

IO-Link
SensorsPhotoelectric
SensorsFiber-optic
Sensors

Standard Fibers

Fiber Sensors
Communication
Units

Mark Sensors

Laser Sensors

Safety Sensors

Pressure &
Flow SensorsInductive
Proximity
SensorsMeasurement
SensorsIonizers/
Electrostatic
Sensors

Accessories

EX-20



EX-20

Miniature-sized and still mountable
with M3 screws

Features

■ Long sensing range

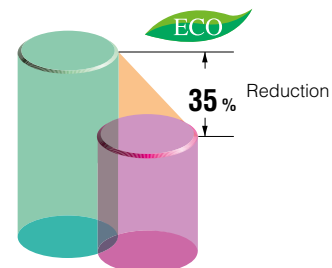
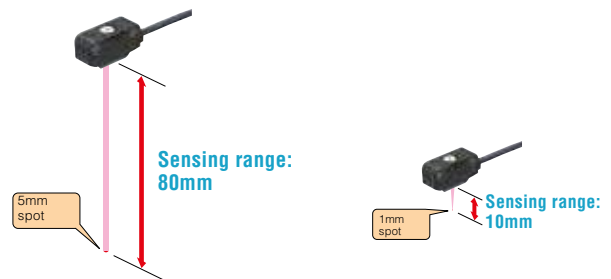
The **EX-20** series achieves long distance sensing [thru-beam type: 2m, retroreflective type: 200mm (when using the attached reflector), diffuse reflective type: 160mm], despite its miniature size. Hence, it is usable even on a wide conveyor.

■ Clear beam spot using red LED dot light source

The emission area of a dot light source is smaller than that of a conventional LED flat light source. It is possible to design a high power, narrow beam. Since a red LED dot light source is used, the red beam spot is clearly visible even at a long distance so that the alignment and confirmation of the sensing position is easy.

■ Less power consumed!

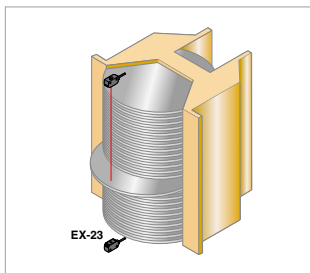
By relentlessly developing our technologies, we have been able to considerably reduce our sensors' power consumption.



Typical applications

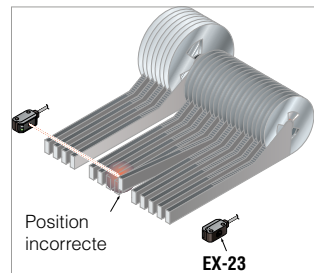
Checking protrusion of wafer

The ultra compact photoelectric sensor EX-23 has a sufficiently long sensing range of 2m. Further, its visible red LED beam makes beam alignment very easy.



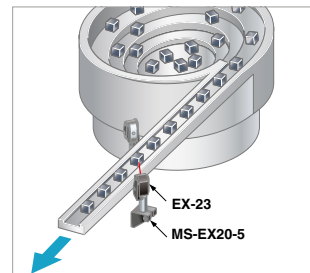
Detecting tape feeder cassette out of position

Ultra compact in size with an ample sensing range of 2m, ideal for monitoring tape feeder cassettes that are out of position.



Detecting fill-up of parts in feeder

The sensor setting can be finely adjusted since a universal sensor mounting bracket is available, with which the height and the angle of the sensor can be freely adjusted.



Technical specifications

Type		Thru-beam		Retroreflective	Diffuse reflective type			
					Standard type	Diffuse beam	Small spot beam	Long distance spot beam
		Front sensing	Side sensing	Side sensing	Side sensing	Front sensing	Side sensing	Side sensing
Model no.	Light-ON	EX-21A(-PN) (note)	EX-23(-PN) Light-ON/ Dark-ON switchable	EX-29A(-PN)	EX-22A(-PN)	EX-24A(-PN)	EX-26A(-PN)	EX-28A(-PN)
	Dark-ON	EX-21B(-PN)		EX-29B(-PN)	EX-22B(-PN)	EX-24B(-PN)	EX-26B(-PN)	EX-28B(-PN)
Sensing range		1m	2m	30 to 200mm	5 to 160mm	2 to 25mm (Conv. point: 10mm)	6 to 14mm (Conv. point: 10mm)	45 to 115mm
Object to be sensed		Min. Ø 2.6mm (opaque)	Min. Ø 3mm (opaque)	Min. Ø 15mm opaque or translucent object	Opaque, translucent or transparent object	Min. Ø 0.1mm copper wire (Setting distance: 10mm)		Opaque, translucent or transparent object
Supply voltage		12 to 24VDC ± 10%						
Output		PNP / NPN open-collector transistor, max. 50mA						
Response time		Max. 0.5ms						
Protection		IP67 (IEC)						
Ambient temperature		-25 to +55°C						
Connection method		Cable 2m						
Dimensions (HxWxD)		18x16x4.5mm	8.2x22x10.5mm	8.2x25x12.3mm		16x18x4.5mm	8.2x25x12.3mm	10x14.5x3.5mm
Accessories		–	Screwdriver, 1 pc.	Reflector RF-200 , 1 pc. Screwdriver, 1 pc.	Screwdriver, 1 pc.	–	Screwdriver, 1 pc.	

Note:
Suffix -PN = PNP type
No suffix = NPN type

10-Link
SensorsPhotoelectric
SensorsFiber-optic
Sensors

Standard Fibers

Fiber Sensors
Communication
Units

Mark Sensors

Laser Sensors

Safety Sensors

Pressure &
Flow SensorsInductive
Proximity
SensorsMeasurement
SensorsIonizers/
Electrostatic
Sensors

Accessories

EX-20