

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

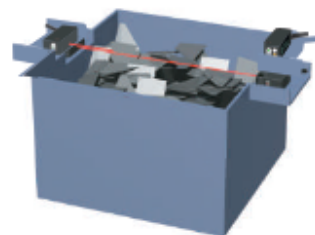
Equipped with NPN and PNP outputs in one sensor
Optimized for different input devices

■ Core performance unchanged

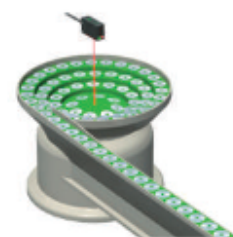
Consolidated conventional GN, Mini-G and Middle-G Series into GNA Series
Designed for easier transition to GNA series

■ Applications

Punched scrap full capacity detection



Parts feeder empty detection



RATING/PERFORMANCE/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 ±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 ($\phi 3.5$ mm o.d.) Transmitter 0.2mm×2 cores, 2m (gray), Receiver 0.2mm×4 cores, 2m (black)			Cord drawing type ($\phi 3.5$ mm 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.

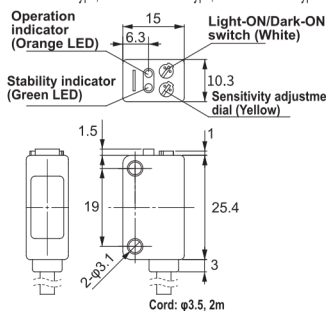
ENVIRONMENTAL SPECIFICATIONS

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	IP67
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

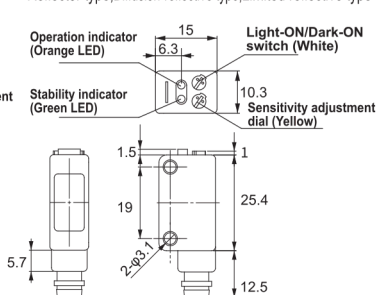
② Cord drawing type

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



④ M8 connector-type

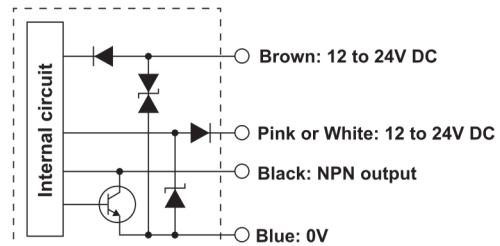
Through-beam (receiver), Polarized reflector type,
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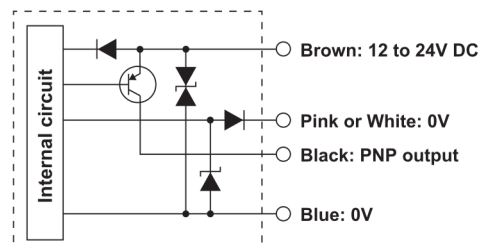
CONNECTION

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)



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