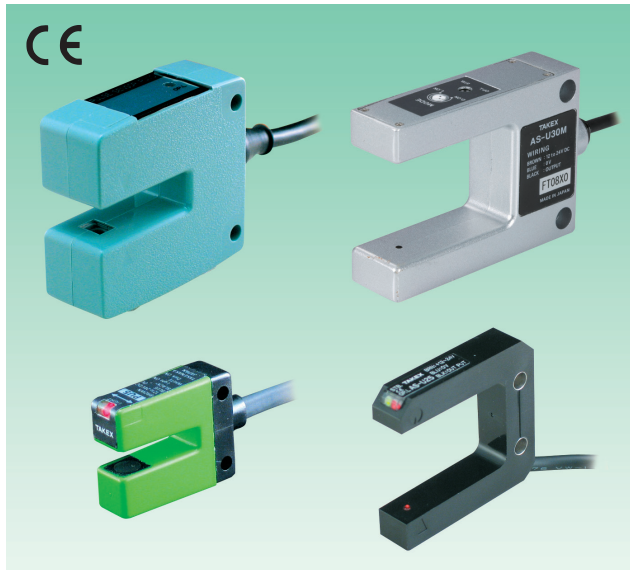


PU AS series


U-Shaped Embedded Amplifier Photo Sensors

Embedded Amplifier Photo Sensors

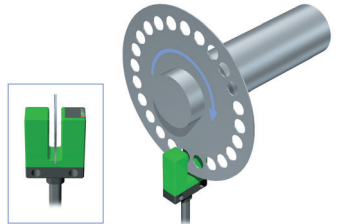
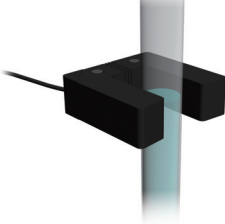
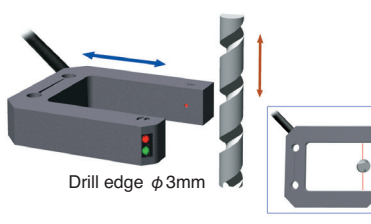


- No optical axis alignment necessary
- Ideal for checking the position of stacker cranes in an automatic warehouse
- Metal housing and water resistance comply with IP67, usable in adverse environment (AS-U30M)

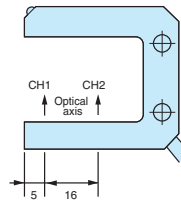
Type

Detection method	Detecting distance	Model		Operation mode	Output mode
		NPN type	PNP type		
U-shaped through beam type 	5 mm fixed	PU5	—	Light ON/ Dark ON selectable (double output)	NPN open collector
	10 mm fixed	PU10	—		Current output/ voltage output
	19 mm fixed	AS-U20	AS-U20PN	Light ON	Open collector output
		AS-U20D	AS-U20DPN	Dark ON	
	25 mm fixed	AS-U25	AS-U25PN	Light ON	
		AS-U25D	AS-U25DPN	Dark ON	
	30 mm fixed	AS-U30	AS-U30PN	Light ON	
		AS-U30D	AS-U30DPN	Dark ON	
AS-U30M	AS-U30MPN	Light ON/Dark ON selectable			

Applications

<ul style="list-style-type: none"> • For detecting the presence of holes on a rotating disc. 	<ul style="list-style-type: none"> • For detecting the presence of liquids, powders, ect. 	<ul style="list-style-type: none"> • Optical axis alignment is not necessary for the U-shaped sensor.  <p>Drill edge $\phi 3\text{mm}$</p>
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- 2 channel output type
2 channel output types are separately available
Model AS-U25-2 (Light ON)
Model AS-U25D-2 (Dark ON)



Rating/Performance/Specification

Model	NPN type	PU5	PU10	AS-U20	AS-U20D	AS-U25	AS-U25D	AS-U30	AS-U30D	AS-U30M	
	PNP type	—		AS-U20PN	AS-U20DPN	AS-U25PN	AS-U25DPN	AS-U30PN	AS-U30DPN	AS-U30MPN	
Detection method	Through beam type (U-shaped)										
Detecting distance	5 mm fixed	10 mm fixed	19 mm fixed	25 mm fixed	30 mm fixed						
Detection object	φ1mm or more Opaque	φ2mm or more Opaque				φ5mm or more Opaque	φ2mm or more Opaque				
Power supply	12-24V DC ±10% / Ripple 10% or less										
Current consumption	20mA or less	45mA or less	20mA or less			35mA or less	30mA or less				
Output mode	NPN type	NPN open collector Sink current 100 mA (30 VDC) or less	Current output Sink current 75 mA (48 VDC) voltage output Output impedance: 4.7 kΩ	NPN open collector Rating: sink current 100 mA (30 VDC) or less							
	PNP type	—	—	PNP open collector Rating: sink current 100 mA (30 VDC) or less							
Operation mode	Light ON/Dark ON (2 outputs)		Light ON	Dark ON	Light ON	Dark ON	Light ON	Dark ON	Light ON/Dark ON selectable		
Response time	200μs or less	50μs or less	0.35ms or less				0.5ms or less				
Light source (wavelength)	Infrared LED (910 nm)	Infrared LED (890 nm)	Red LED (700nm)				Infrared LED (950 nm)	Infrared LED (880 nm)			
Indicator	Light reception indicator (red LED)		Operation indicator (red LED) Stability indicator (green LED)				Operation indicator (red LED)		Operation indicator (red LED) Stability indicator (green LED)		
Short circuit protection	—			Provided							
Material	Case	Polycarbonate	Polycarbonate	ABS					Zinc die cast		
	Lens	Polycarbonate	Acrylic						Polycarbonate		
Connection	Attached cable (outer dimension: dia. 5mm x 3) 0.14 mm ² 4 cores 1 m	Attached cable (outer dimension: dia. 6.2mm) 0.3 mm ² 4 cores 3 m	Attached cable (outer dimension: dia. 4mm) 0.2 mm ² 3 cores 2 m				Attached cable (outer dimension: dia. 4.2mm) 0.3 mm ² 3 cores 2 m	Attached cable (outer dimension: dia. 4.2mm) 0.3 mm ² 3 cores 2 m			
Weight	Approx. 40g	Approx. 220g	Approx. 55g	Approx. 60g	Approx. 140g		Approx. 250g				
Accessory	Operation manual										

Environmental Specification

Ambient temperature	AS series: -25 - +55°C (non-freezing) PU series: -10 - +55°C
Ambient humidity	35-85%RH (non-condensing)
Protective structure	IP67 (IP 40 for PU10)
Vibration	10-55 Hz / 1.5 mm double amplitude / 2 hours each in 3 direction
Shock	500 VAC for 1 minute
Insulation resistance	500 VDC, 100 MΩ higher

- Applicable power supply unit
PS Series
High capacity of 200 mA at 12 VDC

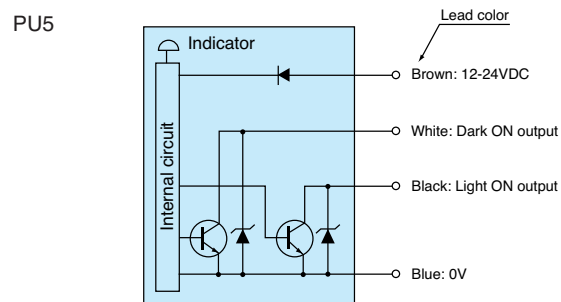


- (General-purpose type) PS3N, PS3N-SR
- (Multifunctional type) PS3F, PS3F-SR

PU AS

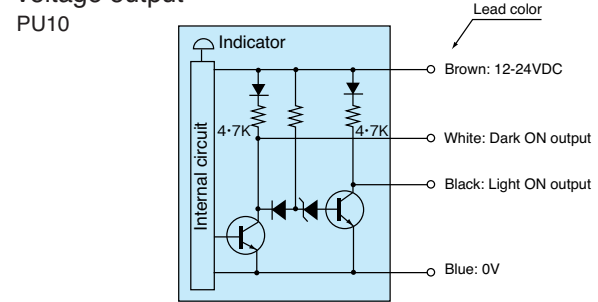
Input/Output Circuit and Connection

• NPN type



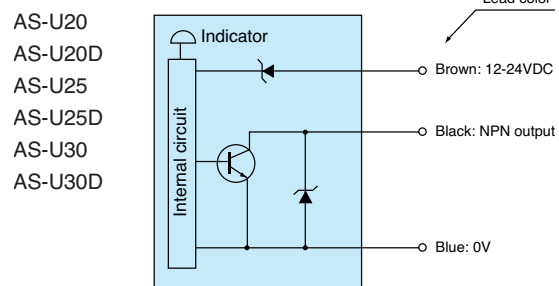
*Insulate any unused output lead.

• Current output Voltage output

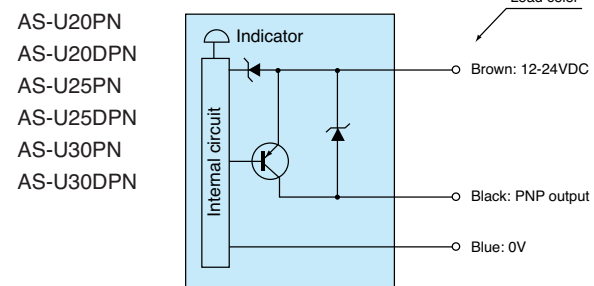


*Insulate any unused output lead

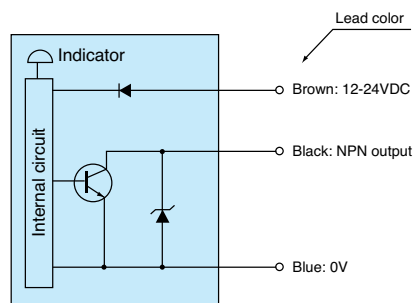
• NPN type



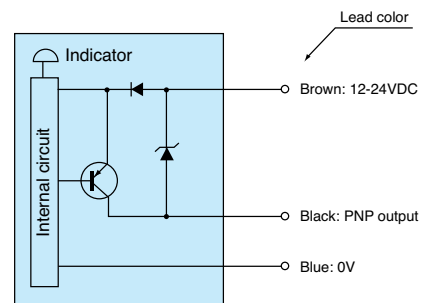
• PNP type



• NPN type AS-U30M



• PNP type AS-U30MPN



■ Dimensions (in mm)

