



# Your PDF Guides

You can read the recommendations in the user guide, the technical guide or the installation guide for OMRON E3C-LDA. You'll find the answers to all your questions on the OMRON E3C-LDA in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual OMRON E3C-LDA  
User guide OMRON E3C-LDA  
Operating instructions OMRON E3C-LDA  
Instructions for use OMRON E3C-LDA  
Instruction manual OMRON E3C-LDA

**OMRON**

**Photoelectric Sensors with Separate Digital Amplifiers (Laser-type Amplifier Units)**  
**E3C-LDA Series**

- All three beam types provide ample long-distance detection of 1,000 mm for Diffuse-Reflective Models.
- Coaxial Retro-reflective Models provide detection performance equivalent to through-beam sensors, simplifying Sensor installation.
- Industry-first variable focal point and optical axis alignment mechanisms. Optimize for workplaces and improve inspection quality.
- Drive the laser with an Amplifier the same size as a Digital Fiber Amplifier.



**Ordering Information**

■ **Sensor Heads**

Sensing method	Focus	Model number	Remarks
Diffuse reflective	Spot	E3C-LD11	Mounting Beam Unit (sold separately) allows the use of line and area beams.
	Line	E3C-LD21	
	Area	E3C-LD31	
Coaxial retro-reflective (with MSR)	Spot (variable)	E3C-LR11 (See note)	Mounting Beam Unit (sold separately) allows the use of line and area beams.
	Spot (2.0 mm fixed dia.)	E3C-LR12 (See note)	

Note: Select a reflector (sold separately) according to the application.

■ **Amplifier Units**

**Amplifier Units with Cables**

Item	Appearance	Functions	Model	
			NPN output	PNP output
Advanced models		Area output, self-diagnosis, differential operation	E3C-LDA11	E3C-LDA11
External input models		Remote setting, counter, differential operation	E3C-LDA21	E3C-LDA21
ATC function		ATC (Active Threshold Control)	E3C-LDA11AT	E3C-LDA11AT
Analog output		Analog output	E3C-LDA11AN	E3C-LDA11AN

**Amplifier Units with Connectors**

Item	Appearance	Functions	Model	
			NPN output	PNP output
Advanced models		Area output, self-diagnosis, differential operation	E3C-LDA6	E3C-LDA6
External input models		Remote setting, counter, differential operation	E3C-LDA7	E3C-LDA7
ATC function		ATC (Active Threshold Control)	E3C-LDA6AT	E3C-LDA6AT

**E3C-LDA Series** Photoelectric Sensors with Separate Digital Amplifiers (Laser-type Amplifier Units) 1



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**Manual abstract:**

Drive the laser with an Amplifier the same size as a Digital Fiber Amplifier. Ordering Information Sensor Heads Sensing method Diffuse reflective Spot Line Area Coaxial retroreflective Spot (variable) (with MSR) Focus Model number E3C-LD11 E3C-LD21 E3C-LD31 Remarks Mounting a Beam Unit (sold separately) allows the use of line and area beams. This model number is for the set consisting of the E39-P11 mounted to the E3C-LD11. This model number is for the set consisting of the E39-P21 mounted to the E3C-LD11. E3C-LR11 (See note.) Mounting a Beam Unit (sold separately) allows the use of line and area beams. Spot (2.0-mm fixed dia.) E3C-LR12 (See note.) --Note: Select a reflector (sold separately) according to the application.

Amplifier Units Amplifier Units with Cables Item Advanced models Twin-output models External-input models ATC function Analog output Appearance Functions Area output, self-diagnosis, differential operation E3C-LDA11 Model NPN output PNP output E3C-LDA41 E3C-LDA51 E3C-LDA41AT E3C-LDA41AN Remote setting, counter, dif- E3C-LDA21 ferential operation ATC (Active Threshold Con- E3C-LDA11AT trol) Analog output E3C-LDA11AN Amplifier Units with Connectors Item Advanced models Twin-output models External-input models ATC function Appearance Functions Area output, self-diagnosis, differential operation E3C-LDA6 Model NPN output PNP output E3C-LDA8 E3C-LDA9 E3C-LDA8AT Remote setting, counter, dif- E3C-LDA7 ferential operation ATC (Active Threshold Con- E3C-LDA6AT trol) E3C-LDA Series Photoelectric Sensors with Separate Digital Amplifiers (Laser-type Amplifier Units) 1 Amplifier Unit Connectors (Order Separately) Item Master Connector Slave Connector Appearance Cable length 2m No. of conductors 4 2 Model E3X-CN21 E3X-CN22 Accessories (Order Separately) Beam Units Applicable Sensor Head E3C-LD11 Appearance Line Area E3C-LR11 Line Area Focus Model E39-P11 E39-P21 E39-P31 E39-P41 Mobile Console (Order Separately) Appearance Model Remarks E3X-MC11-SV2 Mobile Console with (model number of set) Head, Cable, and AC (See notes 1 and 2.) adapter provided as accessories E3X-MC11-C1-S Mobile Console Reflectors Type Standard Effective area: 23 × 23 mm Standard Effective area: 7 × 7 mm Appearance Model E39-R12 E39-R13 E3X-MC11-H1 Head Short-distance transparent detection Effective area: 23 × 23 mm Sheet (cuttable) Effective area: 195 × 22 mm Sheet (cuttable) Effective area: 108 × 46 mm E39-R14 E39-Z12-1 Cable (1.5 m) E39-RS4 E39-RS5 Note 1. Use the E3X-MC11-SV2 Mobile Console for the E3C-LDA-series Amplifier Units.

Other Mobile Consoles cannot be used. 2. The E3X-MC11-SV2 is an upgraded version of the E3X-MC11-S, to which a corresponding Sensor Head is added. (The E3XMC11-SV2 and E3X-MC11-S are compatible.) Specifications Ratings/Characteristics Sensor Heads Item E3C-LD11 Light source (emission wavelength) Sensing distance Diffuse reflective E3C-LD21 E3C-LD31 E3C-LR11 Coaxial retroreflective (with MSR) E3C-LR11 + E39P31 E3C-LR11 + E39P41 E3C-LR12 1 mW max.

(JIS standard Class 1) 7m 5m 2m (See note 2.) 2.0 mm dia. (at distances up to 1,000 mm) Red semiconductor laser diode (650 nm), 2.5 mW max. (JIS standard: Class 2, FDA standard: Class II) High-resolution mode: 30 to 1,000 mm Standard mode: 30 to 700 mm Super-high-speed mode: 30 to 250 mm (See note 1.) 33 mm (at 150 mm) 7m 5m 2m (See note 2.) 1,700 mm, 1,300 mm 700 mm (See note 2.) 28 mm (at 150 mm) 900 mm 700 mm 400 mm (See note 2.) 28 × 16 mm (at 150 mm) Beam size (See note 3.)

) 0.8 mm max. @@@@ @100 g Note 1. Values are sensed for white paper. 2. These values apply when a E39-R12 Reflector is used. The MSR function is built-in. @ @3. @ @ @ @ @4. @ @1,080 mW max. (current consumption: 45 mA max. @ @ @ @ High-speed mode: 250 μs/4.0% F.S. Standard mode: 1 ms/2.0% F.S. High-resolution mode: 4 ms/2.0% F.S.

@ @ @ @ @ Select from OFF-delay, ON-delay, or one-shot timer. @ @ Settings can be returned to defaults as required. Possible for up to 10 Units. (See note.) Switchable between up counter and down counter. Set count: 0 to 9,999,999 --- Zero-reset Initial reset Mutual interference prevention Counter I/O settings External input setting (Se- Output setting (Select from lect from teaching, power channel 2 output, area outtuning, zero reset, light OFF, put, or self-diagnosis.) or counter reset.) Switching between normal/reversed display is possible. Operating: Storage: Output setting (Select from Analog output setting (Offset voltchannel 2 output, area output, age can be adjusted.) self-diagnosis, or ATC error output.

) Digital display Display orientation Ambient temperature range Select from digital incident level + threshold or six other patterns. Groups of 1 to 2 Amplifiers: -25°C to 55°C Groups of 3 to 10 Amplifiers: -25°C to 50°C Groups of 11 to 16 Amplifiers: -25°C to 45°C -30°C to 70°C (with no icing) Ambient humidity range Insulation resistance Dielectric strength Vibration resistance Shock resistance Degree of protection Connection method Weight (packed state) Materi- Case als Cover Operating and storage: 35% to 85% (with no condensation) 20 M at 500 VDC 1,000 VAC at 50/60 Hz for 1 min. Destruction: 10 to 150 Hz, 0.7-mm double amplitude for 80 min each in X, Y, and Z directions Destruction: 500 m/s<sup>2</sup>, 3 times each in X, Y, Z directions IP50 (IEC 60529) Prewired cable or wire-reducing connector With prewired cable: Approx. 100 g With wire-reducing connector: Approx. 55 g Polybutylene terephthalate (PBT) Polycarbonate Note: Communications are disabled if super-high-speed mode is selected, and the mutual interference prevention function and the communications function for the Mobile Console will not function. E3C-LDA Series Photoelectric Sensors with Separate Digital Amplifiers (Laser-type Amplifier Units) 3 Dimensions Sensor Head E3C-LD11 12.8 33 39 12.8 E3C-LR11 25 25 33 27.7 20 5.

1 Two, 3.2-dia. mounting holes R 4.8 25 18.8 Two, R 2.

6.3.1 Connector 27 18 Round vinyl-clad cable, 1.8 dia. × 2 conductors und (cross-sectional area of conductor: 0.15 mm<sup>2</sup>) Standard length: 2 m Reflector E39-R12/R14 30 12 Amplifier Unit E39-R13 E3C-LDA11 76 10 45 37 24 17.

2 32 This document provides information mainly for selecting suitable models. @ @ To convert grams into ounces, multiply by 0.03527. Cat. No. @ @.



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