

- 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
- 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

FUNCTIONS

Bright 2-color indicator

A bright 2-color indicator has been incorporated in all types. (Orange LED: Operation indicator, Green LED: Stability indicator)

VARIETIES

Two types for suitable mounting

Two types, side sensing type and front sensing type sensors are available. Select depending on the place of mounting.

Side sensing type

Front sensing type



(With sensitivity adjuster)



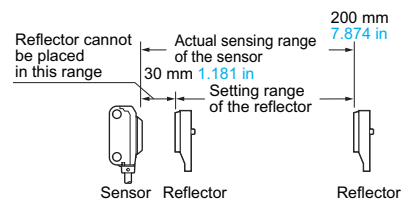
(Without sensitivity adjuster)

ORDER GUIDE

Type	Appearance	Sensing range	Model No. (Note 3)	Output	Output operation	
Thru-beam	Front sensing	1 m 3.281 ft	EX-21A	NPN open-collector transistor	Light-ON	
			EX-21A-PN	PNP open-collector transistor		
	Side sensing	2 m 6.562 ft	EX-21B	NPN open-collector transistor	Dark-ON	
			EX-21B-PN	PNP open-collector transistor		
Retroreflective	Side sensing	30 to 200 mm 1.181 to 7.874 in (Note 1)	EX-23	NPN open-collector transistor	Switchable either Light-ON or Dark-ON	
			EX-23-PN	PNP open-collector transistor		
			EX-29A	NPN open-collector transistor		Light-ON
			EX-29A-PN	PNP open-collector transistor		
Diffuse reflective	Side sensing	5 to 160 mm 0.197 to 6.299 in (Note 2)	EX-29B	NPN open-collector transistor	Dark-ON	
			EX-29B-PN	PNP open-collector transistor		
			EX-22A	NPN open-collector transistor	Light-ON	
			EX-22A-PN	PNP open-collector transistor		
Convergent reflective	Diffused beam type	2 to 25 mm 0.079 to 0.984 in (Convergent point: 10 mm 0.394 in)	EX-22B	NPN open-collector transistor	Dark-ON	
			EX-22B-PN	PNP open-collector transistor		
			EX-24A	NPN open-collector transistor		Light-ON
			EX-24A-PN	PNP open-collector transistor		
	Small spot beam type	Side sensing	6 to 14 mm 0.236 to 0.551 in (Convergent point: 10 mm 0.394 in)	EX-24B	NPN open-collector transistor	Dark-ON
				EX-24B-PN	PNP open-collector transistor	
				EX-26A	NPN open-collector transistor	Light-ON
				EX-26A-PN	PNP open-collector transistor	
Narrow-view reflective	Side sensing	45 to 115 mm 1.772 to 4.528 in	EX-26B	NPN open-collector transistor	Dark-ON	
			EX-26B-PN	PNP open-collector transistor		
			EX-28A	NPN open-collector transistor	Light-ON	
			EX-28A-PN	PNP open-collector transistor		
			EX-28B	NPN open-collector transistor	Dark-ON	
			EX-28B-PN	PNP open-collector transistor		

NOTE: Mounting bracket is not supplied with the sensor. Please select from the range of optional sensor mounting brackets (four types) or universal sensor mounting bracket. (Refer to p.331)

- Notes: 1) The sensing range of the retroreflective type sensor is specified for the **RF-200** reflector. Further, the sensing range is the possible setting range for the reflector. The sensor can detect an object less than 30 mm 1.181 in away. However, if the reflector is set 100 mm 3.937 in or less away, the sensing object should be opaque.
- 2) In case of using this product at a sensing range of 50 mm 1.969 in or less, take care that the sensitivity adjustment range becomes extremely narrow.
- 3) The model No. with "P" shown on the label affixed to the thru-beam type sensor is the emitter, "D" shown on the label is the receiver.



ORDER GUIDE

Package without reflector

Retroreflective type is also available without the reflector **RF-200**.
When ordering this type, suffix “-Y” to the model No.
(e.g.) Without reflector type of **EX-29A-PN** is “**EX-29A-PN-Y**”.

5 m 16.404 ft cable length type

5 m 16.404 ft cable length type (standard: 2 m 6.562 ft) is also available for NPN output type (including package without reflector of retroreflective type sensor).
When ordering this type, suffix “-C5” to the model No.
(e.g.) 5 m 16.404 ft cable length type of **EX-29A-Y** is “**EX-29A-Y-C5**”.

Accessory

- **RF-200** (Reflector)



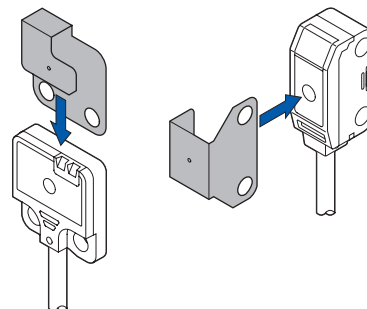
OPTIONS

Designation	Model No.	Description	
Round slit mask (For thru-beam type sensor only)	OS-EX20-05 (Slit size $\varnothing 0.5$ mm 0.020 in)	Slit on one side	<ul style="list-style-type: none"> • Sensing range: 200 mm 7.874 in • Min. sensing object: $\varnothing 2.6$ mm $\varnothing 0.102$ in
		Slit on both sides	<ul style="list-style-type: none"> • Sensing range: 40 mm 1.575 in • Min. sensing object: $\varnothing 0.5$ mm $\varnothing 0.020$ in
	OS-EX20E-05 (Slit size $\varnothing 0.5$ mm 0.020 in)	Slit on one side	<ul style="list-style-type: none"> • Sensing range: 350 mm 13.780 in • Min. sensing object: $\varnothing 3$ mm $\varnothing 0.118$ in
		Slit on both sides	<ul style="list-style-type: none"> • Sensing range: 70 mm 2.756 in • Min. sensing object: $\varnothing 0.5$ mm $\varnothing 0.020$ in
Rectangular slit mask (For thru-beam type sensor only)	OS-EX20-05×3 (Slit size 0.5 × 3 mm 0.020 × 0.118 in)	Slit on one side	<ul style="list-style-type: none"> • Sensing range: 600 mm 23.622 in • Min. sensing object: $\varnothing 2.6$ mm $\varnothing 0.102$ in
		Slit on both sides	<ul style="list-style-type: none"> • Sensing range: 300 mm 11.811 in • Min. sensing object: 0.5 × 3 mm 0.020 × 0.118 in
	OS-EX20E-05×3 (Slit size 0.5 × 3 mm 0.020 × 0.118 in)	Slit on one side	<ul style="list-style-type: none"> • Sensing range: 800 mm 31.496 in • Min. sensing object: $\varnothing 3$ mm $\varnothing 0.118$ in
		Slit on both sides	<ul style="list-style-type: none"> • Sensing range: 400 mm 15.748 in • Min. sensing object: 0.5 × 3 mm 0.020 × 0.118 in
Reflector (For retroreflective type sensor only)	RF-210	<ul style="list-style-type: none"> • Sensing range: 50 to 400 mm 1.969 to 15.748 in • Min. sensing object: $\varnothing 30$ mm $\varnothing 1.181$ in 	
Reflector mounting bracket	MS-RF21-1	Protective mounting bracket for RF-210 It protects the reflector from damage and maintains alignment.	
Reflective tape (For retroreflective type sensor only)	RF-11	<ul style="list-style-type: none"> • Ambient temperature: -25 to $+50$ °C -13 to $+122$ °F • Ambient humidity: 35 to 85 % RH 	<ul style="list-style-type: none"> • Sensing range: 70 to 200 mm 2.756 to 7.874 in
	RF-12	<p>Notes</p> <ul style="list-style-type: none"> • Keep the tape free from stress. If it is pressed too much, its capability may deteriorate. • Do not cut the tape. It will deteriorate the sensing performance. 	<ul style="list-style-type: none"> • Sensing range: 60 to 280 mm 2.362 to 11.024 in

Round slit mask

Fitted on the front face of the sensor with one-touch.

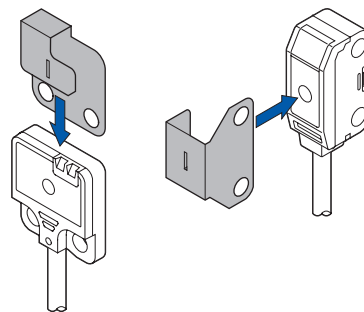
- **OS-EX20-05**
- **OS-EX20E-05**



Rectangular slit mask

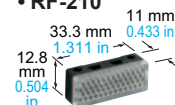
Fitted on the front face of the sensor with one-touch.

- **OS-EX20-05×3**
- **OS-EX20E-05×3**



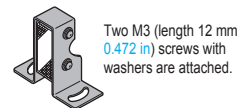
Reflector

- **RF-210**

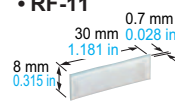


Reflector mounting bracket

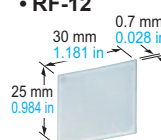
- **MS-RF21-1**



- **RF-11**



- **RF-12**



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