OMRON

Smart Fiber Amplifier

E3NX-FA □□Series

INSTRUCTION SHEET

Thank you for selecting an OMRON product. This sheet primarily describes precautions required in installing and operating the product.
- A specialist who has the knowledge of electricity must treat the product.
- Please read this manual carefully, and use it correctly after thoroughly understanding the product.
- Please keep this manual properly for future reference whenever it is necessary.

5339005-0B

(2/3)

PRECAUTIONS ON SAFETY

● Meanings of Signal Words

⚠CAUTION Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.

● Warning Indications

⚠PRECAUTIONS

Do not use the product with voltage in excess of the rated voltage. Excess voltage may result in malfunction or fire.	
Never use the product with an AC power supply. Otherwise, explosion may result.	

PRECAUTIONS FOR SAFE USE

The following precautions must be observed to ensure safe operation of the product. Doing so may cause damage or fire.

■ Installation Environment
- · Do not use the product in environments subject to flammable or explosive gases.
- · To secure the safety of operation and maintenance, do not install the product close to high-voltage devices and power devices.
- · Do not use the product in any atmosphere or environment that exceeds the ratings.
- · Do not use the product in environments subject to exposure to water, oil, chemicals, etc.
- · Burn injury may occur. The product surface temperature rises depending on application conditions, such as the ambient temperature and the power supply voltage. Use caution when operating or cleaning the product.

■ Power Supply and Wiring
- · Do not apply voltages or currents that exceed the rated ranges.
- · When supplying power to the product, make sure that the polarity of the power is correct, and do not connect to an AC power supply.
- · Do not miswire such as the polarity of the power supply.
- · Do not apply any load exceeding the ratings.
- · Connect the load correctly.
- · Do not short both ends of the load.
- · High-Voltage lines and power lines must be wired separately from this product. Wiring them together or placing them in the same duct may cause induction, resulting in malfunction or damage.

■ Installation
- · Do not install the product in locations subjected to strong magnetic field or electric field.

■ Others
- · Do not attempt to disassemble, repair, or modify the product in any way.
- · Do not use the product if the case is damaged.
- · When disposing of the product, treat it as industrial waste.
- · When setting the sensor, be sure to check safety such as by stopping the equipment.

PRECAUTIONS FOR CORRECT USE

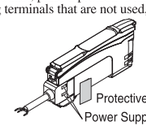
■ Installation Location
- · Do not install the product in the following locations.

(1) Locations subject to direct sunlight
(2) Locations subject to condensation due to high humidity
(3) Locations subject to corrosive gas
(4) Locations subject to vibration or mechanical shocks exceeding the rated values

■ Power Supply and Wiring
- · The product may require some time after it is turned ON to ensure a stable light reception intensity, depending on the operational environment.
- · Output pulses may occur when the power supply is turned OFF. Turn OFF the power supply to the load or load line first.
- · The product is ready to operate 200 ms after the power supply is turned ON. If the Sensor and load are connected to power supplies separately, turn ON the power supply to the product first.
- · Make sure that the power supply is turned OFF before connecting, separating or adding Amplifier Units.
- · Use an extension cable with a minimum thickness of 0.3 mm² and less than 100 m long.

■ Installation
- · Do not apply the forces on the cord exceeding the following limits: Pull: 40N; torque: 0.1N·m; pressure: 20N; bending: 3 kg
- · Do not pull or apply excessive pressure or force (exceeding 9.8N) on the Fiber Unit when it is mounted on the Amplifier Unit.

■ Connection
- · The Mobile Console E3X-MC11, E3X-MC11-SV2 and E3X-MC11-S cannot be connected.
- · The E3C, E2C, E3X-NA and E3X-SD cannot be connected.
- · The E3X-DA-N, E3X-HD and E3X-DA-S/MDA cannot be connected.
- · The Communication Unit E3X-DRT21-S, E3X-CRT, E3X-ECT, E3NW-ECT and E3NW-DS cannot be connected.
- · When using a connector type product, place a protective label (provided with the E3X-CN22, E3X-CN21) on the power supply connecting terminals that are not used, to prevent electric shock or short circuit.



■ Others
- · Always keep the protective cover in place when using the product. Not doing so may cause malfunction.
- · Do not use thinner, benzine, acetone, and lamp oil for cleaning.

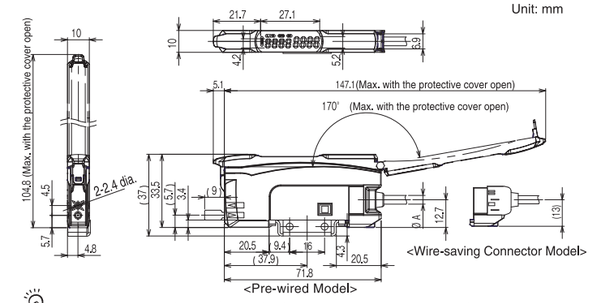
Checking the Package Content

• Amplifier Unit: 1 • Instruction Sheet (this sheet): 1 (Japanese, English and Chinese)

1 Installation

1-1 Dimensions

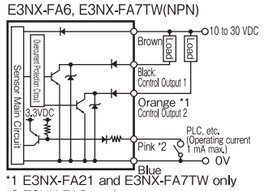
Unit: mm



CHECK! Dimensions in parentheses () indicates the ones with related components. The cover could come off if it is tilted by 170 degrees or more.

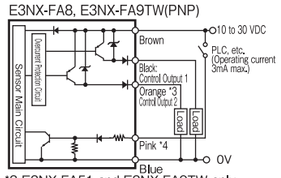
1-2 Input/Output Circuit Diagram

■E3NX-FA11, E3NX-FA21, E3NX-FA6, E3NX-FA7TW(NPN)



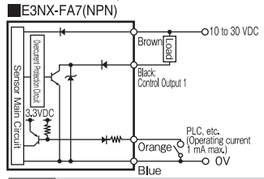
*1 E3NX-FA21 and E3NX-FA7TW only
*2 E3NX-FA21 only

■E3NX-FA41, E3NX-FA51, E3NX-FA8, E3NX-FA9TW(PNP)

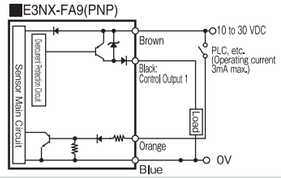


*3 E3NX-FA51 and E3NX-FA9TW only
*4 E3NX-FA51 only

■E3NX-FA7(NPN)



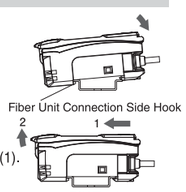
■E3NX-FA9(PNP)



1-3 Mounting the Amplifier Unit

■Mounting on DIN Track

(1)Let the hook on the Amplifier Unit's Fiber Unit connection side catch the track.
(2)Push the unit until the hook clicks into place.

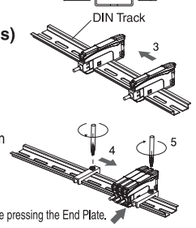


■Removing from DIN Track

(1) Push the unit in the direction 1.
(2)Lift the unit in the direction of arrow 2 while performing step (1).

■Joining Amplifier Units(Connector Type Models)

(1) Mount the Amplifier Units one at a time onto the DIN track. Insert the connector until it clicks. Slide the amplifier unit.(Arrow 3)
(2) Use End Plates (PFP-M: separately sold) at the both ends of the grouped Amplifier Units to prevent them from separating due to vibration or other cause.(Arrow 4)
(3) Tighten the screw on the End Plates using a driver.(Arrow 5)

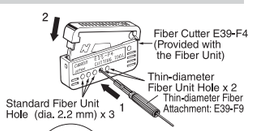


CHECK! Up to 30 Amplifier Units can be joined.

1-4 Mounting Fiber Unit

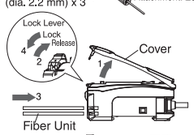
■Use Fiber Cutter

(1) Insert a Fiber Unit into a fiber cutter hole.
(2) Press down the blade at a single stroke to cut the Fiber Unit.

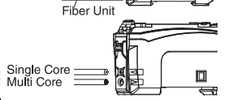


■Mount Fiber Unit

(1) Open the cover.
(2) Raise the lock lever.(Release)
(3) Insert the Fiber Unit in the fiber unit hole to the bottom.
(4) Return the lock lever to the original position and fix the Fiber Unit.(Lock)

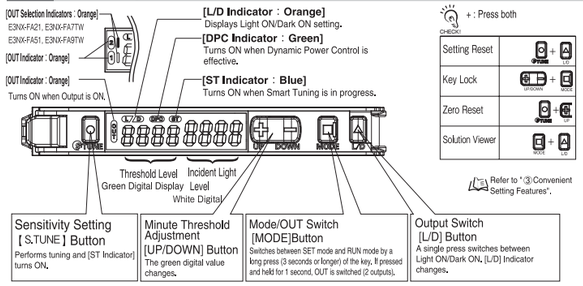


CHECK! · To mount the thin-diameter Fiber Unit, an attachment (E39-F9) is required.(The attachment is included with the applicable Fiber Unit.)
When mounting a coaxial reflective Fiber Unit, insert the single-core Fiber Unit to the upper hole (Emitter side) and the multi-core Fiber Unit to the lower hole (Receiver side).



2 Settings

2-1 Setting and Display Overview



CHECK! + : Press both

Setting Reset	+
Key Lock	+
Zero Reset	+
Solution Viewer	+

Refer to "③Convenient Setting Features".

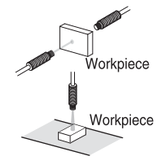
Sensitivity Setting [S.TUNE] Button	Minute Threshold Adjustment [UP/DOWN] Button	Mode/OUT Switch [MODE]Button	Output Switch [L/D] Button
Performs tuning and [ST Indicator] turns ON.	The green digital value changes.	Switches between SET mode and RUN mode by a long press (3 seconds or longer) of the key. If pressed and held for 1 second, OUT is switched (2 outputs).	A single press switches between Light ON/Dark ON. [L/D] Indicator changes.

2-2 Switching Control Output

Press L/D button.

Through-beam: Set to "Dark ON" to turn the output ON with a workpiece in the detection area.
[L/D Indicator] turns (D) ON.

Reflective: Set to "Light ON" to turn the output ON with a workpiece in the detection area.
[L/D Indicator] turns (L) ON.

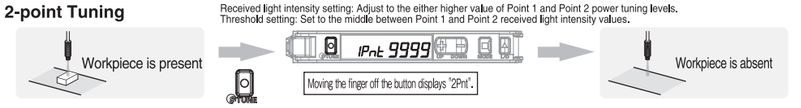


2-3 Smart Tuning [Easy Sensitivity Setting]

Basic Setting

● **2-point Tuning**

Received light intensity setting: Adjust to the either higher value of Point 1 and Point 2 power tuning levels.
Threshold setting: Set to the middle between Point 1 and Point 2 received light intensity values.



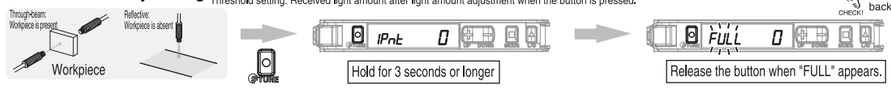
CHECK! Execution can be done even if the order of workpiece exists/not exist is reversed.

➡ **Setting is Completed**

Enhancing Durability of the Fiber Head against Dust and Stain

● **Maximum Sensitivity Tuning**

Received light intensity setting: Adjust the received light amount to "0" when the button is pressed.
Threshold setting: Received light amount after light amount adjustment when the button is pressed.



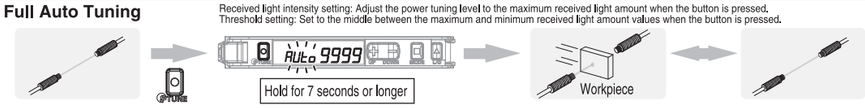
CHECK! It will become susceptible to the influence of background objects.

➡ **Setting is Completed**

Setting for a Moving Workpiece

● **Full Auto Tuning**

Received light intensity setting: Adjust the power tuning level to the maximum received light amount when the button is pressed.
Threshold setting: Set to the middle between the maximum and minimum received light amount values when the button is pressed.

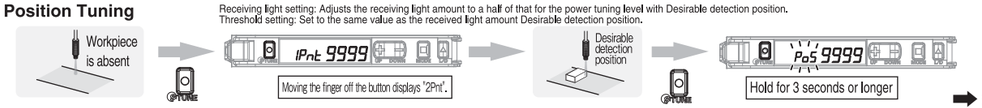


➡ **Setting is Completed**

Setting to Detect by Workpiece Position

● **Position Tuning**

Receiving light setting: Adjusts the receiving light amount to a half of that for the power tuning level with Desirable detection position.
Threshold setting: Set to the same value as the received light amount Desirable detection position.



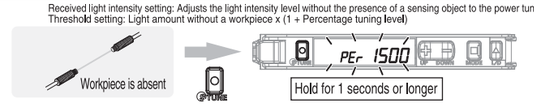
➡ **Setting is Completed**

Detecting a Transparent or Microscopic Object

● **Percentage Tuning**

Received light intensity setting: Adjusts the light intensity level without the presence of a sensing object to the power tuning level.
Threshold setting: Light amount without a workpiece x (1 + Percentage tuning level)

Percentage tuning setting ON
Refer to "⑤Detailed Settings".



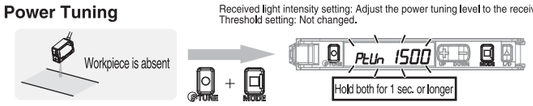
CHECK! When percent tuning setting is ON, only power tuning can be performed. Other tunings cannot be performed.

➡ **Setting is Completed**

Initializing Light Intensity Changed Due to Dust or Dirt

● **Power Tuning**

Received light intensity setting: Adjust the power tuning level to the received light amount when the button is pressed.
Threshold setting: Not changed.



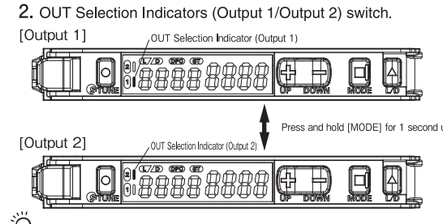
CHECK! Adjustment for a reflective type requires the presence of a workpiece. Both thru-beam and reflective types require the presence of a workpiece if the setting is made after position tuning.

➡ **Setting is Completed**

2-4 Output switching (2-output type: E3NX-FA21, E3NX-FA51, E3NX-FA7TW, and E3NX-FA9TW)

■OUT Selection Indicator switches to switch the settings.

1. Hold the [MODE] button for 1 second in [Measurement Mode].
2. OUT Selection Indicators (Output 1/Output 2) switch.



CHECK! Light-ON/Dark-ON can be switched with output 2.

● Smart Tuning Error

Error / Display / Cause	Error Origin Tuning Type	Remedy
Near Error nEAr Err The light level difference between Points 1 and 2 are extremely small.	2-point Tuning Full Auto Tuning	·Change the detection function to the mode of slower response time. ·Narrow the distance between emitter and receiver. (Through-beam model) ·Move the Fiber Head closer to the sensing object. (Reflection model)
Over Error ouEr Err Incident light level is too high.	All	·Widen the distance between emitter and receiver. (Through-beam model) ·Move the Fiber Head away from the sensing object. (Reflection model) ·Use a thin-diameter Fiber.
Low Error Lo Err Incident light level is too low.	Other than maximum sensitivity tuning	·Make the distance between emitter and receiver closer. (Through-beam model) ·Move the Fiber Head closer to the sensing object. (Reflection model)

2-5 Minute Adjustment of Threshold Level

Press UP/DOWN button to adjust the threshold level.

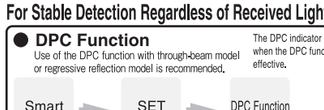
CHECK! Hold the key for high-speed level adjustment.

3 Convenient Setting Features

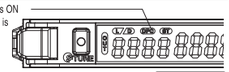
For Stable Detection Regardless of Received Light Intensity Changed due to Dust or Dirt

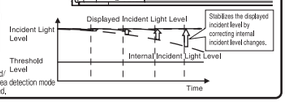
● DPC Function

Use of the DPC function with through-beam model or regressive reflection model is recommended.



The DPC indicator turns ON when the DPC function is effective.



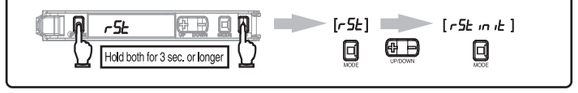


Refer to "②Settings".

CHECK! When smart tuning is in error/ maximum sensitivity tuning is executed/ the 1st point of the position tuning/ area detection mode is smaller, the DPC function is disabled, Disabled in area detection mode.

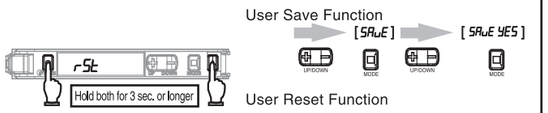
Initializing Settings

● Setting Reset Initialize all settings to the factory-set defaults.



Saving/Reading Settings

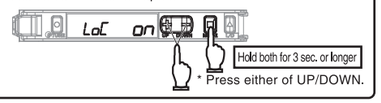
● User Save Function/User Reset Function



Preventing Malfunction

● Key Lock Function Disables all the button operations.

Enable/Cancel (This procedure)



Returning Received Light Intensity Display to "0"

● Zero Reset Function

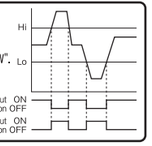
CHECK! The threshold also changes accordingly. The lower threshold limit is -1999.

For Output When Received Light Intensity is Within the Area

● Area Detection Mode

1. Select [Setting Mode] - [OUT1 Mode] - [Area Detection Mode].
   Pressing the [MODE] button for 3 seconds or longer exits the SET mode.
2. Press the [MODE] button in [Measurement Mode] to display "OUT1 HIGH" and "OUT1 LOW". Green digital indicator shows HIGH and LOW.
3. Provide Smart Tuning to each of HIGH/LOW thresholds by pressing the [S.TUNE] button.

CHECK! In tuning by percent, the thresholds are set as follows:
HIGH: Received light intensity in 3. x Received light intensity in 3. x Absolute value of percent tuning level
LOW: Received light intensity in 3. - Received light intensity in 3. x Absolute value of percent tuning level

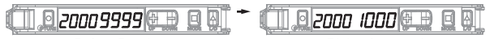


Checking Received Light Intensity When Workpiece Passes at High Speed

● Change finder

CHECK! The maximum value and minimum value are displayed with Light-ON and Dark-ON respectively.

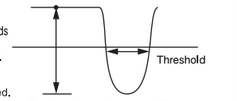
1. Select [Setting Mode] -> [Digital Display] to set [diSP CFdr].
2. Press the [MODE] button to exit SET mode.
3. Let the workpiece pass.
4. Displays and retains the light intensity (maximum/minimum value) in white digital for 0.5 seconds when the workpiece passes.



Determining If Workpiece is Detectable

● Solution Viewer

1. Press both the [MODE] and [L/D] buttons for at least 3 seconds to set to [SoLU on]. To release the setting, press the [MODE] and [L/D] buttons for at least 3 seconds to set to [SoLU oFF].
2. Let the workpiece pass.
3. Passing time and light amount difference are displayed.



4 Maintenance

4-1 Troubleshooting

● Troubleshooting

Problem	Cause	Remedy
Nothing is shown on the indication.	No power supplied or the cable broken	Check the wiring, connector connection, power supply voltage and power supply capacity again. Refer to "1-2 Input/Output Circuit Diagram"
Nothing is shown on the digital indication.	Eco mode is ON.	Turn OFF Eco mode, Refer to "5. Detailed Settings". Refer to "⑤ Detailed Settings".
Sensing/Detection not possible despite the minimum threshold level	Detection set to a small light level mode Dust or dirt influences	Setting GIGA Mode increases emission power and light intensity. Refer to "⑤ Detailed Settings".
The OUT indicator blinking	Mutual interference or other reason	Check the Amplifier Units mounted in a group and turn ON the power again. Refer to "1-3 Mounting Amplifier Unit"
Incident light level displayed in a negative value	The zero reset function is enabled.	Cancel the zero reset function. Refer to "③ Convenient Setting Features"
Lost tracking of the settings made	-	Reset the settings. Refer to "③ Convenient Setting Features"

● Error Display

Error Name / Display	Cause	Remedy
DPC Error* 2000 4000	The incident light level has deteriorated due to dust or dirt.	Wipe the dust off the Fiber Unit detection surface or other relevant areas and recover the original incident light level. Then, perform Smart Tuning. Refer to "2-3 Smart Tuning "
EEPROM time-out error E-nE 01	Failed internal data read/out	Turn ON the power again. Reset the settings if the error is not corrected. Refer to " ③Convenient Setting Features"
EEPROM checksum error E-nE 02	Failed internal data read/out	Turn ON the power again. Reset the settings if the error is not corrected. Refer to " ③Convenient Setting Features"
Lock ON LoC on	The key lock function enabled	Cancel the key lock function. Refer to " ③Convenient Setting Features"
Load short circuit detection error E-St	Over current flowing to the control output	Check wiring and connector connection again. Refer to "1-2 Input/Output Circuit Diagram" and "4-2 Ratings and Specifications"

* The DPC indicator blinks.

4-2 Ratings and Specifications

Model	NPN output	E3NX-FA11	E3NX-FA6	E3NX-FA21	E3NX-FA7	E3NX-FA7TW
	PNP output	E3NX-FA41	E3NX-FA8	E3NX-FA51	E3NX-FA9	E3NX-FA9TW
Control output		1	1	2	1	2
External input *1		-	-	1	1	-
Connection method		Pre-wired type	Wire-saving connector type	Pre-wired type	Wire-saving connector type	Wire-saving connector type
Light source (Wavelength)		Red 4-element LED (625nm)				
Power supply voltage		10 to 30 VDC, including ripple (p-p) 10%				
Power consumption*2		Power supply voltage 24V: Normal mode: 960mW max.(Power consumption 40mA max.) Power saving ECO: 840mW max.(Power consumption 35mA max.)		Power supply voltage 24V: Normal mode: 1080mW max.(Power consumption 45mA max.) Power saving ECO: 930mW max.(Power consumption 40mA max.)		
Control output		Load power supply voltage: 30 VDC, open collector output type (depends on the NPN/PNP output format) Load current: 100 mA max. for 1 to 3 units use, 20 mA max. for 4 units use Residual voltage: 2 V max. for NPN output, 2 V max. for PNP output Off-state current: 0.1 mA max.				
Protection circuit		Power supply reverse polarity protection, output short-circuit protection and output incorrect connection protection				
Maximum connectable Units		30 units				
Number of units for mutual interference prevention *3	Super-high-speed mode (SHS)	0 Note: The communication and mutual interference prevention functions are disabled if the SHS mode is selected for detection function.				
	High-speed mode (HS)	10				
	Standard mode (Std)	10				
	Giga mode (GIGA)	10				
Number of banks		4				
Auto Power Control (APC)		Provided (Always effective)				
Ambient illumination		Incandescent lamp: 20,000 lx max. / Sunlight: 30,000 lx max.				
Ambient temperature range		Operating: 1 to 2 amplifiers connected: −25°C to 55°C, 3 to 10 amplifiers connected: −25°C to 50°C, 11 to 16 amplifiers connected: −25°C to 45°C, 17 to 30 amplifiers connected: −25°C to 40°C Storage: −30°C to 70°C (with no icing or condensation)				
Ambient humidity range		Operating and storage: 35% to 85% RH (with no condensation)				
Insulation resistance		20 MΩ min. (at 500 VDC)				
Dielectric strength		1,000 VAC, 50/60 Hz, 1 minute				
Vibration resistance		10 to 55 Hz with a 1.5-mm double amplitude for 2 hrs each in X and Y directions				
Shock resistance		500 m/s², for 3 times each in X, Y and Z directions				
Weight (packed state/sensor)		Approx. 115 g/Approx. 75 g	Approx. 60 g/Approx. 20 g	Approx. 115 g/Approx. 75 g	Approx. 60 g/Approx. 20 g	Approx. 60 g/Approx. 20 g
Materials		Case and cover: Polycarbonate (PC), Cable: PVC				

*1. Details on inputs are as follows:

	Contact input (Relay or switch)	Non-contact input (Transistor)	Input time
NPN output	ON: Short circuit to 0V (Outflow current: 1 mA max.) OFF: Open or short circuit to Vcc	ON: 1.5 V max. (Outflow current: 1 mA max.) OFF: Vcc-1.5 V to Vcc (Leakage current: 0.1 mA max.)	ON: 2 ms min. OFF: 30 ms min.
PNP output	ON: Short circuit to Vcc (Sink current: 3mA max.) OFF: Open or short circuit to 0V	ON: Vcc-1.5 V to Vcc (Sink current: 3 mA max.) OFF: 1.5 V max. (Leakage current: 0.1 mA max.)	

*2. Power consumption

E3NX-FA11 / E3NX-FA41	E3NX-FA6 / E3NX-FA8	E3NX-FA21 / E3NX-FA51	E3NX-FA7 / E3NX-FA9	E3NX-FA7TW / E3NX-FA9TW
Power supply voltage 10V to 30V: Normal mode: 1080mW max.(Power supply voltage 30V: Power consumption 36mA max./ Power supply voltage 10V: Power consumption 108mA max.) Power saving ECO: 930mW max.(Power supply voltage 30V: Power consumption 31mA max./ Power supply voltage 10V: Power consumption 93mA max.)		Power supply voltage 10V to 30V: Normal mode: 1230mW max.(Power supply voltage 30V: Power consumption 41mA max./ Power supply voltage 10V: Power consumption 123mA max.) Power saving ECO: 1050mW max.(Power supply voltage 30V: Power consumption 35mA max./ Power supply voltage 10V: Power consumption 105mA max.)		

*3. The tuning will not change the number of units.
The minimum number of units in the specifications is applied to the mutual interference between different amplifiers such as between fiber and laser.

5 Detailed Settings

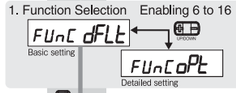
Hold [MODE] button for 3 seconds or longer to enter SET mode.

SET mode provides the function settings described hereafter. The initial display shown after transition from one function to another represents the factory default.

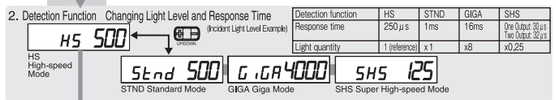
CHECK! The OUT Selection Indicators show items for Output1/Output 2 individually for each output.

A

1. Function Selection Enabling 6 to 16



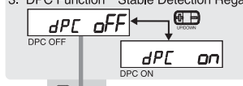
2. Detection Function Changing Light Level and Response Time



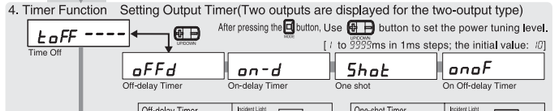
(Incident Light Level Example)

Detection function	HS	STND	GIGA	SHS
Response time	250 µs	1ms	16ms	One Output: 30 µs Two Output: 32 µs
Light quantity	1 (reference)	x 1	x8	x0.25

3. DPC Function Stable Detection Regardless of Incident Light Level Change



4. Timer Function Setting Output Timer(Two outputs are displayed for the two-output type)



After pressing the [MODE] button, Use [UP/DOWN] button to set the power tuning level. [1 to 9999ms in 1ms steps; the initial value: 10]

(a) Off-delay Timer: Holds the output ON for detection by PLC when the detection time is too short.
(b) On-delay Timer: Delays the output ON after detection.
(c) One-shot Timer: Keeps the output ON for a specified time regardless of the workpiece size variations.
(d) ON/OFF-delay Timer: Sets both OFF-delay Timer and On-delay Timer.

5. Power Tuning Level Changing the Target Incident Light Level (Power Tuning Level)

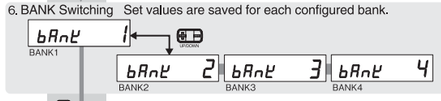
Use [UP/DOWN] button to set the power tuning level. [100 to 9999 in 1 steps; the initial value: 9999]

Function Selection: [dFLt]

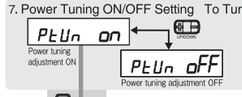
A

Function Selection: [oPt]

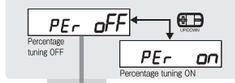
6. BANK Switching Set values are saved for each configured bank.



7. Power Tuning ON/OFF Setting To Turn ON/OFF the Light Amount Adjustment at Tuning

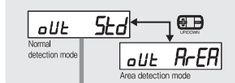


8. Percentage Tuning Detecting Transparent or Microscopic object (Two outputs are displayed for the two-output type)

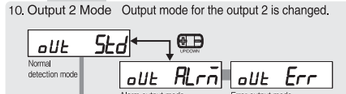


Press [MODE] button in [PEr on] menu, then use [UP/DOWN] button to set the percentage tuning level. (-99% to 99% in 1% steps; the initial value: -6%)

9. Output 1 Mode Output mode for the output 1 is changed.



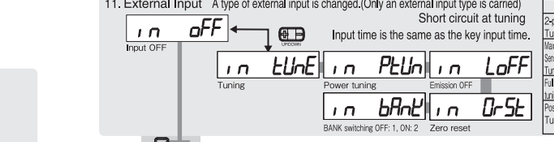
10. Output 2 Mode Output mode for the output 2 is changed.



Alarm Output Mode: After pressing the [MODE] button, press the [UP/DOWN] button to set alarm output level. [0 to 100p in 1p steps; the initial value: 50p]
On-delay of 300ms is applied.
Error output mode: Output when an error of DPC, system occurs.

B

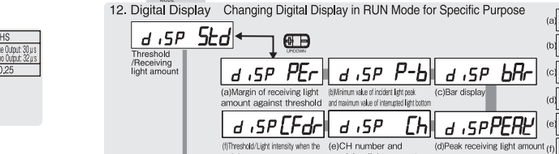
11. External Input A type of external input is changed.(Only an external input type is carried)



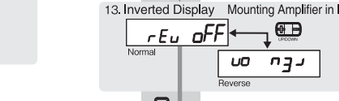
Short circuit at tuning
Input time is the same as the key input time.

	1st point	2nd point
2-point Tuning	Less than 3 seconds	Less than 3 seconds
Maximum Sensitivity Tuning	3 sec min.	-
Full-auto tuning	Less than 7 seconds	-
	7 sec min.	
Position Tuning	Less than 3 seconds	3 sec min.

12. Digital Display Changing Digital Display in RUN Mode for Specific Purpose

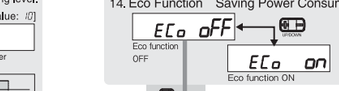


13. Inverted Display Mounting Amplifier in Inverted Direction



The display reverses.
Threshold and light intensity are displayed on green digital and white digital respectively.

14. Eco Function Saving Power Consumption



The indicators (green digital and white digital) turn OFF. They turn ON for approx. 10 seconds and then turn OFF by button operation.

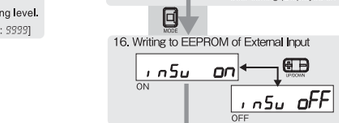
15. Hysteresis width (Reference value)

Set the hysteresis width by initial value. Hysteresis width is provided for threshold to prevent the judgment output from becoming unstable near the boundaries.

CHECK! Be sure to check the stability of outputs as there is a possibility of chattering.

The hysteresis width can be set by pressing the [UP/DOWN] button in the menu of "US-" and then pressing the [MODE] button. (1 to 9999, increments of 1)

16. Writing to EEPROM of External Input



The settings that have been changed by an external input with "oFF" will not be overwritten to prevent EEPROM from reaching its lifespan (100,000 writings).

A

Move to Detection Mode by holding the button for 3 seconds or longer.

Suitability for Use

THE PRODUCTS CONTAINED IN THIS SHEET ARE NOT SAFETY RATED. THEY ARE NOT DESIGNED OR RATED FOR ENSURING SAFETY OF PERSONS, AND SHOULD NOT BE RELIED UPON AS A SAFETY COMPONENT OR PROTECTIVE DEVICE FOR SUCH PURPOSES.
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OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of the products in the customer's application or use of the product.

Take all necessary steps to determine the suitability of the product for the systems, machines, and equipment with which it will be used.
Know and observe all prohibitions of use applicable to this product.

NEVER USE THE PRODUCTS FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
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