

Super Manual Fiber Amplifier

E3X-NA

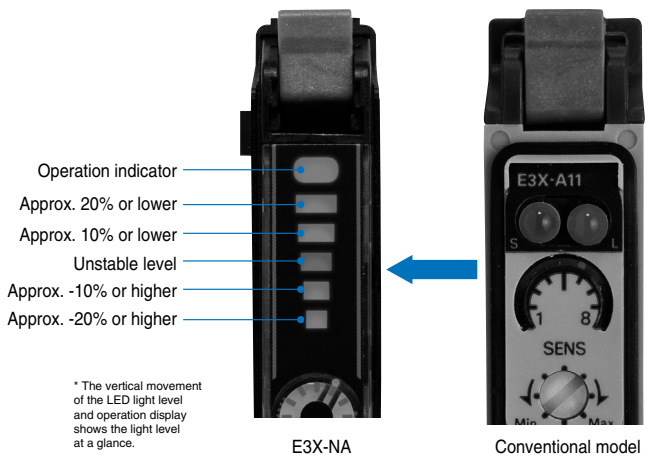
Adjuster type standard that is the culmination of true ease and simplicity



Features

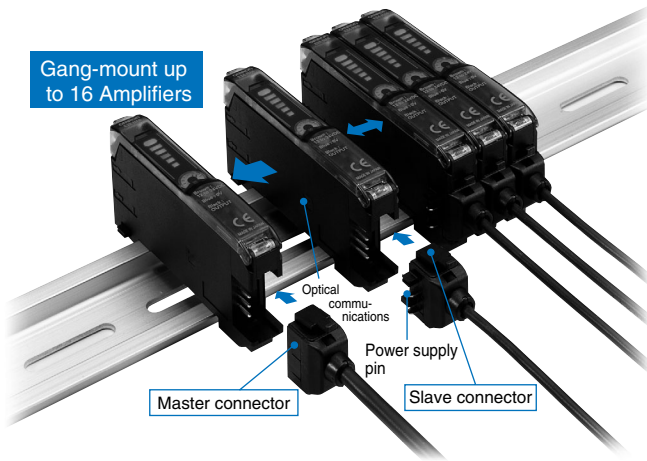
Self-explanatory LED bar displays of light levels

The previous manual type used the stability and incident level indicators to display the light level change, which was difficult to understand at a glance. The E3X-NA uses the LED bars to display the light level, ensuring the light level change at a glance.



Same "Wire-saving" Connector as E3X-DA-N

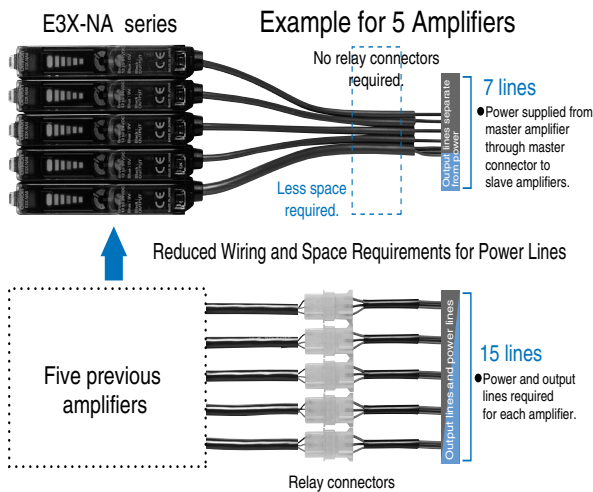
OMRON's original wiring-saving connector, which was inherited from the digital fiber amplifier E3X-DA-N, allows connection of up to 16 units.



Features

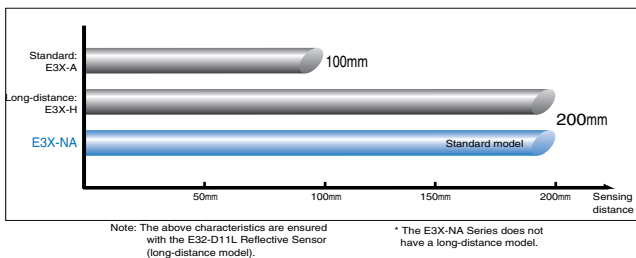
Reduced wiring and space requirements for power lines

Example for 5 Amplifiers E3X-NA Series



Same Sensing Distance as Previous Long-distance Models

200 mm Reflective Models



Approximately Seven Times the Detection Accuracy

Applied Fiber: E32-T16P (screen fiber) set at 100 mm. E3X-A1 1 (previous model) Minimum detection object: 2.0 mm dia. E3X-NA 0.3 mm dia.

Applied Fiber: E32-T16 (screen fiber) set at 100 mm.

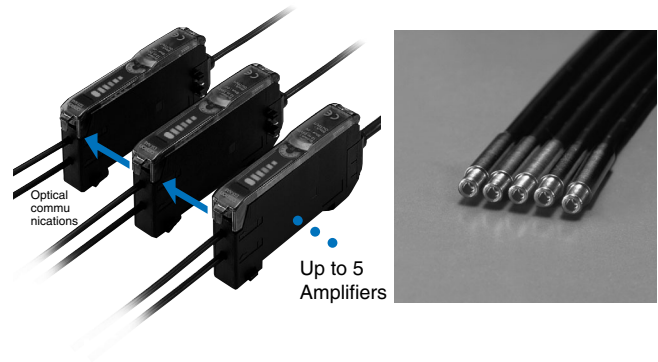
E3X-A11 (previous model) **7 times** E3X-NA

Minimum detection object: **2.0 mm dia. → 0.3 mm dia.**

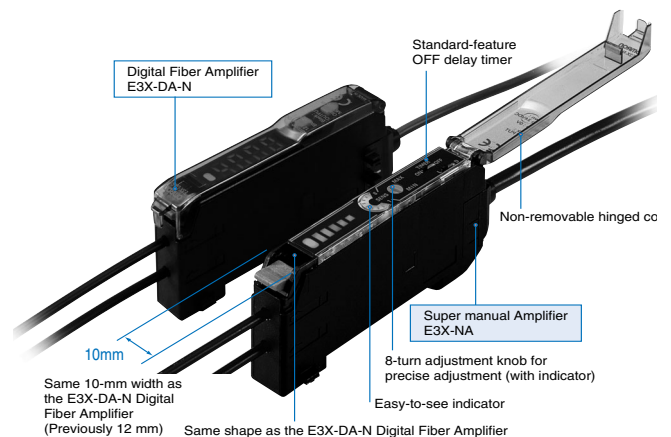
Addition of high-speed type and waterproof type to the series

Optical Communications to Prevent Mutual Interference

Optical communication between amplifiers prevents mutual interference. Up to 5 fiber heads can be installed closely, except E3X-NA□F.



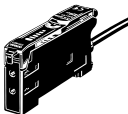
Dimensions and Designs Inherited from the E3X-DA-N Digital Fiber Amplifier



Ordering Information

Amplifier Units

Pre-wired

Item	Shape	Control output	Model	
			NPN output	PNP output
Standard models		ON/OFF output	E3X-NA11	E3X-NA41
High-speed detection			E3X-NA11F	E3X-NA41F
Mark-detecting models			E3X-NAG11	E3X-NAG41
Water-resistant models			E3X-NA11V	E3X-NA41V

Connector type

Item	Shape	Applicable Connector (order separately)		Control output	Model	
					NPN output	PNP output
Standard models		Master	E3X-CN11	ON/OFF output	E3X-NA6	E3X-NA8
		Slave	E3X-CN12			
Water-resistant models (M8 Connector)		XS3F-M421-40□-A XS3F-M422-40□-A				E3X-NA14V

Amplifier Units Connectors (Order Separately) Note: Stickers for Connectors are included as accessories.

Item	Shape	Cable length	No. of conductors	Model
Master connector		2 m	3	E3X-CN11
Slave connector			1	E3X-CN12

Precautions for ordering the connector type

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

Please place an order after referring to the combination given below.

Amplifier Units			+	Applicable Connector (order separately)	
Type	NPN	PNP		Master connector	Slave connector
Standard	E3X-NA6	E3X-NA8		E3X-CN11 (3 wires)	E3X-CN12 (1 wire)

When Using 5 Amplifier Units

Amplifier Units (5 Units)	+	1 Master Connector + 4 Slave Connectors
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Sensor I/O Connectors (Order separately)

Size	Cable type	Shape	Cable length	Model
M8	Standard cable	Straight 	2 m	XS3F-M421-402-A
			5 m	XS3F-M421-405-A
		L-shaped 	2 m	XS3F-M422-402-A
			5 m	XS3F-M422-405-A

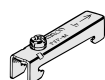
Note: Refer to page NB-6 for details.

Accessories (Order Separately)

Mounting Brackets

Shape	Applicable type	Model	Quantity
	E3X-NA□ E3X-NA□F E3X-NAG□	E39-L143	1
	E3X-NA□V	E39-L148	

End Plate

Shape	Model	Quantity
	PFP-M	1

Rating/performance

Amplifier Units

Item	Model	Type	Pre-wired				Connector type	
			Standard models	High-speed de- tection models	Mark-detecting models	Water-resistant models	Standard models	Water-resistant mod- els (M8 Connector)
			E3X-NA11	E3X-NA11F	E3X-NAG11	E3X-NA11V	E3X-NA6	E3X-NA14V
		NPN output	E3X-NA41	E3X-NA41F	E3X-NAG41	E3X-NA41V	E3X-NA8	E3X-NA44V
Light source (wave length)		Red LED (680 nm)			Green LED (520 nm)	Red LED (680 nm)		
Power supply volt- age		12 to 24 VDC ±10%, ripple (p-p): 10% max.						
Current consumption		35 mA max.	35 mA max. (at power supply voltage 24 VDC)	35 mA max.				
Control output		Load current 50 mA (residual voltage 1 V max. each) Open collector output type (depends on the NPN/PNP out- put format) Light-ON/Dark-ON switch selectable						
Response time		Operation or re- set: 200 s max. *	Operating: 20 s max. Reset: 30 s max.	200 s max. for operation and reset respectively (See note.)				
Sensitivity adjust- ment		8-turn endless adjuster (with indicator)						
Protective circuits		Reverse polarity protection, out- put short-circuit protection, mutu- al interference prevention (opti- cally synchro- nized)	Reverse polarity protection, out- put short-circuit protection	Reverse polarity protection, output short-circuit protection, mutual interfer- ence prevention (optically synchronized)				
Timer function		OFF-delay timer: 40 ms (fixed)						
Ambient illuminance		Incandescent lamp: 10,000 lux max. Sunlight: 20,000 lux max.						
Ambient temperature		Operating: Groups of 1 to 3 Amplifiers: -25 to +55°C, Groups of 4 to 11 Amplifiers: -25 to +50°C, Groups of 12 to 16 Amplifiers: -25 to +45°C Storage: -30 to +70°C (with no icing and condensation)						
Ambient humidity		Operating/Storage: 35% to 85% RH (with no condensation)						
Insulation resistance		20 M min. at 500 VDC						
Dielectric strength		1,000 VAC at 50/60 Hz for 1 minute						500 VAC at 50/60 Hz for 1 minute
Vibration resistance		10 to 55 Hz with a 1.5 mm double amplitude for 2 hrs each in X, Y and Z directions						
Shock resistance		Destruction: 500 m/s ² for 3 times each in X, Y, and Z directions						
Protective structure		IEC 60529 IP50 (with Protective Cover attached)				IEC 60529 IP66 (with Protective Cover attached)	IEC 60529 IP50 (with Protective Cover attached)	IEC 60529 IP66 (with Protective Cover attached)
Connection method		Pre-wired models (standard length: 2 m)					Connector type	M8 connector
Weight (Packed state)		Approx. 100 g				Approx. 110 g	Approx. 55 g	65 g
Material	Case	PBT (polybutylene terephthalate)						
	Cover	Polycarbonate				Polyethersul- fone (PES)	Polycarbonate	Polyethersul- fone (PES)
Accessories		Instruction manual						

* If 8 or more Units are installed side-by-side, the response time will be 350 μ s max.

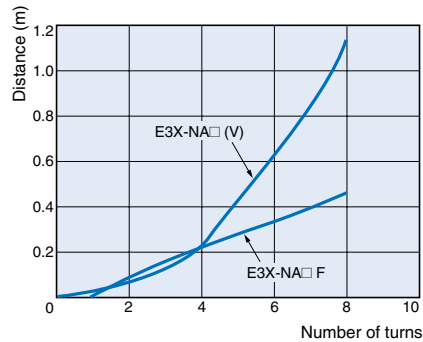
Amplifier Unit Connectors

Item	Model	E3X-CN11	E3X-CN12
Rated current		2.5 A	
Rated voltage		50 V	
Contact resistance		20 m Ω max. (20 mVDC max., 100 mA max.) [By connection with amplifier unit and connection with adjacent connector (except conductor resistance of cable)]	
No. of insertions		50 times (By connection with amplifier unit and connection with adjacent connector)	
Material	Housing	PBT (polybutylene terephthalate)	
	Contacts	Phosphor bronze/gold-plated nickel	
Weight (Packed state)		Approx. 55 g	Approx. 25 g

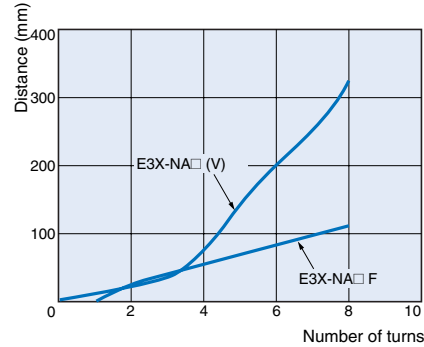
Characteristic data (typical)

Number of Turns of Sensitivity Adjuster
vs. Sensing Distance

E32-T11L

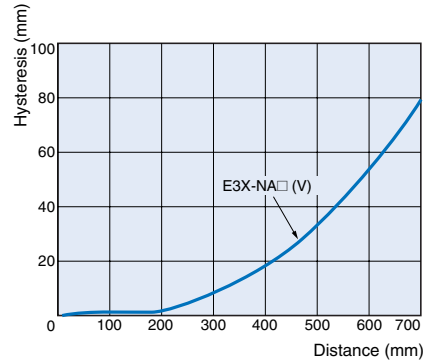


E32-D11L



Sensing Distance vs. Hysteresis

E32-T11L



E32-D11L

