

# Digital Fiber Amplifier Unit

# E3X-DA-S/MDA

CSM\_E3X-DA-S\_MDA\_DS\_E\_15\_4



## Advanced Fiber Amplifier Units

- Features a Power Tuning function that optimizes light reception at the press of a button.
- APC circuits to suppress LED aging degradation used with 4-element LEDs.
- 2-channel models achieve the thinnest\* profile in the industry, at only 5 mm per channel.
- 2-channel models also offer AND/OR control output.
- The E3X-MDA0 with two channels supports an EtherCAT Sensor Communications Unit or CompoNet Sensor Communications Unit.

\* (Based on July 2012 OMRON investigation.)



Be sure to read *Safety Precautions* on page 15.

Note: Manufacture of the E3X-DA□SE-S/DA□-S/DA□AT-S/DA□IRM-S/DA□TW-S will be discontinued in March 2017.

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

## Features

### Models available for a wide variety of applications at manufacturing sites

#### Industry Leading Two Amplifiers Loaded in a Small Body ··· 2-channel models

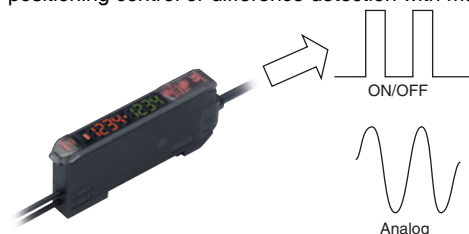
Two amplifiers are loaded in a 10 mm-wide body. Space usability can be approximately doubled. In addition, approximately 40% of the energy can be saved. (compared to the value per channel of the former model)



#### High-speed and High-resolution Analog Output Supports Wide Variety of Applications ··· Advanced Analog Output Models

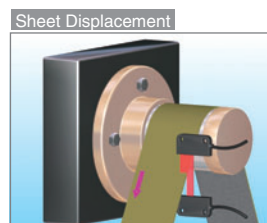
##### Analog Control Output

The voltage in the range of 1 to 5 V is output according to the incident level (digital display). Wide variety of applications is possible including positioning control or difference detection with multiple levels.



##### High-speed and High Resolution



Detection modes can be switched in accordance with applications. High-speed response of 80 μs (super-high-speed mode) supports the positioning controls that require high-speed control.



## Ordering Information



### Fiber Amplifier Units

**Amplifier Units with Cables (2 m)** [Refer to *Dimensions* on page 17.]

Item	Appearance	Functions	Model		
			NPN output	PNP output	
Single-function models		---	E3X-DA11SE-S 2M *	E3X-DA41SE-S 2M *	
Standard models			E3X-DA11-S 2M *	E3X-DA41-S 2M *	
Mark-detecting models (multiple color light sources)		Green LED	Timer, Response speed change	E3X-DAG11-S 2M	E3X-DAG41-S 2M
		Blue LED		E3X-DAB11-S 2M	E3X-DAB41-S 2M
		Infrared LED		E3X-DAH11-S 2M	E3X-DAH41-S 2M
Advanced models		External-input models	Remote setting, counter, differential operation	E3X-DA11RM-S 2M *	E3X-DA41RM-S 2M *
		Twin-output models	Area output, self-diagnosis, differential operation	E3X-DA11TW-S 2M *	E3X-DA41TW-S 2M *
		ATC function models	ATC (Threshold value automatic correction)	E3X-DA11AT-S 2M *	E3X-DA41AT-S 2M *
		Analog output models	Analog output models	E3X-DA11AN-S 2M	E3X-DA41AN-S 2M
2-channel models			AND/OR output	E3X-MDA11 2M	E3X-MDA41 2M

\* Manufacture of the E3X-DA□SE-S/DA□S/DA□AT-S/DA□RM-S/DA□TW-S will be discontinued in March 2017.


**Amplifier Units with Wire-saving Connectors** [Refer to *Dimensions* on page 18.]

Item	Appearance	Functions	Model		
			NPN output	PNP output	
Single-function models		---	E3X-DA6SE-S *1	E3X-DA8SE-S *1	
Standard models			E3X-DA6-S *1,2	E3X-DA8-S *1,2	
Mark-detecting models (multiple color light sources)		Green LED	Timer, Response speed change	E3X-DAG6-S *2	E3X-DAG8-S *2
		Blue LED		E3X-DAB6-S *2	E3X-DAB8-S *2
		Infrared LED		E3X-DAH6-S *2	E3X-DAH8-S *2
Advanced models		External-input models	Remote setting, counter, differential operation	E3X-DA6RM-S *1,2	E3X-DA8RM-S *1,2
		Twin-output models	Area output, self-diagnosis, differential operation	E3X-DA6TW-S *1,2	E3X-DA8TW-S *1,2
		ATC function models	ATC (Threshold value automatic correction)	E3X-DA6AT-S *1	E3X-DA8AT-S *1
2-channel models			AND/OR output	E3X-MDA6 *2	E3X-MDA8 *2

\*1. Manufacture of the E3X-DA□SE-S/DA□S/DA□AT-S/DA□RM-S/DA□TW-S will be discontinued in March 2017.

\*2. 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 Units with Connectors for EtherCAT or CompoNet Sensor Communications Units** [Refer to *Dimensions* on page 19.]

Item	Appearance	Functions	Model	Applicable Sensor Communications Unit
2-channel model		AND/OR output	E3X-MDA0	E3X-ECT E3X-CRT

## Ratings and Specifications

Type	Light source	Response time	Control output/input			Functions						
			ON/OFF output	Input	Analog output	Power tuning	Timer	Interference prevention	Differential detection	counter	ATC	
Single-function models	Red LED	1 ms	Only main	---	---	---	---	○	---	---	---	
Standard models		50 μs to 4 ms										
Mark-detecting models	E3X-DA□G-S	50 μs to 4 ms	Only main	---	---	○	○	○	---	---	---	
	3X-DA□B-S											
	E3X-DA□H-S											
Advanced models	Red LED	50 μs to 4 ms	Only main	○ (1 line)	---	○	○	○	○	---	○	
		80 μs to 4 ms	Main + sub (2 lines)	---							○	
		130 μs to 4 ms	---	---							---	○
		80 μs to 4 ms	Only main	○ (1 line)							---	---
2-channel models	Red LED	130 μs to 4 ms	Main + main (2 independent lines)	---	---	○	○	○	---	---	---	