

**NO:** PH-198  
**DATE:** April 2015

**PRODUCT:** E3X-DA-S Fiber-optic Amplifier  
**TYPE:** Partial Discontinuation Notice

Select E3X-DA-S Fiber-optic Sensor Amplifiers will be Discontinued March 2017; Replace with E3X-HD or E3NX-FA

Product Discontinuation Digital Fiber Amplifier	Recommended Replacement Smart Fiber Amplifier
<b>Model E3X-DA0/1/2/4/5/6/7/8/9□-S</b> <b>Model E3X-DA1/4/6/8□AT-S</b> <b>Model E3X-DA1/4/6/8□SE-S</b> <b>Model E3X-DA1/4□TG-S</b>	<b>Model E3X-HD series</b>  When External input and 2 outputs are needed. <b>(Model E3NX-FA series)</b>
Advanced Digital Fiber Amplifier <b>Model E3X-DA1/4/6/8□RM-S</b> <b>Model E3X-DA1/4/6/8□TW-S</b> <b>Model E3X-DA2/5/7/9□R-S</b> <b>Model E3X-DA2/5/7/9□F-S</b>	<b>Model E3NX-FA series</b>  There are some models which have no recommended replacement.

**Last order date: February 2017**

Note: Date is subject to change based on raw materials and components availability at the factory.

## Affected Parts

Product discontinuation	Recommended replacement
E3X-DA0-S	E3X-HD0
	E3NX-FA0
E3X-DA11AT-S 2M	E3X-HD11 2M
	E3NX-FA21 2M
E3X-DA11RM-S 2M	E3NX-FA21 2M
E3X-DA11-S 2M	E3X-HD11 2M
	E3NX-FA11 2M
E3X-DA11-S 5M	E3X-HD11 5M
	E3NX-FA11 5M
E3X-DA11SE-S 2M	E3X-HD11 2M
	E3NX-FA11 2M
E3X-DA11TG-S 2M	E3X-HD11 2M
	E3NX-FA11 2M
E3X-DA11TW-S 2M	E3NX-FA21 2M
E3X-DA11TW-S 5M	E3NX-FA21 2M
E3X-DA21F-S 2M	E3NX-FA11 2M
E3X-DA21R-S 2M	E3NX-FA21 2M

**Note:** The part numbers above with a "2M" ending may also exist without the "2M". Consider these two parts as equivalent.

Product discontinuation	Recommended replacement
E3X-DA21-S 2M	E3X-HD11 2M
	E3NX-FA21 2M
E3X-DA21-S 5M	E3X-HD11 5M
	E3NX-FA21 5M
E3X-DA41AT-S 2M	E3X-HD41 2M
	E3NX-FA51 2M
E3X-DA41RM-S 2M	E3NX-FA51 2M
E3X-DA41-S 2M	E3X-HD41 2M
	E3NX-FA41 2M
E3X-DA41-S 5M	E3X-HD41 5M
	E3NX-FA41 5M
E3X-DA41SE-S 2M	E3X-HD41 2M
	E3NX-FA41 2M
E3X-DA41TG-S 2M	E3X-HD41 2M
	E3NX-FA41 2M
E3X-DA41TW-S 2M	E3NX-FA51 2M
E3X-DA41TW-S 5M	E3NX-FA51 5M
E3X-DA51F-S 2M	E3NX-FA41 5M
E3X-DA51R-S 2M	E3NX-FA51 2M
E3X-DA51-S 2M	E3X-HD41 2M
	E3NX-FA51 2M
E3X-DA6AT-S	E3X-HD6
	E3NX-FA7TW
E3X-DA6RM-S	E3NX-FA7
E3X-DA6-S	E3X-HD6
	E3NX-FA6
E3X-DA6SE-S	E3X-HD6
	E3NX-FA6
E3X-DA6TW-S	E3NX-FA7TW
E3X-DA7F-S	E3NX-FA7TW
E3X-DA7R-S	E3NX-FA7TW
E3X-DA7-S	E3X-HD6
	E3NX-FA7TW
E3X-DA8AT-S	E3X-HD8
	E3NX-FA9TW
E3X-DA8RM-S	E3NX-FA9
E3X-DA8-S	E3X-HD8
	E3NX-FA8
E3X-DA8SE-S	E3X-HD8
	E3NX-FA8
E3X-DA8TW-S	E3NX-FA9TW
E3X-DA9F-S	E3NX-FA9TW
E3X-DA9R-S	E3NX-FA9TW
E3X-DA9-S	E3X-HD8
	E3NX-FA9TW
E3X-DA11RM-S-15 2M	No recommended replacement

**Note:** The part numbers above with a "2M" ending may also exist without the "2M". Consider these two parts as equivalent.

Product discontinuation	Recommended replacement
E3X-DA11RM-S-21	No recommended replacement
E3X-DA11-S-25 2M	E3X-HD11 2M
	E3NX-FA11 2M
E3X-DA11-S-3 2M	No recommended replacement
E3X-DA11-S-4 2M	No recommended replacement
E3X-DA11-S-6 2M	E3X-HD11 2M
	E3NX-FA11 2M
E3X-DA11-S-C1 2M	No recommended replacement
E3X-DA11SE-S-C1 2M	No recommended replacement
E3X-DA13-S	No recommended replacement
E3X-DA14-S	E3X-HD14
	E3NX-FA24
E3X-DA21-S-25	E3X-HD11 2M
	E3NX-FA21 2M
E3X-DA21-S-M3J 0.3M	No recommended replacement
E3X-DA41-S-M1J 0.3M	No recommended replacement
E3X-DA41-S-M5J 0.15M	No recommended replacement
E3X-DA43-S	No recommended replacement
E3X-DA44-S	E3X-HD44
	E3NX-FA54
E3X-DA51-S-M1TJ 0.3M	E3X-HD41-M1TJ 0.3M
E3X-DA54-S	E3X-HD14
	E3NX-FA54
E3X-DA6AT-S-11	No recommended replacement
E3X-DA6-S-12	No recommended replacement
E3X-DA6-S-19	E3X-HD6
	E3NX-FA6
E3X-DA6-S-6	No recommended replacement
E3X-DA6TW-S-1	No recommended replacement
E3X-DA11-S-19	E3X-HD11 2M
	E3NX-FA11 2M

**Note:** The part numbers above with a "2M" ending may also exist without the "2M". Consider these two parts as equivalent.

## Cautions on Applying Replacements

- 1) Instead of ATC function, DPC is available for E3X-HD series as an upwardly compatible function. Please refer to characteristics and operation ratings for details.
- 2) There are no counter functions.
- 3) Mobile console E3X-MC11-SV2 is not available.
- 4) The Communication Unit E3X-DRT21-S VER.3 cannot be connected.  
Only E3X-HD0 can be connected to Communication Unit E3X-CRT, E3X-ECT.  
E3NX-FA0 doesn't work when combined with Communication Unit E3X-CRT or E3X-ECT.
- 5) Optical communication between E3X-DA-S and E3NX-FA is not available. Note that channel recognition and Mutual interference prevention is not available at communication status.
- 6) External input, alarm output, area output are not available for E3X-HD. If these functions are necessary, E3NX-FA series is recommended.
- 7) Differential function is not available for E3NX-FA series. E3X-HD series is recommended if this function is necessary.
- 8) The power supply voltage and load current are different for E3X-DA-S and E3NX-FA series.

# Detail of Differences

## Body Color

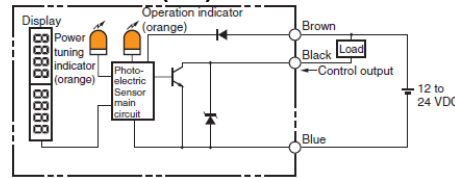
Product discontinuation Model E3X-DA-S series	Recommended replacement 1 Model E3X-HD series	Recommended replacement 2 Model E3NX-FA series
 <p>Sensor: black Cover printing: orange Case side: No printing</p> <p><b>E3X-DA2/5/7/9□-S</b></p>  <p>Sensor: black Cover printing: Gold Case side: White printing</p>	 <p>Sensor: black Cover printing: silver Case side: black name plate with white printing</p>	 <p>Sensor: black Cover printing: silver Case side: black name plate with white printing</p>
<p><b>Operation panel</b></p>  <p>7-seg display: red+green Operation button: orange Operation panel printing: white</p>	 <p>7-seg display: green+orange Operation button: black Operation panel printing: white</p>	 <p>7-seg display: green+orange Operation button: black Operation panel printing: white</p>
<p><b>Cable</b></p>  <p>Dark grey</p>	 <p>Black</p>	

# Wiring Diagrams

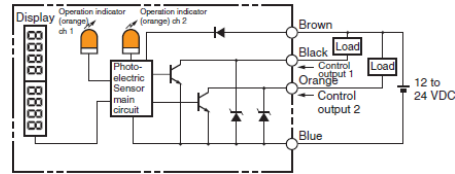
## Product discontinuation Model E3X-DA-S series

### NPN Type

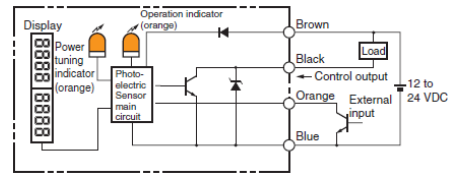
#### E3X-DA11/6(SE)-S



#### E3X-DA11/6TW-S E3X-DA11/6AT-S

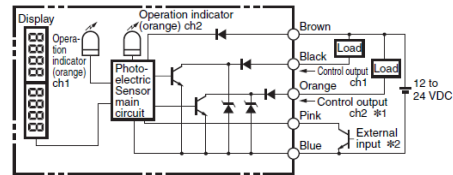


#### E3X-DA11/6RM-S



#### E3X-DA21-S

#### E3X-DA21R/F-S

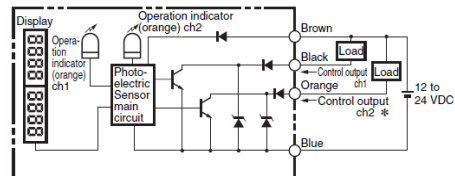


\*1. For the E3X-DA21R-S, this is the APC alarm output.  
This output does not exist on the E3X-DA21F-S.

\*2. This input does not exist the E3X-DA21F-S.

#### E3X-DA7-S

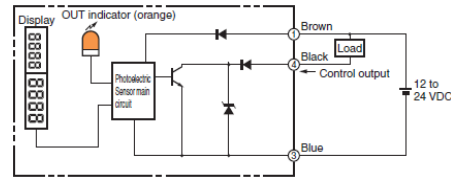
#### E3X-DA7R/F-S



\* For the E3X-DA7R-S, this is the APC alarm output.  
This output does not exist on the E3X-DA7F-S.

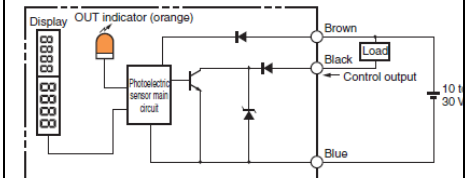
## Recommended replacement 1 Model E3X-HD series

#### E3X-HD11/6

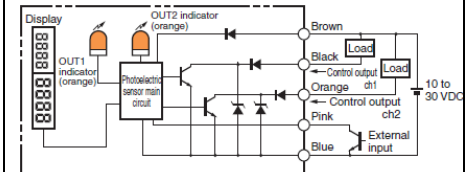


## Recommended replacement 2 Model E3NX-FA series

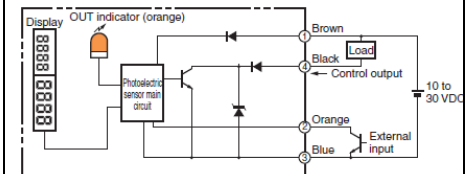
#### E3NX-FA11/6



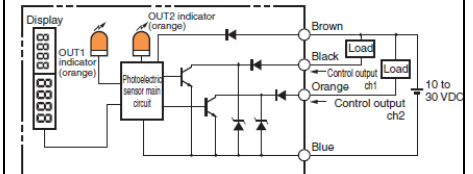
#### E3NX-FA21

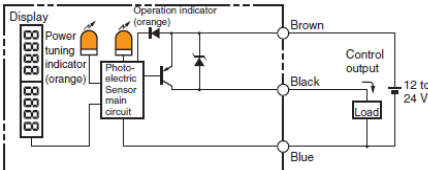
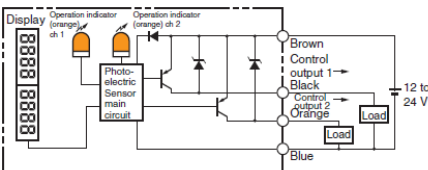
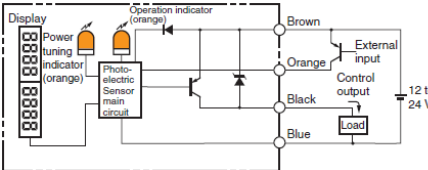
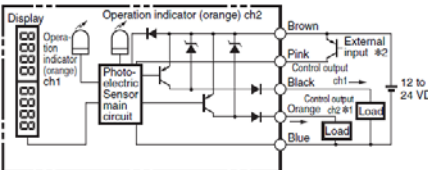
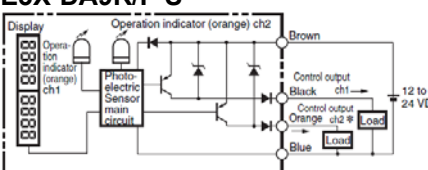
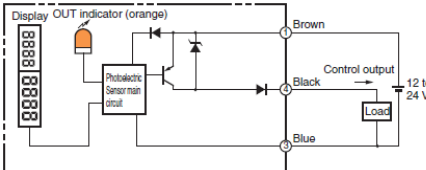
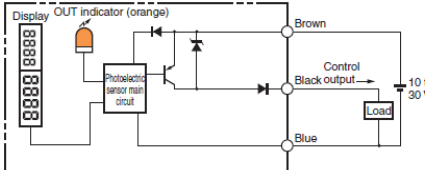
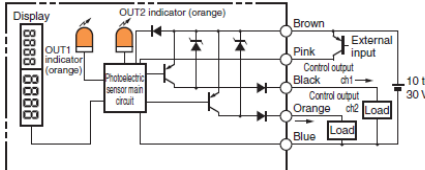
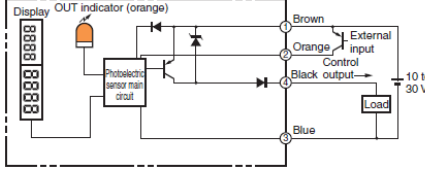
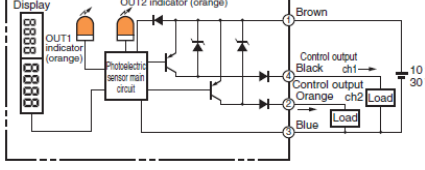


#### E3NX-FA7

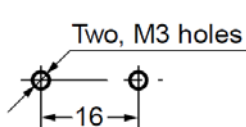


#### E3NX-FA7TW



Product discontinuation Model E3X-DA-S series	Recommended replacement 1 Model E3X-HD series	Recommended replacement 2 Model E3NX-FA series
<p><b>PNP Type</b> <b>E3X-DA41/8(SE)-S</b></p>  <p><b>E3X-DA41/8TW-S</b> <b>E3X-DA41/8AT-S</b></p>  <p><b>E3X-DA41/8RM-S</b></p>  <p><b>E3X-DA51-S</b> <b>E3X-DA51R/F-S</b></p>  <p>*1. For the E3X-DA51R-S, this is the APC alarm output. This output does not exist on the E3X-DA51F-S. *2. This input does not exist on the E3X-DA51F-S.</p> <p><b>E3X-DA9-S</b> <b>E3X-DA9R/F-S</b></p> 	<p><b>E3X-HD41/8</b></p> 	<p><b>E3NX-FA41/8</b></p>  <p><b>E3NX-FA51</b></p>  <p><b>E3NX-FA9</b></p>  <p><b>E3NX-FA9TW</b></p> 

## Mounting Holes

Product discontinuation Model E3X-DA-S series	Recommended replacement 1 Model E3X-HD series	Recommended replacement 2 Model E3NX-FA series
<p style="text-align: center;">Mounting Holes</p>  <p style="text-align: center;">Two, M3 holes 16</p> <p style="text-align: center;">Note: All amplifiers are designed for DIN rail mounting. The M3 mounting shown here is available when using the E39-L143 mounting bracket, which is sold separately.</p>		

# Dimensions

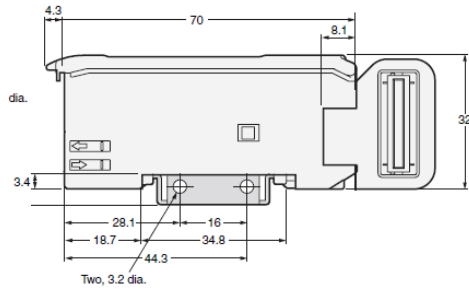
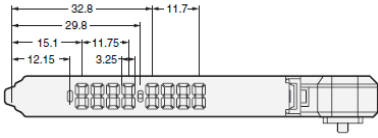
<p align="center"><b>Product discontinuation</b> <b>Model E3X-DA-S series</b></p>	<p align="center"><b>Recommended replacement 1</b> <b>Model E3X-HD series</b></p>	<p align="center"><b>Recommended replacement 2</b> <b>Model E3NX-FA series</b></p>
<p><b>Pre-wired type</b></p> <p>Round (O): Power tuning Indicator Oblong (o): Operation indicator for channel 2</p> <p>Operation indicator, Main display, Sub-display</p> <p>4.3, 32, (16.5), 3.4, 18.7, (36.2), 70, (21.3), 12.5, 3.4, 4.4, 28.1, 16</p> <p>Fiber Attachment mounted (E39-F9)</p> <p><b>Wire-saving connector</b></p> <p>Round (O): Power tuning Indicator Oblong (o): Operation indicator for channel 2</p> <p>Operation indicator, Main display, Sub-display</p> <p>4.3, 32, (16.5), 3.4, 18.7, (36.2), 70, (21.3), 12.95, A dia., 3.4, 4.4, 28.1, 16</p> <p>Fiber Attachment mounted (E39-F9)</p>	<p><b>Recommended replacement 1</b> <b>Model E3X-HD series</b></p> <p>L/D indicator, DPC indicator, ST indicator, OUT indicator, Threshold level (l), Incident level (w)</p> <p>21.7, 27.1, 5.1, 71.8, 33.5, (37), 3.4, (9), 12.7, 4.3, Two, 3.2 dia. (mounting holes), 20.5, (9.4), 16, 4.3, Optical communications, E39-L143 Mounting Bracket (sold separately, SUS304)</p> <p>4.4, 3.4, (29.9), 16</p>	<p><b>Recommended replacement 2</b> <b>Model E3NX-FA series</b></p> <p>L/D indicator, DPC indicator, ST indicator, OUT indicator, Threshold level (l), Incident level</p> <p>21.7, 27.1, 5.1, (75.3), 33.5, (37), 3.4, (9), (13), 4.3, Two, 3.2 dia. (mounting holes), 20.5, (9.4), 16, 4.3, Wire-saving Connect (sold separately), Optical communications, E39-L143 Mounting Bracket (sold separately, SUS304)</p> <p>4.4, 3.4, (29.9), 16</p>

**Product discontinuation  
Model E3X-DA-S series**

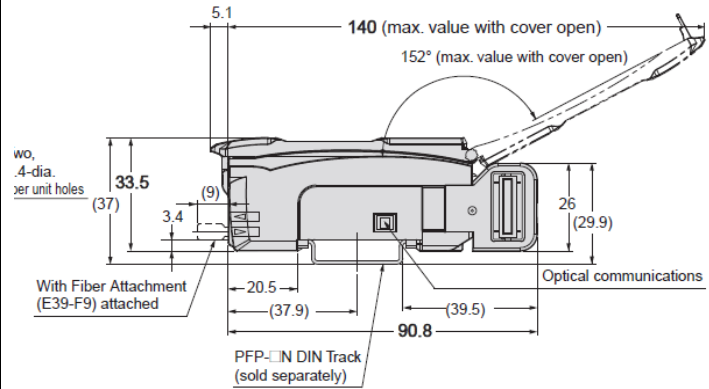
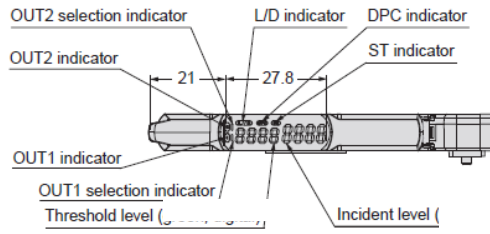
**Recommended  
replacement 1  
Model E3X-HD series**

**Recommended  
replacement 2  
Model E3NX-FA series**

**E3X-DA0-S**



**E3X-HD0/FA0**





# Characteristics

## Digital Fiber Amplifier (E3X-DA1/4/6/8□-S/RM-S/TW-SAT-S/SE-S)

Item		Product discontinuation Model E3X-DA-S series	Recommended replacement 1 Model E3X-HD series	Recommended replacement 2 Model E3NX-FA series
Light source(wavelength)		Red LED (635nm)	Red,4-element LED (625nm)	
Power supply voltage		12 to 24 VDC±10% ripple (p-p) 10%max.		10 to 30 VDC±10% ripple (p-p) 10%max.
Power consumption (at power supply voltage of 24 VDC)	Normal mode	960mW max. (Current consumption: 40mA max.) ※E3X-DA□RM/TW/AT-S 1080mW max. (Current consumption: 45mA max.)	720mW max. (Current consumption: 30mA max.)	960mW max. (Current consumption: 40mA max.)
	Eco mode (Digital display light off)	None	530mW max. (Current consumption: 22mA max.)	720mW max. (Current consumption: 30mA max.)
	Eco Lo mode (Luminance change of digital display)	None	640mW max. (Current consumption: 26mA max.)	840mW max. (Current consumption: 35mA max.)
Control output		Load power supply voltage: 26.4V DC max. Open-collector output Load current: 50mA  Residual voltage: At load current of less than 50mA:1V max.	Load power supply voltage: 26.4V DC max. Open-collector output Load current: Groups of 1 to 3 Amplifier Units: 100mA max. Groups of more than 4 Amplifier Units: 20mA max. Residual voltage: At load current of less than 10mA: 1V max. At load current of 10 to 100mA: 2V max.	Load power supply voltage: 30V DC max. Open-collector output Load current: Groups of 1 to 3 Amplifier Units: 100mA max. Groups of more than 4 Amplifier Units: 20mA max. Residual voltage: At load current of less than 10mA: 1V max. At load current of 10 to 100mA: 2V max.
Protection circuits	Power supply reverse polarity protection	Provided		
	Output short-circuit protection	Provided		
	Out reverse polarity protection	Not Provided	Not Provided	
Response time	Super high-speed mode	DA□SE-S	None	
		DA□S	Operate: 48μs, reset: 50μs	
		DA□RM-S	Operate/reset: 80μs	
		DA□TW-S	Operate/reset: 80μs	
	DA□AT-S	Operate/reset: 130μs		
	High-speed mode	Operate/reset: 250μs ※Except for E3X-DA□SE-S	Operate/reset: 250μs	
	Standard mode	Operate/reset: 1ms ※Except for E3X-DA□SE-S	Operate/reset: 1ms	
Giga power mode	None	Operate/reset: 16ms		
Sensitivity setting		Teaching or manual method		
Functions	Power tuning	Provided		
	Timer	Select from OFF-delay, ON-delay, One-shot	Select from disabled, OFF-delay, ON-delay, One-shot	Select from disabled, OFF-delay, ON-delay, One-shot, ON/OFF-delay
	Automatic power control (APC)	Always enabled		
	Zero-reset	Negative values can be displayed. (Threshold value is shifted.) ※Except for E3X-DA□SE-S		
	Initial-reset	Initial -reset	Select from initial reset/User reset	
	Mutual interference prevention(supported for up to 10Units)	Provided		
Individual functions	Counter ※Only E3X-DA□RM-S	Switchable between up counter and down counter. Set counter: 0 to 9999999	None	
	ATC ※Only E3X-DA□AT-S	Provided	None ※Dynamic power control function (DPC) provided	

Item		Product discontinuation Model E3X-DA-S series	Recommended replacement 1 Model E3X-HD series	Recommended replacement 2 Model E3NX-FA series
Individual functions	Differential detection  *only E3X-DA□RM-S only E3X-DA□TW-S only E3X-DA□AT-S	Provided Switchable between single edge and double edge detection mode Single edge: Can be set to: 250μs, 500μs, 1ms, 10ms, or 100ms Double mode: Can be set to 500μs, 1ms, 2ms, 20ms, or 200ms	Provided	None
	I/O setting	DA□RM-S	External input (Select from teaching, power tuning, zero reset, light OFF or counter reset.)	Output1 setting (Select from normal detection mode/area detection mode) Output2 setting ※only FA21,51,7TW,9TW (Select from normal detection mode/alarm output mode/error detection mode) External input ※only FA21,51, FA7,FA9,FA24,FA54 (Select from input OFF/tuning, power tuning/emission OFF/zero reset, or bank switching.
		DA□TW-S	Output setting (Select from channel 2 output/area output, or self-diagnosis.)	
		DA□AT-S	Output setting (Select from channel 2 output/area output/or self-diagnosis, or ATC error output)	
Indicator	DA□SE-S	Operation indicator (orange)	Operation indicator (orange) 7-segment digital indicator (sub digital display: green+ main digital display: red), L/D indicator (orange), ST indicator (blue), DPC indicator (green)	7-segment displays(sub digital display: green+ main digital display: white) OUT indicator (orange), L/D indicator (orange), ST indicator (blue), DPC indicator (green) OUT selection indicator (orange) (only on models with 2 outputs)
	DA□S DA□RM-S	Operation indicator (orange) Power tuning indicator (orange)		
	DA□TW-S DA□AT-S	Operation indicator 1ch (orange) Operation indicator 2ch (orange)		
Display timing		Select from incident level+ threshold or other 7 patterns	Normal/peak-hold/peak • bottom-hold/percent display/bar display/channel number possible	Normal/peak-hold/peak • bottom-hold/percent display/bar display/channel number /change finder possible
Display orientation		Switching between normal/reverse possible ※Except for E3X-DA□SE-S		
Optical axis adjustment (hyper-flashing function)		Provided	Not provided	
Ambient Illumination (receiver side)	Incandescent lamp	10,000 lx max.	20,000 lx max.	
	Sunlight	20,000 lx max.	30,000 lx max.	
Ambient temperature	Operating	Groups of 1 to 2 Amplifiers: -25~+55°C Groups of 3 to 10 Amplifiers: -25~+50°C Groups of 11 to 16 Amplifiers: -25~+45°C		Groups of 1 to 2 Amplifiers: -25~+55°C Groups of 3 to 10 Amplifiers: -25~+50°C Groups of 11 to 16 Amplifiers: -25~+45°C Groups of 17 to 30 Amplifiers: -25~+40°C
	Storage	-30~+70°C (with no condensation)		
Weight (Packed state)	Pre-wired (standard cable length: 2 m)	Approx. 100g	Approx. 105g	Approx. 115g
	Standard connector	Approx. 55g	Approx. 60g	
Material	Case	Polybutylene terephthalate (PBT)	Polycarbonate (PC)	
	Cover	Polycarbonate (PC)		

## Advanced Digital Fiber Amplifier (E3X-DA2/5/7/9□-S/R-S/F-S)

Item		Product discontinuation Model E3X-DA-S series	Recommended replacement 1 Model E3X-HD series	Recommended replacement 2 Model E3NX-FA series
Light source (wavelength)		Red,4-element LED (625nm)	Red,4-element LED (625nm)	
Power supply voltage		12 to 24 VDC±10% ripple (p-p) 10%max.		10 to 30 VDC±10% ripple (p-p) 10%max.
Power consumption (at power supply voltage of 24 VDC)	Normal mode	960mW max. (Current consumption: 40mA max.)	720mW max. (Current consumption: 30mA max.)	960mW max. (Current consumption: 40mA max.)
	Eco mode (Digital display light off)	600mW max. (Current consumption: 25mA max.)	530mW max. (Current consumption: 22mA max.)	720mW max. (Current consumption: 30mA max.)
	Eco Lo mode (Luminance change of digital display)	720mW max. (Current consumption: 30mA max.)	640mW max. (Current consumption: 26mA max.)	840mW max. (Current consumption: 35mA max.)
Control output		Load power supply voltage: 26.4V DC max. Open-collector output Load current:50mA  Residual voltage: At load current of less than 50mA:1V max.	Load power supply voltage:26.4V DC max.3 Open-collector output Load current: Groups of 1 to 3 Amplifier Units: 100mA max. Groups of more than 4 Amplifier Units: 20mA max. Residual voltage: At load current of less than 10mA: 1V max. At load current of 10 to 100mA: 2V max.	Load power supply voltage: 30V DC max Open-collector output Load current: Groups of 1 to 3 Amplifier Units: 100mA max. Groups of more than 4 Amplifier Units: 20mA max. Residual voltage: At load current of less than 10mA: 1V max. At load current of 10 to 100mA: 2V max.
Protection circuits	Power supply reverse polarity protection	Provided		
	Output short-circuit protection	Provided		
	Out reverse polarity protection	Provided		
Response time	Super high-speed mode	DA□-S	NPN output Operate/reset: 50μs PNP output Operate/reset: 55μs	Operate/reset: 1output type: 30μs 2output type: 32μs
		DA□R-S		
		DA□F-S	NPN output Operate: 46μs, Reset: 48μs PNP output Operate: 51μs, Reset: 53μs	
	High-speed mode	Operate/reset: 250μs Except for E3X-DA□F-S	Operate/reset: 250μs	
	Standard mode	Operate/reset: 1ms ※Except for E3X-DA□F-S	Operate/reset: 1ms	
	High-resolution mode	Operate/reset: 4ms ※Except for E3X-DA□F-S	None	
	Tough mode	Operate/reset: 16ms ※Except for E3X-DA□F-S	None	
Giga power mode	None	Operate/reset: 16ms		
Sensitivity setting		Teaching or manual method		
Functions	Power tuning	Provided		
	Timer	Select from disabled, OFF-delay, ON-delay, One-shot, ON/OFF-delay	Select from disabled, OFF-delay, ON-delay, One-shot	Select from disabled, OFF-delay, ON-delay, One-shot, ON/OFF-delay
	Automatic power control (APC)	Always enabled		
	Zero-reset	Negative values can be displayed. (Threshold value is shifted.) ※Except for E3X-DA□SE-S		
	Initial-reset	Select from initial reset/User reset		
	Mutual interference prevention (supported for up to 10 Units)	Provided		
ATC	Provided	None ※Dynamic power control function(DPC) provided		

Item		Product discontinuation Model E3X-DA-S series	Recommended replacement 1 Model E3X-HD series	Recommended replacement 2 Model E3NX-FA series
Individual functions	Differential detection ※Only for E3X-DA□-S, DA□R-S	Provided Switchable between single edge and double edge detection mode: Single edge: Can be set to 250μs, 500μs, 1ms, 10ms, or 100ms Double mode: Can be set to 500μs, 1ms, 2ms, 20ms, or 200ms	Provided	None
	Slow-motion display ※Only for E3X-DA□F-S	Provided	None	
	APC margin display ※Only for E3X-DA□R-S	Provided	None	
	I/O setting	DA□-S DA□R-S	External input (Select from teaching, power tuning, zero reset, light OFF or counter reset.)	External input function not provided 2ch output not provided
	DA□-S	Output setting Select from output for each channel, area output , or self-diagnosis.		
Indicator	DA□-S	Operation indicator 1ch (orange) Operation indicator 2ch (orange)	Operation indicator (orange) 7-segment digital indicator (sub digital display: green+ main digital display: red), L/D indicator (orange), ST indicator (blue), DPC indicator (green)	7-segment displays (sub digital display: green+ main digital display: white) OUT indicator (orange), L/D indicator (orange) ST indicator (blue), DPC indicator (green) OUT selection indicator (orange) (only on models with 2 outputs)
	DA□R-S	Operation indicator (orange) APC alarm indicator (orange)		
	DA□F-S	Operation indicator 1ch (orange) Power tuning output indicator (orange)		
Display timing		Select from incident level+ threshold or other 7 patterns	Normal/peak-hold/peak bottom-hold/percent display/bar display/channel number possible	Normal/peak-hold/peak bottom-hold/percent display/bar display/channel number /change finder possible
Display orientation		Switching between normal/reverse possible		
Ambient Illumination (receiver side)	Incandescent lamp	10,000 lx max.	20,000 lx max.	
	Sunlight	20,000 lx max.	30,000 lx max.	
Ambient temperature	Operating	Groups of 1 to 2 Amplifiers: -25~+55°C Groups of 3 to 10 Amplifiers: -25~+50°C Groups of 11 to 16 Amplifiers: -25~+45°C		Groups of 1 to 2 Amplifiers: -25~+55°C Groups of 3 to 10 Amplifiers: -25~+50°C Groups of 11 to 16 Amplifiers: -25~+45°C Groups of 17 to 30 Amplifiers: -25~+40°C
	Storage	-30~+70°C (with no condensation)		
Weight (Packed state)	Pre-wired (standard cable length: 2 m)	Approx. 100g	Approx. 105g	Approx. 115g
	Standard connector	Approx. 55g	Approx. 60g	
Material	Case	Polybutylene terephthalate (PBT)	Polycarbonate (PC)	
	Cover	Polycarbonate (PC)		

## Sensor Communications Unit (E3X-DA0-S)

Item		Product discontinuation Model E3X-DA0-S	Recommended replacement 1 Model E3X-HD0
Light source (wavelength)		Red,4-element LED (625nm)	Red,4-element LED (625nm)
Power supply voltage		Supplied from the connector through the Sensor Communication Unit	
Power consumption (at power supply voltage of 24 VDC)	Normal mode	960mW max. (Current consumption: 40mA max.)	720mW max. (Current consumption: 30mA max.)
	Eco mode(Digital display light off)	600mW max. (Current consumption: 25mA max.)	530mW max. (Current consumption: 22mA max.)
	Eco Lo mode (Luminance change of digital display)	720mW max. (Current consumption: 30mA max.)	None
Control output		None	
Protection circuits	Power supply reverse polarity protection	Provided	
	Output short-circuit protection	Provided	
	Out reverse polarity protection	Provided	None
Response time	Super-high-speed mode	None	
	High-speed mode	Operate/reset: 250μs	
	Standard mode	Operate/reset: 1ms	
	High-resolution mode	Operate/reset: 4ms	None
	Tough mode	Operate/reset: 16ms	None
	Giga power mode	None	Operate/reset: 16ms
Sensitivity setting		Teaching or manual method	
Maximum connectable Units		With E3X-CRT:16 units , with E3X-ECT :30 units	
Functions	Power tuning	Provided	
	Timer	Select from disabled, OFF-delay, ON-delay, One-shot, ON/OFF-delay	Select from disabled, OFF-delay, ON-delay, One-shot.
	Automatic power control(APC)	Always enabled	
	Zero-reset	Negative values can be displayed. (Threshold value is shifted.)	
	Initial-reset	Select from initial reset/User reset	
	Mutual interference prevention (supported for up to 10 Units)	Provided	
	ATC	Provided	None ※Dynamic power control function(DPC) provided
Individual functions	Differential detection	Switchable between single edge and double edge detection mode Single edge: Can be set to 250μs, 500μs, 1ms, 10ms, or 100ms Double mode: Can be set to 500μs, 1ms, 2ms, 20ms, or 200ms	Provided
	I/O setting	Output setting Select from output for each channel, area output, or self-diagnosis.	External input function not provided. 2ch output provided.
Display timing		Select from incident level+ threshold or other 6 patterns	Normal/peak-hold/peak-bottom-hold/percent display/bar display/channel number possible
Display orientation		Switching between normal/reverse possible	
Ambient Illumination (receiver side)	Incandescent lamp	10,000lx max.	20,000lx max.
	Sunlight	20,000lx max.	30,000lx max.
Ambient temperature	Operating	Groups of 1 to 2 Amplifiers: 0~55℃ Groups of 3 to 10 Amplifiers: 0~50℃ Groups of 11 to 16 Amplifiers: 0~45℃ Groups of 17 to 30 Amplifiers: 0~40℃	
	Storage	-30~+70℃ (with no icing or condensation)	
Weight (Packed state)		Approx.55g	Approx.65g
Material	Case	Polybutylene terephthalate (PBT)	Heat-resistant ABS
	Cover	Polycarbonate (PC)	

## Operation Ratings

Product discontinuation Model E3X-DA-S series					
<b>E3X-DA□-S</b> <b>E3X-DA□-RM-S</b> <b>E3X-DA□-TW-S</b> <b>E3X-DA□-AT-S</b> <b>E3X-DA□-SE-S</b>	<b>Sensing distance</b>				
	Model	E3X-DA□-S			
		High-resolution mode	Standard mode	High-speed mode	Super-high-speed mode
E32-T11R 2M	700	530	350	140	
E32-D11R 2M	300	170	120	50	
<b>E3X-DA□-S</b> <b>E3X-DA□-□R-S</b> <b>X-DA□-□-S</b> <b>E3X-DA□-DA0-S</b>	<b>Sensing distance</b>				
	Model	Sensing distance (mm)			
		Tough mode	High-resolution mode	Standard mode	High-speed mode
E32-T11R 2M	2,000	1,400	1,000	700	280
E32-D11R 2M	840	600	350	240	100

Recommended replacements					
<b>Recommended replacement 1</b> <b>Model E3X-HD series</b>	<b>Sensing distance</b>				
	Model	Sensing distance (mm)			
		Giga mode	Standard mode	High-speed mode	Super-high-speed mode
E32-T11R 2M	2,000	1,000	700	280	
E32-D11R 2M	840	350	240	100	
<b>Recommended replacement 2</b> <b>Model E3NX-FA series</b>	<b>Sensing distance</b>				
	Model	Sensing distance (mm)			
		Giga mode	Standard mode	High-speed mode	Super-high-speed mode
E32-T11R 2M	3,000	1,500	1,050	280	
E32-D11R 2M	1,260	520	360	100	

# Operation Methods

Product discontinuation Model E3X-DA-S series	Recommended replacement 1 Model E3X-HD series	Recommended replacement 2 Model E3NX-FA series
<p><b>E3X-DA□(RM/AN)-S</b></p> <p><b>E3X-DA□(TW/AT)-S</b></p> <p><b>E3X-DA□-S (□: 21/51/7/9/0)</b></p> <p><b>E3X-DA□R-S (□: 21/51/7/9)</b></p> <p><b>E3X-DA□F-S (□: 21/51/7/9)</b></p>	<p><b>E3X-HD□</b></p>	<p><b>E3NX-FA□11/41/6/8/7/9/24/54</b></p> <p><b>E3NX-FA21/51/7TW/9TW/54TW/0</b></p>

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