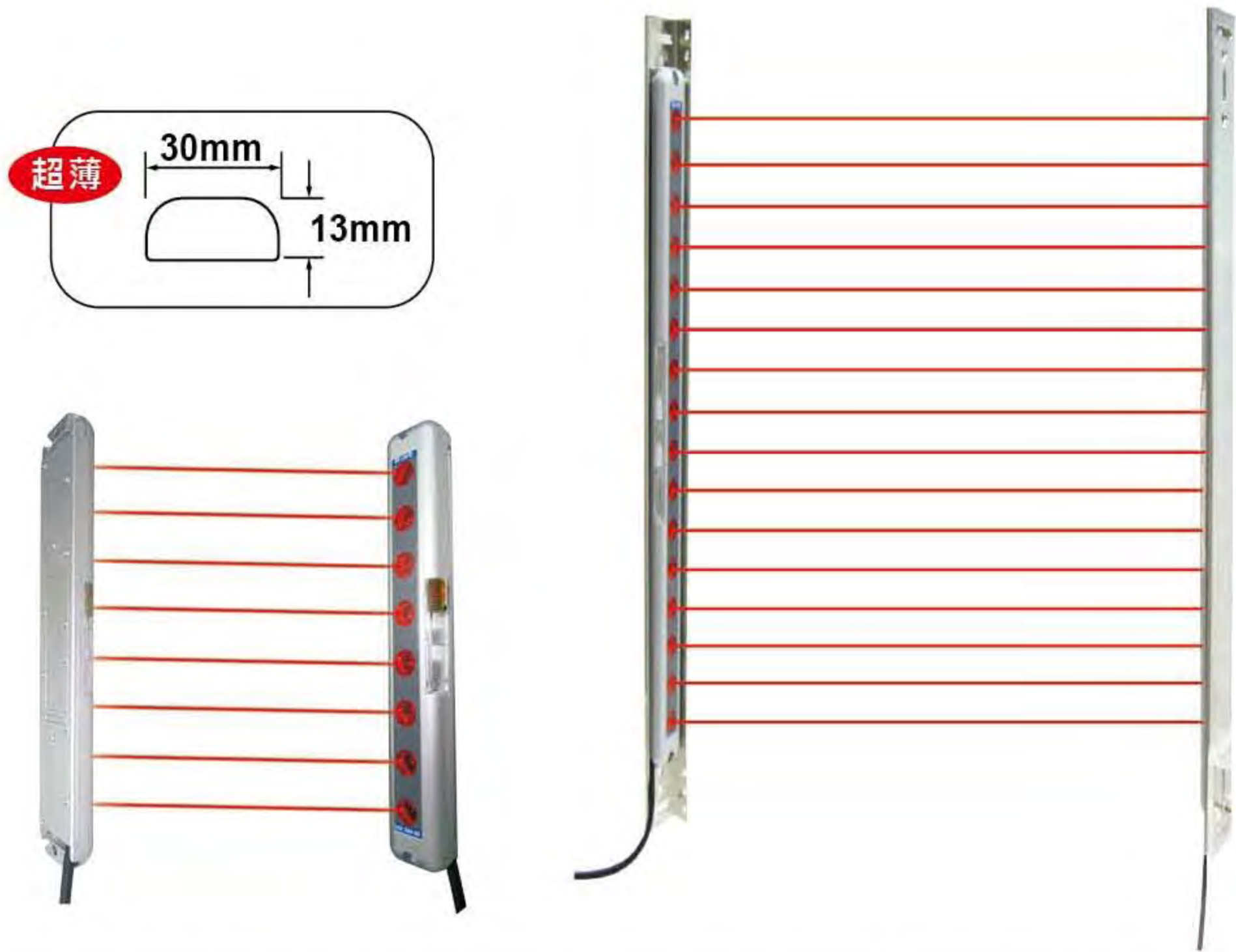


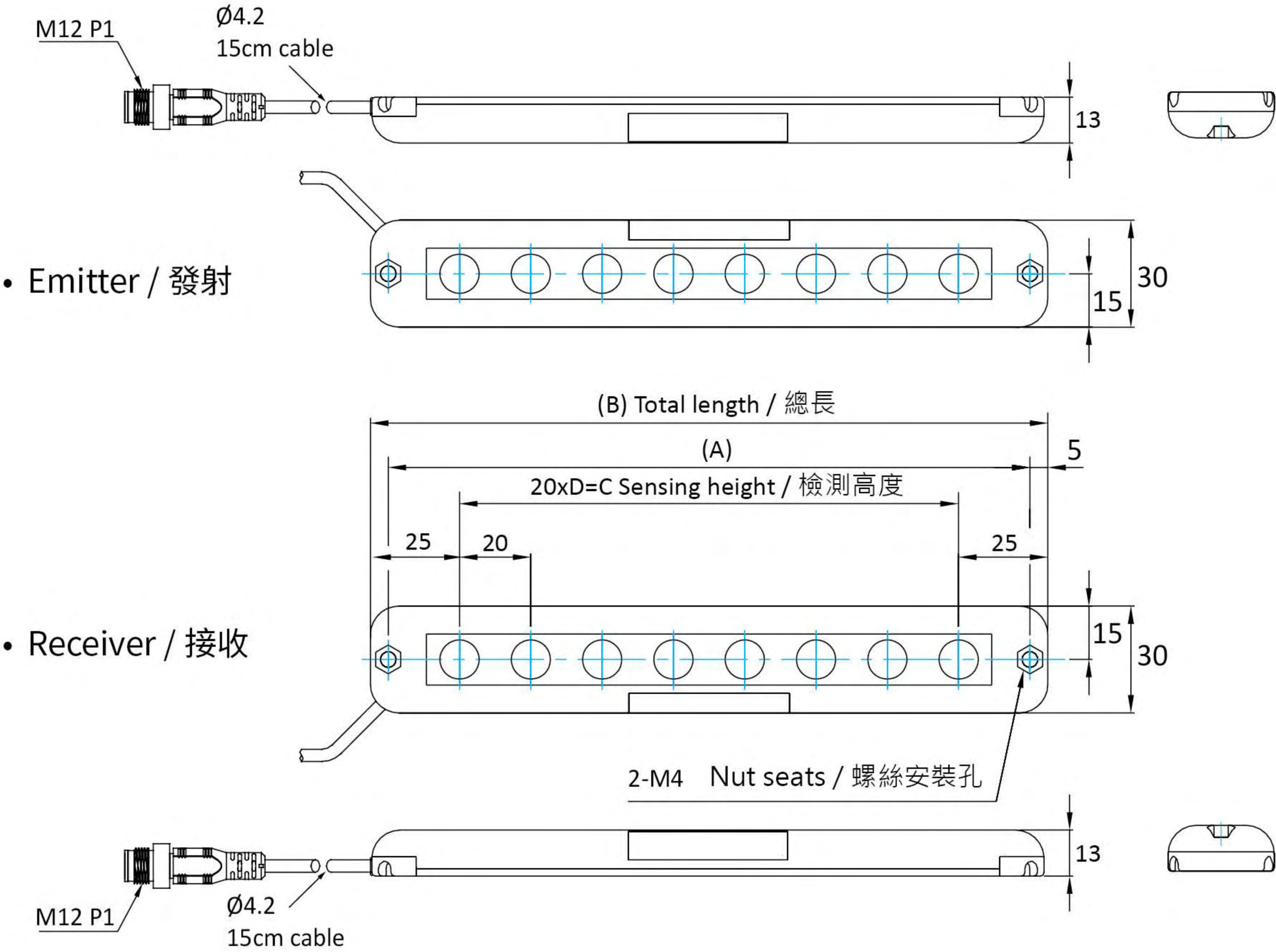
Characteristic / 特點：

- Ultra slim body, 13mm thickness only.
/ 13mm超薄型，寬度僅有30mm。
- Min. Detectable object Ø30mm.
/ 最小檢測物Ø30mm。
- Green and red LED blink in sequence from top to buttom under normal emission. All LED light up under the emittingcircuit failure.
/ 未感應時，綠色與紅色LED依序閃爍，當有物體遮斷時，LED則全部一起亮。



Model / 型號	NPN D.on	OAP-2008-NK	OAP-2008S-NK	OAP-2016-NK	OAP-2016S-NK
	NPN L.on	OAP-2008-N2K	OAP-2008S-N2K	OAP-2016-N2K	OAP-2016S-N2K
	PNP D.on	OAP-2008-PK	OAP-2008S-PK	OAP-2016-PK	OAP-2016S-PK
	PNP L.on	OAP-2008-P2K	OAP-2008S-P2K	OAP-2016-P2K	OAP-2016S-P2K
Sensing type / 檢出方式		Through beam / 對照式			
Resolution / 分辨率		60 mm opaque object 不透明物體			
Sensing distance / 檢出距離		0.6 M ~ 5 M	0.3 M ~ 2 M	0.9 M ~ 5 M	0.5 M ~ 2 M
Sensing Height / 檢測高度		140 mm		300 mm	
Emitting light / 發光源		Infrared LED：850 nm			
No.of Beams / 光軸數		8		16	
Beam pitch / 光軸間距		20 mm			
Indicating LED / LED指示燈		5 LEDs each on emitter and receiver. / 在發射端與接收端各有5個LED燈		7LEDs each on emitter and receiver. / 在發射端與接收端各有7個LED燈	
		LEDs blink from top to bottom under the normal emission.All LEDs light up under the emitting circuit failure and will become blinking until the normal emission. / 在正常通電情況下，LED燈由上而下的閃爍。在發射端光軸被阻隔時，所有LED燈會全亮。如果恢復正常，即發射端光軸不被阻隔，LED恢復由上往下的閃爍			
Running type / 運轉方式		More than a beam is covered ON (Dark On) 任意一個光束被遮斷即輸出			
Operating voltage / 工作電壓		DC12 ~ 24 V±10% (ripple P-P：10% Max.)			
Current consumption / 消耗電流		Transmitter：90 mA Max.		Transmitter：135 mA Max.	
		Receiver：35 mA Max.		Receiver：70 mA Max.	
Load current / 負載電流		100 mA Max at DC 24V			
Protection circuit / 保護電路		Reversed Supply circuit protection, Short circuit protection output. / 電源反接保護及輸出短路保護			
Response time / 反應時間		Off to On：15 ms Max.			
		On to Off：20 ms Max.			
Insulation resistance / 隔離阻抗		20MΩ min. (DC500V)			
Voltage withstandability / 絕緣耐壓		AC1000V 60Hz for 60 Sec.			
Operating temperature / 工作溫度		- 10 °C ~ + 45°C (No freezing allowed 不可結霜,結冰)			
Ambient humidity / 工作溼度		35% ~ 85% RH 相對溼度			
Storage temperature / 儲存時溫度		- 10 °C ~ + 45°C (No freezing allowed 不可結霜,結冰)			
Storage humidity / 儲存時溼度		35% ~ 95% RH 相對溼度			
Protection degree / 防水等級		IP62			
Material / 外觀材質		ABS			
Wiring method / 出線方式		Transmitter：M12 pigtailed type(5P) / M12 出線式接頭型			
		Receiver：M12 pigtailed type(5P) / M12 出線式接頭型			
Option / 選購配件		OAP-M008 Mounting Bracket / OAP-M008固定架		OAP-M016 Mounting Bracket / OAP-M016固定架	
		Connectors / 線材：M125R-PUR-2M / M125R-PUR-5M			
Weight / 重量		200g		253g	

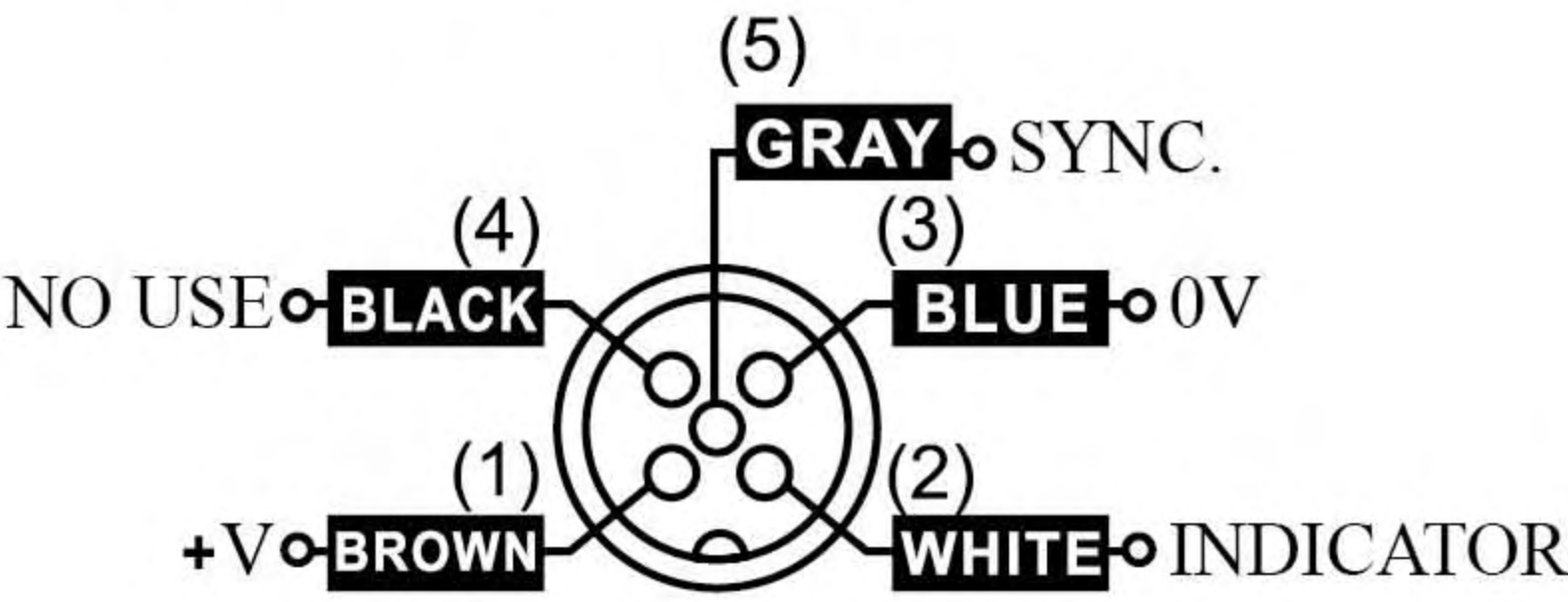
Dimensions / 尺寸圖 (mm)



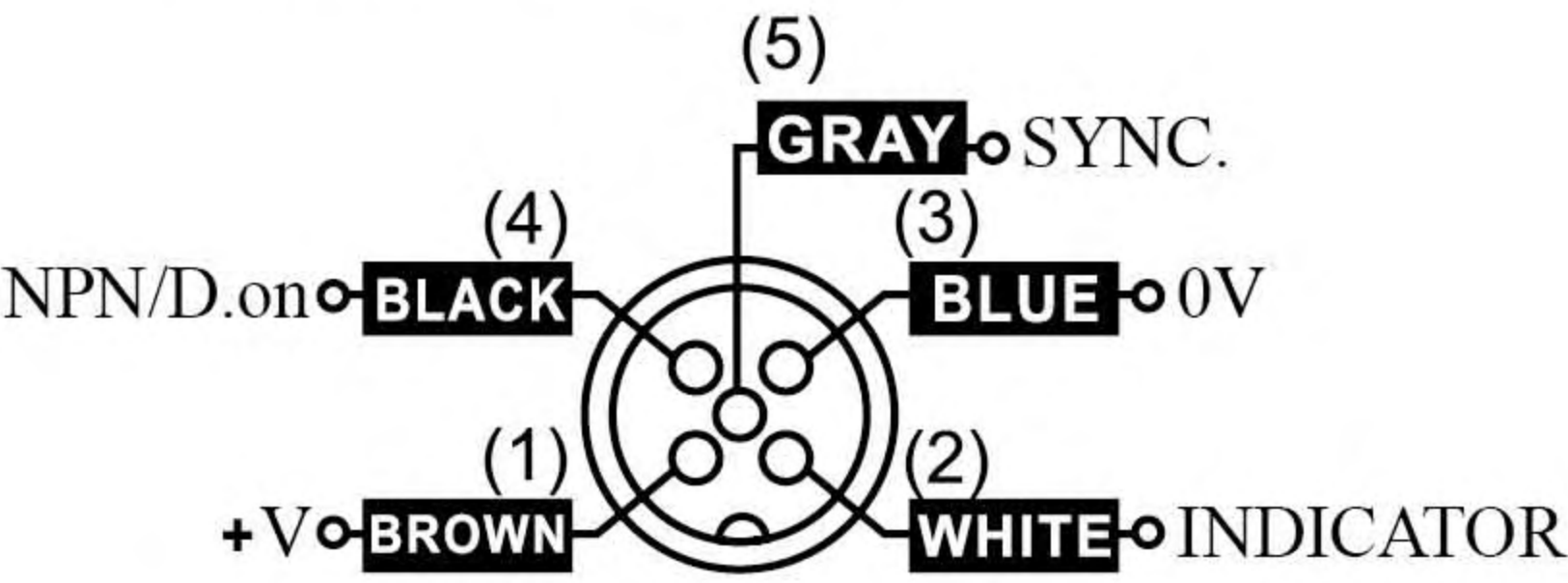
Model / 型號	(A)	(B)	(C)	(D)
OAP-2008(S)-□K	180mm	190mm	140mm	7
OAP-2016(S)-□K	340mm	350mm	300mm	15

Wiring diagrams / 接線圖

• Emitter / 發射



• Receiver / 接收



OAP

光電 / 光柵 / 超音波感測器

R5JM
R3JK
LK
LRS
PK3
PKG3
PK5
PM6

PTQ18
RMF
MMF

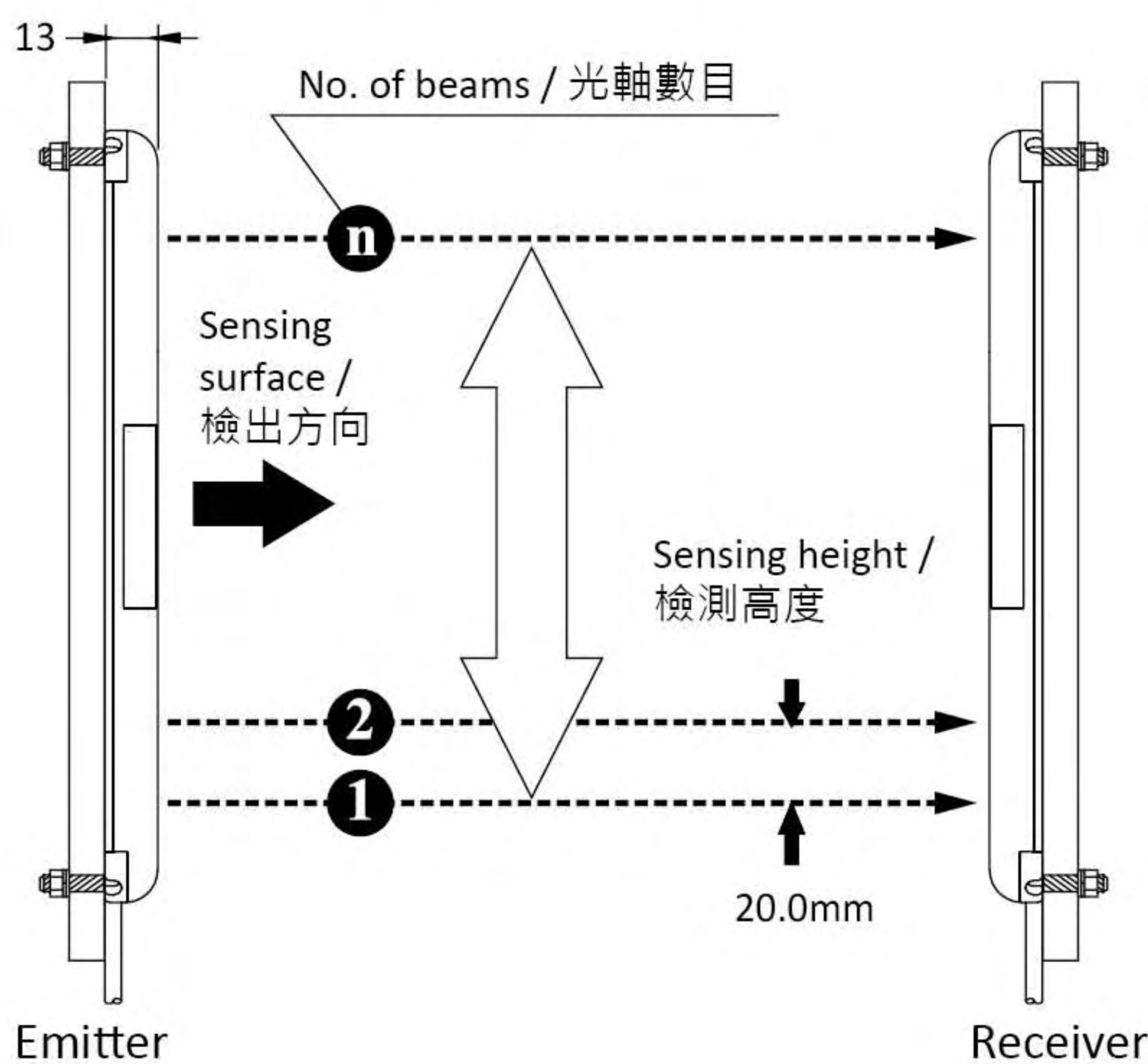
SU07
SU
SU18
SU30

SPR
RX

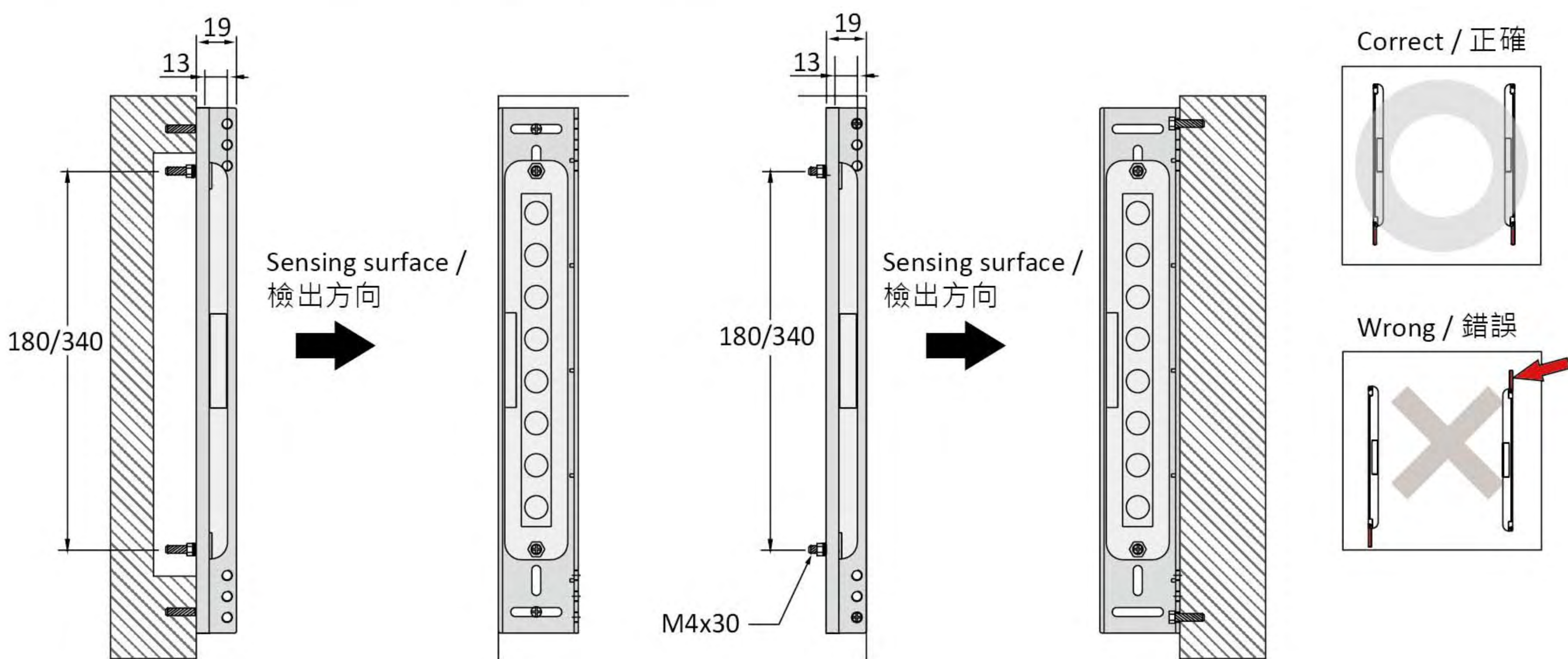
OAP
ASP

RU18

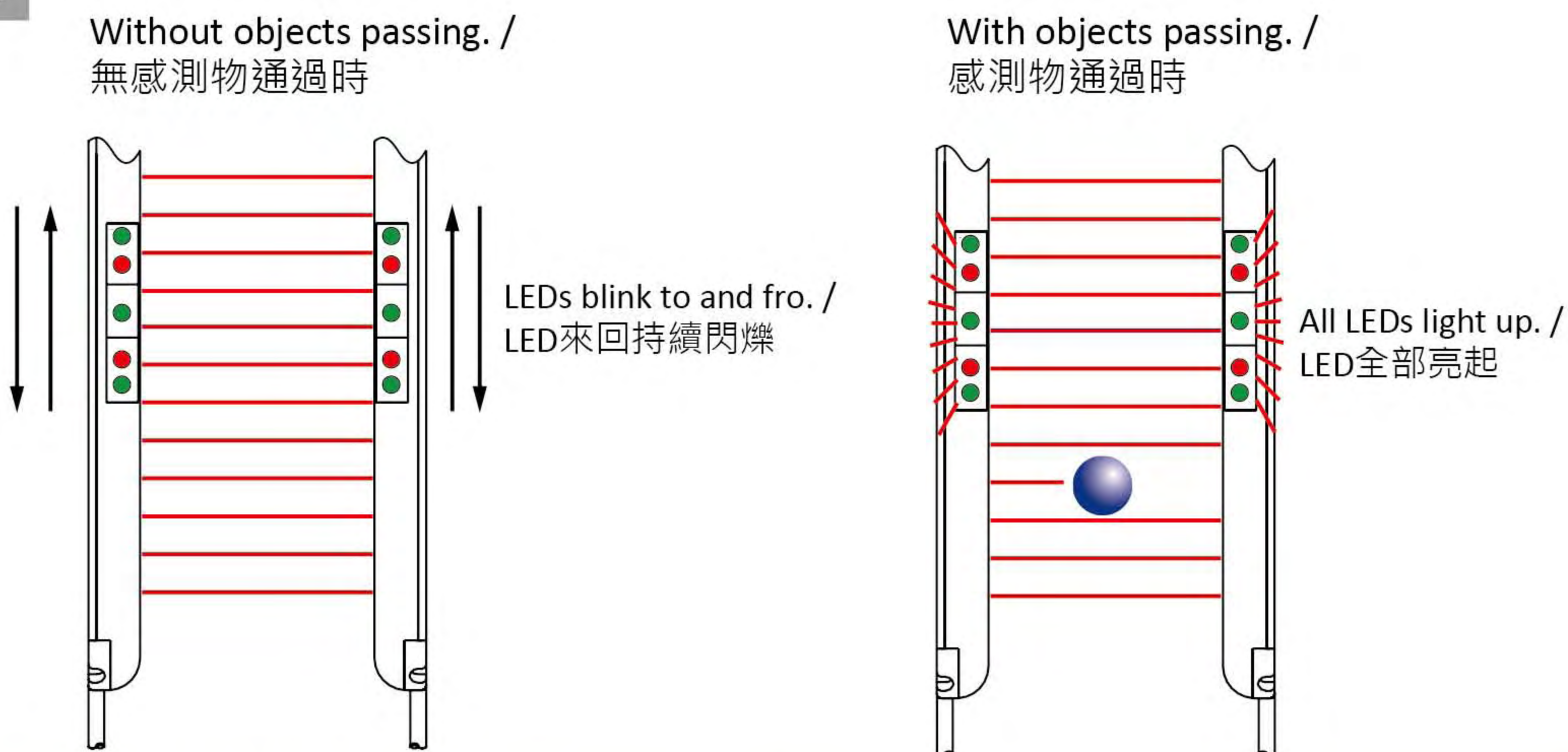
Mounting / 安裝方式



OAP-Bracket Mounting / OAP固定架安裝方式



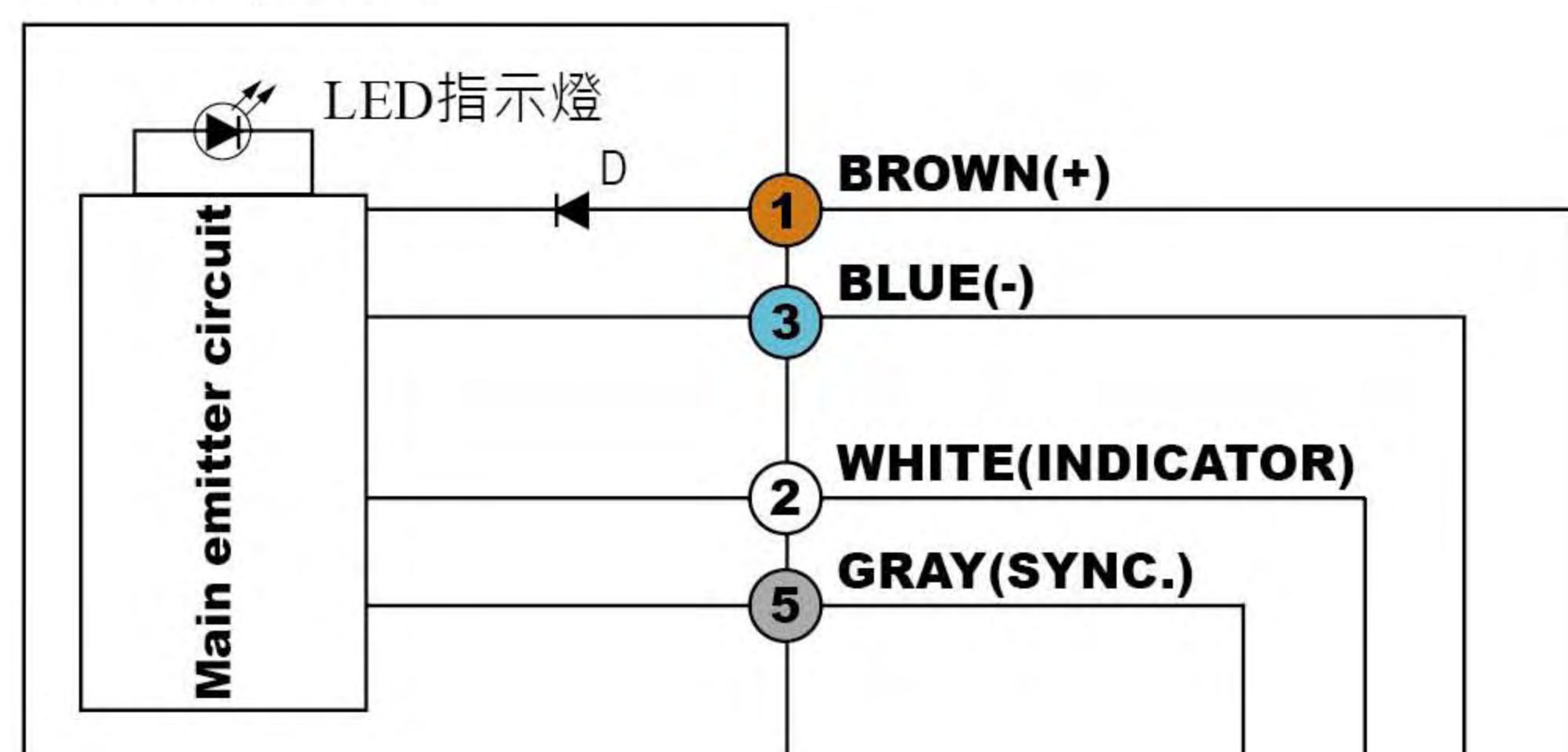
Indicator / 指示燈



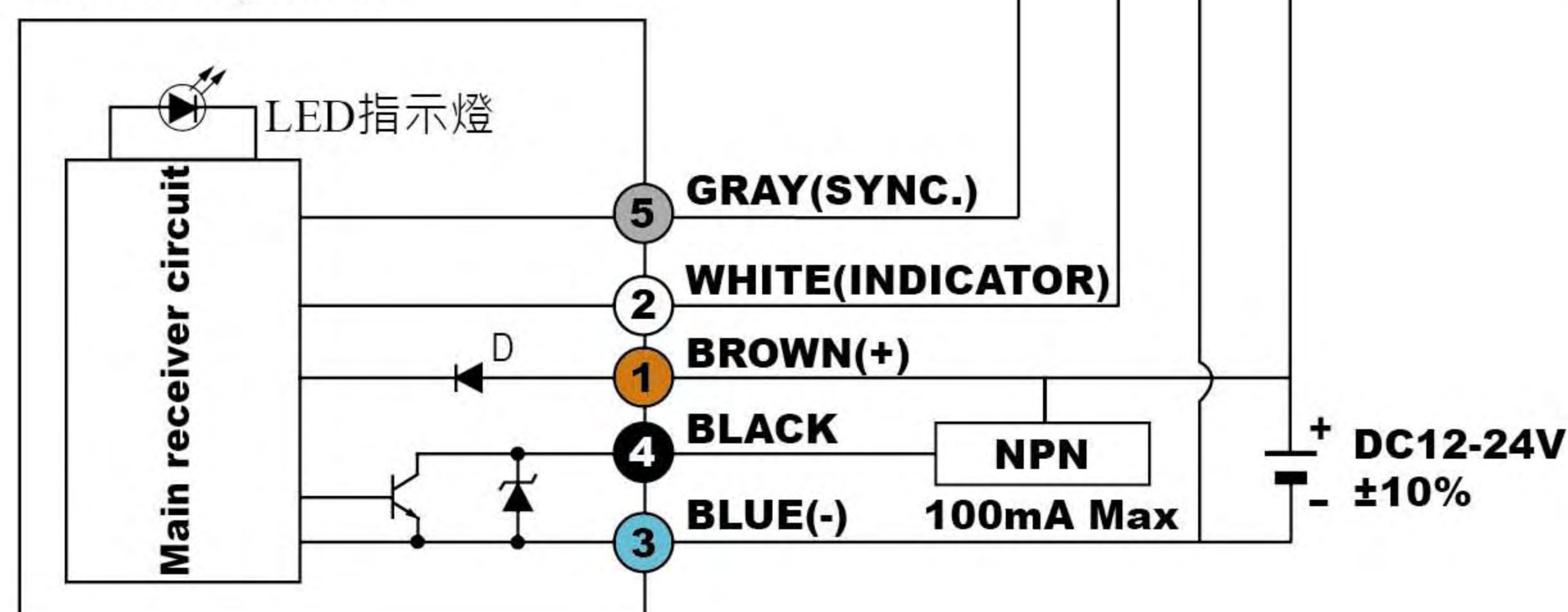
Model	Without objects passing. / 無被測物通過	With objects passing. / 有被測物通過
OAP-2008	5 LEDs blink to and fro (from top to bottom). (Green,Red,Green,Red,Green)	All 5 LEDs light up. (Green,Red,Green,Red,Green)
OAP-2016	7 LEDs blink to and fro (from top to bottom). (Green,Red,Green,Red,Green,Red,Green)	All 7 LEDs light up. (Green,Red,Green,Red,Green,Red,Green)

Wiring diagrams / 接線圖

Emitter / 發射



Receiver / 接收



LOAD/ 負載

NPN open collector output.

Max current 100mA.

supplying voltage DC12~24V.

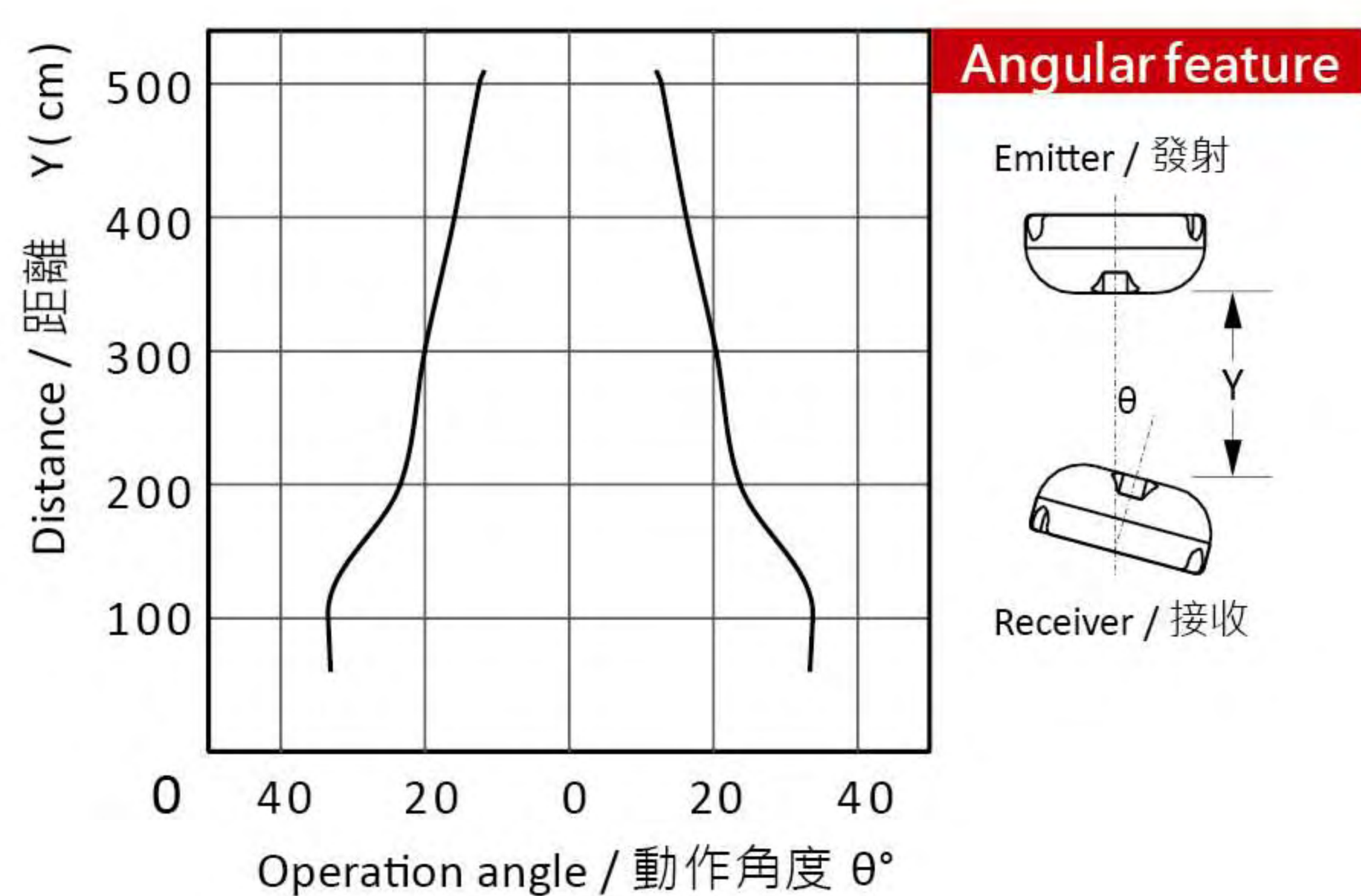
NPN最開放集極電路

最大輸出電流100mA

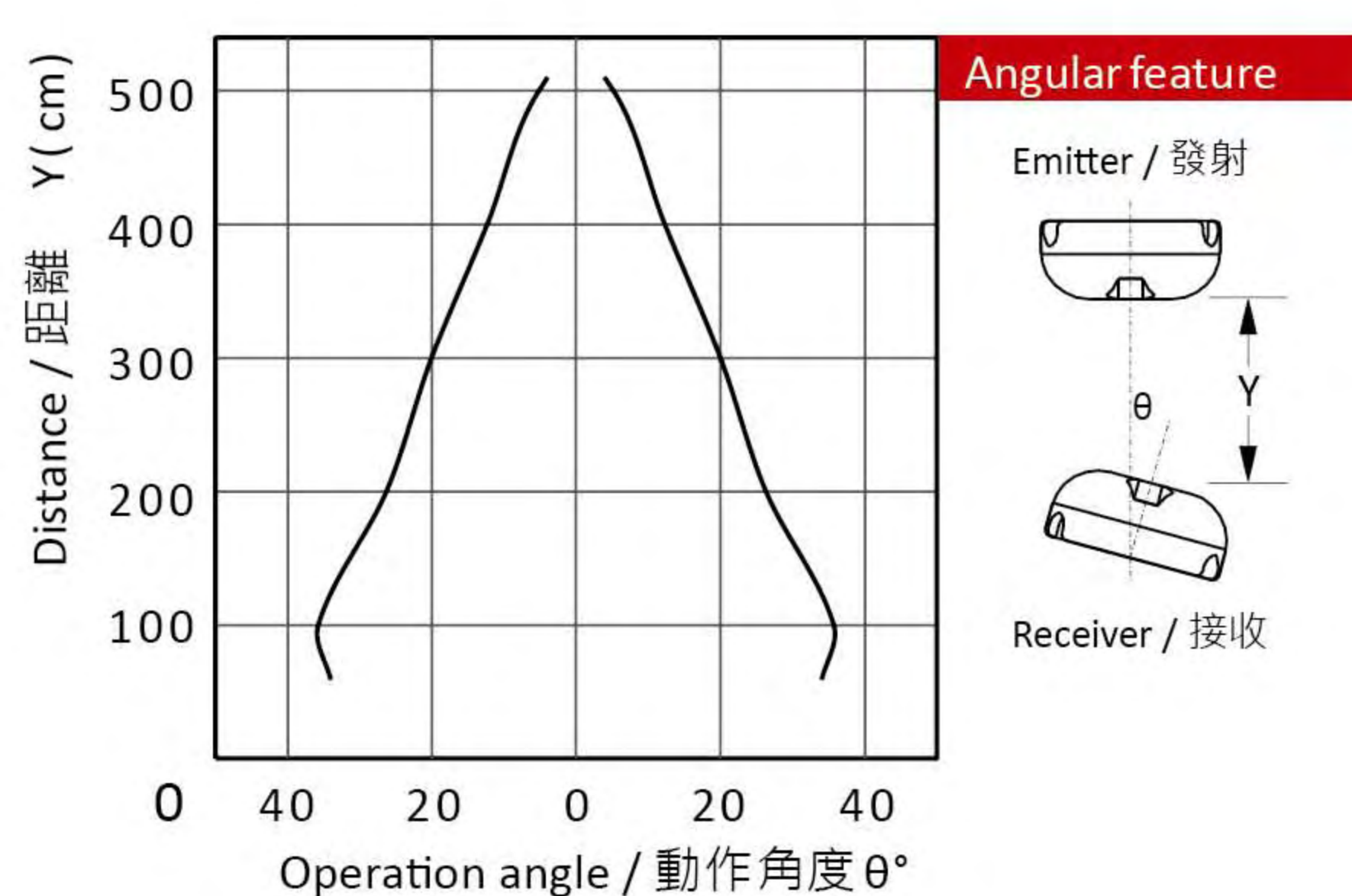
供應電壓DC12~24V

Engineering data / 工程數據

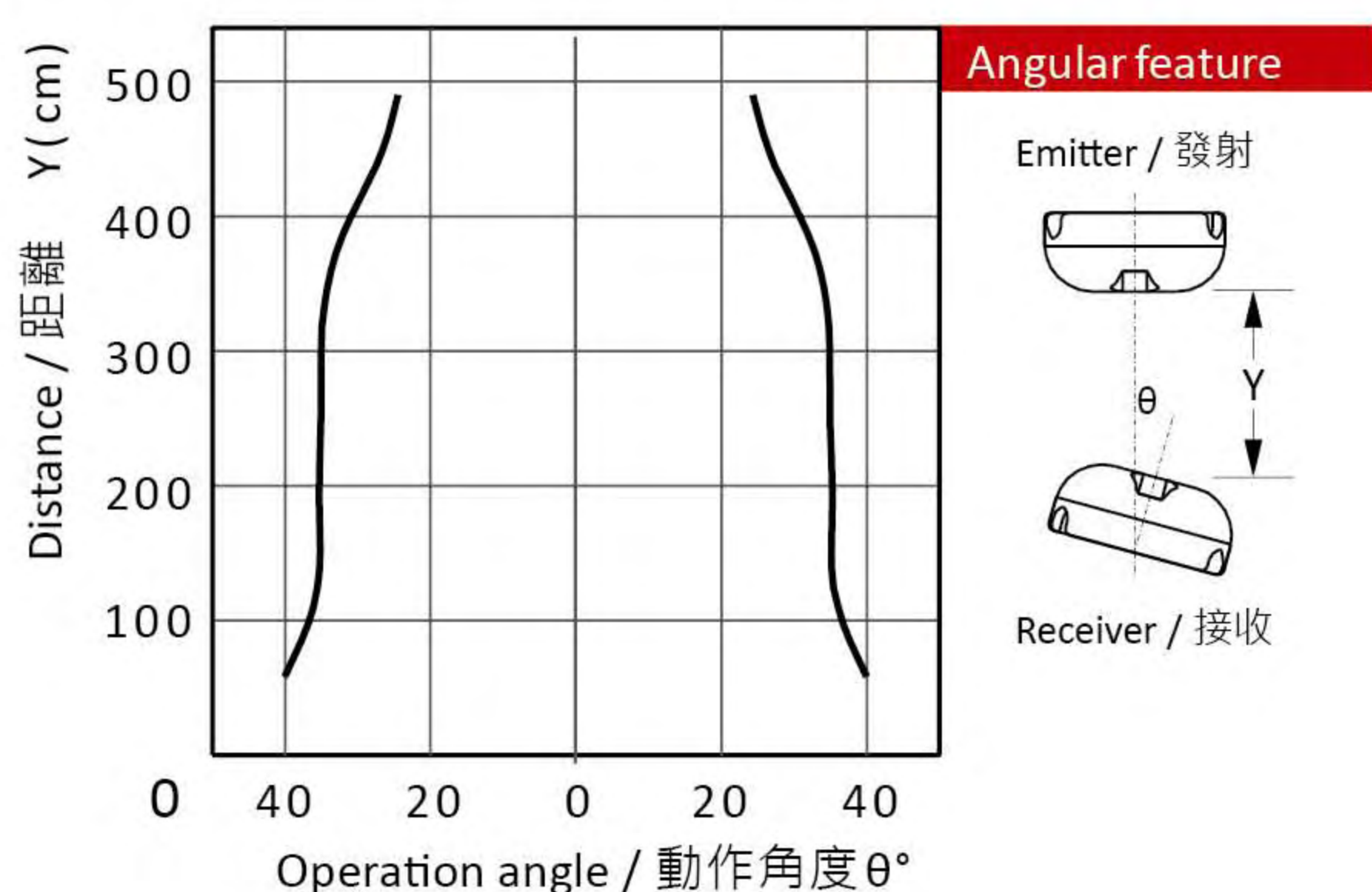
OAP-2008-□ Angular deviation / 角度偏差



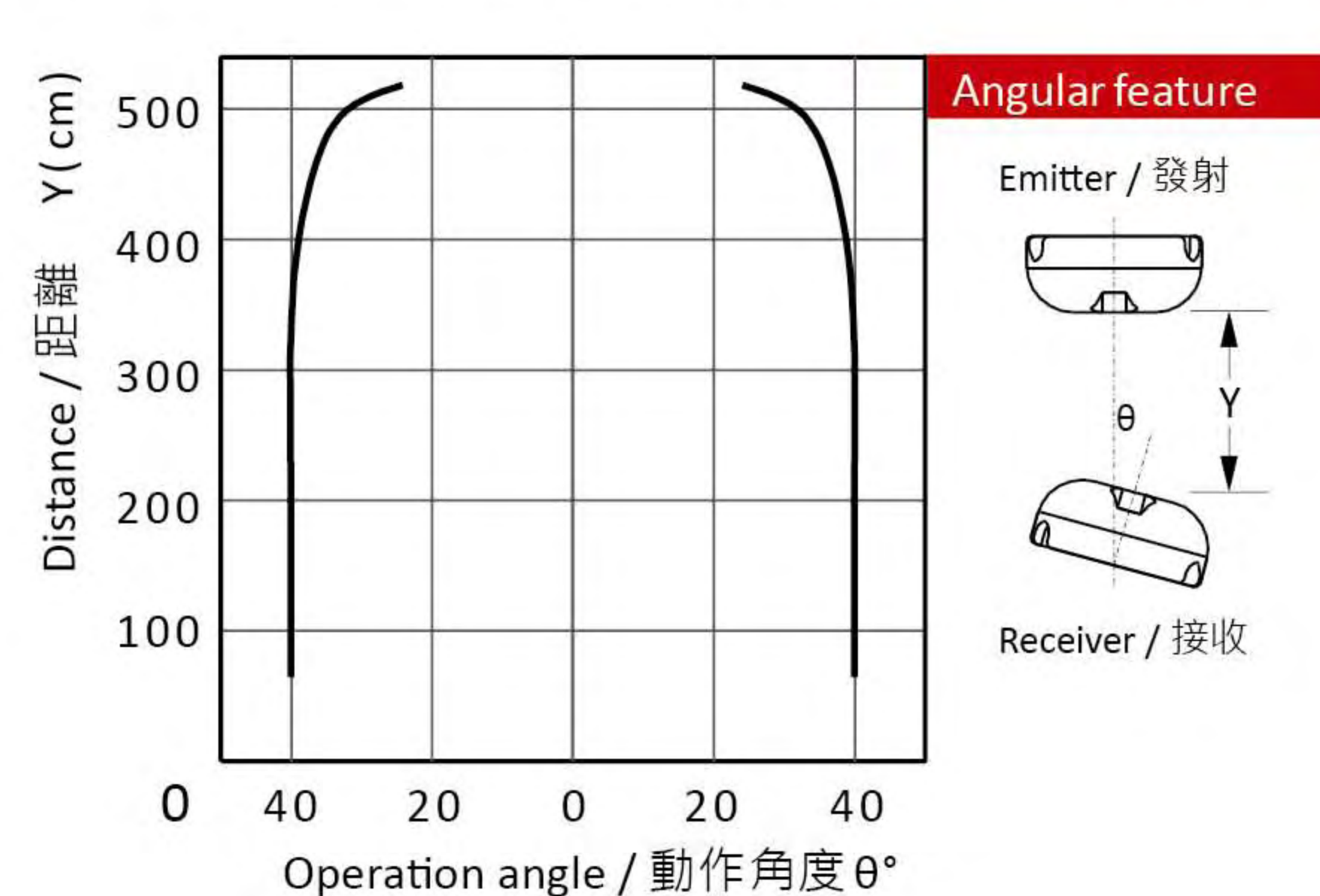
OAP-2016-□ Angular deviation / 角度偏差



OAP-2008S-□ Angular deviation / 角度偏差



OAP-2016S-□ Angular deviation / 角度偏差



OAP

光電 / 光柵 / 超音波感測器

R5JM
R3JK
LK
LRS
PK3
PKG3
PK5
PM6

PTQ18
RMF
MMF

SU07
SU
SU18
SU30

SPR
RX

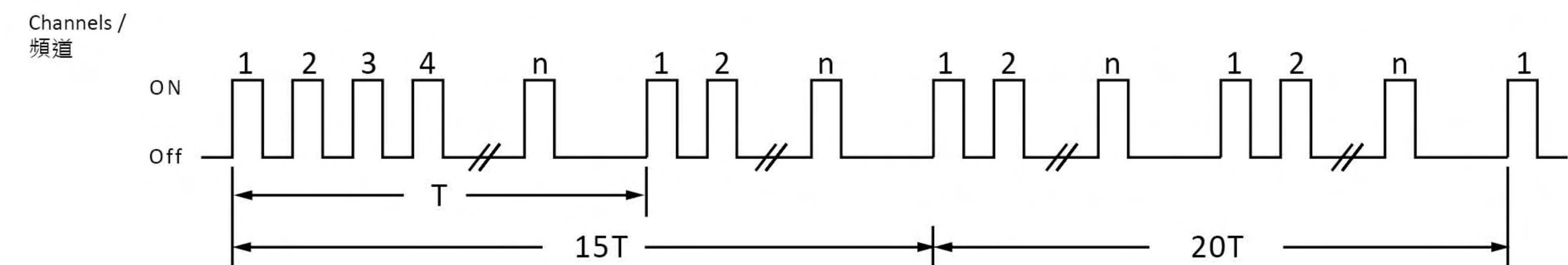
OAP
ASP

RU18

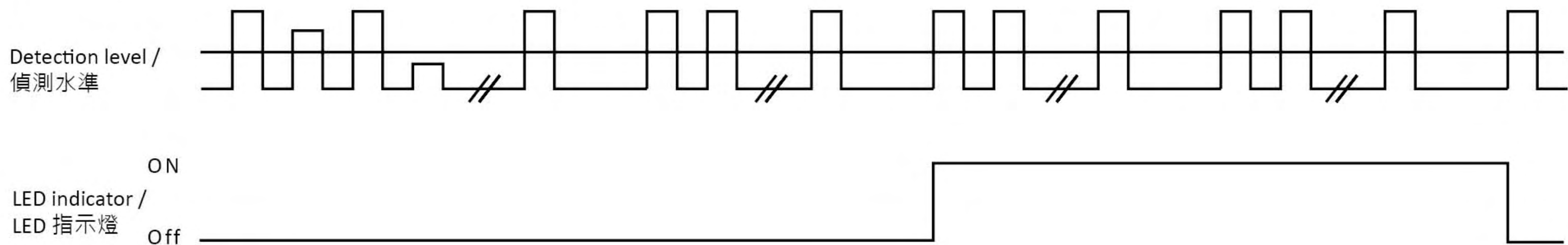
Timer chart / 時序圖

• OAP-2008-□

Emitter / 發射

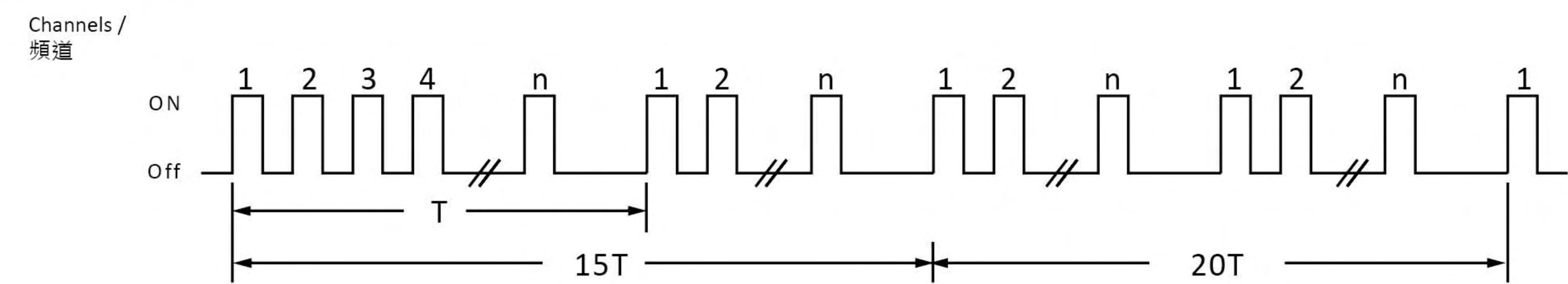


Receiver / 接收

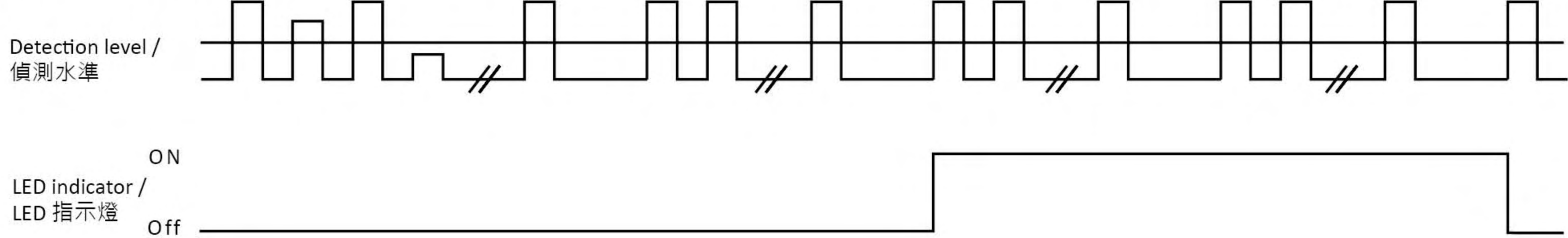


• OAP-2016-□

Emitter / 發射



Receiver / 接收



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 150mm. / 安全距離(D)公式。最短距離150mm。

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

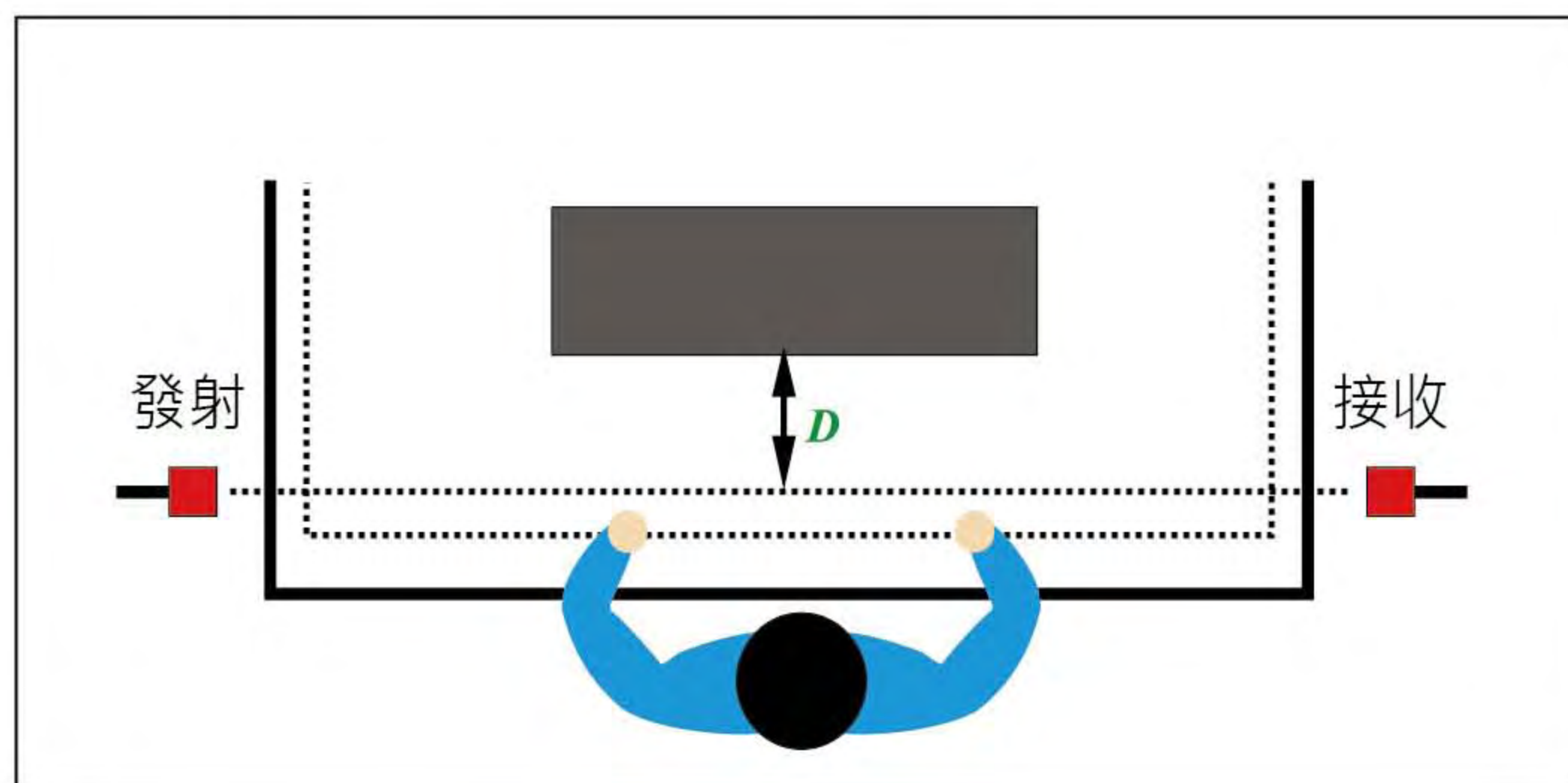
$$D=1600 \times T+\alpha \quad (D > 500\text{mm})$$

D=safe distance (mm)

T=response time (machine+sensor)

反應時間= (機器的反應時間+感應器的反應時間)

$\alpha=90\text{mm}$



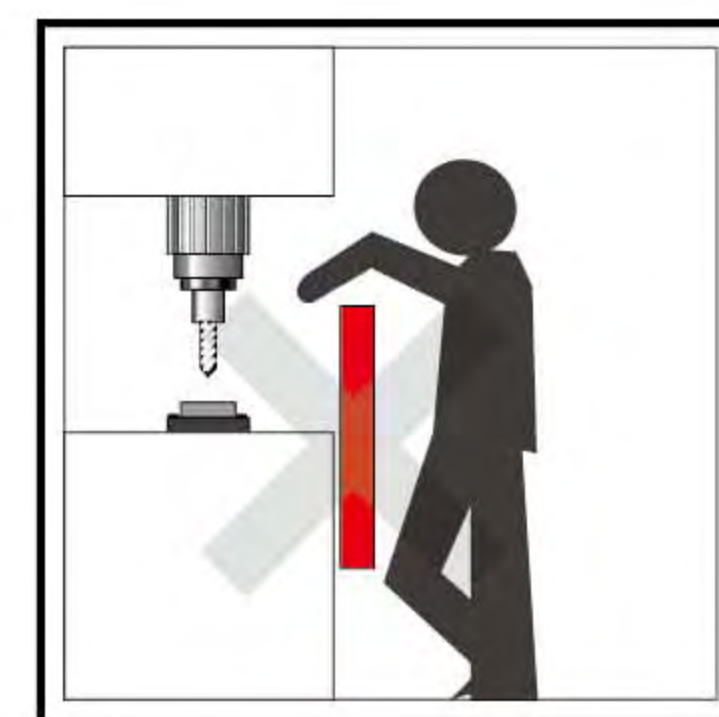
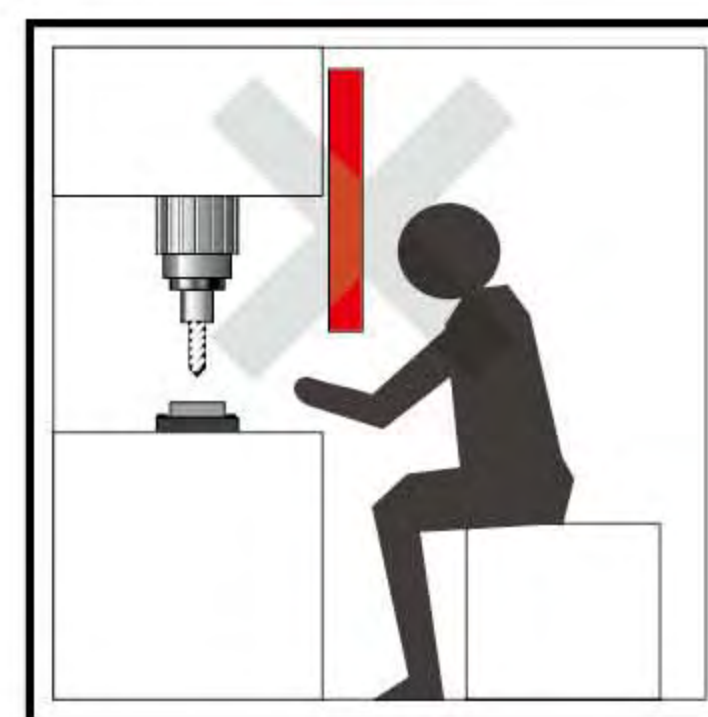
⚠ Warning3 / 警告3

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

◆Correct / 正確

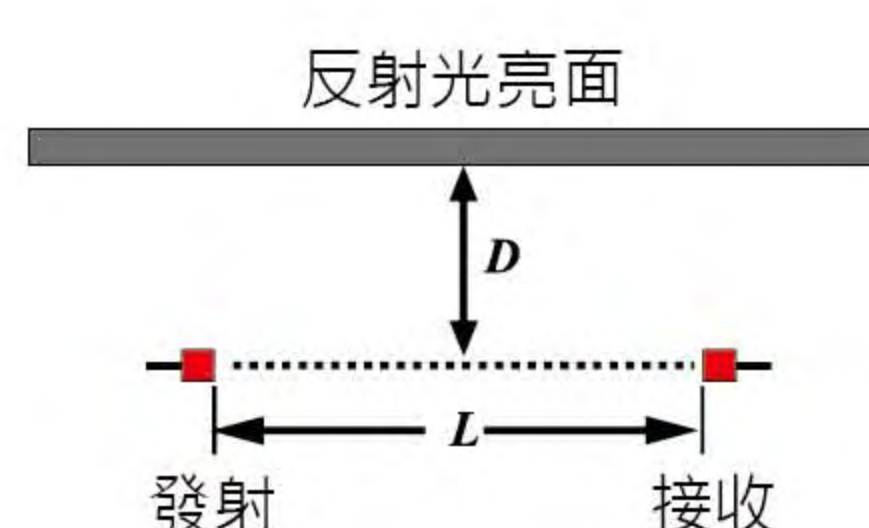
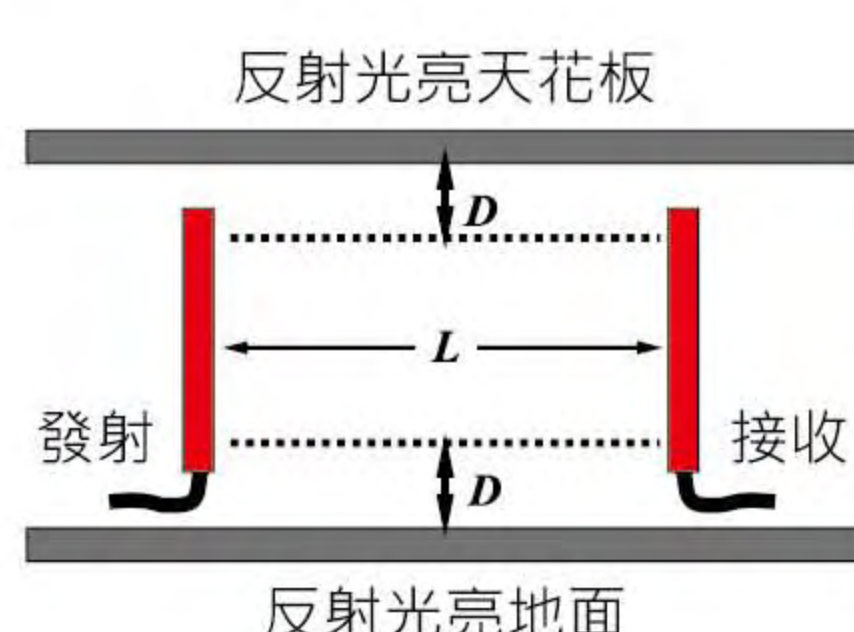


◆Wrong / 錯誤



⚠ Warning4 / 警告4

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



Acceptable installation distance / 可接受的安裝範圍
 $D \geq 150\text{mm}$
 $L=0.3 \sim 5\text{M}$