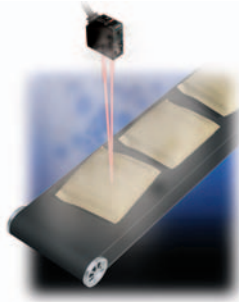


- FIBER SENSORS
- LASER SENSORS
- PHOTO-ELECTRIC SENSORS
- MICRO PHOTO-ELECTRIC SENSORS
- AREA SENSORS
- LIGHT CURTAINS / SAFETY COMPONENTS
- PRESSURE / FLOW SENSORS
- INDUCTIVE PROXIMITY SENSORS
- PARTICULAR USE SENSORS
- SENSOR OPTIONS
- SIMPLE WIRE-SAVING UNITS
- WIRE-SAVING SYSTEMS
- MEASURE-MENT SENSORS
- STATIC ELECTRICITY PREVENTION DEVICES
- LASER MARKERS
- PLC
- HUMAN MACHINE INTERFACES
- ENERGY CONSUMPTION VISUALIZATION COMPONENTS
- FA COMPONENTS
- MACHINE VISION SYSTEMS
- UV CURING SYSTEMS
- Selection Guide
- Amplifier Built-in
- Power Supply Built-in
- Amplifier-separated
- CX-400
- CY-100
- EX-10
- EX-20
- EX-30
- EX-40
- CX-440
- EQ-30
- EQ-500**
- MQ-W
- RX-LS200
- RX
- RT-610

**ENVIRONMENTAL RESISTANCE**

**Little affected by contamination on lens**

Even if the lens surface gets somewhat dirty from dust particles, there is very little change in the operation field, by usage adjustable range system.



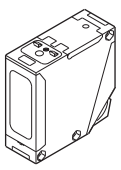
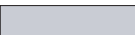

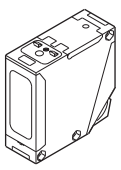
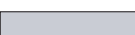

**Waterproof**

IP67 protection permits use in environments where water may splash.



Note: Sensor may detect a water drop itself, if it is exposed to water splashes during operation.

**ORDER GUIDE**

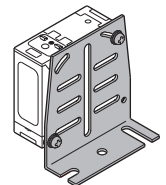
Type	Appearance	Sensing range	Model No.	Supply voltage	Output	Timer function
Multi-voltage With timer		 0.1 to 2.5 m 0.328 to 8.202 ft	EQ-501	24 to 240 V AC ±10 % or 12 to 240 V DC ±10 %	Relay contact 1a	—
			EQ-501T			ON-delay / OFF-delay timer (Timer period: 0.1 to 5 sec.)
		 0.1 to 1.0 m 0.328 to 3.281 ft	EQ-502			—
			EQ-502T			ON-delay / OFF-delay timer (Timer period: 0.1 to 5 sec.)
DC-voltage With timer		 0.1 to 2.5 m 0.328 to 8.202 ft	EQ-511	12 to 24 V DC ±10 %	NPN open-collector transistor  PNP open-collector transistor ( Equipped with ) 2 outputs	—
			EQ-511T			ON-delay / OFF-delay timer (Timer period: 0.1 to 5 sec.)
		 0.1 to 1.0 m 0.328 to 3.281 ft	EQ-512			—
			EQ-512T			ON-delay / OFF-delay timer (Timer period: 0.1 to 5 sec.)

**OPTION**

Designation	Model No.	Description
Sensor mounting bracket	<b>MS-EQ5-01</b>	Foot / back angled mounting bracket

**Sensor mounting bracket**

- MS-EQ5-01



Two M5 (length 30 mm 1.181 in) screws with washers and two nuts are attached.

**SPECIFICATIONS**

Item	Type Model No.	Multi-voltage				DC-voltage			
		With timer		With timer		With timer		With timer	
		EQ-501	EQ-501T	EQ-502	EQ-502T	EQ-511	EQ-511T	EQ-512	EQ-512T
Adjustable range (Note 2,3)		0.2 to 2.5 m	0.656 to 8.202 ft	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 max. setting distance) (Note 3)		0.1 to 2.5 m	0.328 to 8.202 ft	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 (Note 3)		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 $\pm 10$ % Ripple P-P 10 % or less			
Power / Current consumption		AC: 4 VA or less DC: 3 W or less	AC: 5 VA or less DC: 4 W or less	AC: 4 VA or less DC: 3 W or less	AC: 5 VA or less DC: 4 W or less	45 mA or less			
Output		Relay contact 1a				NPN open-collector transistor			
		<ul style="list-style-type: none"> <li>Switching capacity: 250 V AC 3 A (resistive load) 30 V DC 3 A (resistive load)</li> <li>Electrical life: 100,000 or more switching operations (switching frequency 1,200 operations/hour)</li> <li>Mechanical life: 50 million or more switching operations (switching frequency 18,000 operations/hour)</li> </ul>				<ul style="list-style-type: none"> <li>Maximum sink current: 100 mA</li> <li>Applied voltage: 30 V DC or less (between output and 0 V)</li> <li>Residual voltage: 1 V or less (at 100 mA sink current) 0.4 V or less (at 16 mA sink current)</li> </ul>			
		<ul style="list-style-type: none"> <li>PNP open-collector transistor</li> <li>Maximum source current: 100 mA</li> <li>Applied voltage: 30 V DC or less (between output and +V)</li> <li>Residual voltage: 1 V or less (at 100 mA source current) 0.4 V or less (at 16 mA source current)</li> </ul>							
Output operation		Switchable either Detection-ON or Detection-OFF							
Short-circuit protection		—				Incorporated			
Response 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)			
Operation indicator		Orange LED (lights up when the output is ON)							
Stability 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			
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		Incorporated (Note 4)							
Environmental resistance	Protection	IP67 (IEC)							
	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							
	Ambient humidity	35 to 85 % RH, Storage: 35 to 85 % RH							
	Ambient illuminance	Incandescent light: 3,000 lx at the light-receiving face							
	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				1,000 V AC for one min. between all supply terminals connected together and enclosure			
	Insulation resistance	100 M $\Omega$ , 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				20 M $\Omega$ , or more, with 250 V DC megger between all supply terminals connected together and enclosure			
	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 <sup>2</sup> acceleration (50 G approx.) in X, Y and Z directions for three times each							
Emitting element		Infrared LED (Peak emission wavelength: 855 nm 0.034 mil, modulated)							
Receiving element		2-segment photodiode							
Material		Enclosure: ABS, Front cover: Polycarbonate, Display cover: Polycarbonate							
Connection method		Screw-on terminal connection							
Cable		Suitable for round cable $\varnothing 9$ to $\varnothing 11$ mm $\varnothing 0.354$ to $\varnothing 0.433$ in							
Cable length		Total length up to 100 m 328.084 ft is possible with 0.3 mm <sup>2</sup> , or more, cabtyre cable.							
Weight		Net weight: 100 g approx.				Net weight: 85 g approx.			
Accessory		Adjusting screwdriver: 1 pc.							

- Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +23 °C +73.4 °F.  
2) The adjustable range stands for the maximum sensing range which can be set with the distance adjuster. The sensor can also detect an object 0.1 m 0.328 ft, or more, away.  
3) The adjustable range, sensing range and hysteresis are specified for white non-glossy paper (200 × 200 mm 7.874 × 7.874 in) as the object.  
4) Note that the detection may be unstable depending on the mounting conditions or the sensing object. In the state that this product is mounted, be sure to check the operation with the actual sensing object. Refer to "Automatic interference function (p.368)" of "PRECAUTIONS FOR PROPER USE" for details.

FIBER SENSORS

LASER SENSORS

PHOTO-ELECTRIC SENSORS

MICRO PHOTO-ELECTRIC SENSORS

AREA SENSORS

LIGHT CURTAINS / SAFETY COMPONENTS

PRESSURE / FLOW SENSORS

INDUCTIVE PROXIMITY SENSORS

PARTICULAR USE SENSORS

SENSOR OPTIONS

SIMPLE WIRE-SAVING UNITS

WIRE-SAVING SYSTEMS

MEASUREMENT SENSORS

STATIC ELECTRICITY PREVENTION DEVICES

LASER MARKERS

PLC

HUMAN MACHINE INTERFACES

ENERGY CONSUMPTION VISUALIZATION COMPONENTS

FA COMPONENTS

MACHINE VISION SYSTEMS

UV CURING SYSTEMS

Selection Guide

Amplifier Built-in

Power Supply Built-in

Amplifier-separated

CX-400

CY-100

EX-10

EX-20

EX-30

EX-40

CX-440

EQ-30

EQ-500

MQ-W

RX-LS200

RX

RT-610