

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

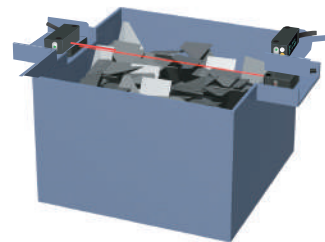
Equipped with NPN and PNP outputs in one sensor
 Optimized for different input devices

■ Core performance unchanged

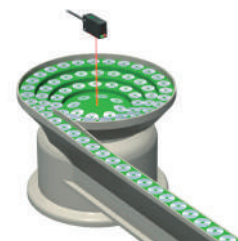
Consolidated conventional GN, Mini-G and Middle-G Series into GNA Series
 Designed for easier transition to GNA series

■ 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 $\Phi 8$ mm or more		Opaque objects with $\Phi 6$ mm or more		Specular objects Opaque objects	Opaque objects with $\Phi 40$ 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 $\pm 10\%$, 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
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	Polybutylene terephthalate (PBT)										
Case											
Lens	Acryl (PMMA)				Cyclo Olefin Polymer (COP)		Acryl (PMMA)			Cycloolefin Polymer (COP)	
Connection method	Cord drawing type ($\Phi 3.5$ mm o.d.) Transmitter 0.2mm \times 2 cores, 2m (gray), Receiver 0.2mm \times 4 cores, 2m (black)				Cord drawing type ($\Phi 3.5$ mm o.d.), Receiver 0.2mm \times 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.

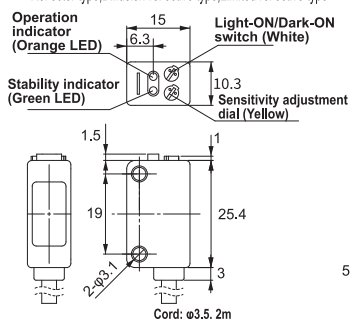
ENVIRONMENTAL SPECIFICATIONS

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

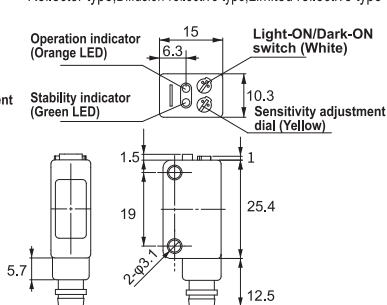
② Cord drawing type

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



④ M8 connector-type

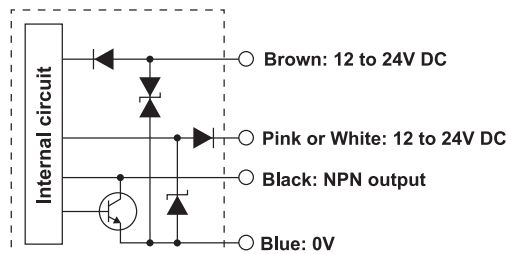
Through-beam (receiver), Polarized reflector type,
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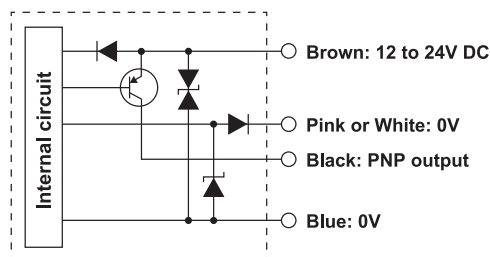
CONNECTION

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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