

# Photoelectric Sensor with Separate Digital Amplifier (Laser-type) E3C-LDA

CSM\_E3C-LDA\_DS\_E\_4\_2

## Variable Laser Beam for Spot, Line, or Area Detection



- Long-distance detection (diffuse reflective: 1 m, retro-reflective: 7 m).
- Beam shape selectable from spot, line, and area types to match various applications.
- Adjustable spot diameter.
- Adjustable optical axis.
- The E3DC-LDA0, which supports the EtherCAT Sensor Communications Unit and the CompoNet Sensor Communications Unit, is also included in product lineup.



**⚠ Refer to Safety Precautions on page 9.**

For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

## Features

### Diffuse Reflective Model

■ All three beam types provide ample long-distance detection of 1,000 mm.

Sensing distance of 1 m.

Three beam types means a wider variety of applications.

### Spot, Line, and Area Types

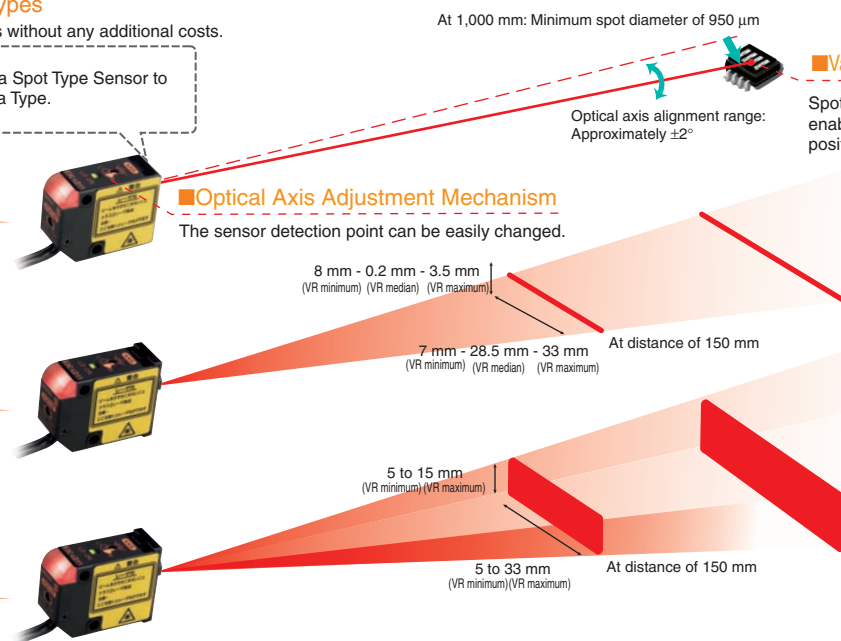
Suitable for various applications without any additional costs.

Mount Beam Units to a Spot Type Sensor to convert to Line or Area Type.

Spot Type  
E3C-LD11

Line Type  
E3C-LD21

Area Type  
E3C-LD31



■ Optical Axis Adjustment Mechanism  
The sensor detection point can be easily changed.

■ Variable Focal Point Mechanism  
Spot diameter can be adjusted to enable ultra-high-precision positioning.

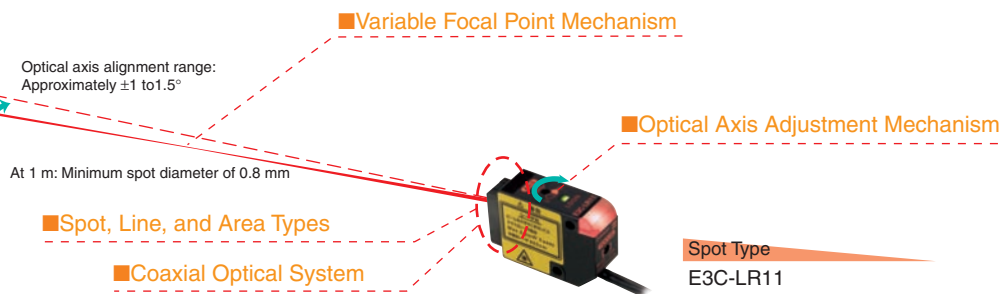
### Coaxial Retroreflective Model

■ Easy Sensor Installation and Sensing Characteristics Equivalent to Through-beam Sensors.

Sensing distance of 7 m.



E39-R13




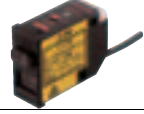

■ Spot, Line, and Area Types

■ Coaxial Optical System

The coaxial optical system and laser beam allow high-precision detection. The built-in MSR Function inhibits the effect of reflected light from the workpiece.

## Ordering Information


### Sensor Heads (Dimensions → page 12, 13)

Sensing method	Appearance	Beam shape	Model	Remarks
Diffuse-reflective		Spot (variable)	<b>E3C-LD11 2M</b>	Mounting a Beam Unit (sold separately) allows the use of line and area beams.
		Line (variable)	<b>E3C-LD21 2M</b>	This model number is for the set consisting of the E39-P11 mounted to the E3C-LD11.
		Area (variable)	<b>E3C-LD31 2M</b>	This model number is for the set consisting of the E39-P21 mounted to the E3C-LD11.
Coaxial Retro-reflective		Spot (variable)	<b>E3C-LR11* 2M</b>	Mounting a Beam Unit (order separately) enables the use of line and area beams.
		Spot (2.0-mm fixed dia.)	<b>E3C-LR12* 2M</b>	---


\* Select a Reflector (order separately) according to the application.

## Amplifier Units

### Pre-wired Amplifier Units (Dimensions → page 14)


Item	Appearance	Functions	Model	
			NPN output	PNP output
Advanced models		Remote setting Counter Differential operation	<b>E3C-LDA21 2M</b>	<b>E3C-LDA51 2M</b>
		Area output Self-diagnosis Differential operation	<b>E3C-LDA11 2M</b>	<b>E3C-LDA41 2M</b>
		ATC (Active Threshold Control)	<b>E3C-LDA11AT 2M</b>	<b>E3C-LDA41AT 2M</b>
		Analog output	<b>E3C-LDA11AN 2M</b>	<b>E3C-LDA41AN 2M</b>

### Amplifier Units with Wire-saving Connectors (A Wire-saving Connector (sold separately) is required.) (Dimensions → page 15, 16)

Item	Appearance	Functions	Model	
			NPN output	PNP output
Advanced models		Remote setting Counter Differential operation	<b>E3C-LDA7 *</b>	<b>E3C-LDA9 *</b>
		Area output Self-diagnosis Differential operation	<b>E3C-LDA6 *</b>	<b>E3C-LDA8 *</b>
		ATC (Active Threshold Control)	<b>E3C-LDA6AT</b>	<b>E3C-LDA8AT</b>

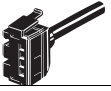
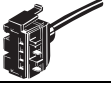
\* These models allow you to use an E3X-DRT21-S VER.3 Sensor Communications Unit. When using the E3X-DRT21-S VER.3, use an E3X-CN02 Connector without a Cable for the Wire-saving Connector.

### Amplifier Unit with Connector for Sensor Communications Unit (for EtherCAT and CompoNet) (Dimensions → page 16)

Item	Appearance	Functions	Model	Applicable Sensor Communications Unit
Advanced models		Area output Self-diagnosis Differential operation	<b>E3C-LDA0</b>	E3X-ECT E3X-CRT

## Accessories (Order Separately)

### Wire-saving connectors (Required for models for Wire-saving Connectors.) \*Protective stickers: provided. (Dimensions → E3X-DA-S/MDA)

Item	Appearance	Cable length	No. of conductors	Model
Master Connector		2 m	4	<b>E3X-CN21</b>
Slave Connector			2	<b>E3X-CN22</b>

### Ordering Precaution for Amplifier Units with Wire-saving Connectors

Amplifier Units and Connectors are sold separately. Refer to the following tables when placing an order.

Model	Amplifier Unit		+	Applicable Connector (order separately)	
	NPN output	PNP output		Master Connector	Slave Connector
Advanced models	E3C-LDA6	E3C-LDA8	+	E3X-CN21	E3X-CN22
	E3C-LDA7	E3C-LDA9			
	E3C-LDA6AT	E3C-LDA8AT			

### When Using 5 Amplifier Units

<b>5 Amplifier Units</b>	+	<b>1 Master Connector</b>	<b>4 Slave Connectors</b>
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