

Small, Slim and Compact

A New Standard of Photo Sensors



■ Slim and Space-saving

More compact than inch-pitch photo sensors
Ideal for incorporated applications

■ Flexible mounting options

Close-contact mounting available as the cable exits beneath sensor body

■ Reduces inventory of maintenance

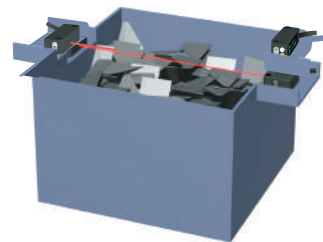
Equipped with NPN and PNP outputs in one sensor
Optimized for different input devices

■ Core performance unchanged

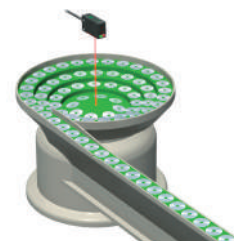
Consolidated conventional GN, Mini-G and Middle-G Series into GNA Series
Designed for easier transition to GNA series

■ Applications

Punched scrap full capacity detection



Parts feeder empty detection



RATING/PERORMANCE/SPECIFICATIONS

Model	Cord drawing type	GNA-T1S	GNA-T10S	GNA-T10RS	GNA-M2RPS	GNA-M2RS	GNA-R7S	GNA-R40S	GNA-R40RS	GNA-Z4S	GNA-Z4RS
	Connector type	GNA-T1SJ	GNA-T10SJ	GNA-T10RSJ	GNA-M2RPSJ	GNA-M2RSJ	GNA-R7SJ	GNA-R40SJ	GNA-R40RSJ	GNA-Z4SJ	GNA-Z4RSJ
Detection method		Through-beam type			Polarized reflector type	Reflector type	Diffusion reflective type			Limited reflective type	
Detection distance		1m	10m		0.07 to 1.3m	0.01 to 2m	70 mm	400 mm		1 to 40 mm	
Detection objects		Opaque objects with $\varnothing 8$ mm or more	Opaque objects with $\varnothing 6$ mm or more		Specular objects Opaque objects	Opaque objects with $\varnothing 40$ mm or more	Standard detection object White drawing paper of 50×50mm	Standard detection object White drawing paper of 100×100mm		Standard detection object White drawing paper of 50×50mm	
Operation power supply		12 to 24V DC ±10%, Ripple: 10% or less									
Current consumption		Transmitter: 14mA or less, Receiver: 10mA or less			No more than 20mA						
Output mode		NPN/PNP Open collector output (cable switch), Load current: 100mA, Residual voltage: 2V or less									
Operation mode		Light-ON/Dark-ON switch operation (Selectable by the switch)									
Mutual interference prevention function		—			Automatic mutual interference prevention function *						
Response time		Up to 0.5ms									
Light source for transmitter		Infrared LED		Red LED	Red LED		Infrared LED		Red LED	Infrared LED	Red LED
Indicators		Transmitter: Power indicator (Green LED) Receiver: Power indicator (Green LED), Stability indicator (Green LED)			Operation indicator (Orange LED), Stability indicator (Green LED)						
Dial		Sensitivity adjustment dial equipped (Receiver side for through-beam type)									
Switch		Light-ON/Dark-ON switch (Equipped on the receiver side for through-beam type)									
Protective circuits		Power reverse connection prevention, output reverse connection prevention, output short-circuit protection									
Materials	Case	Polybutylene terephthalate (PBT)									
	Lens	Acryl (PMMA)			Cyclo Olefin Polymer (COP)		Acryl (PMMA)				Cycloolefin Polymer (COP)
Connection method	Cord drawing type	Cord drawing type (Φ3.5mm o.d.) Transmitter 0.2mm ² ×2 cores, 2m (gray), Receiver 0.2mm ² ×4 cores, 2m (black)			Cord drawing type (Φ3.5mm o.d.), Receiver 0.2mm ² × 4 cores, 2m (black)						
	Connector type	M8 connector type (Cord with M8 connector, separately sold)									
Weight	Cord drawing type	Transmitter/receiver Approx. 60g			Approx. 60g						
	Connector type	Transmitter/receiver Approx. 10g			Approx. 10g						
Accessories					Reflector K-71						
					Screwdriver for adjustment, Instruction manual (mounting brackets separately available)						

*Detection can fluctuate depending on the settings and/or detection targets. Be sure to perform an operation check.

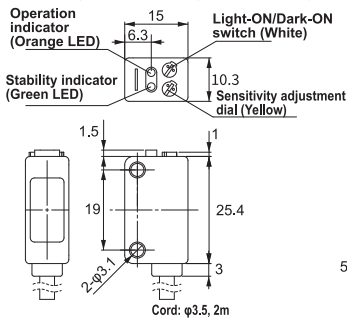
ENVIRONMENTAL SPECIFICATIONS

Ambient light	5,000 lx or less
Ambient temperature	-25 to +55°C (at storage: -40 to +70°C) (no freezing)
Ambient humidity	35 to 85% RH (no dew condensation)
Protection	IP 67
Anti-vibration	10 to 55Hz, double amplitude 1.5mm, X,Y,Z directions, 2 hours each
Shock	500m/s ² , 3 times each in X, Y and Z directions
Dielectric withstand voltage	1,000V AC for 1 min
Insulation resistance	At least 20M Ω with 500V DC Megger

DIMENSIONS

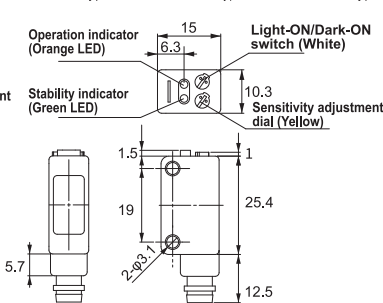
② Cord drawing type

Through-beam (receiver), Polarized reflector type,
Reflector type, Diffusion-reflective type, Limited reflective type



④ M8 connector-type

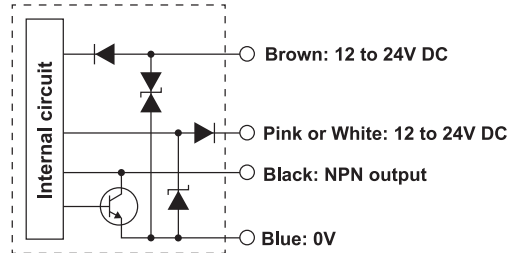
Through-beam (receiver), Polarized reflector type,
Reflector type, Diffusion-reflective type, Limited reflective type



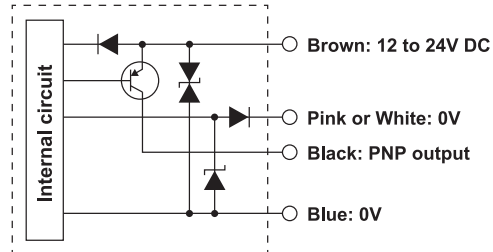
CONNECTION

2. Through-beam type (Receiver), Polarized reflector type, Reflector type, Diffusion-reflective type, Limited reflective type

① When using with NPN output (Connect Pink or White to 12 to 24V DC)



② When using PNP output (Connect Pink or White to 0V)



- This product is designed for industrial applications to detect a various kinds of objects. It has no function to prevent disasters, accidents, death or injuries.
- TAKEX 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.
- This product cannot be used as safety equipment.
- This product is designed and manufactured for industrial use. It cannot be used where there is a requirement for a high degree of reliability or considerable care or attention to safety.
- Read this instruction manual carefully and use the product properly according to it.
- This instruction manual including the specifications and dimensions may be subject to change without notice.



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