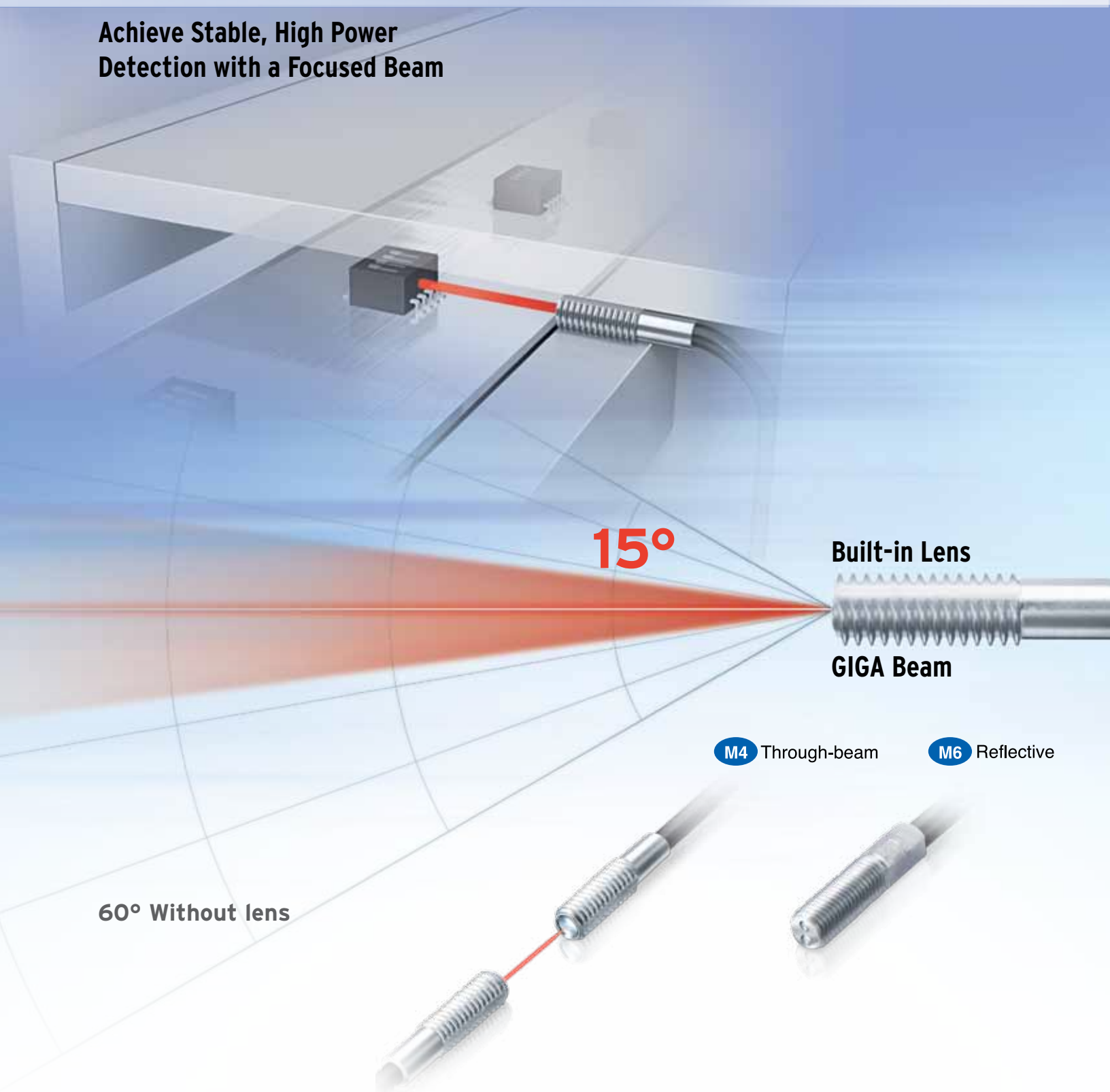


# E32-LT/LD Fiber Unit with Built-in Lens

Achieve Stable, High Power  
Detection with a Focused Beam



15°

Built-in Lens

GIGA Beam

M4 Through-beam

M6 Reflective

60° Without lens

# Fiber Units with a Built-in Lens

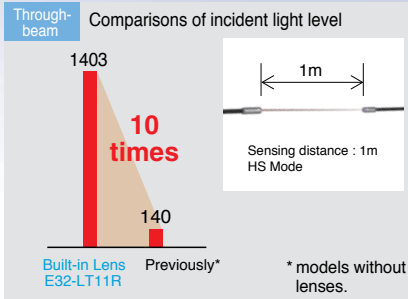
General-purpose threaded Fiber Units provide easy installation and stable detection for a variety of uses at an affordable price.



## GIGA Beam = High Power at a 15° Aperture Angle

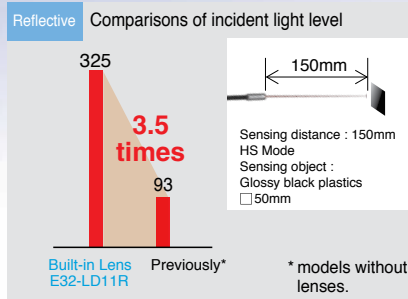
### Stable

#### Long-term stable detection in dusty environments



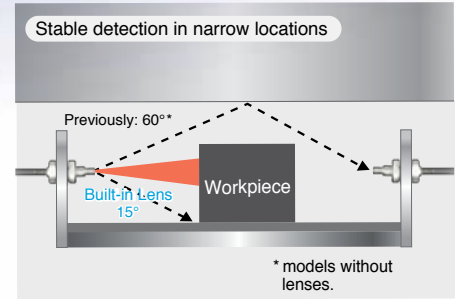
Approximately 10 times the light intensity of conventional models. High power achieves long-term stable detection.

#### Stable Detection Even for Workpieces with Low Reflection



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

#### Prevent false detection of light from reflections of other objects



Aperture angle of 15° reduces false detection due to reflected light.

## No Need to Attach a Lens

### Easy

#### Simple selection and setup



No need to select a fiber-lens combination or attach a lens to the fiber head. The lens does not protrude for tighter installation.

### Reliable

#### No concern over lost lenses

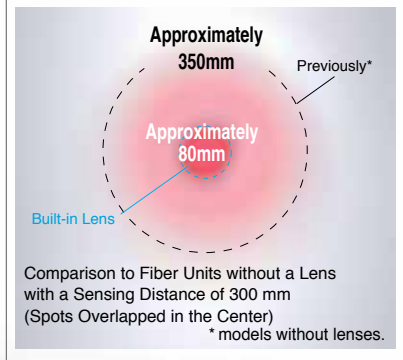
Previously, tape or glue was used to prevent lens from falling off.



Save time and money, a lens falling off and getting mixed with the workpieces would require ordering a new one in most cases.

### Point

A highly visible beam spot simplifies setup.



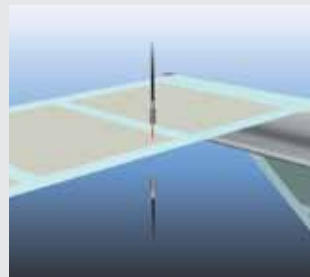
## Applications

#### Positioning Paper in Book Production



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

#### Detection of Labels through Label Backings



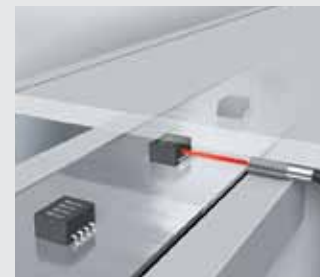
The high power lets the light penetrate the backing material for stable label detection

#### Detection of Narrow Spaced Parts



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

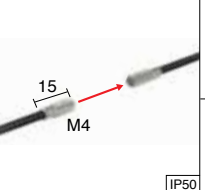
#### Detection of Electronic Components inside Devices



Aperture angle of 15° ensures stable detection of small components.

## 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			Simple Fiber Amplifier Units (Simple Models) <b>E3X-SD</b>	Smart Fiber Amplifier Units (Advanced Models) <b>E3X-HD</b>			
					■ GIGA ■ HS	Other modes		
Top-view	15°		R25	2,100	4,000* 2,700	ST : 4,000 * SHS: 1,080	2.3 dia. (0.1 dia.)	E32-LT11 2M
			Flexible, R1	1,800	4,000* 2,300	ST : 3,500 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 mode of E3X-HD that is given under the sensing distances has the following mode names and response times:

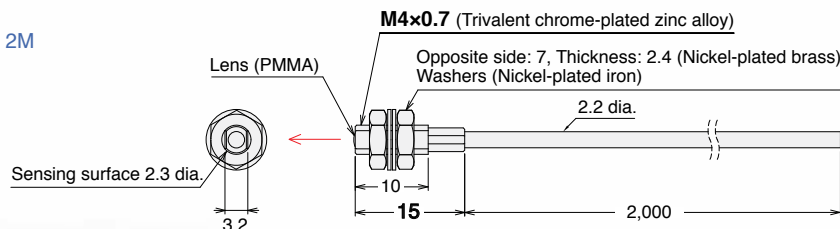
GIGA: GIGA Power Mode (16 ms), HS: High-speed Mode (250 μs), ST: Standard Mode (1 ms), and SHS: Super-high-speed Mode (NPN output: 50 μs, PNP output: 55 μs)

Note 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.

### Dimensions (mm)

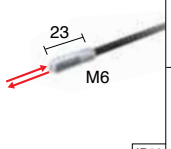
E32-LT11 2M / E32-LT11R 2M

(Free Cut)



## 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			Simple Fiber Amplifier Units (Simple Models) <b>E3X-SD</b>	Smart Fiber Amplifier Units (Advanced Models) <b>E3X-HD</b>			
					■ GIGA ■ HS	Other modes		
Top-view	15°		R25	190	860 250	ST : 360 SHS: 110	(0.1 dia.)	E32-LD11 2M
			Flexible, R1	180	840 240	ST : 350 SHS: 100		E32-LD11R 2M

Note 1. The mode of E3X-HD that is given under the sensing distances has the following mode names and response times:

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)

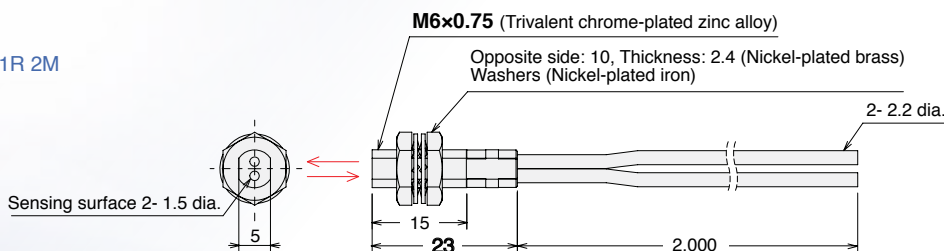
Note 2. The values for the minimum sensing object are reference values that indicate values obtained in Standard Mode with the sensing distance and sensitivity set to the optimum values.

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

### Dimensions (mm)

E32-LD11 2M / E32-LD11R 2M

(Free Cut)



### Point



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 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 plastic □ 50mm



## 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					

## E3X-HD Smart Fiber Amplifier Units

### Easily Achieve the Highest Stability

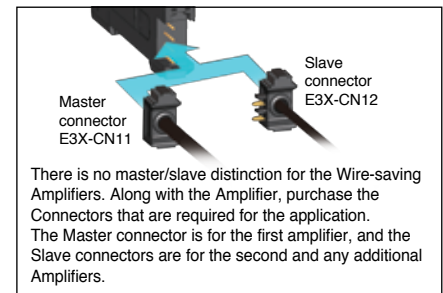


### Fiber Amplifier Units

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 (4 pin)	E3X-HD14	E3X-HD44
Communication unit		E3X-CRT or E3X-ECT	E3X-HD0	

### Wire-saving Connectors

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



### Communication Units

Method	Appearance	Applicable Units	Model
CompoNet		E3X-HD0 E3X-MDA0 E3X-DA0-S	E3X-CRT
EtherCat			E3X-ECT

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