔽电缆 接收单元 Four-hole Φ12 aviation joint with 5m shielded cable	选配件 Spare parts
		QC4310	四孔Φ12航空接头 带10m屏蔽电缆 接收单元 Four-hole Φ12 aviation joint with 10m shielded cable	
七针七芯数据线	7-pin 7-core data cable	QT702	七针Φ16航空接头 带2m 屏蔽电缆 外置控制器 seven-pin Φ16 aviation joint with 2m External controller	标配 Standard
		QT703	七针Φ16航空接头 带3m 屏蔽电缆 外置控制器 seven-pin Φ16 aviation joint with 3m External controller	选配件 Spare parts
		QT705	七针Φ16航空接头 带5m 屏蔽电缆 外置控制器 seven-pin Φ16 aviation joint with 5m External controller	
七针七芯数据线	7-pin 7-core data cable	QE702	七针Φ16航空接头 带2m 屏蔽电缆 外置控制器 seven-pin Φ16 aviation joint with 2m External controller	标配 Standard
		QE703	七针Φ16航空接头 带3m 屏蔽电缆 外置控制器 seven-pin Φ16 aviation joint with 3m External controller	选配件 Spare parts
		QE705	七针Φ16航空接头 带5m 屏蔽电缆 外置控制器 seven-pin Φ16 aviation joint with 5m External controller	

配件表 Accessory table

七孔七芯数据线	7-hole 7-core data cable	QSW702	七孔Φ16航空接头 带2m 屏蔽电缆 外置控制器 seven-hole Φ16 aviation joint with 2m data cable	标配 Standard
		QSW703	七孔Φ16航空接头 带3m 屏蔽电缆 外置控制器 seven-hole Φ16 aviation joint with 3m data cable	选配件 Spare parts
		QSW705	七孔Φ16航空接头 带5m 屏蔽电缆 外置控制器 seven-hole Φ16 aviation joint with 5m data cable	
五孔五芯数据线	7-hole 7-core data cable	QM/QR QZ/QB 503	五孔Φ12航空接头 带3m电缆数据线 five-holeΦ12 aviation joint with 3m data cable	标配 Standard
		QM/QR QZ/QB 505	五孔Φ12航空接头 带5m电缆数据线 five-hole Φ12 aviation joint with 5m data cable	选配件 Spare parts
		QM/QR QZ/QB 508	五孔Φ12航空接头 带8m电缆数据线 five-hole Φ12 aviation joint with 8m data cable	
七孔七芯数据线	7-hole 7-core data cable	QL/QM 503	七孔Φ12航空接头 带3m电缆数据线 seven-hole Φ12 aviation joint with 3m data cable	标配 Standard
		QL/QM 505	七孔Φ12航空接头 带5m电缆数据线 seven-hole Φ12 aviation joint with 5m data cable	选配件 Spare parts
		QL/QM 508	七孔Φ12航空接头 带8m电缆数据线 seven-hole Φ12 aviation joint with 8m data cable	
二孔四孔数据线	2-hole 4-hole data cable	QG2403	二孔、四孔Φ12航空接头 带3m电缆数据线 two-hole，four-hole Φ12 aviation joint with 8m data cable	标配 Standard
		QG2405	二孔、四孔Φ12航空接头 带3m电缆数据线 two-hole，four-hole Φ12 aviation joint with 8m data cable	选配件 Spare parts
		QG2408	二孔、四孔Φ12航空接头 带3m电缆数据线 two-hole，four-hole Φ12 aviation joint with 8m data cable	
不锈钢管支架	Stainless steel bracket	QCA-01	 用于CCT、CAT管状安装方式 For CCT, CAT tubular installation	
T形螺絲	T-screw	QCA-02	用于CCT、CAT侧面滑槽安装方式 For CCT, CAT side chute installation	标配件 Standard
凸形螺母	Male nut	QCA-03	用于CCT、CAT侧面滑槽安装方式 For CCT、CAT side chute installation	

直角架	Right angle frame	QCA-04	用于CCT、CAT两头安装方式 For CCT、CATside chute installation	标配件 Standard
侧面支角架	Side right angle frame	QCA-05	用于CCT/CAT/CST侧面固定 For CCT/CAT/CSTside fixing	标配件 Standard
直角架	Right angle frame	QLMR-06	用于CLT、CMT、CR两头安装方式 For CLT、CMT、CR two-head installation	标配件 Standard
直角架	Right angle frame	QRFT-07	用于CRFTwo两头安装方式 For CRFTtwo-head installation	标配件 Standard
高强度管状支架	High-strength tubular stent	QSA-07	用于CST、CAT管状安装方式 For CST、CATtubular installation	标配件 Spare parts
侧面直角架	Side right angle bracket	QSA-08	用于CST/CAT/CVT/CTT 侧面安装方式 For CST/CAT/CVT/CTT Side mounting method	标配件 Spare parts
正面直角架	 Frontal right angle bracket	QSA-09	用于CST/CAT/CVT/CTT 正面安装方式 For CST/CAT/CVT/CTT Frontal mounting method	标配件 Spare parts
反射装置	Reflector	QSA-10	用于CST/CAT/CVT/CTT 两面或三面反射器的配件 For CST/CAT/CVT/CTT Accessories for 2 or 3-sided reflectors	标配件 Spare parts

注：标配件...免费配送 选配件...需单独购买 标配件：QCA-02 QCA-03 QCA-04 任选一款，CST型：QCA-01为标配件。
Note: Standard accessories... Free distribution. Optional accessories... Need to be purchased separately. Standard accessories: QCA-02,QCA-03,QCA-04 Optional one,
QS type: QCA-01 is the standard accessory.