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

QSMT车辆分离光幕-QSMT
QSMT vehicle separation light curtain

- 国际IP67级防水不锈钢外罩
- 自动加热、低温湿度自动控制
- 超快响应速度(小于15ms)
- 能有效屏蔽99%干扰信号

- International IP67 waterproof stainless steel housing
- Automatic heating, automatic control of low temperature and humidity
- Ultra-fast response speed (less than 15ms)
- Can effectively shield 99% of interference signals

广泛适用于智能交通系统、不停车收费系统、公路计重系统、公路收费系统、超限检测系统等其他它场合。

It is widely used in other occasions such as intelligent transportation system, non-stop toll collection system, highway weighing system, highway toll collection system, overrun detection system, etc.

QSMT系列车辆分离光幕
QSMT Series Vehicle Separation Curtain

◆ 产品配置：Product configuration

1.发射器和接收器：发射器内置线性排列的高能量发光元件，接收器内置与发射器数量相同的接收元件，发射器和接收器的对应光电元件依次按顺序同步触发，检测光路是否导通，当汽车通过扫描区域时，部分或全部光束被遮挡，因而被检测出。

2.控制单元：读取并处理发射器/接收器的同步扫描信号，同时检测光幕工作状态，提供多种输出信号，如：开关量输出，串口输出或模拟量输出。考虑到系统可靠性和安装的简便性，市场上普遍使用的车辆分离光幕都是控制器内置的两箱式产品，而没有独立的外置控制器。

3.电缆线：连接发射器/接收器与控制器的接插电缆，默认长度为5m。

4.防护外罩：为不锈钢或铝合金材料，为分离器提供防护，内置电加热玻璃，温度控制器，湿度控制器，在湿度过高，温度过低时实现自动加热，以保证车辆分离器在潮湿地区，雨雪天气，寒冷季节可靠使用。

Product configuration:
1. Transmitters and receivers: Transmitters have linearly arranged high-energy light-emitting elements, receivers have the same number of receiving elements as transmitters. The corresponding optoelectronic elements of transmitters and receivers are triggered synchronously in sequence to detect whether the light path is on or not. When the car passes through the scanning area, some or all of the beams are occluded and thus detected.

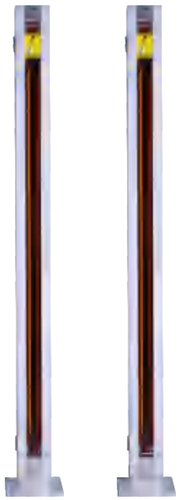
2. Control Unit: Read and process the synchronous scanning signal of transmitter/receiver, detect the working state of the light screen, and provide a variety of output signals, such as switching output, serial output or analog output. Considering the reliability of the system and the convenience of installation, the vehicle separating light curtain commonly used in the market is a two-box product built in the controller, but there is no independent external controller.

3. Cable: Connect the cable between transmitter/receiver and controller. The default length is 5m.

4. Protective cover: for stainless steel or aluminium alloy materials, to provide protection for separators, built-in electric heating glass, temperature controller, humidity controller, when the humidity is too high, the temperature is too low to realize automatic heating, in order to ensure the reliable use of vehicle separators in wet areas, rain and snow weather, cold season.

◆ 产品特点：Product characteristics

1.集成化设计、无需控制器，简单易用；
2.光幕高度：60mm-2840mm；
3.光幕间距：10、14、20、25、30、40、80mm七种，其他间距可以定做；
4.检测距离：0-5m、0-10m、0-30m
5.LED指示灯可显示光幕的工作状态及故障状态；
6.双NPN输出：
#输出1：车辆检测信号输出；
#输出2：光幕故障报警输出；
7.运用独特算法，使光幕只检测150mm以上的物体，同时具有1mm的分辨率，既可以避免由阳光、飞鸟、蚊虫及污泥引起的误动作，也可以可靠检测车辆挂钩；
8.自动检测故障，并忽略（屏蔽）有问题的光束，仍能保持正常工作，同时输出报警信号；
9.使用高能量、高穿透率光电管，便于安装维护；
10.可以实现车辆自动分离、计数、存在检测、分类检测、确定车头时距；
11.完全消除跟车现象，将半挂车、全挂车、单车可靠分离；
12.专用防护外壳使用坚固的铝型材制成，保证车辆分离光幕可靠用于室外的恶劣环境；
13.使用温度：-10℃--55℃；环境温度：RH≤85℃（20℃）。



Product characteristics:
1. Integrated design, no controller, simple and easy to use.
2. Light curtain height: 60mm–2840mm;
3. Light screen spacing: 10, 14, 20, 25, 30, 40, 80 mm, other spacing can be customized;
4. Detection distance: 0–5m, 0–10m, 0–130m;
5. The LED indicator can display the working state and failure state of the light screen.
6. Dual NPN output:
   # Output 1: Vehicle detection signal output;
   # Output 2: Output of light screen fault alarm;
7. Using a unique algorithm, the light curtain can detect only objects over 150 mm with a resolution of 1 mm, which can avoid the misoperation caused by sunlight, birds, mosquitoes and sludge, and also can reliably detect vehicle hooks.
8. Automatically detect faults and ignore (shield) faulty beams, still can maintain normal operation, while outputting alarm signals;
9. Use high–energy and high–penetration photovoltaic cells for easy installation and maintenance.
10. Automatic separation, counting, presence detection, classification detection and determination of headway can be realized.
11. Completely eliminate the phenomenon of car–following and reliably separate semi–trailer, full–trailer and bicycle.
12. The special protective shell is made of solid aluminium profiles to ensure that the vehicle light separation screen is reliably used in outdoor harsh environment.
13. Applicable temperature: –10℃––55℃; Environmental humidity: RH≤85%（20℃）.

◆ 工作原理 Working principle

车辆分离光幕的工作原理是通过线性排列的红外光发射和接收来实现对车辆的同步扫描，并将光信号转换为电信号，从而实现对车辆数据的综合检测，与其他检测技术相比，红外线车辆检测产品技术成熟，安装简便，高速响应，抗干扰性强，可输出丰富的车辆技术信息，能可靠检测各种特殊车辆。红外线车辆扫描系统主要用于：一般公路收费站、不停车收费系统（ETC）、自动车辆分类系统（AVC）、公路计重收费系统（WIM）、固定式超限检测站，海关车辆管理系统等。

The working principle of the vehicle separation light curtain is to realize synchronous scanning of the vehicle through linearly arranged infrared light transmission and reception, and convert the optical signal into an electrical signal, thereby realizing comprehensive detection of vehicle data, compared with other detection technologies. Infrared vehicle detection products are mature in technology, easy to install, high–speed response, strong anti–interference, can output a wealth of vehicle technical information, and can reliably detect various special vehicles. Infrared vehicle scanning system is mainly used for: general road toll station, non–stop toll collection system (ETC), automatic vehicle classification system (AVC), highway weight collection system (WIM), fixed over–limit detection station, customs vehicle management system, etc. .

◆ 防护外罩技术参数：
Technical parameters of protective cover

加热电源Heating power supply	24V 10A
主温控器Main thermostat	盘式封装 闭合温度4℃ 断开温度29℃ Disc package Closing temperature 4℃ Disconnecting temperature 29℃
备用温控器Standby thermostat	盘式封装 闭合温度55℃ 断开温度36℃ Closure temperature of disc packaging 55℃ and disconnection temperature 36℃
湿度开关Humidity switch	机械式尼龙膜触发开关 相对湿度 20–80% Relative humidity of mechanical nylon membrane trigger switch is 20–80%.
状态指示灯Status indicator	加热部件启动时，前部的红色LED灯发光 Red LED light in front of heater when starting.
温度范围temperature range	正常工作温度–20℃—+70℃ Normal operating temperature – 20℃+70℃.
结构structure	外壳：不锈钢或铝合金，窗口：加热玻璃 Shell: stainless steel or aluminium alloy, window: heated glass
防护等级Protection level	NEMA 3R （IEC IP54）

◆ 防护外罩 Protective cover

为不锈钢和冷钢板喷塑材料，为光幕提供防护，内置电加热玻璃、温度控制器，湿度控制器，在湿度过高，温度过低时实现自动加热，以保证车辆分离光幕在潮湿地区，雨雪天气，寒冷季节可靠使用。

广泛应用于智能交通系统，公路收费系统，不停车收费系统，公路计重系统，超限检测系统及其它交通控制系统中。

Spray plastic material for stainless steel and cold steel plate, provide protection for light curtain, built–in electric heating glass, temperature controller, humidity controller, realize automatic heating when humidity is too high and temperature is too low, in order to ensure the reliable use of vehicle separation light curtain in wet areas, rain and snow weather, cold season.
It is widely used in intelligent transportation system, highway toll collection system, non–stop toll collection system, highway weighing system, over–limit detection system and other traffic control systems.le use of vehicle separators in wet areas, rain and snow weather, cold season.

◆ 专门用于检测光幕安装于户外时使用，保护光幕不受撞击损坏;
◆ 内置电加热玻璃，可自动加热；
◆ 内部温度自动控制，当潮湿或雨雾汽较大时，自动清除玻璃表面的雨雪；
◆ 箱体材料：不锈钢，冷轧钢板，铝合金等；
◆ 防雾玻璃：电热丝加丝安全钢化玻璃，功率200W/套，电源为24VDC;
◆ 湿度低于0℃开始加热（可现场设定）；湿度高于96%时开始加热（可现场设定）
◆ 过热保护控制：湿度高于45℃时断开加热

◆ It is specially used for detecting the light curtain when it is installed outdoors to protect the light curtain from impact damage.
◆ Built-in electric heating glass can be automatically heated.
◆ Internal temperature automatic control, when wet or heavy rain and fog vapor, automatic removal of snow and rain on the glass surface;
◆ Box material: stainless steel, cold rolled steel plate, aluminum alloy, etc.
◆ Antifogging glass: electric heating wire plus wire safety tempered glass, power 200W/set, power supply 24VDC;
◆ Start heating when humidity is below 0℃ (can be set on site); start heating when humidity is above 96% (can be set on site);
◆ Overheat protection control: disconnect heating when humidity is higher than 45℃.

序号 Serial number	型号 Model	外形长度 Shape length	窗口长度 Window length	可配套光幕 Matching light curtain
1	QLVF–1.6	1600mm	1280mm	检测高度1280mm以下光幕 Detection height below 1280mm light screen
2	QLVF–1.8	1800mm	1600mm	检测高度1440mm以下光幕 Detection height below 1440mm light screen

◆ 光电反光板(反光片、反射板) Photoelectric reflector (reflector)

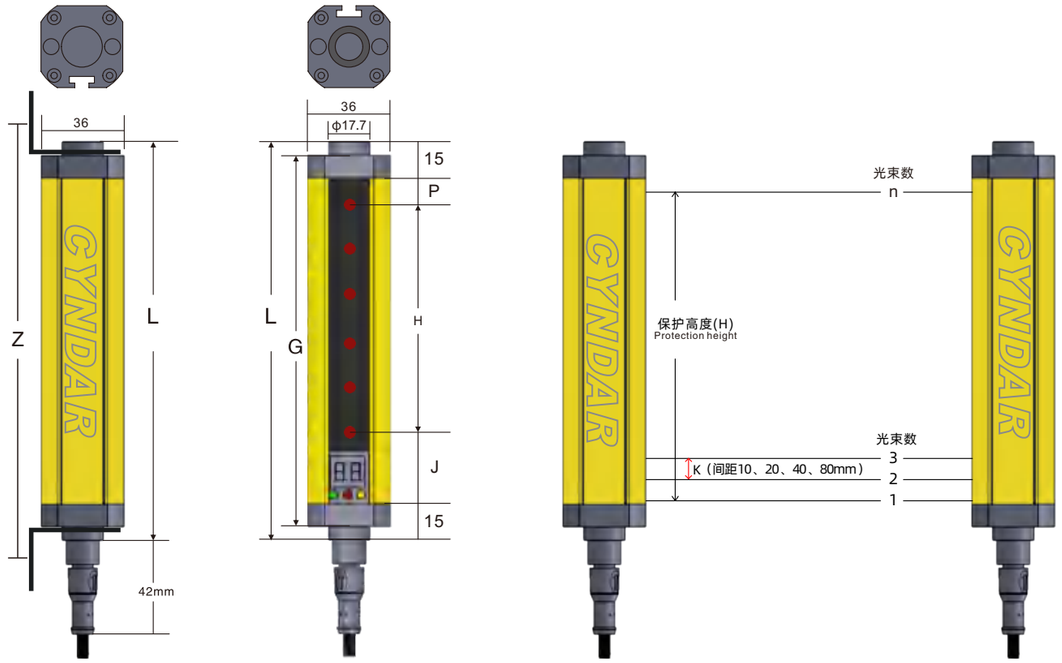
45×310mm

55×350mm

本公司的反射板（反光片）种类规格齐全（55×300 、55×350、55×任意长度、45×310、45×任意长度，反光膜1.22米×任意长度等等），所有材质全部采用进口材料，质量保证（如果有质量问题，三包，所发生的运输费用由我方负责）。我们是一家规格齐全的光电感应器及光电材料供应商，产品被广泛运用于特殊场所，本产品应用于日本“理研”“小森”光电保护器及科力、莱恩国产保护器反射装置。

The company's reflectors (reflective sheets) have a complete range of specifications (55×300, 55×350, 55×arbitrary length, 45×310, 45×arbitrary length, reflective film 1.22m×arbitrary length, etc.), all materials are used Imported materials, quality assurance (if there are quality problems, three guarantees, the transportation costs incurred will be borne by us). We are a supplier of photoelectric sensors and photoelectric materials with complete specifications. The products are widely used in special places. This product is used in Japan's "Riken" and "Komori" photoelectric protectors and Keli and Lion's domestic protector reflectors.

◆ QSMT外形尺寸Dimensions



备注：
Remarks

H=（n−1）*K=检测高度
Detection height

L:光幕总长度
Total length of light screen

n:光轴数
Optical axis number

Z=L+30mm=上下直角架固定方式中心距离
Center Distance of Fixed Mode of Upper and Lower Right Angle Frames

K:光轴间距
Optical axis spacing

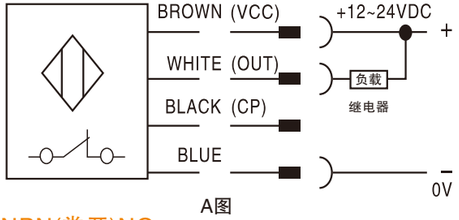
L=P+H+J+15mm+15mm

K（mm）	10	20	40	80
P（mm）	5	10	10	10
J（mm）	28	33	33	33

◆ QSMT信号输出选择（晶体管正常工作的实际输出）

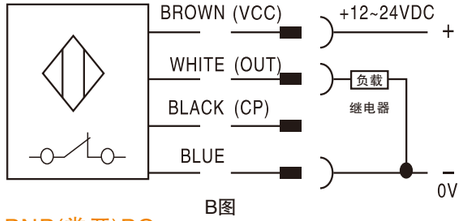
QSMT signal output selection (actual output of transistor working normally)

NPN(常闭)NC



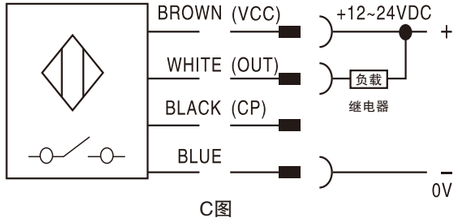
A图

PNP(常闭)PC



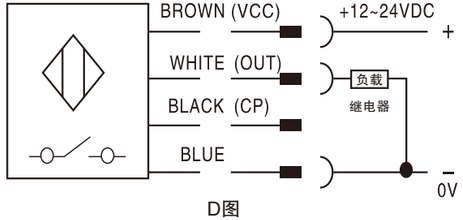
B图

NPN(常开)NO



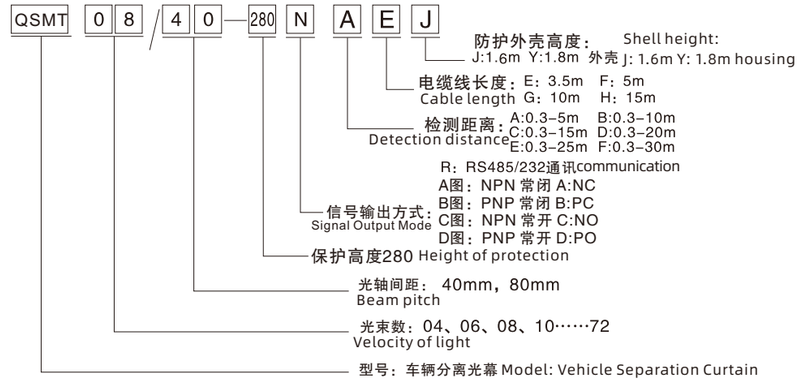
C图

PNP(常开)PO



D图

◆规格表说明Specification

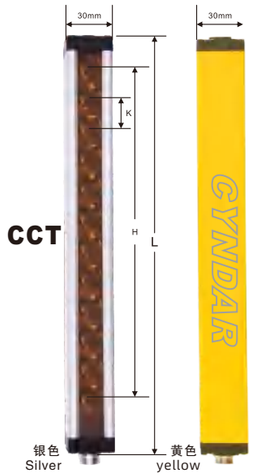


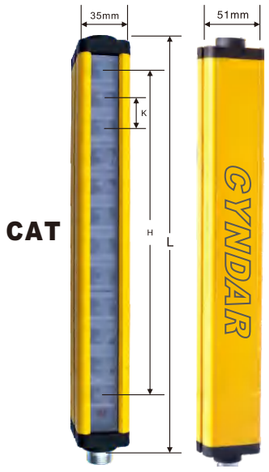
◆QSMT规格一览表pecification List

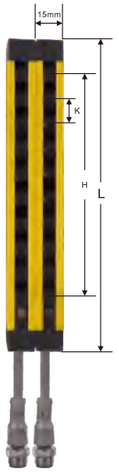
光轴间距 Beam pitch	光束数 Light beam	保护高度mm(H) Protection height	光幕高度mm(l) Screen height	产品型号 Product model	信号输出方式 Signal output mode					检测距离 Detection distance
					RS485	NPN	PNP	NPN	PNP	
10mm（K）	8	70	133	QSMT08/10-70	R	A	B	C	D	0.3-5m
	10	90	153	QSMT10/10-90	R	A	B	C	D	0.3-5m
	12	110	173	QSMT12/10-110	R	A	B	C	D	0.3-5m
	14	130	193	QSMT14/10-130	R	A	B	C	D	0.3-5m
	16	150	213	QSMT16/10-150	R	A	B	C	D	0.3-5m
	18	170	233	QSMT18/10-170	R	A	B	C	D	0.3-5m
	20	190	253	QSMT20/10-190	R	A	B	C	D	0.3-5m
	22	210	273	QSMT22/10-210	R	A	B	C	D	0.3-5m
	24	230	293	QSMT24/10-230	R	A	B	C	D	0.3-5m
	26	250	313	QSMT26/10-250	R	A	B	C	D	0.3-5m
	28	270	333	QSMT28/10-270	R	A	B	C	D	0.3-5m
	30	290	353	QSMT30/10-290	R	A	B	C	D	0.3-5m
	32	310	373	QSMT32/10-310	R	A	B	C	D	0.3-5m
	34	330	393	QSMT34/10-330	R	A	B	C	D	0.3-5m
20mm（K）	4	60	133	QSMT04/20-60	R	A	B	C	D	0.3-5m
	6	100	173	QSMT06/20-100	R	A	B	C	D	0.3-5m
	8	140	213	QSMT08/20-140	R	A	B	C	D	0.3-5m
	10	180	253	QSMT10/20-180	R	A	B	C	D	0.3-5m
	12	220	293	QSMT12/20-220	R	A	B	C	D	0.3-5m
	14	260	333	QSMT14/20-260	R	A	B	C	D	0.3-5m
	16	300	373	QSMT16/20-300	R	A	B	C	D	0.3-5m
	18	340	413	QSMT18/20-340	R	A	B	C	D	0.3-5m
	20	380	453	QSMT20/20-380	R	A	B	C	D	0.3-5m
	22	420	493	QSMT22/20-420	R	A	B	C	D	0.3-5m
	24	460	533	QSMT24/20-460	R	A	B	C	D	0.3-5m
	26	500	573	QSMT26/20-500	R	A	B	C	D	0.3-5m
	28	540	613	QSMT28/20-540	R	A	B	C	D	0.3-5m
	30	580	653	QSMT30/20-580	R	A	B	C	D	0.3-5m
	32	620	693	QSMT32/20-620	R	A	B	C	D	0.3-5m
40mm（K）	4	120	193	QSMT04/40-120	R	A	B	C	D	0.3-5m
	6	200	273	QSMT06/40-200	R	A	B	C	D	0.3-5m
	8	280	353	QSMT08/40-280	R	A	B	C	D	0.3-5m
	10	360	433	QSMT10/40-360	R	A	B	C	D	0.3-5m
	12	440	513	QSMT12/40-440	R	A	B	C	D	0.3-5m
	14	520	593	QSMT14/40-520	R	A	B	C	D	0.3-5m
	16	600	673	QSMT16/40-600	R	A	B	C	D	0.3-5m
	18	680	753	QSMT18/40-680	R	A	B	C	D	0.3-5m
	20	760	833	QSMT20/40-760	R	A	B	C	D	0.3-5m
	22	840	913	QSMT22/40-840	R	A	B	C	D	0.3-5m
	24	920	993	QSMT24/40-920	R	A	B	C	D	0.3-5m
	26	1000	1073	QSMT26/40-1000	R	A	B	C	D	0.3-5m
	28	1080	1153	QSMT28/40-1080	R	A	B	C	D	0.3-5m
	30	1160	1233	QSMT30/40-1160	R	A	B	C	D	0.3-5m
	32	1240	1313	QSMT32/40-1240	R	A	B	C	D	0.3-5m
80mm（K）	4	240	313	QSMT04/80-240	R	A	B	C	D	0.3-5m
	6	400	473	QSMT06/80-400	R	A	B	C	D	0.3-5m
	8	560	633	QSMT08/80-560	R	A	B	C	D	0.3-5m
	10	720	793	QSMT10/80-720	R	A	B	C	D	0.3-5m
	12	880	953	QSMT12/80-880	R	A	B	C	D	0.3-5m
	14	1040	1113	QSMT14/80-1040	R	A	B	C	D	0.3-5m
	16	1200	1273	QSMT16/80-1200	R	A	B	C	D	0.3-5m
	18	1360	1433	QSMT18/80-1360	R	A	B	C	D	0.3-5m
	20	1520	1593	QSMT20/80-1520	R	A	B	C	D	0.3-5m
	22	1680	1753	QSMT22/80-1680	R	A	B	C	D	0.3-5m
	24	1840	1913	QSMT24/80-1840	R	A	B	C	D	0.3-5m
	26	2000	2073	QSMT26/80-2000	R	A	B	C	D	0.3-5m
	28	2160	2233	QSMT28/80-2160	R	A	B	C	D	0.3-5m
	30	2320	2393	QSMT30/80-2320	R	A	B	C	D	0.3-5m

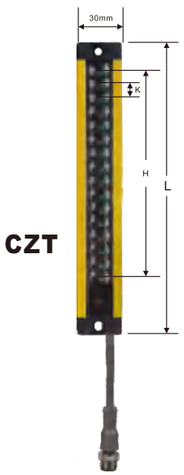
备注:如无特殊要求，检测距离默认为A图，需要检测距离达5m以上的请提前说明。
Note: If there is no special requirement, the detection distance defaults to A chart. If the detection distance is more than 5 meters, please specify in advance.

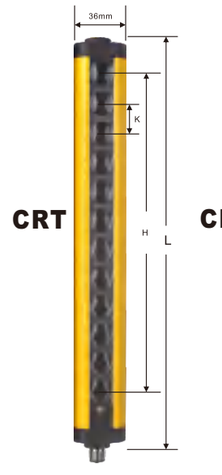
◆外观尺寸图
Appearance size chart

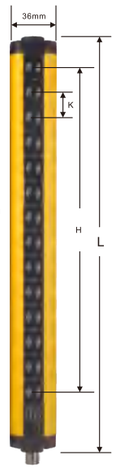






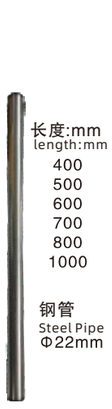




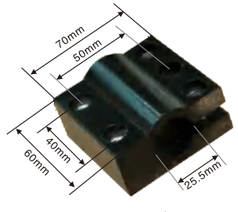


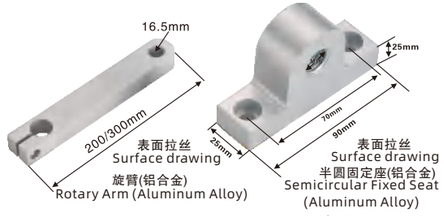
IP68Waterproof device

CAT/CST Mounting method at both ends

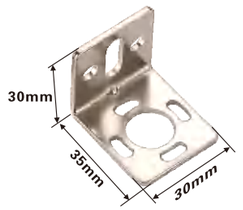


Tubular mounting bracket

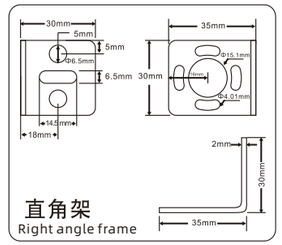




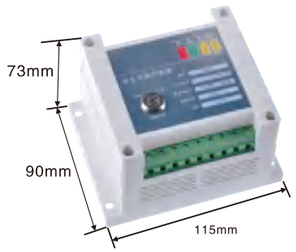
◆外观尺寸图
Appearance size chart



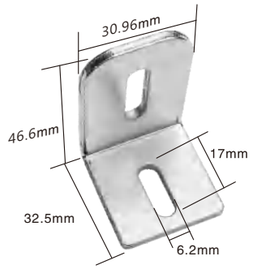
直角固定架
Right angle fixing frame



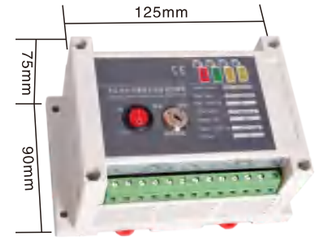
直角架
Right angle frame



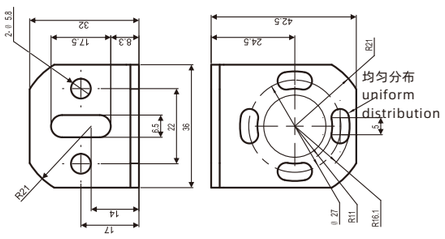
CCT\CAT内置控制器
CCT\CAT built-in controller

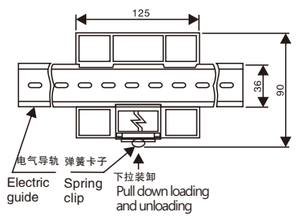


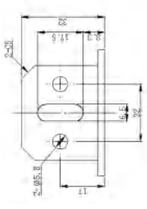
带防护套数据线
Data Line with
Protective Sheath

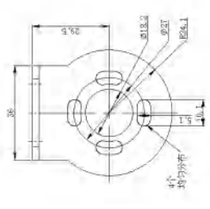


内置控制器QSN
QSN Built-in controller

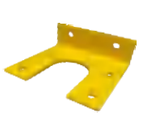






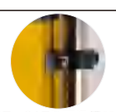


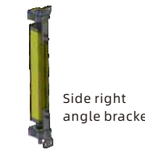
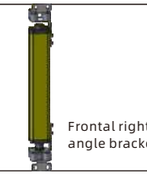
配件表 Accessory table

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	标配件 Standard

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CRFT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.