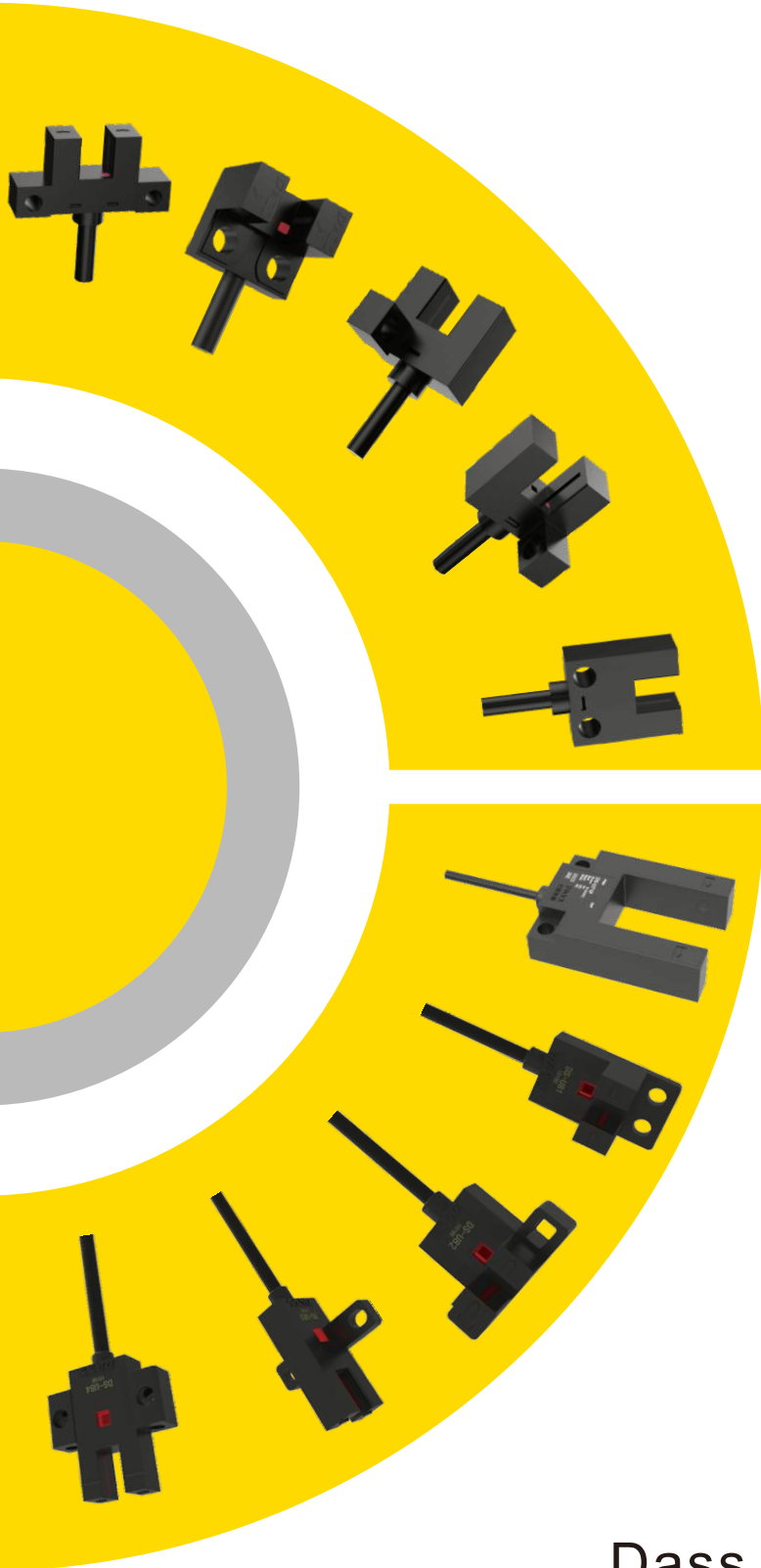
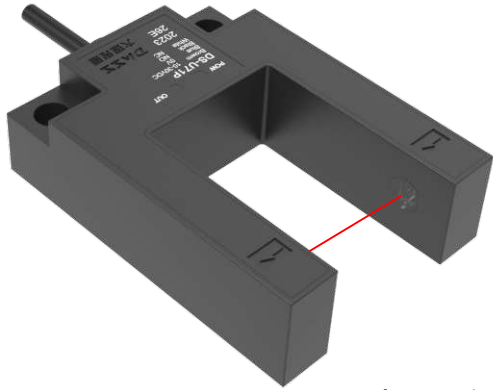




SLOT-TYPE PHOTOMICRO SENSORS

Dass Sensor Stable as always

DS-U7 Series



Slot Width 30mm

- High-speed response type
- Internal power reverse protection, output short-circuit protection, overload protection
- Short response time, long service life and high reliability
- IP65(IEC)Protection grade IP65 (IEC)
- It is resistant to sunlight interference and can be used normally even in outdoor environment with sunlight

Specifications

Type			Model
Item	NPN	Pre-wired cable	DS-U71N
	PNP	Pre-wired cable	DS-U71P
Sensing distance			Slot Width 30mm
Power supply voltage			10~30VDC
Ripple voltage			<10%
Standard Sensing object			Opaque:φ2.0 min.
Sensitivity adjustment			fixed
Light source (wavelength)			Infrarde LED(940nm)
Output			Light ON or Dark ON
Max load current			≤100mA
No load current			30mA or Less
Response time			1 kHz min
Protection circuits			Internal power reverse protection, output short-circuit protection, overload protection
Working temperature			-20~+70℃
Storage temperature and humidity			-40~+80℃ 95%RH
Degree of protection			IEC IP65
Connection method			Pre-wired cable

Application cases



Elevator leveling inspection



Level detection of outdoor light ladder

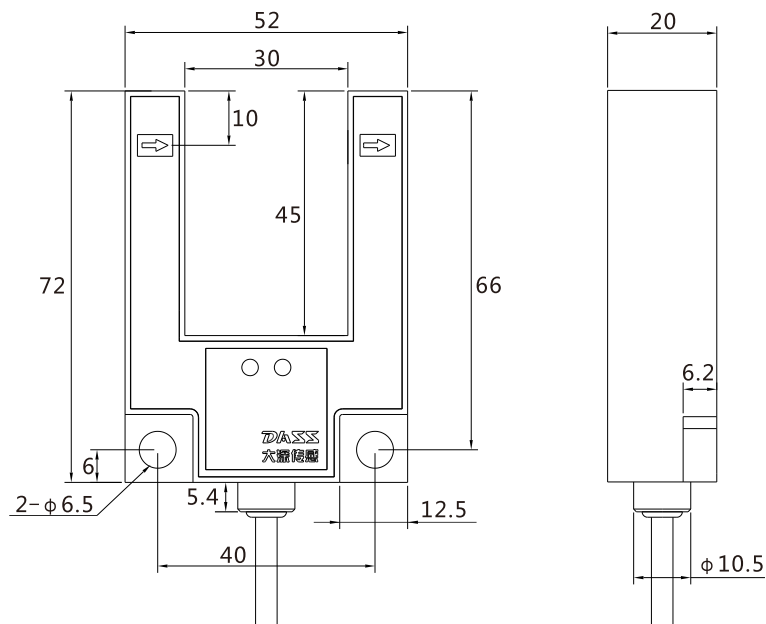


Detection of handling device in place

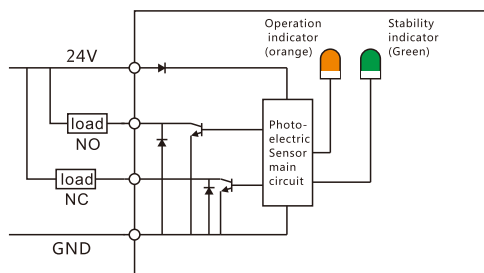


Lifting device in place detection

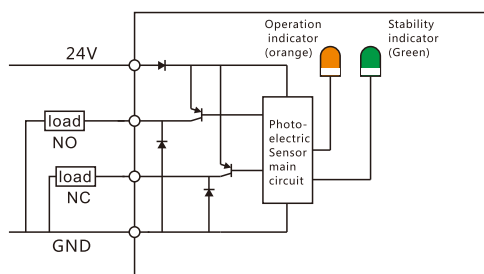
Dimensions



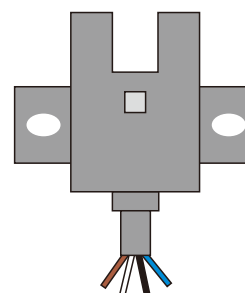
Connection method



NPN Output



PNP Output



Standard Diagram

Brown: Positive
White: ON
Black: OFF
Blue: Negative

DS-U8 Series



- Response frequency up to 10kHz, the highest in the industry
- Automatic process production, ultra-high consistency
- Simple and firm, pursuing ultimate reliability
- Anti-sunlight interference

Model Selection

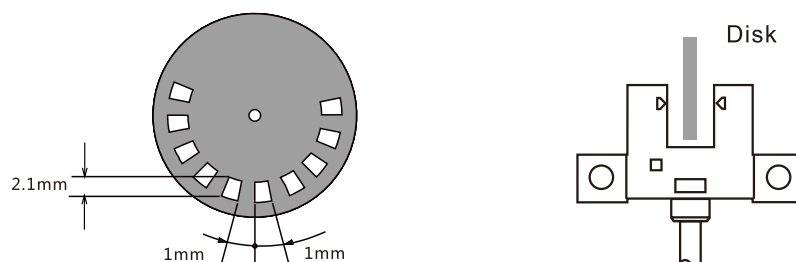
Appearance	Sensing method	Sensing distance	Output configuration	Connecting method (Wire length)	Output form	Model
	Through-beam (Slot-type)	5mm (slot width)	Light-ON Dark-ON Dual output arrangement	Standard wire cable Pre-wired cable (1m)	NPN output	DS-U81 1M
					PNP output	DS-U81P 1M
				Standard wire cable Pre-wired cable (1m)	NPN output	DS-U82 1M
					PNP output	DS-U82P 1M
				Standard wire cable Pre-wired cable (1m)	NPN output	DS-U83 1M
					PNP output	DS-U83P 1M
				Standard wire cable Pre-wired cable (1m)	NPN output	DS-U84 1M
					PNP output	DS-U84P 1M
				Standard wire cable Pre-wired cable (1m)	NPN output	DS-U85 1M
					PNP output	DS-U85P 1M
				Standard wire cable Pre-wired cable (1m)	NPN output	DS-U86 1M
					PNP output	DS-U86P 1M
				Standard wire cable Pre-wired cable (1m)	NPN output	DS-U87 1M
					PNP output	DS-U87P 1M
				Standard wire cable Pre-wired cable (1m)	NPN output	DS-U88 1M
					PNP output	DS-U88P 1M

Specifications

Item	Type		Model							
	NPN	Pre-wired cable	DS-U81	DS-U82	DS-U83	DS-U84	DS-U85	DS-U86	DS-U87	DS-U88
	PNP	Pre-wired cable	DS-U81P	DS-U82P	DS-U83P	DS-U84P	DS-U85P	DS-U86P	DS-U87P	DS-U88P
	NPN	Connector	DS-U81C	DS-U82C	DS-U83C	DS-U84C	DS-U85C	DS-U86C	DS-U87C	DS-U88C
	PNP	Connector	DS-U81CP	DS-U82CP	DS-U83CP	DS-U84CP	DS-U85CP	DS-U86CP	DS-U87CP	DS-U88CP
Sensing distance			5mm(slot width)							
Sensing object			Opaque: 2 × 0.8 mm min.							
Differential distance			Less than 0.025 mm *1							
Light source			Infrared LED with a peak wavelength of 940 nm							
Indicator			Light indicator (red)							
Supply voltage			5 to 24 VDC ±10%, ripple (p-p): 10% max.							
Current consumption			15 mA max.							
Control output			Load power supply voltage: 5-24V DC max. , Load current: 50 mA max. Power OFF :0.5mA max Residual voltage :0.7V max (Load current:50mA) :0.4V max (Load current:5mA)							
Protection circuits			Load short circuit protection							
Response frequency			10kHz *2							
Ambient illumination			1,000 lx max. with fluorescent light on the surface of the receiver.							
Ambient temperature range			Operating: -25 to +55°C, Storage: -30 to +80°C (with no icing or condensation)							
Ambient humidity range			Operating: 5% to 85%, Storage: 5% to 95% (with no icing or condensation)							
Vibration resistance			Destruction: 10 to 2,000 Hz (peak acceleration: 150 m/s ²) Single amplitude: 0.75mm2.5h in X, Y and Z directions (15min cycle 10 cycles)							
Shock resistance			Destruction: 500 m/s ² for 3 times each in X, Y, and Z direction							
Degree of protection			IEC60529 IP50							
Connecting method			Pre-wired Models (Standard cable length: 1 m),Connector Models							
Weight			Approx. 17 g (Pre-wired models)							
Material	Case、Cover		ABS							
	Emitter、receiver		PC							

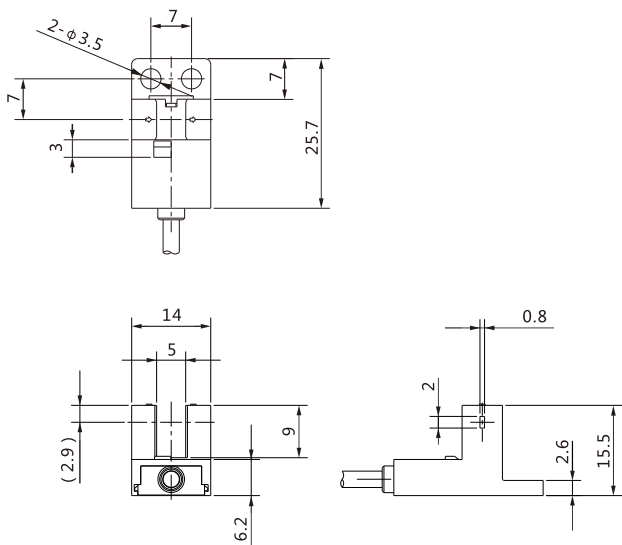
*1:The differential travel is the value when a sensing object is moved in a lateral direction to the slot.

*2: The response frequency was measured by detecting the rotating disk shown at the picture.

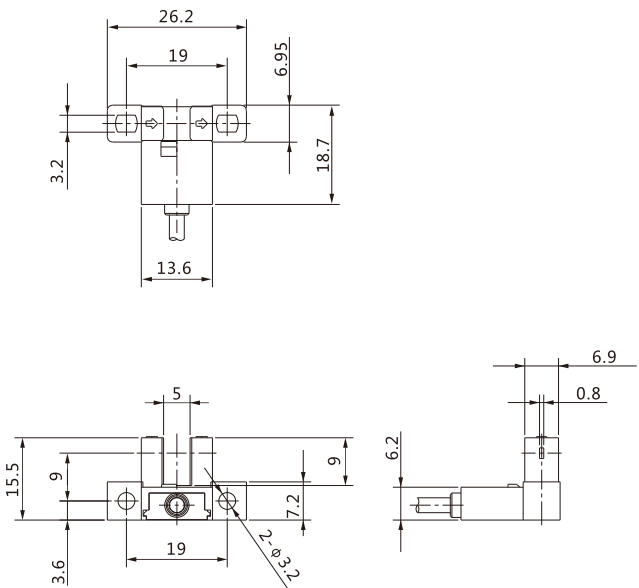


Dimensions

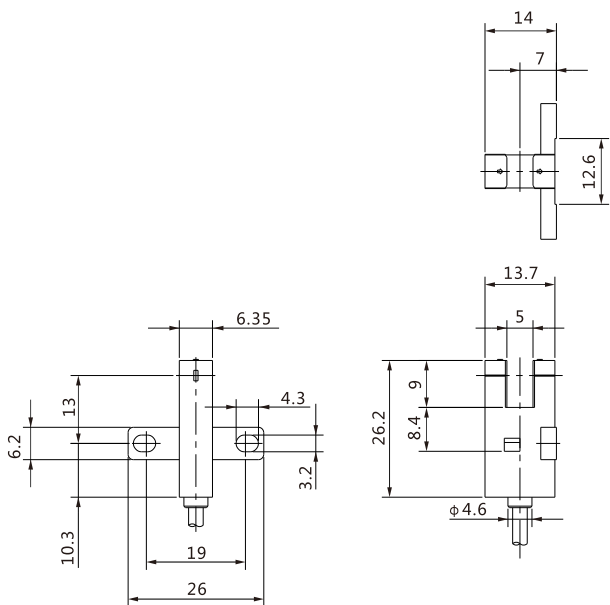
DS-U81
DS-U81P



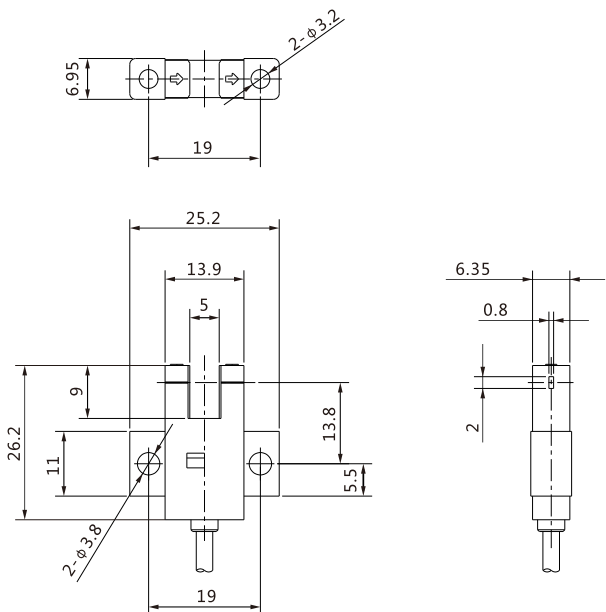
DS-U82
DS-U82P



DS-U83
DS-U83P

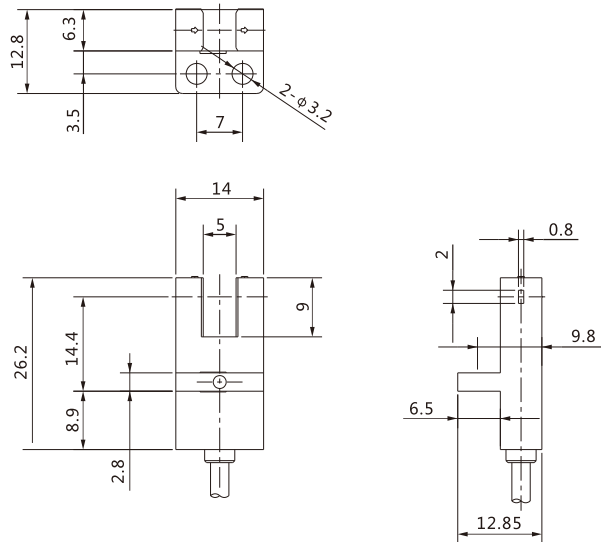


DS-U84
DS-U84P

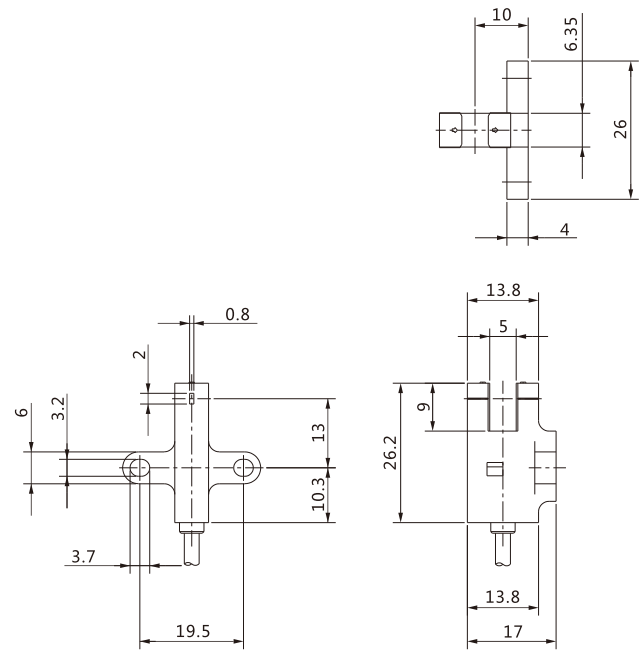


Dimensions

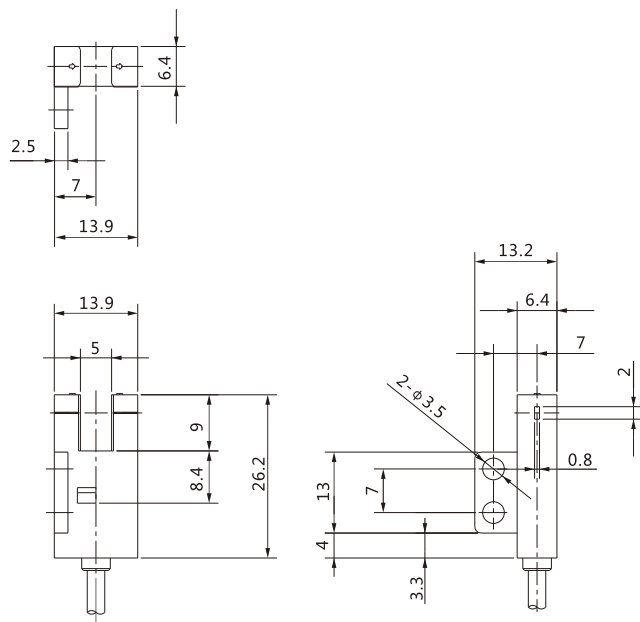
DS-U85
DS-U85P



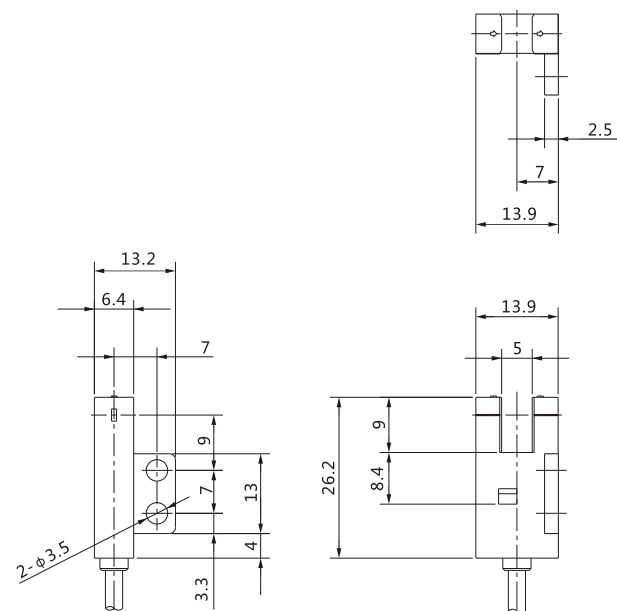
DS-U86
DS-U86P



DS-U87
DS-U87P



DS-U88
DS-U88P

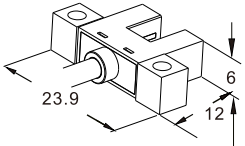


DS-U9 Series



- Response frequency up to 10kHz, the highest in the industry
- Ultra-small size, greatly improving space utilization
- Automatic process production, ultra-high consistency
- Simple and firm, pursuing ultimate reliability
- Anti-sunlight interference

选型表

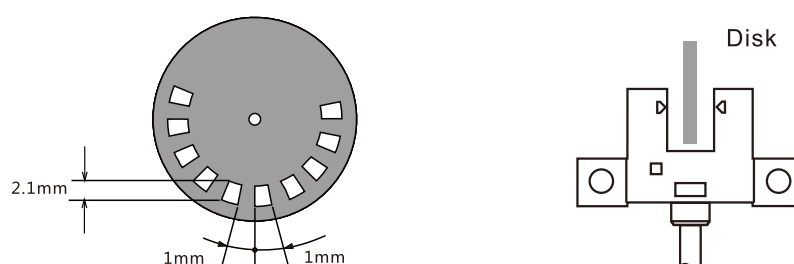
Appearance	Sensing method	Sensing distance	Output configuration	Connecting method (Wire length)	Output form	Model
	Through-beam (Slot-type)	6mm (slot width)	Light-ON Dark-ON Dual output arrangement	Standard wire cable Pre-wired cable (1m)	NPN output	DS-U90 1M
PNP output					DS-U90P 1M	
Standard wire cable Pre-wired cable (1m)				NPN output	DS-U90R 1M	
				PNP output	DS-U90RP 1M	
5mm (slot width)		Standard wire cable Pre-wired cable (1m)		NPN output	DS-U91 1M	
				PNP output	DS-U91P 1M	
		Standard wire cable Pre-wired cable (1m)		NPN output	DS-U91R 1M	
				PNP output	DS-U91RP 1M	
6mm (slot width)		Standard wire cable Pre-wired cable (1m)		NPN output	DS-U92 1M	
				PNP output	DS-U92P 1M	
		Standard wire cable Pre-wired cable (1m)		NPN output	DS-U92R 1M	
				PNP output	DS-U92RP 1M	
6mm (slot width)		Standard wire cable Pre-wired cable (1m)		NPN output	DS-U93 1M	
				PNP output	DS-U93P 1M	
		Standard wire cable Pre-wired cable (1m)		NPN output	DS-U93R 1M	
				PNP output	DS-U93RP 1M	
6mm (slot width)		Standard wire cable Pre-wired cable (1m)		NPN output	DS-U94 1M	
				PNP output	DS-U94P 1M	
		Standard wire cable Pre-wired cable (1m)		NPN output	DS-U94R 1M	
				PNP output	DS-U94RP 1M	

Specifications

Item	Type		Standard	L shape	F shape	R shape	U shape
	NPN	Pre-wired cable	DS-U90/U90R	DS-U91/U91R	DS-U92/U92R	DS-U93/U93R	DS-U94/U94R
	PNP	Pre-wired cable	DS-U90P/U90RP	DS-U91P/U91RP	DS-U92P/U92RP	DS-U93P/U93RP	DS-U94P/U94RP
Sensing distance			6mm(slot width)	5mm(slot width)	6mm(slot width)		
Sensing object			Opaque: 1.8 × 0.8 mm min.				
Differential distance			Less than 0.025 mm *1				
Light source			Infrared LED with a peak wavelength of 940 nm				
Indicator			Light indicator (red)				
Supply voltage			5 to 24 VDC ±10%, ripple (p-p): 10% max.				
Current consumption			15 mA max.				
Control output			Load power supply voltage: 5-24V DC max. , Load current: 50 mA max. Power OFF :0.5mA max Residual voltage :0.7V max (Load current:50mA) :0.4V max (Load current:5mA)				
Protection circuits			Load short circuit protection				
Response frequency			10kHz *2				
Ambient illumination			1,000 lx max. with fluorescent light on the surface of the receiver.				
Ambient temperature range			Operating: −25 to +55°C, Storage: −30 to +80°C (with no icing or condensation)				
Ambient humidity range			Operating: 5% to 85%, Storage: 5% to 95% (with no icing or condensation)				
Vibration resistance			Destruction: 10 to 2,000 Hz (peak acceleration: 150 m/s²) Single amplitude: 0.75mm2.5h in X, Y and Z directions (15min cycle 10 cycles)				
Shock resistance			Destruction: 500 m/s² for 3 times each in X, Y, and Z direction				
Degree of protection			IEC60529 IP50				
Connecting method			Pre-wired Models (Standard cable length: 1 m),Connector Models				
Weight			Approx. 15 g (Pre-wired models)				
Material	Case、 Cover		ABS				
	Emitter、 receiver		PC				

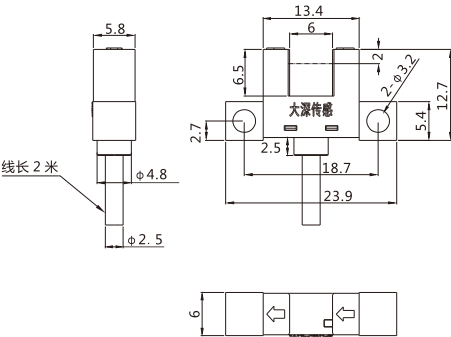
*1:The differential travel is the value when a sensing object is moved in a lateral direction to the slot.

*2: The response frequency was measured by detecting the rotating disk shown at the picture.

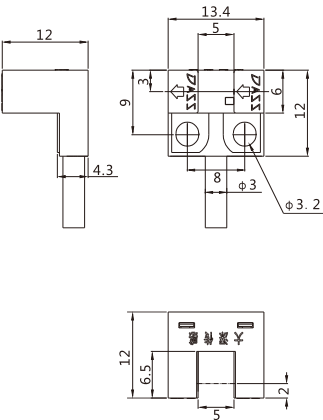


Dimensions

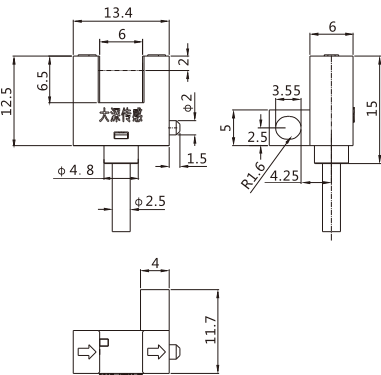
DS-U90
DS-U90P



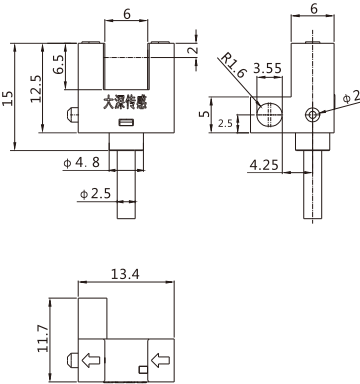
DS-U91
DS-U91P



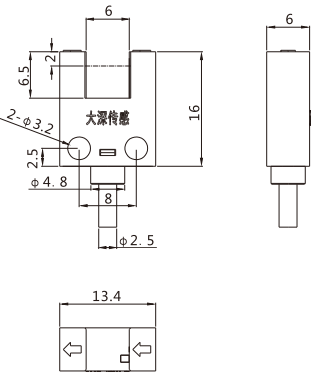
DS-U92
DS-U92P



DS-U93
DS-U93P



DS-U94
DS-U94P



Performance advantages



Ability to resist strong light interference



Anti-power interference



Fast detection speed ; Detection frequency is greater than 10KHz



Adaptability to polluted environment



Lightning resistance design of power supply

Precautions for use

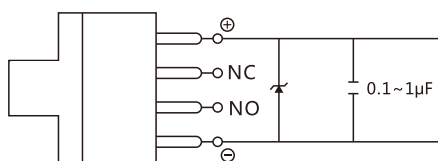
■ Installation

Fix the sensor body to ensure that the wire is not twisted.

■ Connection

Unused signal wires must be insulated to avoid short circuit.

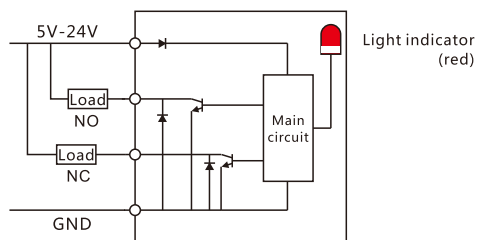
Surge countermeasures: when there is a surge in the power supply, it is necessary to connect the zener diode or capacitor until the surge disappears.



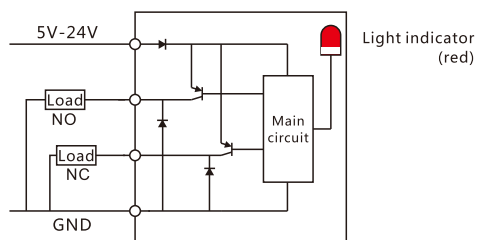
ZD:Stabilivolt diode Anti-surge

DS-U8/DS-U9 series , When driving small loads such as relays, please use the following method for wiring

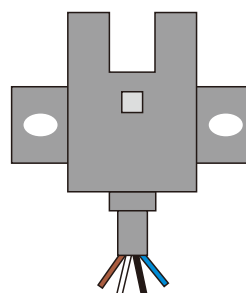
Diagram



NPN Output



PNP Output



Standard Diagram

Brown:Positive
White:ON
Black:OFF
Blue: Negative



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