

# TECHNICAL DATA SHEET

## HIGHWAY AUTOMATIC VEHICLE CLASSIFICATION LIGHT CURTAIN DK-QLV series



Figure can vary

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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.



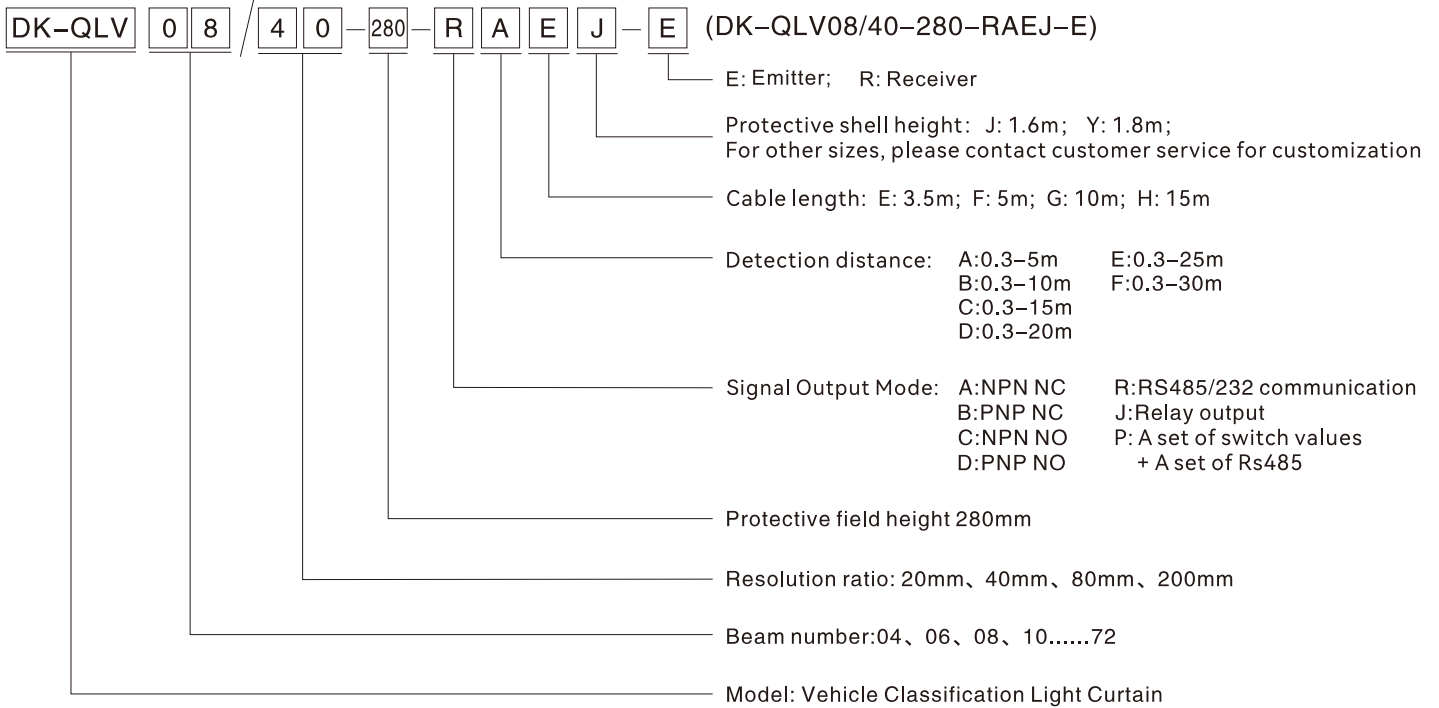
(Order separately)

- 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	<b>DK-QLV series</b>
Contains	A set safety light curtain and protective cover
Suitable for	DK-QT series and DK-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)

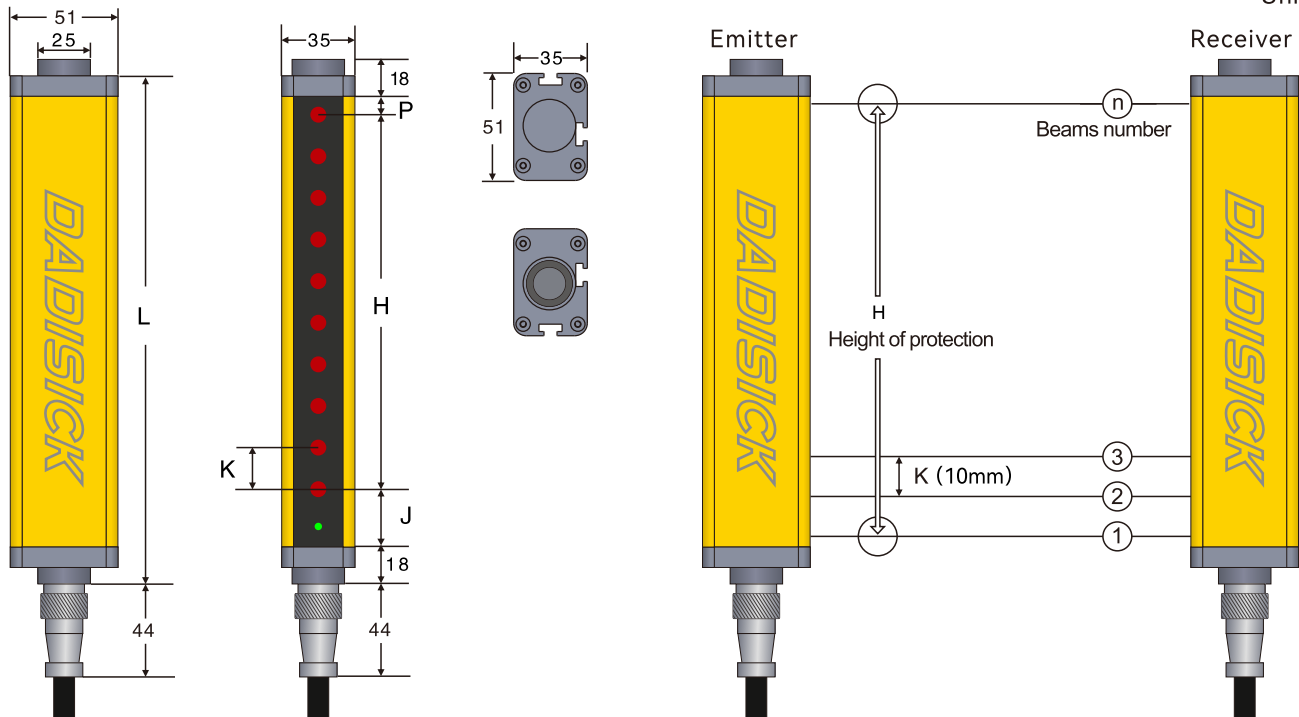
## The specifications of DK-QLV type safety light curtain are as follows:



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

### Safety light curtain dimensioned drawings

Unit: mm



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

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

## DK-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	DK-QLV04/40-60	0.3-5m
	6	100	173	DK-QLV06/40-100	0.3-5m
	8	140	213	DK-QLV08/40-140	0.3-5m
	10	180	253	DK-QLV10/40-180	0.3-5m
	12	220	293	DK-QLV12/40-220	0.3-5m
	14	260	333	DK-QLV14/40-260	0.3-5m
	16	300	373	DK-QLV16/40-300	0.3-5m
	18	340	413	DK-QLV18/40-340	0.3-5m
	20	380	453	DK-QLV20/40-380	0.3-5m
	22	420	493	DK-QLV22/40-420	0.3-5m
	24	460	533	DK-QLV24/40-460	0.3-5m
	26	500	573	DK-QLV26/40-500	0.3-5m
	28	540	613	DK-QLV28/40-540	0.3-5m
	30	580	653	DK-QLV30/40-580	0.3-5m
32	620	693	DK-QLV32/40-620	0.3-5m	

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

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

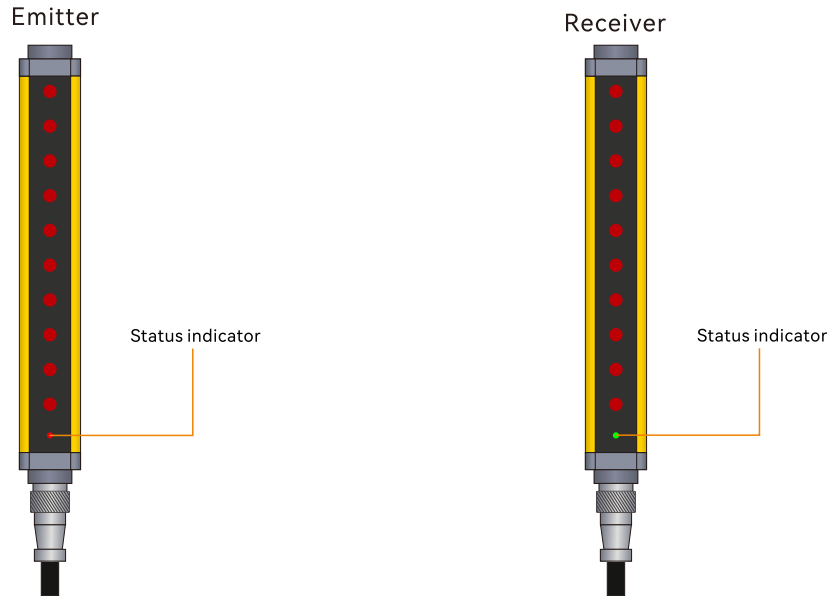
Note: If there are no special requirements, the default detection distance is 5m. If the detection distance needs to reach 5m or more, please explain in advance.

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

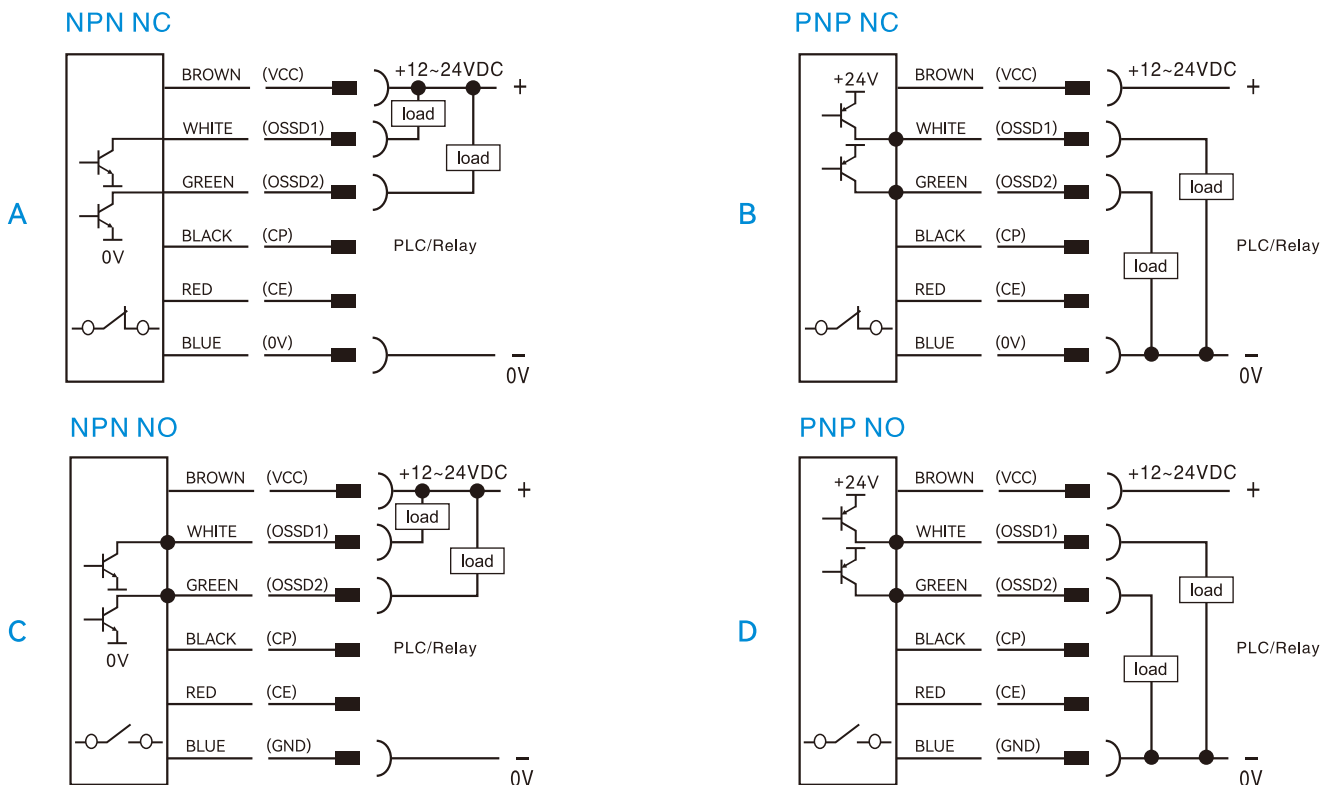
## Safety light curtain operation and display

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

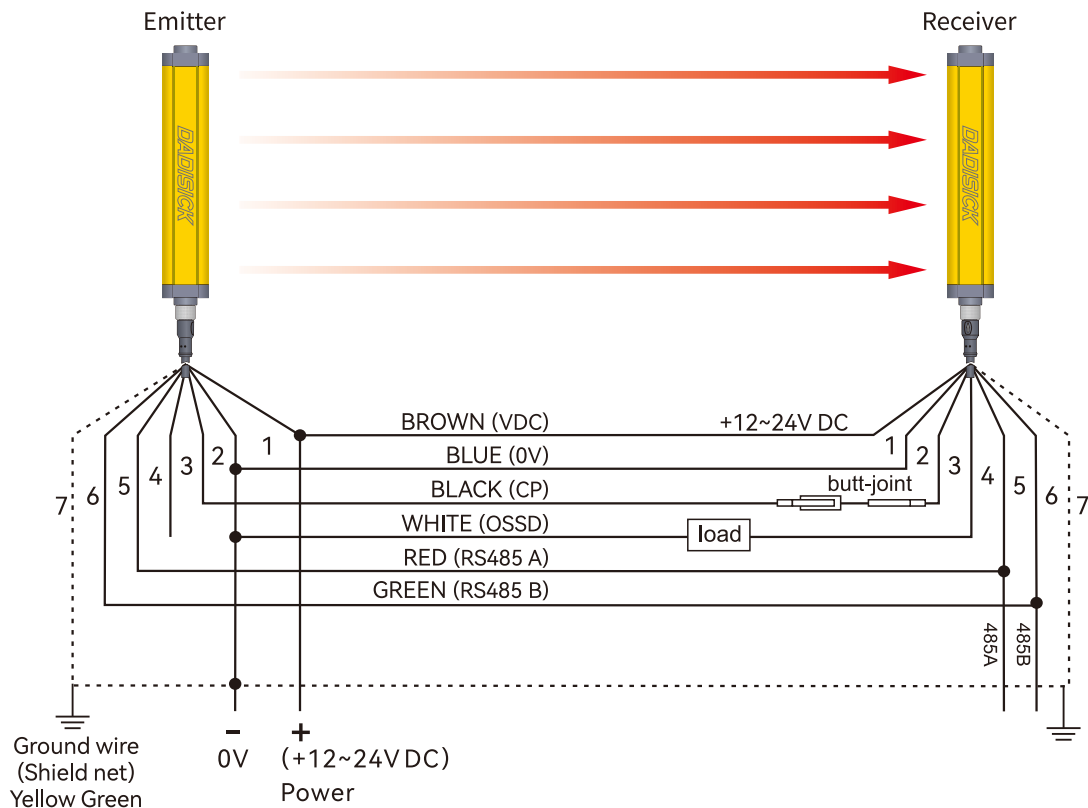


Normal operation of light curtain	LED Indicator status	Explain
Emitter	Red, always on	Turns on the power
	Receiver and emitter are red	Receiver and Emitter are not aligned
Receiver	Green	All light paths are connected
	Red	Light path shading
	Lights flashing	Interference or overstep detection range

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

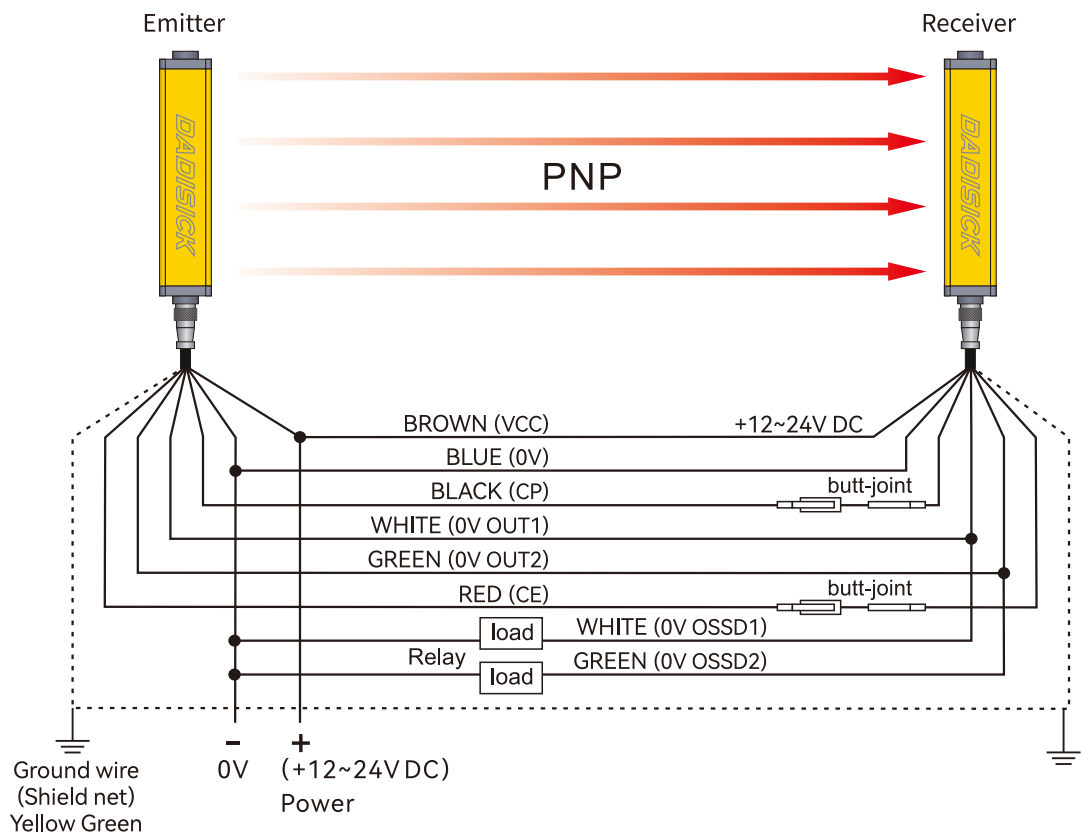


## 2. RS485/RS232 wiring diagram




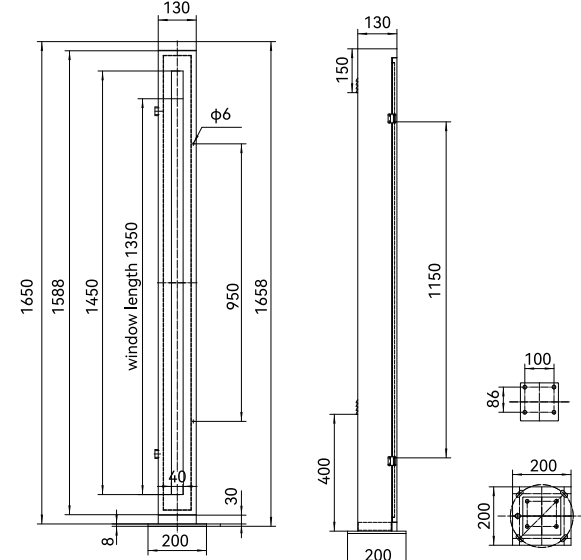
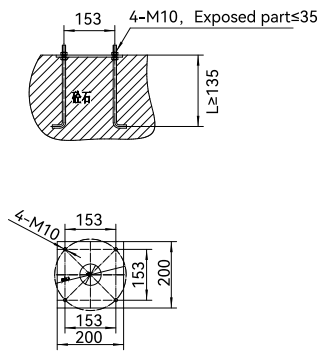
Can add a set of NPN or PNP outputs

## 3. PNP output wiring diagram



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

## Outline size

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

Protective cover Wiring diagram:

