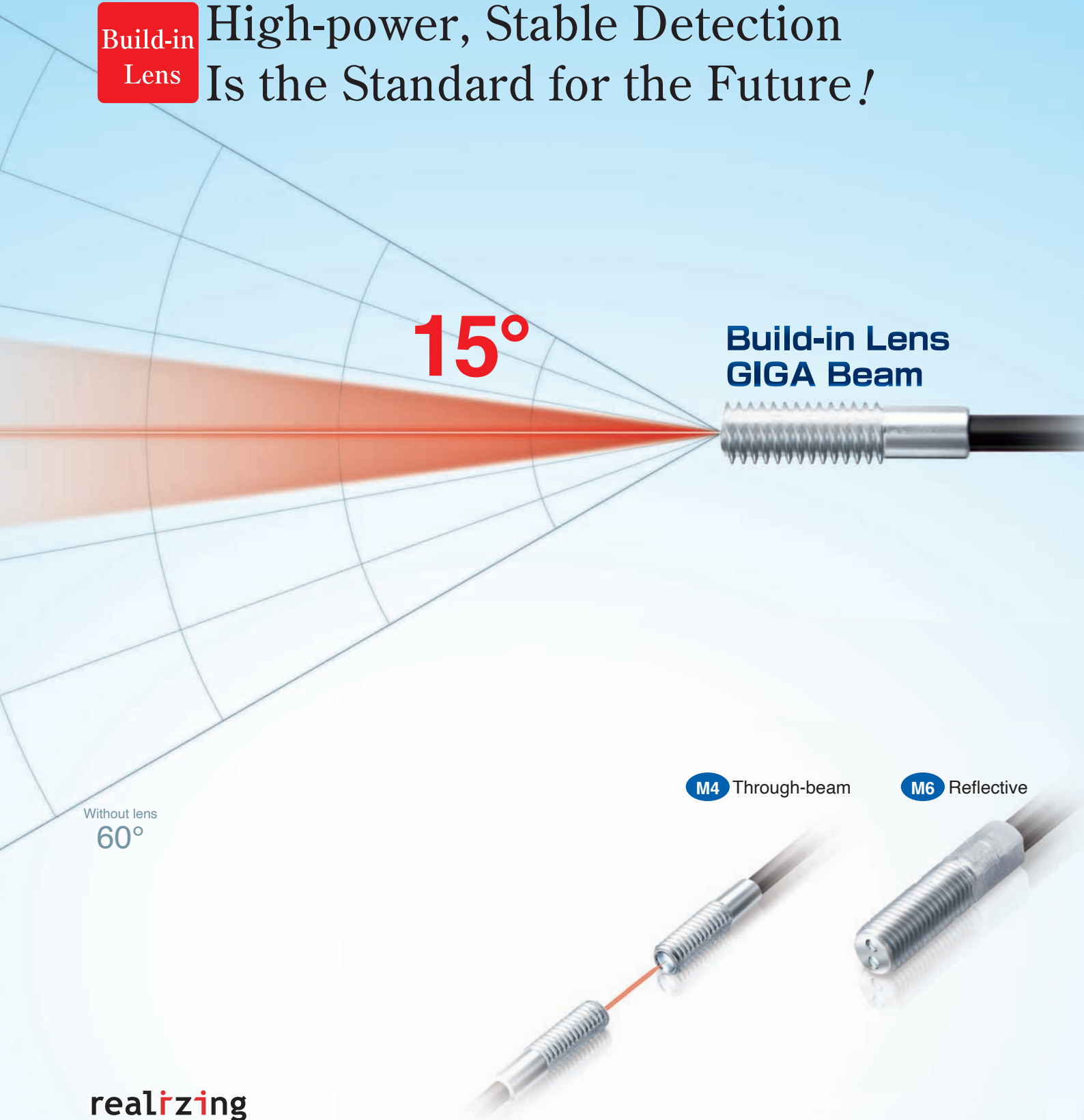


Fiber Unit **Build-in Lens** Series
E32-LT/LD

~ Reduce Your Work Load ~

Build-in Lens High-power, Stable Detection
Is the Standard for the Future!



~Reduce Your Work Load~

High-power, Stable Detection Is the Standard for the Future!

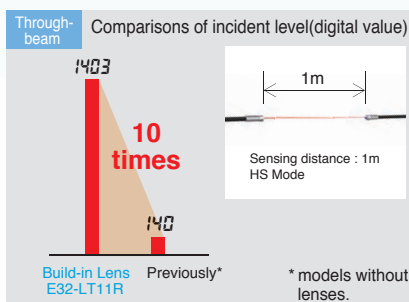
General-purpose threaded Fiber Units provide easy installation and stable detection for a variety of uses at an affordable price.



High Power and Aperture Angle of 15° "GIGA Beam"

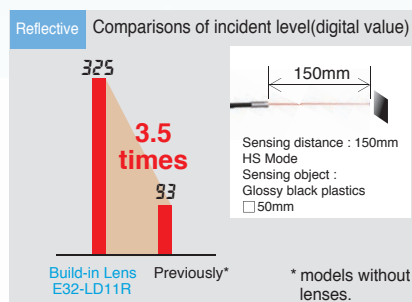
Stable

Long-term stable detection in dust environment



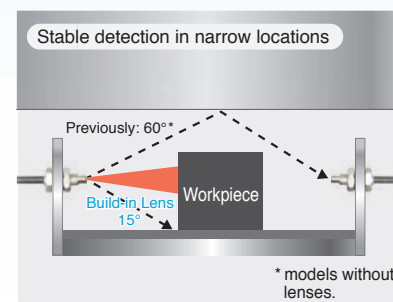
Approximately 10 times the light intensity of conventional models. High power achieves long-term stable detection.

Stable Detection Even for Workpieces with Low Reflection



Approximately 3.5 times the light intensity of conventional models. Differences in incident level are increased even for black workpieces to provide stable detection.

Prevents false detection of light that is reflected off surrounding objects



Aperture angle of 15° greatly reduces false detection due to reflected light in narrow locations.

No Need to Ever Attach a Lens

Easy

Reduced work in selection and attachment



There is no need to select a combination with a lens or attach a lens delicately. The lens also does not protrude for neater installation.

Reliable

No worries about losing a lens

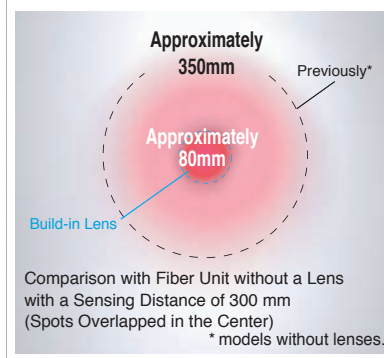


There is no need to worry about a lens falling off and getting mixed with the workpieces or about ordering a new lens when one is lost.

Point



The clear spot simplifies onsite adjustments.



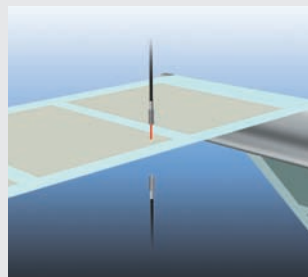
Application

Positioning Paper in Book Production



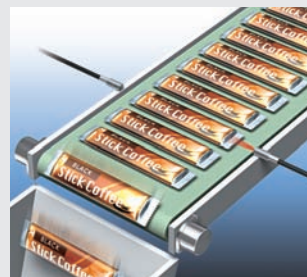
The high power provides stable detection even in environments containing paper dust.

Detection of Labels through Label Backings



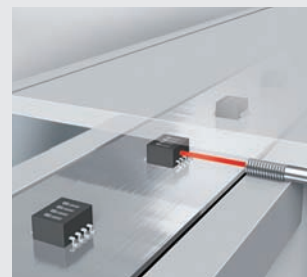
The high power lets the light penetrate the backing material for stable label detection

Detection of Passing Stick Coffee Packages



Aperture angle of 15° ensures stable detection even with narrowly spaced workpieces.


Detection of Electronic Component inside Devices



Aperture angle of 15° also ensures stable detection without an error even if there are objects near small devices.

Through-beam Fiber Units

Specifications

Type		Appearance (mm)	Bending radius of cable	Sensing distance (mm)				Optical axis diameter (minimum sensing object)	Models
Sensing direction	Aperture angle			E3X-HD		E3NX-FA			
				■ GIGA ■ HS	Other modes	■ GIGA ■ HS	Other modes		
Top-view	15°		R25	4,000*	ST : 4,000*	4,000*	ST : 4,000*	2.3 dia. (0.1 dia./ 0.03 dia.)	E32-LT11 2M
				2,700	SHS: 1,080	4,000*	SHS: 1,080		
			Flexible, R1	4,000*	ST : 3,500	4,000*	ST : 4,000*		
				2,300	SHS: 920	3,450	SHS: 920		E32-LT11R 2M

* The optical fiber is 2 m long on each side, so the sensing distance is 4,000 mm.

Note 1. The following mode names and response times apply to the modes given in the Sensing distance column.

[E3X-HD] GIGA: Giga-power mode (16 ms), HS: High-speed mode (250 μs), ST: Standard mode (1 ms), and SHS: Super-high-speed mode (NPN output: 50 μs, PNP output: 55 μs)

[E3NX-FA] GIGA: Giga-power mode (16 ms), HS: High-speed mode (250 μs), ST: Standard mode (1 ms), and SHS: Super-high-speed mode (30 μs)

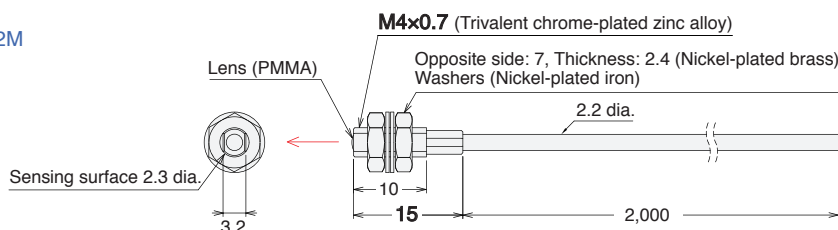
2. The values for the minimum sensing object are reference values that indicate values obtained in standard mode with the sensing distance and sensitivity set to the optimum values.

The first value is for the E3X-HD and the second value is for the E3NX-FA.

Dimensions (mm)

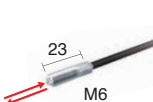
E32-LT11 2M/E32-LT11R 2M

(Free Cutting)



Reflective Fiber Units

Specifications

Type		Appearance (mm)	Bending radius of cable	Sensing distance (mm)				Optical axis diameter (minimum sensing object)	Models
Sensing direction	Aperture angle			E3X-HD		E3NX-FA			
				■ GIGA ■ HS	Other modes	■ GIGA ■ HS	Other modes		
Top-view	15°	 M6 <div>IP50</div>	R25	<div><div></div>860</div> <div><div></div>250</div>	ST : 360 SHS: 110	<div><div></div>1,290</div> <div><div></div>370</div>	ST : 540 SHS: 110	(0.1 dia./0.03 dia.)	E32-LD11 2M
			Flexible, R1	<div><div></div>840</div> <div><div></div>240</div>	ST : 350 SHS: 100	<div><div></div>1,260</div> <div><div></div>360</div>	ST : 520 SHS: 100		E32-LD11R 2M

Note 1. The following mode names and response times apply to the modes given in the Sensing distance column.

[E3X-HD] GIGA: Giga-power mode (16 ms), HS: High-speed mode (250 μs), ST: Standard mode (1 ms), and SHS: Super-high-speed mode (NPN output: 50 μs, PNP output: 55 μs)

[E3NX-FA] GIGA: Giga-power mode (16 ms), HS: High-speed mode (250 μs), ST: Standard mode (1 ms), and SHS: Super-high-speed mode (30 μs)

2. The values for the minimum sensing object are reference values that indicate values obtained in standard mode with the sensing distance and sensitivity set to the optimum values.

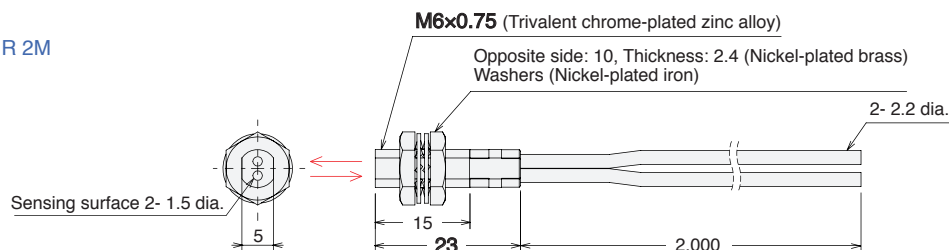
The first value is for the E3X-HD and the second value is for the E3NX-FA.

3. The sensing distances for Reflective Fiber Units are for glossy white paper.

Dimensions (mm)

E32-LD11 2M/E32-LD11R 2M

(Free Cutting)



Point



Proof of Stable Detection with Reflective Models

See the Difference Even for Difficult-to-detect Black Workpieces!

The sensing distance is about twice that of conventional Fiber Units without lenses even for (small or low-reflective) workpieces that require short sensing distances due to small differences in incident level. The High Power ensures not only stable presence detection, but also the high precision required for long-distance positioning.

		Sensing distance (mm) : Amplifier Units E3X-HD			
		SHS	HS	ST	GIGA
E32-LD11		65	160	160	500
E32-LD11R		65	150	150	400
conventional models	E32-D11R	25	70	70	250

Sensing object : Glossy black plastics □ 50mm

twice

Through-beam Fiber Units

Installation Information

Models	Installation		Cable						Weight (packed state) (g)
	Ambient temperature	Tightening torque	Bending radius	Unbendable length	Tensile strength	Sheath material	Core material	Emitter/receiver differentiation	
E32-LT11 2M	-40 to 70°C	0.78N·m	R25	10	29.4N	Polyethylene	Plastic	None	40
E32-LT11R 2M			R1	0					

Reflective Fiber Units

Installation Information

Models	Installation		Cable						Weight (packed state) (g)
	Ambient temperature	Tightening torque	Bending radius	Unbendable length	Tensile strength	Sheath material	Core material	Emitter/receiver differentiation	
E32-LD11 2M	-40 to 70°C	0.98N·m	R25	10	29.4N	Polyethylene	Plastic	None	40
E32-LD11R 2M			R1	0					

Introduction to Fiber Sensors

OMRON also provides many other types of Fiber Sensors.

Refer to Fiber Sensor Best Selection Catalog (E418).



E3X-HD Smart Fiber Amplifier Units

Easily Achieve the Highest Stability



Fiber Amplifier Units

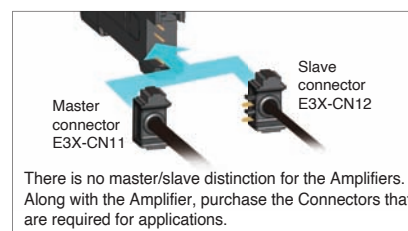
Type	Appearance	Connection method	Model	
			NPN output	PNP output
Standard		Pre-wired (2 m)	E3X-HD11 2M	E3X-HD41 2M
		Wire-saving connector	E3X-HD6	E3X-HD8
		M8 connector	E3X-HD14	E3X-HD44
For Communication unit connection		Communication unit connector	E3X-HD0 *1	

*1. Have been discontinued at the end of October 2024.

Wire-saving Connectors

(Order Separately) (An Amplifier Unit with a wire-saving connector is required.)

Type	Appearance	Number of conductors	Model
Master connector		3	E3X-CN11
Slave connector		1	E3X-CN12



Sensor I/O Connectors

(Order Separately) (An Amplifier Unit with a M8 connector is required.)

Appearance	Cable length	Number of conductors	Model
Straight	2 m	4	XS3F-M421-402-A
Right-angle			XS3F-M422-402-A

Note: Do not use this document to operate the Unit.

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