## **Photomicrosensors Technical Guide**

## **Definition of Terms**

Term		Reference diagram	Explanation
Non-modulated light			Method used to detect light steadily emitted by the emitter element.
Modulated light			Method used to detect light emitted in pulses by the emitter element.
Sensing distance	Through- beam Sensors (with slot)	Slot width — Sensing distance  Emitter Receiver	The slot width, i.e., the distance between the opposing faces of the emitter and receiver, is the sensing distance.
	Through- beam Sensors	Emitter Receiver	The minimum distance that can be set considering factors such as the variation between products and fluctuations in temperature.  Note: The actual value under standard conditions for each method is longer than the rated sensing distance.
	Retroreflec- tive Sensors	Emitter/receiver	
	Diffuse-re- flective Sensors Limited- reflective Sensors	Sensing distance Sensing object	The minimum distance that can be set for a standard sensing object (white paper) considering factors such as the variation between products and fluctuations in temperature.  Note: The actual value under standard conditions for each method is longer than the rated sensing distance.
Differential distance		Releases Operates Operates Operates Through-beam Reflective Operates Differential distance	The difference in distance between the operating point and releasing point.
Response frequency		(Example for Slot Sensor)  Disk  2.1 mm <sup>1</sup> mm  t = 0.2 mm	The frequency at which an object satisfying specified conditions (size, transparency rate, reflection factor, sensing distance, and power supply voltage) can be repeatedly detected.
Response time		O Light input  Control output  Operating time Releasing time (t on) (t off)	The delay from the light input turning ON/OFF until the control output operation or release operation.  The following equation generally applies. Operating time (Ton) ≈ Releasing time (Toff)
Ambient illumination		White paper White paper White paper White paper Receiver Receiver	The level of illumination on the sensing surface that enables stable operation of the Sensor.

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