

Super Manual Fiber Amplifier

E3X-NA

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



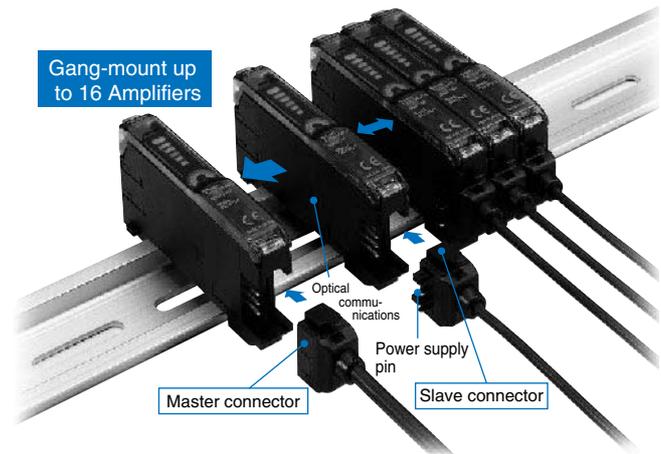
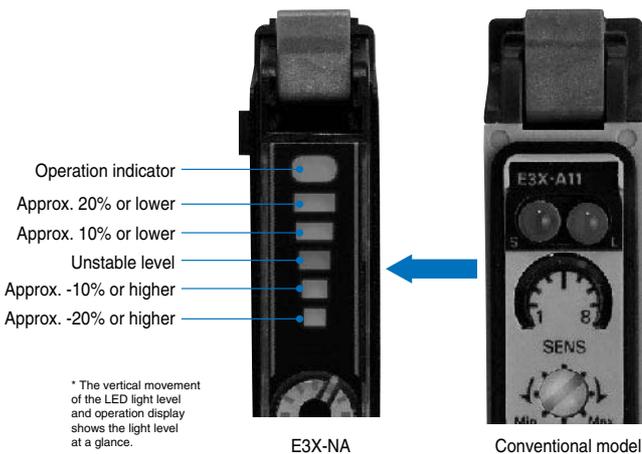
Features

Instinctive 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

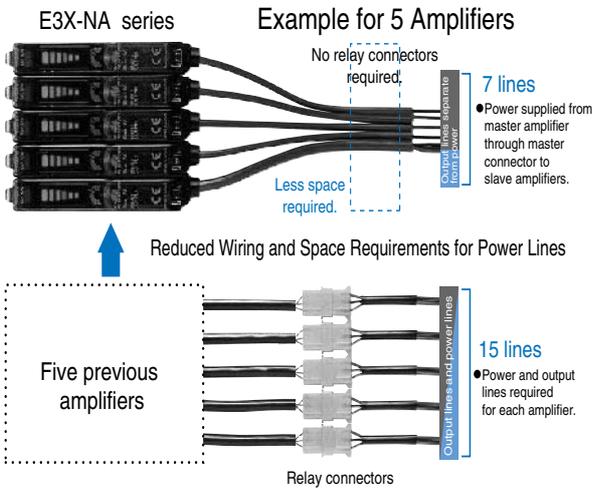
OMRON's original wiring-saving connector, which was inherited from the digital fiber amplifier E3X-DA-N, allows connection of up to 16 units.



Features

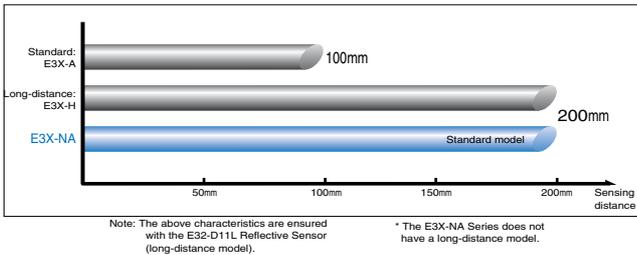
Reduced wiring and space requirements for power lines

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.

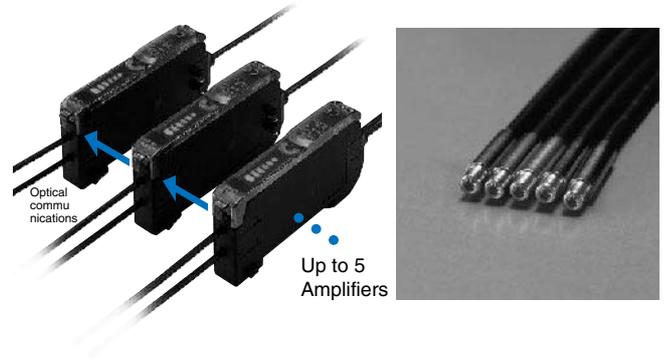
Applied Fiber: E32-T16 (screen fiber) set at 100 mm.

Minimum detection object: E3X-A11 (previous model) **2.0 mm dia.** **7 times** E3X-NA **0.3 mm dia.**

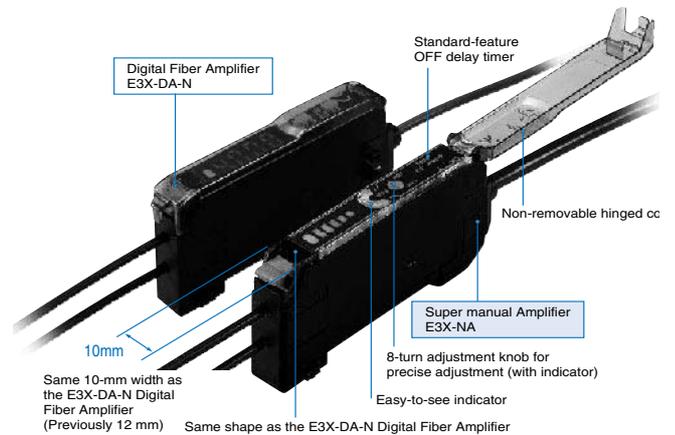
Addition of high-speed type and waterproof type to the series **NEW**

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 NEW	E3X-NA41F NEW
Mark-detecting models			E3X-NAG11	E3X-NAG41
Water-resistant models			E3X-NA11V NEW	E3X-NA41V NEW

Connector type

Item	Shape	Applicable Connector (order separately)		Control output	Model	
		Master	Slave		NPN output	PNP output
Standard models		Master E3X-CN11	Slave E3X-CN12	ON/OFF output	E3X-NA6	E3X-NA8
Water-resistant models (M8 Connector)		XS3F-M421-40□-A XS3F-M422-40□-A			E3X-NA14V NEW	E3X-NA44V NEW

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	4 conductors	XS3F-M421-402-A
			5 m		XS3F-M421-405-A
		L-shaped 	2 m		XS3F-M422-402-A
			5 m		XS3F-M422-405-A

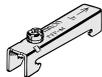
Note: Refer to page NB-6 for details.

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

Applicable fiber unit type

Note: 1. (Free-cut) indicates a unit that can be cut freely.

2. The values of the minimum sensing object for E3X-NA□(V) and E3X-NAG□ through-beam models indicate those obtained where the sensing distance and sensitivity are set to optimum values.

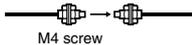
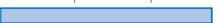
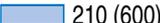
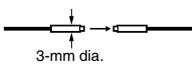
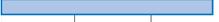
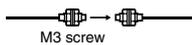
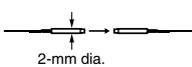
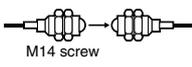
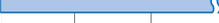
3. The value of the minimum sensing object for E3X-NA□F through-beam models indicates that obtained at the rated sensing distance with the sensitivity set to the optimum value.

4. The size of standard sensing object is the same as the fiber core diameter (lens diameter for models with lens).

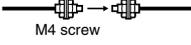
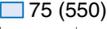
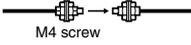
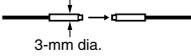
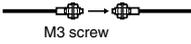
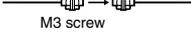
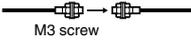
5. The value of the minimum sensing object of the through-beam model assumes that the sensing distance and sensitivity are set to the optimum.

Long distance

 Red light  Green light

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm) (Values in parentheses: when using the E39-F1 Lens Unit)	Standard object (mm) Minimum sensing object (Opaque object) Typical	Model	Permissible bending radius
M4 	 M4 screw	NA□(V)	 700 (2,000)	1.4 mm dia. (0.03 mm dia.)	E32-T11L	25 mm
		NAG□	 130 (370)			
		NA□F	 210 (600)	1.4 mm dia. (0.5 mm dia.)		
3.0 mm dia. 	 3-mm dia.	NA□(V)	 700	1.4 mm dia. (0.03 mm dia.)	E32-T12L	25 mm
		NAG□	 130	1.4 mm dia. (0.5 mm dia.)		
		NA□F	 210			
M3 	 M3 screw	NA□(V)	 200	0.9 mm dia. (0.03 mm dia.)	E32-T21L	10 mm
		NAG□	 40	0.9 mm dia. (0.2 mm dia.)		
		NA□F	 60			
2 mm dia. (small diameter) 	 2-mm dia.	NA□(V)	 200	0.9 mm dia. (0.03 mm dia.)	E32-T22L	10 mm
		NAG□	 40	0.9 mm dia. (0.2 mm dia.)		
		NA□F	 60			
With M14 lens, ideal for explosion-proof applications 	 M14 screw	NA□(V)	 14,000	10 mm dia. (0.1 mm dia.)	E32-T17L	25 mm
		NA□F	 4,200	10 mm dia. (1.5 mm dia.)		

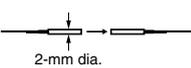
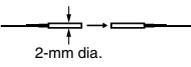
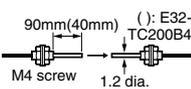
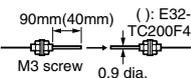
General purpose

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm) (Values in parentheses: when using the E39-F1 Lens Unit)	Standard object (mm) Minimum sensing object (Opaque object) Typical	Model	Permissible bending radius
M4 	 M4 screw	NA□(V)	 400 (3,000)	1.0 mm dia. (0.03 mm dia.)	E32-TC200	25 mm
		NAG□	 75 (550)			
		NA□F	 120 (900)	1.0 mm dia. (0.2 mm dia.)		
M4 	 M4 screw	NA□(V)	 280 (2,100)	1.0 mm dia. (0.03 mm dia.)	E32-ET11R	1 mm
		NAG□	 50 (375)			
		NA□F	 80	1.0 mm dia. (0.2 mm dia.)		
3.0 mm dia. 	 3-mm dia.	NA□(V)	 280	1.0 mm dia. (0.03 mm dia.)	E32-T12R	1 mm
		NAG□	 50			
		NA□F	 80	1.0 mm dia. (0.2 mm dia.)		
M3  Reflective side-view conversion attachment E39-F5 mountable	 M3 screw	NA□(V)	 360	1.0 mm dia. (0.03 mm dia.)	E32-TC200A	25 mm
		NAG□	 65			
		NA□F	 100	1.0 mm dia. (0.2 mm dia.)		
M3  Minute work detection	 M3 screw	NA□(V)	 100	0.5 mm dia. (0.03 mm dia.)	E32-TC200E	10 mm
		NAG□	 20			
		NA□F	 30	0.5 mm dia. (0.1 mm dia.)		
M3 	 M3 screw	NA□(V)	 60	0.5 mm dia. (0.03 mm dia.)	E32-ET21R	1 mm
		NAG□	 12			
		NA□F	 18	0.5 mm dia. (0.1 mm dia.)		

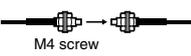
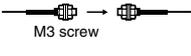
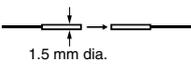
- Note: 1. **Free-cut** indicates a unit that can be cut freely. The unit without the **Free-cut** mark cannot be cut freely.
 2. The values of the minimum sensing object for E3X-NA□(V) and E3X-NAG□ through-beam models indicate those obtained where the sensing distance and sensitivity are set to optimum values.
 3. The value of the minimum sensing object for E3X-NA□F through-beam models indicates that obtained at the rated sensing distance with the sensitivity set to the optimum value.
 4. The size of standard sensing object is the same as the fiber core diameter (lens diameter for models with lens).
 5. The value of the minimum sensing object of the through-beam model assumes that the sensing distance and sensitivity are set to the optimum.

Small diameter head

■ Red light ■ Green light

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm) (Values in parentheses: when using the E39-F1 Lens Unit)	Standard object (mm) Minimum sensing object (Opaque object) Typical	Model	Permissible bending radius
Free-cut 2.0 mm dia. Minute work detection	 2-mm dia.	NA□(V)	■ 100	0.5 mm dia. (0.03 mm dia.)	E32-T22	10 mm
		NAG□	■ 20			
		NA□F	■ 30	0.5 mm dia. (0.1 mm dia.)		
Free-cut 2 mm dia. Small work detection	 2-mm dia.	NA□(V)	■ 60	0.5 mm dia. (0.03 mm dia.)	E32-T22R	1 mm
		NA□F	■ 18	0.5 mm dia. (0.1 mm dia.)		
Free-cut With 1.2 mm dia. sleeve	 90mm(40mm) (): E32-TC200B4 M4 screw 1.2 dia.	NA□(V)	■ 400	1.0 mm dia. (0.03 mm dia.)	E32-TC200B E32-TC200B4	25 mm
		NAG□	■ 75	1.0 mm dia. (0.2 mm dia.)		
		NA□F	■ 120			
Free-cut With 0.9 mm dia. sleeve	 90mm(40mm) (): E32-TC200F4 M3 screw 0.9 dia.	NA□(V)	■ 100	0.5 mm dia. (0.03 mm dia.)	E32-TC200F E32-TC200F4	10 mm
		NAG□	■ 20			
		NA□F	■ 30	0.5 mm dia. (0.1 mm dia.)		

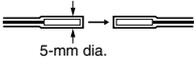
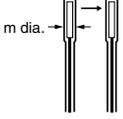
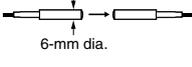
Flexible (resists breaking) (R4)

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm) (Values in parentheses: when using the E39-F1 Lens Unit)	Standard object (mm) Minimum sensing object (Opaque object) Typical	Model	Permissible bending radius
Free-cut Ideal for mounting on moving sections (R4)	 M4 screw	NA□(V)	■ 360	1.0 mm dia. (0.03 mm dia.)	E32-T11	4 mm
		NAG□	■ 65			
		NA□F	■ 100	1.0 mm dia. (0.2 mm dia.)		
	 M3 screw	NA□(V)	■ 100	0.5 mm dia. (0.03 mm dia.)	E32-T21	
		NAG□	■ 18	0.5 mm dia. (0.1 mm dia.)		
		NA□F	■ 30			
	 1.5 mm dia.	NA□(V)	■ 100	0.5 mm dia. (0.03 mm dia.)	E32-T22B	
		NAG□	■ 18	0.5 mm dia. (0.1 mm dia.)		
		NA□F	■ 30			

Side-view

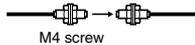
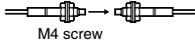
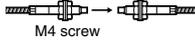
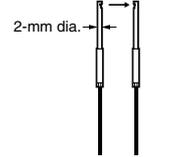
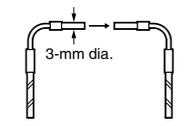
Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm) (Values in parentheses: when using the E39-F1 Lens Unit)			Standard object (mm) Minimum sensing object (Opaque object) Typical	Model	Permissible bending radius
(Free-cut) Long-distance Space-saving		NA□(V)	240			1.0 mm dia. (0.03 mm dia.)	E32-T14L	25 mm
		NAG□	45					
		NA□F	70			1.0 mm dia. (0.2 mm dia.)		
(Free-cut) Space-saving		NA□(V)	110			1.0 mm dia. (0.03 mm dia.)	E32-T14LR	1 mm
		NA□F	33			1.0 mm dia. (0.2 mm dia.)		
(Free-cut) Small work detection (small diameter)		NA□(V)	90			0.5 mm dia. (0.03 mm dia.)	E32-T24	10 mm
		NAG□	12					
		NA□F	27			0.5 mm dia. (0.3 mm dia.)		
(Free-cut) Small work detection (small diameter)		NA□(V)	30			0.5 mm dia. (0.03 mm dia.)	E32-T24R	1 mm
		NA□F	9			0.5 mm dia. (0.3 mm dia.)		
(Free-cut) Screw- mounting Model		NA□(V)	1,800			4.0 mm dia. (0.03 mm dia.)	E32-T14	25 mm
		NAG□	330					
		NA□F	540			4.0 mm dia. (0.2 mm dia.)		

Chemical resistant

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm) (Values in parentheses: when using the E39-F1 Lens Unit)	Standard object (mm) Minimum sensing object (Opaque object) Typical	Model	Permissible bending radius
<p>(Free-cut)</p> <p>Teflon cover * ensures environmental resistance Operating ambient temperature: -30 to +70°C</p>	 <p>5-mm dia.</p>	NA□(V)	1,600	4.0 mm dia. (0.2 mm dia.)	E32-T12F	40 mm
		NAG□	300			
		NA□F	480	4.0 mm dia. (0.7 mm dia.)		
<p>(Free-cut)</p> <p>Teflon cover * ensures environmental resistance Side-view Operating ambient temperature: -30 to +70°C</p>	 <p>m dia.</p>	NA□(V)	200	3.0 mm dia. (0.2 mm dia.)	E32-T14F	
		NAG□	37			
		NA□F	60	3.0 mm dia. (0.7 mm dia.)		
<p>Teflon cover * ensures environmental resistance Operating ambient temperature: -40 to +200°C</p>	 <p>6-mm dia.</p>	NA□(V)	350	1.0 mm dia. (0.2 mm dia.)	E32-T81F	10 mm
		NA□F	100	1.0 mm dia. (0.5 mm dia.)		

* Teflon is a registered trademark of Dupont Company and Mitsui Dupont Chemical Company for their fluoride resin.

Heat resistant

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm) (Values in parentheses: when using the E39-F1 Lens Unit)	Standard object (mm) Minimum sensing object (Opaque object) Typical	Model	Permissible bending radius
150°C *1 Free-cut Operating ambient temperature: -40 to +150°C Fiber sheath material: Fluoresin		NA□(V)	400	1.5 mm dia. (0.03 mm dia.)	E32-ET51	35 mm
		NA□F	120	1.5 mm dia. (1 mm dia.)		
200°C Operating ambient temperature: -40 to +200°C Flexible: R10 Fiber sheath material: Teflon*2		NA□(V)	180	1.0 mm dia. (0.2 mm dia.)	E32-T81R	10 mm
		NA□F	50	1.0 mm dia. (0.5 mm dia.)		
300°C *3 With spiral tube, excellent in mechanical strength Operating ambient temperature: -40 to +300°C Fiber sheath material: SUS		NA□(V)	300 (3,000)	1.0 mm dia. (0.03 mm dia.)	E32-T61	25 mm
		NA□F	90	1.0 mm dia. (0.5 mm dia.)		
150°C Free-cut Side-view minute work detection Operating ambient temperature: -40 to +150°C Fiber sheath material: Fluoresin		NA□(V)	130	1.0 mm dia. (0.03 mm dia.)	E32-T54	35 mm
		NA□F	35	1.0 mm dia. (0.3 mm dia.)		
200 °C L-shaped Fiber sheath material: SUS		NA□(V)	700	1.7 mm dia. (0.03 mm dia.)	E32-T84S	25 mm
		NA□F	210	1.7 mm dia. (0.4 mm dia.)		

*1. For continuous operation, use the products within the temperature ranging from -40°C to 130°C.

*2. Teflon is a registered trademark of Dupont Company and Mitsui Dupont Chemical Company for their fluoride resin.

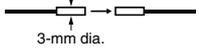
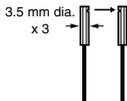
*3. Indicates the heat-resistant temperature at the fiber tip.

- Note: 1. (Free-cut) indicates a unit that can be cut freely. The unit without the (Free-cut) mark cannot be cut freely.
 2. The values of the minimum sensing object for E3X-NA□(V) and E3X-NAG□ through-beam models indicate those obtained where the sensing distance and sensitivity are set to optimum values.
 3. The value of the minimum sensing object for E3X-NA□F through-beam models indicates that obtained at the rated sensing distance with the sensitivity set to the optimum value.
 4. The size of standard sensing object is the same as the fiber core diameter (lens diameter for models with lens).
 5. The value of the minimum sensing object of the through-beam model assumes that the sensing distance and sensitivity are set to the optimum.

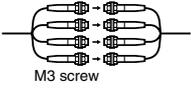
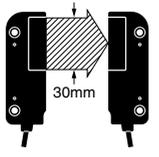
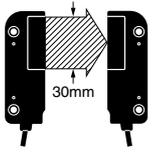
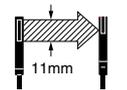
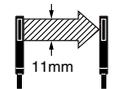
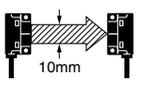
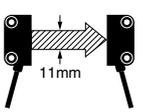
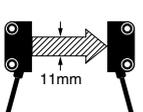
Grooved

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm) (Values in parentheses: when using the E39-F1 Lens Unit)	Standard object (mm) Minimum sensing object (Opaque object) Typical	Model	Permissible bending radius
(Free-cut) Detection of film sheet, beam axis adjustment unnecessary, easy installation		NA□(V)	10	4.0 mm dia. (0.1 mm dia.)	E32-G14	25 mm
		NAG□	10			
		NA□F	10	4.0 mm dia. (1.0 mm dia.)		

Narrow vision field

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm) (Values in parentheses: when using the E39-F1 Lens Unit)	Standard object (mm) Minimum sensing object (Opaque object) Typical	Model	Permissible bending radius
(Free-cut) Ideal for wafer detection		NA□(V)	1,000	1.7 mm dia. (0.5 mm dia.)	E32-T22S	10 mm
		NA□F	300			
(Free-cut) Side-view Ideal for wafer		NA□(V)	700	2.0 mm dia. (0.03 mm dia.)	E32-T24S	
		NA□F	210	2.0 mm dia. (0.5 mm dia.)		

Area sensing

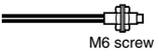
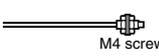
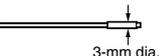
Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm) (Values in parentheses: when using the E39-F1 Lens Unit)	Standard object (mm) Minimum sensing object (Opaque object) Typical	Model	Permissible bending radius
Multi-point detection (4 head)		NA□(V)	300	2.0 mm dia. (0.03 mm dia.)	E32-M21	25 mm
		NA□F	90	2.0 mm dia. (0.3 mm dia.)		
Detects in a 30 mm area <small>(Free-cut)</small>		NA□(V)	920	(0.5 mm dia.) *	E32-T16W	10 mm
		NAG□	170	(4.0 mm dia.) *		
		NA□F	270	(4.0 mm dia.) *		
Detects in a 30 mm area <small>(Free-cut)</small>		NA□(V)	690	(0.5 mm dia.) *	E32-T16WR	1 mm
		NA□F	200	(4.0 mm dia.) *		
Side-view type Ideal for applications that do not have sufficient depth <small>(Free-cut)</small>		NA□(V)	520	(0.3 mm dia.) *	E32-T16J	10 mm
		NAG□	95	(2.0 mm dia.) *		
		NA□F	150	(2.0 mm dia.) *		
Side-view type Ideal for applications that do not have sufficient depth <small>(Free-cut)</small>		NA□(V)	390	(0.3 mm dia.) *	E32-T16JR	1 mm
		NA□F	110	(2.0 mm dia.) *		
Detection in area of 10 mm width, long distance <small>(Free-cut)</small>		NA□(V)	1,500	(0.9 mm dia.) *	E32-T16	25 mm
		NAG□	275	(1.5 mm dia.) *		
		NA□F	450	(1.5 mm dia.) *		
Stable detection of small work in wide area Protective structure: IEC 60529 IP50 <small>(Free-cut)</small>		NA□(V)	600	(0.3 mm dia.) *	E32-T16P	10 mm
		NAG□	110	(2.0 mm dia.) *		
		NA□F	180	(2.0 mm dia.) *		
Stable detection of small work in wide area Protective structure: IEC 60529 IP50 <small>(Free-cut)</small>		NA□(V)	450	(0.3 mm dia.) *	E32-T16PR	1 mm
		NA□F	130	(2.0 mm dia.) *		

* The sensing distance is 100 mm and the value can be detected in each detection area. (The sensing object diameter is the value in stationary status.)

Note: 1. (Free-cut) indicates a unit that can be cut freely. The unit without the (Free-cut) mark cannot be cut freely.
 2. The values of the minimum sensing object indicate those obtained at a distance where the smallest object can be sensed with the Reflective Fiber Unit.

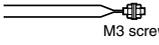
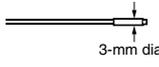
Long distance

 Red light  Green light

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm)			Standard object (mm) Minimum sensing object (Gold wire) typical	Model	Permissible bending radius
								
M6 (Free-cut)	 M6 screw	NA□(V)	 200			250 x 250 (0.01 mm dia.)	E32-D11L	25 mm
		NAG□	 35			50 x 50 (0.1 mm dia.)		
		NA□F	 65			100 x 100 (0.015 mm dia.)		
3 mm dia. (small diameter) (Free-cut)	 3-mm dia.	NA□(V)	 120			150 x 150 (0.01 mm dia.)	E32-D12	25 mm
		NAG□	 20			25 x 25 (0.1 mm dia.)		
		NA□F	 40			50 x 50 (0.015 mm dia.)		
M4 (Free-cut)	 M4 screw	NA□(V)	 50			100 x 100 (0.01 mm dia.)	E32-D21L	10 mm
		NAG□	 10			25 x 25 (0.1 mm dia.)		
		NA□F	 17			25 x 25 (0.015 mm dia.)		
3 mm dia. (small diameter) (Free-cut)	 3-mm dia.	NA□(V)	 50			100 x 100 (0.01 mm dia.)	E32-D22L	10 mm
		NAG□	 10			25 x 25 (0.1 mm dia.)		
		NA□F	 17			25 x 25 (0.015 mm dia.)		

* Sensing distance indicates values for white paper.

General purpose

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm)			Standard object (mm) Minimum sensing object (Gold wire) typical	Model	Permissible bending radius
M6 	 M6 screw	NA□(V)	 150			200 x 200 (0.01 mm dia.)	E32-DC200	25 mm
		NAG□	 25			50 x 50 (0.1 mm dia.)		
		NA□F	 50			75 x 75 (0.015 mm dia.)		
M6 	 M6 screw	NA□(V)	 90			150 x 150 (0.01 mm dia.)	E32-ED11R	1 mm
		NAG□	 15			25 x 25 (0.1 mm dia.)		
		NA□F	 30			50 x 50 (0.02 mm dia.)		
3.0 mm dia. 	 3-mm dia.	NA□(V)	 90			150 x 150 (0.01 mm dia.)	E32-D12R	1 mm
		NAG□	 15			25 x 25 (0.1 mm dia.)		
		NA□F	 30			50 x 50 (0.02 mm dia.)		
M3 (small diameter) 	 M3 screw	NA□(V)	 36			50 x 50 (0.01 mm dia.)	E32-DC200E	10 mm
		NAG□	 6			25 x 25 (0.1 mm dia.)		
		NA□F	 12			25 x 25 (0.02 mm dia.)		
M3 (small diameter) 	 M3 screw	NA□(V)	 15			25 x 25 (0.01 mm dia.)	E32-ED21R	1 mm
		NA□F	 5			25 x 25 (0.03 mm dia.)		
3 mm dia. (small diameter) 	 3-mm dia.	NA□(V)	 15			25 x 25 (0.01 mm dia.)	E32-D22R	1 mm
		NA□F	 5			25 x 25 (0.03 mm dia.)		

* Sensing distance indicates values for white paper.

Thin fiber

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm)			Standard object (mm) Minimum sensing object (Gold wire) typical	Model	Permissible bending radius
(Free-cut) With 2.5 mm sleeve		NA□(V)	150			200 x 200 (0.01 mm dia.)	E32-DC200B E32-DC200B4	25 mm
		NAG□	25			50 x 50 (0.1 mm dia.)		
		NA□F	50			75 x 75 (0.015 mm dia.)		
(Free-cut) With 1.2 mm dia. sleeve		NA□(V)	36			50 x 50 (0.01 mm dia.)	E32-DC200F E32-DC200F4	10 mm
		NAG□	6			25 x 25 (0.1 mm dia.)		
		NA□F	12			25 x 25 (0.02 mm dia.)		
(Free-cut) 0.8 mm minute work detection		NA□(V)	10			25 x 25 (0.01 mm dia.)	E32-D33	4 mm
		NA□F	3.3			25 x 25 (0.03 mm dia.)		
0.5 mm dia. Very small work detection		NA□(V)	1.5			25 x 25 (0.01 mm dia.)	E32-D331	4 mm
		NA□F	0.5			25 x 25 (0.05 mm dia.)		

* Sensing distance indicates values for white paper.

Flexible (resists breaking) (R4)

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm)			Standard object (mm) Minimum sensing object (Gold wire) typical	Model	Permissible bending radius
(Free-cut) (Free-cut) (Free-cut) Ideal for installation on moving sections (R4)		NA□(V)	90			150 x 150 (0.01 mm dia.)	E32-D11	4 mm
		NAG□	15			25 x 25 (0.1 mm dia.)		
		NA□F	30			50 x 50 (0.015 mm dia.)		
		NA□(V)	15			25 x 25 (0.01 mm dia.)	E32-D21	
		NA□F	5			25 x 25 (0.02 mm dia.)		
		NA□(V)	15			25 x 25 (0.01 mm dia.)	E32-D21B	
		NA□F	5			25 x 25 (0.02 mm dia.)		
		NA□(V)	7			25 x 25 (0.01 mm dia.)	E32-D22B	
		NA□F	2.3			25 x 25 (0.02 mm dia.)		

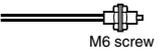
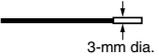
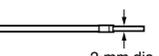
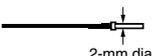
* Sensing distance indicates values for white paper.

Note: 1. Free-cut indicates a unit that can be cut freely. The unit without the Free-cut mark cannot be cut freely.

2. The values of the minimum sensing object indicate those obtained at a distance where the smallest object can be sensed with the Reflective Fiber Unit.

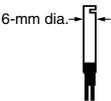
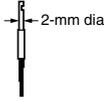
Coaxial

Red light Green light

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm)				Standard object (mm) Minimum sensing object (Gold wire) typical	Model	Permissible bending radius
Free-cut M6 precision positioning		NA□(V)	 150				200 x 200 (0.01 mm dia.)	E32-CC200	25 mm
		NAG□	 25				50 x 50 (0.1 mm dia.)		
		NA□F	 50				75 x 75 (0.015 mm dia.)		
Free-cut 3 mm dia. (small diameter) precision positioning		NA□(V)	 80				100 x 100 (0.01 mm dia.)	E32-D32L	
		NAG□	 12				25 x 25 (0.1 mm dia.)		
		NA□F	 25				50 x 50 (0.02 mm dia.)		
Free-cut M3 precision positioning Small spot lens (E39-F3A-5/ F3B/F3C) mountable		NA□(V)	 40				50 x 50 (0.01 mm dia.)	E32-EC31	
		NAG□	 6				25 x 25 (0.1 mm dia.)		
		NA□F	 13				25 x 25 (0.02 mm dia.)		
M3 precision positioning Small spot lens (E39-F3A-5/ F3B/F3C) mountable		NA□(V)	 15				25 x 25 (0.01 mm dia.)	E32-EC41	
		NA□F	 5				25 x 25 (0.02 mm dia.)		
2 mm dia. precision positioning Small spot lens (E39-F3A) mountable (Spot diameter 0.1 to 0.6 mm variable)		NA□(V)	 15				25 x 25 (0.01 mm dia.)	E32-C42	
		NA□F	 5				25 x 25 (0.02 mm dia.)		
Free-cut 2 mm dia. precision positioning Small spot lens (E39-F3A) mountable (Spot diameter 0.5 to 1 mm variable)		NA□(V)	 40				50 x 50 (0.01 mm dia.)	E32-D32	
		NAG□	 6				25 x 25 (0.1 mm dia.)		
		NA□F	 13				25 x 25 (0.02 mm dia.)		

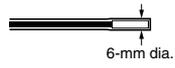
* Sensing distance indicates values for white paper.

Side-view

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm)				Standard object (mm) Minimum sensing object (Gold wire) typical	Model	Permissible bending radius
6 mm dia. Long distance <small>(Free-cut)</small>		NA□(V)	40				50 x 50 (0.03 mm dia.)	E32-D14L	25 mm
		NAG□	10				25 x 25 (0.3 mm dia.)		
		NA□F	13				25 x 25 (0.03 mm dia.)		
6 mm dia. <small>(Free-cut)</small>		NA□(V)	16				25 x 25 (0.03 mm dia.)	E32-D14LR	1 mm
		NA□F	5						
2 mm dia. (small diameter) Space saving <small>(Free-cut)</small>		NA□(V)	15				25 x 25 (0.03 mm dia.)	E32-D24	10 mm
		NAG□	2.4				25 x 25 (0.3 mm dia.)		
		NA□F	5				25 x 25 (0.03 mm dia.)		
2 mm dia. (small diameter) Space saving <small>(Free-cut)</small>		NA□(V)	7				25 x 25 (0.03 mm dia.)	E32-D24R	1 mm
		NA□F	2.3						

* Sensing distance indicates values for white paper.

Chemical resistant

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm)*1				Standard object (mm) Minimum sensing object (Gold wire) typical	Model	Permissible bending radius
Teflon-covered *2 High environmental resistance Operating ambient temperature: -30 to +70°C <small>(Free-cut)</small>		NA□(V)	50				100 x 100 (0.03 mm dia.)	E32-D12F	40 mm
		NAG□	8				25 x 25 (0.3 mm dia.)		
		NA□F	16				25 x 25 (0.03 mm dia.)		

*1. Sensing distance indicates values for white paper.

*2. Teflon is a registered trademark of Dupont Company and Mitsui Dupont Chemical Company for their fluoride resin.

Heat resistant

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm)*1			Standard object (mm) Minimum sensing object (Gold wire) typical	Model	Permissible bending radius
(Free-cut) 150°C *2 Oper- ating ambient temperature: -40 to +150°C Fiber sheath material: Fluor- oresin	 M6 screw	NA□(V)	120			150 x 150 (0.03 mm dia.)	E32-ED51	35 mm
		NA□F	40			50 x 50 (0.03 mm dia.)		
300°C *3 Oper- ating ambient temperature: -40 to +300°C Fiber sheath material: SUS	 M6 screw	NA□(V)	45			100 x 100 (0.03 mm dia.)	E32-D61	25 mm
		NA□F	15			25 x 25 (0.03 mm dia.)		
400°C Operat- ing ambient temperature: -40 to +400°C Fiber sheath material: SUS	 M4 screw 1.25-mm dia.	NA□(V)	30			50 x 50 (0.03 mm dia.)	E32-D73	25 mm
		NA□F	10			25 x 25 (0.03 mm dia.)		

*1. Sensing distance indicates values for white paper.

*2. For continuous operation, use the products within the temperature ranging from -40°C to 130°C.

*3. Indicates the heat-resistant temperature at the fiber tip.

Area sensing

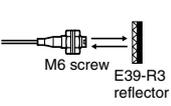
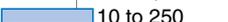
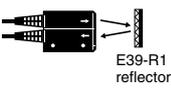
Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm)			Standard object (mm) Minimum sensing object (Gold wire) typical	Model	Permissible bending radius
(Free-cut) Side-view type Wide detection of wide area		NA□(V)	75			100 x 100 (0.03 mm dia.)	E32-D36P1	25 mm
		NA□F	25			50 x 50 (0.03 mm dia.)		

* Sensing distance indicates values for white paper.

Note: 1. **Free-cut** indicates a unit that can be cut freely. The unit without the **Free-cut** mark cannot be cut freely.
 2. The values of the minimum sensing object indicate those obtained at a distance where the smallest object can be sensed with the Reflective Fiber Unit.

Retroreflective

Red light

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm)	Standard object (mm) Minimum sensing object (Gold wire) typical	Model	Permissible bending radius
Free-cut Opaque object detection		NA□(V)	 10 to 250	35.0 mm dia. (0.3 mm dia.)	E32-R21 + E39-R3 (Attachment)	10 mm
		NA□F	 10 to 250	35.0 mm dia. (0.5 mm dia.)		
Free-cut Opaque object detection Operating ambient temperature: -25 to +55°C Protective structure: IEC 60529 IP66		NA□(V)	 150 to 1500	35.0 mm dia. (0.6 mm dia.)	E32-R16 + E39-R1 (Attachment)	25 mm
		NA□F	 150 to 1000	35.0 mm dia. (0.4 mm dia.)		

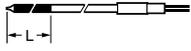
* Sensing distance indicates values for white paper.

Limited reflective

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm)	Standard object (mm) Minimum sensing object (Gold wire) typical	Model	Permissible bending radius
Free-cut Ideal for positioning of crystal glass		NA□(V)	 4 to 12	---	E32-L56E1 E32-L56E2	35 mm
		NA□F	 4 to 12			
Free-cut Wafer/small height difference detection Operating ambient temperature: -40 to +105°C Protective structure: IEC 60529 IP50		NA□(V)	 4 ± 2	25 x 25 (0.015 mm dia.)	E32-L24L	10 mm
		NA□F	 4 ± 2	25 x 25 (0.03 mm dia.)		
		NA□(V)	 7.2±1.8	25 x 25 (0.015 mm dia.)	E32-L25L	
		NA□F	 7.2±1.8	25 x 25 (0.03 mm dia.)		
Free-cut Wafer/small height difference detection Protective structure: IEC 60529 IP50		NA□(V)	 3.3	25 x 25 (0.015 mm dia.)	E32-L25	25 mm
		NA□F	 3.3	25 x 25 (0.03 mm dia.)		
		NA□(V)	 3.3	25 x 25 (0.015 mm dia.)	E32-L25A	
		NA□F	 3.3	25 x 25 (0.03 mm dia.)		

* Sensing distance indicates values for white paper.

Fluid level detection

Features	Shape	Compatible Amplifier Units (E3X-)	Sensing distance (mm)	Standard object (mm) Minimum sensing object (Gold wire) typical	Model	Permissible bending radius
Fluid contact type Unbendable section L = 150, 350 mm (2 types)		NA□(V)	---	---	E32-D82F1 E32-D82F2	40 mm
		NA□F				
Tube mounting type <small>Free-cut</small>		NA□(V)	---	---	E32-L25T	10 mm
		NA□F				

* Sensing distance indicates values for white paper.

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)
			NPN output	PNP output				
			E3X-NA11	E3X-NA11F	E3X-NAG11	E3X-NA11V	E3X-NA6	E3X-NA14V
			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 voltage	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 output format) Light-ON/Dark-ON switch selectable							
Response time	Operation or re-set: 200 μs max. *	Operating: 20 μs max. Reset: 30 μs max.		200 μs max. for operation and reset respectively (See note.)				
Sensitivity adjustment	8-turn endless adjuster (with indicator)							
Protective circuits	Reverse polarity protection, output short-circuit protection, mutual interference prevention (optically synchronized)		Reverse polarity protection, output short-circuit protection		Reverse polarity protection, output short-circuit protection, mutual interference 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 Ω 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			Polyethersulfone (PES)	Polycarbonate	Polyethersulfone (PES)	
Accessories	Instruction manual							

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

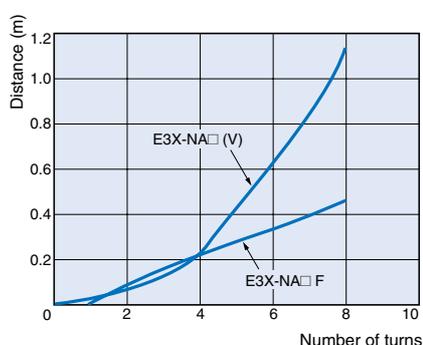
Amplifier Unit Connectors

Item	Model	E3X-CN11	E3X-CN12
Rated current		2.5 A	
Rated voltage		50 V	
Contact resistance		20 mΩ 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

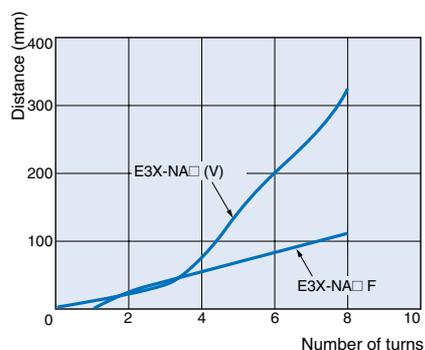
Characteristic data (typical)

Number of Turns of Sensitivity Adjuster vs. Sensing Distance

E32-T11L

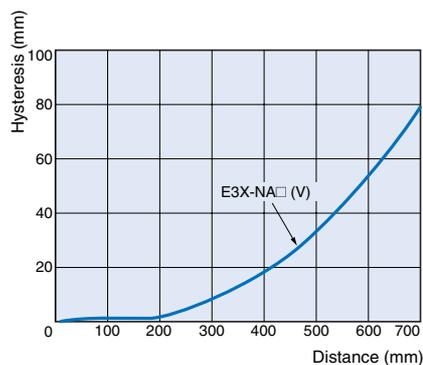


E32-D11L

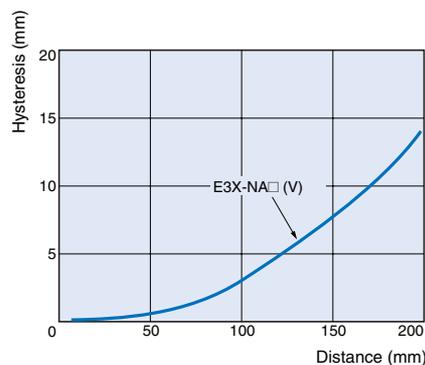


Sensing Distance vs. Hysteresis

E32-T11L



E32-D11L



Output Circuit Diagram

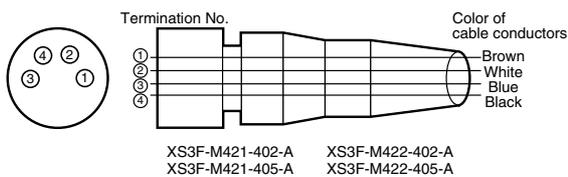
NPN output

Model	Operating status of output transistor	Timing chart	Mode selection switch	Output circuit
E3X-NA11 E3X-NA6 E3X-NAG11 E3X-NA11F E3X-NA11V E3X-NA14V	Light ON		L•ON (LIGHT ON)	<p>M8 Connector Pin Arrangement</p> <p>Note: Pin 2 is open.</p>
	Dark ON		D•ON (DARK ON)	<p>M8 Connector Pin Arrangement</p> <p>Note: Pin 2 is open.</p>

PNP output

Model	Operating status of output transistor	Timing chart	Mode selection switch	Output circuit
E3X-NA41 E3X-NA8 E3X-NAG41 E3X-NA41F E3X-NA41V E3X-NA44V	Light ON		L•ON (LIGHT ON)	<p>M8 Connector Pin Arrangement</p> <p>Note: Pin 2 is open.</p>
	Dark ON		D•ON (DARK ON)	<p>M8 Connector Pin Arrangement</p> <p>Note: Pin 2 is open.</p>

Connectors (Sensor I/O connectors)

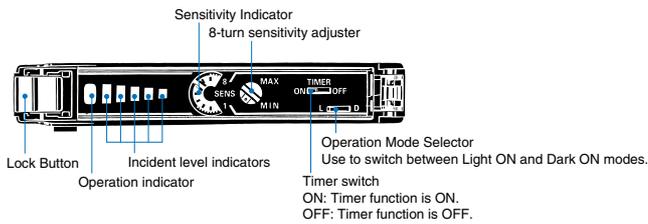


Class	Wire, outer jacket color	Connector pin No.	Application
For DC	Brown	①	Power supply (+V)
	White	②	-
	Blue	③	Power supply (0 V)
	Black	④	Output

Note: Pin 2 is not used.

Nomenclature:

Amplifier Units



Operation

Indicator status

In addition to the operation indicator (orange), E3X-NA has indicators that denote the incident level (4 green and 1 red indicators). Use them for optical axis adjustment and maintenance.

Indicator status (L/ON)	Operation indicator (L/ON)	Incident level
<p>Operation indicator Incident level indicators</p> <p>Not lit Lit (See note)</p>	Not lit	Approx. 80% to 90% of operating level
	Not lit	Approx. 80% to 90% of operating level
	Not lit or lit	Approx. 90% to 110% of operating level
	Lit	Approx. 110% to 120% of operating level
	Lit	Approx. 120% min. of operating level

Note: The rightmost indicator is turned ON at the "0 incident level".

Precautions

Correct Use

Amplifier Units

Design

Communications Hole

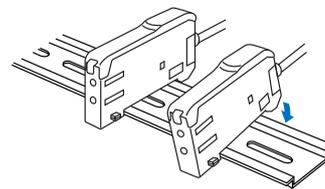
The window provided in the side face of the unit is a communication window for prevention of mutual interference when it is connected with the other unit. Note that the optional Mobile Console E3X-MC11 cannot be used. When the incident level of the sensor is excessive, mutual interference prevention may not be activated. At that time, make adjustment with the sensitivity adjuster. When the unit is used with the E3X-DA-N series, mutual interference prevention is not activated.

Mounting

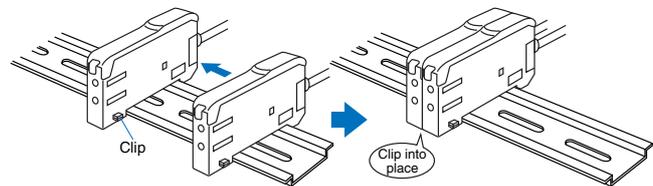
Connection/removing of amplifier units

(Connection)

1. Install the Amplifier Units one at a time onto the DIN track.



2. Slide the Amplifier Units together, line up the clips, and press the Amplifier Units together until they click into place.



(Removing)

Slide one unit away from the other and remove them one by one. (Do not remove the connected units together from the DIN rail.)

Note: 1. When the amplifier units are interconnected, the operating ambient temperature changes depending on the number of connected amplifier units. Check "Ratings/Performance".
2. Before connecting or removing the units, always switch power off.

Operating Environment

Ambient Conditions

Always remove dust, dirt, etc. from the optical communication window, which may disable communication.

Miscellaneous

Protective Cover

Be sure to set the Protective Cover before use.

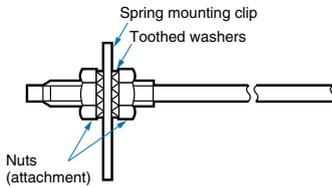
Fiber Units

Installation

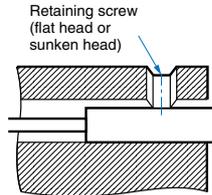
Tightening Force

The tightening force applied to the Fiber Unit should be as follows:

Screw-mounting



Model Cylindrical Model



Fiber Units	Clamping torque
M3/M4 screw	0.78 Nm max.
M6 screw/6 mm dia. column	0.98 Nm max.
1.5 mm dia. column	0.2 Nm max.
2 mm dia./3 mm dia. column	0.29 Nm max.
E32-T12F 5 mm dia. Teflon model	0.78 Nm max.
E32-D12F 6 mm dia. Teflon model	
E32-T16	0.49 Nm max.
E32-R21	0.59 Nm max.
E32-M21	0.49 Nm max. for up to 5 mm from front end, 0.78 Nm max. for more than 5 mm from front end
E32-L25A	0.78 Nm max.
E32-T16P E32-T16PR E32-T24S E32-L24L E32-L25L E32-T16J E32-T16JR	0.29 Nm max.
E32-T16W E32-T16WR	0.3 Nm max.

Use a proper-sized wrench.

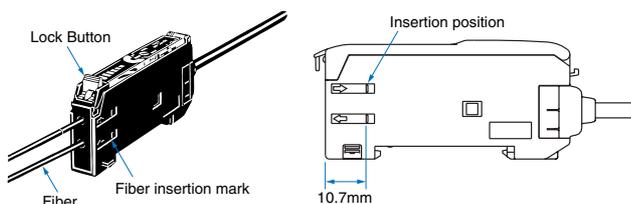


Fiber Connection and Disconnection

The E3X Amplifier Unit has a lock button. Connect or disconnect the fibers to or from the E3X Amplifier Unit using the following procedures:

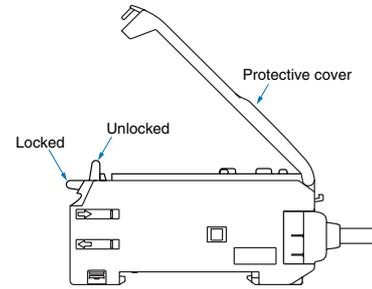
1. Connection

Open the protective cover, insert the fibers according to the fiber insertion marks on the side of the Amplifier Unit, and lower the lock button.



2. Disconnection

Remove the protective cover and raise the lock button to pull out the fiber.



Note: To maintain the fiber properties, confirm that the lock is released before removing the fiber.

3. Precautions for Fiber Connection/Disconnection

Be sure to lock or unlock the lock button within an ambient temperature range between -10°C and 40°C.

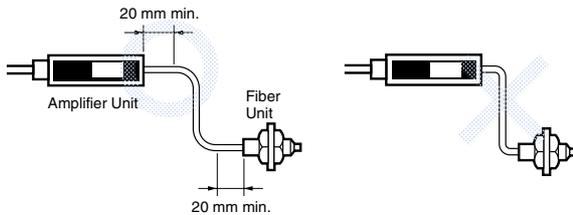
Cutting Fiber

- Insert a fiber into the Fiber Cutter and determine the length of the fiber to be cut.
- Press down the Fiber Cutter in a single stroke to cut the fiber.
- The cutting holes cannot be used twice. If the same hole is used twice, the cutting face of the fiber will be rough and the sensing distance will be reduced. Always use an unused hole.
- Cut a thin fiber as follows:

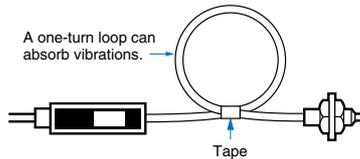
①	An attachment is temporarily fitted to a thin fiber before shipment.	
②	Secure the attachment after adjusting the position of it in the direction indicated by the arrow.	
③	Insert the fiber to be cut into the E39-F4.	
④	Finished state (proper cutting state)	

Connection

- Do not strain the fiber unit, e.g. do not apply tensile or compression force. (Within 9.8 Nm or 29.4 Nm) Use special care since the fiber is thin.
- The bending radius of the fiber unit should be more than the permissible bending radius given in "Type/standard price" and "Ratings/performance".
- Do not bend the edge of the Fiber Units (excluding the E32-T□R and E32-D□R).

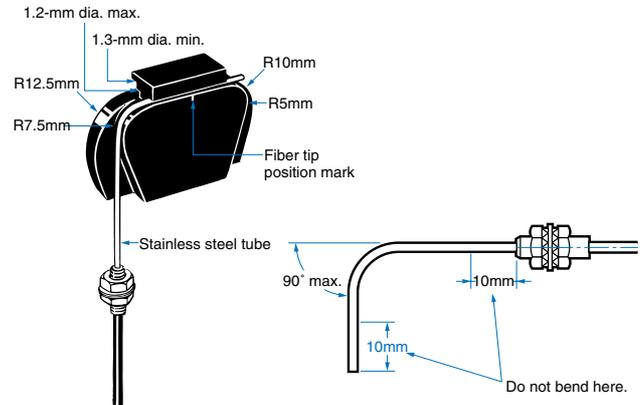


- Do not apply excess force on the Fiber Units.
- The Fiber Head could break by excessive vibration. To prevent this, the following is effective:



E39-F11 Sleeve Bender

- The bending radius of the stainless steel tube should be as large as possible. The smaller the bending radius becomes, the shorter the sensing distance will be.
- Insert the tip of the stainless steel tube to the Sleeve Bender and bend the stainless steel tube slowly along the curve of the Sleeve Bender (refer to the figure).

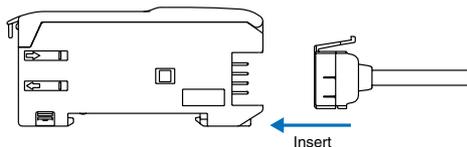


Amplifier Unit Connectors

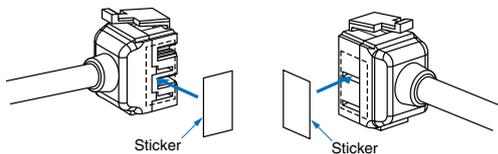
Installation

Installation Connectors

1. Insert the Master or Slave Connector into the Amplifier Unit until it clicks into place.



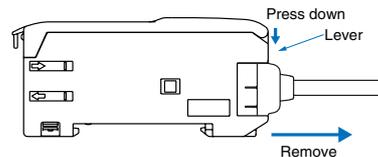
2. Join Amplifier Units together as required after all the Master and Slave Connectors have been inserted.
3. Apply the supplied seal to the non-connection surface of the master/slave connector.



Note: Apply the seal to the grooved side.

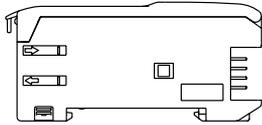
Removing Connectors

1. Slide the slave Amplifier Unit for which the Connector is to be removed away from the rest of the group.
2. After the Amplifier Unit has been separated, press down on the lever on the Connector and remove it. (Do not attempt to remove Connectors without separating them from other Amplifier Units first.)



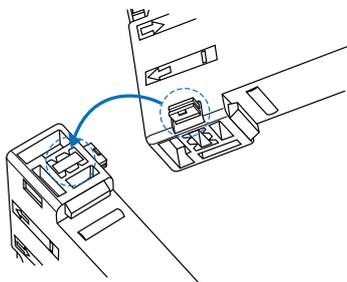
Mounting End Plate (PFP-M)

Depending on the installation type, an Amplifier Unit may move during operation. In this case, use an End Plate. Before installing an End Plate, remove the clip from the master Amplifier Unit using a nipper or similar tool.

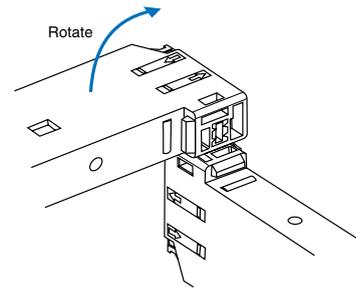


The sensor bottom is also equipped with the clip removing mechanism.

1. Insert the clip to be removed into the slit underneath the clip on another Amplifier Unit.



2. Remove the clip by rotating the Amplifier Unit.



Pull Strengths for Connectors (Including Cables)

E3X-CN11: 30 N max. E3X-CN12: 12 N max.

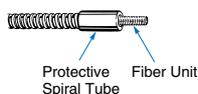
Accessories

Use of E39-R3 Reflector

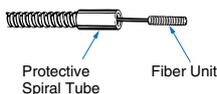
1. When using an adhesive tape on the rear face, apply it after washing away oil, dust, etc. from the place of application. The reflector cannot be installed if there remains oil, etc.
2. The E39-R3 cannot be used in places where it is exposed to oil or chemicals.

E39-F32 Protective Spiral Tubes

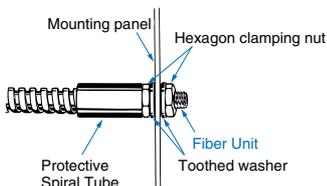
1. Insert a fiber to the Protective Spiral Tube from the head connector side (screwed) of the tube.



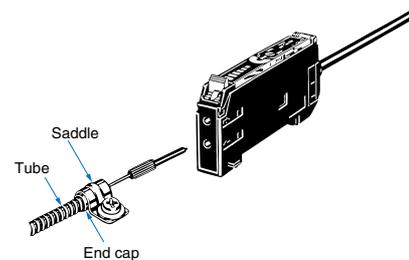
2. Push the fiber into the Protective Spiral Tube. The tube should be straight so that the fiber is not twisted when inserted. Then turn the end cap of the spiral tube.



3. Secure the Protective Spiral Tube on a suitable place with the attached nut.

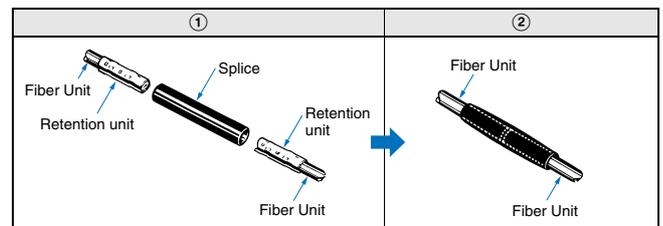


4. Use the attached saddle to secure the end cap of the Protective Spiral Tube. To secure the Protective Spiral Tube at a position other than the end cap, apply tape to the tube so that the portion becomes thicker in diameter.



E39-F10 Fiber Connector

Fit the connector in the following procedure.



- The Fiber Units should be as close as possible when they are connected. Sensing distance will be reduced by approximately 25% when fibers are connected.
- Only 2.2 mm dia. fibers can be connected.

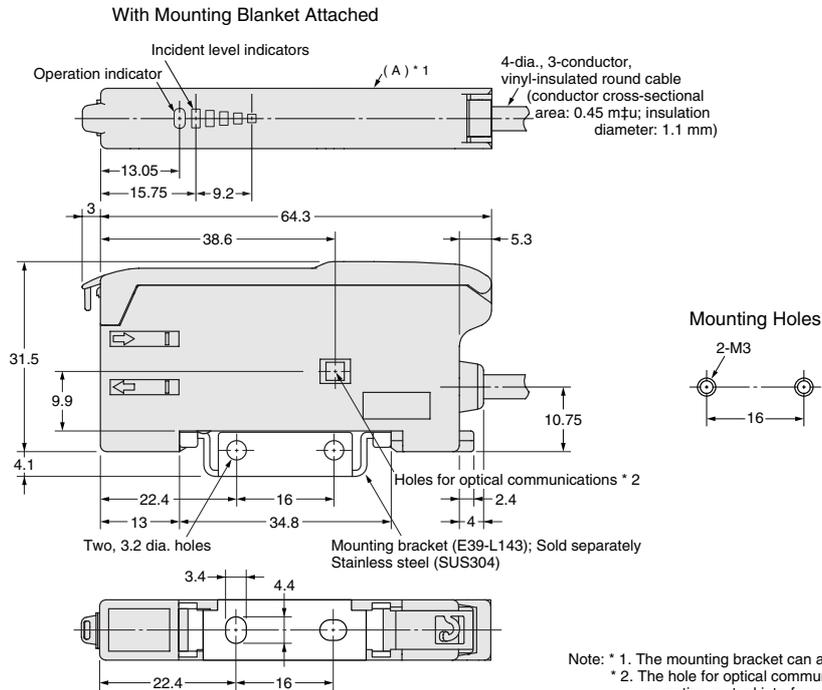
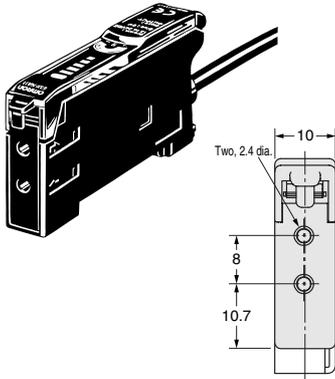
Dimensions (Unit: mm)

Amplifier Units

Pre-wired

- E3X-NA11
- E3X-NA11F
- E3X-NA41
- E3X-NA41F
- E3X-NAG11
- E3X-NAG41

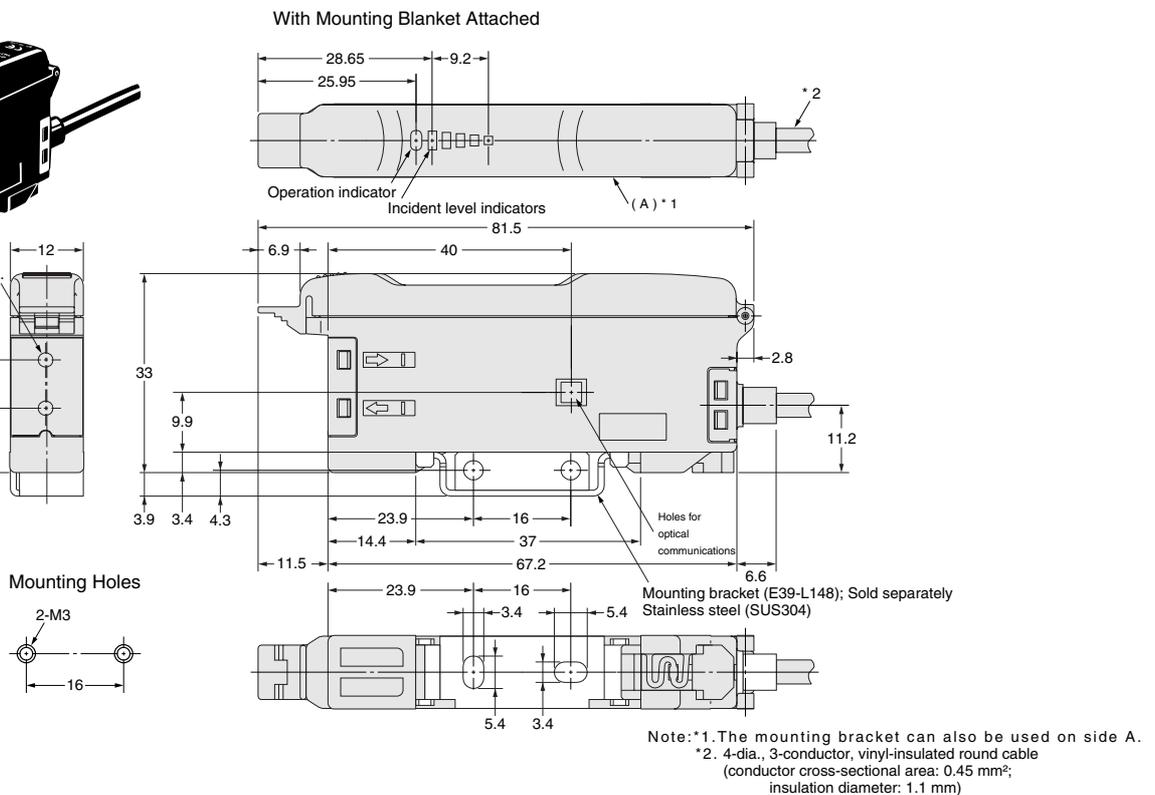
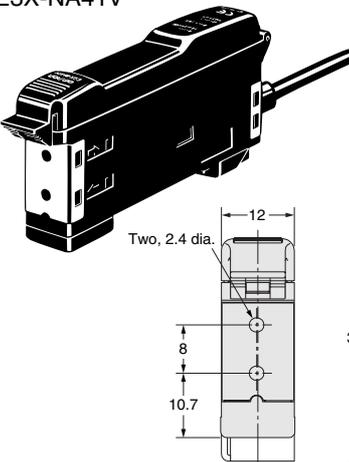
CAD file E3X_05



Amplifier Units with cables,
Water-resistant Models

- E3X-NA11V
- E3X-NA41V

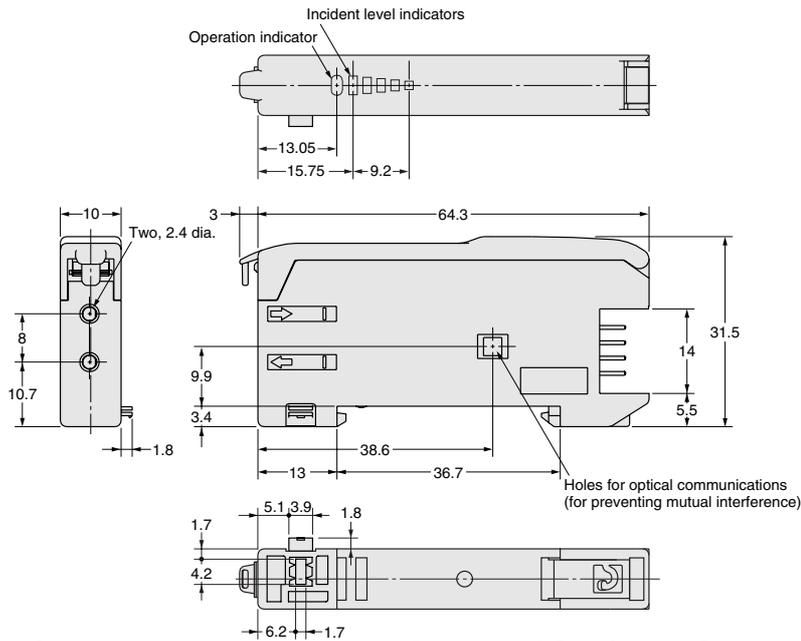
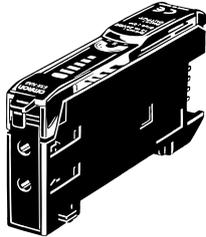
CAD file E3X_10



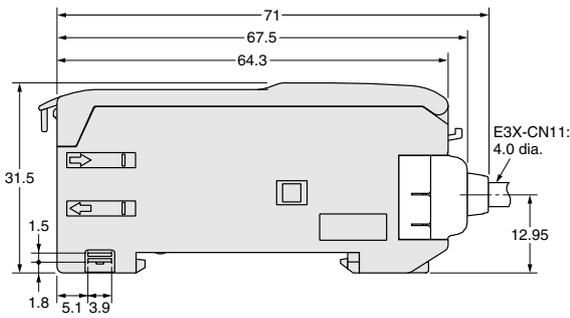
Connector type

E3X-NA6
E3X-NA8

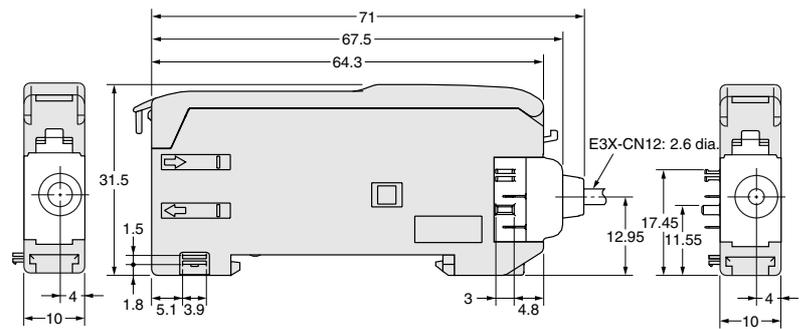
CAD file E3X_06



Dimensions with Master Connector Connected



Dimensions with Slave Connector Connected



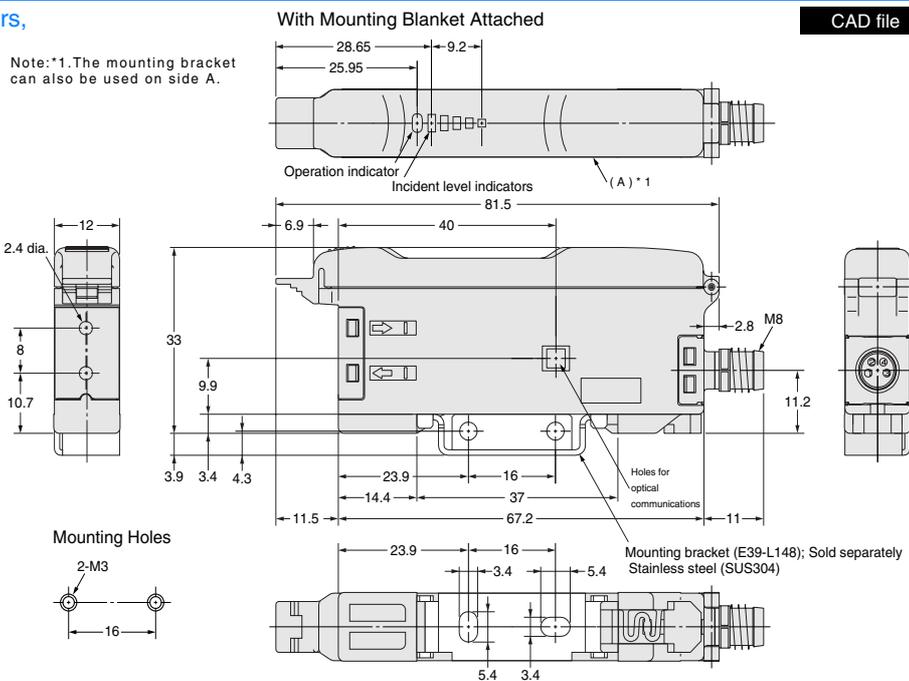
Amplifier Units M8 Connectors,
Water-resistant Models

E3X-NA14V
E3X-NA44V

CAD file E3X_11

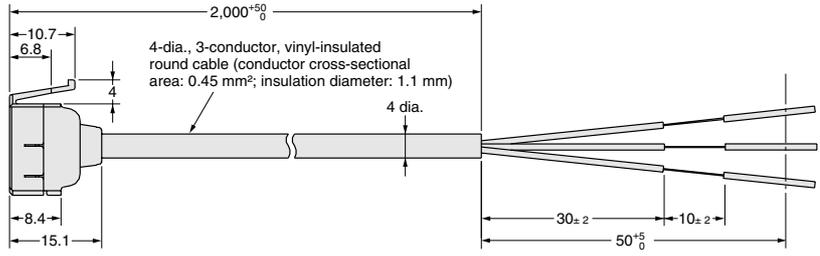
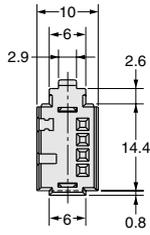
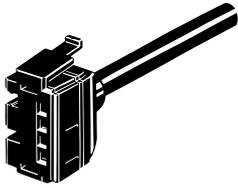


Note: *1. The mounting bracket can also be used on side A.

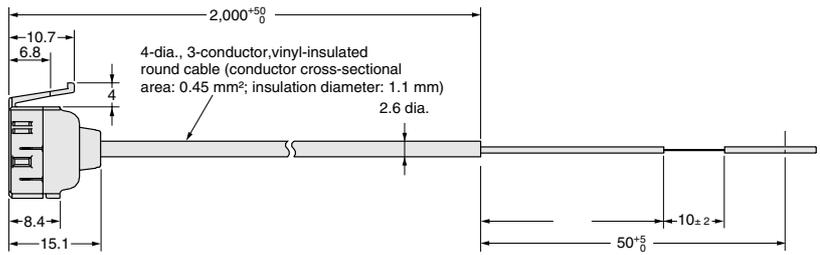
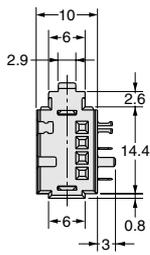
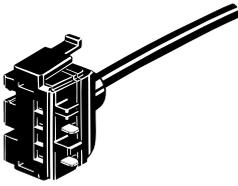


Amplifier Unit Connectors

Master connector
E3X-CN11



Slave connector
E3X-CN12



Accessories (Order Separately)

Mounting Brackets

A-314