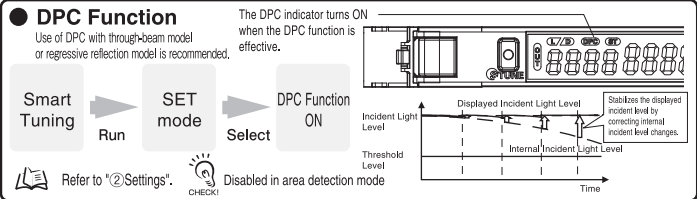


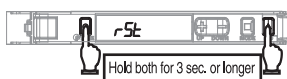
3 Convenient Setting Features

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

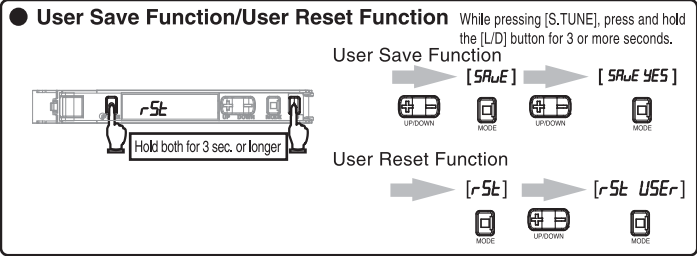


Initializing Settings

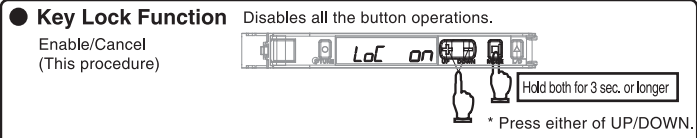
- Setting Reset** Initialize all settings to the factory-set defaults.



Saving/Reading Settings



Preventing Malfunction



4 Maintenance

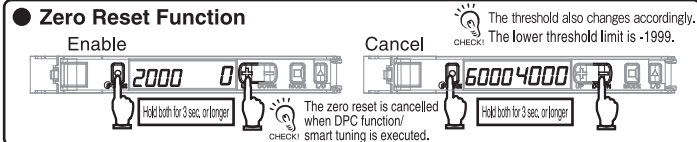
4-1 Troubleshooting

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 operation 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"

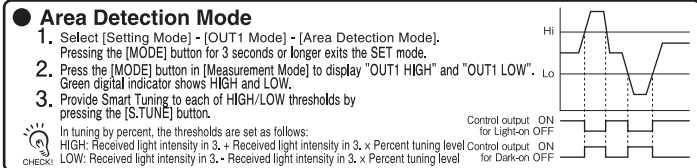
Error Name / Display	Cause	Remedy
DPC Error 2000 4000	The incident light level has deteriorated due to dust or dirt.	Wipe the dust off the Fiber Unit detection surface or other relevant areas and recover the original incident light level. Then, perform Smart Tuning. Refer to "2-3 Smart Tuning"
Amp EEPROM time-out error E-rE 01	An error is found in amp setting memory.	Turn ON the power again. Reset the settings if the error is not corrected. Refer to "③ Convenient Setting Features"
Amp EEPROM checksum error E-rE 02	An error is found in amp setting memory.	Turn ON the power again. Reset the settings if the error is not corrected. Refer to "③ Convenient Setting Features"
Lock ON LoC on	The key lock function enabled	Cancel the key lock function. Refer to "③ Convenient Setting Features"
Load short circuit detection error E-St 4000	The judgment output line is short circuited.	Turn off the power supply, check whether the output line is short circuited or not, and then turn on the power supply again.
Overcurrent protection error E-Hd CUr	Overcurrent is carried to the control output.	Turn OFF the power once and turn ON the power again.

* The DPC indicator blinks.

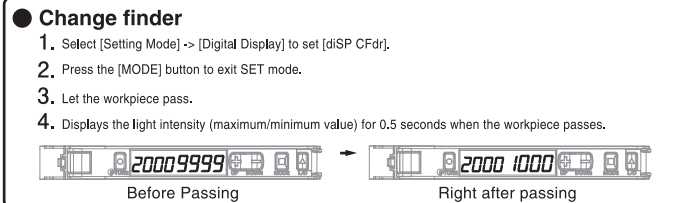
Returning Received Light Intensity Display to "0"



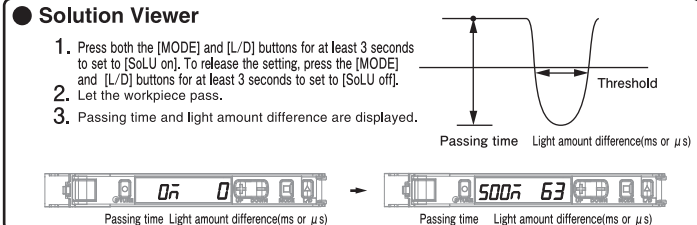
For Output When Received Light Intensity is Within the Area



Checking Received Light Intensity When Workpiece Passes at High Speed



Determining If Workpiece is Detectable



4-2 Ratings and Specifications

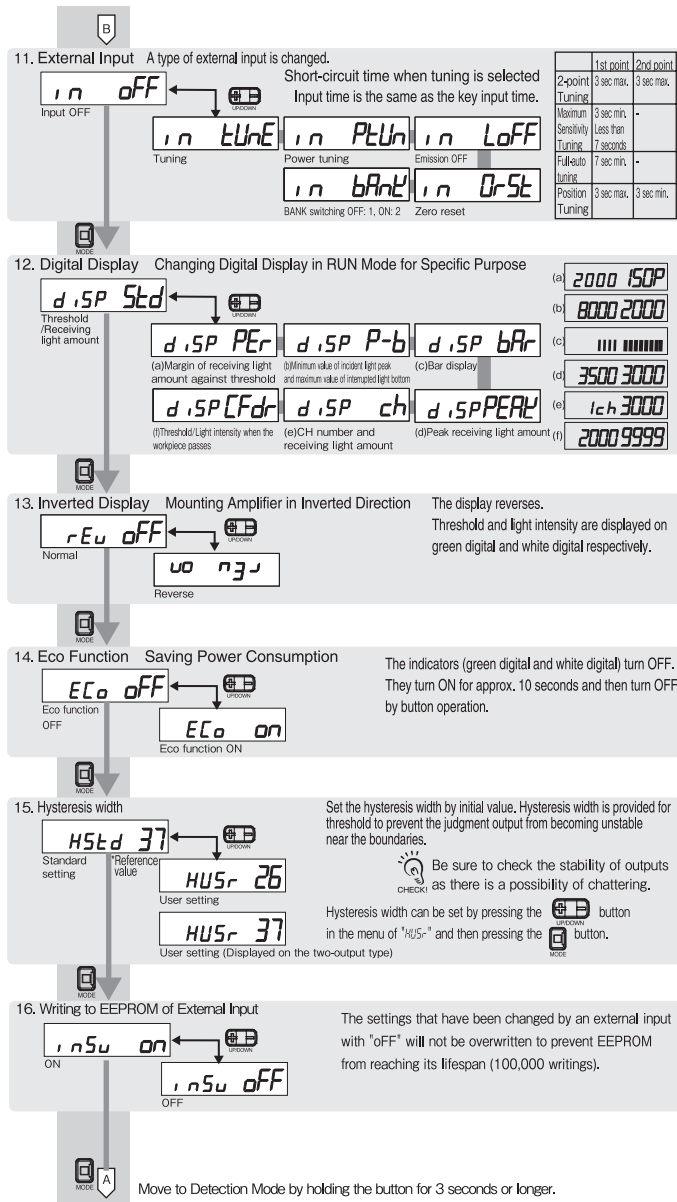
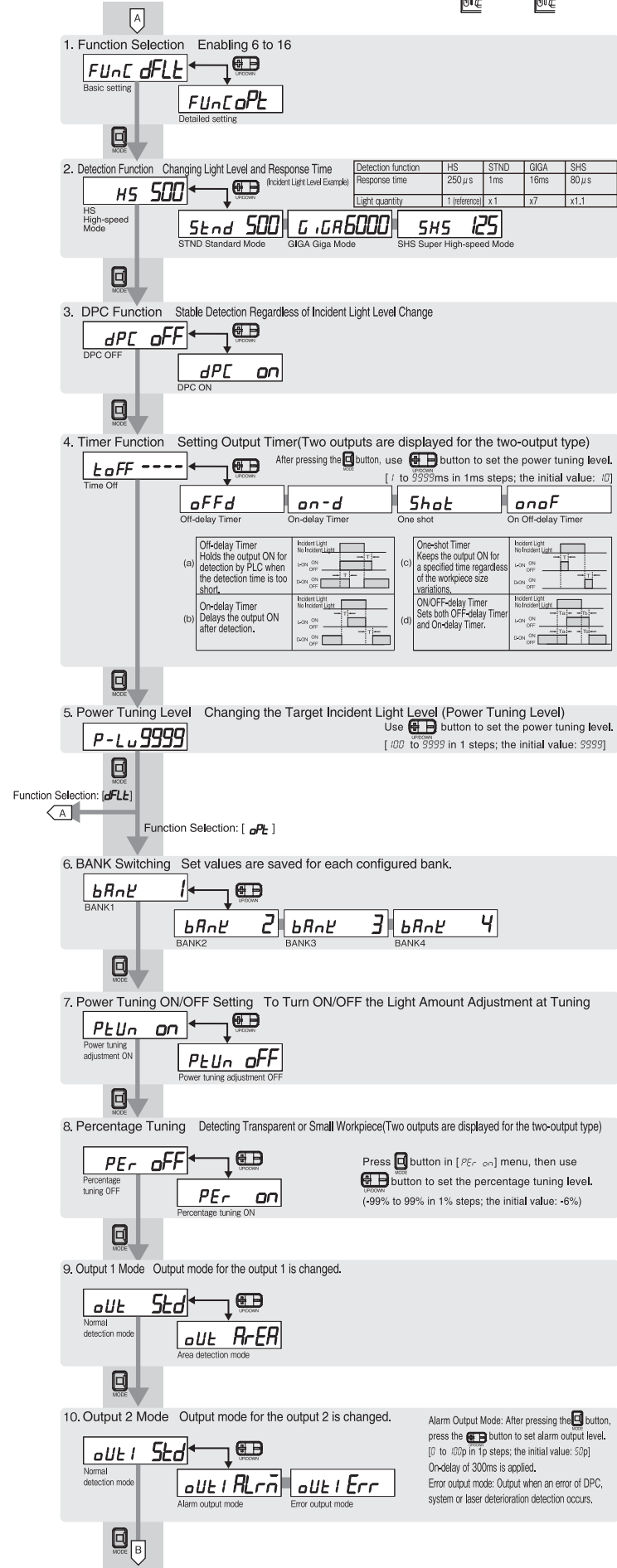
Model	NPN output PNP output	E3NC-LA21 E3NC-LA51	E3NC-LA7 E3NC-LA9
Control output	2	1	1
External input *1	1	1	1
Connection method	Pre-wired type	Wire-saving connector type	
Power supply voltage	10 to 30 VDC, including ripple (p-p) 10%		
Power consumption*2	Power supply voltage 24V: Normal mode: 1560mW max.(Power consumption 65mA max.) Power saving ECO: 1200mW max.(Power consumption 50mA max.) Load voltage: 30 VDC max., open collector output type Load voltage: 100 mA max, using single unit, 20 mA max, when four or more units connected (Residual voltage and load current less than 10 mA: 1 V max.) Load current 10 to 100 mA: 2 V max. Off state current		
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	0 Note: The communication and mutual interference prevention functions are disabled if the SHS mode is selected for detection function. High-speed mode (HS) 2 Standard mode (STND) 2 Sip mode (SIP) 4		
Number of banks	4		
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/s ² , 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	
Materials	Case and cover: Polycarbonate (PC), Cable: PVC		
*1. Details on inputs are as follows:			
	Contact input (Relay or switch) ON: Short circuit to 0V (Outflow current: 1 mA max.) OFF: Open or short circuit to Vcc	Non-contact input (Transistor) ON: 1.5 V max. (Outflow current: 1 mA max.) OFF: Vcc-1.5 V to Vcc (Leakage current: 0.1 mA max.) ON: Vcc-1.5 V to Vcc (Sink current: 3 mA max.) OFF: 1.5 V max. (Leakage current: 0.1 mA max.)	Input time ON: 2 ms min. OFF: 20 ms min.
*2. Power consumption			
	E3NC-LA21 E3NC-LA51	E3NC-LA7 E3NC-LA9	
	Normal mode: 1650mW max.(Power supply voltage 30V: Power consumption 55mA max.) Power supply voltage 10V: Power consumption 115mA max.) Power saving ECO: 1350mW max.(Power supply voltage 30V: Power consumption 45mA max.) Power supply voltage 10V: Power consumption 80mA max.)		

*3. 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.



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. Please refer to separate catalogs for OMRON's safety rated products.

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. See also Product catalog for Warranty and Limitation of Liability.

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