

NEW

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!

15°

Build-in Lens  
GIGA Beam

Without lens  
60°

M4 Through-beam

M6 Reflective

**NEW**

~Reduce Your Work Load~

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

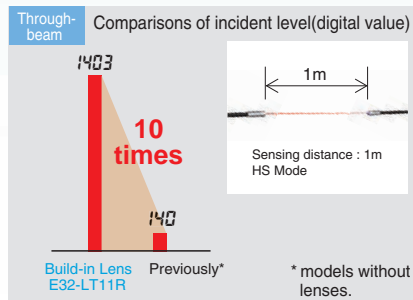
General-purpose threaded Fiber Units provide easy installation and stable detection for a variety of uses at an affordable price.



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

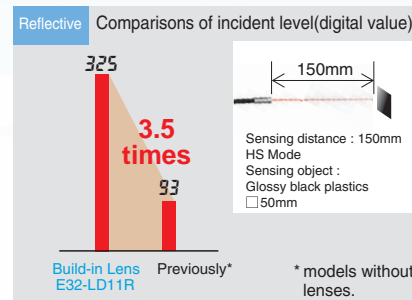
## Stable

### Long-term stable detection in dust environment



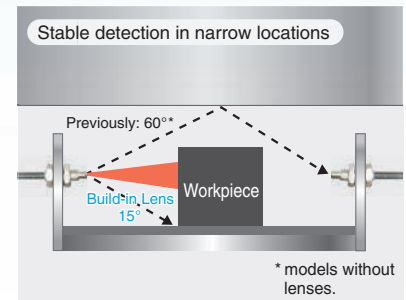
Approximately 10 times the light intensity of conventional models. High power achieves long-term stable detection.

### 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

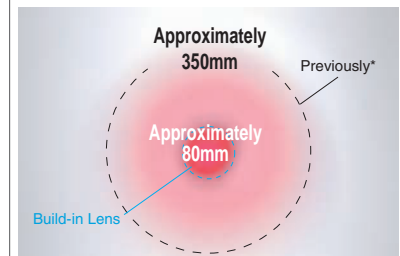


There is no need to worry about a lens falling off and getting mixed with the workpieces or about ordering a new lens when one is lost.

## Point



The clear spot simplifies onsite adjustments.



Comparison with Fiber Unit without a Lens with a Sensing Distance of 300 mm (Spots Overlapped in the Center)  
\* models without lenses.

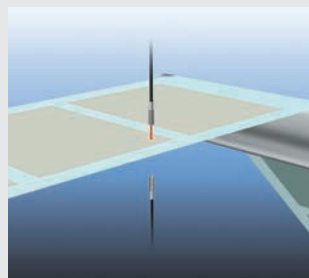
## Application

### Positioning Paper in Book Production



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

### Detection of Labels through Label Backings



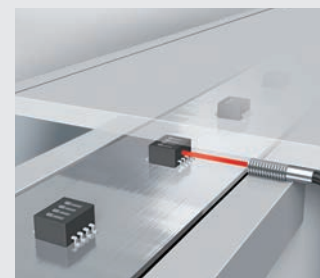
The high power lets the light penetrate the backing material for stable label detection

### 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		
Top-view	15°		R25	4,000*	ST : 4,000*	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*	4,000*	ST : 4,000*		E32-LT11R 2M
				2,300	SHS: 920	3,450	SHS: 920			

\* 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)

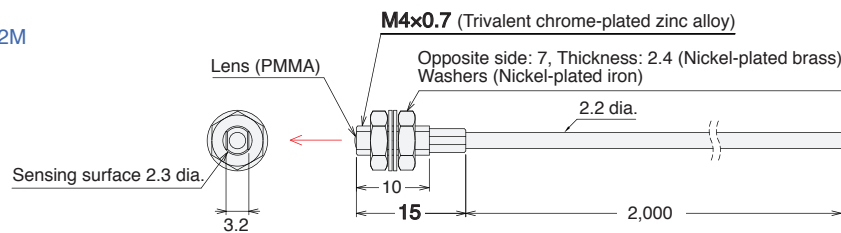
[E3NX-FA] GIGA: Giga-power mode (16 ms), HS: High-speed mode (250 μs), ST: Standard mode (1 ms), and SHS: Super-high-speed mode (30 μs)

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		
Top-view	15°		R25	860	ST : 360	1,290	1,290	ST : 540	(0.1 dia./ 0.03 dia.)	E32-LD11 2M <b>NEW</b>
				250	SHS: 110	370	SHS: 110			
			Flexible, R1	840	ST : 350	1,260	1,260	ST : 520		E32-LD11R 2M <b>NEW</b>
				240	SHS: 100	360	SHS: 100			

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)

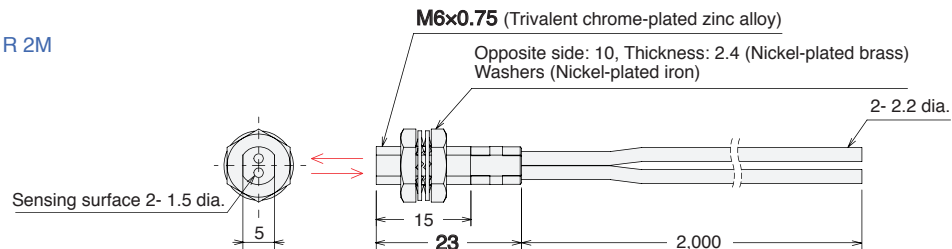
2. The values for the minimum sensing object are reference values that indicate values obtained in standard mode with the sensing distance and sensitivity set to the optimum values. The first value is for the E3X-HD and the second value is for the E3NX-FA.

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



Threaded  
Cylindrical  
Flat  
Sleeved  
Small Spot  
High Power  
Narrow view  
BGS  
Retro-reflective  
Limited-reflective  
Chemical-resistant, Oil-resistant  
Bending  
Heat-resistant  
Area Detection  
Liquid-level  
Vacuum  
FPD, Semi, Solar

Standard Installation  
Saving Space  
Beam Improvements  
Transparent Objects  
Environmental Immunity  
Applications

## 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	
<b>E32-LT11 2M</b>	-40 to 70°C	0.78N·m	R25	10	29.4N	Polyethylene	Plastic	None	40
<b>E32-LT11R 2M</b>			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	
<b>E32-LD11 2M</b>	-40 to 70°C	0.98N·m	R25	10	29.4N	Polyethylene	Plastic	None	40
<b>E32-LD11R 2M</b>			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



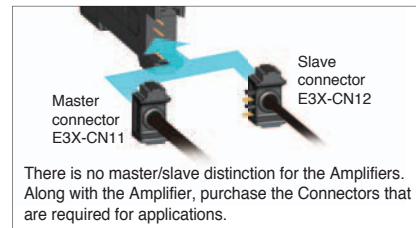
### Fiber Amplifier Units

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

### Wire-saving Connectors

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

Type	Appearance	Number of conductors	Model
Master connector		3	<b>E3X-CN11</b>
Slave connector		1	<b>E3X-CN12</b>



### 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	<b>XS3F-M421-402-A</b>
Right-angle			<b>XS3F-M422-402-A</b>

\*Refer to Fiber Sensor Best Selection Catalog (E418).

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