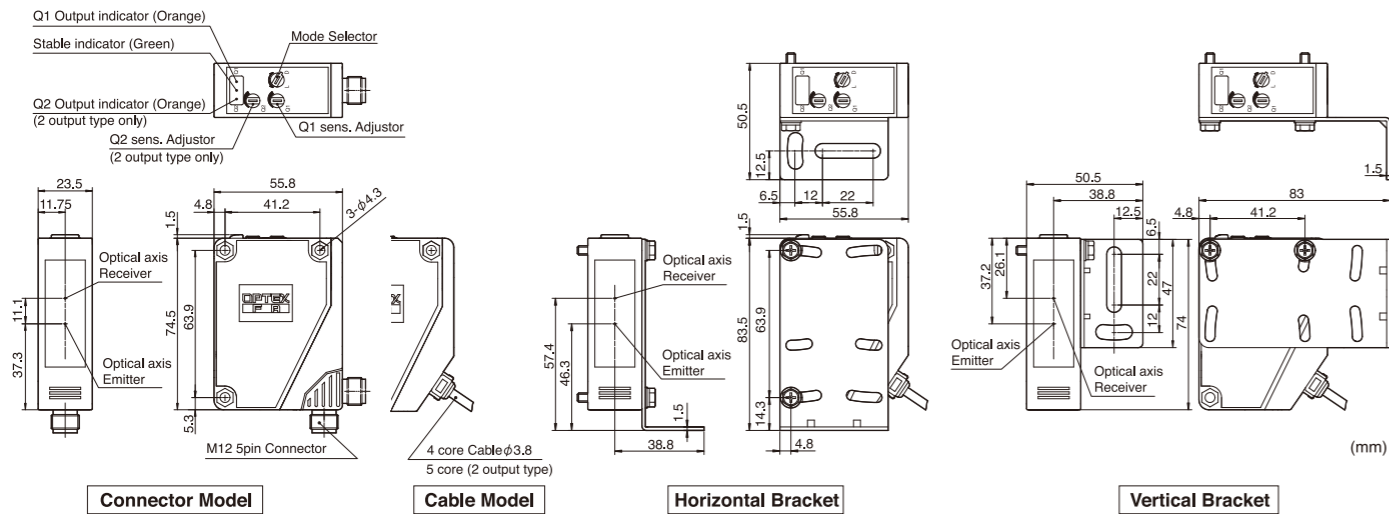




*FASTUS is a product brand of Optex FA.

■ Dimensions



■ Specifications

Models		Diffuse Reflective	Retro Reflective
Cable	NPN	Output 1CH	TOF-3V300N1
		Output 2CH	TOF-3V300N
Connector	NPN	Output 1CH	TOF-3V300CN1
		Output 2CH	TOF-3V300CN
Cable	PNP	Output 1CH	TOF-3V300P1
		Output 2CH	TOF-3V300P
Connector	PNP	Output 1CH	TOF-3V300CP1
		Output 2CH	TOF-3V300CP
Objects		Opaque 6%... 90%	Reflector : V-61
Sensing distance		3000mm (90% white)	20m with Reflector V-61
Light source		Red laser λ=650nm (class1)	
Spot size		φ12mm@3m	φ50mm@20m
Optical angle deviation		0.5°(9mrad) or less	
Hysteresis		15% Max : 300... 1500mm / 6% Max:1500... 3000mm	10% Max : 1... 4m / 3% Max:4... 20m
Resolution		2mm	10mm
Response time		0.5ms	2ms
Operating mode		Light ON/ Dark ON selectable	
Environmental illuminance		Sunlight : 4,000lx, Incandescent lamp : 3,000lx @1m	
Indicator		Output indicator: Orange x 2 (2 output type), Stable output: Green	
Sensitivity adjustment		4-turn Potentiometer	12-turn Potentiometer.
External input		Laser OFF	
Crosstalk prevention		2pcs Max.	
Supply voltage		DC10 - 30V ±10%, 70mA max.	
Circuit protection		Reverse Polarity, Over current	
Control output		2x NPN/PNP, Open collector, 30V/100mA, (Residual voltage 1.8V max.)	
Connection (cable)		φ3.8 2m cable 5 cores (2 output type), 4cores (1 output type)	
Connection (M12 connector)		M12, 5pin (DOL-1205-G02M-R / DOL-1205-G05M-R)	
EMC		EN60497-5-2	
Feilen anti-noise test		level 4	
Warm-up time		300ms	
Internal short circuit		according to VDE 160	
Plastic materials		ABS/PMMA	
Protection category		IP67	
Vibration resistance		10...55Hz	
Shock resistance		500m/s2(50G)	
UL		CUL	
CE		EMC directive	
Operating temp. humidity		-10... +50°C, 35...85%	
Storage temp. humidity		-40... +70°C, 35...95%	
Temperature drift		±1% max.	
Laser class		FDA: Class I JIS/IEC: Class1	

- Specifications are subject to change without prior notice.
- Specifications and technical information not mentioned here are written in Instruction Manual. Or visit our website for details.
- All the warnings and cautions to know prior to use are given in Instruction Manual.



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78005-00-QL1307

OPTEX FA CO., LTD.

TOF, Time Of Flight, is one of methods to measure the distance by measuring time to the object.

TOF sensor can measure the distance to the object regardless its color and angle.

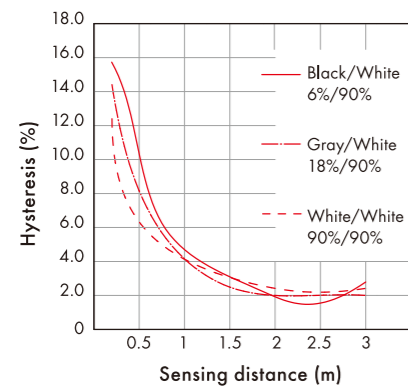
Features

TOF with 2mm resolution

The TOF sensing method provides very accurate sensing that is not affected by background and target color. At a sensing distance of 3meters (black 6%) the repeat accuracy is only 2mm.

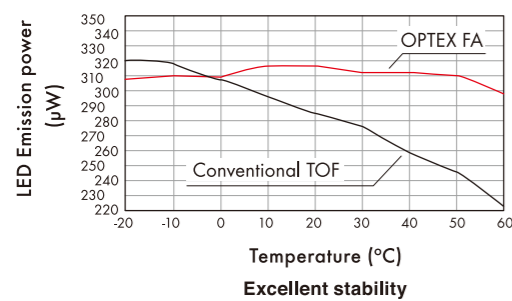
Super tight hysteresis

Optex FA's skill in TOF technology design provides super tight hysteresis between black and white objects (2% at a 3 meter distance)



World's top stability

TOF series sensor released by Optex FA maintains emission power without being influenced by temperature increase from continuous use. World's top stability is achieved.



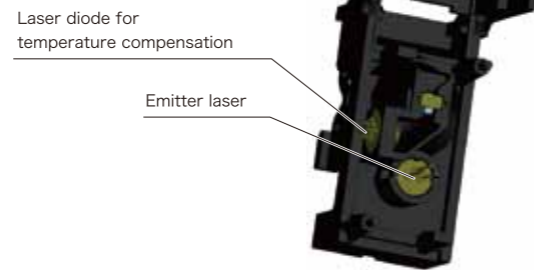
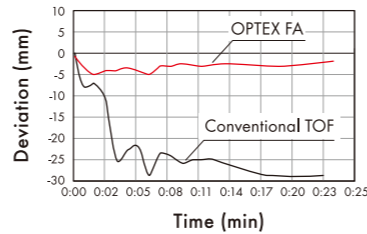
Crosstalk prevention-2pcs MAX.

Up to 2pcs can be mounted side by side



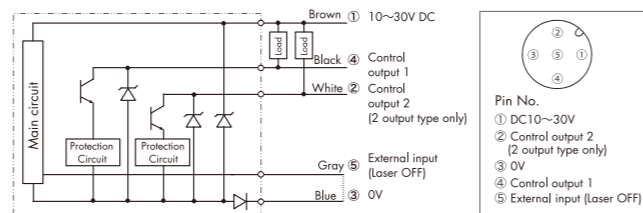
Dual laser system

The sensor uses two laser diodes in order to compensate for temperature drift of the laser pulse rise time. One laser diode is inside the case and emits directly to a receiving diode. The other emits on the outside of the case. By compensating for the time difference between the two laser pulses, the time measurement remains consistent regardless of temperature changes.



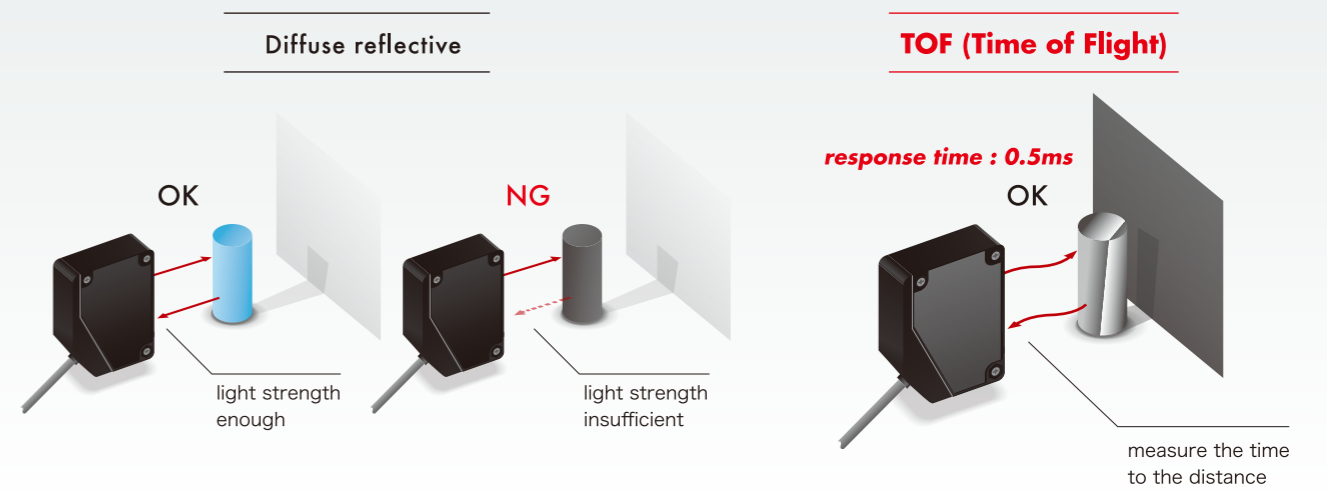
2 output type with individual thresholds

It has two potentiometers so the distance threshold for each output can be adjusted individually.



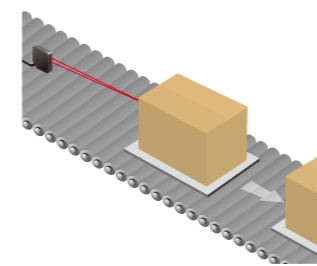
12-turn potentiometer (Retro reflective) for fine adjustment

12 turn potentiometer is built-in on Retro Reflective type for precise adjustment. (4 turn potentiometer on Diffuse reflective type)

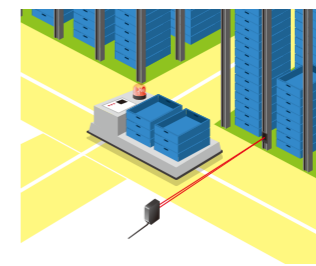


Typical Applications

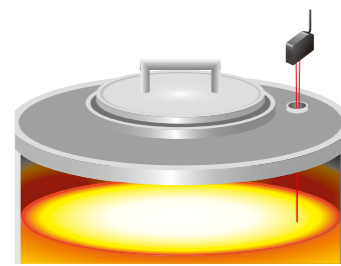
Position detection of items on moving palette.



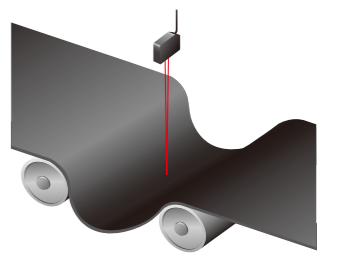
Position detection of automated guided vehicle.



Level detection of melted aluminum liquid.

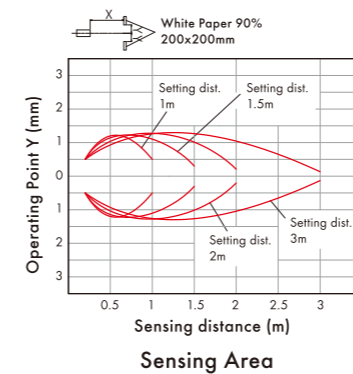


Height control of loosen rubber sheet.

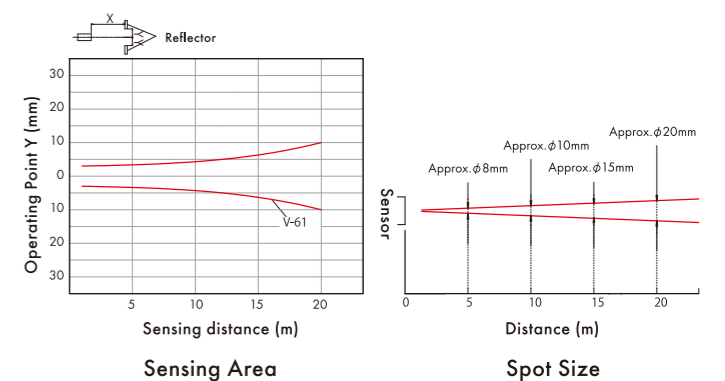


Figures

TOF-3V300N(P)

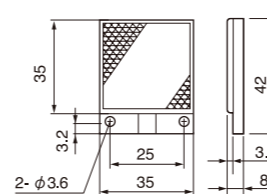


TOF-3V2000N(P)

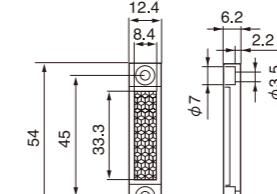


Options

Small reflector V-42

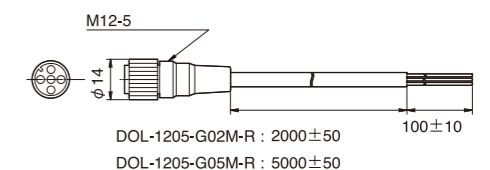


Tiny reflector P45A



Cable for M12 connector type

DOL-1205-G02M-R (2M type)
DOL-1205-G05M-R (5M type)



DOL-1205-G02M-R : 2000±50
DOL-1205-G05M-R : 5000±50

(mm)