

PRODUCT OUTLINE

This sensor is a U-shaped embedded amplifier photo sensor provided with robust metal housing. Ready for use to check a position or detect a rotating motion.

SPECIFICATIONS

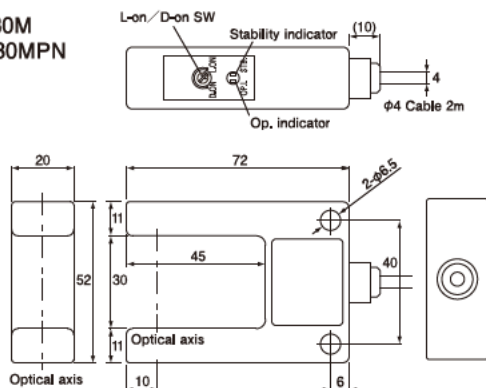
Type	NPN OUTPUT TYPE	PNP OUTPUT TYPE
Model	AS-U30M	AS-U30MPN
Detection method	Through beam (U-shaped)	
Detecting range	30mm (Fixed)	
Detecting object	Opaque ϕ 2mm (Min.)	
Power supply	12 to 24VDC \pm 10% Ripple 10% or less	
Current consumption	30mA or less	
Output mode	NPN open collector Sink current 100mA (30VDC) or less	PNP open collector Source current 100mA (30VDC) or less
Output mode	Light on/Dark on selectable	
Response time	0.5ms or less	
Light source	Infrared LED (880nm)	
Indicator	Operation : Orange. Stability : Green	
Output short protection	Equipped	
Material	Housing	Zinc die-cast
	Lens	Polycarbonate
Connection	Attached cable (outer dia ϕ 4.2) 0.3mm ² \times 3 cores 2m	
Weight	Approx. 250 g	

ENVIRONMENTAL CHARACTERISTICS

Operating temperature	-25 to +55°C (Non freezing)
Humidity	35 to 85%RH (Non condensing)
Ambient light	5,000lx Max.
Protective structure	IP67
Vibration	10 to 55Hz/1.5mm amplitude/2 hours each in 3 direction
Dielectric withstanding	500VAC for 1 minute
Insulation resistance	500VDC, 100M Ω or higher
Storage temperature	-30 to +70°C

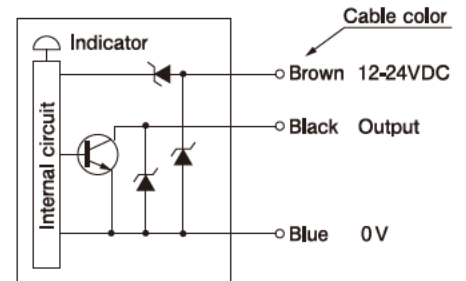
DIMENSIONS (in mm)

Model AS-U30M
AS-U30MPN

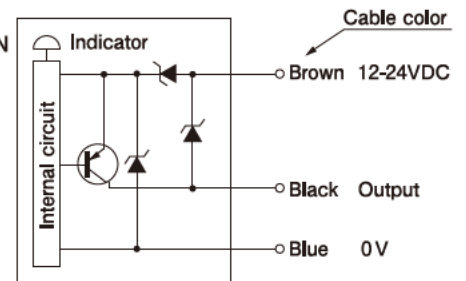


OUTPUT CIRCUIT

NPN output type
Model : AS-U30M



PNP output type
Model : AS-U30MPN



PRECAUTIONS DURING USE

- Use M5 or M6 screw and tighten it with a torque of 1.2N·m or less to fix the sensor.
- Prevent the sensor from contacting with moving object like light-shielding plate.
- Periodically clean the lens using a soft and dry cloth. Stains or dirt on the lens adversely affects performance. Do not use organic solvent such as alcohol thinner.
- Avoid turning the power on and off consecutively.
- Though this sensor has IP67 rated housing, do not use the sensor where water is splashing constantly or under the water.
- Be sure to route the sensor cables separate from any power transmission or high voltage line, or else use shielded cables. Using the same conduit or duct as high voltage or power lines will cause malfunctions or damage because of electromagnetic induction.
- The sensor starts operation after a warm-up period of a few seconds. Always power on the sensor first.
- When using a DC power unit with an insulated transformer or a switching regulator, be sure to ground the frame ground (FG) terminal.
- High frequency fluorescent lamps or inverters may emit light or noise of similar modulated frequency that photo sensors generate. Do not install the sensor in the vicinity of high frequency equipment.
- When extending the wire, use 0.3mm² cable or more in size and limit the length up to 10m. Check a voltage drop.
- Limit the current of the power supply to 2A.
- For switching Light ON/Dark ON, use the attached driver and slowly turn the switch (white).
- Operation LED (orange) turns on when the light is received in Light ON mode. In Dark ON mode it turns on when the light is blocked.

- The guarantee period of this product is one year after the delivery.
- If any defect is found during the guarantee period, Takenaka will repair or replace the defective product.
- This product is an industrial sensor which issues an output upon detecting a target. It does not have any function to prevent accidents, death or injuries.
- Takenaka will not held responsible for any damage or loss incurred due to accidents, faulty installation, abuse, misuse, improper maintenance or acts of God including lightning surge.