FIBER SENSORS

LASER SENSORS

ELECTRIC SENSOR: MICRO PHOTO ELECTRIC SENSOR:

> AREA SENSORS LIGHT CURTAINS/ SAFETY COMPONENTS

INDUCTIVE PROXIMITY SENSORS PARTICULAR USE SENSORS

PRESSURE / FLOW SENSORS

SENSOR OPTIONS

SIMPLE WIRE-SAVING UNITS WIRE-SAVING SYSTEMS

MEASURE-MENT SENSORS STATIC ELECTRICITY PREVENTION DEVICES

LASER MARKERS PLC

HUMAN

MACHIN INTERFACE: ENERG CONSUMPTIO VISUALIZATIO COMPONENT

MACHINE VISION SYSTEMS

CURING SYSTEMS

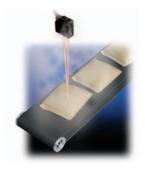
CX-400 CY-100 EX-10

EX-20 EX-40 CX-440 EQ-30 EQ-500 MQ-W RX-LS200 RX

## **ENVIRONMENTAL RESISTANCE**

# Little affected by contamination on lens

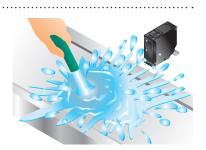
Even if the lens surface gets somewhat dirty from dust particles, there is very little change in the operation field, by usage adjustable range system.



## 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

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

# OPTION

Designation	Model No.	Description				
Sensor mounting bracket	MS-EQ5-01	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

Туре		Multi-voltage				DC-voltage				
		With timer With timer					With timer	l	With timer	
Item	n Model No.	EQ-501	EQ-501T	EQ-502	EQ-502T	EQ-511	EQ-511T	EQ-512	EQ-512T	
Adjustable range (Note 2,3)					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				
Hysteresis (Note 3)						peration distance				
Supply voltage		24 to 240 V AC ±10 % or 12 to 240 V DC ±10 % Ripple P-P 10 % or less				12 to 24 V DC ±10 % Ripple P-P 10 % or less				
Pow	er / Current consumption	AC: 4 VA or less AC: 5 VA or less AC: 4 VA or less AC: 5 VA or less DC: 3 W or less DC: 4 W or less DC: 3 W or less DC: 4 W or less			45 mA or less					
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	Switchable either Detecti				ion-ON or Detection-OFF				
	Short-circuit protection					Incorporated				
Res	ponse time	20 ms or less (For <b>EQ-50</b> □ <b>T</b> depends on the setting timer period)			2 ms or less (For <b>EQ-51</b> □ <b>T</b> depends on the setting timer period)					
Operation indicator		Orange LED (lights up when the output is ON)								
Stab	oility indicator	Green LED (lights up under stable operating condition)								
Distance adjuster		2-turn mechanical ac				djuster 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		, , , , , , , , , , , , , , , , , , , ,				ted (Note 4)				
	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								
ce	Ambient humidity	35 to 85 % RH, Storage: 35 to 85 % RH								
esistance	Ambient illuminance	Incandescent light: 3,000 \&\text{x 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				
Environmental	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			$20~\text{M}\Omega,$ 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 amplit				tude in X, Y and Z directions for two hours each				
	Shock resistance	500 m/s² acceleration (50 G approx.) in X, Y and Z directions for three times each								
Emit	ting element	Infrared LED (Peak emission wavelength: 855 nm 0.034 mil, modulated)								
Rece	eiving element	2-segment photodiode								
Material		Enclosure: ABS, Front cover: Polycarbonate, Display cover: Polycarbonate								
Connection method		Screw-on terminal connection								
Cable		Suitable for round cable ø9 to ø11 mm ø0.354 to ø0.433 in								
Cable length		Total length up to 100 m 328.084 ft is pose				sible with 0.3 mm², or more, cabtyre cable.				
Weight		Net weight: 100 g approx.				Net weight: 85 g approx.				
Acce	essory	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.										

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.

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PLC

HUMAN MACHINE INTERFACES ENERGY CONSUMPTION VISUALIZATION COMPONENTS

FA COMPONENTS

MACHINE VISION SYSTEMS

URING YSTEMS

Selection Guide Amplifier Built-in

Power Supply Built-in Amplifierseparated

CX-400 CY-100 EX-10

EX-20 EX-30 EX-40

CX-440

EQ-30

MQ-W RX-LS200

RX RT-610