DADISICK®

TECHNICAL DATA SHEET

SAFETY LIGHT CURTAIN SENSOR
Emitter: QMT150/10-1490-2BC-E
Receiver: QMT150/10-1490-2BC-R

Figure can vary

Contents

GB/T 19001-2016

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Product application

A. Light curtain can achieve full protection for the slider can be stopped at any position on the press machine.

B. The light curtain can only achieve upper dead point protection if the slider can not be stopped at any position on the press machine.

C. Realize the regional protection for the industry manipulator, injection molding machines, packaging equipment, automation equipment, assembly wires and other dangerous work area.

D. Used to detect and alarm object.

Technical data

Basic data of Receiver and Emitter

Standard packaging	
Product model	QMT150/10-1490-2BC-Eand QMT150/10-1490-2BC-R
Standard configuration	One receiver, one transmitter, two data lines, one right-angle rack, and one t-shaped screw
Light curtain form	Infrared radiation type
Application	Standard industrial environment - finger protection

Features	
Resolution ratio	10mm
Check the accuracy	15mm
Number of beams	150
Protection height	1490mm
Total height	1560mm
Detection distance	30-10000mm
Response time	≤15ms

Synchronization	Line synchronization
Consumption current	≤200mA
Output mode	2-circuit of PNP, with current of 500mA and voltage below 1.5V, polarity, short circuit and over-cutting protection
Output status	ON (receiving indicator green light)
Indicator light	Transmitter: power indicator light (red); receiver: output indicator light on (green), blackout (red)
Wavelength	850nm
Type of light	Infrared light (NIR), invisible
Function	Automatic reset

Mechanical data	
Overall dimension	51*35*1560mm
Housing material	Metal
Metal shell	Aluminium
Lens front screen material	Acrylic
Upper and lower cover materials	ABS reinforced nylon PA66+30% GF

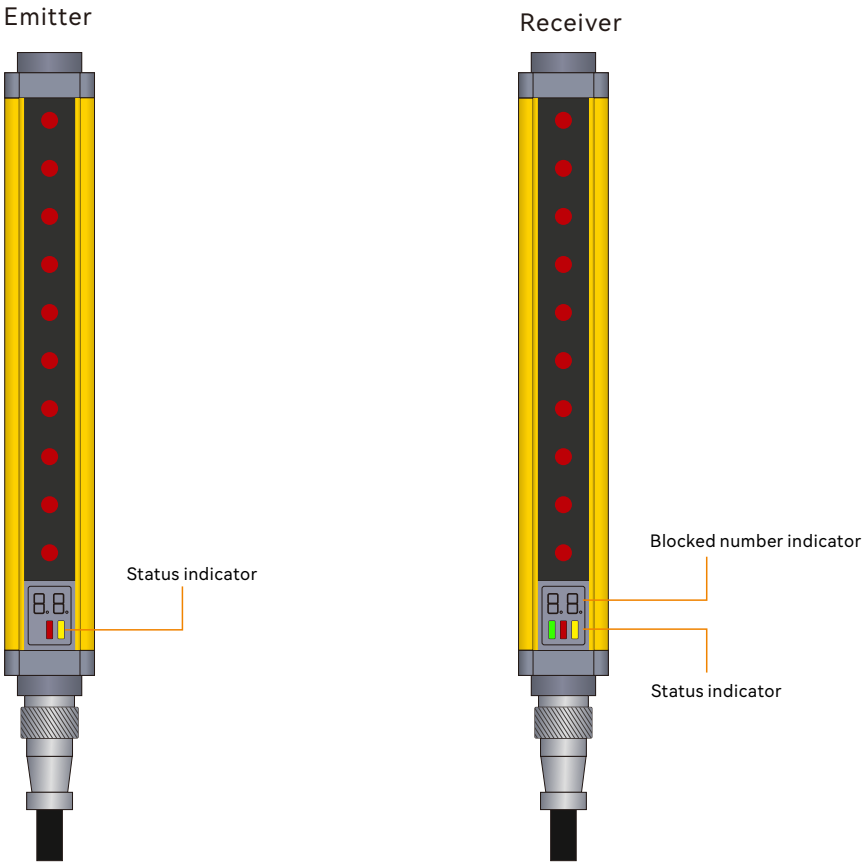
Environmental data	
Protection grade	IP65
Resistance to ambient light	Incandescent light: illumination of light-receiving surface 3000Lx; Sunlight: illumination of light-receiving surface 10000Lx
Ambient temperature	Working temperature: - 10~+40 ℃ (but not frozen), storage temperature: - 25 -+55 ℃
Ambient humidity	Working time: 35~85% RH, saving time: 35~95% RH

Performance data	
Protection circuit	Short circuit protection Overvoltage protection
Supply voltage	24VDC,-20...20%
Maximum current consumption	150mA
Fuse	2A half time interval

Output	
Number of safe output circuits (OSSD)	2-circuit
Type	Safety circuit output circuit OSSD
Minimum switch voltage high	18V
Minimum switch voltage low	2.5V
Typical switching voltage	22.5V
Voltage type	DC
Maximum current load	380mA
Load inductance	two thousand
Load capacity	zero point three
Maximum residual current	0.2mA
Typical residual current	0.002MA
Voltage drop	1.5V
Safety switch output 1	Connection pin 4, WHITE OSSD1
Switching element	Transistor PNP
Safety switch output 2	Connection pin 5, GREEN OSSD2
Switching element	Transistor PNP

Certificate	
CE TÜV	No.E8A 104143 0001 Rev.00
ROHS certification	No.BSTDG180811032001CC
CE TYPE 4	No.ICR Polska/VC/HS221214
UL	No. 4790783741.1-S
GB/T	No. HIC180327 GB/T 19001-2016 idt ISO 9001:2015

Operation and display



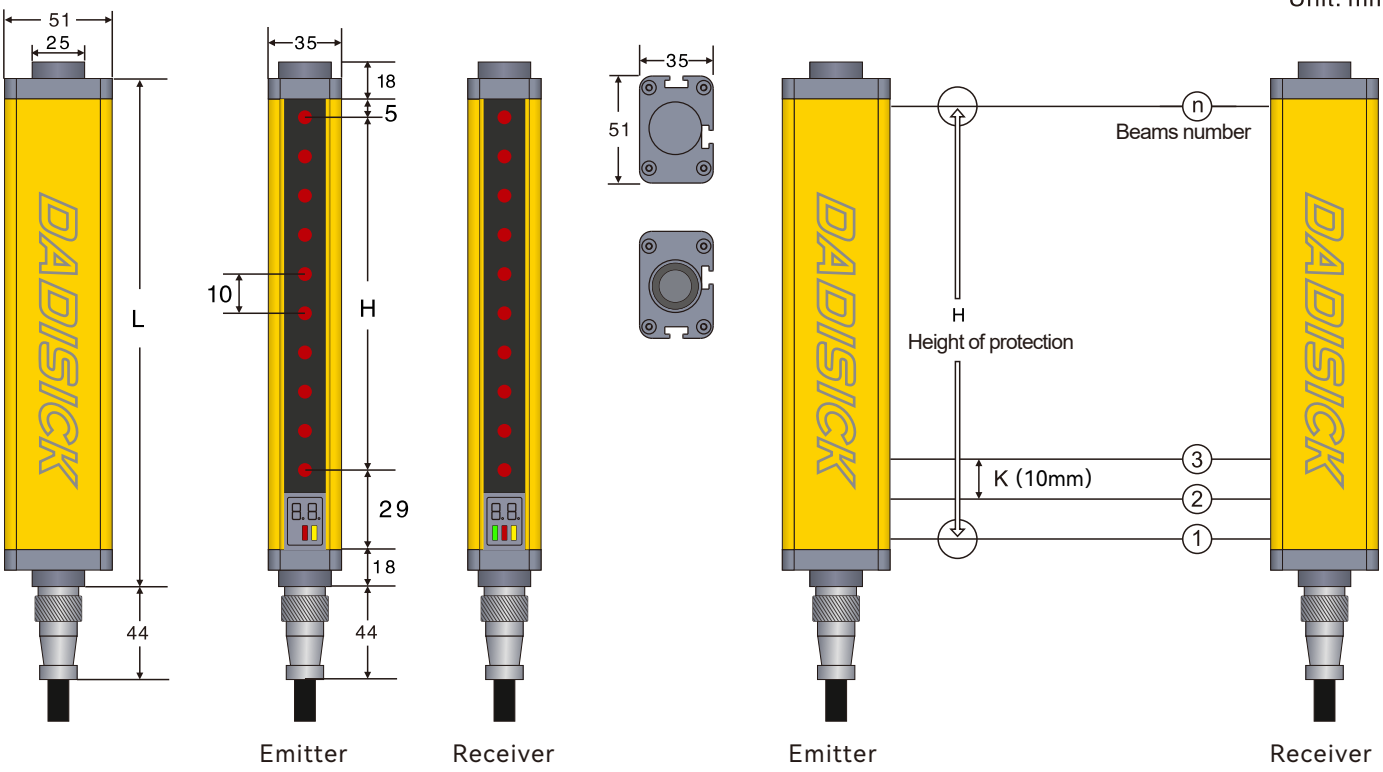
Status indicator	LED status Indicator	Explain
Emitter	Red and Yellwo, always on	Turns on the power

Status indicator	LED status Indicator	Explain
Receiver	Red, always on	Turns on the power
	Green and Red	All light paths are connected
	Red and Yellwo	The light is blocked or misaligned
	Lights flashing	Interference or overstep detection range

Dimensioned drawings

QMT 10mm series

Unit: mm



Remarks

L:Total length of light screen
L=18+5+H+29+18

H:Height of protected area
H= (n–1) * 10

K:Resolution ratio

n:Beams number

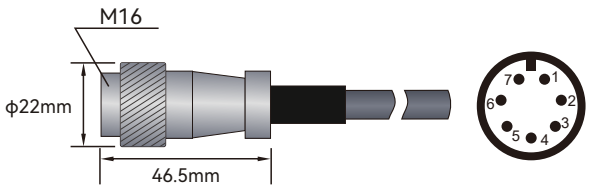
QMT 10mm specification list

Resolution	Light beam	Protection height (H)	Total height (L)	Product model	Signal output mode		Detection range
					Two outputs	PNP output	
10mm (K)	8	70	140	QMT08/10–70	2	PNP	0.3-10m
	10	90	160	QMT10/10–90	2	PNP	0.3-10m
	12	110	180	QMT12/10–110	2	PNP	0.3-10m
	14	130	200	QMT14/10–130	2	PNP	0.3-10m
	16	150	220	QMT16/10–150	2	PNP	0.3-10m
	18	170	240	QMT18/10–170	2	PNP	0.3-10m
	20	190	260	QMT20/10–190	2	PNP	0.3-10m
	22	210	280	QMT22/10–210	2	PNP	0.3-10m
	24	230	300	QMT24/10–230	2	PNP	0.3-10m
	26	250	320	QMT26/10–250	2	PNP	0.3-10m
	28	270	340	QMT28/10–270	2	PNP	0.3-10m
	30	290	360	QMT30/10–290	2	PNP	0.3-10m
	32	310	380	QMT32/10–310	2	PNP	0.3-10m
	34	330	400	QMT34/10–330	2	PNP	0.3-10m
	36	350	420	QMT36/10–350	2	PNP	0.3-10m
	38	370	440	QMT38/10–370	2	PNP	0.3-10m
	40	390	460	QMT40/10–390	2	PNP	0.3-10m
	42	410	480	QMT42/10–410	2	PNP	0.3-10m
	44	430	500	QMT44/10–430	2	PNP	0.3-10m
	46	450	520	QMT46/10–450	2	PNP	0.3-10m
	48	470	540	QMT48/10–470	2	PNP	0.3-10m
	50	490	560	QMT50/10–490	2	PNP	0.3-10m
	52	510	580	QMT52/10–510	2	PNP	0.3-10m
	54	530	600	QMT54/10–530	2	PNP	0.3-10m
	56	550	620	QMT56/10–550	2	PNP	0.3-10m
	58	570	640	QMT58/10–570	2	PNP	0.3-10m
	...	...	...	...	2	PNP	0.3-10m
	196	1950	2020	QMT196/10–1950	2	PNP	0.3-10m
	198	1970	2040	QMT198/10–1970	2	PNP	0.3-10m
	200	1990	2060	QMT200/10–1990	2	PNP	0.3-10m

Electrical connection

Electrical interface	
Number of interfaces	2 (receiver and transmitter)
Type	M16 connector, 7-pin
Interface metal	Copper nickel plating
Plug material	kirsite
Rated current （A）	5A
Contact DC （AC V）	Φ1*5
working voltage （AC V）	500V
pressurization （AC V）	1500V
contact resistance	5MΩ
insulation resistance	2000MΩ
Allowable typical conductor section	0.25mm²
Maximum link cable	100M
Maximum allowable carrying current	4.9A
Cable material	PVC
Shielding	shielded

Cable description:



7-pin M16 cable connector straight
3m waterproof cable

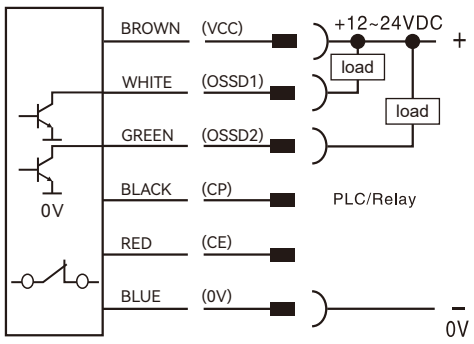
Emitter Wiring diagram		
Pin number	Line color	Name
1	BROWN	24V DC
2	BLUE	0V
3	BLACK	CP
4	WHITE	NC
5	GREEN	NC
6	RED	CE
7	YELLOW	Ground wire

Receiver Wiring diagram		
Pin number	Line color	Name
1	BROWN	24V DC
2	BLUE	0V
3	BLACK	CP
4	WHITE	OSSD1
5	GREEN	OSSD2
6	RED	CE
7	YELLOW	Ground wire

1. QMT signal output selection (actual output of transistor working normally)

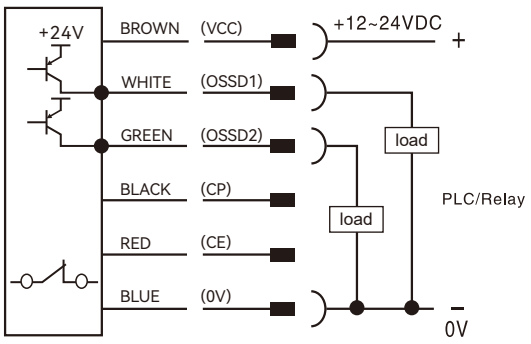
NPN NC

A



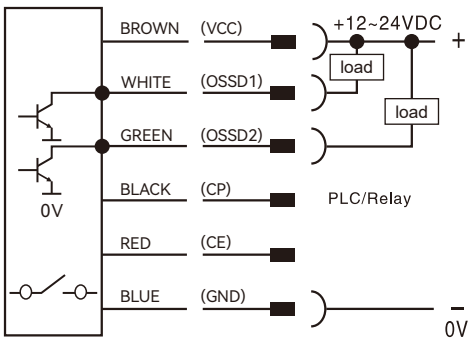
PNP NC

B



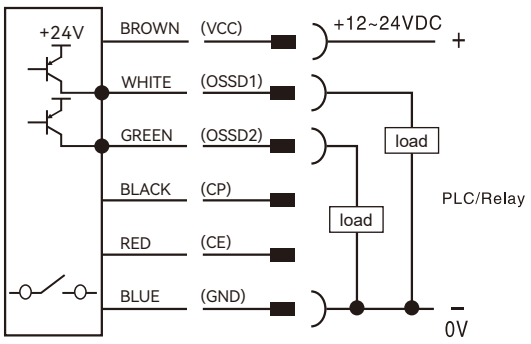
NPN NO

C

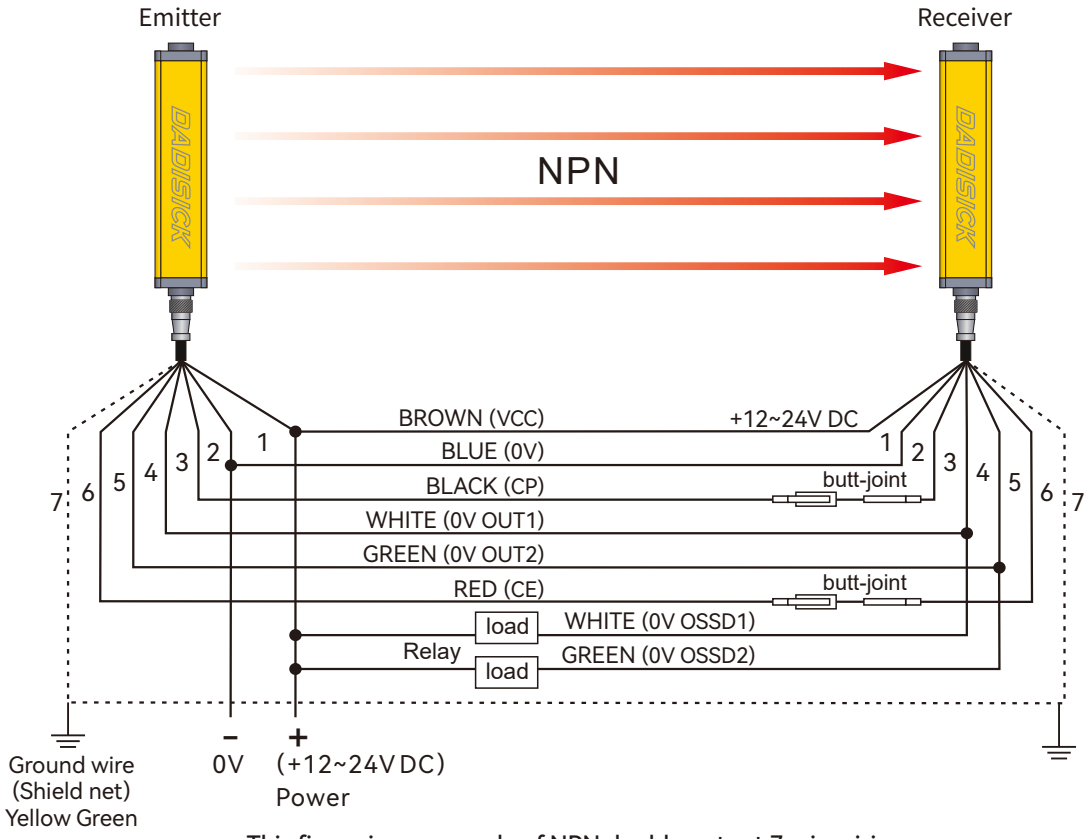


PNP NO

D

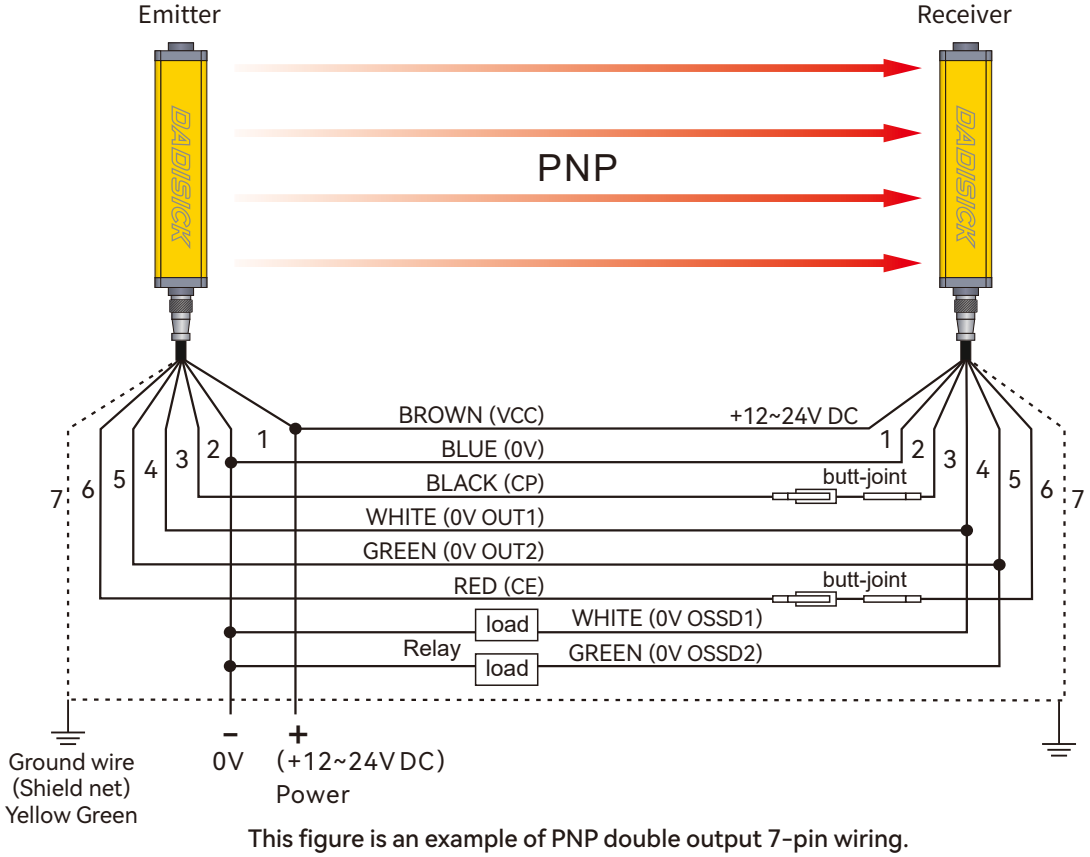


2. NPN output wiring diagram



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

3. PNP output wiring diagram

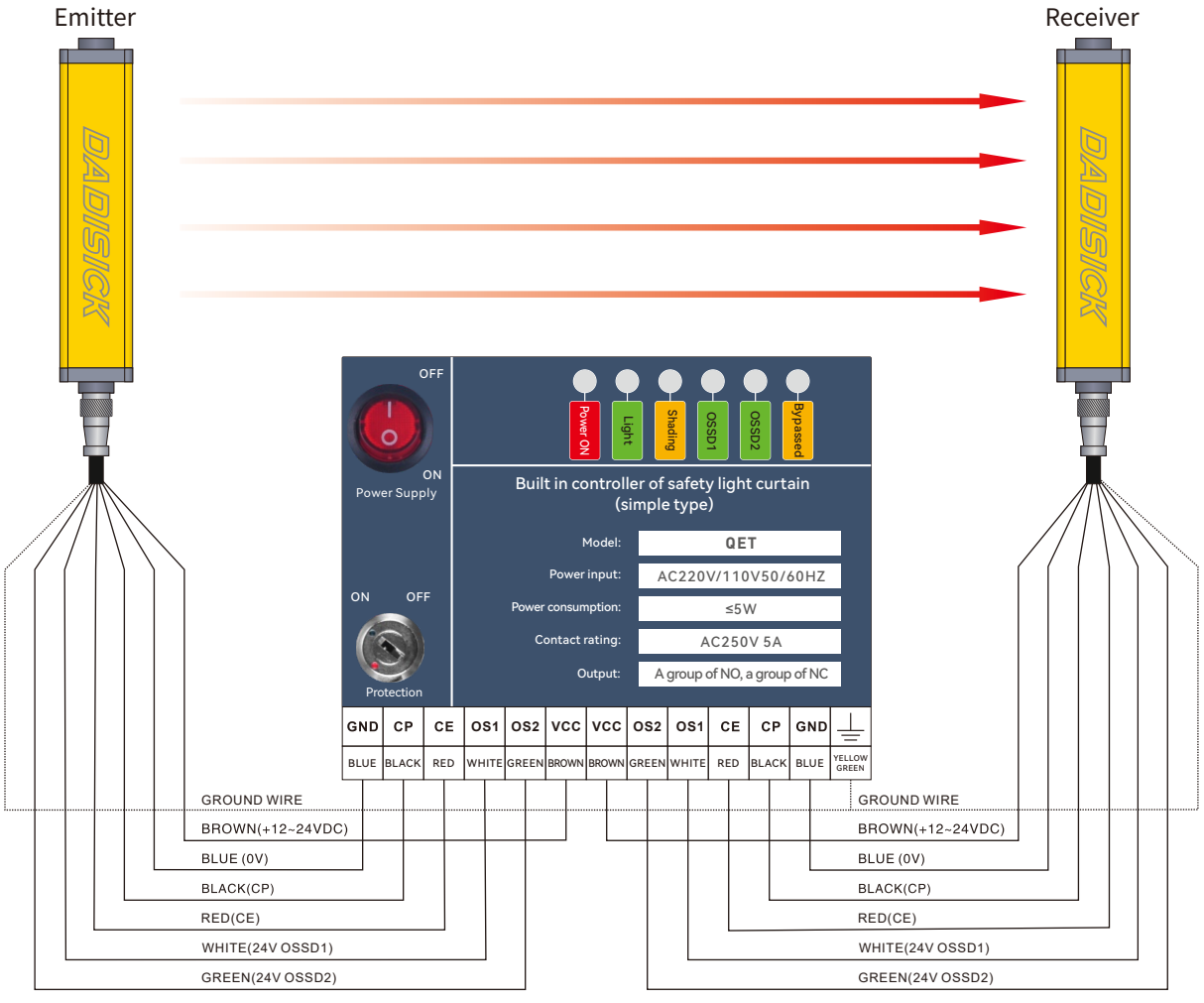


This figure is an example of PNP double output 7-pin wiring.

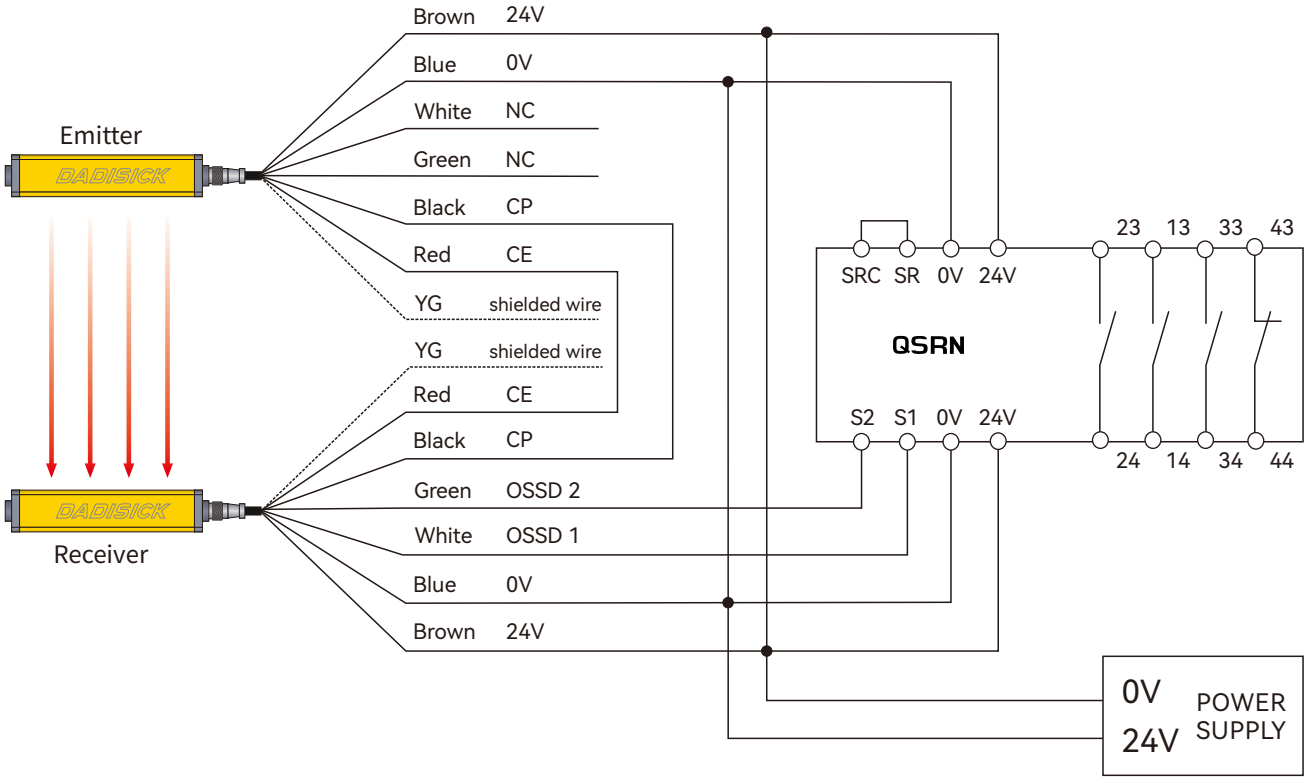
4. Selection of safety light curtain controller

Name	Order separately	Model	Descriptions
Built-in controller		QET	Used to monitor the signal processing of QT series light curtain, and output one group of NO and one group of NC.
Safety relay		QSRN	QSRN safety relays have three groups of NO and one group of NC, with strong control capabilities. They are suitable for various signal monitoring in industrial places with high safety requirements, including emergency stop signals, safety door opening and closing signals, safety light curtain signals, and two-handed button signals.
Safety relay	  Multifunctional switching switch	Ter-A	Equipped with a mode switch, it can be used for most safety components, such as light curtains, safety switches, carpet contacts, two handed switches, etc.Automatic/manual reset paddles for quick configuration.Dual channel monitoring circuit, safe and reliable.
Light curtain relay		QET-1	Output conversion between NC and NO for QT series light curtain.

4.1 Wiring diagram of QET built-in controller

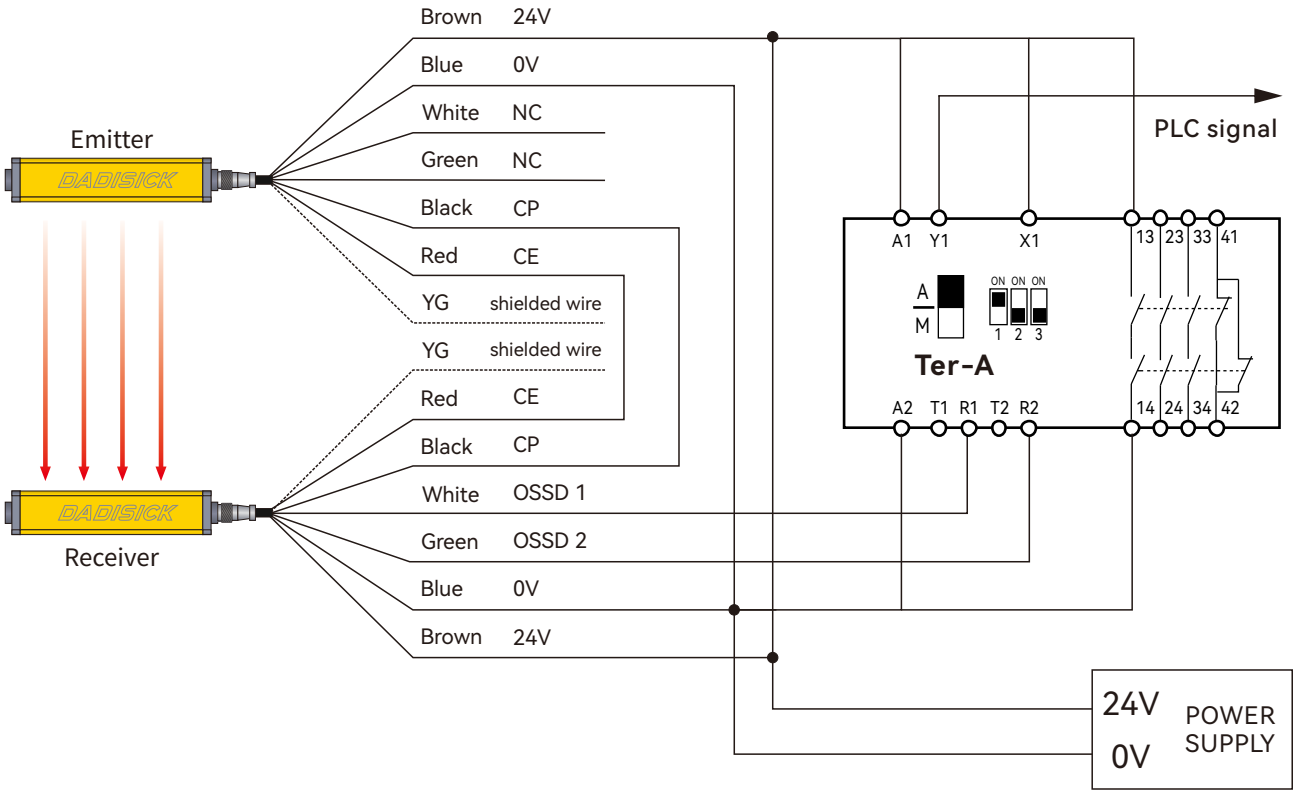


4.2 Wiring diagram of QSRN safety relay

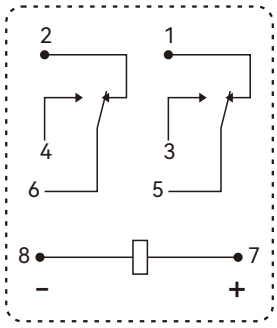


4.3 Wiring diagram of Ter-A safety relay

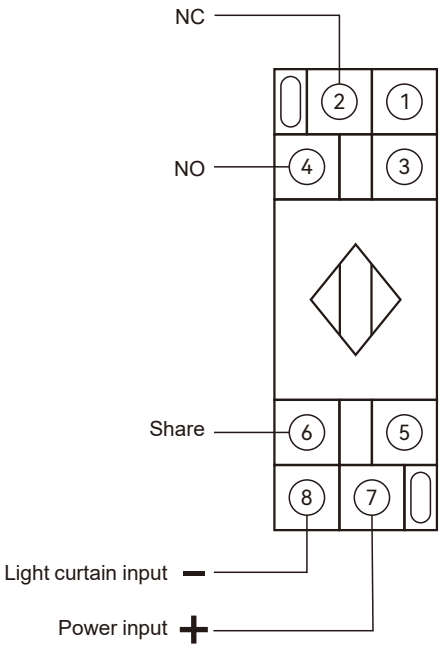
Dual channel light curtain PNP switch safety input, with automatic reset and PLC signal output.



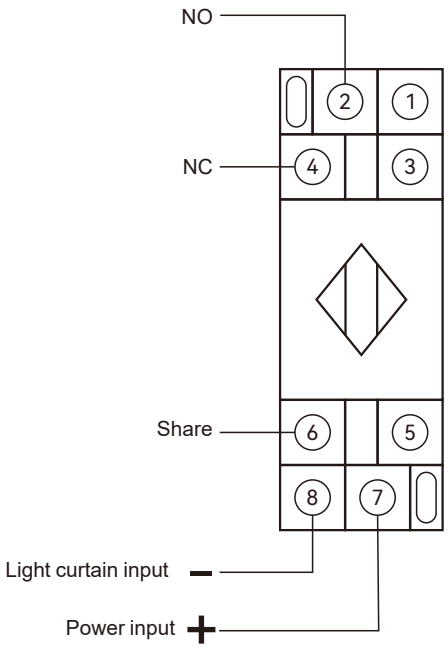
4.4 Wiring diagram of QET-1 light curtain relay



Circuit diagram



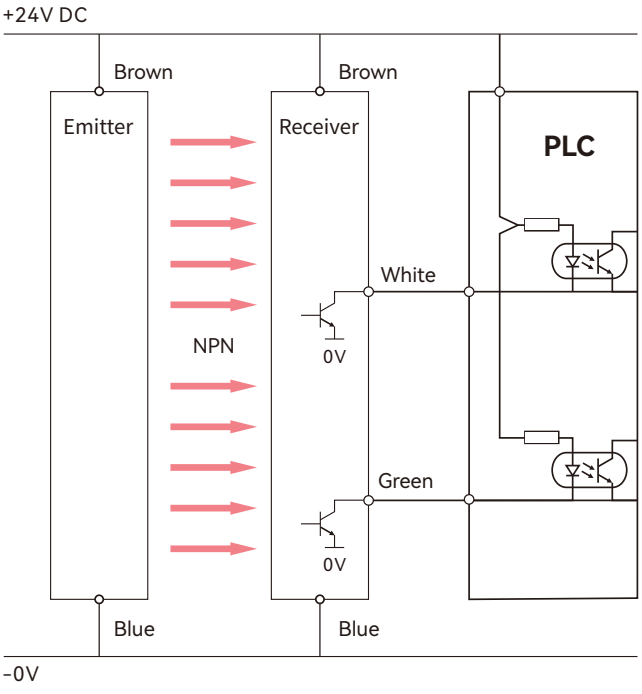
When not powered on



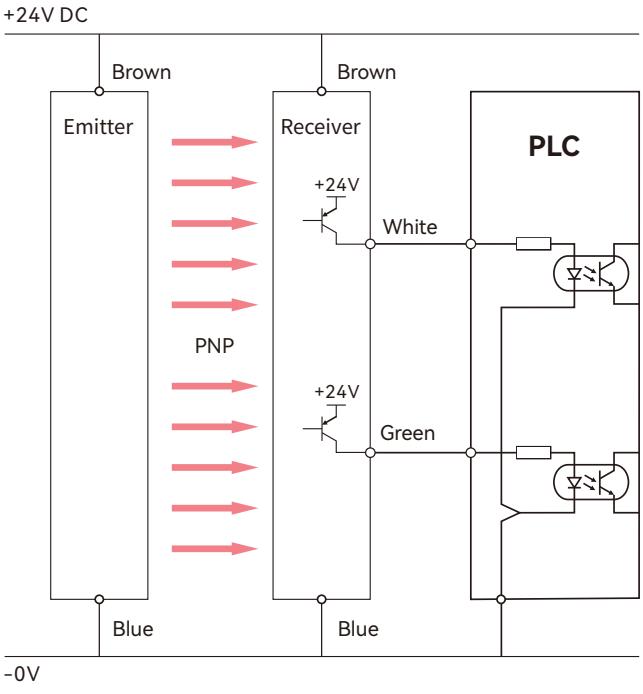
When powered on

4.5 Wiring between light curtain and PLC and one-chip computer system

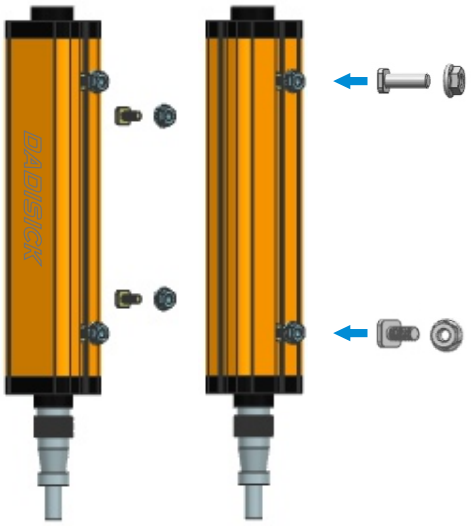
NPN wiring:



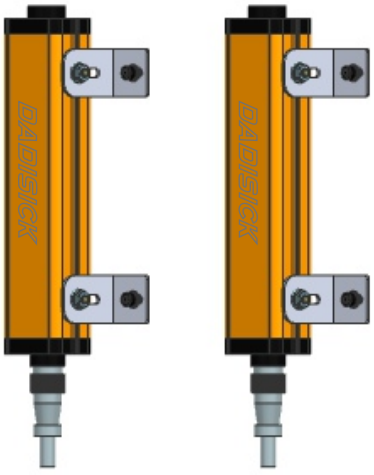
PNP wiring:



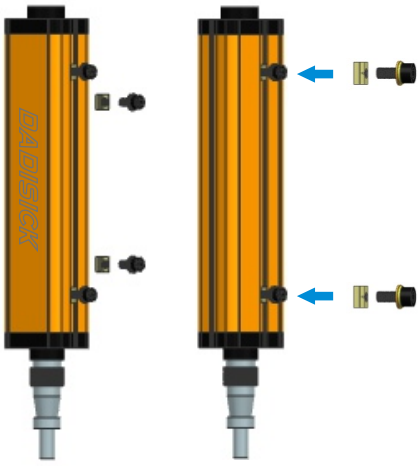
Accessories



1. Installation method of T-shaped screws on the back
(Original accessories)

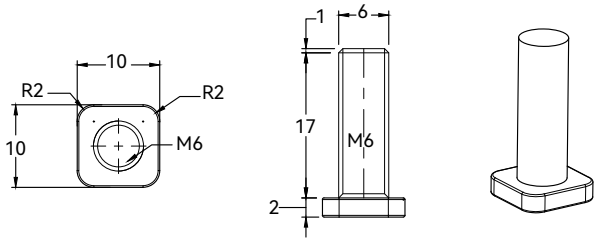


2. Installation method of side right angle bracket
(Original accessories)



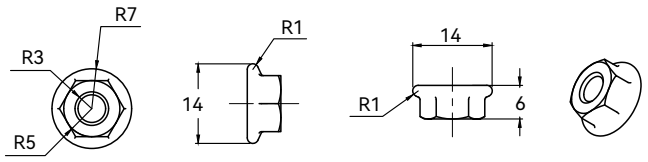
3. Installation method of convex nut
(Optional accessories)

T-screw	Model: QCA-02-1



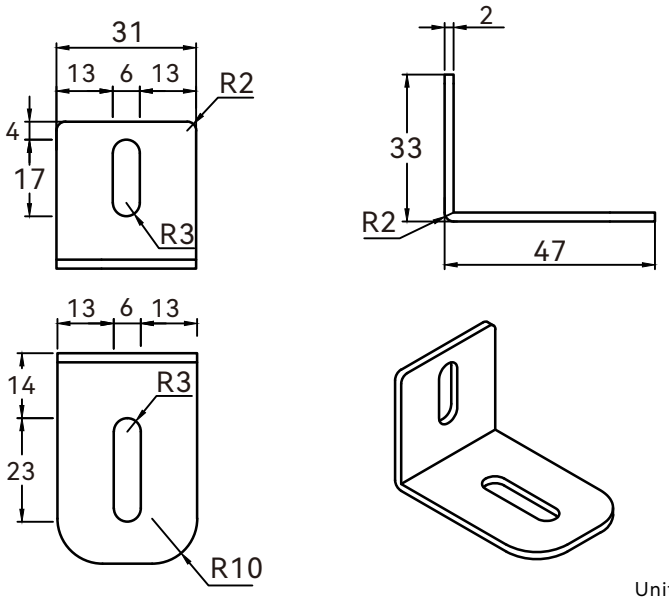
Unit:mm

Flange nut M6	Model: QCA-02-2



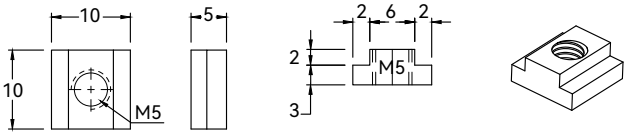
Unit:mm

Side mounting bracket	Model: QCA-05



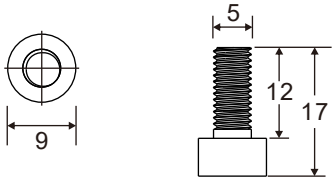
Unit:mm

Raised nut	Model: QCA-03-1

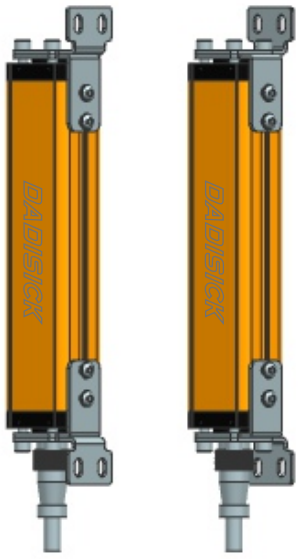


Unit:mm

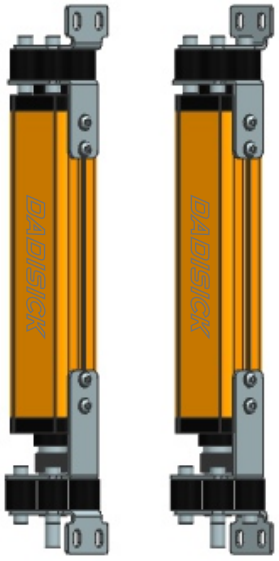
M5 screw	Model: QCA-03-2



Unit:mm

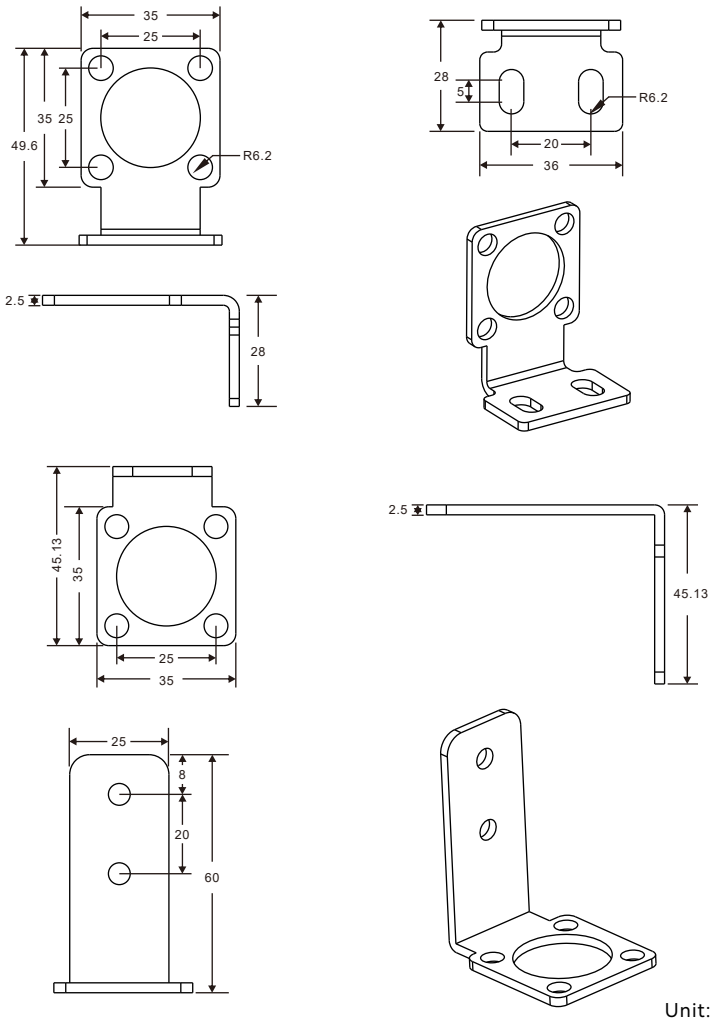


4.Installation method of right angle brackets at both ends
(Order separately)



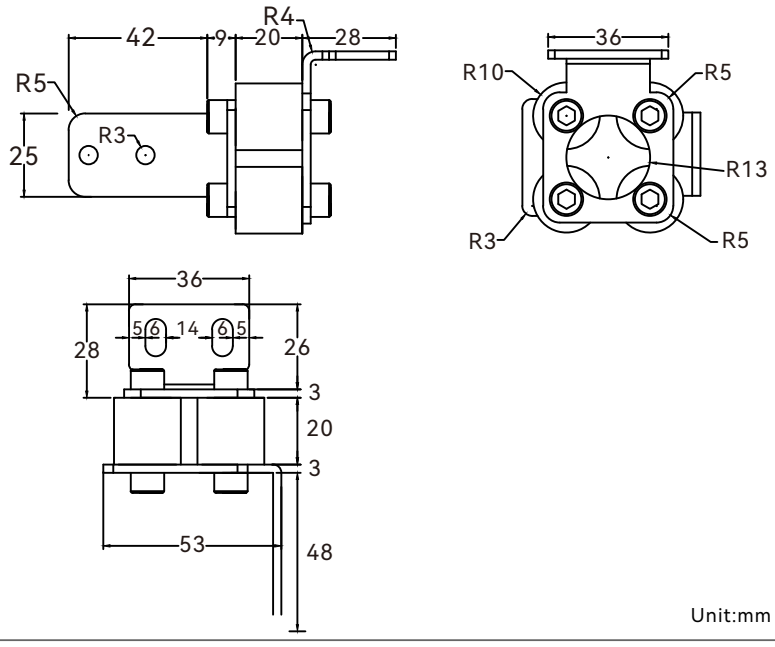
5.Shockproof installation method of right angle brackets at both ends
(Order separately)

Right angle brackets at both ends	Model: QA-02

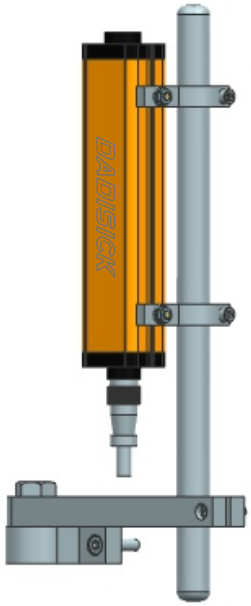


Unit:mm

Shockproof right angle brackets	Model: QA-01



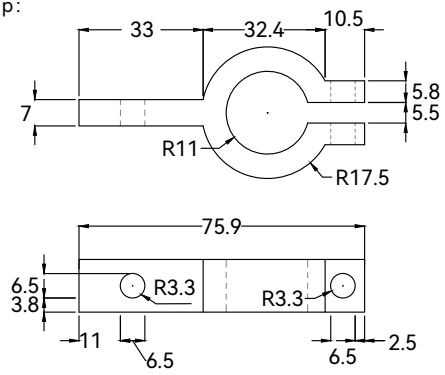
Unit:mm

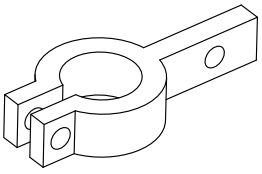


6.Stainless steel bracket installation
(Order separately)

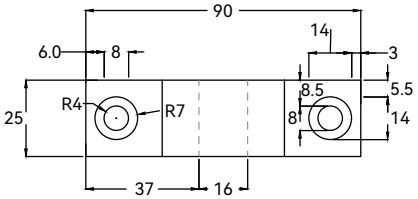
Stainless steel bracket installation	Model: QCA-01

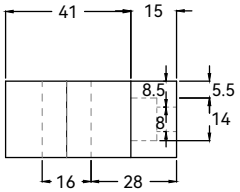
Clip:

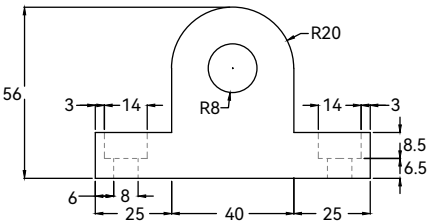


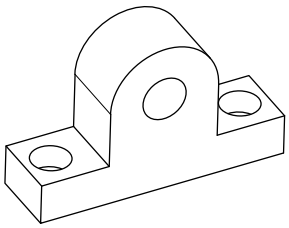


Aluminum round:

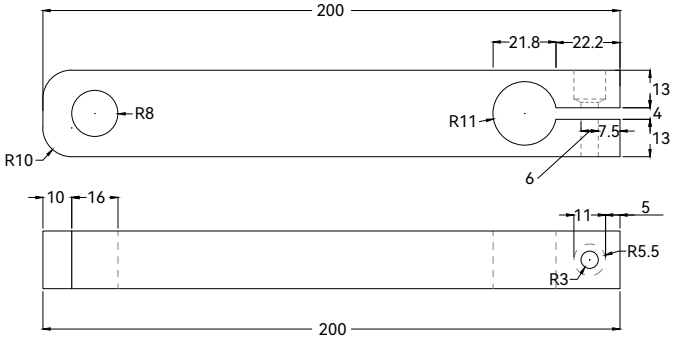


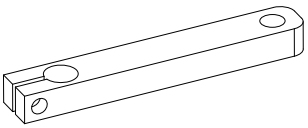




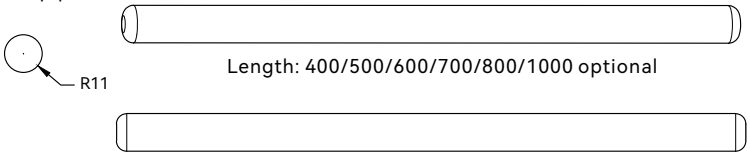


Aluminum arm:





Steel pipe:



Unit:mm