

TECHNICAL DATA SHEET

SAFETY LIGHT CURTAIN SENSOR Emitter and Receiver EQT series

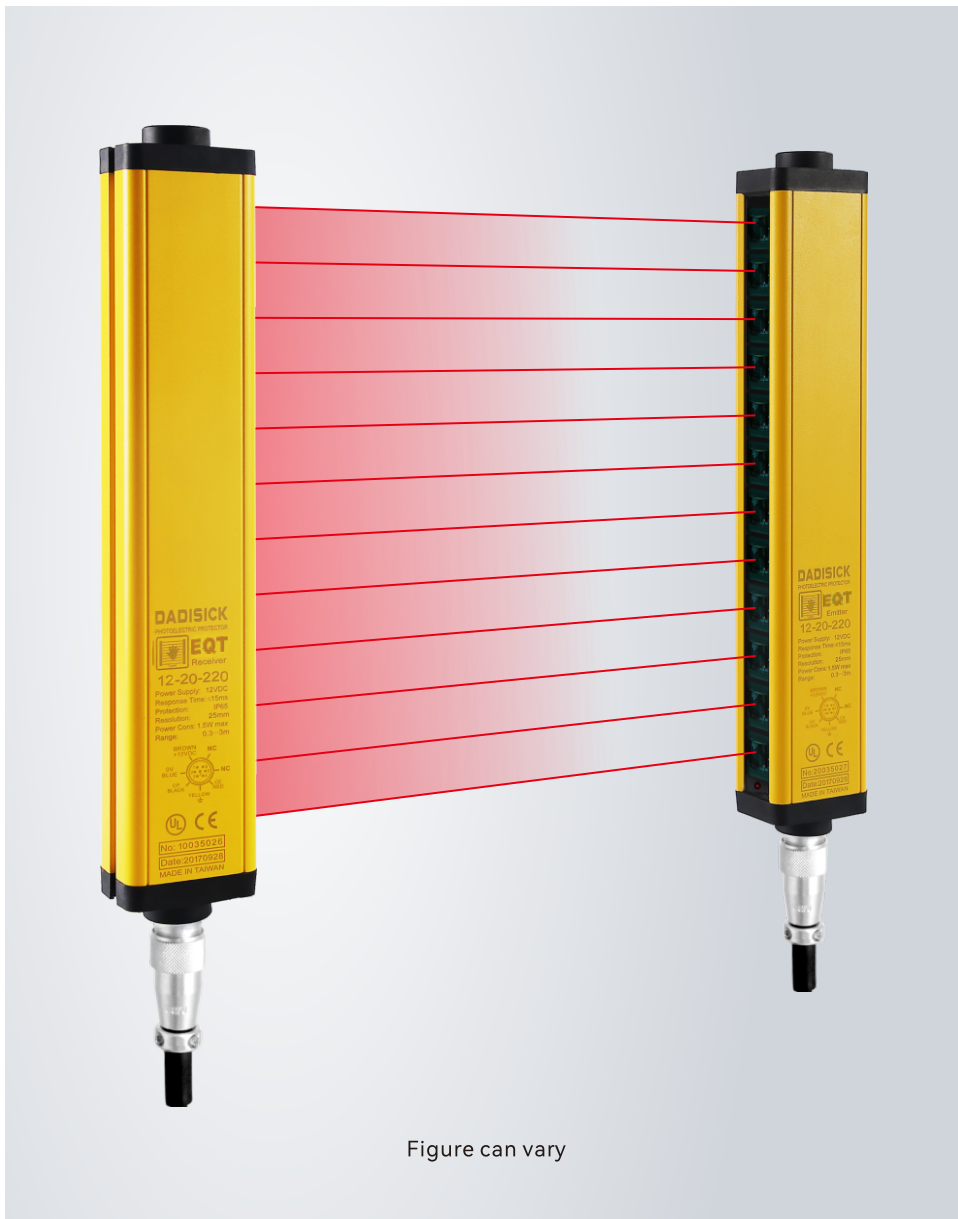


Figure can vary

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Solutions

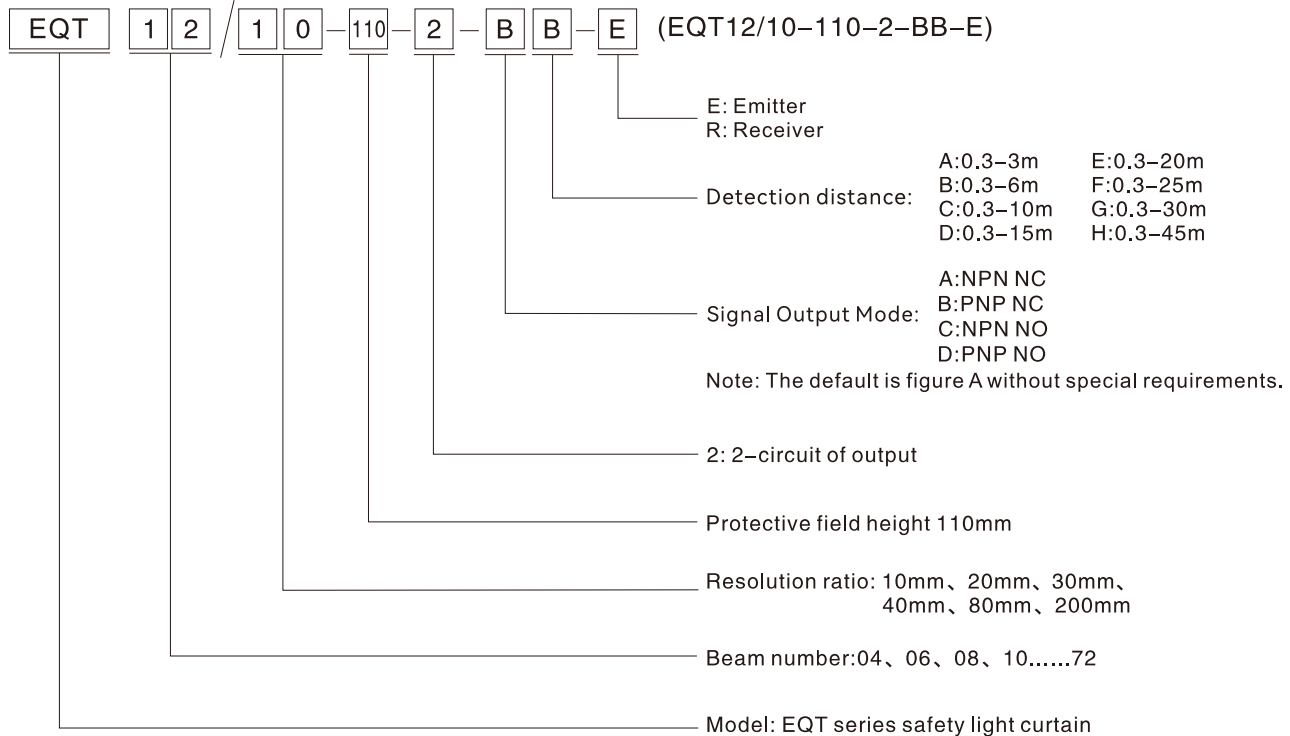


GB/T 19001-2016

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.

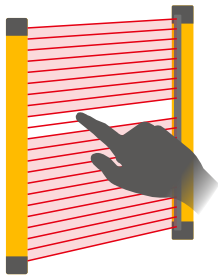
The specifications of EQT type safety light curtain are as follows:



Resolution ratio

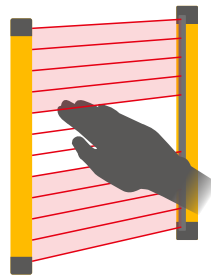
Depending on the usage environment and requirements, it is important to choose the appropriate beam spacing

Finger protection



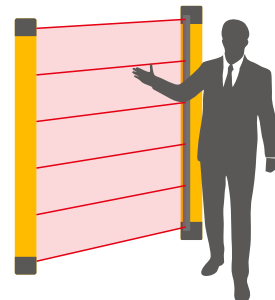
Detection capability
10mm
diameter

Hand protection



Detection capability
20/30/40mm
diameter

Arm/body protection



Detection capability
80/200mm
diameter

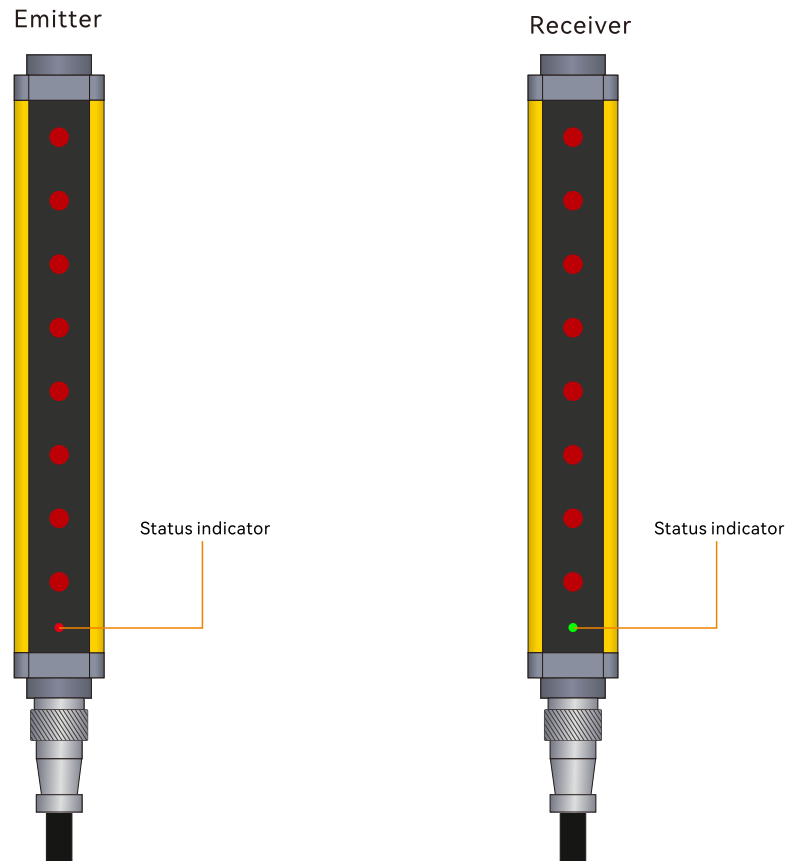
Technical data






Basic data of Receiver and Emitter

Standard packaging	
Product model	EQT series
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
Features	
Resolution ratio	10mm, 20mm, 30mm, 40mm, 80mm, 200mm
Check the accuracy	18mm, 28mm, 38mm, 48mm, 88mm, 208mm
Number of beams	04、06、08、10.....72
Overall dimension	51mm*35mm*L, L is the length of emitter and receiver.
Detection distance	30-6000mm (Default 30-6000mm, customer service can be contacted to customize 30-45000mm.)
Response time	≤15ms
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	
Housing material	Metal
Metal shell	Aluminium
Lens front screen material	Acrylic
Upper and lower cover materials	ABS reinforced nylon PA66+30% GF
Performance data	
Protection circuit	Short circuit protection Overvoltage protection
Supply voltage	24VDC,-20...20%
Maximum current consumption	150mA
Fuse	2A half time interval
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 °C (but not frozen), storage temperature: - 25 ~+55 °C
Ambient humidity	Working time: 35~85% RH, saving time: 35~95% RH

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/HS221222
UL	No. 4790783741.1-S
ISO	No. HIC180327 GB/T 19001-2016 / ISO 9001:2015

Operation and display

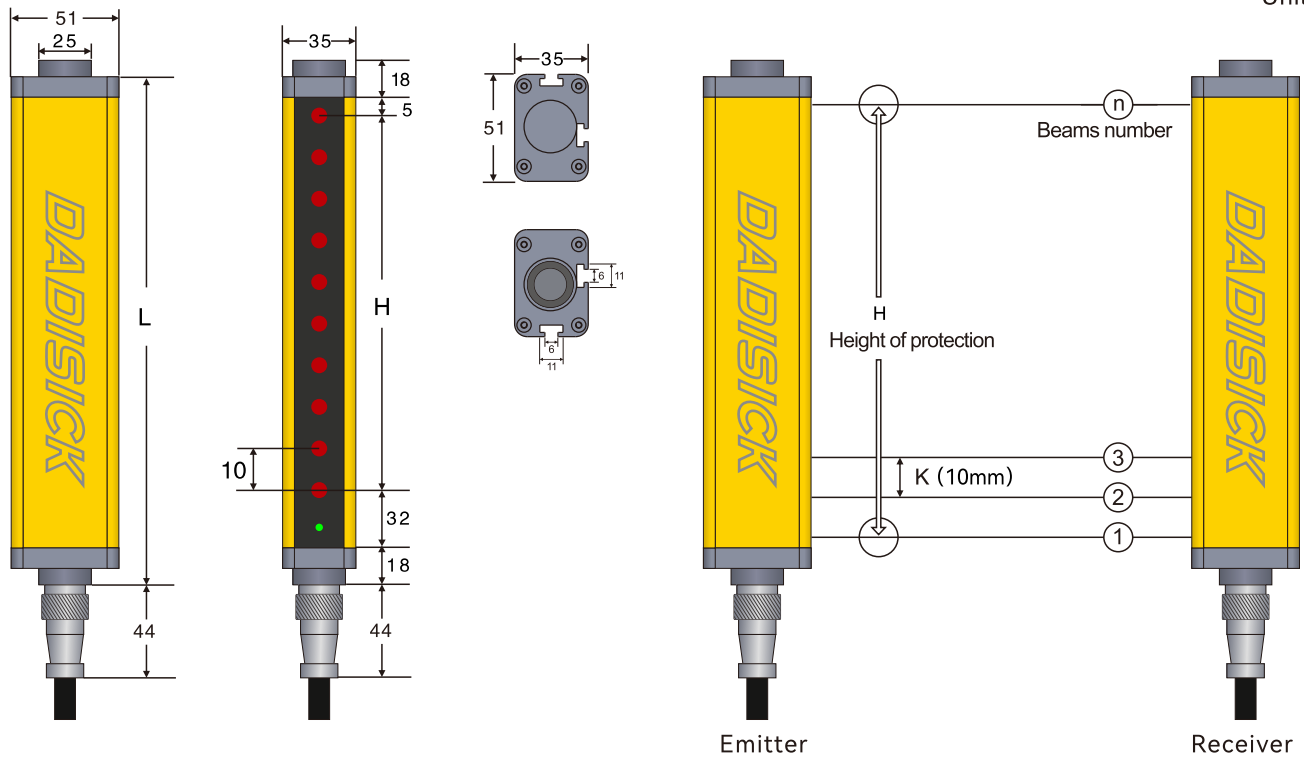


Normal operation of light curtain	LED Indicator status	Explain
Emitter	 Red, always on	Turns on the power
	 Receiver and emitter are red	Receiver and Emitter are not aligned
Receiver	 Green	All light paths are connected
	 Red	Light path shading
	 Lights flashing	Interference or overstep detection range

Dimensioned drawings

1. EQT 10mm series

Unit: mm



Remarks

L: Total length of light screen

H: Height of protected area

K: Resolution ratio

n: Beams number

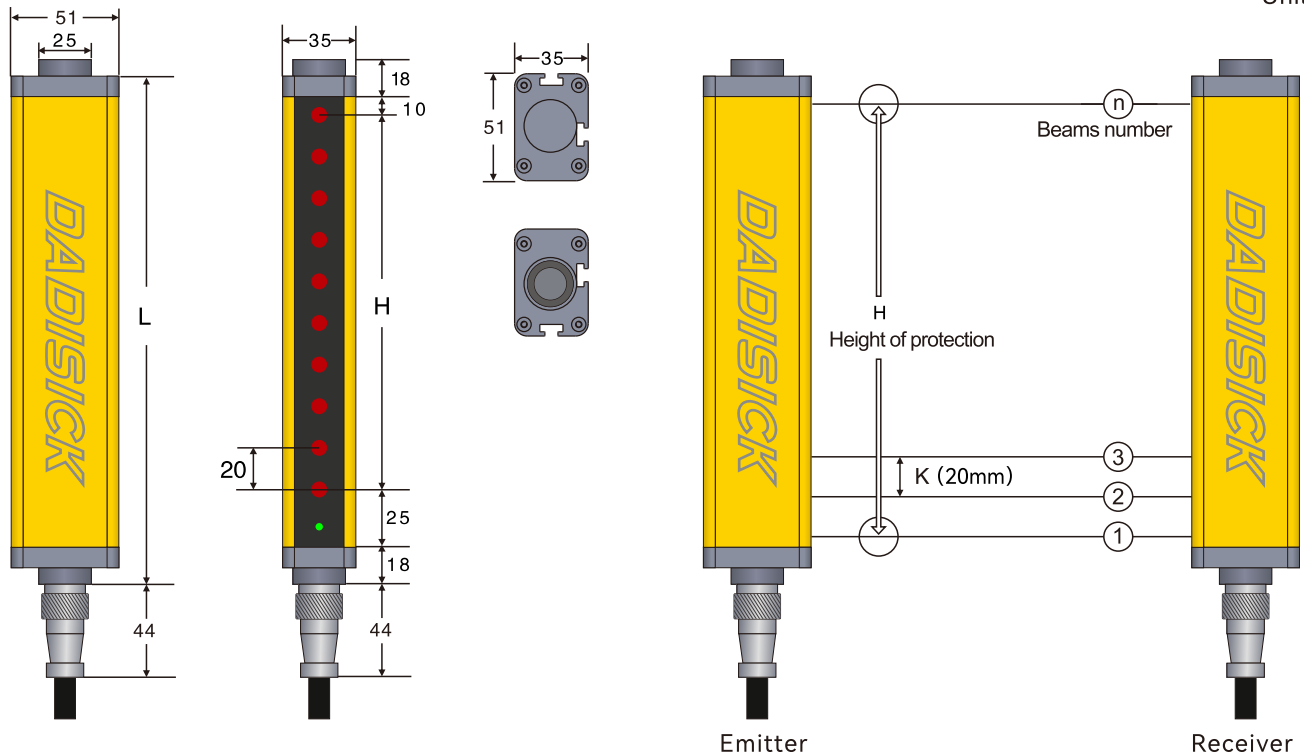
 $L = 18 + 5 + H + 32 + 18$ $H = (n - 1) * 10$

EQT 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)	12	110	183	EQT12/10-110	2	PNP	0.3-6m
	14	130	203	EQT14/10-130	2	PNP	0.3-6m
	16	150	223	EQT16/10-150	2	PNP	0.3-6m
	18	170	243	EQT18/10-170	2	PNP	0.3-6m
	20	190	263	EQT20/10-190	2	PNP	0.3-6m
	22	210	283	EQT22/10-210	2	PNP	0.3-6m
	24	230	303	EQT24/10-230	2	PNP	0.3-6m
	26	250	323	EQT26/10-250	2	PNP	0.3-6m
	28	270	343	EQT28/10-270	2	PNP	0.3-6m
	30	290	363	EQT30/10-290	2	PNP	0.3-6m
	32	310	383	EQT32/10-310	2	PNP	0.3-6m
	34	330	403	EQT34/10-330	2	PNP	0.3-6m
	36	350	423	EQT36/10-350	2	PNP	0.3-6m
	38	370	443	EQT38/10-370	2	PNP	0.3-6m
	40	390	463	EQT40/10-390	2	PNP	0.3-6m
	42	410	483	EQT42/10-410	2	PNP	0.3-6m
	44	430	503	EQT44/10-430	2	PNP	0.3-6m
	46	450	523	EQT46/10-450	2	PNP	0.3-6m
	48	470	543	EQT48/10-470	2	PNP	0.3-6m
	50	490	563	EQT50/10-490	2	PNP	0.3-6m
52	510	583	EQT52/10-510	2	PNP	0.3-6m	
54	530	603	EQT54/10-530	2	PNP	0.3-6m	
56	550	623	EQT56/10-550	2	PNP	0.3-6m	
58	570	643	EQT58/10-570	2	PNP	0.3-6m	
60	590	663	EQT60/10-590	2	PNP	0.3-6m	
62	610	683	EQT62/10-610	2	PNP	0.3-6m	
64	630	703	EQT64/10-630	2	PNP	0.3-6m	
66	650	723	EQT66/10-650	2	PNP	0.3-6m	
68	670	743	EQT68/10-670	2	PNP	0.3-6m	
70	690	763	EQT70/10-690	2	PNP	0.3-6m	

2. EQT 20mm series

Unit: mm



Remarks

L: Total length of light screen

H: Height of protected area

K: Resolution ratio

n: Beams number

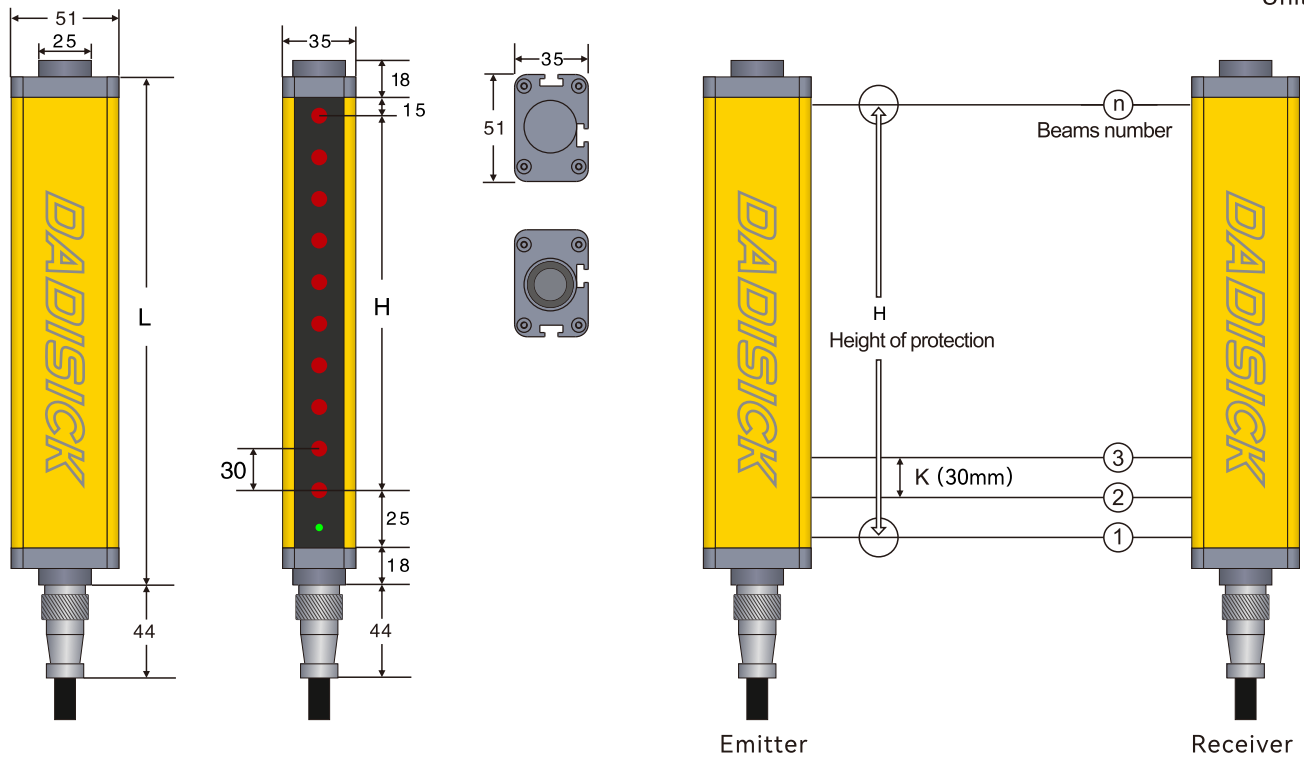
 $L = 18 + 10 + H + 25 + 18$ $H = (n - 1) * 20$

EQT 20mm specification list

Resolution	Light beam	Protection height (H)	Total height (L)	Product model	Signal output mode		Detection range
					Two outputs	PNP output	
20mm (K)	6	100	171	EQT06/20-100	2	PNP	0.3-6m
	8	140	211	EQT08/20-140	2	PNP	0.3-6m
	10	180	251	EQT10/20-180	2	PNP	0.3-6m
	12	220	291	EQT12/20-220	2	PNP	0.3-6m
	14	260	331	EQT14/20-260	2	PNP	0.3-6m
	16	300	371	EQT16/20-300	2	PNP	0.3-6m
	18	340	411	EQT18/20-340	2	PNP	0.3-6m
	20	380	451	EQT20/20-380	2	PNP	0.3-6m
	22	420	491	EQT22/20-420	2	PNP	0.3-6m
	24	460	531	EQT24/20-460	2	PNP	0.3-6m
	26	500	571	EQT26/20-500	2	PNP	0.3-6m
	28	540	611	EQT28/20-540	2	PNP	0.3-6m
	30	580	651	EQT30/20-580	2	PNP	0.3-6m
	32	620	691	EQT32/20-620	2	PNP	0.3-6m
	34	660	731	EQT34/20-660	2	PNP	0.3-6m
	36	700	771	EQT36/20-700	2	PNP	0.3-6m
	38	740	811	EQT38/20-740	2	PNP	0.3-6m
	40	780	851	EQT40/20-780	2	PNP	0.3-6m
	42	820	891	EQT42/20-820	2	PNP	0.3-6m
	44	860	931	EQT44/20-860	2	PNP	0.3-6m
	46	900	971	EQT46/20-900	2	PNP	0.3-6m
	48	940	1011	EQT48/20-940	2	PNP	0.3-6m
	50	980	1051	EQT50/20-980	2	PNP	0.3-6m
	52	1020	1091	EQT52/20-1020	2	PNP	0.3-6m
	54	1060	1131	EQT54/20-1060	2	PNP	0.3-6m
	56	1100	1171	EQT56/20-1100	2	PNP	0.3-6m
	58	1140	1211	EQT58/20-1140	2	PNP	0.3-6m
	60	1180	1251	EQT60/20-1180	2	PNP	0.3-6m
62	1220	1291	EQT62/20-1220	2	PNP	0.3-6m	
64	1260	1331	EQT64/20-1260	2	PNP	0.3-6m	
66	1300	1371	EQT66/20-1300	2	PNP	0.3-6m	
68	1340	1411	EQT68/20-1340	2	PNP	0.3-6m	
70	1380	1451	EQT70/20-1380	2	PNP	0.3-6m	
72	1420	1491	EQT72/20-1420	2	PNP	0.3-6m	

3. EQT 30mm series

Unit: mm



Remarks

L: Total length of light screen

H: Height of protected area

K: Resolution ratio

n: Beams number

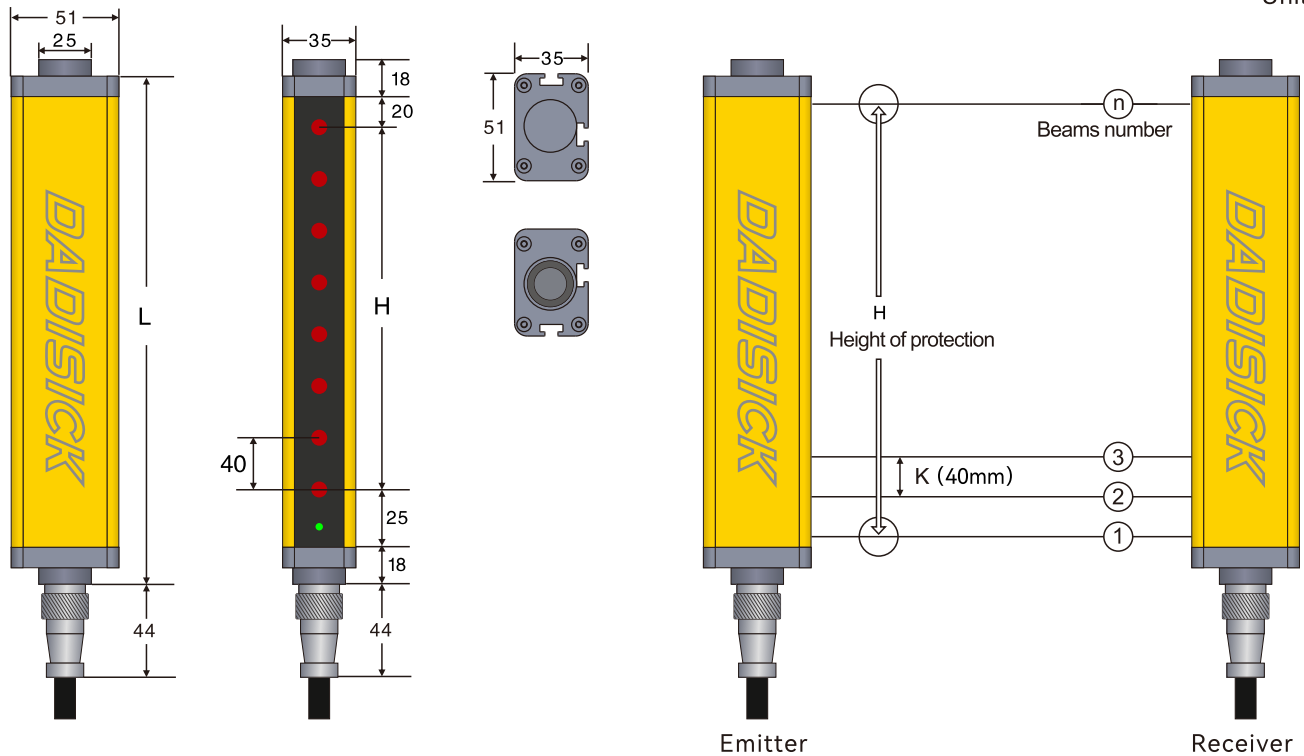
 $L = 18 + 15 + H + 25 + 18$ $H = (n - 1) * 30$

EQT 30mm specification list

Resolution	Light beam	Protection height (H)	Total height (L)	Product model	Signal output mode		Detection distance
					Two outputs	PNP output	
30mm (K)	4	90	166	EQT04/30-90	2	PNP	0.3-6m
	6	150	226	EQT06/30-150	2	PNP	0.3-6m
	8	210	286	EQT08/30-210	2	PNP	0.3-6m
	10	270	346	EQT10/30-270	2	PNP	0.3-6m
	12	330	406	EQT12/30-330	2	PNP	0.3-6m
	14	390	466	EQT14/30-390	2	PNP	0.3-6m
	16	450	526	EQT16/30-450	2	PNP	0.3-6m
	18	510	586	EQT18/30-510	2	PNP	0.3-6m
	20	570	646	EQT20/30-570	2	PNP	0.3-6m
	22	630	706	EQT22/30-630	2	PNP	0.3-6m
	24	690	766	EQT24/30-690	2	PNP	0.3-6m
	26	750	826	EQT26/30-750	2	PNP	0.3-6m
	28	810	886	EQT28/30-810	2	PNP	0.3-6m
	30	870	946	EQT30/30-870	2	PNP	0.3-6m
	32	930	1006	EQT32/30-930	2	PNP	0.3-6m
	34	990	1066	EQT34/30-990	2	PNP	0.3-6m
	36	1050	1126	EQT36/30-1050	2	PNP	0.3-6m
	38	1110	1186	EQT38/30-1110	2	PNP	0.3-6m
	40	1170	1246	EQT40/30-1170	2	PNP	0.3-6m
	42	1230	1306	EQT42/30-1230	2	PNP	0.3-6m
	44	1290	1366	EQT44/30-1290	2	PNP	0.3-6m
	46	1350	1426	EQT46/30-1350	2	PNP	0.3-6m
	48	1410	1486	EQT48/30-1410	2	PNP	0.3-6m
	50	1470	1546	EQT50/30-1470	2	PNP	0.3-6m
	52	1530	1606	EQT52/30-1530	2	PNP	0.3-6m
	54	1590	1666	EQT54/30-1590	2	PNP	0.3-6m
	56	1650	1726	EQT56/30-1650	2	PNP	0.3-6m
	58	1710	1786	EQT58/30-1710	2	PNP	0.3-6m
60	1770	1846	EQT60/30-1770	2	PNP	0.3-6m	
62	1830	1906	EQT62/30-1830	2	PNP	0.3-6m	
64	1890	1966	EQT64/30-1890	2	PNP	0.3-6m	
66	1950	2026	EQT66/30-1950	2	PNP	0.3-6m	
68	2010	2086	EQT68/30-2010	2	PNP	0.3-6m	
70	2070	2146	EQT70/30-2070	2	PNP	0.3-6m	
72	2130	2206	EQT72/30-2130	2	PNP	0.3-6m	

4. EQT 40mm series

Unit: mm



Remarks

L: Total length of light screen

H: Height of protected area

K: Resolution ratio

n: Beams number

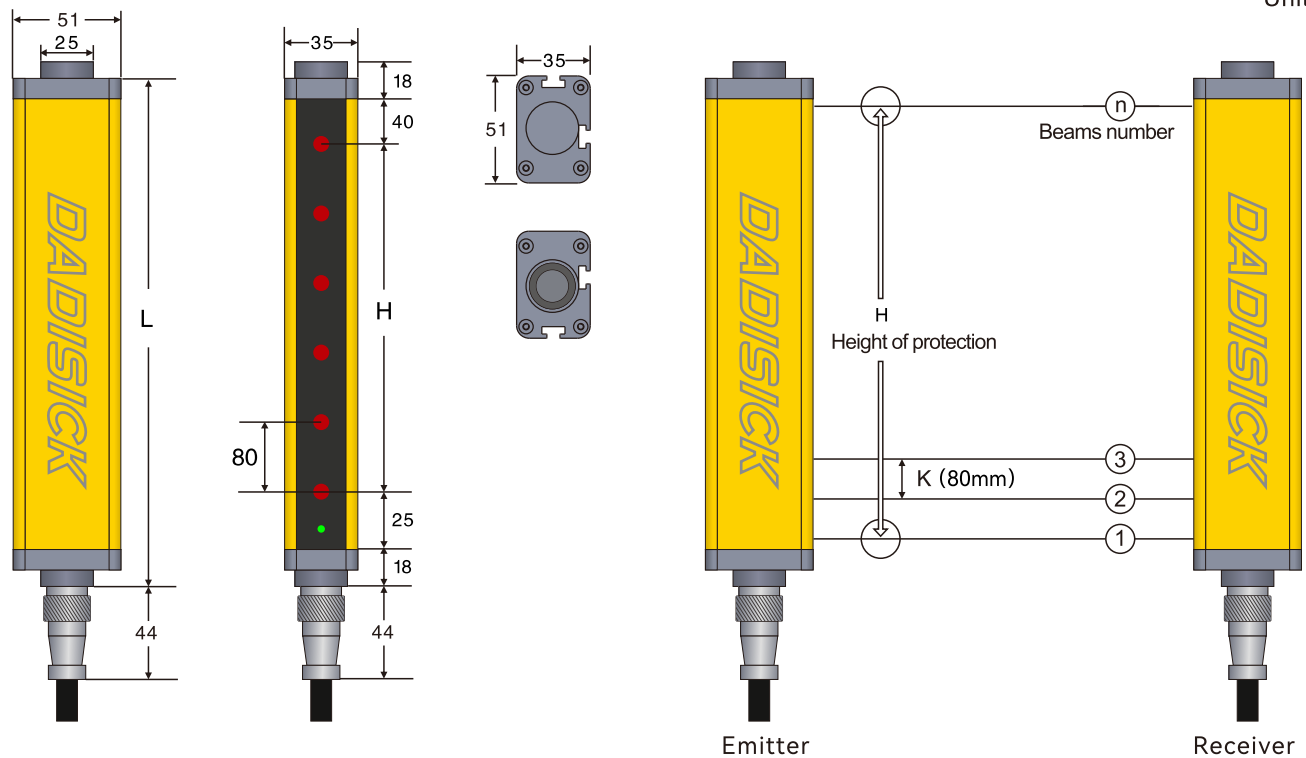
 $L = 18 + 20 + H + 25 + 18$ $H = (n - 1) * 40$

EQT 40mm specification list

Resolution	Light beam	Protection height (H)	Total height (L)	Product model	Signal output mode		Detection range
					Two outputs	PNP output	
40mm (K)	4	120	201	EQT04/40-120	2	PNP	0.3-6m
	6	200	281	EQT06/40-200	2	PNP	0.3-6m
	8	280	361	EQT08/40-280	2	PNP	0.3-6m
	10	360	441	EQT10/40-360	2	PNP	0.3-6m
	12	440	521	EQT12/40-440	2	PNP	0.3-6m
	14	520	601	EQT14/40-520	2	PNP	0.3-6m
	16	600	681	EQT16/40-600	2	PNP	0.3-6m
	18	680	761	EQT18/40-680	2	PNP	0.3-6m
	20	760	841	EQT20/40-760	2	PNP	0.3-6m
	22	840	921	EQT22/40-840	2	PNP	0.3-6m
	24	920	1001	EQT24/40-920	2	PNP	0.3-6m
	26	1000	1081	EQT26/40-1000	2	PNP	0.3-6m
	28	1080	1161	EQT28/40-1080	2	PNP	0.3-6m
	30	1160	1241	EQT30/40-1160	2	PNP	0.3-6m
	32	1240	1321	EQT32/40-1240	2	PNP	0.3-6m
	34	1320	1401	EQT34/40-1320	2	PNP	0.3-6m
	36	1400	1481	EQT36/40-1400	2	PNP	0.3-6m
	38	1480	1561	EQT38/40-1480	2	PNP	0.3-6m
	40	1560	1641	EQT40/40-1560	2	PNP	0.3-6m
	42	1640	1721	EQT42/40-1640	2	PNP	0.3-6m
	44	1720	1801	EQT44/40-1720	2	PNP	0.3-6m
	46	1800	1881	EQT46/40-1800	2	PNP	0.3-6m
	48	1880	1961	EQT48/40-1880	2	PNP	0.3-6m
	50	1960	2041	EQT50/40-1960	2	PNP	0.3-6m
	52	2040	2121	EQT52/40-2040	2	PNP	0.3-6m
	54	2120	2201	EQT54/40-2120	2	PNP	0.3-6m
	56	2200	2281	EQT56/40-2200	2	PNP	0.3-6m
	58	2280	2361	EQT58/40-2280	2	PNP	0.3-6m
60	2360	2441	EQT60/40-2360	2	PNP	0.3-6m	
62	2440	2521	EQT62/40-2440	2	PNP	0.3-6m	
64	2520	2601	EQT64/40-2520	2	PNP	0.3-6m	
66	2600	2681	EQT66/40-2600	2	PNP	0.3-6m	
68	2680	2761	EQT68/40-2680	2	PNP	0.3-6m	
70	2760	2841	EQT70/40-2760	2	PNP	0.3-6m	
72	2840	2921	EQT72/40-2840	2	PNP	0.3-6m	

5. EQT 80mm series

Unit: mm



Remarks

L: Total length of light screen

H: Height of protected area

K: Resolution ratio

n: Beams number

$$L = 18 + 40 + H + 25 + 18$$

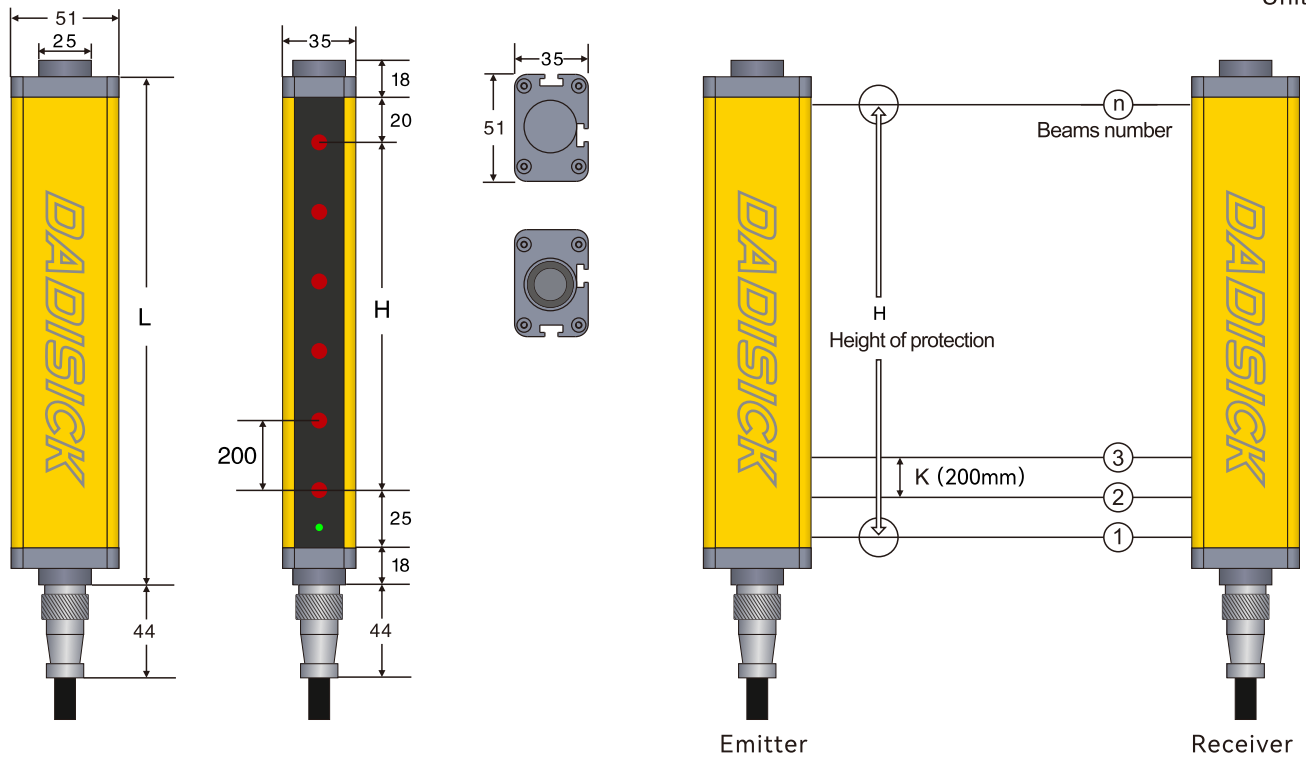
$$H = (n - 1) * 80$$

EQT 80mm specification list

Resolution	Light beam	Protection height (H)	Total height (L)	Product model	Signal output mode		Detection range
					Two outputs	PNP output	
80mm (K)	4	240	341	EQT04/80-240	2	PNP	0.3-6m
	6	400	501	EQT06/80-400	2	PNP	0.3-6m
	8	560	661	EQT08/80-560	2	PNP	0.3-6m
	10	720	821	EQT10/80-720	2	PNP	0.3-6m
	12	880	981	EQT12/80-880	2	PNP	0.3-6m
	14	1040	1141	EQT14/80-1040	2	PNP	0.3-6m
	16	1200	1301	EQT16/80-1200	2	PNP	0.3-6m
	18	1360	1461	EQT18/80-1360	2	PNP	0.3-6m
	20	1520	1621	EQT20/80-1520	2	PNP	0.3-6m
	22	1680	1781	EQT22/80-1680	2	PNP	0.3-6m
	24	1840	1941	EQT24/80-1840	2	PNP	0.3-6m
	26	2000	2101	EQT26/80-2000	2	PNP	0.3-6m
	28	2160	2261	EQT28/80-2160	2	PNP	0.3-6m
	30	2320	2421	EQT30/80-2320	2	PNP	0.3-6m
	32	2480	2581	EQT32/80-2480	2	PNP	0.3-6m
	34	2640	2741	EQT34/80-2640	2	PNP	0.3-6m
	36	2800	2901	EQT36/80-2800	2	PNP	0.3-6m
38	2960	3061	EQT38/80-2960	2	PNP	0.3-6m	
40	3120	3221	EQT40/80-3120	2	PNP	0.3-6m	

6. EQT 200mm series

Unit: mm



Remarks

L: Total length of light screen

H: Height of protected area

K: Resolution ratio

n: Beams number

$$L = 18 + 20 + H + 25 + 18$$

$$H = (n - 1) * 200$$

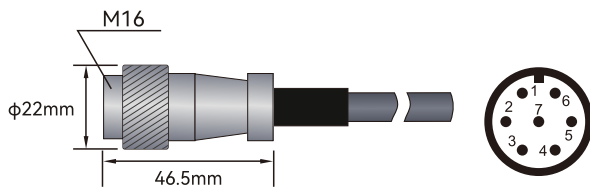
EQT 200mm specification list

Resolution	Light beam	Protection height (H)	Total height (L)	Product model	Signal output mode		Detection range
					Two outputs	PNP output	
200mm (K)	4	600	681	EQT04/200-600	2	PNP	0.3-6m
	6	1000	1081	EQT06/200-1000	2	PNP	0.3-6m
	8	1400	1481	EQT08/200-1400	2	PNP	0.3-6m
	10	1800	1881	EQT10/200-1800	2	PNP	0.3-6m
	12	2200	2281	EQT12/200-2200	2	PNP	0.3-6m
	14	2600	2681	EQT14/200-2600	2	PNP	0.3-6m
	16	3000	3081	EQT16/200-3000	2	PNP	0.3-6m
	18	3400	3481	EQT18/200-3400	2	PNP	0.3-6m

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	0.25mm ²
Maximum link cable	100M
Maximum allowable carrying current	4.9A
Cable material	PVC
Shielding	shielded

Cable description:



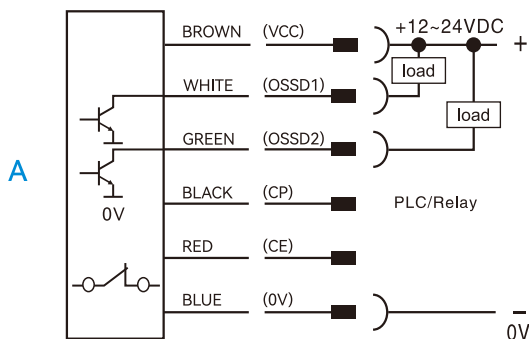
7-pin M16 cable connector straight
3m waterproof cable

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

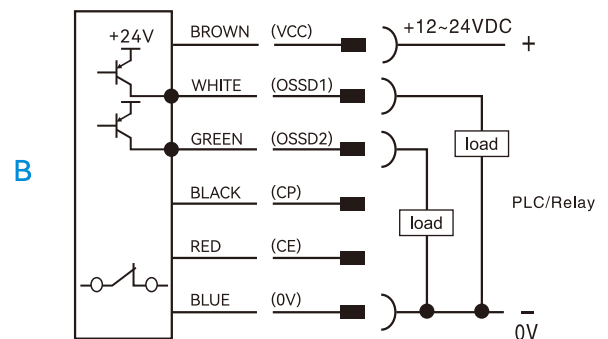
Receiver Wiring diagram		
Pin number	Line color	Name
1	BROWN	24V DC
2	BLUE	0V
3	BLACK	CP
4	RED	CE
5	WHITE	OSSD1
6	GREEN	OSSD2
7	YELLOW	Ground wire

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

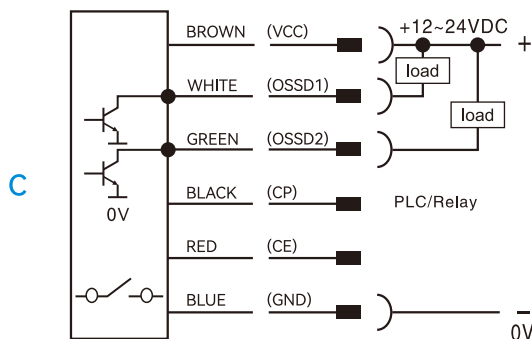
NPN NC



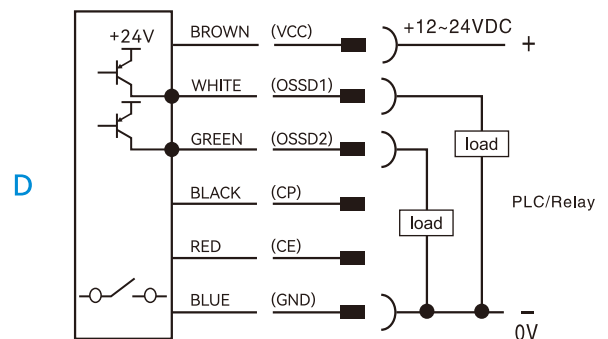
PNP NC



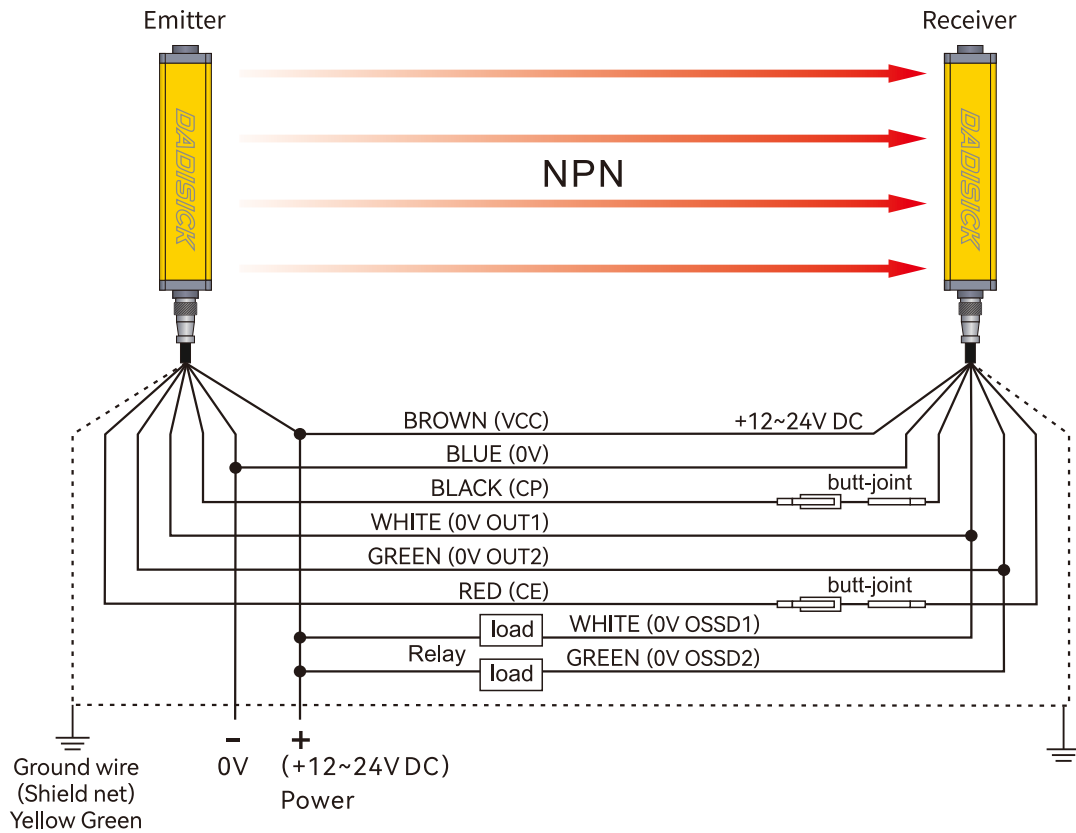
NPN NO



PNP NO

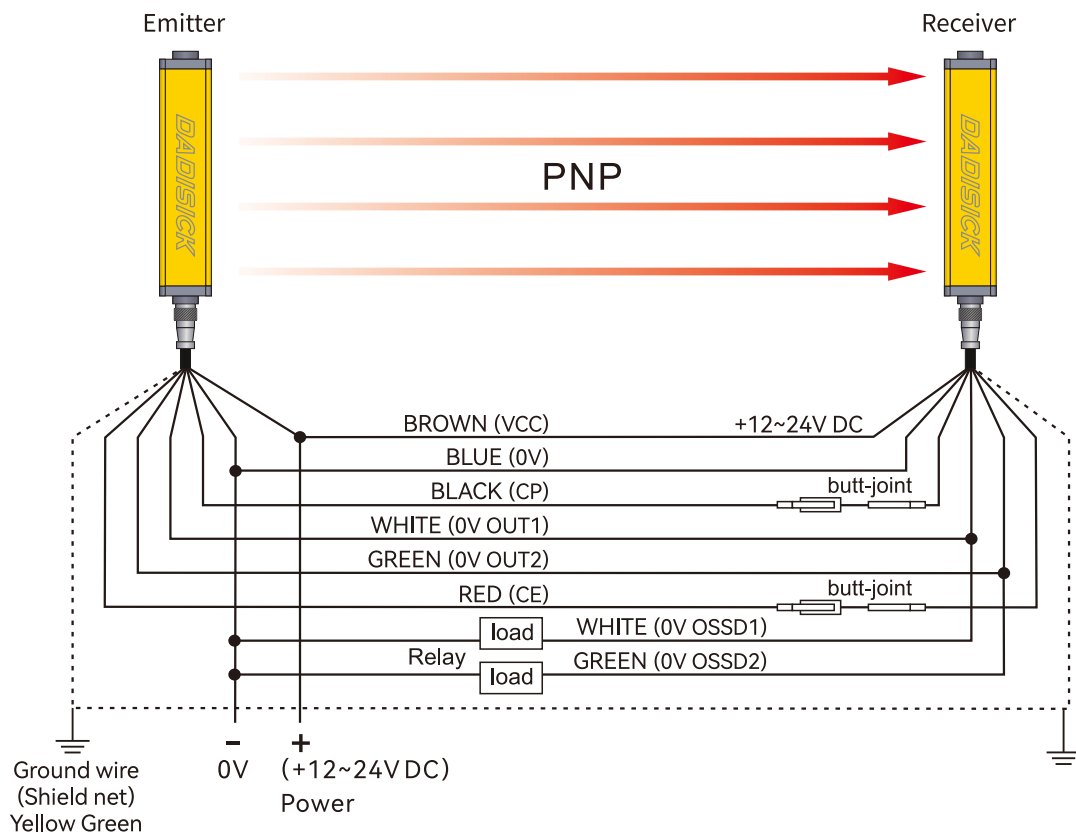


2. NPN output wiring diagram





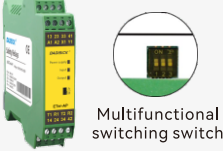

This figure is an example of NPN double output 7-pin wiring.

3. PNP output wiring diagram

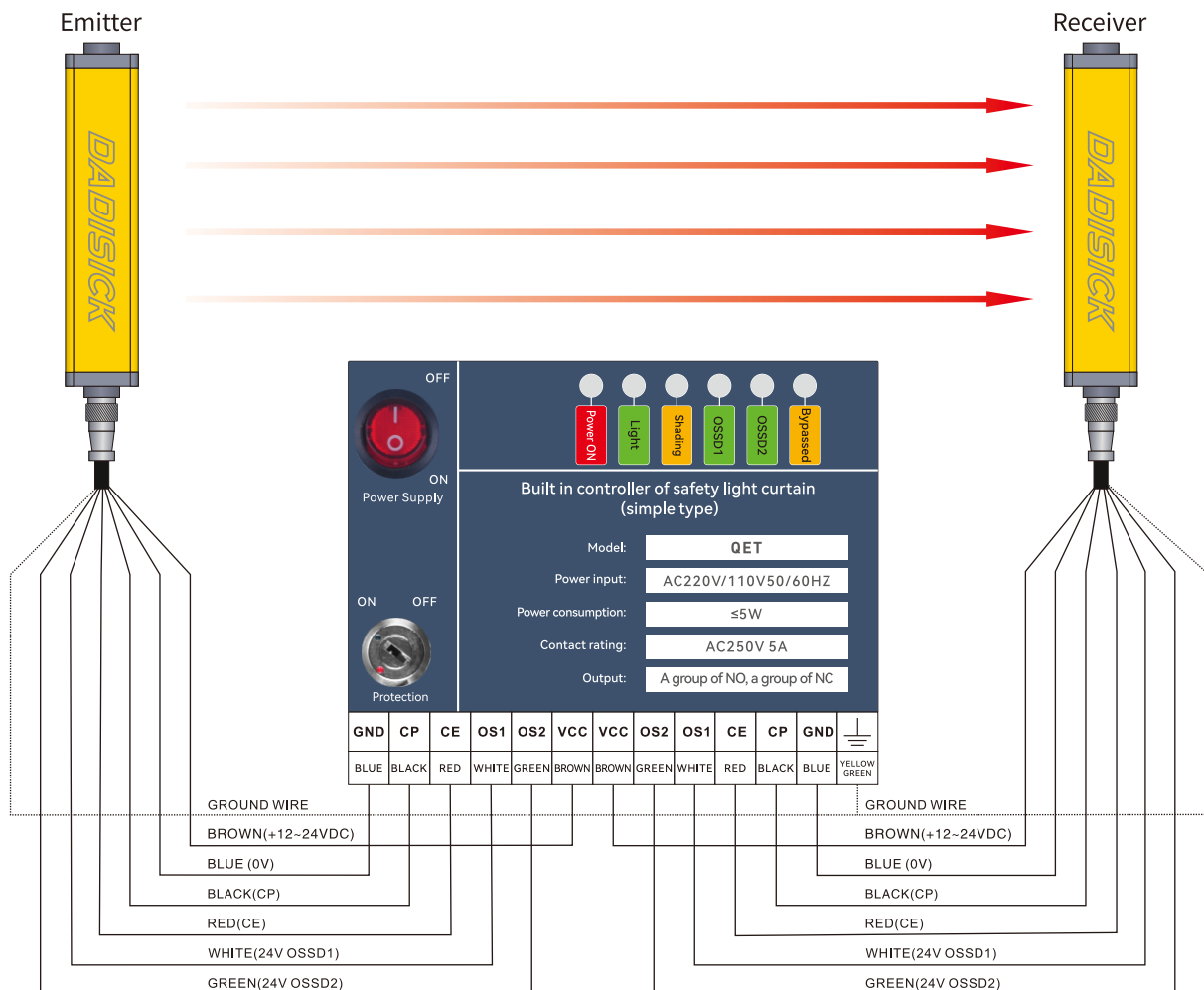


This figure is an example of PNP double output 7-pin wiring.

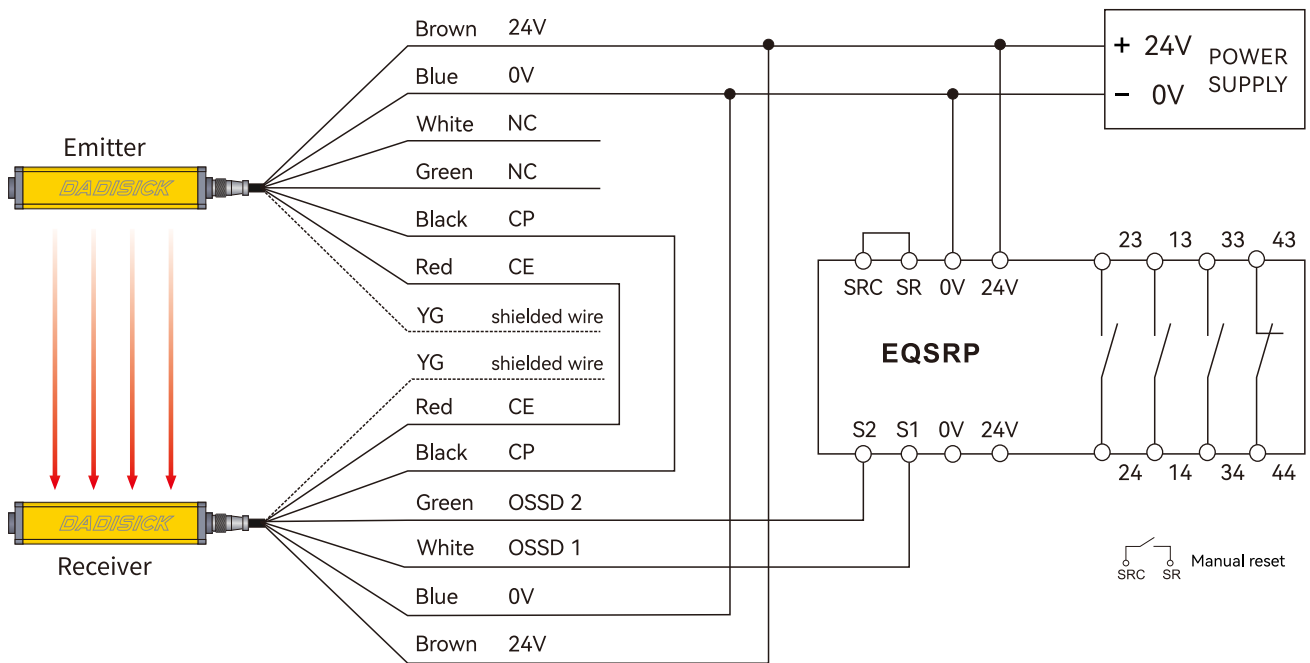
4. Selection of safety light curtain controller

Name	Order separately	Model	Descriptions
Built-in controller		QET	Used to monitor the signal processing of EQT series light curtain, and output one group of NO and one group of NC.
Safety relay		EQSRP	EQSRP 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		ETer-AP	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 EQT series light curtain.

4.1 Wiring diagram of QET built-in controller

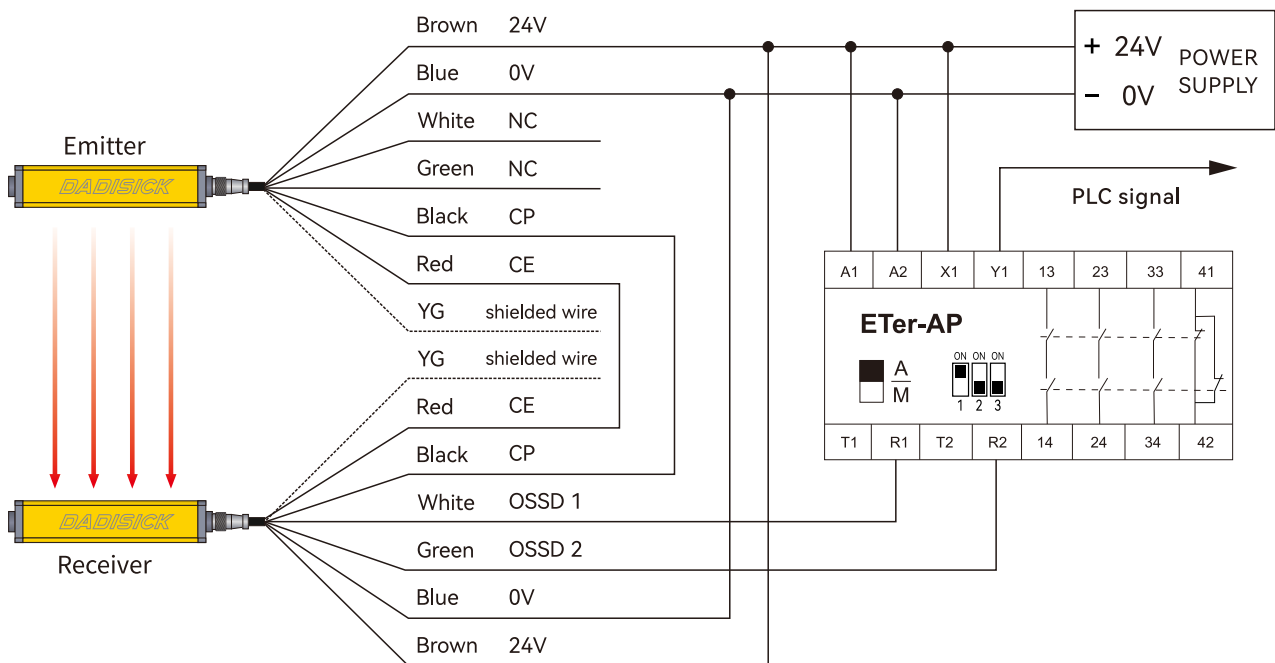


4.2 Wiring diagram of EQSRP safety relay

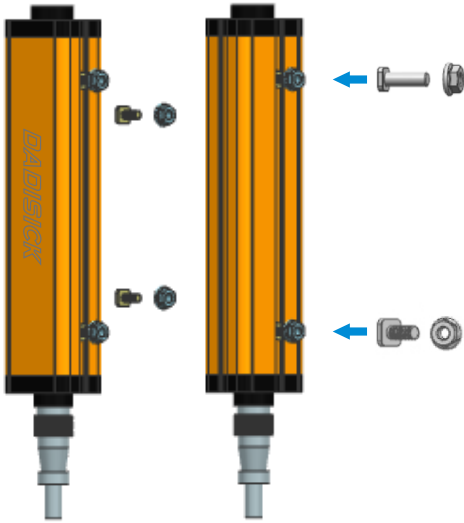


4.3 Wiring diagram of ETer-AP safety relay

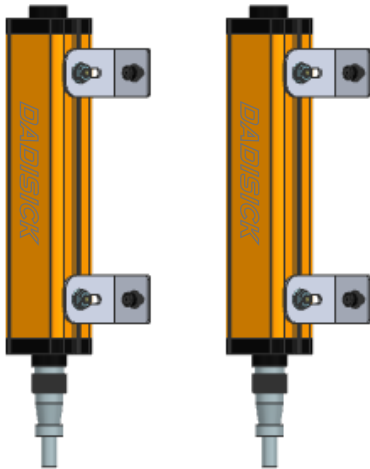
Dual channel light curtain PNP switch safety input, with automatic reset and PLC signal output.



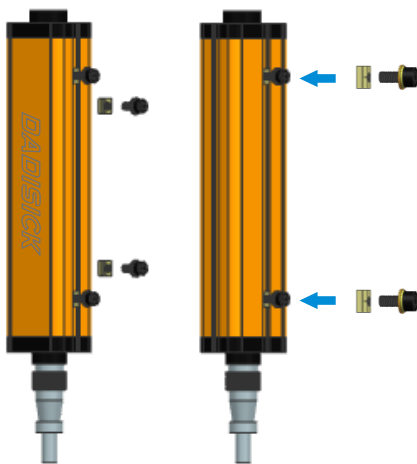
Accessories



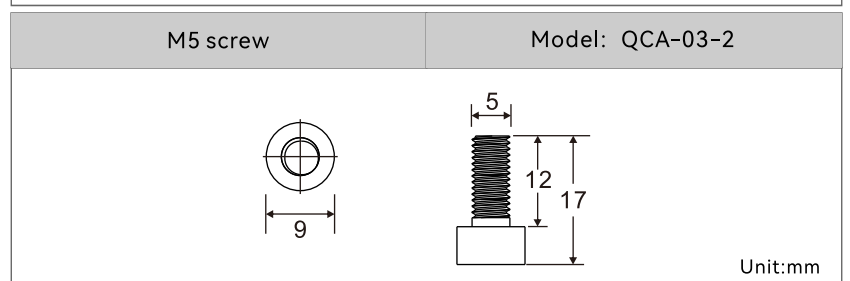
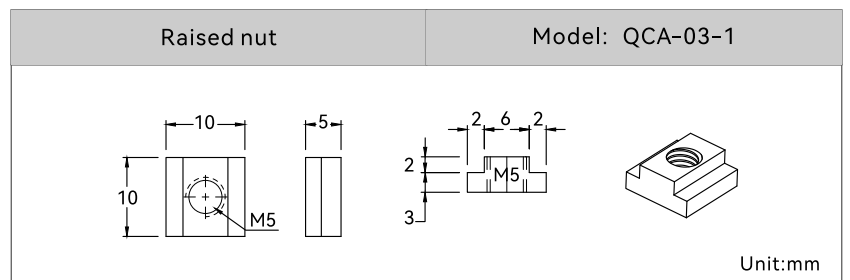
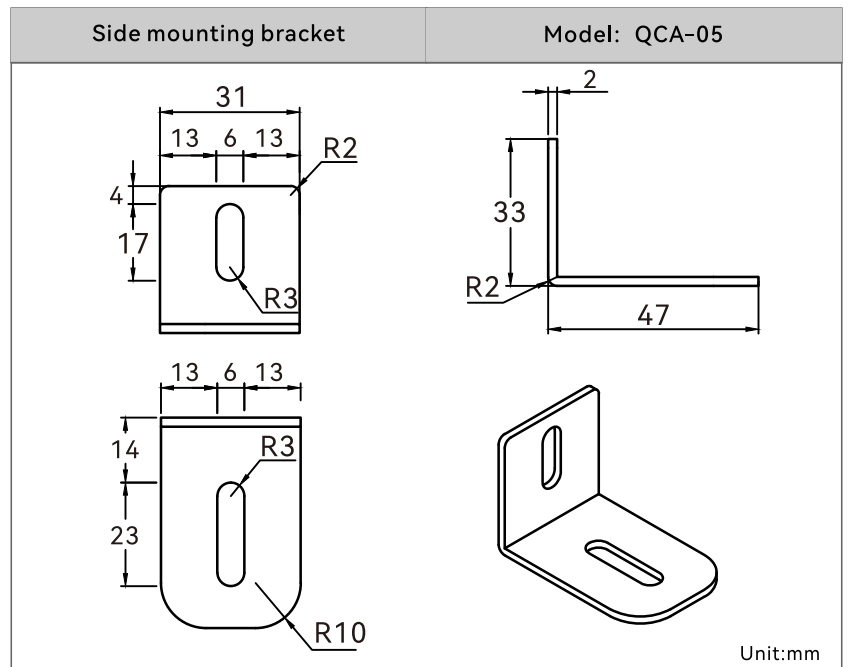
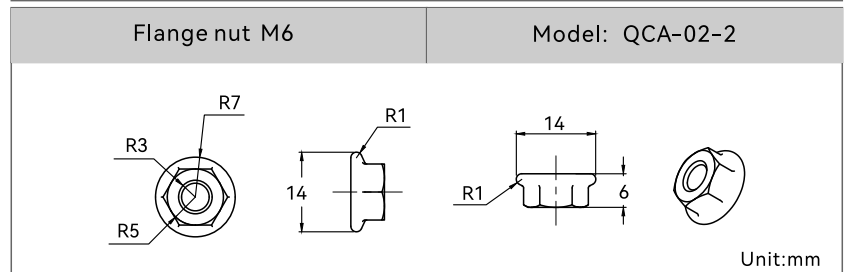
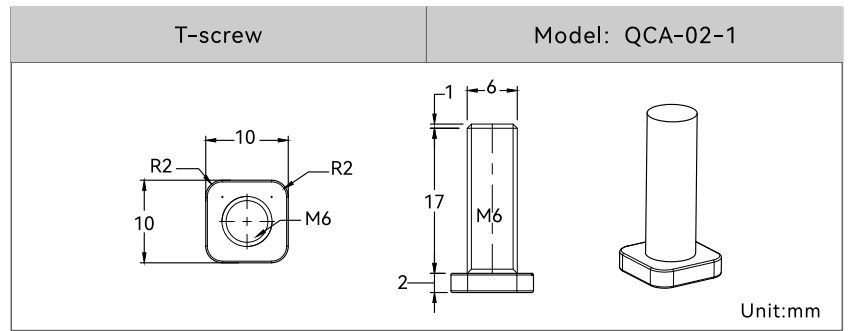
1. Installation method of T-shaped screws on the back
(Original accessories)

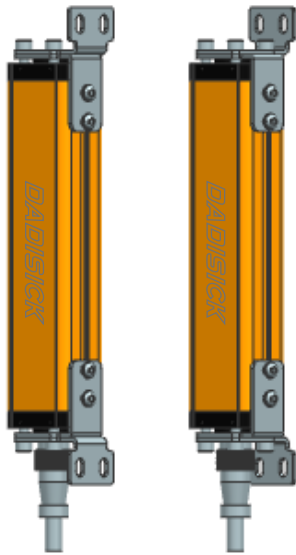


2. Installation method of side right angle bracket
(Original accessories)

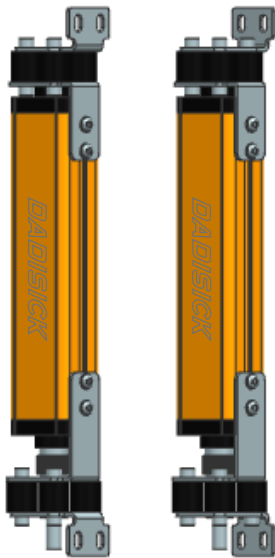


3. Installation method of convex nut
(Optional accessories)





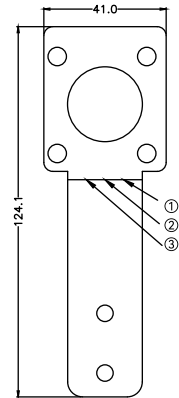
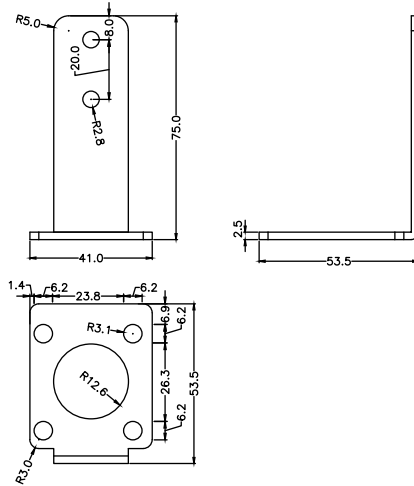
4. Installation method of right angle brackets at both ends
(Order separately)



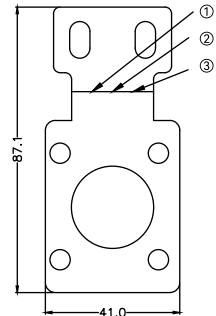
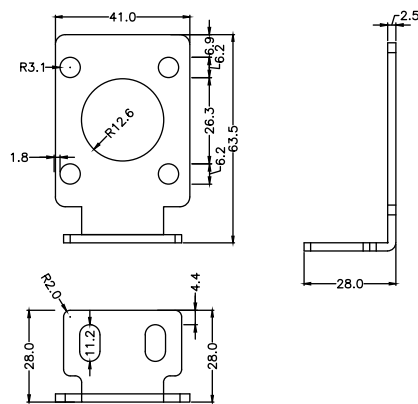
5. Shockproof installation method of right angle brackets at both ends
(Order separately)

Right angle brackets at both ends

Model: QA-02



- ① Bending direction: downward
- ② Bending angle: 90°
- ③ Bending radius: 0.02

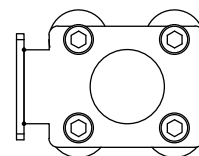
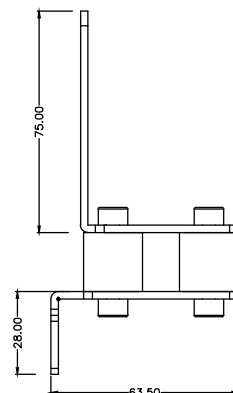
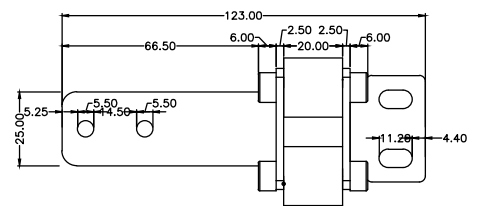
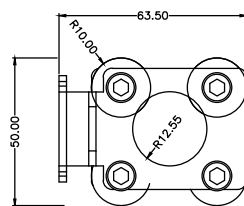


- ① Bending direction: downward
- ② Bending angle: 90°
- ③ Bending radius: 0.02

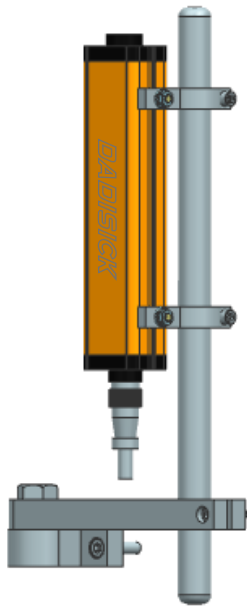
Unit:mm

Shockproof right angle brackets

Model: QA-01



Unit:mm

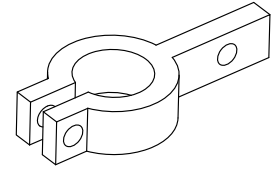
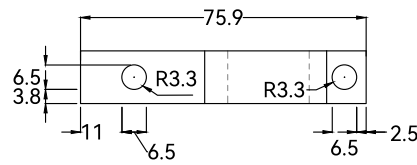
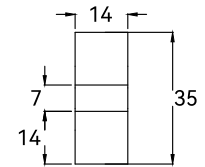
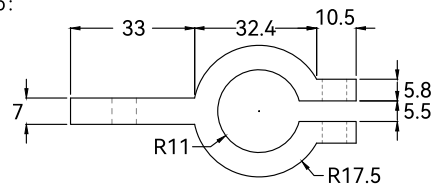


6. Stainless steel bracket installation
(Order separately)

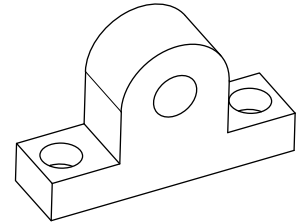
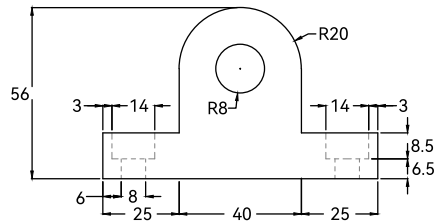
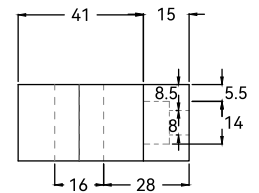
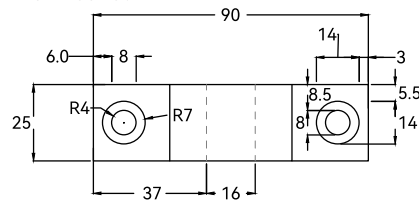
Stainless steel bracket installation

Model: QCA-01

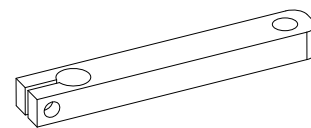
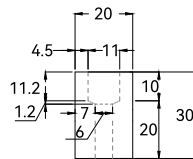
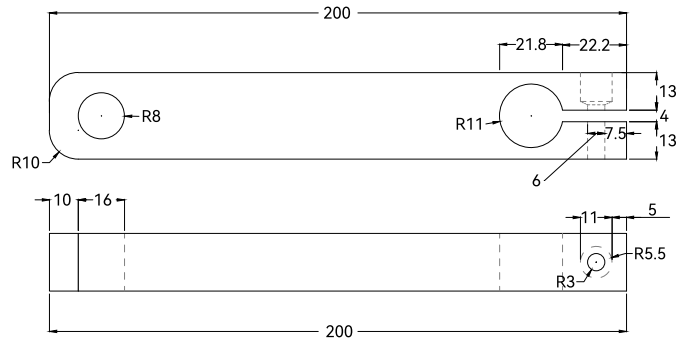
Clip:



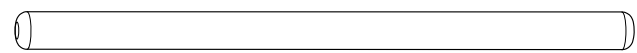
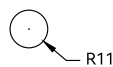
Aluminum round:



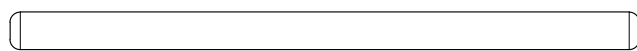
Aluminum arm:



Steel pipe:



Length: 400/500/600/700/800/1000 optional



Unit:mm