

Aotoro®

EX-A11,A41

Universal type通用型

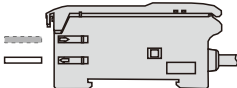
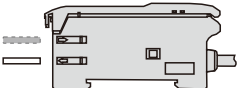
INSTRUCTION MANUAL 使用说明书

Fiber Optic Amplifier
光纤放大器

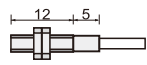
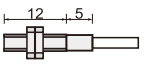
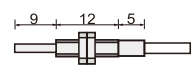
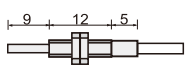
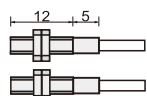
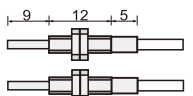
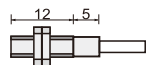
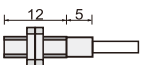
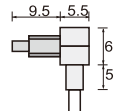
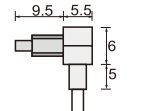
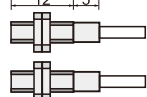
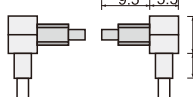
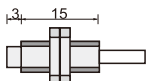
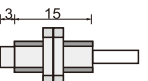


A2302-24

Model Selectable Amplifier 光纤放大器型号选择

Universal type通用型	Model型号		High-speed type高速型	Model型号	
	NPN output	PNPoutput		NPN output	PNPoutput
	EX-NA11	EX-NA41		EX-NA11F	EX-NA41F

Model Selectable Fiber Optic 光纤型号选择

Appearance外形 (pre-wired带线2m)	Description描述	Detecting distance检测距离	Model型号	Appearance外形 (pre-wired带线2m)	Description描述	Detecting distance检测距离	Model型号
M3							
	M3 Universal diffuse reflective 通用漫反射	4cm	E32-DB32		M3 Coaxial fiber Diffuse reflective 同轴漫反射	5cm	E32-DA32
	M3 Pin probe Diffuse reflective 针式漫反射	3cm	E32-DB32-L		M3 Pin probe Coaxial fiber Diffuse reflective 针式同轴漫反射	5cm	E32-DA32-L
	M3 Through-beam 对射	30cm	E32-T32		M3 Pin probe Through-beam 针式对射	30cm	E32-T32-L
M4							
	M4 Universal diffuse reflective 通用漫反射	4cm	E32-DB42		M4 Coaxial fiber Diffuse reflective 同轴漫反射	5cm	E32-DA42
	M4 Right-angle Diffuse reflective 直角漫反射	3cm	E32-DB42-N		M4 Right-angle Coaxial fiber Diffuse reflective 直角同轴漫反射	4cm	E32-DA42-N
	M4 Through-beam 对射	35cm	E32-T42		M4 Right-angle Through-beam 直角对射	30cm	E32-T42-N
M6							
	M6 Universal Diffuse reflective 通用漫反射	13cm	E32-DB62		M6 Coaxial fiber Diffuse reflective 同轴漫反射	17cm	E32-DA62

Method of type designation 型号编法

EX-NA11F

F	High-speed type高速型
	Universal type常规型
11	NPN output
41	PNP output
NA	Universal type通用型 (光量条显示)
EX	Fiber Optic Amplifier 光纤放大器

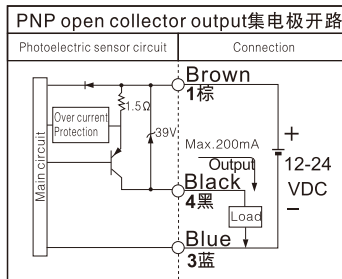
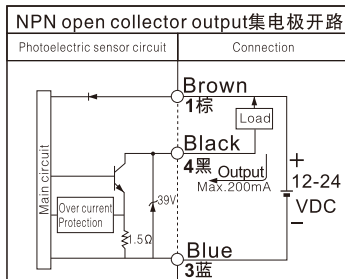
E32-DA42

L	Pin probe type 针式
N	Right-angle type 直角
2	2m
4	M4
6	M6
B	Universal 常规
A	Coaxial fiber 同轴
D	Diffuse reflective 漫反射
T	Through-beam 对射
E32	Fiber optic 光纤

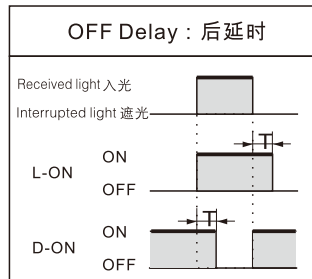
Specification 规格

Model 型号	NPN	EX-NA11	EX-NA11F
	PNP	EX-NA41	EX-NA41F
Illuminant 光源	Red LED红色发光二极管		
Power supply 电源电压	DC12-24V±10%以下		
Current consumption 静态电流	Max.15mA		
Control output 控制输出	Open collector output: Max.100mA 集电极开路输出		
Response time 响应时间	Max.1ms		Max.200us
	Sensitivity adjustment 灵敏度调节: 8 Turn the full turn knob 8圈全回转旋钮		
Circuit protection 电路保护	Short-circuit protection, Reverse polarity protection, Surge protection 短路保护, 电源反连接保护, 浪涌保护		
Residual voltage 残余电压	Max.1V (Load current less than 10mA) 负载电流小于10mA时 Max.2V (Load current less than 10-100mA) 负载电流10mA-100mA时		
Timer function 定时器功能	OFF delay 后延时: 40ms		
Prevent mutual interference 防止相互干扰	Up to 4 units 最多4台		
Insulation resistance 绝缘电阻	Min.20MΩ(500VDC)		
Dielectric strength 耐电压	1500VAC 50/60HZ for 1minute		
Ambient illumination 使用环境照度	Sunlight 太阳光: Max. 10000lx, Incandescent lamp日光灯: Max.3000lx		
Operating temperature 使用环境温度	-20 to 60°C(non-freezing condition 不结冰)		
Ambient humidity 使用环境湿度	35 to 85%RH		
Protection 保护结构	IP 64		
Material 材质	Case: ABS, Lens: PC 壳体:ABS, 镜头:PC		

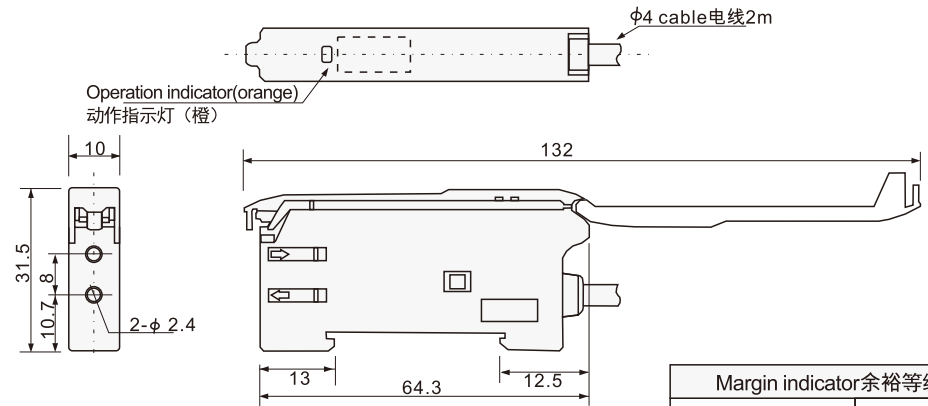
Control output diagram 控制输出图



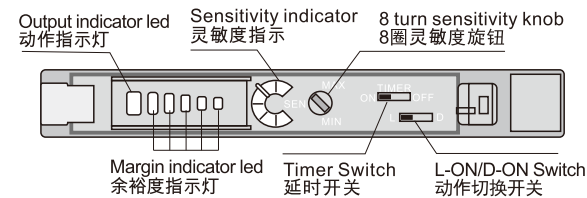
Time delay diagram 延时时序图



Dimensions 尺寸(unit:mm)



Part name各部分名称 & Margin indicator 余裕等级显示



Margin indicator 余裕等级显示	
	Margin ≥ 120%
	Margin 110%-120%
	Margin 90%-110%
	Margin 80%-90%
	Margin < 80%

Precautions in using the product 使用注意事项

NOTE 注意

Be sure to follow the safety precautions below for adder safety
以下项目在安全确保方面非常重要,请务必遵守。

- Do not use the sensor under the explosive or flammable gas environment. 请不要在具有可燃性、爆炸性气体的环境下使用。
- Never disassemble, repair or tamper the product. 请勿拆卸、修理、改造本产品。
- Keep the supply voltage within the specified area. 电源电压必须在额定值内。
- use the load under the specified area. 请使用额定值以下的负荷。

(3)For extending wires, whose cross section is greater than 0.3sqmm and the length less than 100m. 延长导线必须使用截面积0.3mm²以上、长度100m以下导线。

(4)Do not pull wire strongly. 导线请勿用力拉扯。
(5)Excessive force (hitting by hammer, etc.) Should not be put on the sensors because it may damage its water-resistance. 安装传感器时,请勿使传感器受剧烈外力(如用锤击打等),这样就有可能破坏传感器防水保护性能。

3. Power supply 电源
When using a commercially available switching regulator, be sure to ground the FG(Frame Ground) terminals.

使用市场上销售的开关整流器时,请将FG(Frame Ground)端子接地。

4. Power supply reset time 电源重新调整时间
The photoelectric switch will begin sensing no later than 100ms after the power is turned on. If the load and the photoelectric switch connected to different power supply, the photoelectric switch must be always turned on first. 从接通电源到传感器可正常进行检出的时间是100ms后再使用。负载和传感器接不同电源时,一定要先接通传感器的电源。

5. Turning off the power supply 电源关闭
When turning off the power, output pulse may be generated. We recommend turning off the power supply of the load or load line first. 电源关闭时,可能会出现输出脉冲,所以我们建议先关闭负载或负载线的电源。

Caution for using 正确使用方法

1. Do not use the product under the following conditions.
请不要在以下的环境中使用。

- (1)In the place of the direct sunlight. 日光直射场所。
- (2)In the place where humidity is high and condensation may occur. 湿度高或易结露场所。
- (3)In the place of the corrosive gas exists. 含腐蚀性气体场所。
- (4)In the place where vibration or shock is directly transmitted to the product. 振动或冲击能直接传送到传感器场所。

2. Connection and Mounting 连接和安装

- (1)Be sure that before giving the power, the supply voltage is less than the maximum rated supply voltage. 通电前请确认供电电源电压小于最大允许电源电压。
- (2)There are some cases where the photoelectric switch cable is unavoidably laid in a tube or duct together with a high-tension or power line. This causes an induction, possibly resulting in malfunction or damage. In principal, the cable should be separately laid or shielded.

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,有误动作甚至被损坏。原则上传感器导线必须单独放置或者被屏蔽。

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