

Aotoro®

EM 20-
EM 40-通用型
Univesal type

INSTRUCTION MANUAL 使用说明书

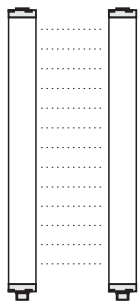
Safety light curtain
光幕传感器



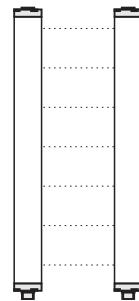
A2302-20

Model selectable 型号选择

EM 20-	光轴数 Optical axis number	保护高度 protection height	型 号MODEL	
			NPN输出	PNP输出
Optical axis spacing 光轴间距: 20mm (手掌检测Palm detection)	8	140mm	EM20-08N	EM20-08P
	12	220mm	EM20-12N	EM20-12P
	16	300mm	EM20-16N	EM20-16P
	20	380mm	EM20-20N	EM20-20P
	24	460mm	EM20-24N	EM20-24P
	28	540mm	EM20-28N	EM20-28P
	32	620mm	EM20-32N	EM20-32P



EM 40-	光轴数 Optical axis number	保护高度 protection height	型 号MODEL	
			NPN输出	PNP输出
Optical axis spacing 光轴间距: 40mm (手腕wrist/人体body 检测detection)	4	120mm	EM40-04N	EM40-04P
	6	200mm	EM40-06N	EM40-06P
	8	280mm	EM40-08N	EM40-08P
	10	360mm	EM40-10N	EM40-10P
	12	440mm	EM40-12N	EM40-12P
	14	520mm	EM40-14N	EM40-14P
	16	600mm	EM40-16N	EM40-16P
	18	680mm	EM40-18N	EM40-18P
	20	760mm	EM40-20N	EM40-20P
	22	840mm	EM40-22N	EM40-22P
	24	920mm	EM40-24N	EM40-24P
	26	1000mm	EM40-26N	EM40-26P
	28	1080mm	EM40-28N	EM40-28P



Ordering information 订购信息

EM20-08N

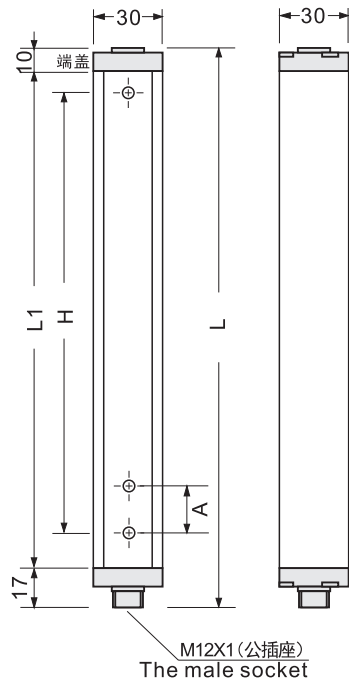
输出构成	N	DC NPN 输出
	P	DC PNP 输出
光轴数量	04	4光轴optical axis
	06	6光轴optical axis
	08	8光轴optical axis
	10	10光轴optical axis
	12	12光轴optical axis
光轴间距	20	20mm
	40	40mm
EM	光幕传感器 Safety light curtain	

备注: 对射型: 检测距离可达5米
输出时: 入光动作或遮光动作可通过控制线选择

Specification 规格

Optical axis spacing 光轴间距	EM20: 20mm; EM40: 40mm	Insulation resistance 绝缘	Min.20MΩ(500VDC)
Detecting distance 探测距离	0.1-5m	Dielectric strength 耐电压	1500VAC50HZ, for 1minute
Detecting target 探测物体	EM20: Opaque materials of Min.25mm以上不透明体 Em40: Opaque materials of Min.50mm以上不透明体	Ambient illumination 使用环境照度	-20 to 75°C不结冰
Power supply 电源电压	12-24VDC(10-30VDC)	Operating temperature 使用环境温度	Sunlight太阳光: Max.10000lx
Current consumption 静态电流	发射器: 80mA以下, 接收器: 80mA以下	Ambient humidity 使用环境湿度	35 to 85%RH
Control output 控制输出	Max.200mA	Protection 保护结构	IP 65
Response time 响应时间	30-55ms	Cable配线规格	自带M12连接器, 公座 Comes with M12 connector (The male socket)
Circuit protection 电路保护	短路保护, 浪涌保护, 电源反接保护 Short-circuit protection, Reverse polarity protection	Accessory 附件	配线wire: φ5, 3m (M12 plug-board bus bar); 支架bracket; 4个; 螺栓bolt: 4个

Dimensions 尺寸(unit:mm)



EM 20-	A=20		
型号	H	L1	L
EM20-08N(P)	140	170	197
EM20-12N(P)	220	250	277
EM20-16N(P)	300	330	357
EM20-20N(P)	380	410	437
EM20-24N(P)	460	490	517
EM20-28N(P)	540	570	597
EM20-32N(P)	620	650	677

EM 40-	A=40		
型号	H	L1	L
EM40-04N(P)	120	170	197
EM40-06N(P)	200	250	277
EM40-08N(P)	280	330	357
EM40-10N(P)	360	410	437
EM40-12N(P)	440	490	517
EM40-14N(P)	520	570	597
EM40-16N(P)	600	650	677
EM40-18N(P)	680	730	757
EM40-20N(P)	760	810	837
EM40-22N(P)	840	890	917
EM40-24N(P)	920	970	997
EM40-26N(P)	1000	1050	1077
EM40-28N(P)	1080	1130	1157
EM40-30N(P)	1160	1210	1237
EM40-32N(P)	1240	1290	1317

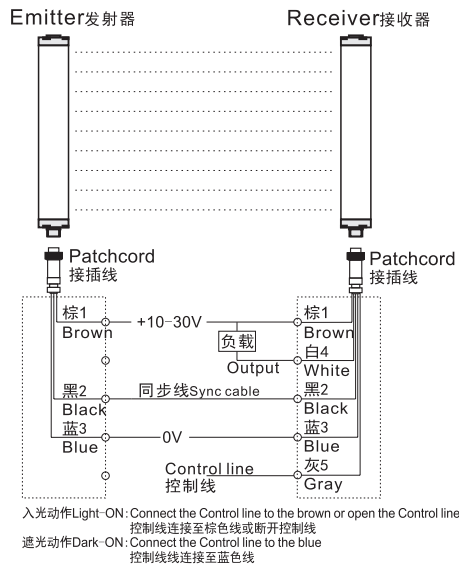
H: protection height保护高度, $H=A*(N-1)$;

A: Optical axis spacing光轴间距; N: Optical axis number光轴数

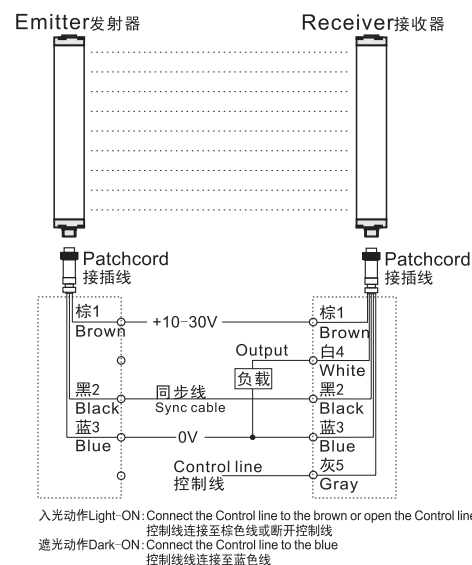
L: Total length光幕总长度; L1: Aluminum shell length铝壳长度

Connections 连接图

● NPN输出型

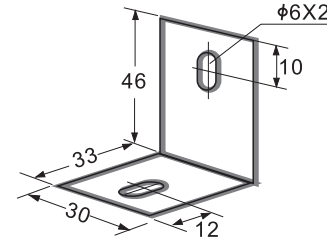


● PNP输出型

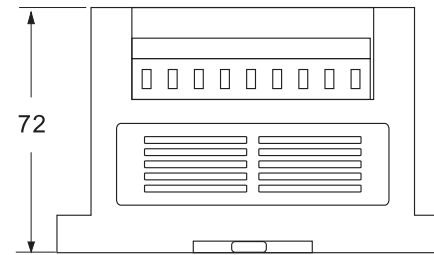


Dimensions 尺寸(unit:mm)

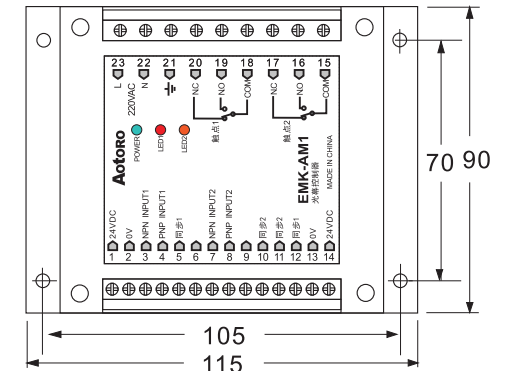
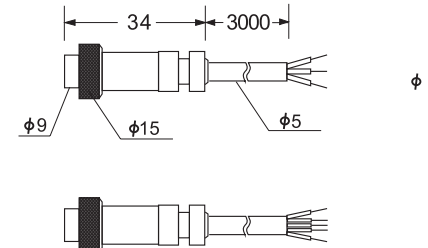
● Mounting bracket安装支架



● Controller光幕控制器EMK-AM1 (选配件 Optional accessories)



● Patchcord接插线



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。

1.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。

2.Never disassemble, repair or tamper the product.

请勿拆卸、修理、改造本产品。

3.Keep the supply voltage within the specified area.

电源电压必须在额定值内。

4.use the load under the specified area.请使用额定值以下的负荷。

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,有误差甚至被损坏。原则上传感器导线必须单独放置或者被屏蔽。

(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。

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