



### 安全上的要点

以下项目在安全确保方面非常重要，请务必遵守。

- 1) 请勿在易燃、易爆气体的环境下使用。
- 2) 请勿在水中使用。
- 3) 请勿擅自拆卸、修理、改造本产品。
- 4) 使用时，请勿超出额定电压、电流范围。
- 5) 请注意工作电源的极性，勿接错线。
- 6) 请正确连接负载。
- 7) 请勿让负载短路。

### 使用上的注意

- 1) 光纤为聚甲基丙烯酸甲酯，所以请勿在有有机溶剂等环境下使用。
- 2) 传感器导线和动力线或电力线装在同一配管中使用，会受到干扰，有误动作甚至被破坏。原则上传感器导线必须单独放置或者被屏蔽。
- 3) 延长导线必须使用截面积0.3mm<sup>2</sup>以上、长度100m以下的导线。韩国S-mark认证机种作为认证品使用时，请使用10m以下的导线。
- 4) 加在导线上的力请按下記值。  
拉伸80N以下、扭矩0.1N·m以下、押压20N以下、弯曲3kg以下
- 5) 接通电源时的动作  
E3X-DA将在接通电源后200ms以内处于可检测状态。所以如果负载和产品连接在不同的电源上，必须先接通传感器的电源。
- 6) 导线引出型产品连结使用时，请同时投入电源。  
连结的传感器之间、电源投入的时间差在30ms以上的时候，相互干涉防止功能将无法正常工作。另外，也会出现不能使用遥控器的情况。
- 7) EEPROM刻录错误  
由于感度设定 (teaching) 时的电源遮断、静电等干扰导致刻录错误 (动作表示灯 (橙)：闪烁) 发生时，请用本体的设定键再次进行感度设定 (teaching)。
- 8) 必须安装保护罩后，产品才能使用。

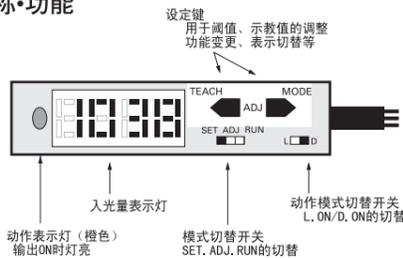
### ■额定值/性能 放大器单元

连接方式		导线型						连接器型(*)				M8连接器			
形式 (E3X-)	NPN	DA11-N	DA21-N	DA11V	DA811-N	DAG11-N	DAH11-N	DA6	DA7	DA86	DAG6	DAH6	DA14V		
	PNP	DA41-N	DA51-N	DA41V	DA841-N	DAG41-N	DAH41-N	DA8	DA9	DA88	DAG8	DAH8	DA44V		
自诊断输出		无	有	无	无	无	无	有	无	无	无	无	无		
1~5V (输出阻抗47Ω, 容许负荷电阻10kΩ以上)															
投光灯		红色LED	蓝色LED	绿色LED	红外LED	红色LED	蓝色LED	绿色LED	红外LED	红色LED	蓝色LED	红色LED	红色LED		
电源电压		DC12~24V ±10% 波动10%以下													
消费功率 (**)		通常时	消费功率		960mW (电源电压24V时)	消费电流		40mA	环保模式时	消费功率		720mW (电源电压24V时)	消费电流		30mA
		数字显示灯灭时	消费功率		600mW (电源电压24V时)	消费电流		25mA							
控制输出		集电极开路 (DC26.4V以下)													
		负载电流: 50mA以下、残留电压: 1V以下、漏电流10μA以下													
定时功能		0~200ms (1~20ms: 1ms单位、20~200ms: 5ms单位)													

(\*) 适用连接器 E3X-DA□6/DA□8用: E3X-CN11 (母接插件 3芯)、E3X-CN12 (子接插件1芯 仅控制输出) 无论哪个接插件都可使用。  
E3X-DA□7/DA□9用: E3X-CN21 (母接插件 4芯)、E3X-CN22 (子接插件2芯 仅控制输出和自诊断输出) 无论哪个接插件都可使用

(\*\*) 环保模式时、数字显示灯灭时，仅另卖的手持式控制器E3X-MC11可以设定。

### ■各部的名称·功能



### ■操作程序

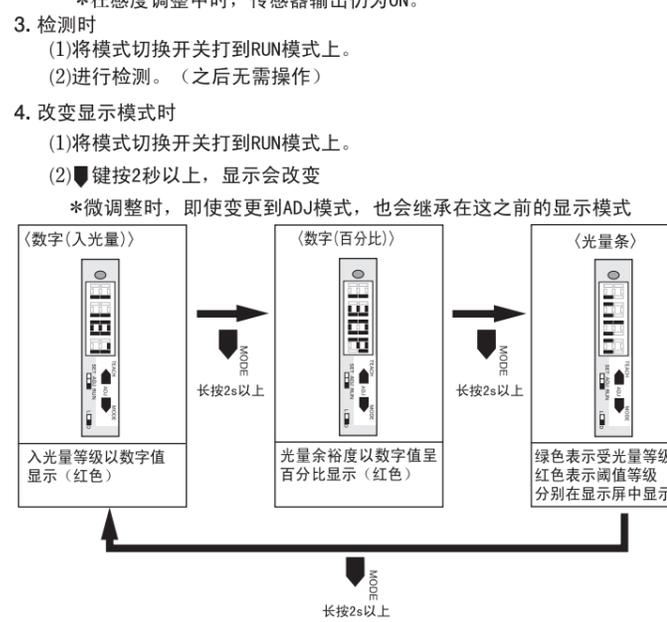
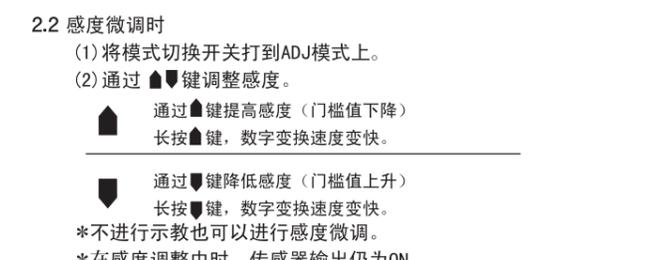
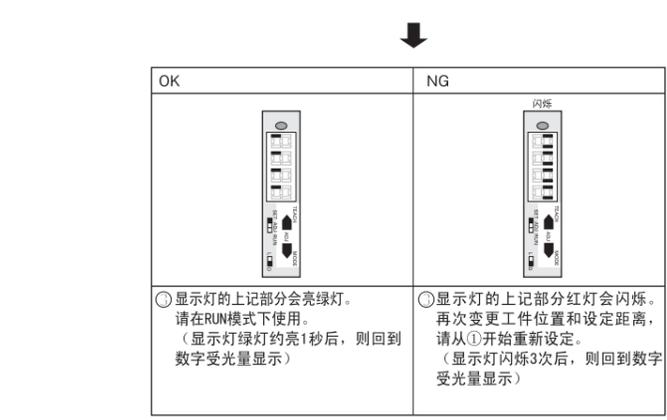
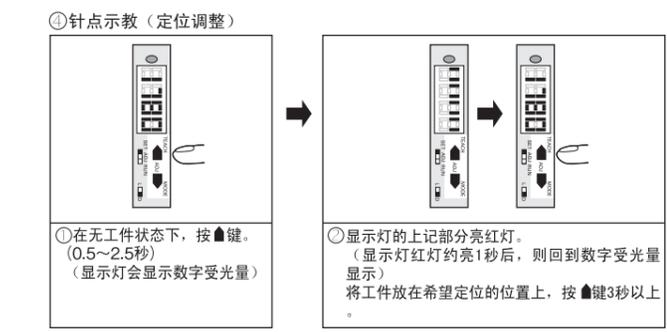
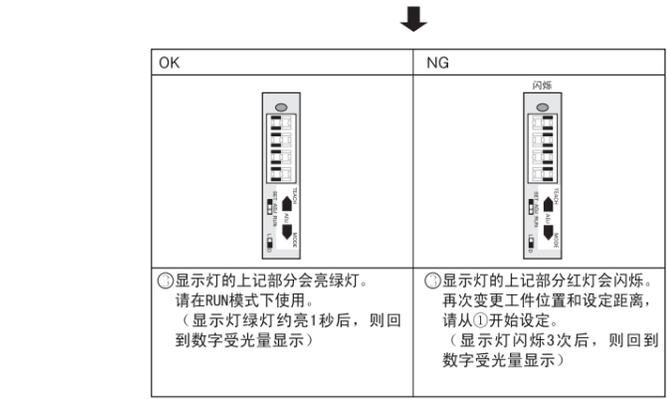
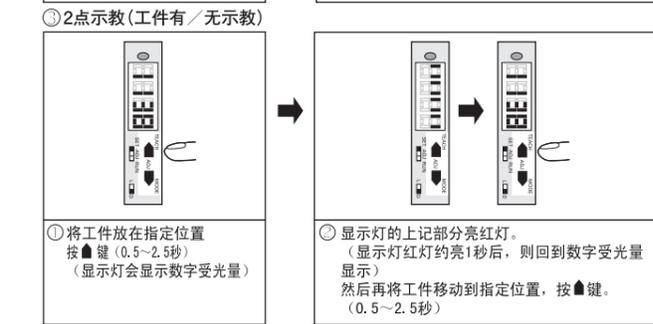
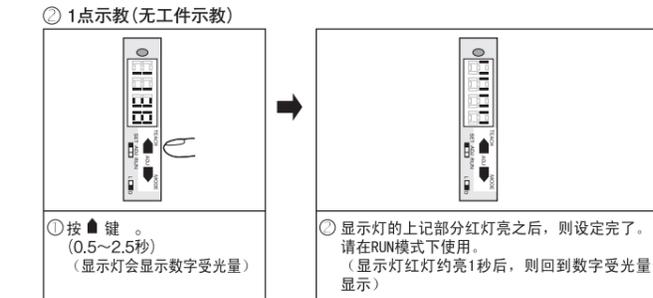
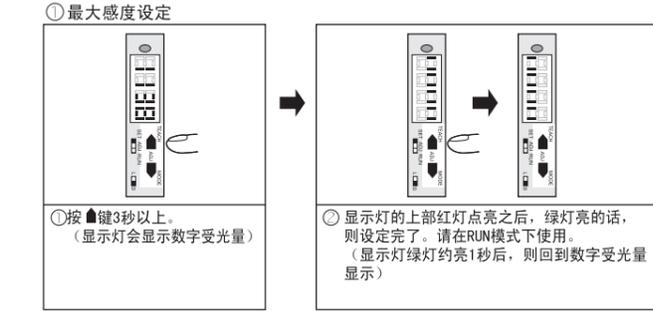
#### 1. 基本操作...各设定模式 (SET/ADJ/RUN) 的设定内容

模式	设定内容&操作	表示
SET模式 SET ADJ RUN	1. 示教 (自动感度调整) ①最大感度设定 ①点示教 (无工件示教) ②点示教 (工件/无示教) ③点示教 (定位调整) 按TEACH键操作 2. 各种功能设定 按MODE键选择功能 按TEACH键设定内容 详情请参考6项「各种功能设定」。	数字值表示受光量 
ADJ模式 SET ADJ RUN	1. 感度微调 按TEACH键提高感度 (降低门限值) 按MODE键降低感度 (提高门限值) 详情请参考2.2项「感度微调时」关于显示, 请参考4项「切换显示方法时」。	数字值显示门限值、百分比 (余裕度), 光量条显示受光量&门限值 (门限值) (百分比) (光量条) 
RUN模式 SET ADJ RUN	1. 检测 *无需键操作。 2. 显示方法切换 ①数字显示 ②百分比显示 ③光量条显示 按MODE键切换。 3. 归零功能 按TEACH键将表示设定到「0」。 详情请参考5项「归零设置时」	数字值显示受光量、百分比 (余裕度), 光量条显示受光量&门限值 (入光量) (百分比) (光量条) 

#### 2. 感度调整时

##### 2.1 TEACHING (自动感度设定)

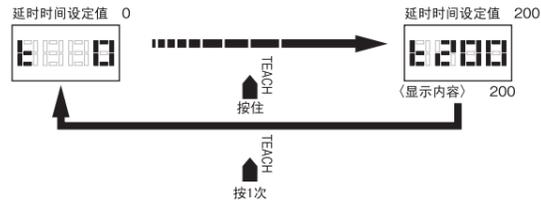
(1) 将模式切换开关打到SET模式上。



6.3 使用OFF延迟时间  
使用OFF延迟时间时，要设定延时时间。  
进行延时设定时，按 **TEACH** 键，即可进行以下设定。  
(OFF延迟时间的初始设定状态为OFF。)

延时时间设定	设定间隔
0 ~ 20 ms	每1 ms
20 ~ 200 ms	每5 ms

本机能设定时，等级表示灯的最前端显示「t」(Timer)，延时时间在等级表示灯上以数值显示出来。  
一旦设定后，以后便在设定好了的OFF延迟状态下动作。



6.4 进行光轴调整时，增亮投光点。

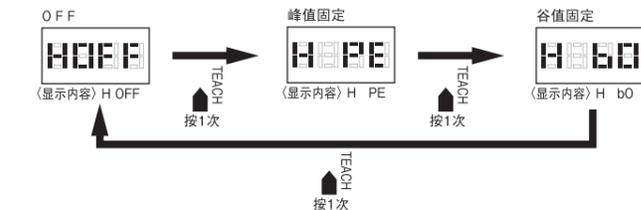
Flashing仅在SET模式时运行，在以下场合启动，10分钟后flashing自动停止。(即使自动停止了，如再处于下面的状态，flashing会再次启动的。)

- 本设定在「flashing ON」设定后
  - 设定为「flashing ON」的状态下，切换到其他模式，再切换成SET模式时初始设置为「flashing OFF」。按 **TEACH** 键，即可设定「flashing ON」。
  - OFF……SET模式时无flashing
  - ON……SET模式时有flashing
- 本机能设定时，等级表示灯的最开头显示「L」(flashing)。  
一旦设定后，以后便在设定好了的状态下动作。



6.5 将电子数值表示变更为固定表示时

将电子数值表示 (SET模式时: 入光量、ADJ模式时: 百分比、RUN模式时: 入光量、百分比) 设定为在一定期间内固定表示，从而可简单读取表示值。  
初始设定为「OFF」。按 **TEACH** 键，即可设定为「峰值固定」或「谷值固定」。  
•OFF……通常表示  
•峰值固定…每2秒表示值会更新，此间的最大值会闪烁显示。  
•谷值固定…每2秒表示值会更新，此间的最小值会闪烁显示。  
本机能设定时，等级表示灯的最开头显示「H」(Holding)  
一旦设定后，以后便在设定好了的状态下动作。



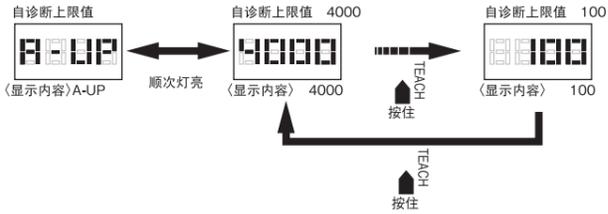
6.6 将数字值的显示方向反向时

初始设定为标准。按 **TEACH** 键即可设定「反转」。  
•标准……通常表示方向  
•反转……显示方向反向  
本机能设定时，等级表示灯的最开头显示「d」(display)。  
设定显示方向时，一旦设定过，以后即在设定好了的状态下动作。

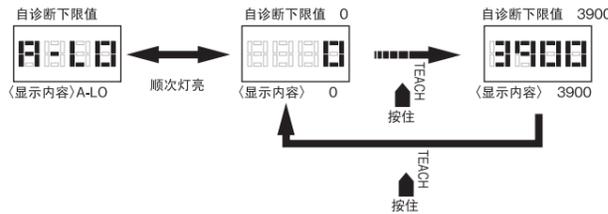


6.7 锁定自诊断输出范围时 (仅限带有自诊断输出的机种)  
可以将自诊断输出的1~5V变更成任意2点间的输出。可以锁定控制所需要的范围从而高精度输出。

(1)决定设定范围的上限。入光量超过该值时，自诊断输出为5V。  
本机能设定时，等级表示灯上交互显示「A-UP」(Analog Upper)和设定值(数字值)，按 **TEACH** 键即可设定。设定范围为100~4000，可以以100为单位进行设定。(初始设定为4000。)



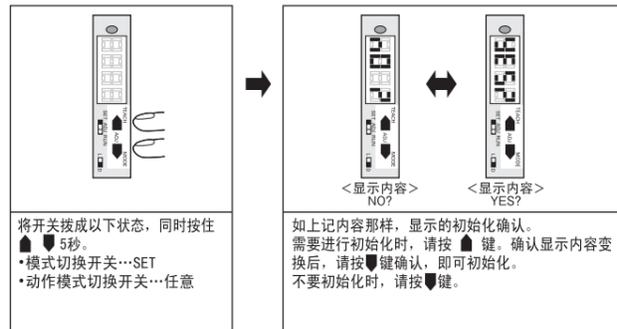
(2)决定设定范围的下限。入光量在该值以下时，自诊断输出为1V。  
本机能设定时，等级表示灯上交互显示「A-L0」(Analog Lower)和设定值(数字值)，按 **TEACH** 键即可设定。设定范围为0~3900，可以以100为单位进行设定。(初始设定为0。)  
另外，下限值的设定不能超过上限值。



(3)一旦设定后，以后即在设定好了的状态下动作。

6.8 将各种设定还原为购买时的状态

通过特定开关设定、键设定，即可将各种机能设定还原成初始化(购买时的状态)。



## 正确的使用方法

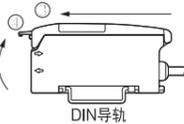
(1)放大器单元的安装

•使用DIN导轨时

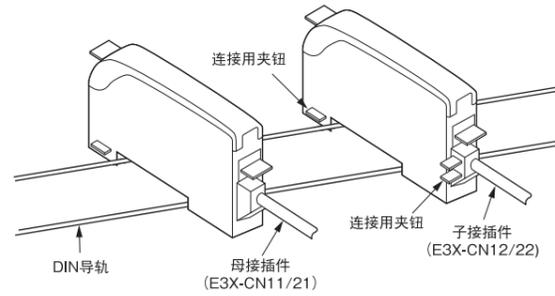
- 安装
- ①将前部嵌入安装配件(另售)或DIN导轨上
  - ②将后部押入安装配件或DIN导轨上。
- (注)①②的顺序不能相反，如果逆向安装，会降低安装强度。



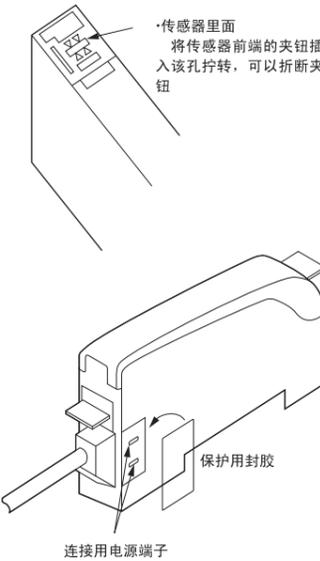
- 拆卸
- 将放大器单元向③的方向押入，并把光纤插入部向④的方向抬起，即可简单拆卸。



- 连接连接器型时
  - ①空出间隔，一台一台逐次安装在DIN导轨上。
  - ②滑动放大器，将前端的夹钮和连接头部的夹钮合并，直到听到“咔”的声音。
  - ③因振动等原因连接部分离的场合，请用另卖的end plate (形PFP-M) 进行结实的固定。这时，传感器前端的夹钮会顶到end plate，所以请将夹钮折断后再使用。(参考第2项)
- 拆卸时请按相反顺序拆卸。一旦没有让其滑动就拆取的话，传感器会被损。另外，最多连接16台使用。



- (2)连接器型的夹钮
- 连接器型的前端附带连接用的夹钮。不需要时请用钳子或利用传感器本体里面的孔将其折断后再使用。



(3)连接器部的短路保护

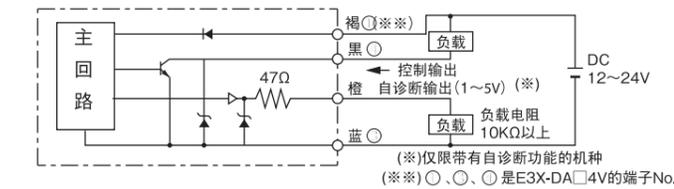
- 将传感器作为单体使用时，以及连接起来使用的时候，最外侧的传感器，连接器部的连接用电源端子会导致感电、短路，为了防止该现象发生，请将连接器(E3X-CN系列)附属品保护用密封胶贴在端子上再使用。

(4)电源投入后的放大器的增设及拆取

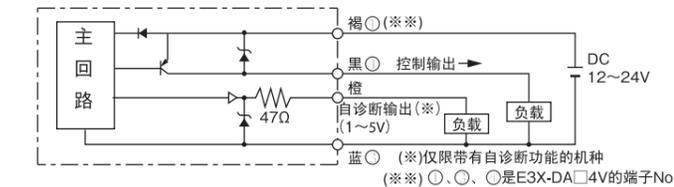
- 本放大器在电源接通时，相邻的放大器之间会通过光通信进行频道识别。
- 必须切断电源后再进行放大器的增设/拆取、拉开放大器间距。
- 电源接通时就拆取的话，放大器上会显示「SERR」、变得不动作。此时，请重新接通电源解除「SERR」。
- 在电源接通时就增设放大器的话，在没有进行频道识别的情况下，增设的放大器就被设定为「1ch」。此时，不进行光通信，手持式控制器E3X-MC11的操作、相互干扰防止机能也不启动。请再次接通电源，进行增设放大器的频道识别。

## 输出回路图

•NPN型

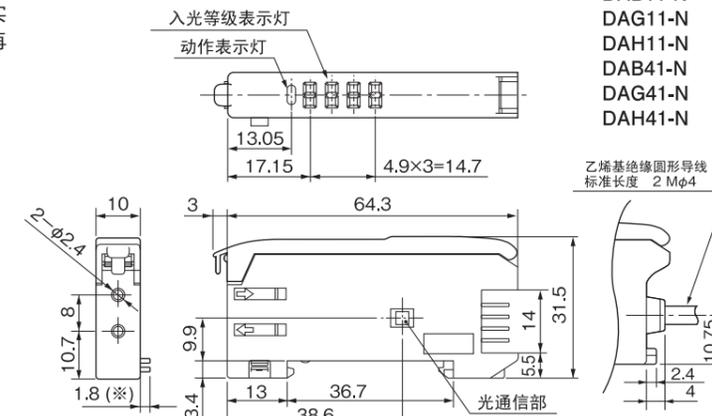


•PNP型

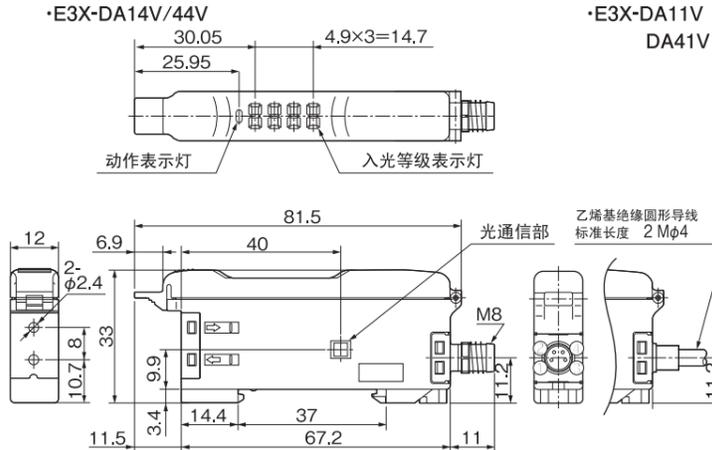


## 外形尺寸图

•E3X-DA6/7/8/9, DAB6/8, DAG6/8, DAH6/8



•E3X-DA14V/44V



## 使用时的承诺事项

- ①为了确保安全，直接或间接用于人体检测时，请勿使用本产品。需使用该用途时，请选用本公司传感器综合样本中刊登的安全传感器。
  - ②使用于下列用途时，与本公司营业担当者商谈之后，根据规格书等确认的同时，对额定值性能方面请想出有富裕度的使用方法及采取即使万一出现故障也能使危险降低到最小的安全回路等的安全对策。
    - a)屋外的用途、潜在化学污染或者受到电气的妨害的用途或者在商品目录、使用说明书中没有记载的条件及环境下使用。
    - b)原子力控制设备、焚烧设备、铁道·航空·车辆设备、医用设备、娱乐机械、安全装置及行政机关及根据个别业界的规定制造的设备。
    - c)可能危及生命、财产的系统·机械·装置
    - d)煤气、水道、电气的供给系统记24小时连续运转系统等需要高信赖的设备。
    - e)其他，以上述的 a) ~ d) 为基准，需要高度安全性的用途。
- \*上述内容是适用条件的一部分。仔细阅读本公司的综合商品目录、数据表等最新版商品目录、手册中记载的保证免责事项的内容后再使用。

## 制造商

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## 技术咨询

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电话: (86) 21-5037-2222  
技术咨询热线: 800-820-4535  
网址: <http://www.fa.omron.com.cn>

OMRON Corporation

**OMRON**  
**Model E3X-DA-N SERIES**  
**OPICAL FIBER PHOTOELECTRIC SENSOR**  
**(DIGITAL LEVEL INDICATION)**  
**INSTRUCTION SHEET**

Thank you for selecting OMRON product. This sheet primarily describes precautions required in installing and operating the product.

Before operating the product, read the sheet thoroughly to acquire sufficient knowledge of the product. For your convenience, keep the sheet at your disposal.

TRACEABILITY INFORMATION:  
 Representative in EU: Omlon Europe B.V., Wegalaan 67-69, 2132 JD Hoofddorp, The Netherlands  
 Manufacturer: Omlon Corporation, Shiokoji Horikawa, Shimogyo-ku, Kyoto 600-8530 JAPAN, Shanghai Factory, No.789 Jinji Road, Jinqiao Export Processing District, Pudong New Area, Shanghai, 201206 CHINA

The following notice applies only to products that carry the CE mark:  
 Notice: This is a class A product. In residential areas it may cause radio interference, in which case the user may be required to take adequate measures to reduce interference.  
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**PRECAUTIONS FOR SAFE USE**

- 1) Do not use the sensor in explosive or ignition gas.
- 2) Do not use the sensor in the water.
- 3) Never disassemble, repair nor tamper with the sensor.
- 4) Do not apply excess voltage and current over rating.
- 5) Do not wire improperly such as reversing polarity.
- 6) Connect the load correctly.
- 7) Do not short-circuit the load.

**PRECAUTIONS FOR CORRECT USE**

- 1) The E32-TC and E32-DC optical fibers consist of methacrylate resin. Do not use them near organic solvents and other adverse materials.
- 2) There are some cases where the photoelectric switch cable is unavoidably wired in a tube or duct together with a noisy or power line. This causes an induction, possibly resulting in malfunction or damage. In principal, the cable should be wired separately or shielded.
- 3) For extending wires, use a cable 0.3mm<sup>2</sup> min., and 100m max. in length. When using the cable as a Korea's S-mark certified product, use the cable of less than 10m in length.
- 4) Do not exceed the following force values applied to the cable. Tensile 80 N max., torque : 0.1 N·m max., pressure : 20 N max., flexure : 3 kg max.
- 5) Operation after the power is turned on.  
 The E3X-DA will begin sensing no later than 200ms after the power is turned on. If the load and the E3X-DA connect to different power supply, the E3X-DA must be always turned on first.
- 6) Please turn on the power supply at the same time when you connecting use the amplifier units with cables.  
 Mutual interference prevention might not operate normally or mobile console might not be able to be used when the difference between connected amplifiers at the power supply turning on time is 30ms or more.
- 7) EEPROM write errors  
 If a write error (output indicator : flashing) occurs during teaching due to a power failure or noise from static electricity, execute the teaching again using the button on the main unit.
- 8) When using the sensor, protective cover must be put on the sensor.

**RATINGS/PERFORMANCE AMPLIFIER UNIT**

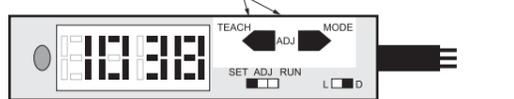
Connecting type	Prewire type						Connector type (*)					M8 connector	
Type (E3X-)	NPN	DA11-N	DA21-N	DA11V	DAB11-N	DAG11-N	DAH11-N	DA6	DA7	DAB6	DAG6	DAH6	DA14V
	PNP	DA41-N	DA51-N	DA41V	DAB41-N	DAG41-N	DAH41-N	DA8	DA9	DAB8	DAG8	DAH8	DA44V
Monitor output	None	Have	None	None	None	None	None	Have	None	None	None	None	None
	1 to 5V (Output impedance 47Ω, Load resistance more than 10kΩ.)												
Light source	Red LED	Blue LED	Green LED	Infrared LED	Red LED	Blue LED	Green LED	Infrared LED	Red LED				
Supply voltage	12 to 24V DC ±10% ripple 10% max.												
Power consumption (**)	Normal position : Power consumption 960mW (Supply voltage 24V Current consumption 40mA) Ecological mode : Power consumption 720mW (Supply voltage 24V Current consumption 30mA) Digital display OFF : Power consumption 600mW (Supply voltage 24V Current consumption 25mA)												
Control output	Open collector 26.4V DC max., 50mA max. Residual Voltage : 1V DC max., Off-state current : 10μA max.												
Timer function	0~200ms												

(\*) Applied connector  
 For E3X-DA□6/DA□8: Both E3X-CN11(Main connector 3 cores) and E3X-CN12 (Extension connector 1core) are available.  
 For E3X-DA□7/DA□9: Both E3X-CN21(Main connector 4 cores) and E3X-CN22 (Extension connector 2 cores) are available.

(\*\*) The Ecological mode and the Digital display OFF mode can be set from extra mobile console "E3X-MC11" only.

**NOMENCLATURE**

- SET Key  
 • Used for adjustment of the threshold level  
 • Used for teaching, etc.



Operation Indicator (orange)  
 • Lit during output operation

Mode Selector  
 SET, ADJ, RUN

Operation Mode Selector  
 L, ON/D, ON

**OPERATION PROCEDURE**

**1. Standard procedures...setting each mode (SET/ADJ/RUN)**

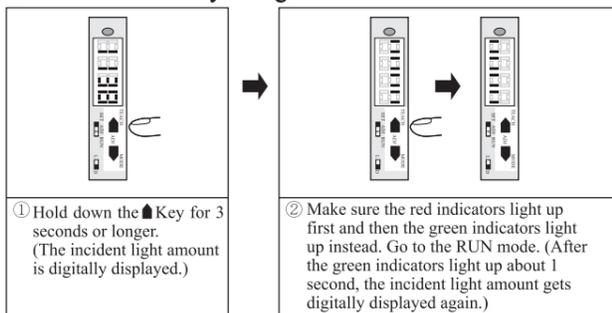
switch	Setting & operation	Display
SET mode	1. Teaching the automatic sensitivity level. ① Maximum sensitivity setting ② One-point (without work) teaching ③ Two-point (with/without work) teaching ④ Pin-point (to settle Position) teaching Press the TEACH key Press the MODE key to select function Press the TEACH key to set up procedures Refer to subsection 6 「Setting procedures」.	Digital display shows incident light amount
ADJ mode	1. Sensitivity adjustment By pressing TEACH key, the sensitivity level gets higher. (the threshold level gets lower.) By pressing MODE key, the sensitivity level gets lower. (the threshold level gets higher.) Refer to subsection 2.2 「Adjustment the sensitivity level」. Refer to subsection 4 「Switching the display type」 as to the display.	Digital display shows threshold level and percentage allowance. Analog display shows light amount and threshold level.
RUN mode	1. Detection *It's possible to do without any key. 2. Switching the display type ① Digitally displayed ② Digitally displayed in percentage ③ Analog display in bars Pressing Mode key to switch. Refer to subsection 4 「Switching the display type」 3. Zero reset Pressing TEACH key to reset display. Refer to subsection 5 「Resetting display」	Digital display shows light amount and percentage allowance. Analog display shows light amount and threshold level.

**2. Sensitivity Setting**

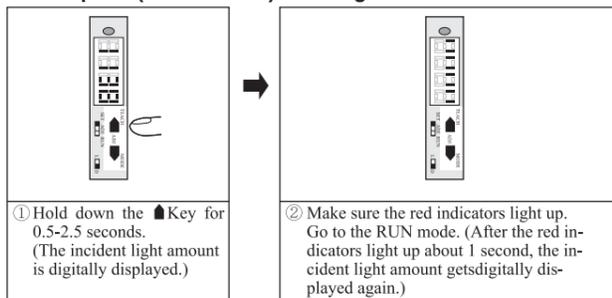
**2. 1 Teaching the automatic sensitivity level.**

(1)Set the mode selector to the SET position.

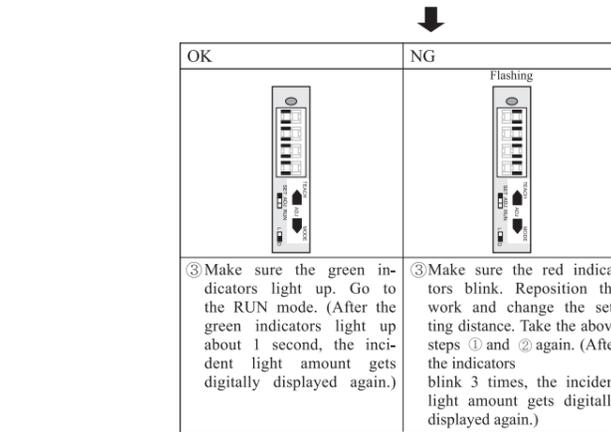
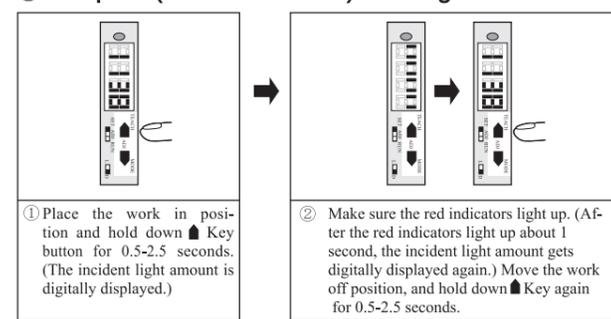
**① Maximum sensitivity setting**



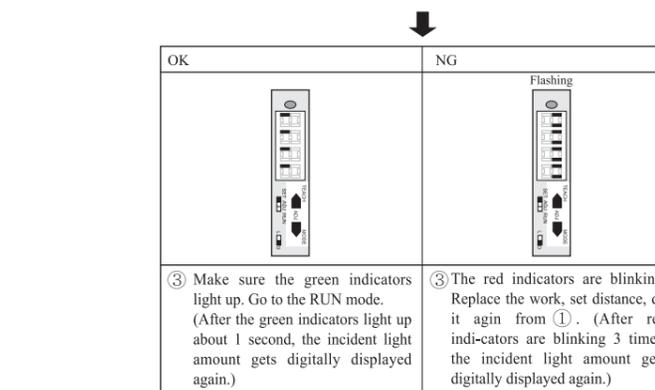
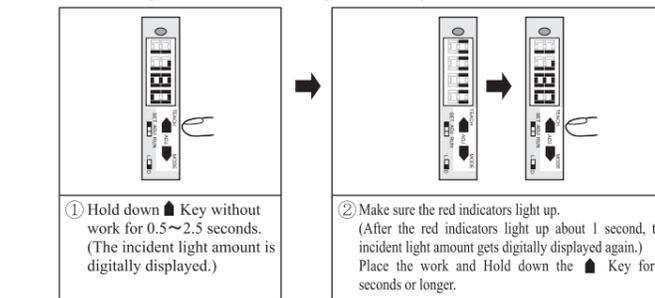
**② One-point (without work) teaching**



**③ Two-point (with/without work) teaching**



**④ Pin-point (to settle Position) teaching**



**2. 2 Adjustment the sensitivity level (manual adjustment).**

- (1)Set the mode selector to the ADJ position.
- (2)Press the key to adjust the sensitivity level.

By pressing TEACH key, the sensitivity level gets higher. (the threshold level gets lower.)  
 Hold down the key to change the number faster.

By pressing MODE key, the sensitivity level gets lower. (the threshold level gets higher.)  
 Hold down the key to change the number faster.

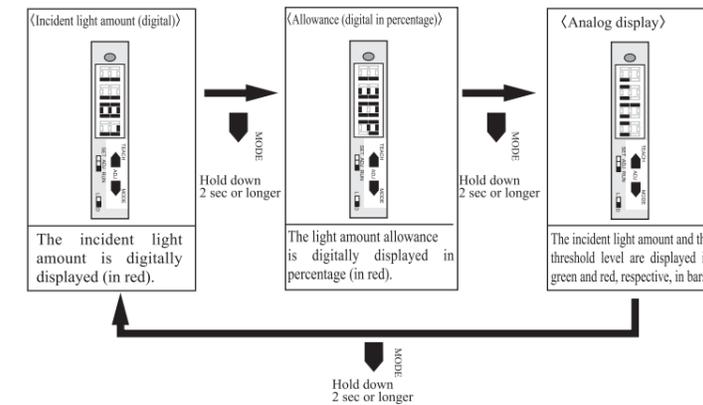
\*It's possible to adjust the sensitivity without teaching.  
 \*During adjustment the sensitivity, sensor is working.

**3. To make detection**

- (1)Set the mode selector to the RUN position.
- (2)Make detection. (No more procedures)

**4. Switching display**

- (1)Set the mode selector to the RUN position.
- (2)To switch display, hold down the key for 2 seconds or longer.



**5. Zero reset (Switch display to「0」in a flash.)**

- (1)Set the mode selector to the RUN position. (Make sure it's the digital light amount.)
- (2)To show 「0」 on the display, hold down the key for 1 second or longer.  
 \*Each time do this, 「0」 is on the display.  
 \*The threshold level will shift same time.
- (3)Hold down the key and the key same time for 1 second or longer to cancel the zero reset. (Return to it's former state.)

**6. Setting functions**

These functions are helpful for the cases below.

- Detecting a long distance or detecting more quickly (changing the detection function): Detection function setting
- Using the off-delay timer: Timer setting
- Upgrading the spot recognition in adjusting the optical axis: Flashing setting
- Keeping the digital data displayed: Display hold setting
- Changing the digital display direction: Display direction setting
- Changing output range of the monitor: Set output range of the monitor. (only for type having monitor output)

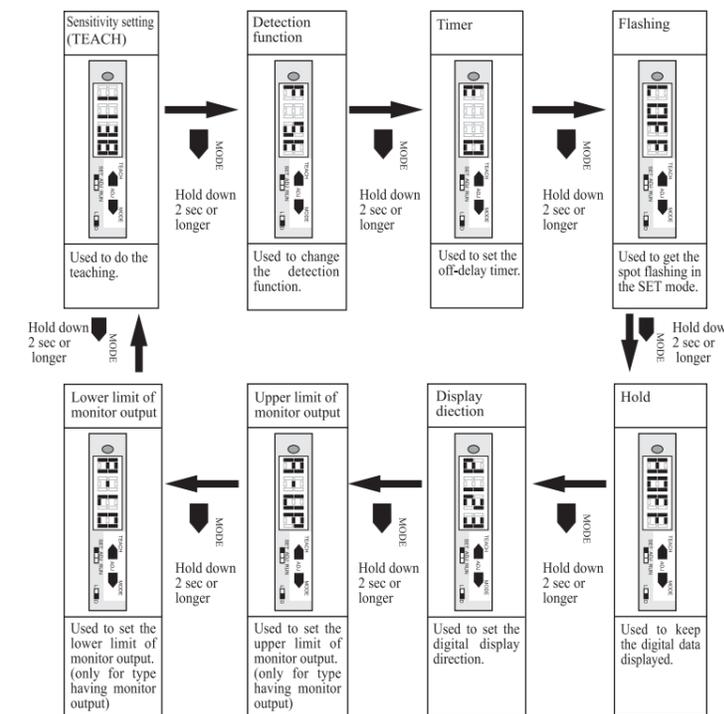
**Setting standard procedures**

(The following settings can be made.)

- ① Detection function [STANDARD/LONG DISTANCE/HIGH SPEED]
- ② Timer [0-200ms (0~20ms : every 1ms 20~200ms : every 5ms)]
- ③ Flashing [ON/OFF]
- ④ Hold [OFF/PEAK/BOTTOM]
- ⑤ Display direction [STANDARD/REVERSE]
- ⑥ The upper limit of Monitor output [100~4000 (every 100)]
- ⑦ The lower limit of Monitor output [0~3900 (every 100)]

**6. 1 Selecting functions**

- (1)Set the mode selector to the SET position.
- (2)Hold down the key for 2 seconds or longer to select a desired function.



(3)Press the key to set the mode.

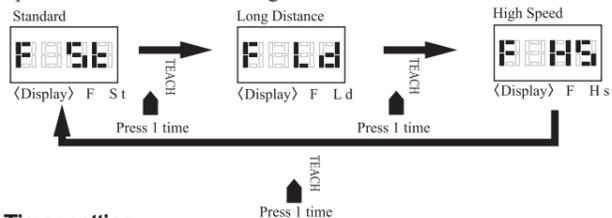
**6. 2 To make detection in the setting of High Speed or Long Distance.**  
The "Standard" measurement is default setting. Just press **▲** Key to change the setting to High Speed or Long Distance.

•**Standard** : Standard measurement with response speed of 1 ms.

•**Long Distance** : Long-distance measurement with response speed of 4 ms. Detection distance about 1.3 times of the standard distance (diffuse fiber in use).

•**High Speed**: High-speed measurement with response speed of 0.25 ms. Detection distance about one-third of the standard distance (diffuse fiber in use).

When setting this function, "F" (Function) is displayed at the top of the level display. Once the detection function is set, it stays in the same status even after the power is turned off and on again.

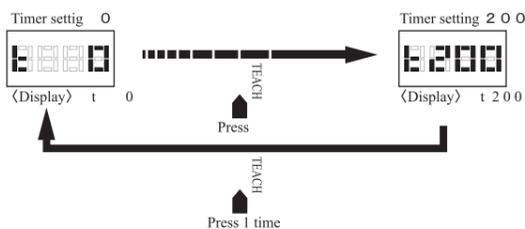


**6. 3 Timer setting**

Set the off-delay timer by **▲** Key. The timer is preset in the range of 0-200 ms as follows. (The timer off is default setting.)

The range of timer setting	Increment
0~20ms	1ms
20~200ms	5ms

When setting this function, "t" (Timer) appears at the top of the level display. The timer setting is digitally shown in the level display. Once off-delay timer is set, it stays in the same status even after the power is turned off and on again.



**6. 4 Get the light spot brightly in adjusting the optical axis.**

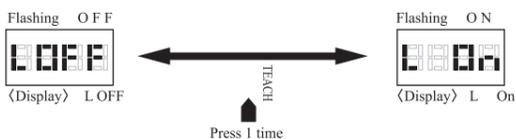
This function is available in the SET mode only. In the following cases, flashing starts and stops itself 10 minutes later. (If any of the following cases occurs again even after an automatic stop, flashing restarts.)

- When "FLASHING ON" is preset.
- When the SET mode is changed to any other mode in the "FLASHING ON" state and SET mode is set again.

"FLASHING OFF" is default setting. Press the **▲** Key to turn on the flashing.

- OFF: No flashing in the SET mode
- ON: Flashing in the SET mode

When setting this function, "L" (flashing) appears at the top of the level display. Once the flashing is set, it stays in the same status even after the power is turned off and on again.

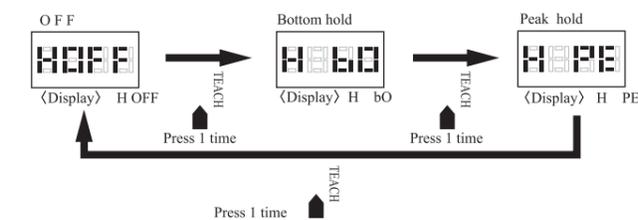


**6. 5 To keep the digital data displayed.**

The digital display (incident light amount in the SET mode, allowance in percentage in the ADJ mode, or incident light amount and allowance in percentage in the RUN mode) is held for a certain period of time for easy data reading. "OFF" is default setting. Press **▲** Key to set the peak hold or bottom hold.

- OFF: Usual display
- Peak hold: Displayed data gets updated every 2 seconds. The maximum value for the 2 seconds is displayed by flashing.
- Bottom hold: Displayed data gets updated every 2 seconds. The minimum value for the 2 seconds is displayed by flashing.

When setting this function, "H" (Holding) appears at the top of the level display. Once this function is set, it stays in the same status even after the power is turned off and on again.

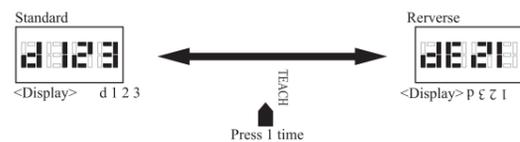


**6. 6 To set the digital display other direction.**

"STANDARD" is default setting. Press **▲** Key to make the reverse setting.

- Standard: Normal display direction
- Reverse: Reverse display direction

When setting this function, "d" (display) appears at the top of the level display. Once this function is set, it stays in the same status even after the power is turned off and on again.

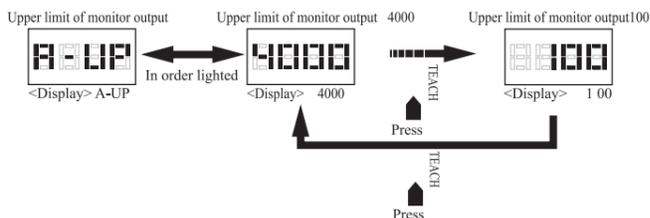


**6. 7 Focusing output range of the monitor.**

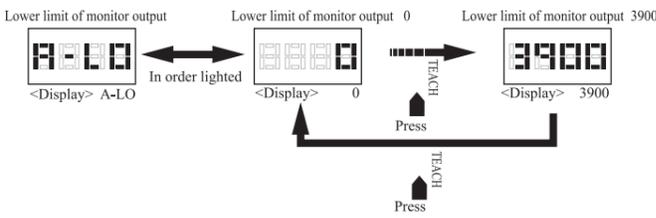
(only for type having monitor output)

Monitor output (1~5V) can set any two points and narrow range to control and improve the precision of it.

(1) Set the upper limit. If the light amount is more than this, monitor output will be 5V. Setting this function, 「A-UP」 (Analog UPPER) and established amount is digitally displayed by turns. Pressing **▲** key to set this. The range is from 100 to 4000, it can be set every 100. (4000 is default setting.)



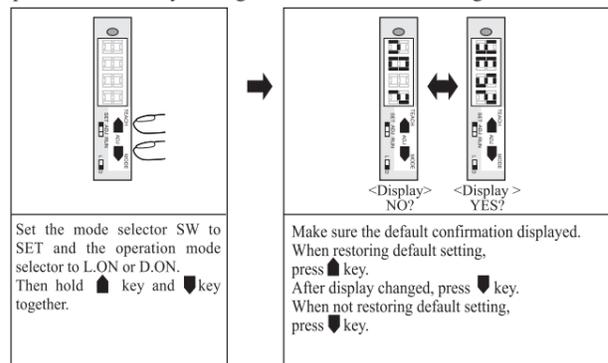
(2) Set the lower limit. If the light amount is less than this, monitor output will be 1V. Setting this function, 「A-LO」 (Analog LOWER) and established amount is digitally displayed by turns. Pressing key to set this. The range is from 0 to 3900, it can be set every 100. (0 is default setting.) The lower limit can not be set more than the upper limit.



(3) Once this function is set, it stays in the same status even after the power is turned off and on again.

**6. 8 Restore default setting**

Special SW and key setting can restore default setting.

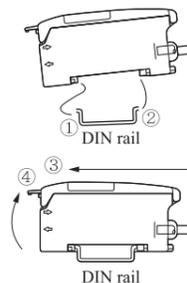


**■Precautions for use**

(1) Mounting of the amplifier unit

•Using the DIN rail

- Mounting
- ① Engage the front slot of the amplifier on to the DIN rail.
  - ② Push the back slot on to the DIN rail. Note: Engage the front slot ① first, otherwise it may cause deterioration of mechanical strength.



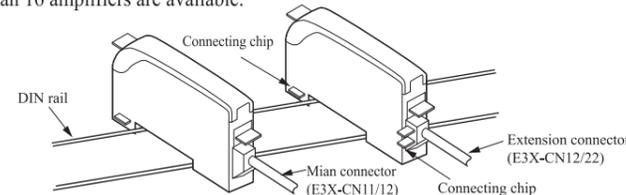
Removing

- Push forward ③ and raise the front slot ④.

•Connecting connector type amplifier

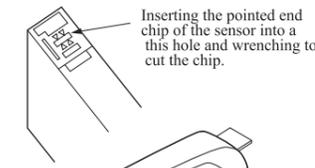
- ① Mounting each amplifier (leave a space), using the DIN rail.
- ② Slide the amplifier unit to set the chip on the pointed end and the chip on the connector. Make sure to get adhere them until the sound of click is heard.
- ③ If it can't get adhere by vibrations, use extra End plate (Type PFP-M) to do. Make sure to cut the chip of the pointed end of the amplifier. See section (2)

To remove it, follow the procedure backward. Do not remove without sliding amplifier, or it damages the amplifier. Less than 16 amplifiers are available.

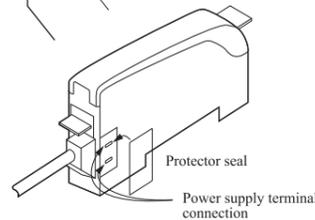


(2) Chip of the connector type

There is a chip on the pointed end of the connector type to connect amplifier. If it's unnecessary, wrench the chip by nippers or the hole on the back of the amplifier.



(3) To protect from electric shock by Power supply terminal connection or short-circuit, put the protector seal (accessory of the E3X-CN series) on the terminal of the outermost amplifier or single use amplifier.

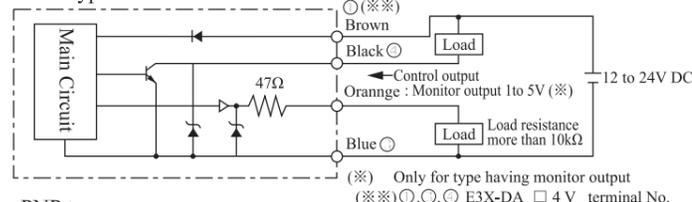


(4) Disconnecting or additionally installing an amplifier while the power is turned on:

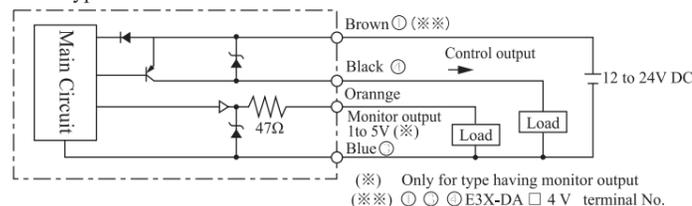
- This amplifier sets the channel of itself via. optical communication between the next located amplifiers each other at the time the power is turned on.
- Disconnecting or additionally installing an amplifier and separation of distance between amplifiers should at all times be conducted upon turning off the power.
- When disconnecting an amplifier with power on, the amplifier gets not worked with the indication of "SERR" on it. In this case, "SERR" should be canceled by means of turning off and reactivating the power.
- When additionally installing an amplifier with power on, the amplifier dose not set the channel of itself properly. (It may be set as "1ch.") In this case, optical communication dose not work. Therefore, the mutual interference protection between amplifiers and operation from mobile console E3X-MC11 dose not work. Power should be turned off and reactivated so that the amplifier can set the channel of itself properly.

**■OUTPUT STAGE CIRCUIT DIAGRAM**

•NPN type



•PNP type

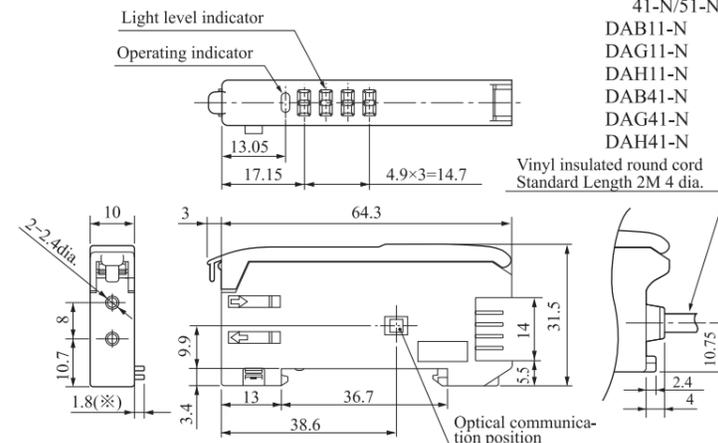


**■OUTLINE DRAWING**

•E3X-DA6/7/8/9, DAB6/8, DAG6/8, DAH6/8

•E3X-DA11-N/21-N/

41-N/51-N

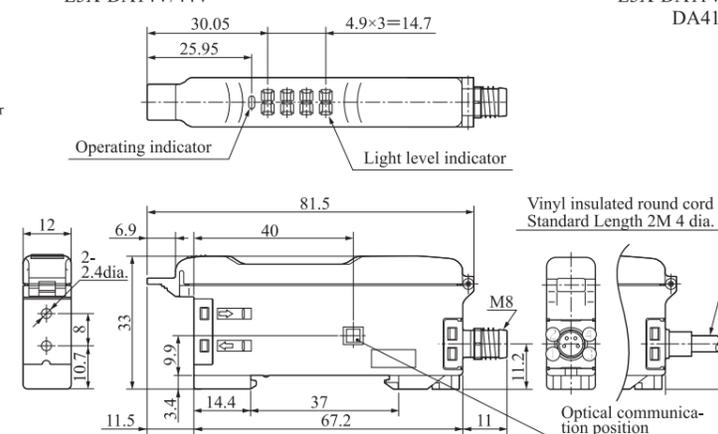


(※) Only for E3X-DA 6 / 7 / 8 / 9, DAB6/8, DAG6/8, DAH6/8

•E3X-DA14V/44V

•E3X-DA11V

DA41V



**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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