

Adjustable Range & Fixed-focus Reflective Photoelectric Sensor

The EQ-500 series of photoelectric sensors provides a long-range diffuse reflective solution that is suitable for applications where it is not feasible to get close to the sensing object. The sensor is impervious to changes in an object's angle, gloss, or even color, so you get an accurate detection every time. Built in an IP-67 rated enclosure, the EQ-500 series is also good for use in harsh environments. The sensing range is easily adjustable to a maximum of 2.5m (1m version also available). There are two main product types available:

Multi-Voltage Type

- Can be powered with 24-240VAC or 12-240VDC. This free ranging input allows for nearly any power source in the world to be
 used.
- 1 Form A relay output is used which is suitable for direct switching of a load up to 3A 250VAC (resistive) or 3A 30VDC (resistive).

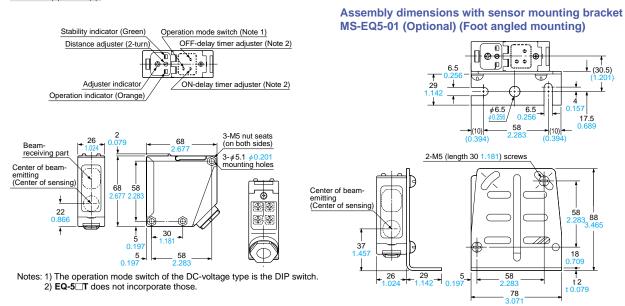
DC-Voltage Type

- Powered by 12-24 VDC
- NPN and PNP transistor outputs are used.
- Equipped with Background and Foreground suppression to eliminate the effects of unwanted objects and provides more stability in your sensing operation.

All models are also available with a built-in ON or OFF delay timer function.

Model Name	Model Pic	Туре	Output Operation	Output Configuration	Emitting Element	Max. Range (mm)	Max. Range (in)
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EQ-501		Multi-voltage, Long Sensing, Adjustable Range	Light-ON/Dark- ON	Relay Contact 1a	Infrared LED	2500	98.4
EQ-501T		Multi-voltage, Long Sensing, Adjustable Range w/ Timer	Light-ON/Dark- ON	Relay Contact 1a	Infrared LED	2500	98.4
EQ-502		Multi-voltage, Long Sensing, Adjustable Range	Light-ON/Dark- ON	Relay Contact 1a	Infrared LED	1000	39.4
EQ-502T		Multi-voltage, Long Sensing, Adjustable Range w/Timer	Light-ON/Dark- ON	Relay Contact 1a	Infrared LED	1000	39.4
EQ-511		DC-voltage Long sensing Adjustable Range, BGS/	Light-ON/Dark- ON	NPN/PNP	Infrared LED	2500	98.4

EQ-501(T) EQ-502(T) Sensor



SPECIFICATIONS

	T	Multi-voltage				DC-voltage					
	Туре		With timer		With timer		With timer		With timer		
Iten	Model No.	EQ-501	EQ-501T	EQ-502	EQ-502T	EQ-511	EQ-511T	EQ-512	EQ-512T		
Adju	stable range (Note 1) (Note 2)	0.2 to 2.5 m 0.656 to 8.202 ft		0.2 to 1.0 m 0	0.2 to 1.0 m 0.656 to 3.281 ft		0.2 to 2.5 m 0.656 to 8.202 ft		0.2 to 1.0 m 0.656 to 3.281 ft		
Sensing range (at maximum setting distance) (Note 2)		0.1 to 2.5 m 0	328 to 8.202 ft	0.1 to 1.0 m 0	0.1 to 1.0 m 0.328 to 3.281 ft		0.1 to 2.5 m 0.328 to 8.202 ft		0.1 to 1.0 m 0.328 to 3.281 ft		
Hysteresis		10 % or less of operation distance									
Supply voltage		24 to 240 V AC \pm 10 % or 12 to 240 V DC \pm 10 % Ripple P-P 10 % or less				12 to 24 V DC ± 10 % Ripple P-P 10 % or less					
Power / Current consumption		AC: 4 VA or less DC: 3 W or less DC: 4 W or less DC: 3 W or less DC: 4 W or le									
Output		Relay contact 1a • Switching capacity: 250 V AC 3 A (resistive load) 30 V DC 3 A (resistive load) • Electrical life: 100,000 or more switching operations (switching frequency 1,200 operations/hour) • Mechanical life: 50 million or more switching operations (switching frequency 18,000 operations/hour)				NPN open-collector transistor • Maximum sink current: 100 mA • Applied voltage: 30 V DC or less (between output and 0 V) • Residual voltage: 1 V or less (at 100 mA sink current) 0.4 V or less (at 16 mA sink current) PNP open-collector transistor • Maximum source current: 100 mA • Applied voltage: 30 V DC or less (between output and + V) • Residual voltage: 1 V or less (at 100 mA source current) 0.4 V or less (at 16 mA source current)					
	Output operation			Switchal	ble either Detecti	ion-ON or Detec	tion-OFF				
	Short-circuit protection					Incorporated					
Res	ponse time	20 ms or less (For EQ-50 □ T depends on the setting timer period)				2 ms or less (For EQ-51 T depends on the setting timer period)					
Ope	ration indicator	Orange LED (lights up when the output is ON)									
Stal	oility indicator	Green LED (lights up under stable operating condition)									
Distance adjuster		2-turn mechanical adjuster with indicator									
Sensing mode		Switchable either BGS or FGS function						ction			
Timer function			Incorporated with variable (0.1 to 5 sec.) ON-delay / OFF-delay timer		Incorporated with variable (0.1 to 5 sec.) ON-delay / OFF-delay timer		Incorporated with variable (0.1 to 5 sec.) ON-delay / OFF-delay timer		Incorporated with variable (0.1 to 5 sec.) ON-delay / OFF-delay timer		
Automatic interference prevention function											
	Protection	IP67 (IEC)									
nce	Ambient temperature	-20 to +55 °C −4 to +131 °F (No dew condensation or icing allowed), Storage: -30 to +70 °C −22 to +158 °F									
sista	Ambient humidity	35 to 85 % RH, Storage: 35 to 85 % RH									
alre	Ambient illuminance	Sunlight: 10,000 ℓ x at the light-receiving face, Incandescent light: 3,000 ℓ x at the light-receiving face									
Environmental resistance	Voltage withstandability	2,000 V AC for one min. among supply terminals, non-supply metal parts and relay contact output terminals, 1,000 V AC for one min. between relay contacts									
/iron	Insulation resistance	100 MΩ, or more, with 500 V DC megger among supply terminals, non-supply metal parts and relay contact output terminals as well as between relay contacts									
Ē	Vibration resistance		10 to 55 Hz frequency, 1.5 mm 0.059 in amplitude in X, Y and Z directions for two hours each								
	Shock resistance	500 m/s ² acceleration (50 G approx.) in X, Y and Z directions for three times each									
Emi	tting element	Infrared LED (modulated)									
Receiving element		2-segment photodiode									
Material		Enclosure: ABS, Front cover: Polycarbonate, Display cover: Polycarbonate									
Connection method		Screw-on terminal connection									
Cable				Suitable for ro	ound cable	φ 11 mm φ 0.35	4 to				
Cable length		Extension up to total 100 m 328.084 ft is possible with 0.3 mm², or more, cabtyre cable									
Weight		100 g approx. 85 g approx.									
Accessory		Adjusting screwdriver: 1 pc.									