LASER SENSORS

MICRO PHOTOELECTRIC SENSORS AREA SENSORS

LIGHT
CURTAINS

PRESSURE,
FLOW
SENSORS
INDUCTIVE
PROXIMITY
SENSORS

PARTICULAR
USE SENSORS

SENSOR
OPTIONS

WIRE-SAVING
UNITS

WIRE-SAVING
SYSTEMS

MEASUREMENT
SENSORS

STATIC CONTROL

ENDOSCOPE

HUMAN MACHINE INTERFACES

ENERGY CONSUMPTION VISUAL IZATION

FA COMPONENTS

MACHINE VISION SYSTEMS

UV CURING SYSTEMS

COMPONENTS

LASER MARKERS PLC / TERMINALS

Adjustable Range Reflective Photoelectric Sensor Amplifier Built-in

RX-LS200

FIBER SENSORS Related Information

■ Sensor selection guide......P.283~
■ General precautions.......P.1405







Detection of different colored objects at a certain distance

Hardly affected by color

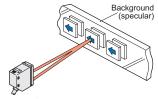
The color or size of the object does not affect its sensing performance.

Robust

Its robust enclosure is made of die-cast zinc alloy.

Hardly affected by background

The sensor does not detect the background beyond the set distance since it is of distance adjustable type.



However, changing the angle of the sensor is necessary when the background object has a specular surface.

ENVIRONMENTAL RESISTANCE

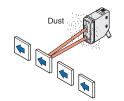
Waterproof IP67 (IEC)

The equipment on which the sensor is mounted can be washed without any problem.

Note: However, take care that if it is exposed to water splashes during operation. It may detect a water drop itself.

Insusceptible to dust

The sensing performance is less affected by dust as it does not depend on the incident light intensity.



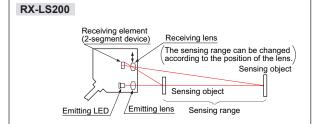
BASIC PERFORMANCE

High-speed response time: 1 ms

It can be used on a high speed assembly line.

Adjustable Range & Fixed-focus Reflective Type

The sensing range for which the sensor detects an object is determined by the incident beam angle, regardless of the incident light intensity.



Selection Guide Amplifier Built-in Power Supply Built-in Amplifierseparated

EX-400 EX-10 EX-20

EX-40 CX-440

EQ-30 EQ-500 MQ-W

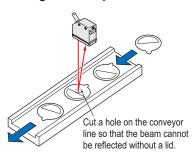
RX-LS200

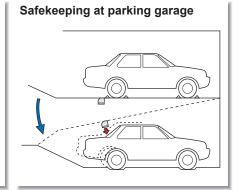
RX

RT-610

APPLICATIONS

Detecting lids of cups





ORDER GUIDE

Туре	Appearance	Sensing range	Model No.	Output
NPN output		50 to 200 mm	RX-LS200	NPN open-collector transistor
PNP output		1.969 to 7.874 in	RX-LS200-P	PNP open-collector transistor

5 m cable length type

 $5\ m$ $16.404\ ft$ cable length type (standard: $3\ m$ $9.843\ ft)$ is also available for NPN output type. Model No.: RX-LS200-C5

Accessory

• MS-RX-1 (Sensor mounting bracket)



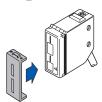
Two M4 (length 16 mm 0.630 in) hexagon-socket-head bolts are attached.

OPTIONS

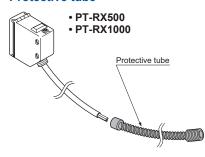
Designation	Model No.	Description		Description
	OS-RXL-1	Slit size	2.5 × 24 mm 0.098 0.945 in	The sensing view is narrowed laterally so that the effect of the object's surroundings is reduced.
Narrow-view slit mask	OS-RXL-2		3.0 × 24 mm 0.118 0.945 in	
	OS-RXL-3		3.5 × 24 mm 0.138 0.945 in	
Protective tube	PT-RX500	Length	500 mm 19.685 in	Cable is protected from external forces It does not rust as it is made of stainless steel.
	PT-RX1000		1,000 mm 39.370 in	

Narrow-view slit mask

• OS-RXL-□



Protective tube



FIBER SENSORS

LASER SENSORS

PHOTO-ELECTRIC SENSORS MICRO PHOTO-ELECTRIC

AREA SENSORS

LIGHT CURTAINS

PRESSURE / FLOW SENSORS

INDUCTIVE PROXIMITY SENSORS

PARTICULAR USE SENSORS

SENSOR OPTIONS

WIRE-SAVING UNITS

SYSTEMS

MEASURE-MENT SENSORS

STATIC CONTROL DEVICES

ENDOSCOPE

LASER MARKERS

PLC / TERMINALS

HUMAN MACHINE INTERFACES

ENERGY CONSUMPTION VISUALIZATION COMPONENTS

FA COMPONENTS

MACHINE VISION SYSTEMS

SYSTEMS

Selection Guide Amplifier Built-in Power Supply Built-in

Amplifierseparated

EX-10 EX-20

EX-20 EX-30

EX-40

CX-440 EQ-30

EQ-500

MQ-W

RX RT-610 FIBER SENSORS

PHOTO-ELECTRIC SENSORS

PHOTO-ELECTRIC SENSORS AREA SENSORS

LIGHT CURTAINS

PRESSURE / FLOW SENSORS

INDUCTIVE PROXIMITY

PARTICULAR USE SENSORS

SENSOR OPTIONS

SIMPLE WIRE-SAVING UNITS

WIRE-SAVING SYSTEMS

MEASURE-MENT SENSORS

STATIC CONTROL DEVICES

ENDOSCOPE

LASER MARKERS PLC / TERMINALS

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-

> EX-20 EX-20 EX-30 EX-40 CX-440 EQ-30 EQ-500 MQ-W

RT-610

I/O circuit diagram

SPECIFICATIONS

NPN output type RX-LS200 RX-LS200-P Sensing range 50 to 200 mm 1,969 to 7,874 in with white non-glossy paper (50 × 50 mm 1,969 × 1,969 in) Hysteresis 10 % or less of operation distance with white non-glossy paper (50 × 50 mm 1,969 × 1,969 in) Repeatability Along sensing axis: 1 mm 0,039 in or less, Perpendicular to sensing axis: 0.5 mm 0,020 in or less Supply voltage 12 to 24 V DC ±10 % Ripple P-P 10 % or less Current consumption 40 mA or less NPN open-collector transistor • Maximum sink current: 100 mA • Applied voltage; 30 V DC or less (between output and 0 V) • Residual voltage; 15 V or less (at 100 mA sink current) Output Popen-collector transistor • Maximum sink current: 100 mA • Applied voltage; 30 V DC or less (set 100 mA sink current) Output operation Switchable either Light-ON or Dark-ON Short-circuit protection Incorporated Response time 1 ms or less Operation indicator Green LED (lights up under stable light received condition or stable dark condition) Stability indicator Green LED (lights up under stable light received condition or stable dark condition) Distance adjuster Pollution degree 7 (IEC) Ambient temperature -25 to 60 °C -13 to 140 °F (No dew condensation or icing allowed), Storage: -30 to 70 °C -22 to 158 °F em 60947-5-2 Voltage withstandability 1,000 V AC for one min. between all supply terminals connected together and enclosure Vibration resistance 500 m/s² acceleration (approx. 50 G) in X, Y and Z directions for two hours each Infrared LED (peak emission wavelength: 880 nm 0.035mil, modulated)	Туре		Adjustable range reflective				
Sensing range 50 to 200 mm 1.969 to 7.874 in with white non-glossy paper (50 × 50 mm 1.969 × 1.969 in) Hysteresis 10 % or less of operation distance with white non-glossy paper (50 × 50 mm 1.969 × 1.969 in) Repeatability Along sensing axis: 1 mm 0.039 in or less, Perpendicular to sensing axis: 0.5 mm 0.020 in or less Supply voltage 12 to 24 V DC ±10 % Ripple P-P 10 % or less Current consumption 40 mA or less PNP open-collector transistor • Maximum sink current: 100 mA • Applied voltage: 30 V DC or less (between output and 0 V) • Residual voltage: 30 V DC or less (betwee			NPN output type	PNP output type			
Hysteresis 10 % or less of operation distance with white non-glossy paper (50 × 50 mm 1.969 × 1.969 in) Repeatability Along sensing axis: 1 mm 0.039 in or less, Perpendicular to sensing axis: 0.5 mm 0.020 in or less Supply voltage 12 to 24 V DC ±10 % Ripple P-P 10 % or less Current consumption 40 mA or less NPN open-collector transistor • Maximum sink current: 100 mA • Applied voltage: 30 V DC or less (between output and 0 V) • Residual voltage: 1.5 V or less (at 100 mA sink current) • Current consumption 9.4 V or less (at 100 mA sink current) • Maximum source current: 100 mA • Applied voltage: 30 V DC or less (between output and 0 V) • Residual voltage: 1.5 V or less (at 16 mA sink current) • Output operation Switchable either Light-ON or Dark-ON Short-circuit protection Response time 1 ms or less Operation indicator Red LED (lights up when the output is ON) Stability indicator Green LED (lights up under stable light received condition or stable dark condition) Distance adjuster 2-turn mechanical adjuster 9 Pollution degree 3 (Industrial environment) Protection Protection 1 P67 (IEC) Ambient temperature -25 to 60 °C -13 to 140 °F (No dew condensation or icing allowed), Storage: -30 to 70 °C -22 to 158 °F EMC EN 60947-52 Voltage withstandability 1,000 V AC for one min. between all supply terminals connected together and enclosure Vibration resistance 10 to 500 Hz frequency, 1.5 mm 0.059 in amplitude (10 G max.) in X, Y and Z directions for two hours each shock resistance 10 to 500 Hz frequency, 1.5 mm 0.059 in amplitude (10 G max.) in X, Y and Z directions for two hours each Infrared LED (peak emission wavelength: 880 nm 0.035mil, modulated)	Item	Model No.	RX-LS200	RX-LS200-P			
Repeatability Along sensing axis: 1 mm 0.039 in or less, Perpendicular to sensing axis: 0.5 mm 0.020 in or less Supply voltage 12 to 24 V DC ±10 % Ripple P-P 10 % or less Current consumption 40 mA or less NPN open-collector transistor Maximum sink current: 100 mA A popiled voltage: 30 V DC or less (between output and 0 V) Residual voltage: 1.5 V or less (at 100 mA sink current) 0.4 V or less (at 16 mA sink current) 0.4 V or less (at 16 mA sink current) 0.4 V or less (at 16 mA sink current) 0.4 V or less (at 16 mA sink current) 0.5 Nort-circuit protection Response time 1 ms or less Operation indicator Red LED (lights up when the output is ON) Stability indicator Green LED (lights up under stable light received condition or stable dark condition) Distance adjuster 2-turn mechanical adjuster Pollution degree 3 (Industrial environment) Protection Protection 1 less (Ripple P-P 10 % or less 2 less (Ripple P-P 10 % or less (Ripple Ripple P-P 10 % or less (Ripple Ripple P-P 10 % or less (Ripple Ripple	Sensing range		50 to 200 mm 1.969 to 7.874 in with white nor	n-glossy paper (50 × 50 mm 1.969 × 1.969 in)			
Supply voltage 12 to 24 V DC ±10 % Ripple P-P 10 % or less Current consumption 40 mA or less NPN open-collector transistor	Hysteresis		10 % or less of operation distance with white non-glossy paper (50 × 50 mm 1.969 × 1.969 in)				
Output A0 mA or less NPN open-collector transistor	Repeatability		Along sensing axis: 1 mm 0.039 in or less, Perpendicular to sensing axis: 0.5 mm 0.020 in or less				
NPN open-collector transistor	Supply voltage		12 to 24 V DC ±10 % Ripple P-P 10 % or less				
Output - Maximum sink current: 100 mA - Applied voltage: 30 V DC or less (between output and 0 V) - Residual voltage: 1.5 V or less (at 100 mA sink current) - Maximum source current: 100 mA - Applied voltage: 30 V DC or less (between output not 10 V) - Residual voltage: 1.5 V or less (at 100 mA sink current) - Maximum source current: 100 mA - Applied voltage: 30 V DC or less (between output not not not not not not not not not no	Current consumption		40 mA or less				
Output operation Short-circuit protection Response time Operation indicator Red LED (lights up when the output is ON) Stability indicator Green LED (lights up under stable light received condition or stable dark condition) Distance adjuster Pollution degree Protection Ambient temperature Ambient humidity Ambient humidity Total to 140 °F (No dew condensation or icing allowed), Storage: -30 to 70 °C -22 to 158 °F Incandescent light: 3,500 fx at the light-receiving face EMC EN 60947-5-2 Voltage withstandability 1,000 V AC for one min. between all supply terminals connected together and enclosure Vibration resistance 10 to 500 Hz frequency, 1.5 mm 0.059 in amplitude (10 G max.) in X, Y and Z directions for two hours each Shock resistance Emitting element Incandescent light: 880 nm 0.035mil, modulated)	Output		 Maximum sink current: 100 mA Applied voltage: 30 V DC or less (between output and 0 V) Residual voltage: 1.5 V or less (at 100 mA sink current) 				
Response time 1 ms or less Operation indicator Red LED (lights up when the output is ON) Stability indicator Green LED (lights up under stable light received condition or stable dark condition) Distance adjuster Pollution degree Protection IP67 (IEC) Ambient temperature Ambient humidity Ambient illuminance EMC Voltage withstandability 1,000 V AC for one min. between all supply terminals connected together and enclosure Vibration resistance Vibration resistance Shock resistance Emitting element Incardescel (approx. 50 G) in X, Y and Z directions for three times each Infared LED (peak emission wavelength: 880 nm 0.035mil, modulated)	Utilization category		DC-12 or DC-13				
Response time 1 ms or less	Output operation		Switchable either Li	ight-ON or Dark-ON			
Poperation indicator Red LED (lights up when the output is ON)	Short-circu	uit protection	Incorporated				
Stability indicator Distance adjuster 2-turn mechanical adjuster 2-turn mechanical adjuster Pollution degree Protection Ambient temperature Ambient humidity Ambient illuminance EMC EN 60947-5-2 Voltage withstandability 1,000 V AC for one min. between all supply terminals connected together and enclosure Vibration resistance Vibration resistance Shock resistance Emitting element Green LED (lights up under stable light received condition or stable dark condition) 2-turn mechanical adjuster 2-turn mechanical adjuster 2-turn mechanical adjuster 2-turn mechanical adjuster 3 (Industrial environment) IP67 (IEC) Ambient temperature -25 to 60 °C -13 to 140 °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 Incandescent light: 3,500 tx at the light-receiving face EMC EN 60947-5-2 Voltage withstandability 1,000 V AC for one min. between all supply terminals connected together and enclosure 10 to 500 Hz frequency, 1.5 mm 0.059 in amplitude (10 G max.) in X, Y and Z directions for two hours each 500 m/s² acceleration (approx. 50 G) in X, Y and Z directions for three times each Emitting element Infrared LED (peak emission wavelength: 880 nm 0.035mil, modulated)	Response time		1 ms or less				
Distance adjuster 2-turn mechanical adjuster 2-turn mechanical adjuster 2-turn mechanical adjuster 3 (Industrial environment) Protection IP67 (IEC) Ambient temperature Ambient humidity 35 to 85 % RH, Storage: 35 to 85 % RH Ambient illuminance Incandescent light: 3,500 & at the light-receiving face EMC EN 60947-5-2 Voltage withstandability 1,000 V AC for one min. between all supply terminals connected together and enclosure Vibration resistance 20 MΩ, or more, with 250 V DC megger between all supply terminals connected together and enclosure Vibration resistance 10 to 500 Hz frequency, 1.5 mm 0.059 in amplitude (10 G max.) in X, Y and Z directions for two hours each Shock resistance Emitting element Infrared LED (peak emission wavelength: 880 nm 0.035mil, modulated)	Operation indicator		Red LED (lights up when the output is ON)				
Pollution degree 3 (Industrial environment) Protection IP67 (IEC) Ambient temperature -25 to 60 °C -13 to 140 °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: 3,500 tx at the light-receiving face EMC EN 60947-5-2 Voltage withstandability 1,000 V AC for one min. between all supply terminals connected together and enclosure Insulation resistance 20 MΩ, or more, with 250 V DC megger between all supply terminals connected together and enclosure Vibration resistance 10 to 500 Hz frequency, 1.5 mm 0.059 in amplitude (10 G max.) in X, Y and Z directions for two hours each Shock resistance 500 m/s² acceleration (approx. 50 G) in X, Y and Z directions for three times each Infrared LED (peak emission wavelength: 880 nm 0.035mil, modulated)	Stability indicate	or	Green LED (lights up under stable light received condition or stable dark condition)				
Protection IP67 (IEC) Ambient temperature -25 to 60 °C -13 to 140 °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: 3,500 & at the light-receiving face EMC EN 60947-5-2 Voltage withstandability 1,000 V AC for one min. between all supply terminals connected together and enclosure Insulation resistance 20 MΩ, or more, with 250 V DC megger between all supply terminals connected together and enclosure Vibration resistance 10 to 500 Hz frequency, 1.5 mm 0.059 in amplitude (10 G max.) in X, Y and Z directions for two hours each Shock resistance Emitting element Infrared LED (peak emission wavelength: 880 nm 0.035mil, modulated)	Distance adjust	er	2-turn mechanical adjuster				
Ambient temperature —25 to 60 °C –13 to 140 °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 Incandescent light: 3,500 & at the light-receiving face EMC EN 60947-5-2 Voltage withstandability 1,000 V AC for one min. between all supply terminals connected together and enclosure Vibration resistance 20 MΩ, or more, with 250 V DC megger between all supply terminals connected together and enclosure Vibration resistance 10 to 500 Hz frequency, 1.5 mm 0.059 in amplitude (10 G max.) in X, Y and Z directions for two hours each Shock resistance 500 m/s² acceleration (approx. 50 G) in X, Y and Z directions for three times each Infrared LED (peak emission wavelength: 880 nm 0.035mil, modulated)	Pollution degree		3 (Industrial environment)				
Vibration resistance 10 to 500 Hz frequency, 1.5 mm 0.059 in amplitude (10 G max.) in X, Y and Z directions for two hours each Shock resistance 500 m/s² acceleration (approx. 50 G) in X, Y and Z directions for three times each Emitting element Infrared LED (peak emission wavelength: 880 nm 0.035mil, modulated)	Protection		IP67 (IEC)				
Vibration resistance 10 to 500 Hz frequency, 1.5 mm 0.059 in amplitude (10 G max.) in X, Y and Z directions for two hours each Shock resistance 500 m/s² acceleration (approx. 50 G) in X, Y and Z directions for three times each Emitting element Infrared LED (peak emission wavelength: 880 nm 0.035mil, modulated)	Ambient temperature		–25 to 60 °C −13 to 140 °F (No dew condensation or icing allowed), Storage: –30 to 70 °C −22 to 158 °F				
Vibration resistance 10 to 500 Hz frequency, 1.5 mm 0.059 in amplitude (10 G max.) in X, Y and Z directions for two hours each Shock resistance 500 m/s² acceleration (approx. 50 G) in X, Y and Z directions for three times each Emitting element Infrared LED (peak emission wavelength: 880 nm 0.035mil, modulated)	Ambient humidity		35 to 85 % RH, Storage: 35 to 85 % RH				
Vibration resistance 10 to 500 Hz frequency, 1.5 mm 0.059 in amplitude (10 G max.) in X, Y and Z directions for two hours each Shock resistance 500 m/s² acceleration (approx. 50 G) in X, Y and Z directions for three times each Emitting element Infrared LED (peak emission wavelength: 880 nm 0.035mil, modulated)	Ambient illuminance		Incandescent light: 3,500 & at the light-receiving face				
Vibration resistance 10 to 500 Hz frequency, 1.5 mm 0.059 in amplitude (10 G max.) in X, Y and Z directions for two hours each Shock resistance 500 m/s² acceleration (approx. 50 G) in X, Y and Z directions for three times each Emitting element Infrared LED (peak emission wavelength: 880 nm 0.035mil, modulated)	EMC		EN 60947-5-2				
Vibration resistance 10 to 500 Hz frequency, 1.5 mm 0.059 in amplitude (10 G max.) in X, Y and Z directions for two hours each Shock resistance 500 m/s² acceleration (approx. 50 G) in X, Y and Z directions for three times each Emitting element Infrared LED (peak emission wavelength: 880 nm 0.035mil, modulated)	Voltage withstandability		1,000 V AC for one min. between all supply terminals connected together and enclosure				
Shock resistance 500 m/s² acceleration (approx. 50 G) in X, Y and Z directions for three times each Emitting element Infrared LED (peak emission wavelength: 880 nm 0.035mil, modulated)	Insulation	tion resistance $20 \text{ M}\Omega$, or more, with 250 V DC megger between all supply terminals connected together and enclosure		supply terminals connected together and enclosure			
Emitting element Infrared LED (peak emission wavelength: 880 nm 0.035mil, modulated)	Vibration resistance 10 to 500 Hz frequency, 1.5 mm 0.059 in amplitude (10 G max.) in		10 G max.) in X, Y and Z directions for two hours each				
	Shock resistance		500 m/s² acceleration (approx. 50 G) in X, Y and Z directions for three times each				
Material Dispersion of the property of the pro	Emitting element		Infrared LED (peak emission wavelength: 880 nm 0.035mil, modulated)				
Enclosure: Die-cast zinc alloy, Indicator cover: Polyetnersulphone, Lens: Polycarbonate	Material		Enclosure: Die-cast zinc alloy, Indicator cover: Polyethersulphone, Lens: Polycarbonate				
Cable 0.15 mm² 3-core oil, heat and cold resistant cabtyre cable, 3 m 9.843 ft long	Cable		0.15 mm² 3-core oil, heat and cold resistant cabtyre cable, 3 m 9.843 ft long				
Cable extension	Cable extension		Extension up to total 100 m 328.084 ft is possible with 0.3 mm², or more, cable.				
Weight Net weight: 85 g approx.	Weight		Net weight: 85 g approx.				
Accessories MS-RX-1 (Sensor mounting bracket): 1 set, Adjusting screwdriver: 1 pc.	Accessories		MS-RX-1 (Sensor mounting bracket): 1 set, Adjusting screwdriver: 1 pc.				

Note: Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +23 °C +73.4 °F.

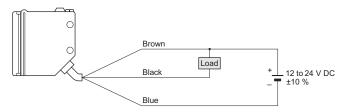
I/O CIRCUIT AND WIRING DIAGRAMS

RX-LS200 NPN output type

Color code (Brown) +V (Black) Output 12 to 24 V DC 100 mA max. (Blue) 0 V Internal circuit Users' circuit

Symbols ... D : Reverse supply polarity protection diode ZD: Surge absorption zener diode Tr : NPN output transistor

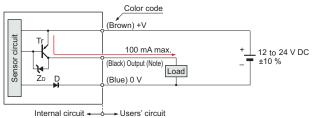
Wiring diagram



I/O CIRCUIT AND WIRING DIAGRAMS

RX-LS200-P PNP output type

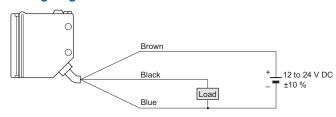
I/O circuit diagram



Note: The output does not incorporate a short-circuit protection circuit. Do not connect it directly to a power supply or a capacitive load.

D: Reverse supply polarity protection diode Zp: Surge absorption zener diode Tr : PNP output transistor

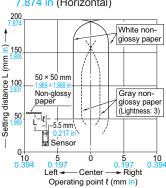
Wiring diagram



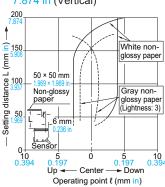
SENSING CHARACTERISTICS (TYPICAL)

Sensing fields

· Setting distance: 200 mm 7.874 in (Horizontal)



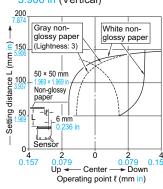
· Setting distance: 200 mm 7.874 in (Vertical)



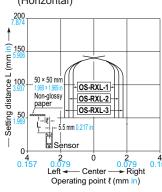
· Setting distance: 150 mm 5.906 in (Horizontal)



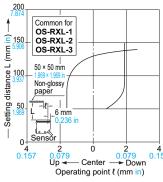
· Setting distance: 150 mm 5.906 in (Vertical)

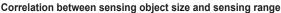


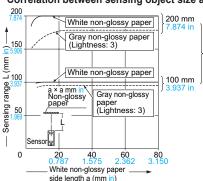
· Setting distance: 150 mm 5.906 in with slit mask (Horizontal)



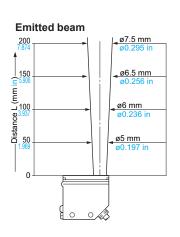
· Setting distance: 150 mm 5.906 in with slit mask (Vertical)







These curves show the characteristics with the maximum sensing range set to 100 mm 3.937 in, 200 mm 7.874 in, each, with white non-glossy paper (50 × 50 mm 1.969 × 1.969 in).



FIBER SENSORS

LASER SENSORS

LIGHT CURTAINS

PRESSURE FLOW SENSORS INDUCTIVE PROXIMITY SENSORS

PARTICULAR USE SENSORS

SENSOR OPTIONS

WIRE-SAVING SYSTEMS

MEASURE-MENT SENSORS

CONTROL ENDOSCOPE

LASER MARKERS

PLC / TERMINALS

HUMAN MACHINE INTERFACES ENERGY CONSUMPTION VISUALIZATION COMPONENTS

COMPONENTS

MACHINE SYSTEMS

Power Supply Built-in

CX-400 EX-10

EX-20 EX-30 EX-40

CX-440

EQ-30 EQ-500

MQ-W RX-LS20

> RX RT-610

FIBER

LASER SENSORS PHOTO-ELECTRIC SENSORS MICRO

AREA SENSORS LIGHT CURTAINS

PRESSURE / FLOW SENSORS

INDUCTIVE PROXIMITY SENSORS

PARTICULAR USE SENSORS

SENSOR OPTIONS SIMPLE WIRE-SAVING UNITS

WIRE-SAVING SYSTEMS MEASURE-MENT SENSORS

STATIC CONTROL DEVICES

ENDOSCOPE LASER MARKERS

PLC / TERMINALS

HUMAN MACHINE INTERFACES ENERGY CONSUMPTION VISUALIZATION COMPONENTS

COMPONENTS MACHINE

VISION SYSTEMS

Selection Guide Amplifier Built-in

Amplifier Built-in Power Supply Built-in Amplifierseparated

EX-10 EX-20 EX-30 EX-40

CX-400

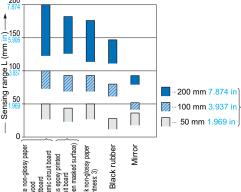
EQ-30 EQ-500

MQ-W RX-LS200

RX RT-610

SENSING CHARACTERISTICS (TYPICAL)

Correlation between material (50 × 50 mm 1.969 in × 1.969 in) and sensing range



These bars indicate the sensing range with respective objects when the distance adjuster is set at the sensing range of 200 mm 7.874 in, 100 mm 3.937 in and 50 mm 1.969 in long, each, with white non-glossy paper.

PRECAUTIONS FOR PROPER USE

Refer to General precautions.

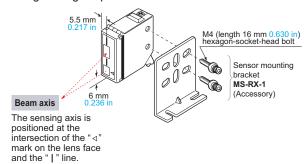
<u>^</u>

 Never use this product as a sensing device for personnel protection.

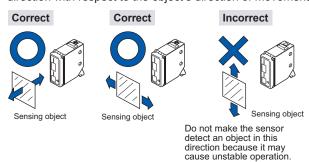
 In case of using sensing devices for personnel protection, use products which meet laws and standards, such as OSHA, ANSI or IEC etc., for personnel protection applicable in each region or country.

Mounting

 \bullet The tightening torque should be 1.17 N·m or less.



 Care must be taken regarding the sensor mounting direction with respect to the object's direction of movement.



- When detecting a specular object (aluminum or copper foil) or an object having a glossy surface or coating, please take care that there are cases when the object may not be detected due to a small change in angle, wrinkles on the object surface, etc.
- When a specular body is present below the sensor, use the sensor by tilting it slightly upwards to avoid wrong operation.

- If a specular body is present in the background, wrong operation may be caused due to a small change in the angle of the background body. In that case, install the sensor at an inclination and confirm the operation with the actual sensing object.
- Do not install the sensor at a distance of less than 50 mm
 1.969 in from the object because the sensing is unstable in this range.

Wiring

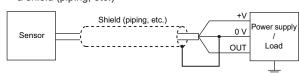
 The output of RX-LS200-P does not incorporate a shortcircuit protection circuit. Do not connect it directly to a power supply or a capacitive load.

Use conditions to comply with CE Marking

 Following work must be done in case of using this product as a CE marking (European standard EMC Directive) conforming product.

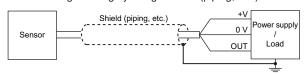
Ensure that the shield is connected to 0 V or the actual ground.

 In case of connecting a sensor to power supply 0 V by using a shield (piping, etc.)



Note: The shield (piping, etc.) must be insulated.

• In case of grounding by using a shield (piping, etc.)



Others

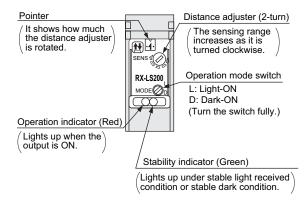
 Do not use during the initial transient time (50 ms) after the power supply is switched on.

PRECAUTIONS FOR PROPER USE

Refer to General precautions.

Distance adjustment

Adjusters



Adjusting procedure

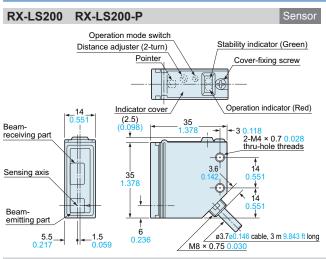
Step	Description	Distance adjuster
1	Turn the distance adjuster fully counterclockwise to the minimum sensing range position (50 mm 1.969 in approx.). (Do not turn excessively.)	Turn
2	Place an object at the required distance from the sensor, turn the distance adjuster gradually clockwise, and find out point "A" where the sensor changes to the light received condition.	
3	Remove the object, turn the distance adjuster further clockwise, and find out point "®" where the sensor changes to the light received condition again with only the background. When the sensor does not go to the light received condition even if the adjuster is fully turned clockwise, point "®" is this extreme point.	B
4	The optimum position to stably detect objects is the center point between "A" and "B".	B A Optimum position

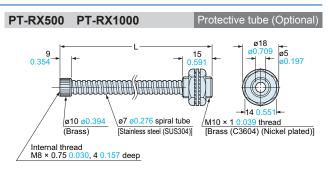
<When a sensing object is approaching / moving away from the sensor>

• Follow only steps ① and ② respectively. Since the sensing point may change depending on the sensing object, be sure to check the operation with the actual sensing object.

The CAD data in the dimensions can be downloaded from our website.

DIMENSIONS (Unit: mm in)





· Length L

Model No.	Length L	
PT-RX500	500 ⁺¹⁰	19.685 ^{+0.394}
PT-RX1000	1,000 +10	39.370 ^{+0.394}

→ 16 0.63 **-** 24.5 0.965 - 30 1.181

MS-RX-1 Sensor mounting bracket (Accessory) **Assembly dimensions** Sensing axis **∳** 16 16.5 18.5 . 4.4 Vν 市 10 8.5 Material: Cold rolled carbon steel (SPCC) _10_ 6 0.2 Two M4 (length 16 mm 0.630 in) hexagon-socket-—37 1. 13.5 8.5 37 13.5 head bolts are attached. (2.5) (0.098 35 15°احد Sensing axis 45 72 38 45 1.77 16 0.6

FIBER SENSORS

LASER SENSORS

PHOTO-ELECTRIC SENSORS MICRO PHOTO-ELECTRIC SENSORS

AREA SENSORS LIGHT CURTAINS

PRESSURE / FLOW SENSORS

INDUCTIVE PROXIMITY SENSORS PARTICULAR USE SENSORS

SENSOR OPTIONS

SIMPLE WIRE-SAVING UNITS

WIRE-SAVING SYSTEMS MEASURE-MENT

MENT SENSORS STATIC CONTROL DEVICES

ENDOSCOPE

LASER MARKERS

PLC / TERMINALS

HUMAN MACHINE INTERFACES ENERGY CONSUMPTION VISUALIZATION COMPONENTS

FA COMPONENTS

MACHINE VISION SYSTEMS

UV CURING SYSTEMS

Selection Guide Amplifier Built-in Power Supply Built-in

cx-400

EX-10

EX-20 EX-30 EX-40 CX-440

EQ-30 EQ-500

MQ-W

RX-LS200 RX RT-610