

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.



CE FDA

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.

8 mm - 0.2 mm - 3.5 mm
(VR minimum) (VR median) (VR maximum)

7 mm - 28.5 mm - 33 mm
(VR minimum) (VR median) (VR maximum)

5 to 15 mm
(VR minimum) (VR maximum)

5 to 33 mm
(VR minimum) (VR maximum)

Optical axis alignment range:
Approximately $\pm 2^\circ$

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

Variable Focal Point Mechanism

Optical axis alignment range:
Approximately ± 1 to 1.5°

At 1 m: Minimum spot diameter of 0.8 mm

Spot, Line, and Area Types

Coaxial Optical System

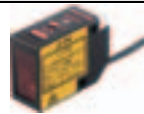
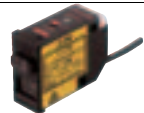
The coaxial optical system and laser beam allow high-precision detection.
The built-in MSR Function inhibits the effect of reflected light from the workpiece.

Optical Axis Adjustment Mechanism

Spot Type
E3C-LR11

Ordering Information

Sensor Heads (Dimensions → page 12, 13)

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

* 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	External-input models		Remote setting Counter Differential operation	E3C-LDA21 2M	E3C-LDA51 2M
	Twin-output models		Area output Self-diagnosis Differential operation	E3C-LDA11 2M	E3C-LDA41 2M
	ATC function		ATC (Active Threshold Control)	E3C-LDA11AT 2M	E3C-LDA41AT 2M
	Analog output		Analog output	E3C-LDA11AN 2M	E3C-LDA41AN 2M

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	External-input models		Remote setting Counter Differential operation	E3C-LDA7 *	E3C-LDA9 *
	Twin-output models		Area output Self-diagnosis Differential operation	E3C-LDA6 *	E3C-LDA8 *
	ATC function		ATC (Active Threshold Control)	E3C-LDA6AT	E3C-LDA8AT

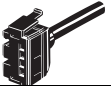
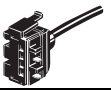
* These models allow you to use an E3X-DRT21-S VER.3 Sensor Communications Unit. When using the E3X-DRT21-S VER.3, use an E3X-CN02 Connector without a Cable for the Wire-saving Connector.

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	Twin-output models		Area output Self-diagnosis Differential operation	E3C-LDA0	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	E3X-CN21
Slave Connector			2	E3X-CN22

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.

Amplifier Unit			Applicable Connector (order separately)	
Model	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

5 Amplifier Units	+	1 Master Connector	4 Slave Connectors
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