

TECHNICAL DATA SHEET

HIGHWAY AUTOMATIC VEHICLE CLASSIFICATION LIGHT CURTAIN QLV series



Contents

- Product description
- Technical data
- Product application
- Ordering information
- Outline size



Solutions



GB/T 19001-2016

Product description

The working principle of the vehicle separation light curtain is to achieve synchronized scanning of vehicles through linear arrangement of infrared light emission and reception. It converts the light signal into an electrical signal to comprehensively detect vehicle data. Compared with other detection technologies, infrared vehicle detection products are technologically mature, easy to install, have high-speed response, strong anti-interference capabilities, and can output rich vehicle technical information. They can reliably detect various types of special vehicles. Infrared vehicle scanning systems are mainly used in general highway toll stations, non-stop toll systems (ETC), automatic vehicle classification systems (AVC), highway weigh-in-motion systems (WIM), fixed over-height detection stations, customs vehicle management systems, and others.



Product application

1. Access control and security: Vehicle classification light curtains can be used in access control systems and security controls. They can detect vehicles entering or leaving specific areas and trigger corresponding operations, such as opening doors or activating alarms.
2. Highway toll stations: In highway toll stations, vehicle classification light curtains can be used to detect the entry and exit of vehicles, as well as vehicle billing. They can accurately measure the length and speed of vehicles to ensure accurate billing and smooth traffic flow.
3. Rail transit systems: In rail transit systems such as subways, light rails, and train stations, vehicle classification light curtains can be used to detect people or objects entering the track area to ensure passenger safety and prevent unnecessary accidents.

protective cover

The protective cover is made of stainless steel or aluminum alloy material to provide protection for the separator. It is equipped with built-in electric heating glass, temperature controller, and humidity controller. It automatically heats up when the humidity is too high or the temperature is too low, ensuring reliable use of the vehicle separator in humid areas, rainy or snowy weather, and cold seasons.



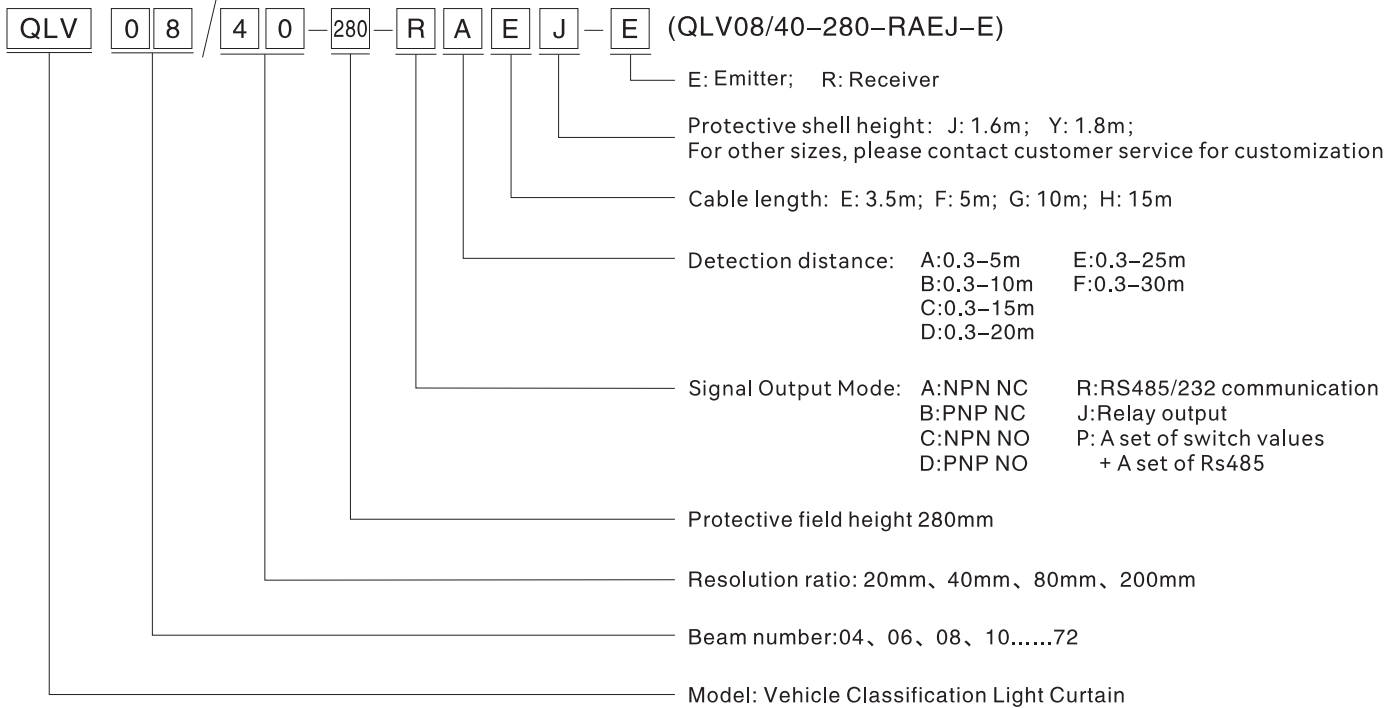
(Order separately)

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

Technical data

Basic data	
Product model	QLV series
Contains	A set safety light curtain and protective cover
Suitable for	QT series and QL series safety light curtains
Suitable for number of beams	4, 6, 8.....72
Suitable for beam resolution	20mm, 40mm, 80mm, 200mm
Detection field height	Detection height ≤1440mm safety light curtains
Protective cover height	1600mm and 1800mm optional (Contact customer service for customization of other sizes)
Protection distance	0.3-5m, 0.3-10m, 0.3-15m, 0.3-20m, 0.3-25m, 0.3-30m (optional)
Glass window length	≤1600mm
Protective cover data	
Shell material	Stainless steel or aluminum alloy material
Window material	Heatable glass
Type of fastening	Floor mounting, Mounting plate
Mounting material	Steel plate
Heating power supply	24V 10A
Main thermostat	Disc package Closing temperature 4°C Disconnecting temperature 29°C
Standby thermostat	Closure temperature of disc packaging 55°C and disconnection temperature 36°C
Humidity switch	Relative humidity of mechanical nylon membrane trigger switch is 20-80%.
Status indicator	Red LED light in front of heater when starting.
Temperature range	Normal operating temperature - 20°C+70°C.
Protection level	NEMA 3R (IEC IP54)

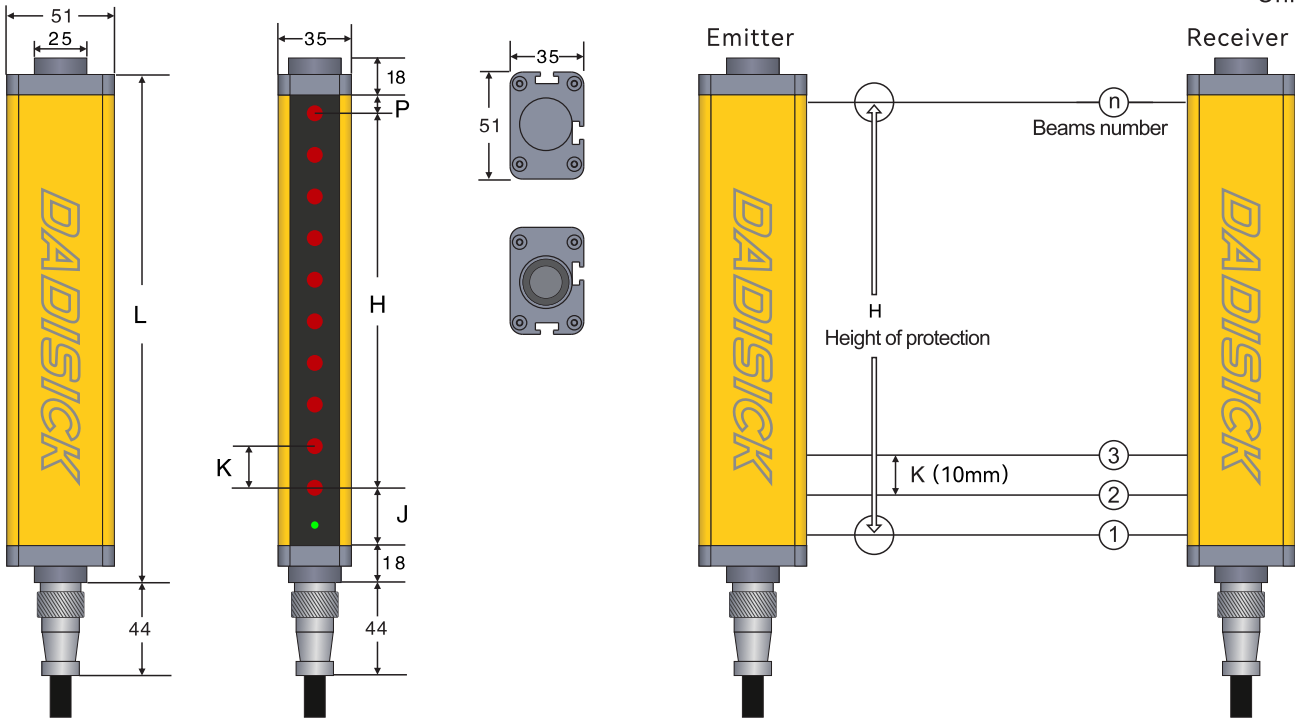
The specifications of QLV type safety light curtain are as follows:



(Note: Please select QT series for switch quantity and QL series for analog quantity.)

Safety light curtain dimensioned drawings

Unit: mm



Remarks: L:Total length of light screen H:Height of protected area K:Resolution ratio
L=18+P+H+J+18 H= (n-1) * K n:Beams number

K (mm)	20	40	80	200
P (mm)	10	20	40	20
J (mm)	25	25	25	25

QLV series ordering information

Suitable for: Safety light curtains, Security grating sensors

Resolution	Light beam	Protection height (H)	Total height (L)	Product model	Detection distance
20mm (K)	4	60	133	QLV04/40-60	0.3-5m
	6	100	173	QLV06/40-100	0.3-5m
	8	140	213	QLV08/40-140	0.3-5m
	10	180	253	QLV10/40-180	0.3-5m
	12	220	293	QLV12/40-220	0.3-5m
	14	260	333	QLV14/40-260	0.3-5m
	16	300	373	QLV16/40-300	0.3-5m
	18	340	413	QLV18/40-340	0.3-5m
	20	380	453	QLV20/40-380	0.3-5m
	22	420	493	QLV22/40-420	0.3-5m
	24	460	533	QLV24/40-460	0.3-5m
	26	500	573	QLV26/40-500	0.3-5m
	28	540	613	QLV28/40-540	0.3-5m
	30	580	653	QLV30/40-580	0.3-5m
	32	620	693	QLV32/40-620	0.3-5m

Resolution	Light beam	Protection height (H)	Total height (L)	Product model	Detection distance
40mm (K)	4	120	201	QLV04/40-120	0.3-5m
	6	200	281	QLV06/40-200	0.3-5m
	8	280	361	QLV08/40-280	0.3-5m
	10	360	441	QLV10/40-360	0.3-5m
	12	440	521	QLV12/40-440	0.3-5m
	14	520	601	QLV14/40-520	0.3-5m
	16	600	681	QLV16/40-600	0.3-5m
	18	680	761	QLV18/40-680	0.3-5m
	20	760	841	QLV20/40-760	0.3-5m
	22	840	921	QLV22/40-840	0.3-5m
	24	920	1001	QLV24/40-920	0.3-5m
	26	1000	1081	QLV26/40-1000	0.3-5m
	28	1080	1161	QLV28/40-1080	0.3-5m
	30	1160	1241	QLV30/40-1160	0.3-5m
	32	1240	1321	QLV32/40-1240	0.3-5m

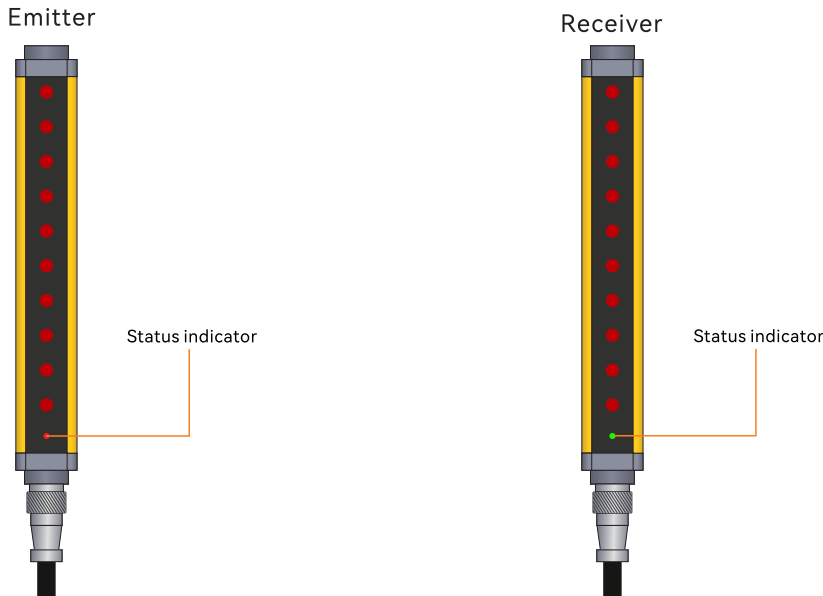
Resolution	Light beam	Protection height (H)	Total height (L)	Product model	Detection distance
80mm (K)	4	240	341	QLV04/80-240	0.3-5m
	6	400	501	QLV06/80-400	0.3-5m
	8	560	661	QLV08/80-560	0.3-5m
	10	720	821	QLV10/80-720	0.3-5m
	12	880	981	QLV12/80-880	0.3-5m
	14	1040	1141	QLV14/80-1040	0.3-5m
	16	1200	1301	QLV16/80-1200	0.3-5m
	18	1360	1461	QLV18/80-1360	0.3-5m
	20	1520	1621	QLV20/80-1520	0.3-5m
	22	1680	1781	QLV22/80-1680	0.3-5m
	24	1840	1941	QLV24/80-1840	0.3-5m
	26	2000	2101	QLV26/80-2000	0.3-5m
	28	2160	2261	QLV28/80-2160	0.3-5m
	30	2320	2421	QLV30/80-2320	0.3-5m
	32	2480	2581	QLV32/80-2480	0.3-5m

Note: If there are no special requirements, the default detection distance is 5m. If the detection distance needs to reach 5m or more, please explain in advance.

Resolution	Light beam	Protection height (H)	Total height (L)	Product model	Detection distance
200mm (K)	4	600	681	QLV04/200-600	0.3-5m
	6	1000	1081	QLV06/200-1000	0.3-5m
	8	1400	1481	QLV08/200-1400	0.3-5m
	10	1800	1881	QLV10/200-1800	0.3-5m
	12	2200	2281	QLV12/200-2200	0.3-5m
	14	2600	2681	QLV14/200-2600	0.3-5m
	16	3000	3081	QLV16/200-3000	0.3-5m

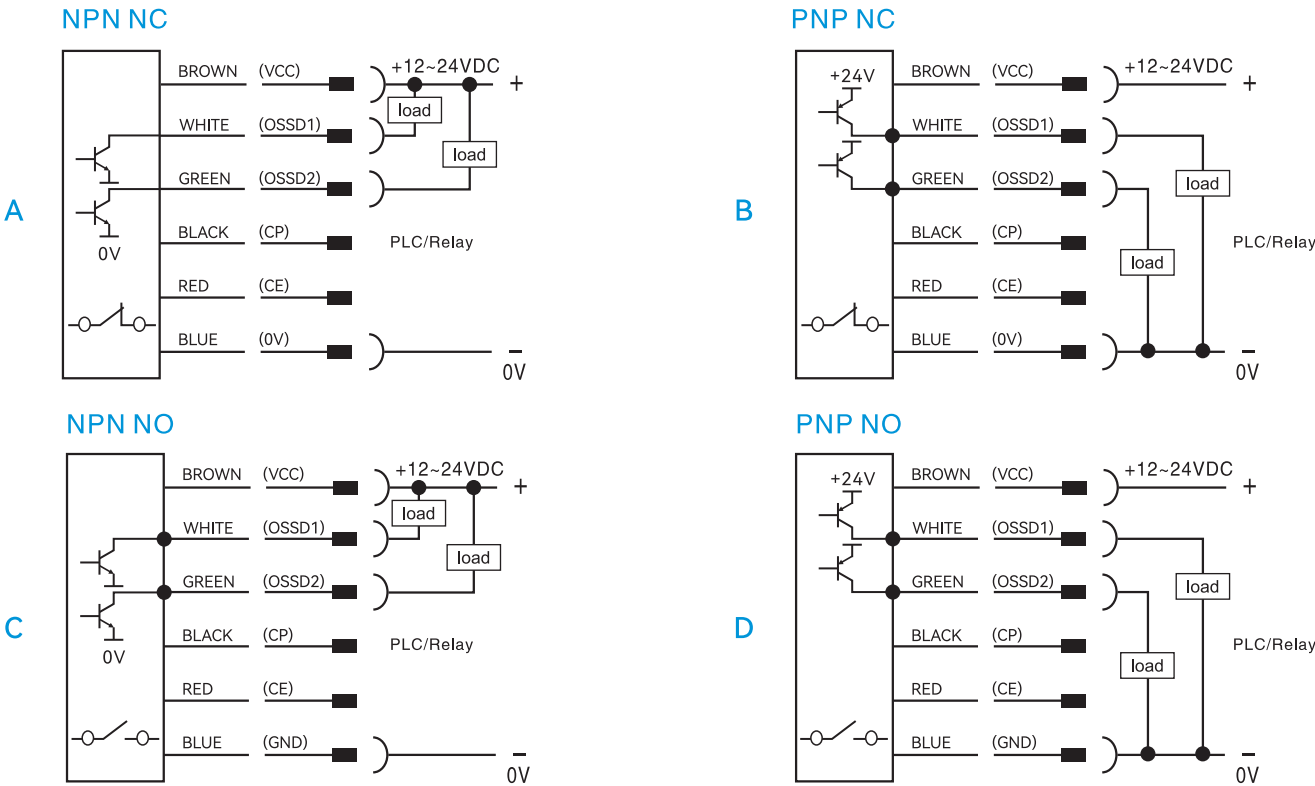
Note: If there are no special requirements, the default detection distance is 5m. If the detection distance needs to reach 5m or more, please explain in advance.

Safety light curtain operation and display
(Note: Please select QT series for switch quantity and QL series for analog quantity.)

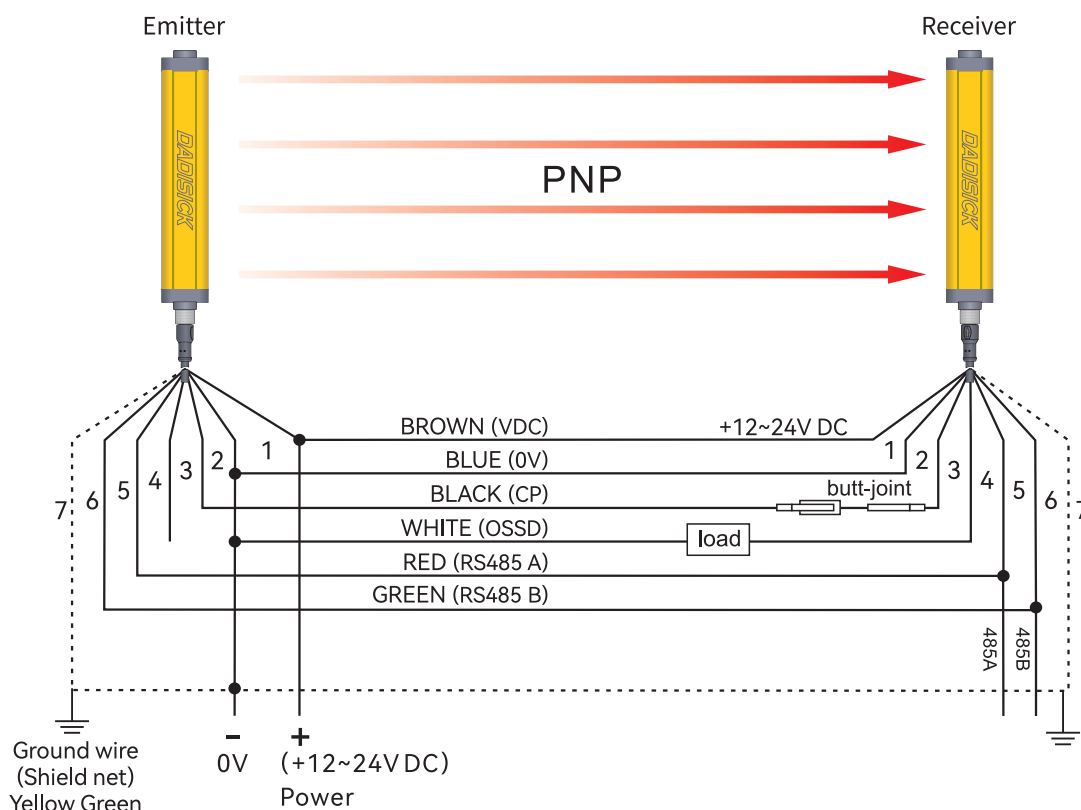


Normal operation of light curtain	LED Indicator status	Explain
Emitter	Red, always on	Turns on the power
	Receiver and emitter are red	Receiver and Emitter are not aligned
Receiver	Green	All light paths are connected
	Red	Light path shading
	Lights flashing	Interference or overstep detection range

1. Safety light curtain signal output selection (actual output of transistor working normally)

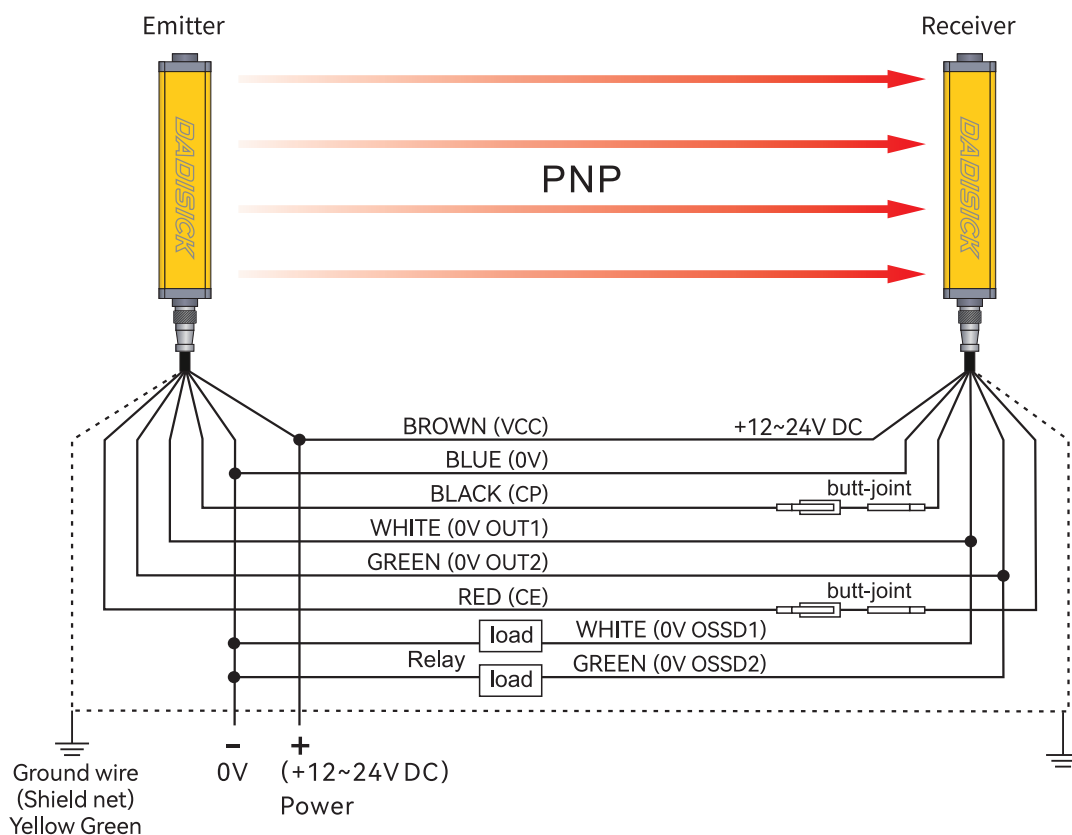


2. RS485/RS232 wiring diagram




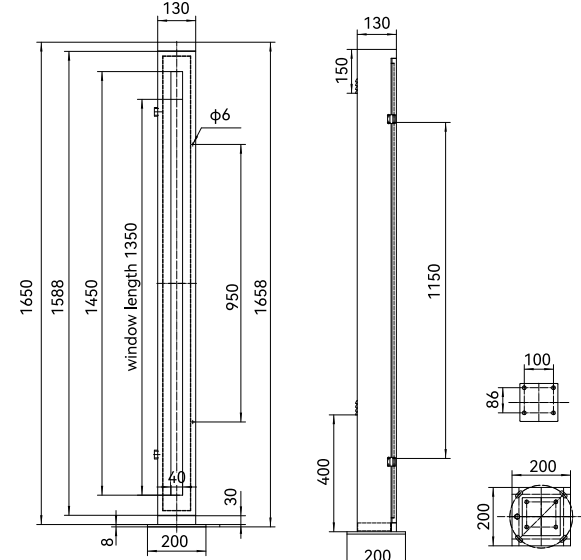
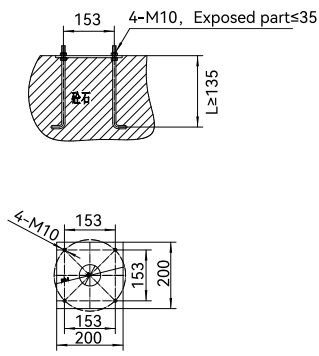
Can add a set of NPN or PNP outputs

3. PNP output wiring diagram



This figure is an example of PNP double output 7-pin wiring.

Outline size

Protective cover	Dimension (unit : mm)	
 (Order separately)	<p>1.2mm stainless steel</p>  <p>Height: 1000/1550/1650/1950/2440/2760/3250mm (optional)</p>	<p>Embedment:</p> 

Protective cover Wiring diagram:

