

# General Purpose Compacted Area Sensor



## ◆ General Purpose Compacted Area Sensor/一般使用區域光幕

- 17mm x 25mm Slim Body/纖細本體
- Simple Connection/簡易連接



- 8 beams : 182 mm
- 16 beams : 390 mm
- 24 beams : 598 mm
- 32 beams : 806 mm
- 48 beams : 1,222 mm

Fiber
Photo Sensor
Area Sensor
Ultrasonic Sensors
Inductive Proximity Sensor
Capacitive Proximity Sensor
Timer / Counter
Others
Accessories

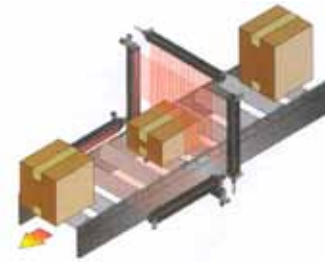
# OAS

## General Purpose Compacted Area Sensor

### ◆ Applications / 應用例 :



Semiconductor 半導體

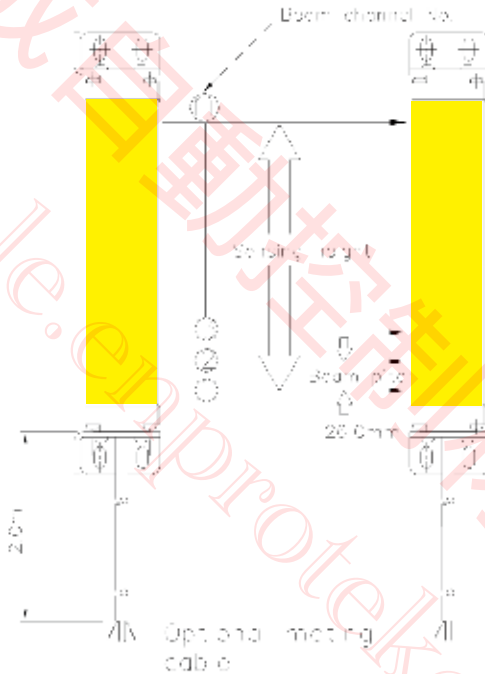


Factory automation  
工廠自動化設備



Auto manufacturing  
自動化生產

### ◆ Dimensions / 外型尺寸 :



### ◆ Accessories 配件

#### ■ Extension cable(optional) 延伸線 (選項) :

Outward shape 外觀	Cable length 線長	Specification 規格	Model 型號
	2m	Basic 基本的	OAS26CC4
	5m	Ø5mm <sup>2</sup> 4-wire cable,	
	5m	Ø5mm <sup>2</sup> 4-wire cable,	OAS26CC5
	275.0mm	Ø5mm <sup>2</sup> 4-wire cable,	

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## ◆Specifications / 規格表 :

Item	OAS2608D	OAS2616D	OAS2624D	OAS2632D	OAS2640D
NO. of beams / 光束數	8	16	24	32	40
Detecting height / 檢測高度	182	390	598	806	1.014
Beam Pitch / 光束間距	26mm				
Detecting Range / 檢驗距離	0.3m to 4m				
Resolution / 分辨率	30mm opaque object 不透明物體				
Supplying voltage / 供應電壓	DC 10V to 24V ± 10%(ripple P-P:10% Max.)				
Current consumption / 電流消耗量	65mA Max.	70mA Max.	75mA Max.	80mA Max.	85mA Max.
Electro-characteristics / 電氣特性	NPN open collector開放集極電路, Load current 負載電流: Max. 200mA (Max. DC30V) Remaining voltage 剩留電壓: 200mA ~ Max. 2V				
Response time / 反應時間	Max. 20ms				
Indicating LED / LED 指示燈	<ul style="list-style-type: none"> <li>■ Emitter發射機 ----- Power : Red LED</li> <li>■ Receiver 接收器 ----- Power : Red LED</li> <li>Detecting 檢測 : Red LED</li> <li>Stable status 穩定狀態 : Red LED</li> </ul>				
Light source / 光源	Infrared radiation diode 紅外線發光LED(λ = 870nm)				
Running type / 運轉方式	More than a beam is covered ON (Light ON)遮斷涵蓋一光束以上				
Protection circuit / 保護電流	Reversed Supply circuit protection, Short circuit protection output 逆電流保護, 短路保護輸出				
Connection / 連接	300mm connector mount cable連接插頭固定線				
Temperature / 溫度	When Running 運轉時:-10°C ~ +55°C (shouldn't be any condensation or frost) 不可有任何的凝結或結霜 When keeping 保留時: -10°C ~ +60°C				
Humidity / 溼度	When running 運轉時: within 35% ~ 85%RH 相對濕度, When keeping 保留時: within 35% ~ 95%RH 相對濕度				
Ambient light / 周圍光線	Sun light 日光 : Max.10000lx Ambient light 周圍光線:Max. 3000lx				
Insulation resistance / 絕緣阻抗	20MΩ min.(At DC500V)				
Anti-voltage / 逆電壓	AC1000V 50/60Hz for 60sec				
International protection / 國際防水等級	IP64 (IEC)				
Anti-vibration / 反震動	1.5mm amplitude 振幅 2Hr, 3 directions each各自3方向				
Anti-shock / 反電衝	100 m/2s X, Y, Z 2 hours each directions每方向2小時				
Material / 材質	Case 外殼: Aluminum 鋁, Side cover 側蓋: Zinc 鋅, Lens cover 鏡頭蓋: Acryl壓克力				
Weight / 重量	Approx.370g	Approx.610g	Approx.840g	Approx.1,080g	Approx.1,320g
Optional Cable / 可選擇線長	5M length 長度				

Fiber

Photo Sensor

Area Sensor

Ultrasonic Sensors

Inductive Proximity Sensor

Capacitive Proximity Sensor

Timer / Counter

Others

Accessories

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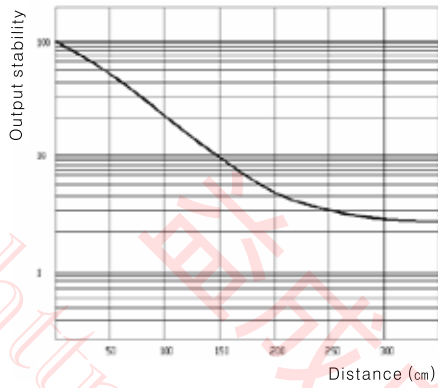
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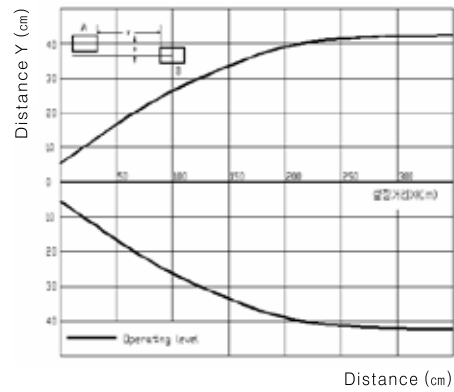
### ◆ENGINEERING DATA 工程數據：

#### • OPERATING RANGE 操作範圍

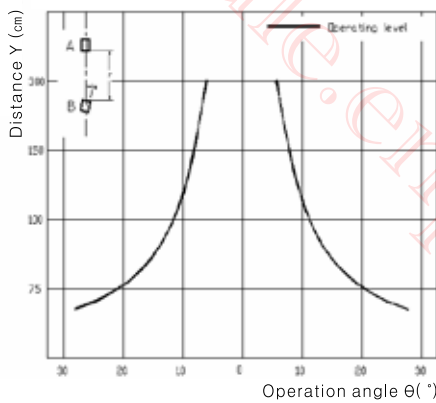
Distance vs Output stability  
距離相對於輸出穩定度



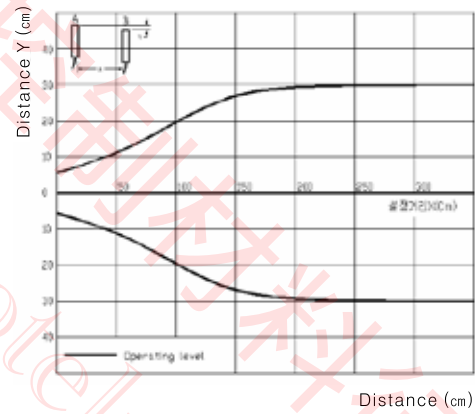
Parallel deviation (Horizontal)  
平行的偏向 (水平的)



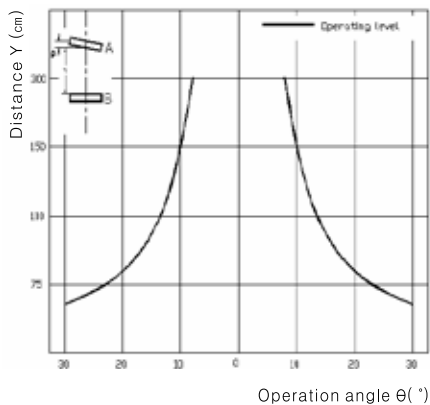
Angular deviation  
尖角的偏向



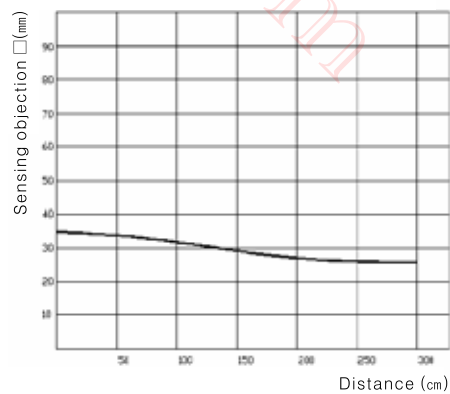
Parallel deviation (Vertical)  
平行的偏向 (垂直的)



Angular deviation  
尖角的偏向



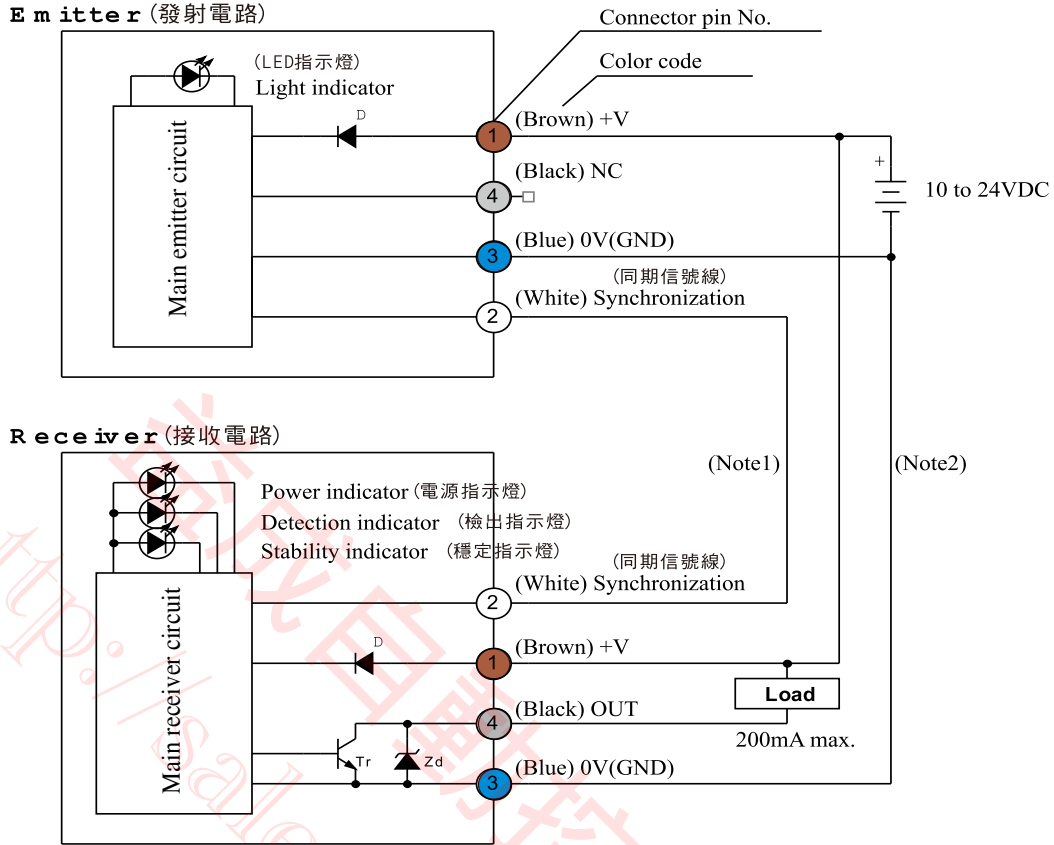
Distance vs Resolution  
距離相對於分辨率



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## ◆ I/O CIRCUIT DIAGRAM :

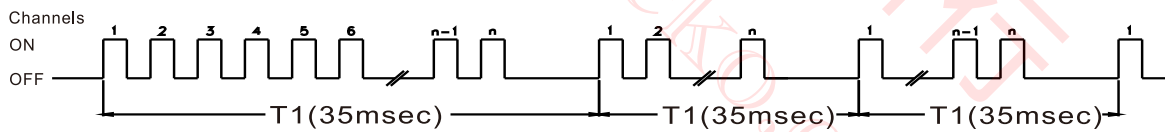


### ■ Note

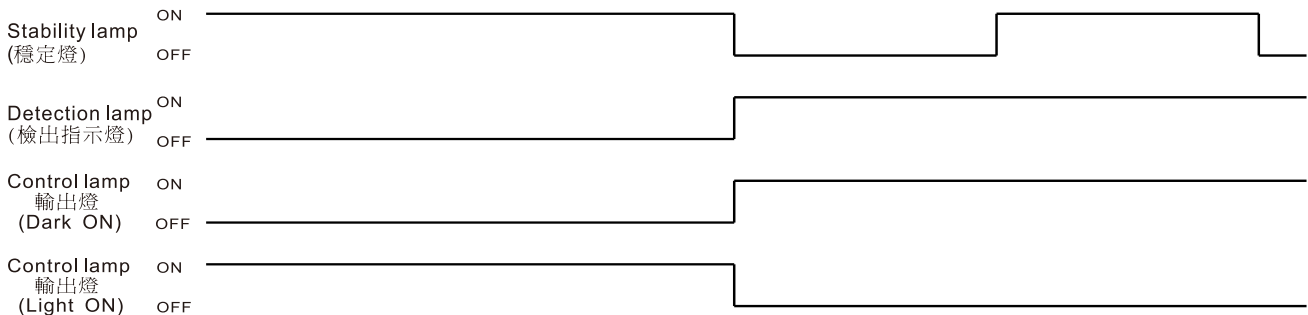
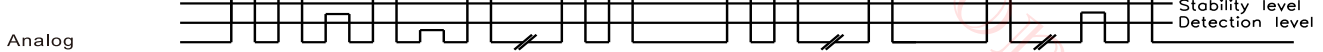
- 1) Synchronizing should not touch + power or GND.  
/同期信號線不可同時碰觸+ power或GND。
- 2) Use commonly the GND of supplying and transmitter, and the GND of receiver.  
/使用一般供給發射和接收的接地線。

## ◆ TIME CHART 時序圖 :

### Emitter



### Receiver



Fiber

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Inductive Proximity Sensor

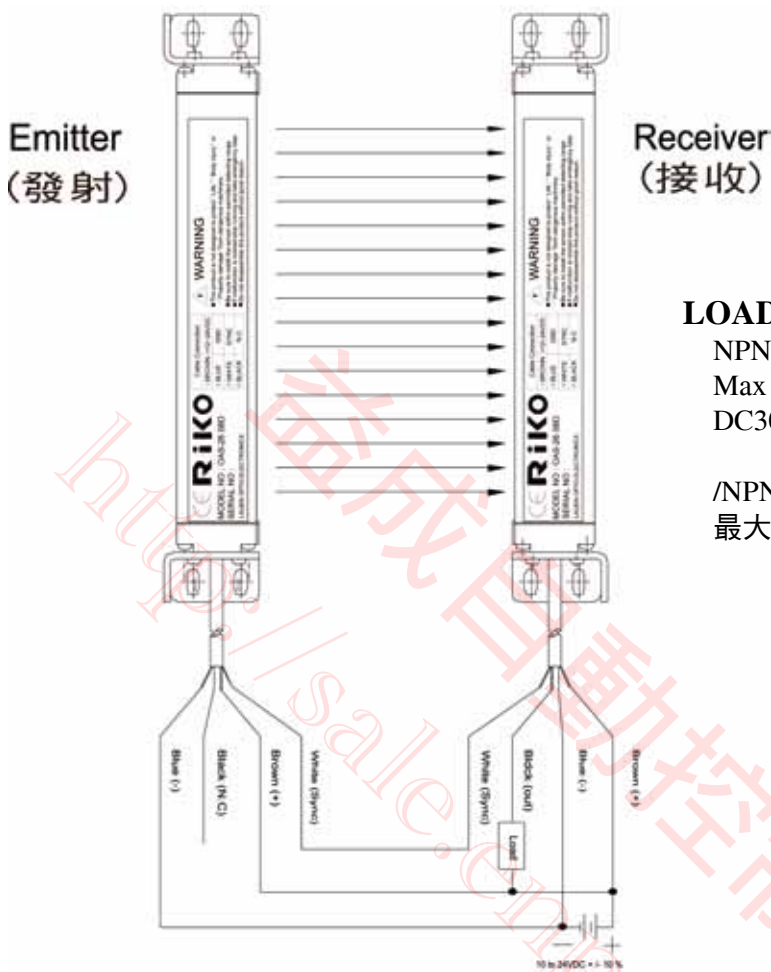
Capacitive Proximity Sensor

Timer / Counter

Others

Accessories

◆ I/O Circuit Diagram / 接線圖 :



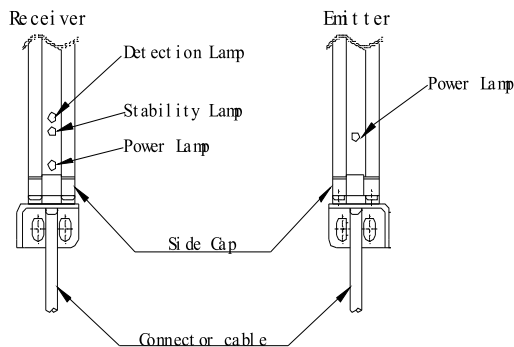
**LOAD/ 負載**

NPN OPEN collector output.  
Max current 200mA. Max supplying voltage DC30V.

/NPN最開放集極電路最大輸出電流200mA  
最大供應電壓DC30V

◆ Connector / 連接頭 :

Pin No. 接腳號碼	Color	Name of signal line 信號線名稱	
		Receiver/ 接收	Emitter/ 發射
1	Brown 褐色	+V (DC 10 to 24V±10%)	+V (DC 10 to 24V±10%)
2	White 白色	Synchronizing 同期信號線	Synchronizing 同期信號線
3	Blue 藍色	0V (GND)	0V (GND)
4	Black 黑色	OSSD	NC (no connection 無連接)



Indicator 指示燈	Receiver	Emitter
Detect lamp 檢測燈	Red 紅色	X
Stability lamp 穩定燈	Red 紅色	X
Power 電源	Red 紅色	Red 紅色

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## ◆PRECAUTION / 預防措施：

### ⚠ Notice / 注意事項

Please advise as below for your safety.  
請注意以下安全忠告

### ⚠ Wiring / 接線

- 1) Do not use over voltage. Over voltage and AC power can bring a breakdown.  
/不可使用交流電或過載電壓，以免導致損壞。
- 2) Do not let the LOAD short-circuited for long time, which will cause a breakdown.  
/長時間負載短路會導致損壞。
- 3) When using switching regulator together, ground FG9 frame GND and G.  
If not, it will bring malfunction because of power switching noise.  
/使用開關調節器時，FG9 GND和G必須接地，以避免電器雜訊造成的機能故障。
- 4) When installing or changing, be sure to turn off POWER.  
/安裝或更換時，別忘記關掉電源。

### ⚠ Connector / 連接插頭

- 1) When cutting off connector, be sure to turn off POWER.  
/拔除連接插頭時，別忘記關掉電源。
- 2) When pull out or in Connector, be sure to hold CONNECTOR COVER.  
/插入或拔出連接插頭時，請握住插頭蓋。
- 3) When wiring, be careful not to add metal dust into CONNECTOR.  
/接線時，請小心勿讓金屬粉屑掉入連接插頭內。

### ⚠ Load / 負載

- 1) Do not exceed the permitted current and voltage range.  
/不可使用過載電流或電壓。

### ⚠ Environment / 使用環境

- 1) Do not use under water, rainy place and the outdoors.  
/不可使用於水中、雨中或戶外。
- 2) Below installation places can cause malfunction.  
/會造成機能故障的安裝地點如下：
  - Dusty place. 灰塵多的地方。
  - Place under the sunlight. 陽光直接照射的地方。
  - Place with corrosion gas. 產生腐蝕氣體的地方。
  - Place with organic matter. 施用有機肥料的地方。
  - Place with strong vibration and shock. 有強烈震動或衝撞的地方。
  - Place with water, oil, or chemicals. 會直接接觸水、油或化學物質的地方。
  - Place with high temperature and much of dew. 高溫、多濕的地方。

### ⚠ The others / 其它

- 1) Do not disjoint or disassemble sensor. 不可隨意拆解或移動區域感應器。

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### ◆ATTENTION/注意事項：

#### ⚠ Warning1 / 警告1

This product is not permitted to use with the machines which are not stopped electronically by electronic control. / 不可使用於無立即停止電子控制式的機器。

#### ⚠ Warning2 / 警告2

Be sure to set some amount of safe distance between the sensor and dangerous point.  
/ 在感應器及危險區域間，必須保持安全距離。

- Safe distance (D) formula. Min distance is 100mm.  
/ 安全距離(D)公式。最短距離100mm。

$$D=2000 \times T + \alpha \quad (D < 500\text{mm})$$

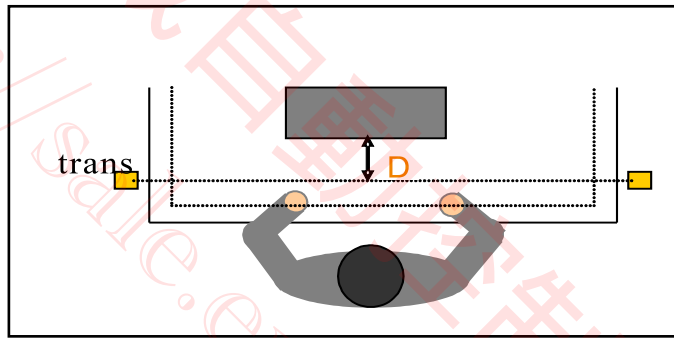
$$D=1600 \times T + \alpha \quad (D > 500\text{mm})$$

D=safe distance(mm) 安全距離

T=response time (machine+sensor)

反應時間=(機器的反應時間 + 感應器的反應時間)

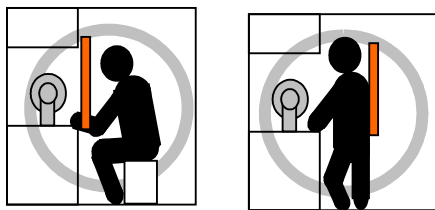
$\alpha = 90\text{mm}$



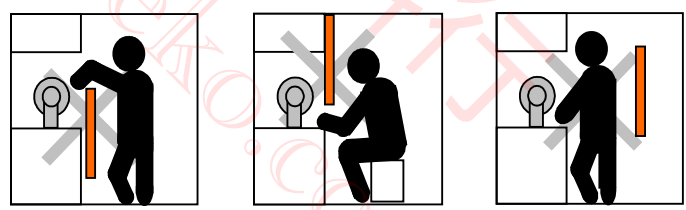
#### ⚠ Warning3 / 警告3

Let work keep working through the detecting range.  
/ 在感測範圍內進行工作。

#### ◆Correct / 正確

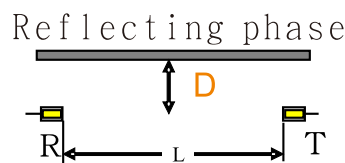
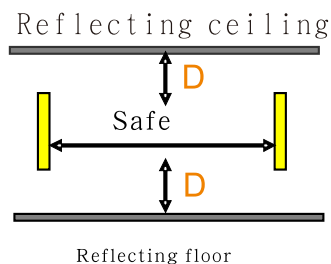


#### ◆Wrong / 錯誤



#### ⚠ Warning4 / 警告4

When installing, please think of other reflecting object which may cause malfunction.  
/ 安裝時，考慮是否有其他會導致機能故障的反射物。



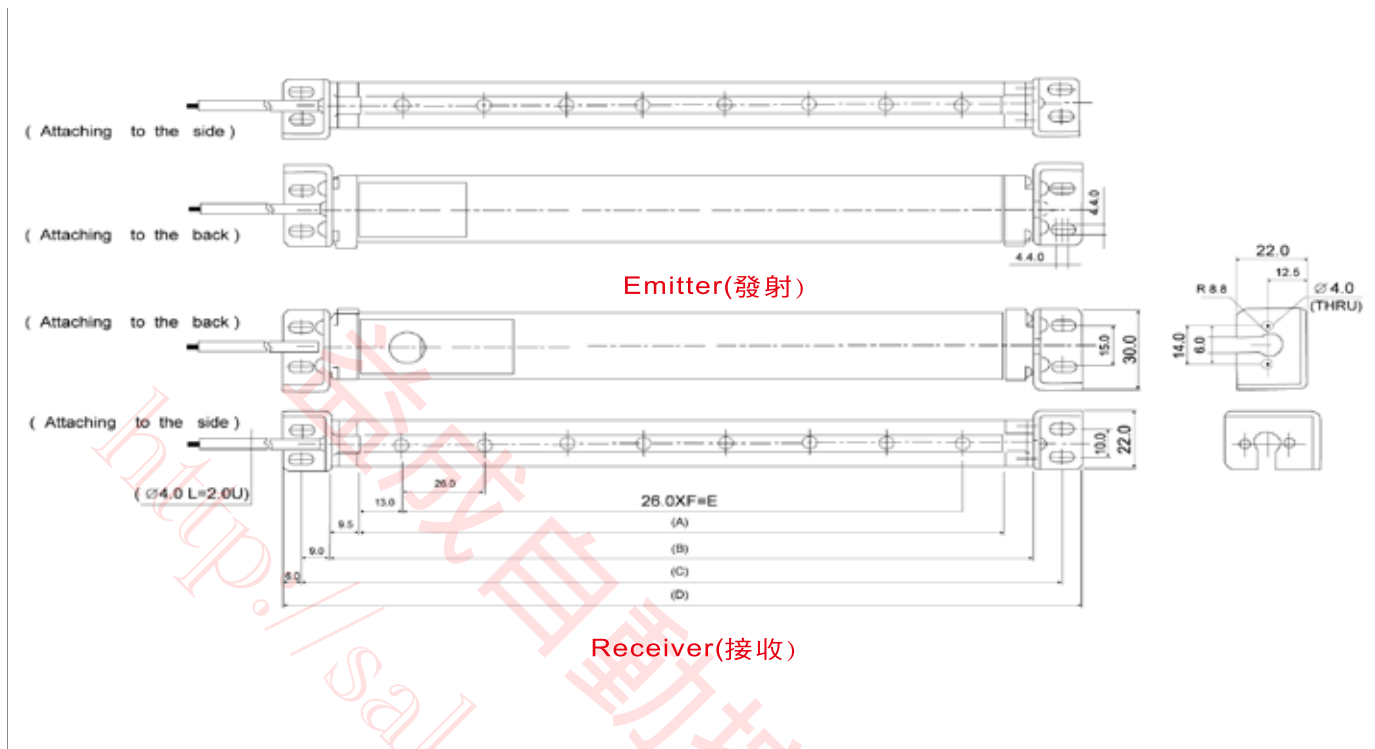
Acceptable installation distance  
/ 可接受的安裝範圍  
 $D \geq 150\text{mm}$



# General Purpose Compacted Area Sensor



◆Dimensions / 外型尺寸 :



Model	(A)	(B)	(C)	(D)	(E)	(F)
OAS-2608D	208mm	227mm	245mm	257mm	182mm	7
OAS-2616D	416mm	435mm	453mm	465mm	390mm	15
OAS-2624D	624mm	643mm	661mm	673mm	598mm	23
OAS-2632D	832mm	851mm	869mm	891mm	806mm	31
OAS-2640D	1,040mm	1,059mm	1,077mm	1,089mm	1,014mm	39

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