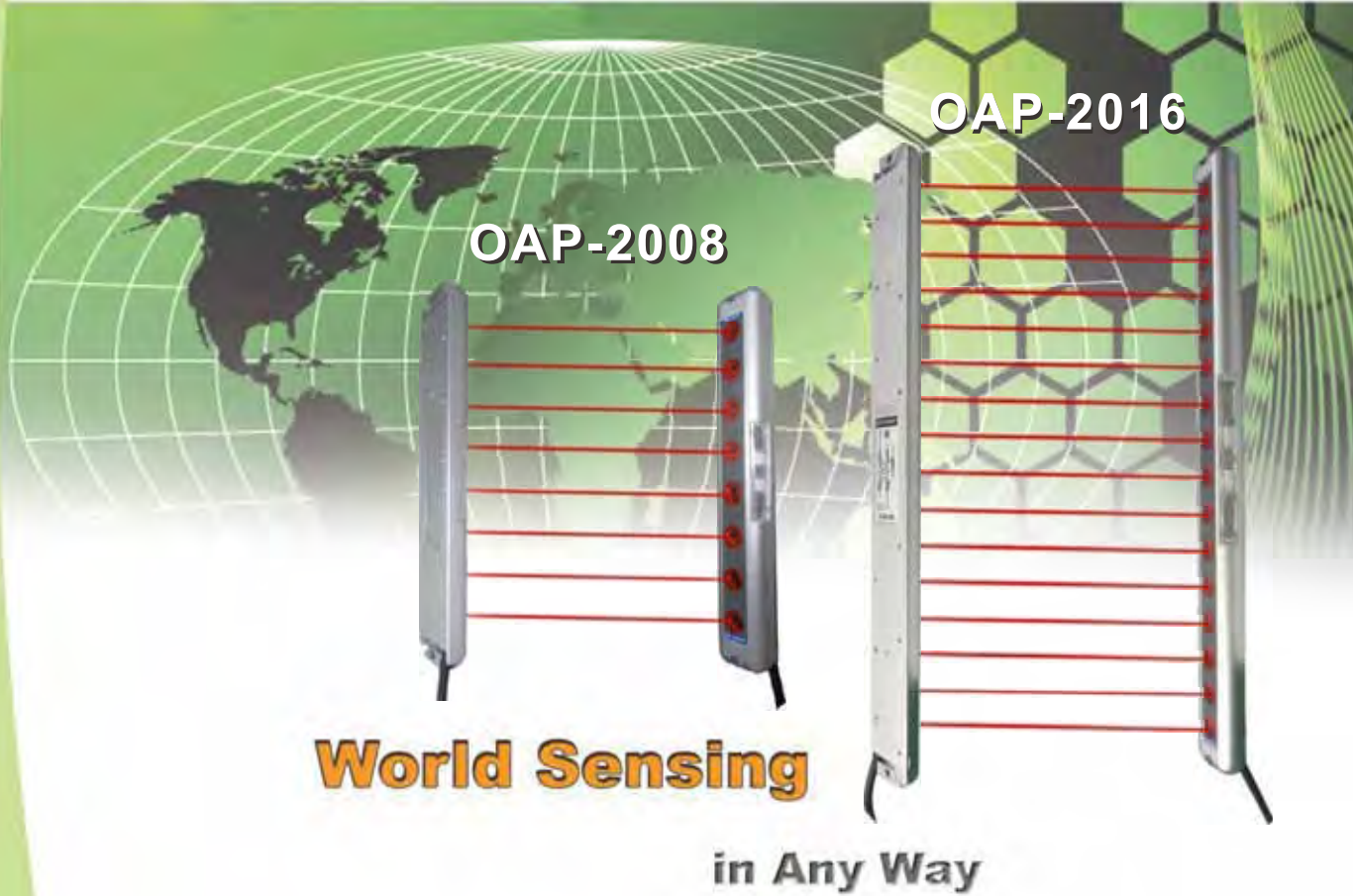


# RiKO

[www.riko.com](http://www.riko.com)

## FIBER & SENSORS



OAP-2016

OAP-2008

**World Sensing**

in Any Way

SU-30



PK5



FT-30ML



FRW-K10-20



## APPLICATION

FIBER .....	P.000
SENSOR .....	P.000

## Photo Sensor

Fiber Amplifier /  
光纖放大器

FZ1 .....	P.000
FZ-KP2 .....	P.000
List of fiber sensing distance.....	P.000

Long Sensing Range Photo Sensor /  
長距離檢測方形光電開關

R3JK .....	P.000
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Easy Fixed Photo Sensor /  
L形簡易安裝光電開關

TQ18 .....	P.000
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Tubular Photo Sensor /  
圓管形光電開關

MF .....	P.000
RMF .....	P.000
MMF .....	P.000

## Photo Sensor/光電開關

PK3 .....	P.000
PK5 .....	<b>NEW</b> P.000

## U-shape Photo Sensor / U形光電開關

SU .....	P.000
SU15 .....	P.000
SU07 .....	<b>NEW</b> P.000
SU30 .....	<b>NEW</b> P.000

## Ring Photo Sensor /環形光電開關

RQ .....	P.000
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## Micro Photo Sensor /小型光電開關

SRR .....	P.000
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General Purpose Compacted Area  
Sensor / 一般使用區域光幕

OAP .....	<b>NEW</b> P.000
OAS .....	P.000

## Proximity Sensor

Tubular Inductive Proximity Sensor /  
圓管形電感性近接開關

SC/SCT .....	P.000
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Rectangular Inductive Proximity  
Sensor / 方形電感性近接開關

JN .....	P.000
JND.....	P.000
RN .....	P.000
SN .....	P.000

Inductive Ring Sensor /  
環型近接感應器

SIA .....	P.000
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Capacitive Proximity Sensor /  
靜電容式近接開關

KC .....	P.000
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## Other

## Timer/計時器

GM48.....	P.000
G3Y.....	P.000

## Counter/計數器

GM48A.....	P.000
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## Controller /控制器

ST01.....	P.000
ST-T2.....	P.000

Rechargeable Multi-function Sensor  
Tester / 可充電式多功能測試器

ST05.....	P.000
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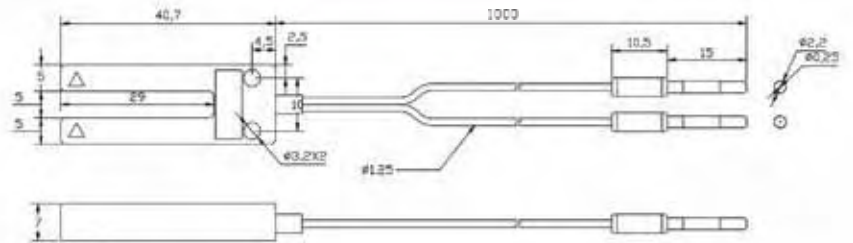
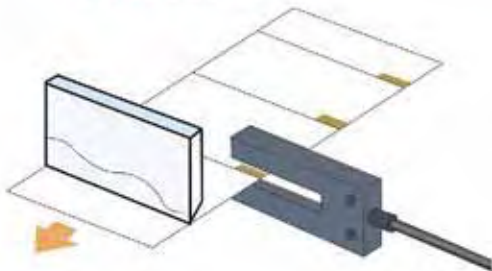
## Accessories/配件

Bracket .....	P.000
Reflector .....	P.000
Conector .....	P.000

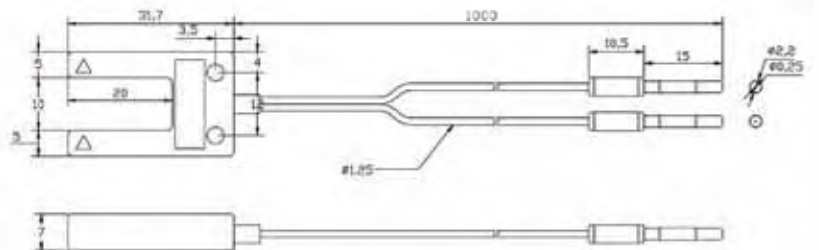
# FTA-SU05-10 FTA-SU10-10

## Applications

FTA-SU05-10

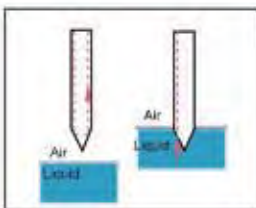


FTA-SU05-10



# FRJ-9310-20

## Theory of detection



## Specifications

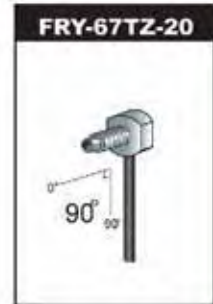
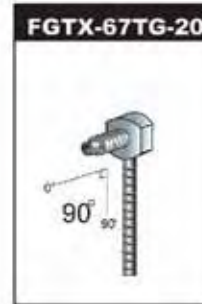
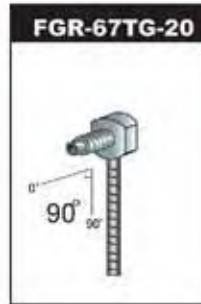
Description	FRJ-9301-20	FRJ-9302-20	FRJ-9310-20	FRJ-9320-20
Material	Fluorine resin (Teflon)			
Sensing object	Liquid (except milkwhite liquid)			
Ambient temperature	-55°C to +70°C			
Minimum bending radius	R15/R40			
Length	2.0M			

\* Unable to detect milkwhite liquid and hydrofluoric acid.

## Dimensions



**Characteristic**

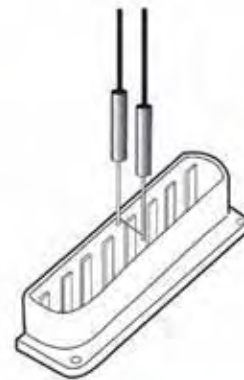
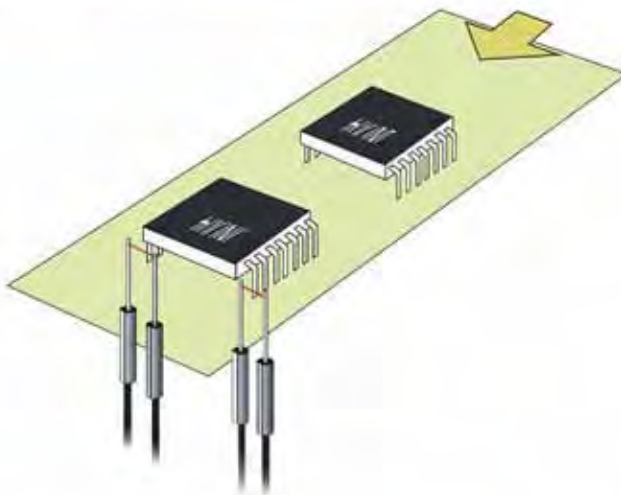


**Specifications**

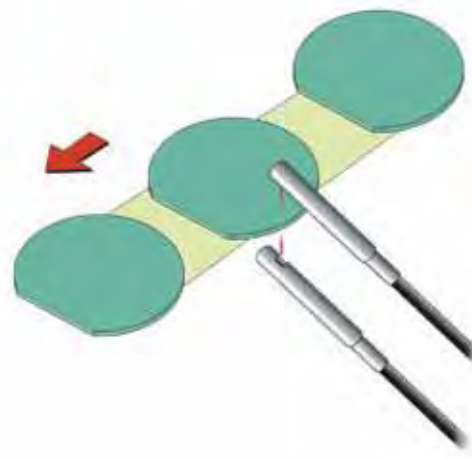
P/N	<b>FGR-67TG-20</b>	<b>FGTX-67TG-20</b>	<b>FRY-67TZ-20</b>
Description	Reflective fiber optics (Glass)	Thrubeam fiber optics (Glass)	Flexible
Core	Ø1.5	Ø1.5	Ø1.0x2
Operate temperature	-40°C~300°C	-40°C~300°C	-40°C~70°C
Wavelength	380~1300nm	380~1300nm	650nm
Bending radius	R20	R20	R2
Nut size	M6	M6	M6
Detecting distance	80mm	500mm	70mm

(FZ-KP2)

**FTD-210-32**



**FT-320D-T14L**

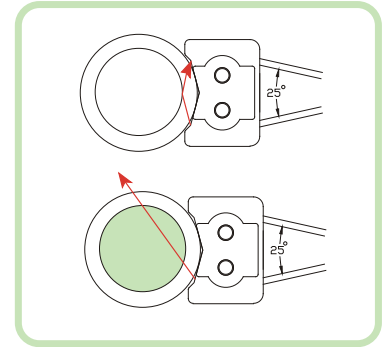
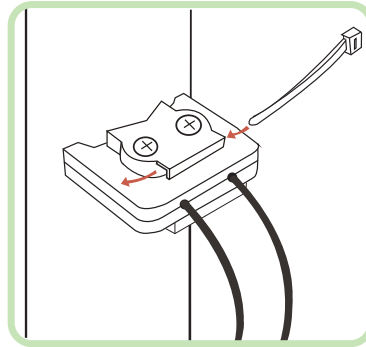
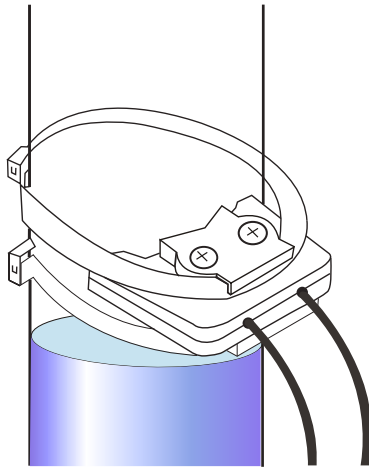


# FRD-FU901-20

Fiber optic sensor fixed on the tube to detect the level of liquids:

FRD-FU901-20 is a liquid level sensor which can be easily fixed on a tube. Based on the theory of refraction, it can be easily used to detect the level of liquids inside the tube.

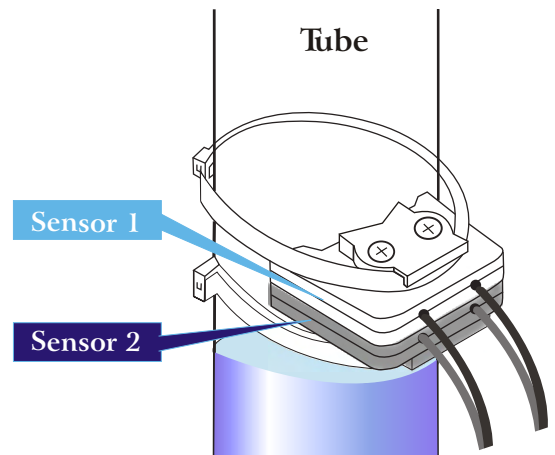
Features: light weight, easy to install (with installation band attached), small dimension.



## Specifications

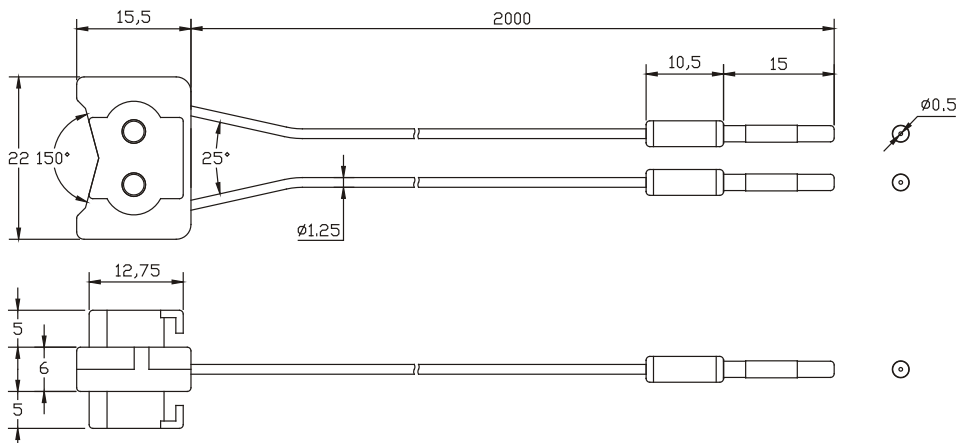
Model	FRD-FU901-20
Detecting object	Liquid
Tube size	ø6~26 mm
Operating temperature	-40~+70°C
Hurnidity	35 to 85% RH
Bending radius	R15
Cable length	2M
Material	Housing:Polycarbonatr Fiber:Plastic
Repeatability	2mm
Tube thickness under	3mm
Protection	IP50
Weight	9g
Adaptable amplifier	FZ-KP2

\* Remark: Milkwhite liquid excluded .



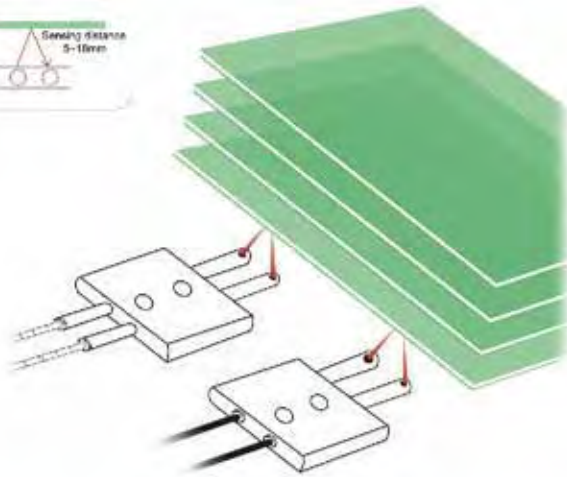
Fiber cable

## Dimensions

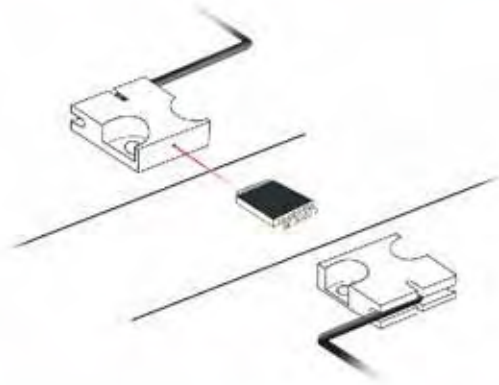


## FRH-38H-10 FGR-38K-10

### Applications

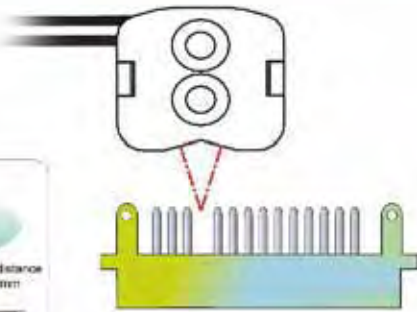


## FTW-10ML-10

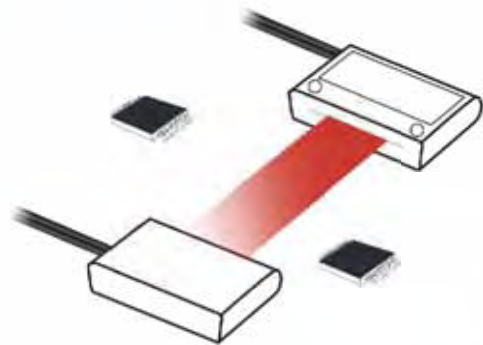


## FRW-K10-20

### Applications

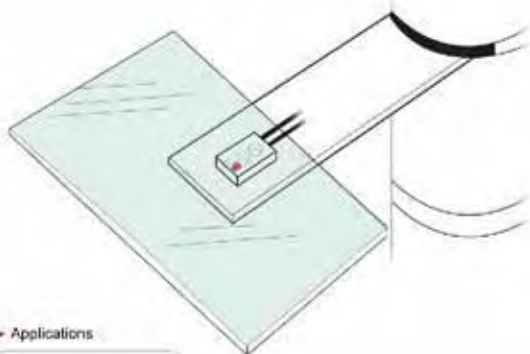


## FT-30ML

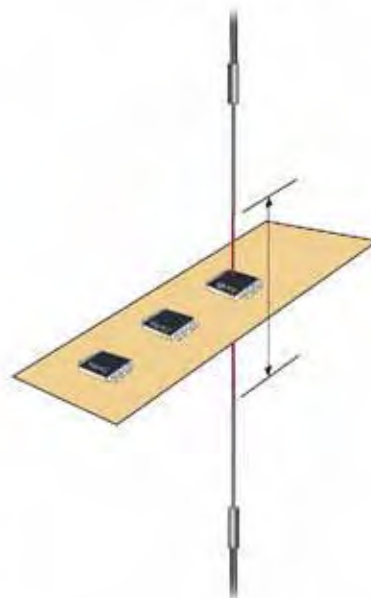


## FRB-38V-20

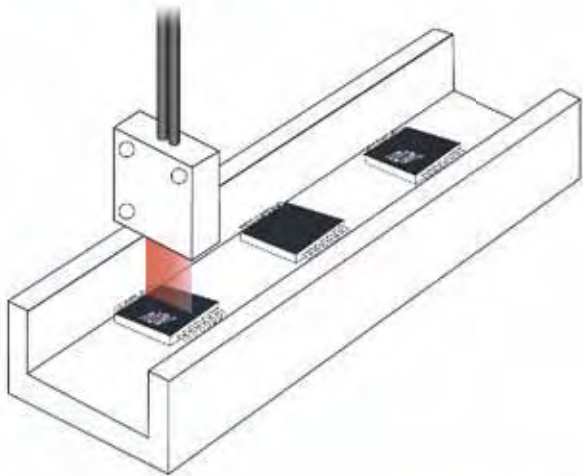
### Applications



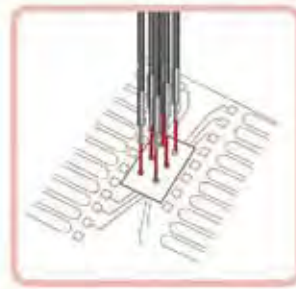
## FTE-310-MQ



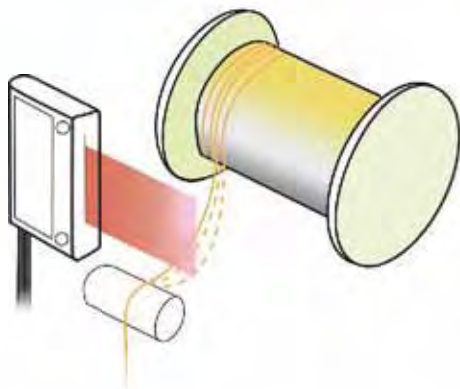
## FR-20MLS



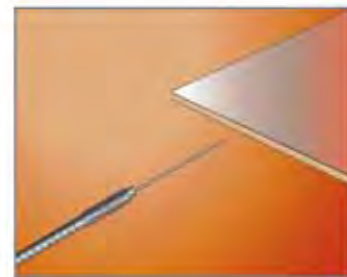
## FRC-210-22X



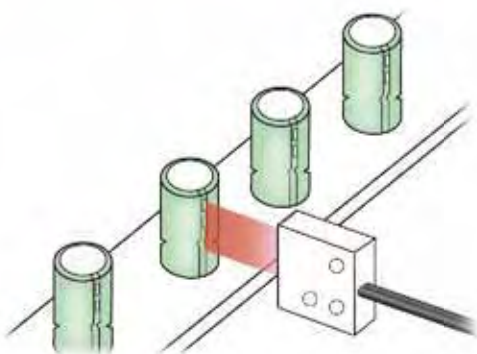
## FR-30ML



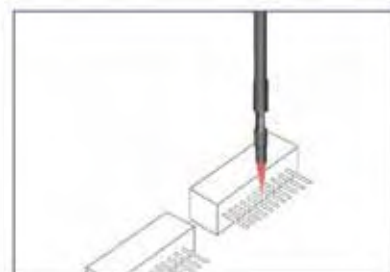
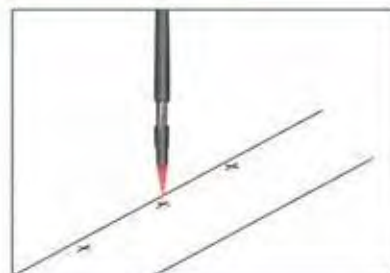
## FGT-410 FGR-410-M



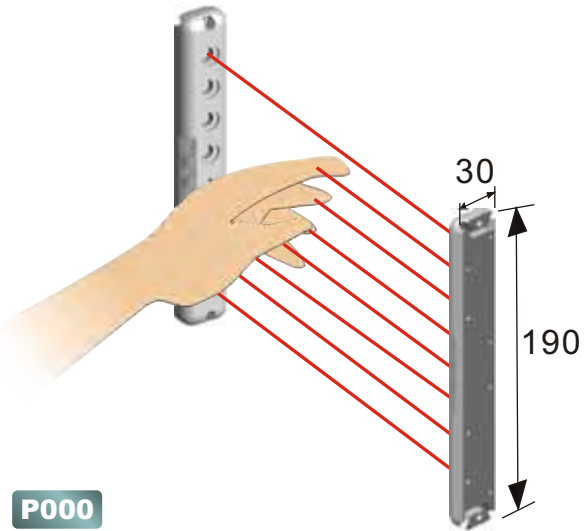
## FR-10ML-10



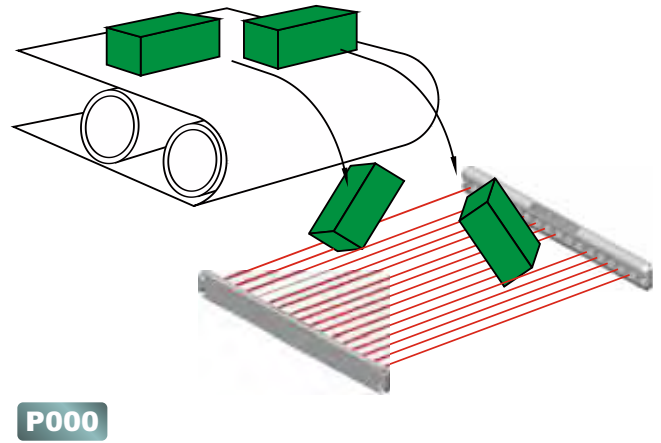
## FRC-310-35FA + FLM03



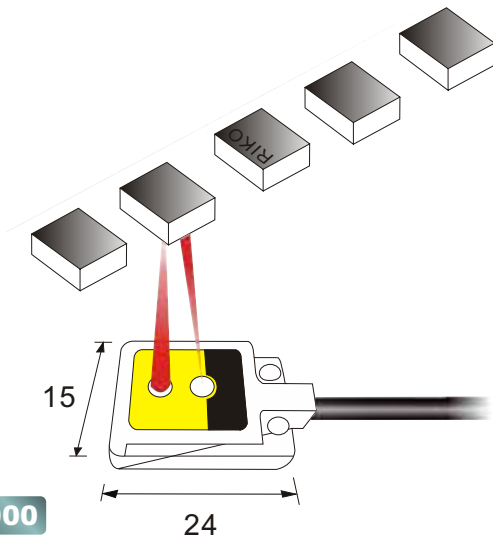
## OAP-2008-NK



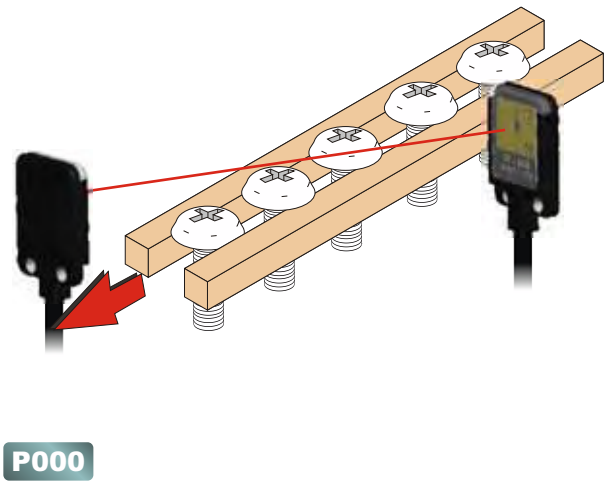
## OAP-2016-NK



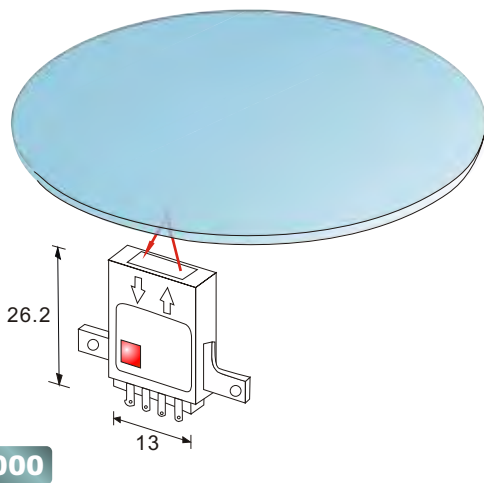
## PK5-DU03N



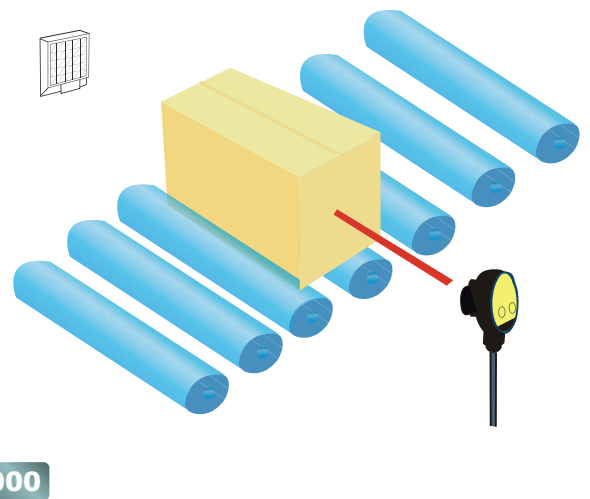
## PK5-1N



## SPR-402-N

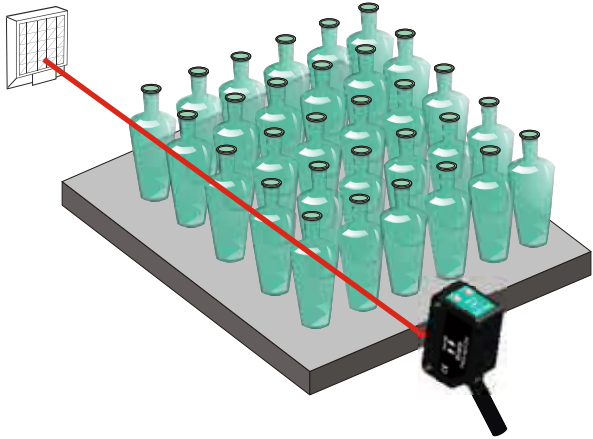


## TQ18-R2N



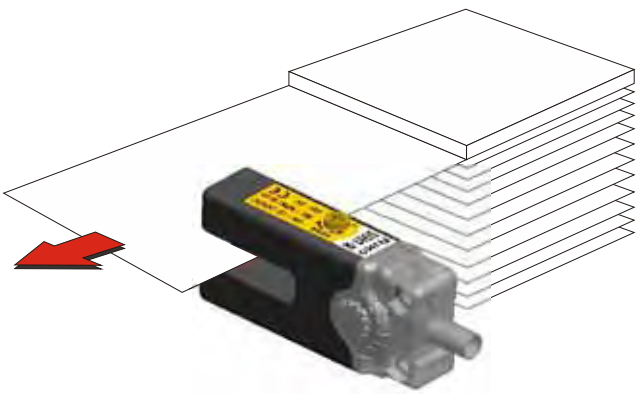


**PK3-QR2N**



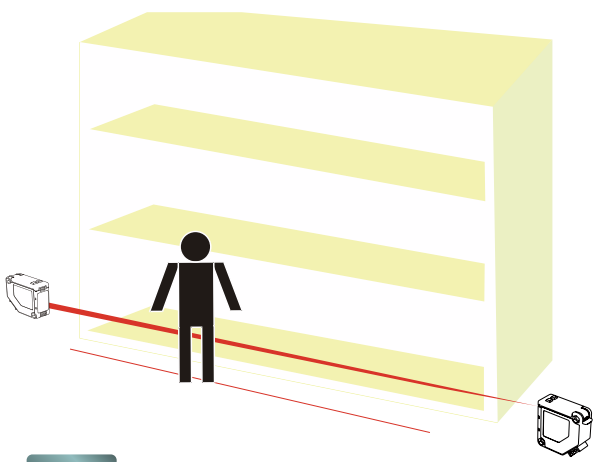
P000

**SU07-N**



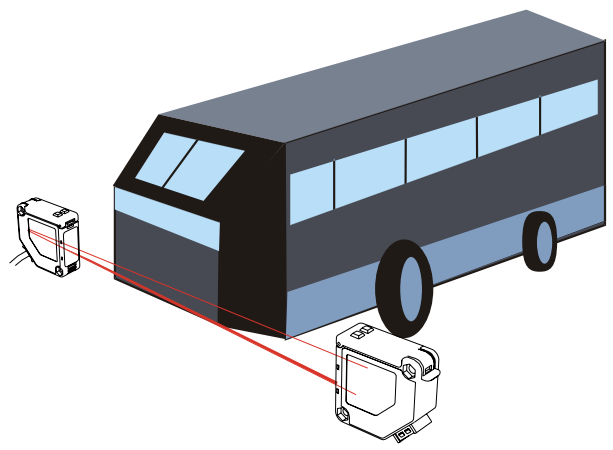
P000

**R3JK-30A3**



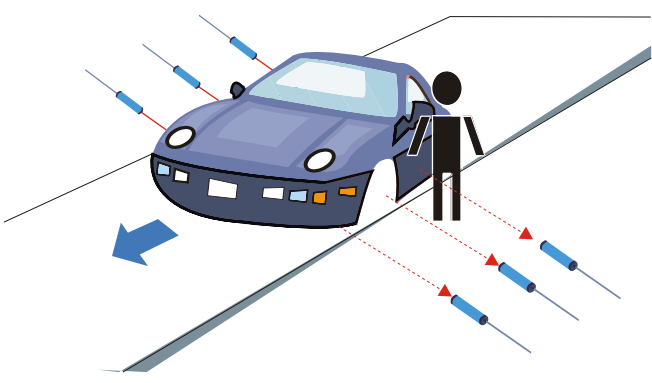
P000

**R3JK-10A3**



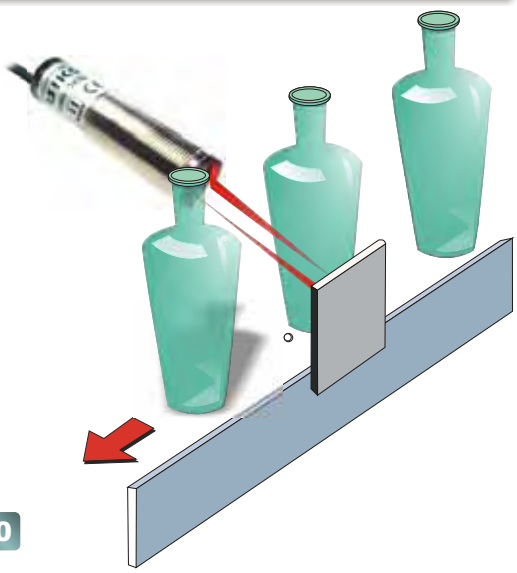
P000

**RMF-20N**



P000

**MMF-QR2N**



P000

## ◆ Characteristics / 特點:

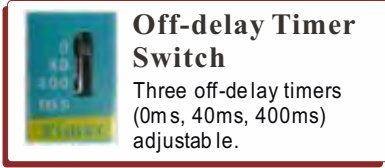
- 20-Turns Sensitivity Adjuster. The optimum sensitivity can be set easily.  
多迴轉 (20 TURNS) 靈敏度調整。
- Small size, 10 mm thickness, can be mounted in a small space.  
Several amplifiers can be mounted side by side.  
體積薄，厚度只有10mm，使用空間小，多個併排安裝。
- Off-delay timer adjustable for 0ms, 40ms and 400ms.  
可調整OFF TIMER感應時間(0ms,40ms,400ms)。



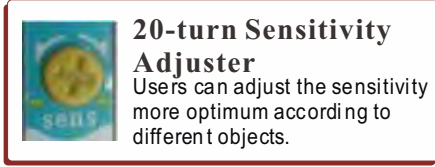
**Ultra-Slim**



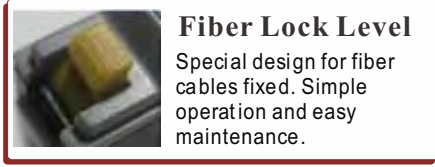
**L.on/D.on Switch**  
Easy selection to switch the output operation as either Light-ON or Dark-ON.



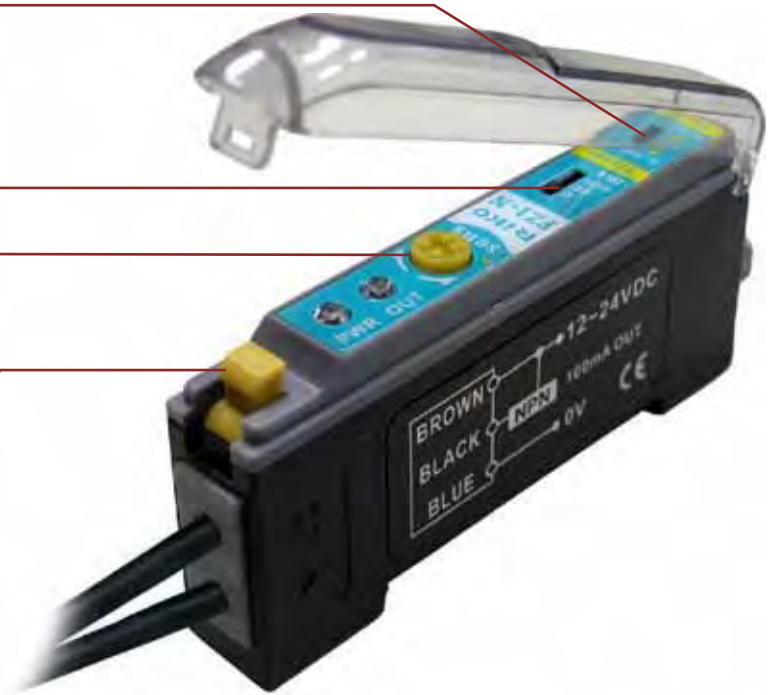
**Off-delay Timer Switch**  
Three off-delay timers (0ms, 40ms, 400ms) adjustable.



**20-turn Sensitivity Adjuster**  
Users can adjust the sensitivity more optimum according to different objects.



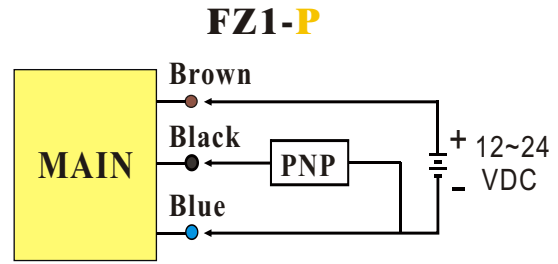
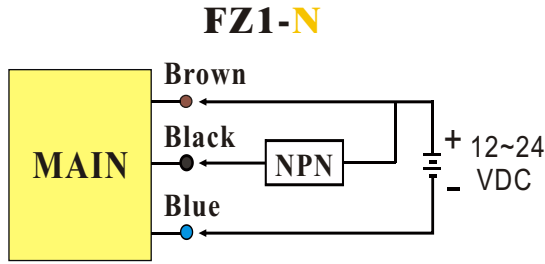
**Fiber Lock Level**  
Special design for fiber cables fixed. Simple operation and easy maintenance.



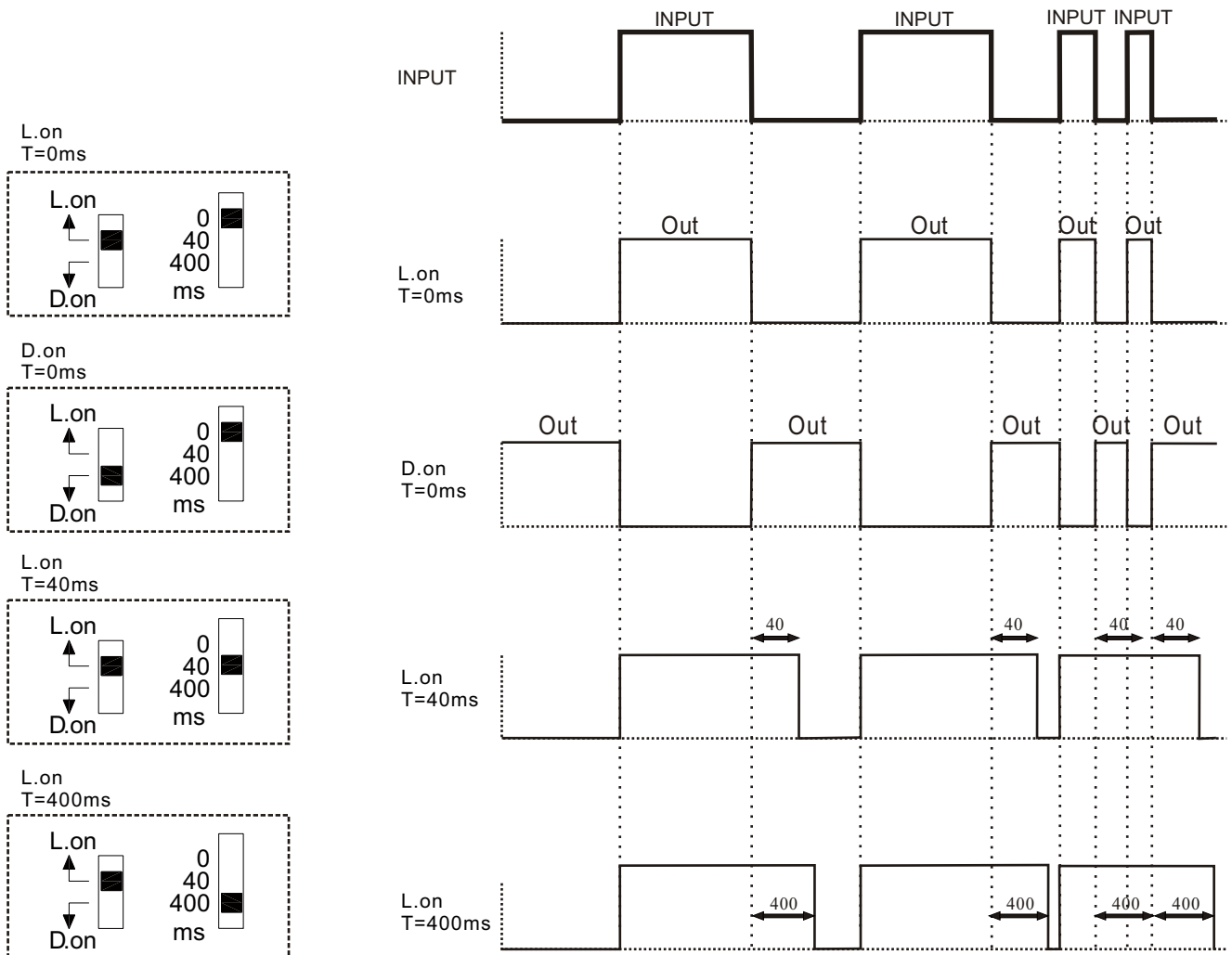
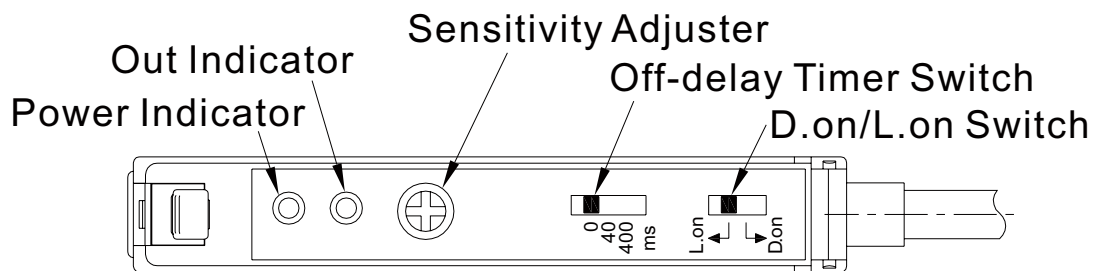
## ◆ Specifications / 規格表:

Model / 型號	FZ1-N	FZ1-P
	FZ1-ND	FZ1-PD
Sensing type/發光源	RED LED 680 nm	
Operating voltage/工作電壓	DC : 12~24VDC ± 10%	
Current Consumption/消耗電流	40mA max.	
Output Current/輸出電流	24VDC : 100mA max.	
Output Type / 輸出模式	NPN.NO / NC	PNP.NO / NC
Protection circuit / 保護電路	Reversed polarity protection, over-current protection	
Response time/反應時間	0.5 ms max.	
Indicators/指示燈	Output indicator : Red LED, Power indicator : Green LED	
Sensitivity adjustment/靈敏度功能	20 turns trimmer	
Insulation resistance/隔離阻抗	20M Ω min. 500VDC	
Voltage Withstandability/絕緣耐壓	500VAC for 1min.	
Operation temperature/工作溫度	10°C ~ +60°C	
Ambient humidity/工作濕度	35%~85% RH	
Protection degree/防水等級	IP64	
Material/外觀材質	ABS	
Wiring method / 出線方式	FZ1-□	Pre-wired Ø4.2 × 2 M / 3-cores
	FZ1-□D	M8 pigtailed type / M8 接頭15cm電線式
Weight / 重量	FZ1-□	Approx. 65 g
	FZ1-□D	Approx. 35 g

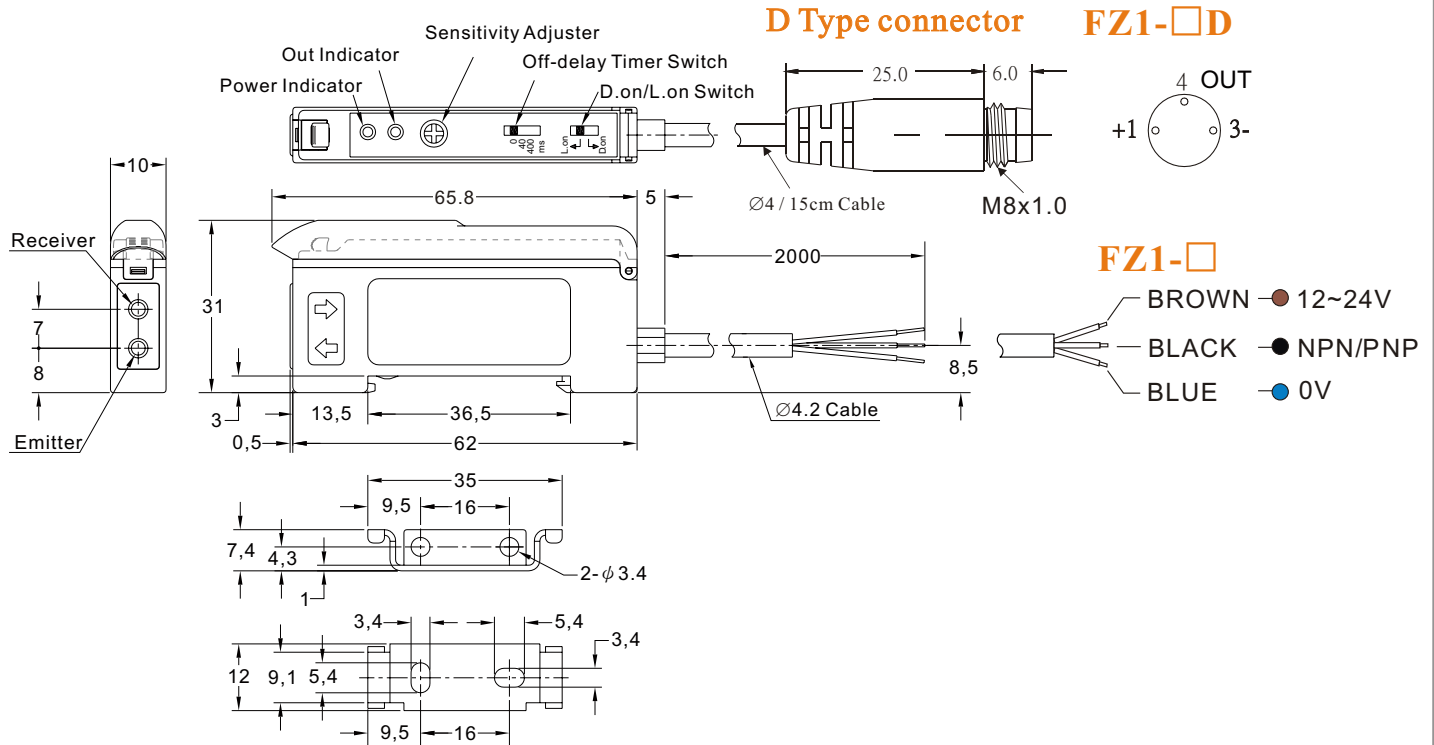
## ◆ Wiring diagrams:



## ◆ Operation chart:



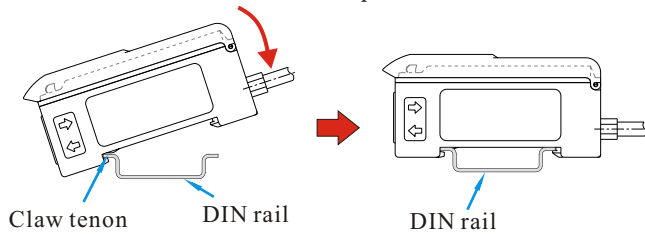
## ◆ Dimensions/外型尺寸圖:



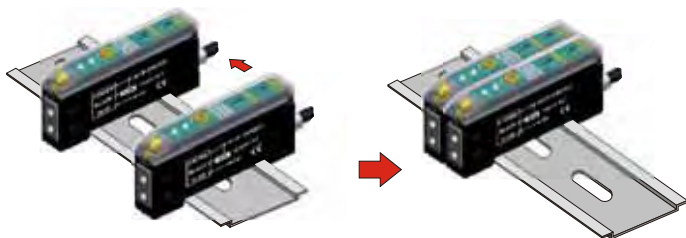
## Fiber amplifier mounting/detaching operation:

### 1. Mounting / 安裝

(1) To mount each amplifier to the attached mounting bracket or DIN rail in sequence.



(2) To connect two amplifiers close together by sliding the amplifier bodies.



### 2. Detaching / 卸下

To detach the amplifiers in sequence by sliding the amplifier bodies. Don't detach two amplifiers at a time.

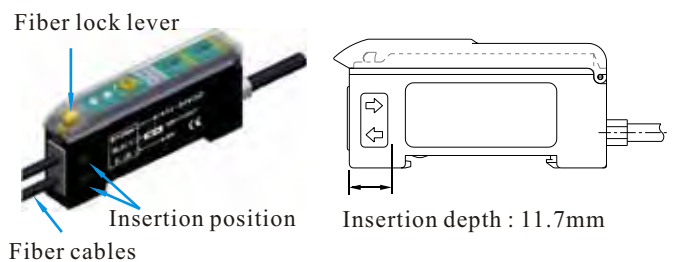


Be sure to switch off the power supply when mounting or detaching the amplifier.

## Fiber cables fixing operation:

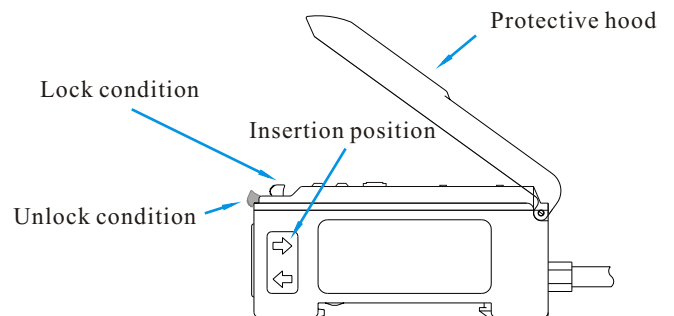
### 1. Insert the fiber cables / 插入光纖

Open the protective hood and tilt the fiber lock lever to release the lock condition. Referring to the side seal of insertion position, fully insert the fiber cables into the mounting holes until the limit. Pull the fiber lock lever back to lock the cables.



### 2. Pull out the fiber cables / 拔出光纖

Open the protective hood and tilt the fiber lock lever to release the lock condition. Pull the fiber cables straight out from the mounting holes.



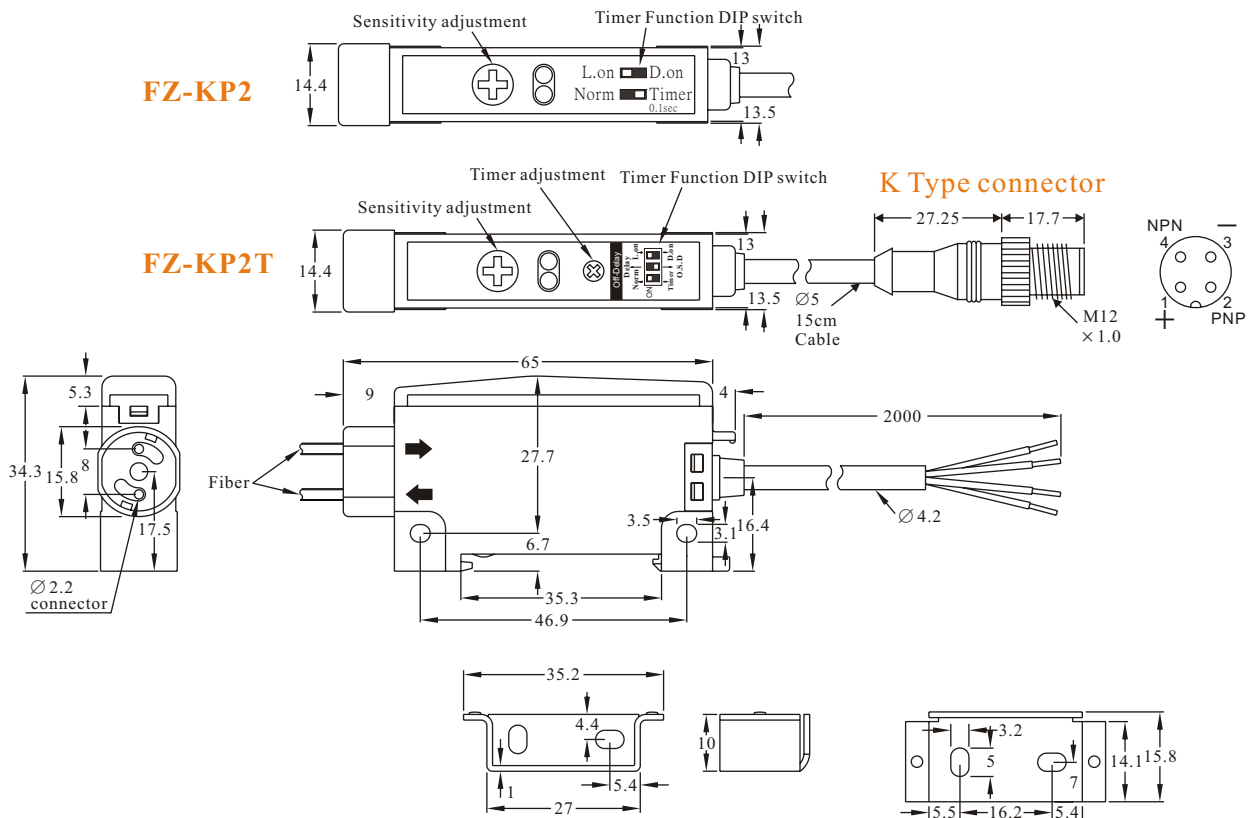
To protect the fiber cables from incorrect operation, be sure to tilt the fiber lock lever to release the lock condition before pulling out the fiber cables.



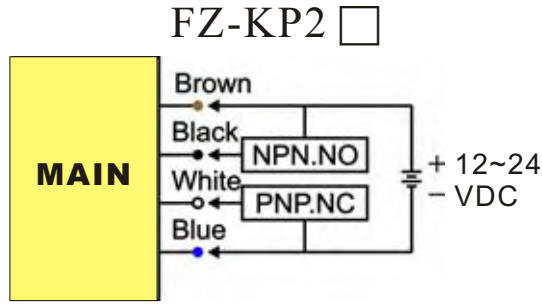
◆ **Specifications / 規格表:**

Model / 型號	FZ-KP2	FZ-KP2I	FZ-KP2T
	FZ-KP2K	FZ-KP2IK	FZ-KP2TK
Emitting light / 發光源	Red LED (680nm)	IR LED (940nm)	Red LED (680nm)
Operating voltage / 工作電壓	12 to 24 VDC ± 10%		
Current consumption / 消耗電流	35mA max		40mA max
Output current / 輸出電流	100mA max(24VDC max.), Residual voltage : 1V max		
Output type / 輸出模式	NPN.NO / NC		PNP.NO / NC
Protection circuit / 保護電路	Reversed polarity protection, over-current protection, surge absorber		
Response time / 反應時間	0.5 msec		1 msec
Indicators / 指示燈	Output indicator : Red LED, Power indicator : Green LED		
Sensitivity adjustment / 靈敏度功能	4-turns trimmer		
Timer function / 計時器功能			One shot 0~7 sec off-delay (switch selectable)
Material / 外觀材質	ABS Resin		
Wiring method / 出線方式	FZ-□KP2	Pre-wired Ø4.2 × 2 M / 4-cores	
	FZ-□KP2K	M12 Pigtailed type / M12接頭 15cm電線式	
Weight / 重量	FZ-□KP2	Approx. 85 g	
	FZ-□KP2K	Approx. 55 g	

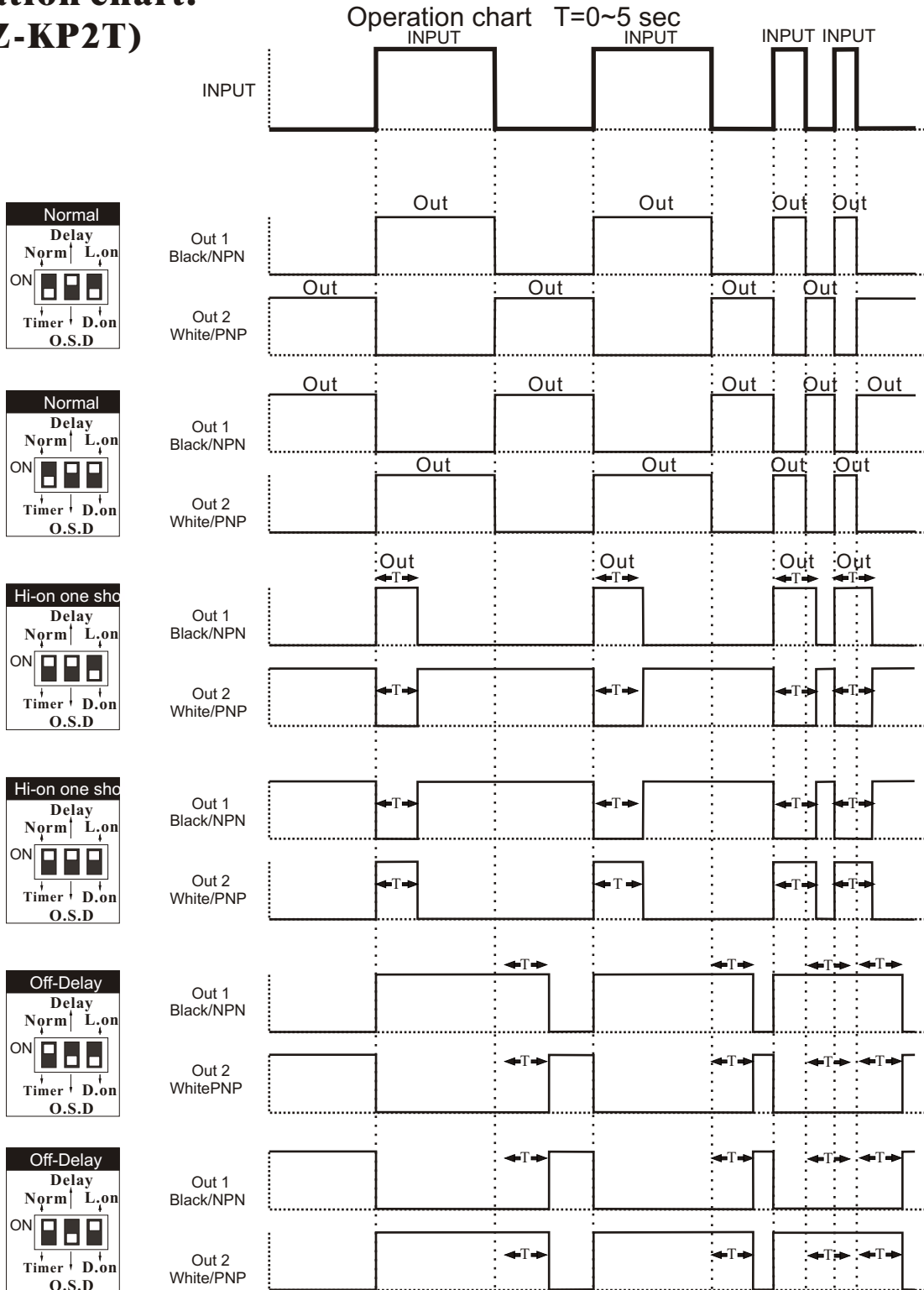
◆ **Dimensions / 外型尺寸圖:**



















































◆ Wiring Schemes:



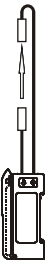















































◆ Operation chart:  
(FZ-KP2T)



— FZ-KP2

Features	Shape	Detecting Distance (mm)	* FZ-KP2	Smallest detectable object(metal wire)	Minimum bend radius	Weight(g)	Model	
	 M6		90	Ø0.2	R25	40	FR-610	
	 Ø5					40	FR-510	
	 M4					40	FRB-410	
	 Ø3					40	FRB-310-Q	
	 M6		120	Ø0.5	R40	43	FRX-610	
	 Ø5					40	FRX-510	
	 M6		70	30	Ø0.05	R15	40	FRC-610
	 M4						35	FRC-410
	 M3						33	FRC-310
	 Ø3						33	FRC-310-Q
	 Ø1						30	FRC7-110-Q20
	 M3		7	Ø0.05	R15	30	FRC4-310	
	 Ø2					30	FRC4-210	
	 Ø1					30	FRC4-110	
	 M6		80	Ø0.2	R25	40	FRH-610	
	 Ø5					40	FRH-510	
	 M4		70	Ø0.2	R2	40	FRZ-410	
	 Ø3					40	FRZ-310-Q	
	 M4		20	Ø0.1	R1	40	FRW-410	
	 Square					40	FRW-11	
	 M6		70	5	Ø0.05	R10	45	FRY-610
	 M4						33	FRE-410
	 M3						35	FRA-410
	 Ø2						33	FRE-310
	 Ø5						35	FRA-310
	 Ø2						33	FRE-210
	 Ø5						36	FRS-510
	 M4		25	Ø0.1	R15	33	FRS-410	
	 M3					33	FRD-410	
	 Ø2					33	FRS-310	
 Ø2	35					FRD-310		
 Ø2	33					FRS-210		
 M4		60	Ø0.05	R15	40	FRJ-410		
 M3					40	FRJ-310		
 19 x 25		70	Ø1.0	R25	60	FR-20ML		
 10 x 10					40	FR-10ML		

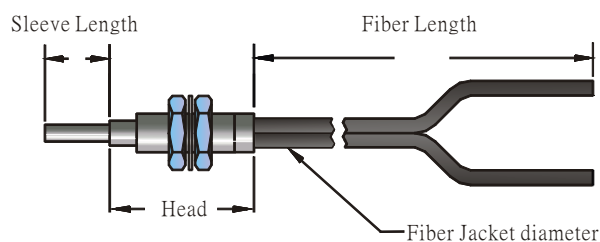
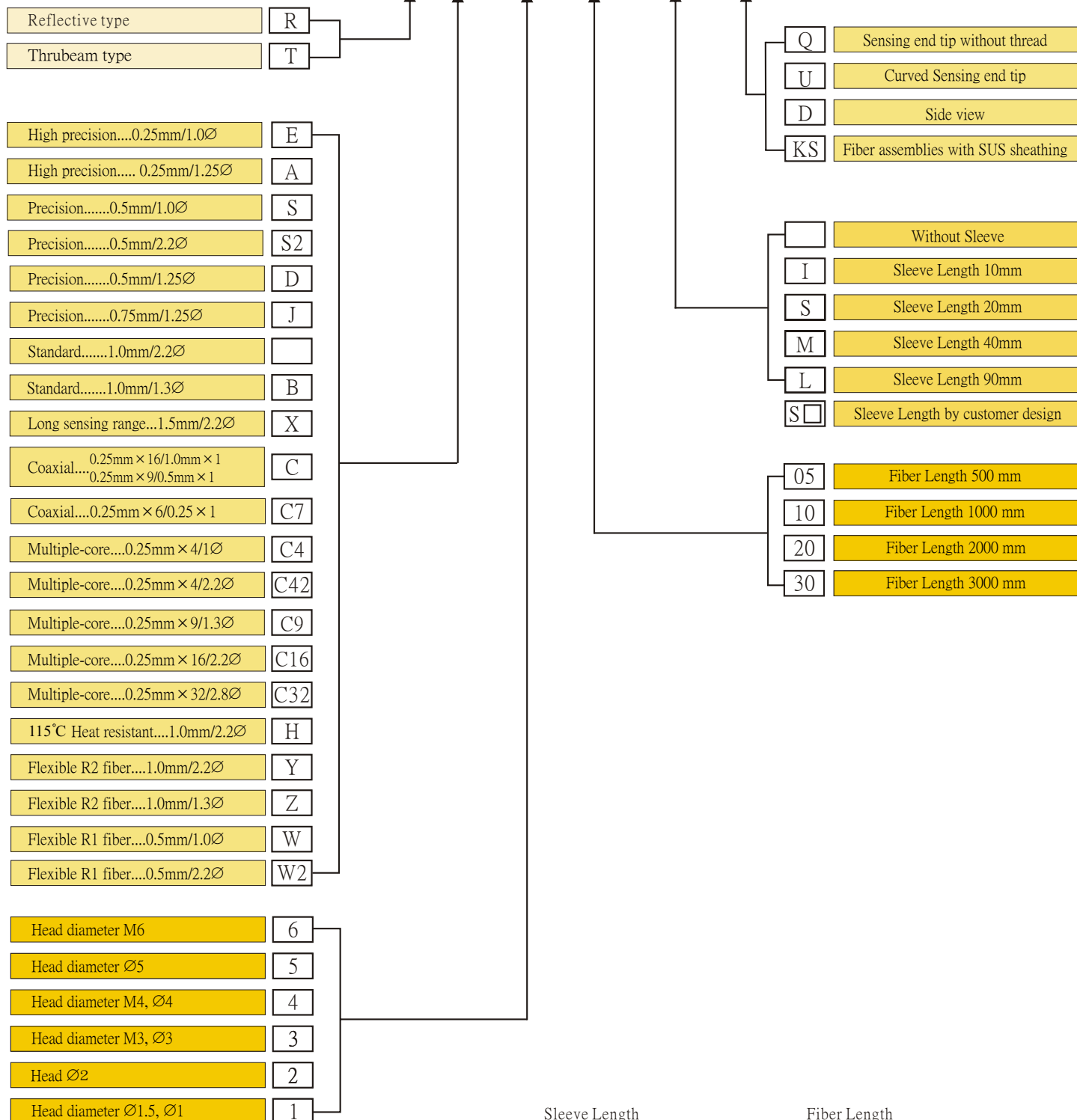
## FZ-KP2

Features	Shape	Detecting Distance (mm)	* FZ-KP2	Smallest detectable object(metal wire)	Minimum bend radius	Weight(g)	Model				
	 M6		500	Ø0.5	R25	49	FT-610				
	 Ø5					47	FT-510				
	 M4					45	FT-410				
	 M3					45	FT-310				
	 M4					35	FTB-410				
	 M3					35	FTB-310				
	 Ø2					35	FTB-210				
	 M4						250	Ø0.2	R15	40	FTJ-410
	 Ø2									40	FTJ-210
	 Ø5						700	Ø1.0	R40	42	FTX-510
	 M4	42	FTX-410								
	 M3		600	Ø0.5	R25					40	FTH-410
	 M3					35	FTE-310				
	 Ø2		30	Ø0.03	R10	35	FTE-210				
	 Ø1					33	FTA-210				
	 M6						300	Ø0.5	R2	47	FTY-610
	 M4									45	FTY-410
	 M3	40	FTY-310								
	 M4	Ø0.5	R2	40	FTZ-410						
	 M3			40	FTZ-310						
	 M4		80	Ø0.05	R1	35	FTW-410				
	 Ø1.5		80	Ø0.05	R1	50	FTW2-475D				
	 M4		130	Ø0.05	R15	35	FTS-410				
	 M3					35	FTS-310				
	 Ø2					35	FTD-310				
	 Ø1					33	FTS-210				
	 Ø1					33	FTD-210				
	 Ø1					32	FTS-110				
	 Ø2						100	Ø0.1	R15	30	FTC4-110
	 M3	33	FTC4-210								
	 10 x 10	30	FTC4-310								
	 15 x 15		500	Ø1.0	R15	35	FT-10ML				
 19 x 25		400	Ø1.0	R25	55	FT-15MLD					
 19 x 25		500	Ø1.0	R60	95	FT-20ML					

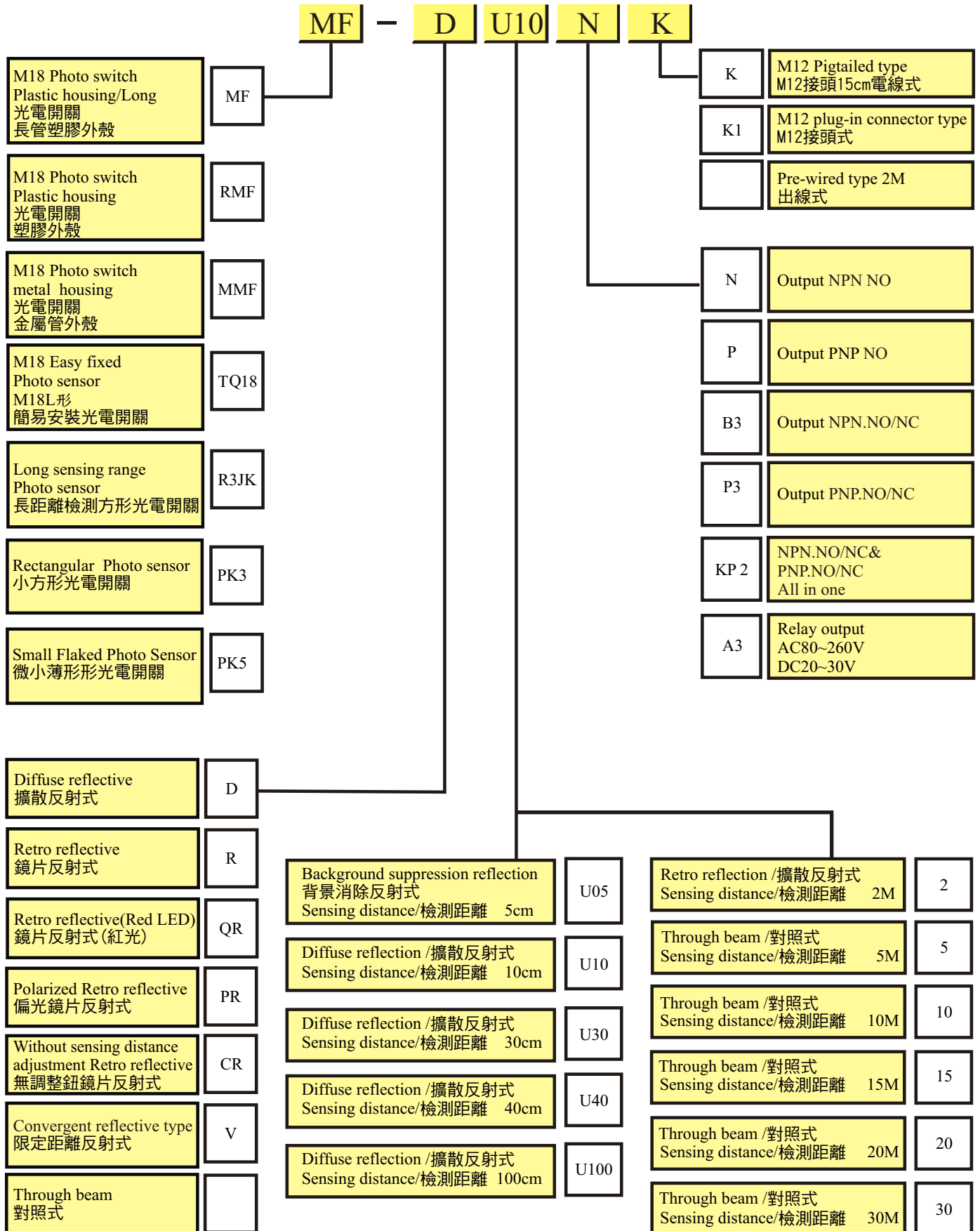


## ◆ Order Information :

FR - 6 10 - -

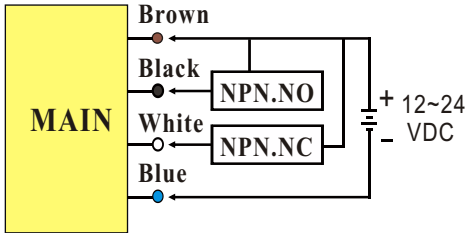


## ◆ Order Information / 訂貨索引:

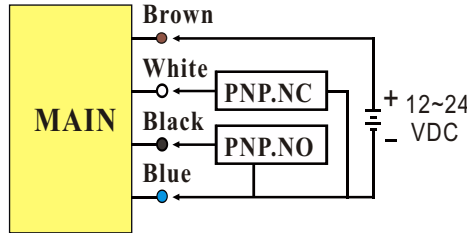


◆ Wiring diagrams / 接線圖:

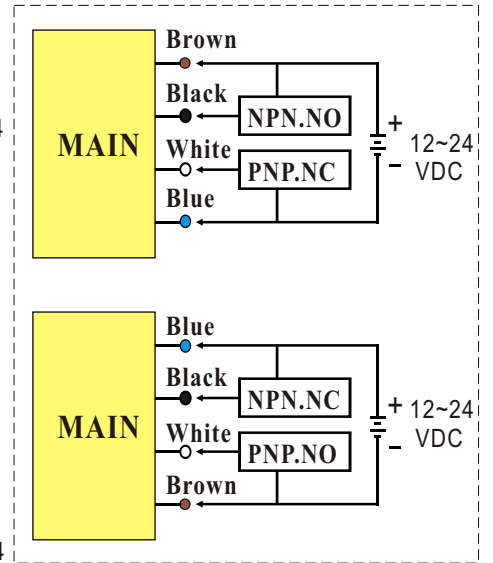
MF □ - B3



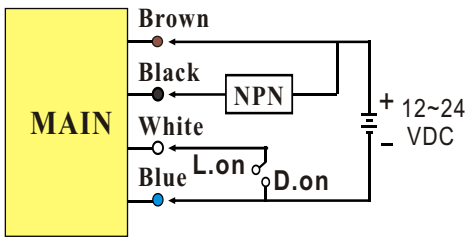
MF □ - P3



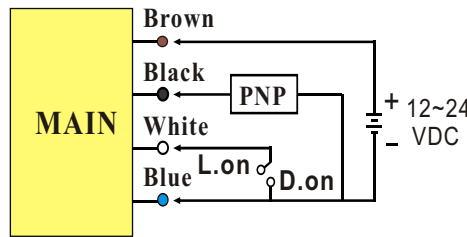
MF □ - KP2



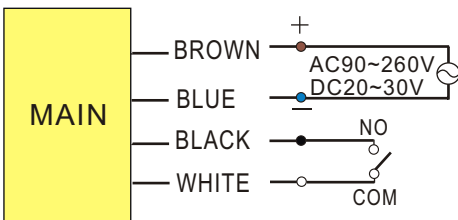
RMF □ - N  
MMF □ - N



RMF □ - P  
MMF □ - P

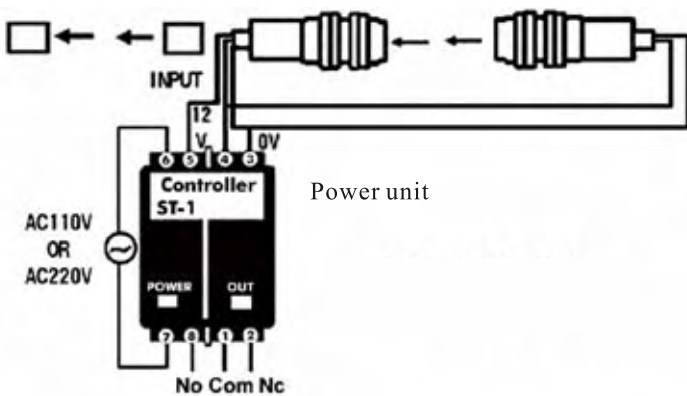


R3JK-□A3

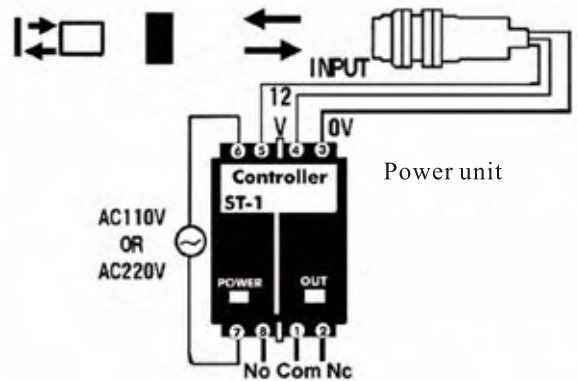


◆ Connections / 接線應用圖:

THROUGH-BEAM / 對照式



DIFFUSE REFLECTION / 擴散反射式  
RETRO REFLECTION / 鏡片反射式



# R3JK

# Long Sensing Range Photo Sensor **RIKO**

## ◆ Shape/外觀:



● RR-03 Reflectors / 鏡片

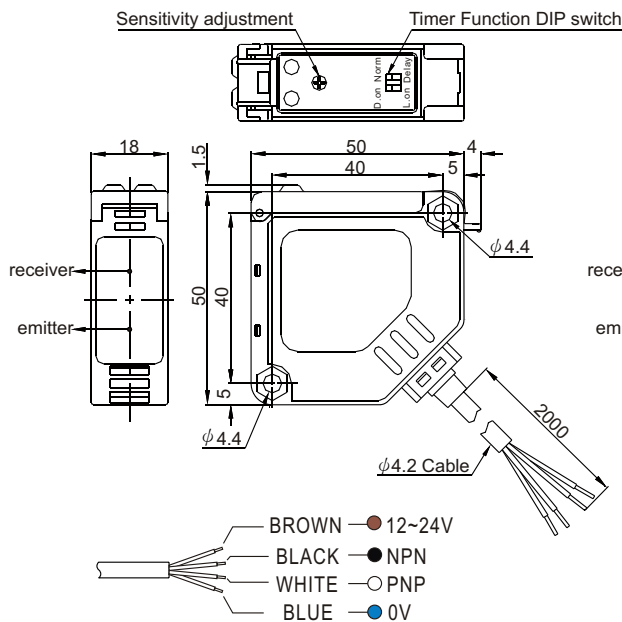
## ◆ Specifications /規格表:

Model / 型號	<b>R3JK-R5KP2</b> <b>R3JK-PR2KP2</b>	<b>R3JK-DU50KP2</b> <b>R3JK-DU100KP2</b>	<b>R3JK-10KP2</b> <b>R3JK-30KP2</b>
	<b>R3JK-R5KP2K</b> <b>R3JK-PR2KP2K</b>	<b>R3JK-DU50KP2K</b> <b>R3JK-DU100KP2K</b>	<b>R3JK-10KP2K</b> <b>R3JK-30KP2K</b>
Sensing type / 檢出方式	Retro reflection / 鏡片反射式 <b>Polarized retro reflection / 偏光鏡片反射式</b>	Diffuse reflection / 擴散反射式	Through beam / 對照式
Sensing distance / 檢出距離	5M 2M	50cm 100cm	10M 30M
Emitting light / 發光源	Infrared LED 940 nm. <b>Red LED 640 nm.</b>	Infrared. LED 850 nm.	
Operating voltage / 工作電壓	DC: 12 ~ 24 VDC		
Current Consumption / 消耗電流	30 mA max.		
Output Current / 輸出電流	24 VDC 100mA max.		
Output type / 輸出模式	NPN.NO/NC		PNP.NO/NC
Response time / 反應時間	1.5 ms max.		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1minute		
Operating temperature / 工作溫度	- 20 °C ~ + 60 °C		
Ambient humidity / 工作溼度	35%~85% RH		
Protection degree / 防水等級	IP65		
Material / 外觀材質	ABS		
Wiring method / 出線方式	<b>R3JK-□KP2</b> <b>R3JK-□KP2K</b>	Pre-wired Ø4.2×2 M / 4-cores M12 Pigtailed type/ M12接頭 15cm電線式	
Weight / 重量	<b>R3JK-□KP2</b>	Approx. 80g	Approx. 150g
	<b>R3JK-□KP2K</b>	Approx. 45g	Approx. 80g

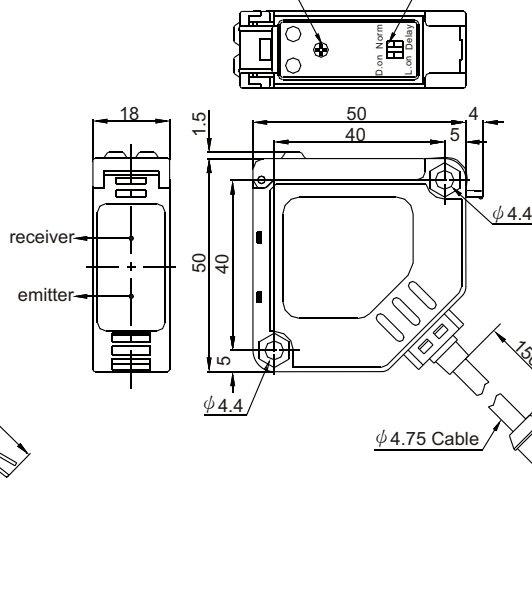
## ◆ Dimensions/尺寸圖:

**R3JK-□KP2**

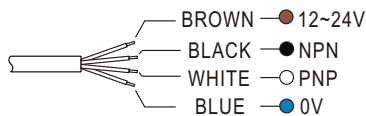
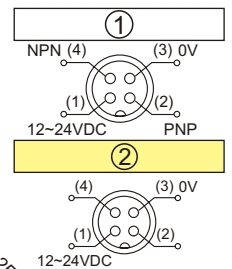
**R3JK-□KP2K**



Sensitivity adjustment Timer Function DIP switch

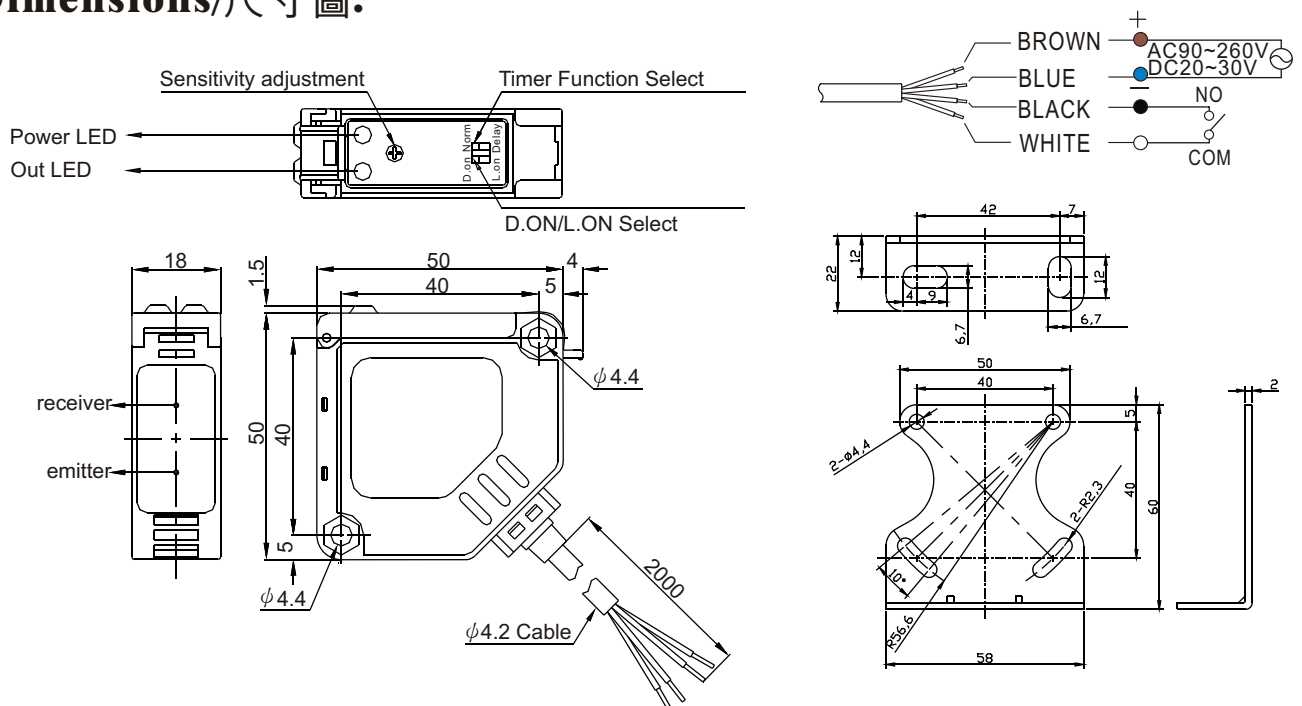


M12 Pigtailed type/M12接頭	
Diffuse reflection / 擴散反射式	①
Through beam / 對照式	① (Receiver/接收) ② (Emitter/發射)



**R3JK****AC Type Photo Sensor **RiKO****◆ **Shape/外觀:**◆ **Specifications**  
/規格表:

Model / 型號	<b>R3JK-DU50A3</b>	<b>R3JK-R5A3</b>	<b>R3JK-10A3</b> <b>R3JK-30A3</b>
Sensing type / 檢出方式	Diffuse reflection / 擴散反射式	Retro reflection / 鏡片反射式	Through beam / 對照式
Sensing distance / 檢出距離	50 cm	5M	10M/ <b>30M</b>
Emitting light / 發光源	Infrared LED 850 nm.	Infrared LED 940 nm.	Infrared LED 850 nm.
Operating voltage / 工作電壓	AC: 90 ~ 260 VAC DC: 20~30VDC		
Current Consumption / 消耗電流	25 mA max.		
Output Current / 輸出電流	Relay : 30 VDC 5A/ 125VAC 5A		
Output Type / 輸出模式	Relay out Com./NO.		
Response time / 反應時間	1.5 ms max.		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1minute		
Operating temperature/工作溫度	- 20 °C ~ + 60 °C		
Ambient humidity / 工作溼度	35%~85% RH		
Protection degree / 防水等級	IP65		
Material / 外觀材質	ABS		
Wiring method / 出線方式	Pre-wired Ø4.2 × 2 M / 4-cores		
Weight / 重量	Approx. 85g		Approx. 165g

◆ **Dimensions/尺寸圖:**

**NEW**

**R3JK**

# Long Sensing Range Photo Sensor **RIKO**

◆ **Shape/外觀:**



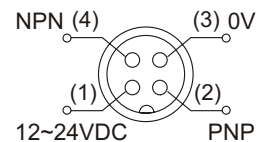
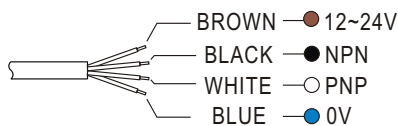
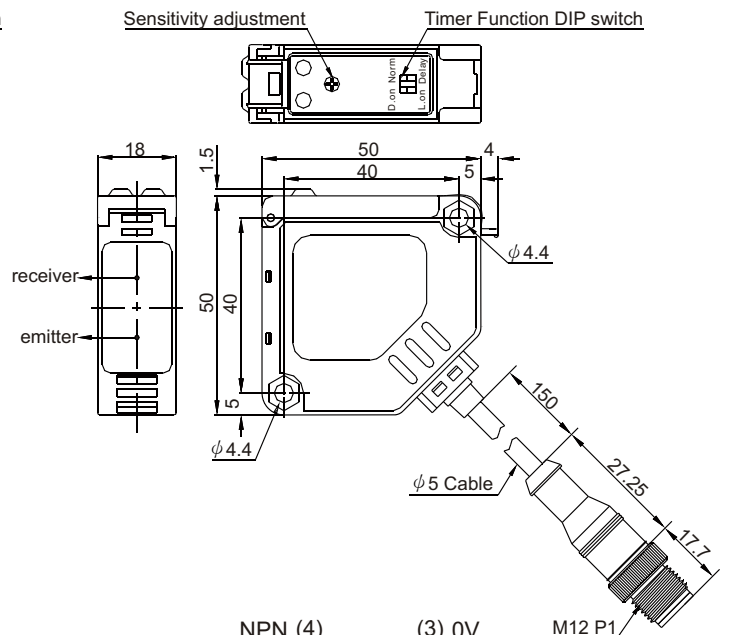
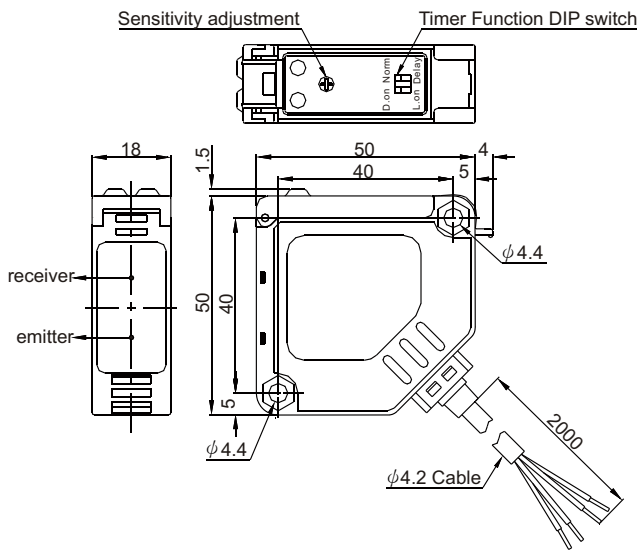
◆ **Specifications /規格表:**

Model / 型號	<b>R3JK-QR2KP2</b>	<b>R3JK-QR2KP2K</b>
Sensing type / 檢出方式	Retro reflection(RED) / 鏡片反射式(紅光)	
Sensing distance / 檢出距離	2M	
Emitting light / 發光源	Red LED 640 nm.	
Operating voltage / 工作電壓	DC: 12 ~ 24 VDC	
Current Consumption / 消耗電流	30 mA max.	
Output Current / 輸出電流	24 VDC 100mA max.	
Output type / 輸出模式	NPN.NO/NC PNP.NO/NC	
Response time / 反應時間	1.5 ms max.	
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC	
Voltage withstandability / 絕緣耐壓	1000VAC for 1minute	
Operating temperature/工作溫度	- 20 °C ~ + 60 °C	
Ambient humidity / 工作溼度	35%~85% RH	
Protection degree / 防水等級	IP65	
Material / 外觀材質	ABS	
Wiring method / 出線方式	Pre-wired Ø4.2 × 2 M / 4-cores	M12 Pigtailed type/ M12接頭 15cm電線式
Weight / 重量	Approx. 80g	Approx. 45g

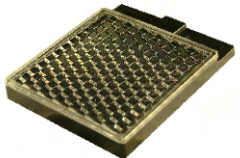
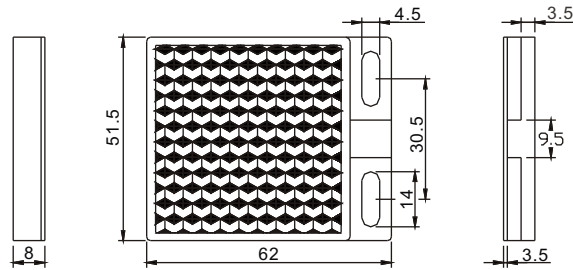
◆ **Dimensions/尺寸圖:**

**R3JK-□**


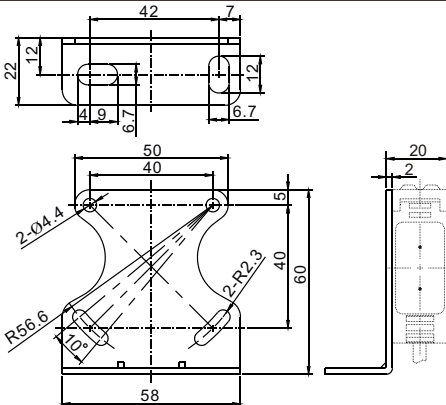
**R3JK-QR2KP2K**




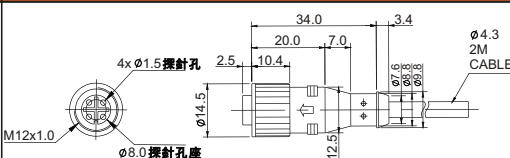

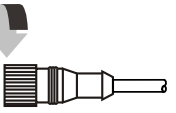


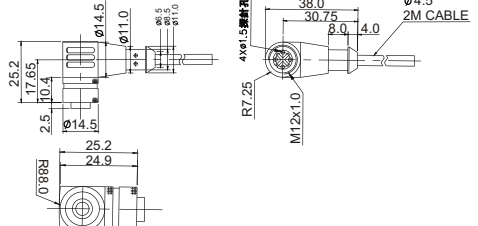

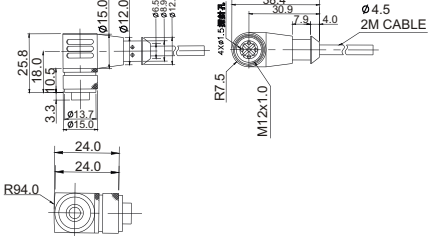
## ● RR-03 Reflectors / 鏡片

Model / 產品圖	Dimensions / 尺寸圖	Available Model No./適用機種
<b>RR-03</b> 		<b>R3JK-R5KP2</b> (Sensing Distance 5M)
		<b>R3JK-PR2KP2</b> (Sensing Distance 2M)
		<b>R3JK-QR2KP2</b> (Sensing Distance 2M)

## ● R3JK鐵架

Model / 產品圖	Dimensions / 尺寸圖	Material	Available Model No./適用機種
<b>RJK-M001</b> 		<b>Iron</b> /鐵板	<b>R3JK Series</b> /R3JK全機種

## ● Connectors / 線材

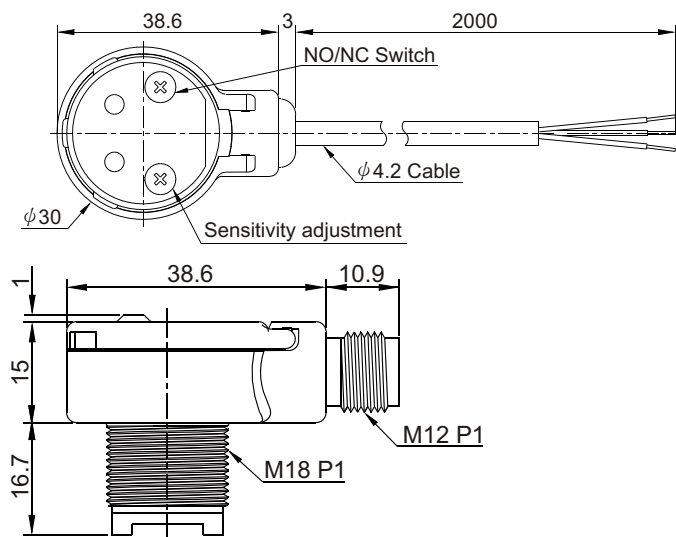
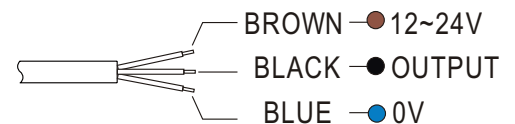
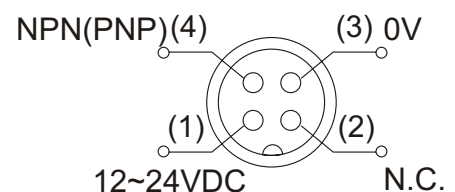
Model / 產品圖	Dimensions / 尺寸圖	Wire Color	Available Model No./適用機種
<b>M624PF2</b> 		1-BROWN 2-WHITE 3-BLUE 4-BLACK	<b>R3JK-□K Series</b> <b>Operation Instructions</b> <b>/R3JK-□K系列機種</b>  <b>Operation Instructions</b>  <b>Sensor side</b> /光電側   <b>Machine Side</b> /機台側    防呆裝置
<b>M124RL-PUR-2M</b> 		1-BROWN 2-WHITE 3-BLUE 4-BLACK	
<b>MLPRL-PUR-5M</b> 		1-BROWN 2-WHITE 3-BLUE 4-BLACK	

**TQ18****Easy Fixed Photo Sensor RIKO****◆ Characteristics / 特點:**

- Elbow housing design, space saving.  
/晶體輸出，反應快
- NO/NC function can be adjusted by V. R.  
(NC : Switch VR to the end of left side.  
NO : Switch VR to the end of right side.)  
/輸出之NO/NC可用V. R調整，無需重新配線  
(NC : VR轉至最左 NO : VR轉至最右)
- Easy to install. /體積小(30x49.5x32.7mm)安裝容易
- Prevent from water and oil, dust cover attached.  
/具有防塵蓋，可防水、防油

**◆ Specifications / 規格表:**

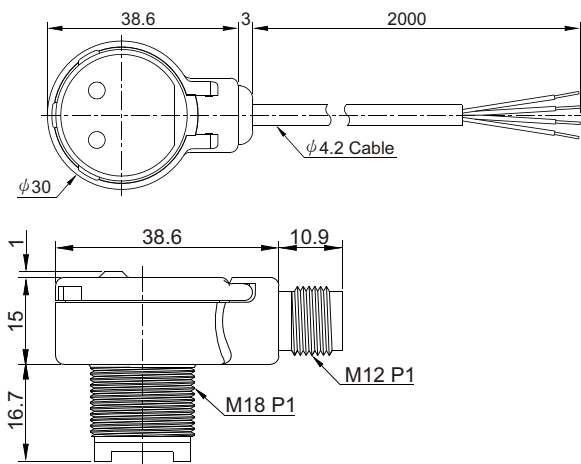
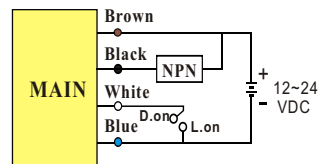
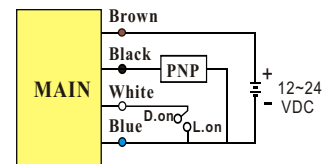
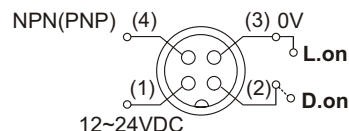
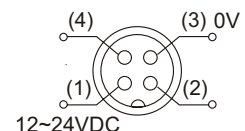
Output Type / 輸出模式	NPN	<b>TQ18-DU10/40N</b>	<b>TQ18-DU10/40NK1</b>
	PNP	<b>TQ18-DU10/40P</b>	<b>TQ18-DU10/40PK1</b>
Sensing type / 檢出方式	Diffuse reflection / 擴散反射式		
Sensing distance / 檢出距離	10cm / 40cm		
Sensing type / 發光源	Infrared LED 850nm.		
Operating voltage / 工作電壓	DC : 12~24VDC		
Current Consumption / 消耗電流	34mA max.		
Output Current / 輸出電流	24VDC 100mA max.		
Response time / 反應時間	1.5 ms max.		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		
Voltage Withstandability / 絕緣耐壓	1000VAC for 1min.		
Operation temperature / 工作溫度	-25°C ~ +60°C		
Ambient humidity / 工作濕度	35% ~ 85% RH		
Protection degree / 防水等級	IP66		
Material / 外觀材質	ABS		
Wiring method / 出線方式	Pre-wired Ø4.2 × 2M / 3-wire 出線		M12 plug-in connector type /M12接頭
Weight / 重量	Approx. 65g		Approx. 18g

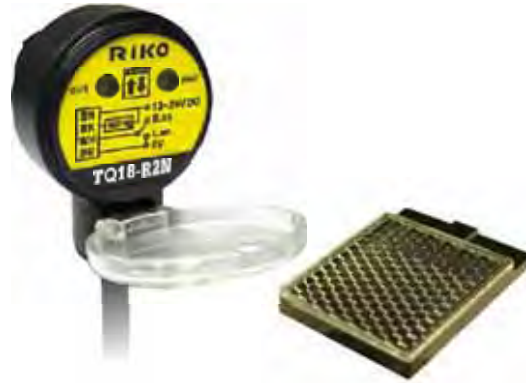
**◆ Dimensions / 外型尺寸圖:****TQ18-DU□****TQ18-DU□K1**



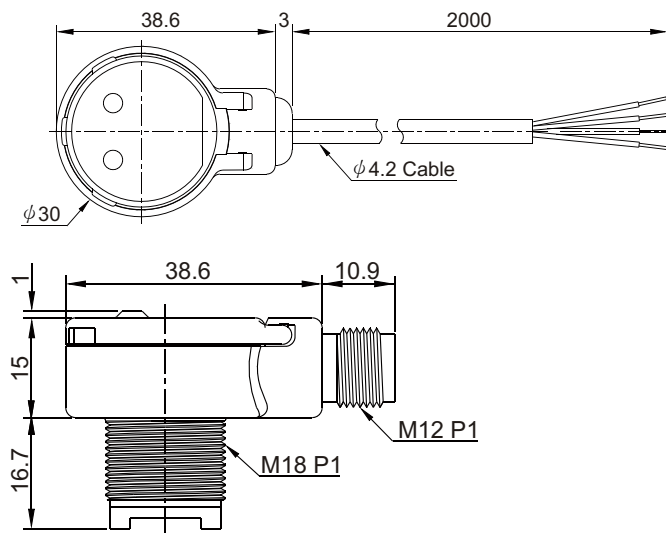
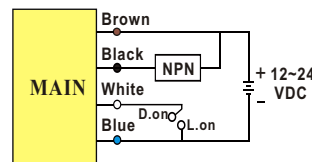
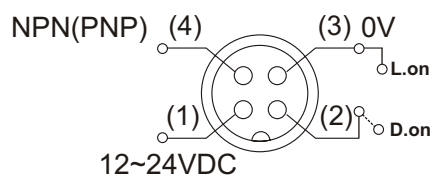
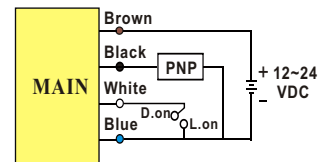
**TQ18****Easy Fixed Photo Sensor RIKO**◆ **Shape/外觀:**◆ **Specifications**  
/規格表:

Output Type /輸出模式	NPN	<b>TQ18-10/20N</b>	<b>TQ18-10/20NK1</b>
	PNP	<b>TQ18-10/20P</b>	<b>TQ18-10/20PK1</b>
Sensing type / 檢出方式	Through beam/對照式		
Sensing distance/檢出距離	10M/ <b>20M</b>		
Sensing type/發光源	Infrared LED 850nm.		
Operating voltage/工作電壓	DC : 12~24VDC		
Current consumption/消耗電流	(Receiver)40mA max. (Emitter)18mA max.		
Output current/輸出電流	24VDC 100mA max.		
Response time/反應時間	1.5 ms max.		
Insulation resistance/隔離阻抗	20M Ω min. 500VDC		
Voltage Withstandability/絕緣耐壓	1000VAC for 1min.		
Operation temperature/工作溫度	-25°C~+60°C		
Ambient humidity/工作濕度	35%~85% RH		
Protection degree/防水等級	IP66		
Material/外觀材質	ABS		
Wiring method / 出線方式	RX : Pre-wired Ø4.2 2M / 4-wire TX : Pre-wired Ø4.2 2M / 2-wire		M12 plug-in connector type /M12接頭
Weight/重量	Approx. 130g		Approx. 35g

◆ **Dimensions/外型尺寸圖:****NPN Type****PNP Type****(Receiver/接收)****(Emitter/發射)**

**TQ18****Easy Fixed Photo Sensor RIKO**◆ **Shape/外觀:**◆ **Specifications**  
/規格表:

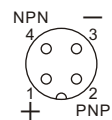
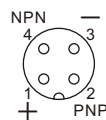
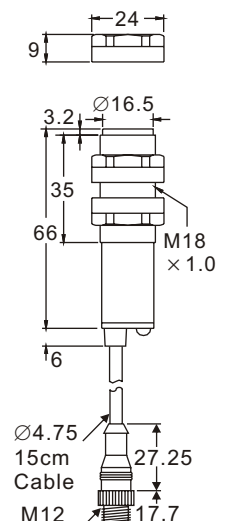
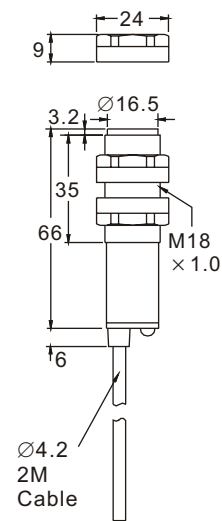
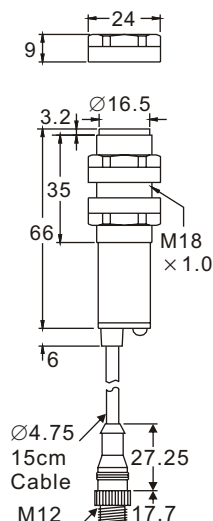
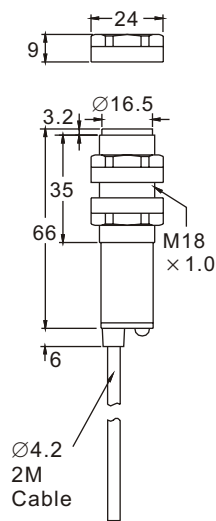
Output Type /輸出模式	NPN	<b>TQ18-R2N</b>	<b>TQ18-R2NK1</b>	<b>TQ18-PR1N</b>	<b>TQ18-PR1NK1</b>
	PNP	<b>TQ18-R2P</b>	<b>TQ18-R2PK1</b>	<b>TQ18-PR1P</b>	<b>TQ18-PR1PK1</b>
Sensing type / 檢出方式	Retro reflection / 鏡片反射式			Polarized retro reflection / 偏光鏡反射式	
Sensing distance / 檢出距離	2M			1M	
Sensing type / 發光源	Infrared LED 850nm.			Red LED 640nm.	
Operating voltage / 工作電壓	DC : 12~24VDC				
Current consumption / 消耗電流	34mA max.				
Output current / 輸出電流	24VDC 100mA max.				
Response time / 反應時間	1.5ms max.				
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC				
Voltage Withstandability / 絕緣耐壓	1000VAC for 1min.				
Operation temperature / 工作溫度範圍	-25 °C ~ +60 °C				
Ambient humidity / 工作濕度範圍	35% ~ 85% RH				
Protection degree / 防水等級	IP66				
Material / 外觀材質	ABS				
Wiring method / 出線方式	Pre-wired Ø4.2 × 2M / 4-wire	M12 plug-in connector type /M12接頭		Pre-wired Ø4.2 × 2M / 4-wire	M12 plug-in connector type /M12接頭
Weight / 重量	Approx. 65g	Approx. 18g	Approx. 65g	Approx. 18g	

◆ **Dimensions/外型尺寸圖:****NPN Type****PNP Type**

**MF/RMF****Tubular Photo Sensor RIKO**◆ **Shape/外觀:**◆ **Specifications  
/規格表:**

Model / 型號	<b>RMF-5KP2</b>	<b>RMF-5KP2K</b>	<b>RMF-DU30KP2</b>	<b>RMF-DU30KP2K</b>
Sensing type / 檢出方式	Through beam / 對照式		Diffuse reflection / 擴散反射式	
Sensing distance / 檢出距離	5M		30 cm	
Emitting light / 發光源	Infrared LED 940 nm.			
Operating voltage / 工作電壓	DC: 12 ~ 24 VDC			
Current consumption / 消耗電流	45 mA max./Each side		30 mA max.	
Output current / 輸出電流	24 VDC 100 mA max			
Output Type / 輸出模式	NPN.NO/NC		PNP.NO/NC	
Response time / 反應時間	1.5 ms max.			
Insulation resistance / 隔離阻抗	20M $\Omega$ min. 500VDC			
Voltage withstandability / 絕緣耐壓	1000VAC for 1minute			
Operating temperature/工作溫度範圍	- 25 °C ~ + 60 °C			
Ambient humidity / 工作溼度範圍	35 % ~ + 85% RH			
Protection degree / 防水等級	IP66			
Material / 外觀材質	ABS			

Wiring method / 出線方式	Pre-wired Ø5.2 × 2 M / 4-wire	M12 pigtailed connector type / M12 接頭15cm電線式	Pre-wired Ø4.2 × 2M / 4-wire	M12 pigtailed type / M12 接頭15cm電線式
Weight / 重量	Approx. 160g	Approx. 60g	Approx. 80g	Approx. 40g

◆ **Dimensions  
/尺寸圖:**

**RMF****Tubular Photo Sensor RIKO**◆ **Shape/外觀:**◆ **Specifications**  
/規格表:

Model / 型號	<b>RMF-DU10</b> □ <b>RMF-DU40</b> □	<b>RMF-DU10</b> □ <b>K</b> <b>RMF-DU40</b> □ <b>K</b>	<b>RMF-DU10</b> □ <b>K1</b> <b>RMF-DU40</b> □ <b>K1</b>
Sensing type / 檢出方式	Diffuse reflection / 擴散反射式		
Sensing distance / 檢出距離	10 cm 40 cm		
Emitting light / 發光源	Infrared LED 940 nm.		
Operating voltage / 工作電壓	DC: 12 ~ 24 VDC		
Current consumption / 消耗電流	25 mA max.		
Output current / 輸出電流	24 VDC 200 mA max		
Output Type / 輸出模式	□N: NPN / □P: PNP		
Response time / 反應時間	1.5 ms max.		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1 minute		
Operating temperature/工作溫度範圍	- 20 °C ~ + 60 °C		
Ambient humidity / 工作溼度範圍	35 % ~ + 85% RH		
Protection degree / 防水等級	IP66		
Material / 外觀材質	ABS		
Wiring method / 出線方式	Pre-wired Ø5.2 × 2 M / 4-wire	M12 pigtailed type / M12 接頭15cm 電線式	M12 plug-in connector type / M12 接頭
Weight / 重量	Approx. 85g	Approx. 35g	Approx. 20g
◆ <b>Dimensions</b> /尺寸圖:			

# RMF

# Tubular Photo Sensor **RiKO**

## ◆ Shape/外觀:



## ◆ Specifications /規格表:

Model / 型號	RMF-10 □ RMF-20 □	RMF-10 □ K RMF-20 □ K	RMF-10 □ K1 RMF-20 □ K1
Sensing type / 檢出方式	Through beam / 對照式		
Sensing distance / 檢出距離	10 M 20 M		
Emitting light / 發光源	Infrared LED 940 nm.		
Operating voltage / 工作電壓	DC: 12 ~ 24 VDC		
Current consumption / 消耗電流	45 mA max.		
Output current / 輸出電流	24 VDC 200 mA max		
Output Type / 輸出模式	[N]: NPN / [P]: PNP		
Response time / 反應時間	1.5 ms max.		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1minute		
Operating temperature/工作溫度範圍	- 25 °C ~ + 55 °C		
Ambient humidity / 工作溼度範圍	35 % ~ + 85% RH		
Protection degree / 防水等級	IP66		
Material / 外觀材質	ABS		
Wiring method / 出線方式	RX:Pre-wired / 4-wire Ø5.2×2 M TX:Pre-wired / 2-wire Ø5.2×2 M	M12 pigtailed type / M12 接頭15cm 電線式	M12 plug-in connector type / M12 接頭
Weight / 重量	Approx. 165g	Approx. 70g	Approx. 40g
◆ Dimensions / 尺寸圖:			

**RMF****Tubular Photo Sensor RIKO**◆ **Shape/外觀:**◆ **Specifications /規格表:**

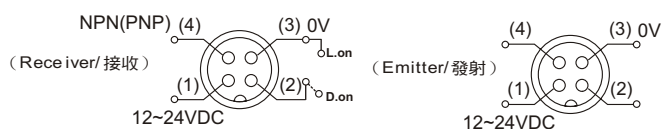
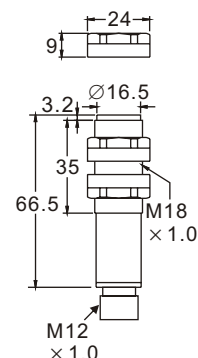
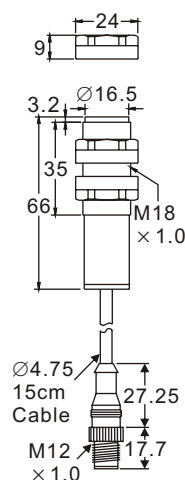
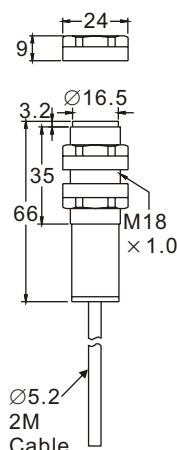
Model / 型號	<b>RMF-CR2 □</b>	<b>RMF-CR2 □ K</b>	<b>RMF-CR2 □ K1</b>
Sensing type / 檢出方式	Retro reflection / 鏡片反射式		
Sensing distance / 檢出距離	2M		
Emitting light / 發光源	Infrared LED 850nm		
Operating voltage / 工作電壓	DC: 12 ~ 24 VDC		
Current consumption / 消耗電流	25 mA max.		
Output current / 輸出電流	24VDC 200mA max.		
Output Type / 輸出模式	[N]: NPN / [P]: PNP		
Response time / 反應時間	1.5 ms max.		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1minute		
Operating temperature/工作溫度範圍	- 20 °C ~ + 60 °C		
Ambient humidity / 工作溼度範圍	35 % ~ + 85% RH		
Protection degree / 防水等級	IP66		
Material / 外觀材質	ABS		
Wiring method / 出線方式	Per-wired Ø5.2 × 2 M / 4-wire	M12 pigtailed type / M12 接頭15cm 電線式	M12 plug-in connector type / M12 接頭
Weight / 重量	Approx. 85g	Approx. 35g	Approx. 20g
◆ <b>Dimensions /尺寸圖:</b>			

**MMF****Tubular Photo Sensor RIKO**◆ **Shape/外觀:**◆ **Specifications /規格表:**

Model / 型號	<b>MMF-DU10</b> □ <b>MMF-DU40</b> □	<b>MMF-DU10</b> □ <b>K</b> <b>MMF-DU40</b> □ <b>K</b>	<b>MMF-DU10</b> □ <b>K1</b> <b>MMF-DU40</b> □ <b>K1</b>
Sensing type / 檢出方式	Diffuse reflection / 擴散反射式		
Sensing distance / 檢出距離	10 cm 40 cm		
Emitting light / 發光源	Infrared LED 850 nm.		
Operating voltage / 工作電壓	DC: 12 ~ 24 VDC		
Current consumption / 消耗電流	25 mA max.		
Output current / 輸出電流	24 VDC 200 mA max		
Output Type / 輸出模式	□: NPN / □: PNP		
Response time / 反應時間	1.5 ms max.		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1 minute		
Operating temperature/工作溫度範圍	- 20 °C ~ + 60 °C		
Ambient humidity / 工作溼度範圍	35 % ~ + 85% RH		
Protection degree / 防水等級	IP66		
Material / 外觀材質	Nickel plated brass		
Wiring method / 出線方式	Pre-wired Ø5.2 × 2 M / 4-wire	M12 pigtailed type / M12 接頭 15cm 電線式	M12 plug-in connector type / M12 接頭
Weight / 重量	Approx. 105g	Approx. 50g	Approx. 40g
◆ <b>Dimensions / 尺寸圖:</b>			

**MMF****Tubular Photo Sensor RIKO**◆ **Shape/外觀:**◆ **Specifications /規格表:**

Model / 型號	<b>MMF-10</b> □ <b>MMF-20</b> □	<b>MMF-10</b> □ <b>K</b> <b>MMF-20</b> □ <b>K</b>	<b>MMF-10</b> □ <b>K1</b> <b>MMF-20</b> □ <b>K1</b>
Sensing type / 檢出方式	Through beam / 對照式		
Sensing distance / 檢出距離	10 M 20 M		
Emitting light / 發光源	Infrared LED 940 nm.		
Operating voltage / 工作電壓	DC: 12 ~ 24 VDC		
Current consumption / 消耗電流	45 mA max.		
Output current / 輸出電流	24 VDC 200 mA max		
Output method / 輸出模式	□N: NPN / □P: PNP		
Response time / 反應時間	1.5 ms max.		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1minute		
Operating temperature/工作溫度範圍	- 25 °C ~ + 55 °C		
Ambient humidity / 工作溼度範圍	35% ~ + 85% RH		
Protection degree / 防水等級	IP66		
Material / 外觀材質	Nickel plated brass		
Wiring method / 出線方式	RX:Pre-wired / 4-wire Ø5.2×2 M TX:Pre-wired / 2-wire Ø5.2×2 M	M12 pigtailed type / M12 接頭15cm 電線式	M12 plug-in connector type / M12 接頭
Weight / 重量	Approx.210g	Approx.100g	Approx.80g

◆ **Dimensions /尺寸圖:**



**MMF****Tubular Photo Sensor RIKO**◆ **Shape/外觀:**◆ **Specifications /規格表:**

Model / 型號	<b>MMF-CR2 □</b>	<b>MMF-CR2 □ K</b>	<b>MMF-CR2 □ K1</b>
Sensing type / 檢出方式	Retro reflection / 鏡片反射式		
Sensing distance / 檢出距離	2M		
Emitting light / 發光源	Infrared LED 850 nm		
Operating voltage / 工作電壓	DC: 12 ~ 24 VDC		
Current consumption / 消耗電流	25 mA max.		
Output current / 輸出電流	24 VDC 200 mA max		
Output Type / 輸出模式	□: NPN / □: PNP		
Response time / 反應時間	1.5 ms max.		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1minute		
Operating temperature/工作溫度範圍	- 20 °C ~ + 60 °C		
Ambient humidity / 工作溼度範圍	35 % ~ + 85% RH		
Protection degree / 防水等級	IP66		
Material / 外觀材質	Nickel plated brass		
Wiring method / 出線方式	Pre-wired Ø5.2 × 2 M / 4-wire	M12 pigtailed type / M12 接頭15cm 電線式	M12 plug-in connector type / M12 接頭
Weight / 重量	Approx. 105g	Approx. 50g	Approx. 40g
◆ <b>Dimensions / 尺寸圖:</b>			

**MMF****Tubular Photo Sensor RIKO**◆ **Shape/外觀:**◆ **Specifications /規格表:**

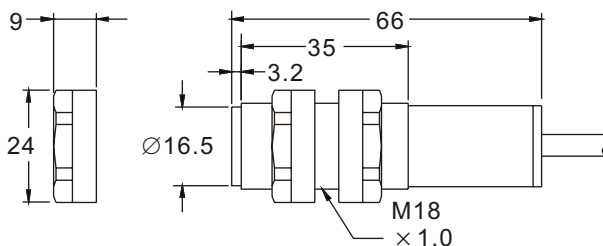
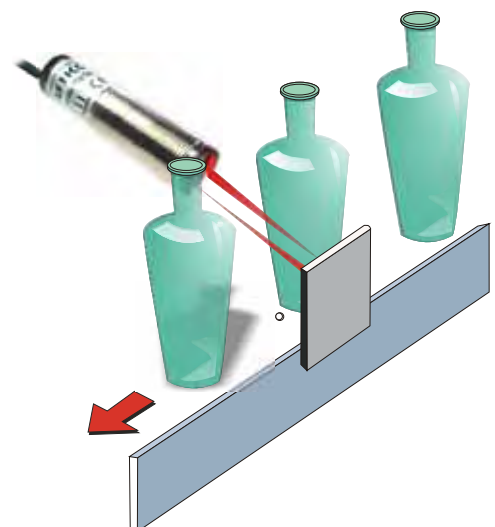
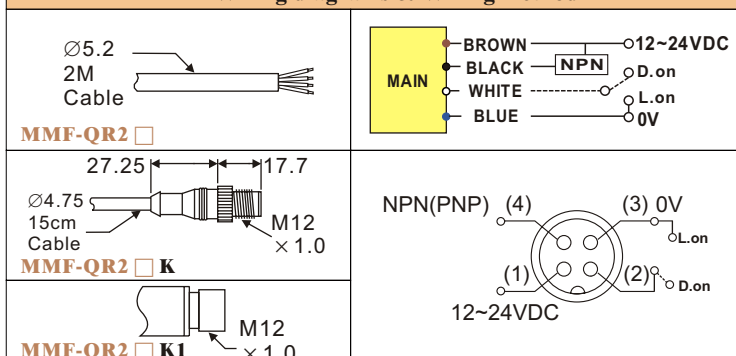
Model / 型號	MMF-PR1 □	MMF-PR1 □ K	MMF-PR1 □ K1
Sensing type / 檢出方式	Polarized retro reflection / 偏光鏡片反射式		
Sensing distance / 檢出距離	1M		
Emitting light / 發光源	Red LED 650nm		
Operating voltage / 工作電壓	DC: 12 ~ 24 VDC		
Current consumption / 消耗電流	25 mA max.		
Output current / 輸出電流	24VDC 200mA max.		
Output Type / 輸出模式	□: NPN / □: PNP		
Response time / 反應時間	1.5 ms max.		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		
Dielectric strength / 絕緣耐壓	1000VAC for 1minute		
Operating temperature/工作溫度範圍	- 20 °C ~ + 60 °C		
Ambient humidity / 工作溼度範圍	35 % ~ + 85% RH		
Protection degree / 防水等級	IP66		
Material / 外觀材質	ABS		
Wiring method / 出線方式	Per-wired Ø5.2 × 2 M / 4-wire	M12 pigtailed type / M12 接頭 15cm 電線式	M12 plug-in connector type / M12 接頭
Weight / 重量	Approx. 105g	Approx. 50g	Approx. 40g
◆ <b>Dimensions /尺寸圖:</b>			

**NEW****MMF****Tubular Photo Sensor RIKO****◆ Characteristics / 特點:**

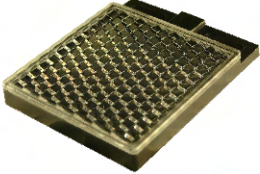
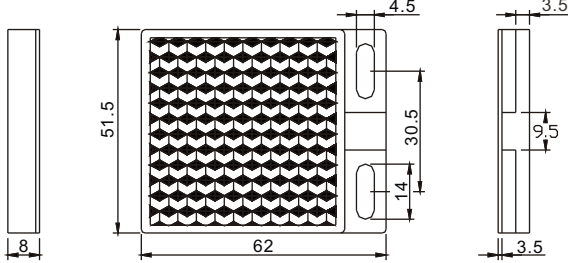
- For transparent body detection. Retro reflection type.  
透明體檢測用鏡片反射型。
- Red LED emitter, easy to adjust the optic axis.  
採用紅色發光LED，光軸調整容易。

**◆ Specifications / 規格表:**


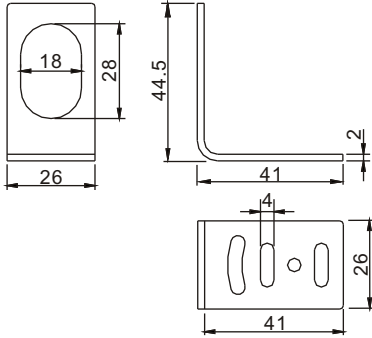
Model / 型號	MMF-QR2 □	MMF-QR2 □ K	MMF-QR2 □ K1
Sensing type / 檢出方式	Retro reflection(Red LED) / 鏡片反射式(紅光)		
Sensing distance / 檢出距離	2M		
Emitting light / 發光源	Red LED 650nm		
Operating voltage / 工作電壓	DC: 12 ~ 24 VDC		
Current consumption / 消耗電流	25 mA max.		
Output current / 輸出電流	24VDC 200mA max.		
Output Type / 輸出模式	□: NPN / □: PNP		
Response time / 反應時間	1.5 ms max.		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1minute		
Operating temperature / 工作溫度範圍	- 20 °C ~ + 60 °C		
Ambient humidity / 工作溼度範圍	35 % ~ + 85% RH		
Protection degree / 防水等級	IP66		
Material / 外觀材質	Nickel plated brass		
Wiring method / 出線方式	Per-wired Ø5.2 × 2 M / 4-wire	M12 pigtailed type / M12 接頭15cm 電線式	M12 plug-in connector type / M12 接頭
Weight / 重量	Approx. 105g	Approx. 50g	Approx. 40g

**◆ Dimensions / 尺寸圖:****Applications / 應用****Wiring diagrams & Wiring method**


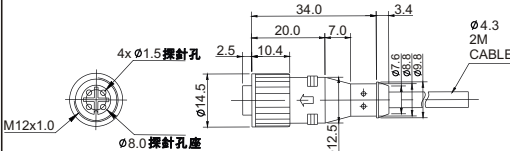

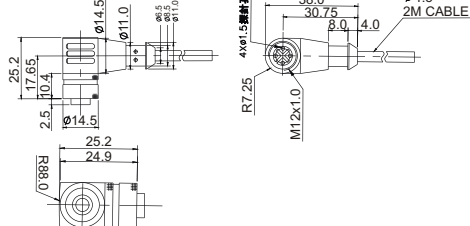

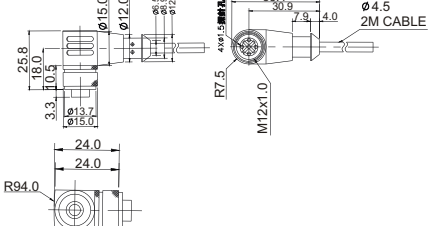

● RR- 03 Reflectors / 鏡片

Model / 產品圖	Dimensions / 尺寸圖	Available Model/適用機種
		<b>TQ18-R2□</b> (Sensing Distance 2M)
		<b>TQ18-PR1□</b> (Sensing Distance 1M)
		<b>(R/M)MF-CR2□</b> (Sensing Distance 2M)
		<b>(R/M)MF-PR1□</b> (Sensing Distance 1M)
		<b>(R/M)MF-QR2□</b> (Sensing Distance 2M)

● MF- 01 Mounting Bracket / 固定架

Model / 產品圖	Dimensions / 尺寸圖	Material	Available Model/適用機種
		<b>Iron</b> /鐵板	<b>TQ18 Series</b> /TQ18全機種
			<b>(R/M)MF Series</b> /(R/M)MF全機種

● Connectors / 線材

Model / 產品圖	Dimensions / 尺寸圖	Wire Color	Available Model/適用機種
		1-BROWN 2-WHITE 3-BLUE 4-BLACK	<b>TQ18-□K1 Series</b> <b>Operation Instructions</b>
			<b>(R/M)MF-□K Series</b> <b>Operation Instructions</b>
		1-BROWN 2-WHITE 3-BLUE 4-BLACK	<b>(R/M)MF-□K1 Series</b> <b>Operation Instructions</b>
			<b>使用說明</b>
		1-BROWN 2-WHITE 3-BLUE 4-BLACK	<b>Sensor side</b> /光電側
			<b>Machine Side</b> /機台側
			 防呆裝置

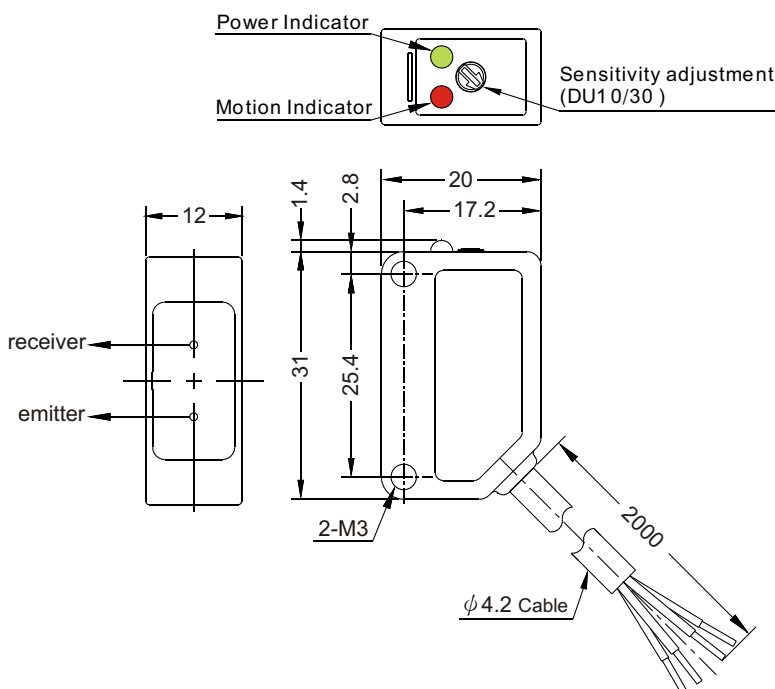
### ◆ Shape/外觀:



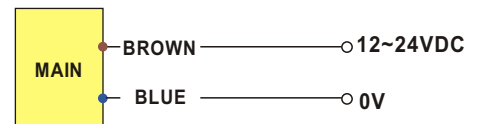
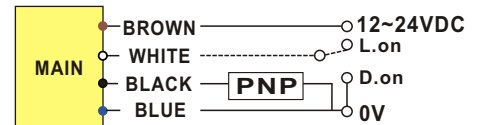
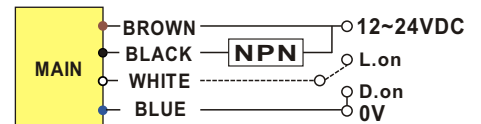
### ◆ Specifications /規格表:

Model / 型號	<b>PK3-DU10N</b> <b>PK3-DU10P</b>	<b>PK3-DU30N</b> <b>PK3-DU30P</b>	<b>PK3-5N</b> <b>PK3-5P</b>
Sensing type / 檢出方式	Diffuse reflection / 擴散反射式		Through beam / 對照式
Sensing distance / 檢出距離	10 cm	30 cm	5M
Emitting light / 發光源	Infrared LED 850 nm.		Infrared LED. 940 nm.
Operating voltage / 工作電壓	DC: 12 ~ 24 VDC		
Current consumption / 消耗電流	25 mA max.		40 mA max.
Output current / 輸出電流	24 VDC 100mA max.		
Output Type / 輸出模式	[N] :NPN / [P] :PNP		
Response time / 反應時間	1.5 ms Max.		
Insulation resistance / 隔離阻抗	20M Ω Min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.		
Operating temperature/工作溫度範圍	- 20 °C ~ + 60 °C		
Ambient humidity / 工作溼度範圍	35%~85% RH		
Protection degree / 防水等級	IP64		
Housing material / 外觀材質	ABS		
Wiring method / 出線方式	φ 4.2 × 2 M / 4-cores		
Weight / 重量	Approx. 60g		Approx. 115g

### ◆ Dimensions/尺寸圖:



Wiring diagram/ 接線圖	
Diffuse reflection / 擴散反射式	① ②
Through beam / 對照式	① ② Receiver/ 接收 ③ Emitter/ 發射



**NEW**

**PK3**

**Photo Sensor**

**RIKO**

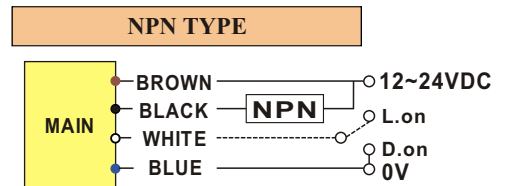
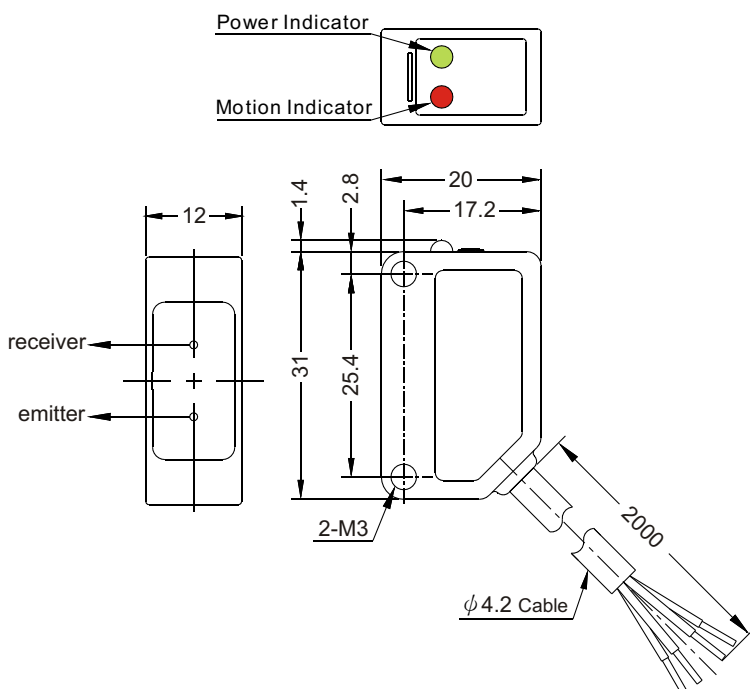
◆ **Shape/外觀:**



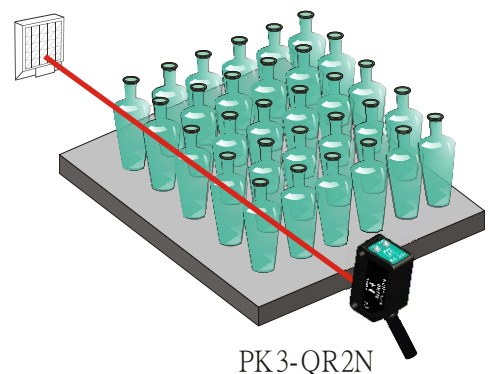
◆ **Specifications /規格表:**

Model / 型號	<b>PK3-R2N PK3-R2P</b>	<b>PK3-QR2N PK3-QR2P</b>
Sensing type / 檢出方式	Retro reflection/ 鏡片反射式	Retro reflection(Red LED)/ 鏡片反射式(紅光)
Sensing distance / 檢出距離	2M	
Emitting light / 發光源	Infrared LED 940 nm.	Red LED 660 nm.
Operating voltage / 工作電壓	DC: 12 ~ 24 VDC	
Current consumption / 消耗電流	25 mA max.	
Output current / 輸出電流	24 VDC 100mA max.	
Output Type / 輸出模式	[N] :NPN / [P] : PNP	
Response time / 反應時間	1.5 ms Max.	
Insulation resistance / 隔離阻抗	20M Ω Min. 500VDC	
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.	
Operating temperature/工作溫度範圍	- 20 °C ~ + 60 °C	
Ambient humidity / 工作溼度範圍	35%~85% RH	
Protection degree / 防水等級	IP64	
Housing material / 外觀材質	ABS	
Wiring method / 出線方式	φ 4.2 × 2 M / 4-cores	
Weight / 重量	Approx. 60g	

◆ **Dimensions/尺寸圖:**



**Applications/應用**  
**For transparent object detection.**  
**/透明物體檢測**



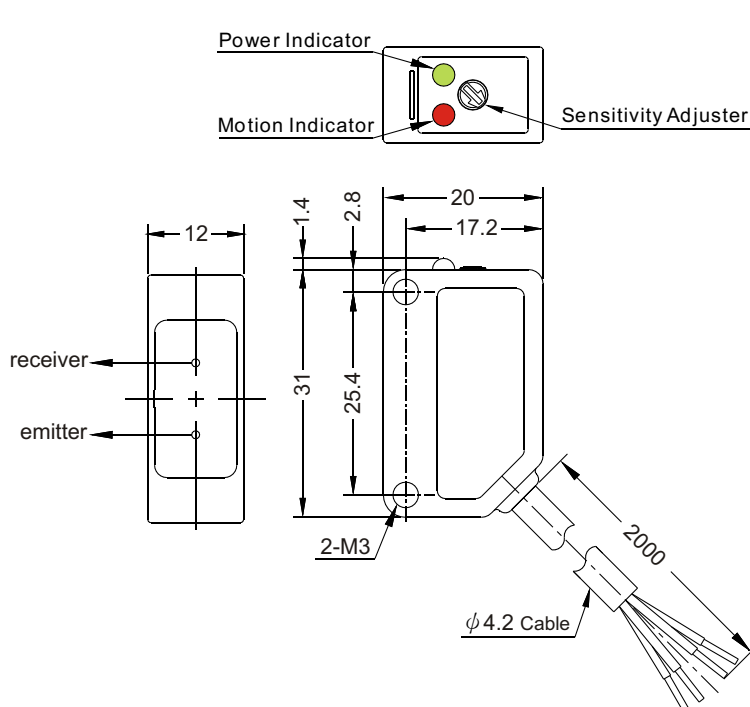
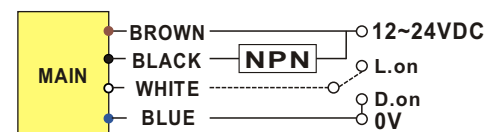
PK3-QR2N

**NEW****PK3****Photo Sensor****RIKO****◆ Characteristics / 特點:**

- Compact size (W12xH31xD20mm), space saving.  
省空間(W12xH31xD20mm)輕薄尺寸。
- Good performance on ambient illumination resistance. It has a good performance when the twist light bulb is away from 1 meter upward.  
抗干擾性高，當螺旋燈泡距離1M以上時，有相當強的抵抗性。
- The optimum sensitivity can be set easily to detect the objects at different distances.  
可調整感應度，以利不同距離的檢測。

**◆ Specifications / 規格表:**

Model / 型號	PK3-QM1N	PK3-QM1P
Sensing type / 檢出方式	Diffuse reflection / 擴散反射型	
Sensing distance / 檢出距離	10cm	
Emitting light / 發光源	Red LED 660 nm	
Operating voltage / 工作電壓	DC: 12 ~ 24 VDC	
Current consumption / 消耗電流	20 mA max.	
Output current / 輸出電流	24 VDC 100mA max.	
Output Type / 輸出模式	NPN	PNP
Response time / 反應時間	1 ms max.	
Insulation resistance / 隔離阻抗	20M Ω Min. 500VDC	
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.	
Operating temperature/工作溫度範圍	- 20 °C ~ + 60 °C	
Ambient humidity / 工作溼度範圍	35%~85% RH	
Protection degree / 防水等級	IP64	
Housing material / 外觀材質	ABS	
Wiring method / 出線方式	φ 4.2 × 2 M / 4-cores	
Weight / 重量	Approx. 60g	

**◆ Dimensions/尺寸圖:****NPN TYPE****Applications/應用**

**Obvious light to make its beam alignment easy.**

/明顯光線，使光軸更容易對焦

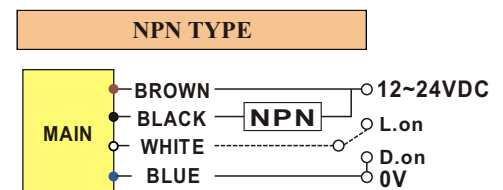
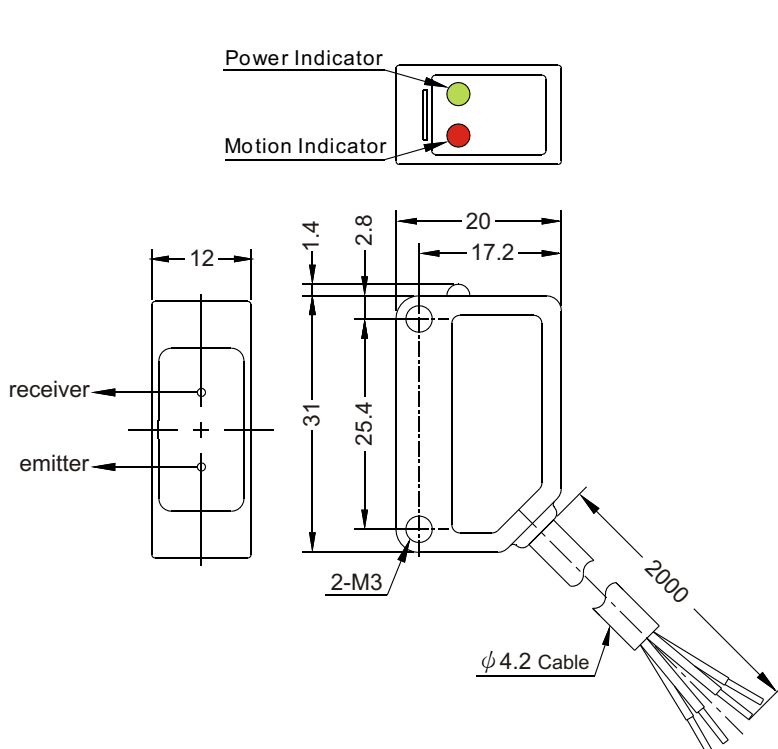
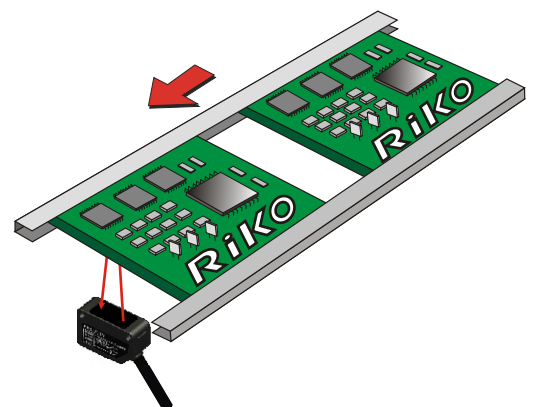


**NEW****PK3****Photo Sensor****RIKO****◆ Characteristics / 特點:**

- Convergent reflection type.  
限定反射型。
- Not affected by colors or albedo. Any objects can be detected.  
不受顏色及反射率的影響，可檢測任何被測物。
- Suitable for the stable detection of PCB.  
適用於PCB的穩定檢測。

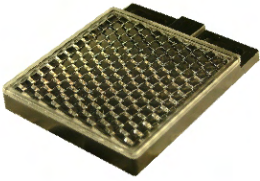
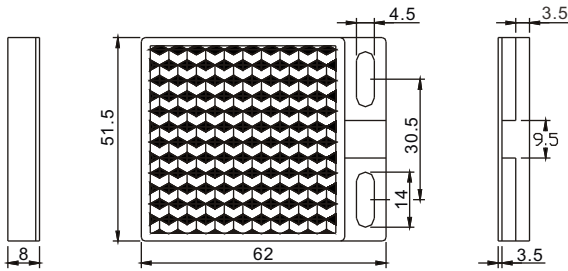
**◆ Specifications / 規格表:**

Model / 型號	<b>PK3-V03N</b>
Sensing type / 檢出方式	Convergent reflection type/限定距離反射型
Sensing distance / 檢出距離	3cm
Emitting light / 發光源	Infrared LED 880 nm
Operating voltage / 工作電壓	DC: 12 ~ 24 VDC
Current consumption / 消耗電流	30 mA max.
Output current / 輸出電流	24 VDC 100mA max.
Output Type / 輸出模式	NPN
Response time / 反應時間	1.5 ms max.
Insulation resistance / 隔離阻抗	20M Ω Min. 500VDC
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.
Operating temperature/工作溫度範圍	- 20 °C ~ + 60 °C
Ambient humidity / 工作溼度範圍	35%~85% RH
Protection degree / 防水等級	IP64
Housing material / 外觀材質	ABS
Wiring method / 出線方式	φ4.2 × 2 M / 4-cores
Weight / 重量	Approx. 60g


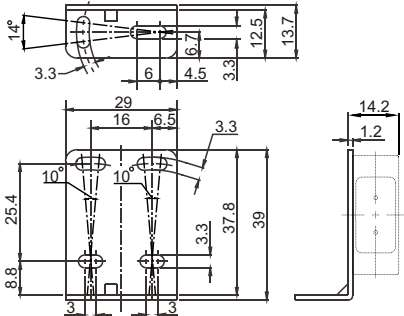
**◆ Dimensions/尺寸圖:****Applications/應用**




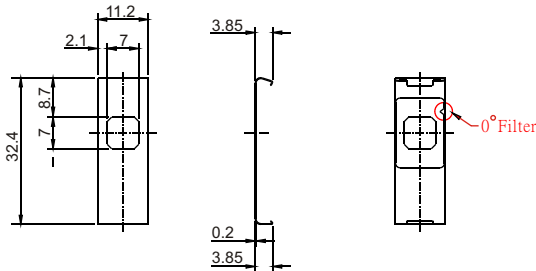
## ● RR-03 Reflectors / 鏡片

Model/產品圖	Dimensions / 尺寸圖	Available Model/適用機種
<b>RR-03</b> 		<b>PK3-R2N</b> (Sensing Distance 2M)
		<b>PK3-R2P</b> (Sensing Distance 2M)
		<b>PK3-QR2N</b> (Sensing Distance 2M)
		<b>PK3-QR2P</b> (Sensing Distance 2M)


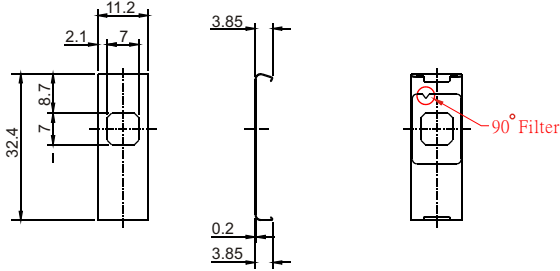
## ● PK3鐵架

Model/產品圖	Dimensions / 尺寸圖	Material	Available Model/適用機種
<b>PK-M001</b> 		<b>Iron</b> /鐵板	<b>PK3 Series</b> /PK3全機種

## ● PK3 Slit mask (0° Filter)/PK3偏光片(0度)

Model/產品圖	Dimensions / 尺寸圖	Available Model/適用機種
<b>MT-8808</b> 		<b>PK3-5N/P</b>

## ● PK3 Slit mask (90° Filter)/PK3偏光片(90度)

Model/產品圖	Dimensions / 尺寸圖	Available Model/適用機種
<b>MT-8808</b> 		<b>PK3-5N/P</b>

NEW

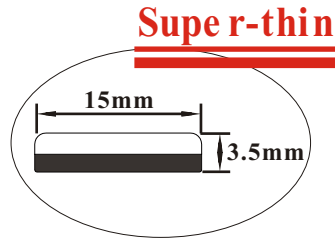
PK5

Photo Sensor

RIKO

◆ Microminiature body with 3.5mm thickness only.

◆ Visible LED indicators.

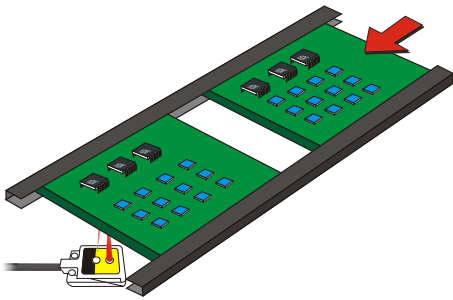


Dual LED indicators.  
Green : Power indicator.  
Red : Motion indicator.

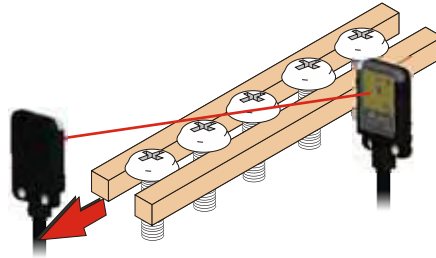


◆ Application / 應用例

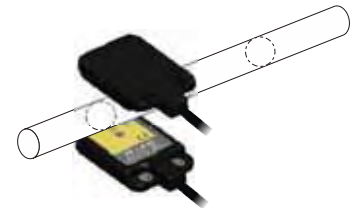
PCB detection.



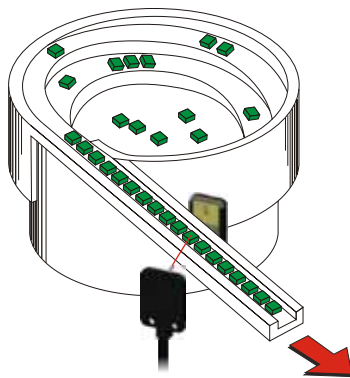
To detect the objects in conveyer.



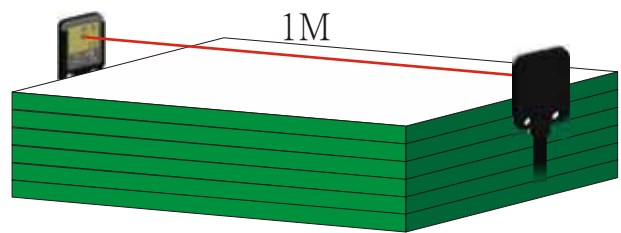
To detect the steel balls passing inside the glass tube.



To detect the screws in conveyer.



Long sensing distance : 1 M



◆ Order information / 訂購指南

Sensing type	Sensing height	Model	Sensing distance	Output type
Diffuse reflection		PK5-DU03N	3cm	NPN
		PK5-DU03P		PNP
Through beam		PK5-1N	1M	NPN
		PK5-1P		PNP

NEW

PK5

Photo Sensor

RIKO

## ◆ Characteristics / 特點:

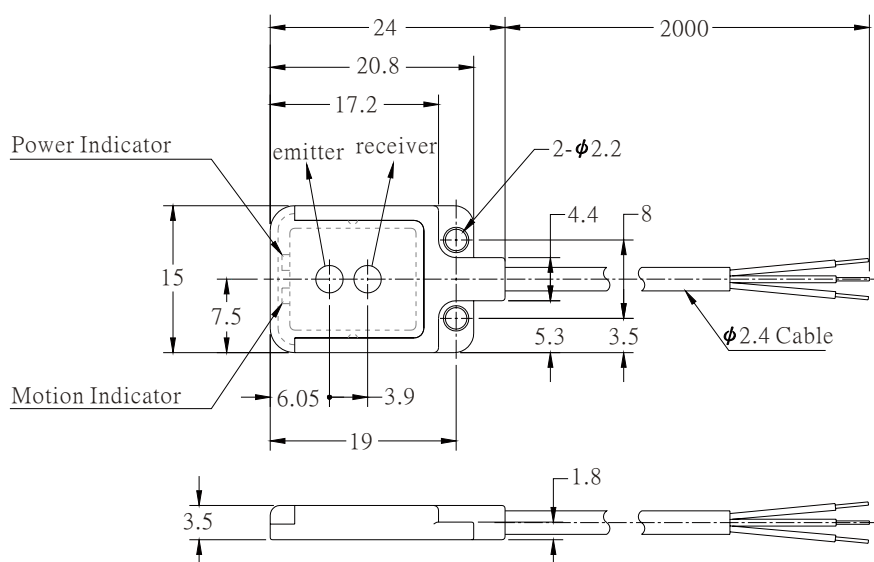
- Small body (only 3.5 mm thickness). Easy to be mounted.  
體積薄(3.5mm)，容易安裝。
- Built-in amplifier, supply voltage 12 to 24V DC. To control output directly.  
供應電源12-24V，內藏放大器，直接控制輸出。
- Transistor output 100mA.  
晶體輸出100mA。



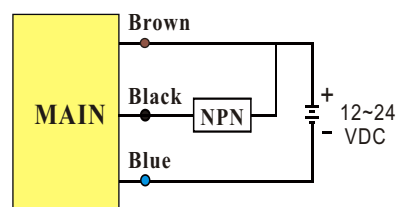
## ◆ Specifications / 規格表:

Model / 型號	PK5-DU03N	PK5-DU03N2	PK5-DU03P	PK5-DU03P2
Sensing type / 檢出方式	Diffuse reflection / 擴散反射式			
Sensing distance / 檢出距離	3 cm			
Emitting light / 發光源	Red LED (紅光LED) : 630 nm			
Operating voltage / 工作電壓	12 ~ 24 VDC ± 10% (Ripple P-P : 10% max.)			
Current consumption / 消耗電流	15 mA max.			
Output current / 輸出電流	24 VDC 100 mA max.			
Output Type / 輸出模式	NPN/L.on	NPN/D.on	PNP/L.on	PNP/D.on
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	0.5 ms max.			
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC			
Voltage withstandability / 絕緣耐壓	1000 VAC for 1 minute			
Operating temperature / 工作時溫度	-10°C ~ +45°C (No freezing allowed 不可結霜, 結冰)			
Ambient humidity / 工作時溼度	35% ~ 85% RH 相對溼度			
Storage temperature / 儲存時溫度	-10°C ~ +55°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	IP64			
Material / 外觀材質	ABS			
Wiring method / 出線方式	φ 2.4 x 2 M / 3-wires			
Weight / 重量	Approx. 20 g			

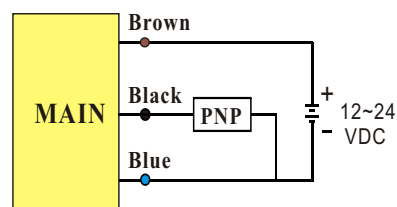
## ◆ Dimensions / 外型尺寸圖:



## NPN Type



## PNP Type

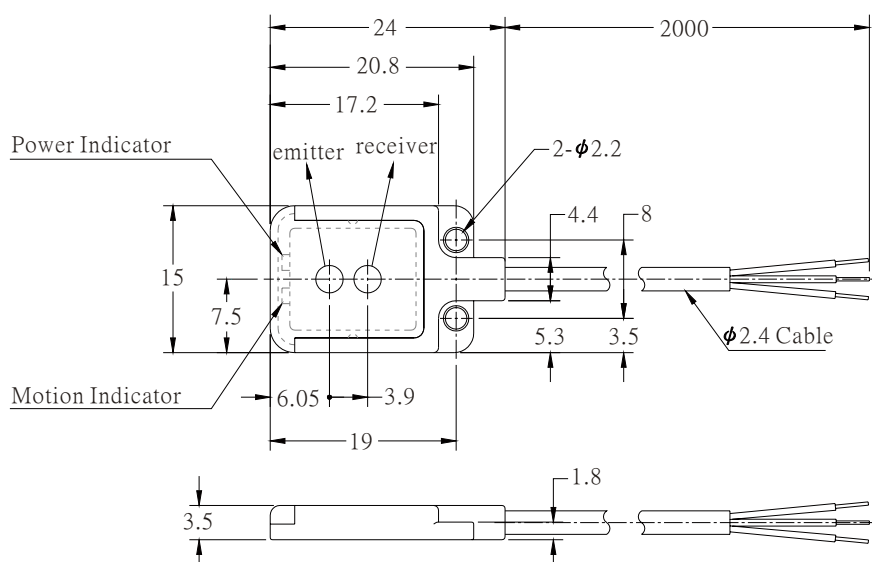
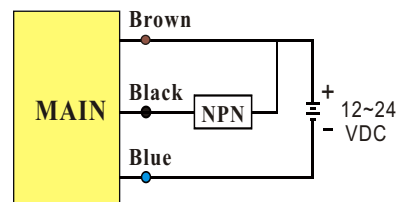
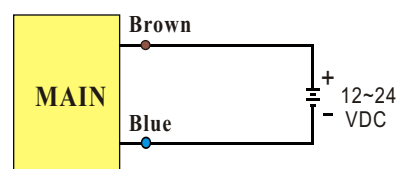


**NEW****PK5****Photo Sensor****RIKO****◆ Characteristics / 特點:**

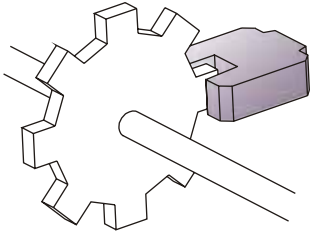
- Small body (only 3.5 mm thickness). Easy to be mounted.  
體積薄(3.5mm)，容易安裝。
- Visible dual LED indicators.  
清晰易見的雙LED指示燈。
- High-speed response time : 0.5ms.  
高速反應0.5ms。

**◆ Specifications / 規格表:**

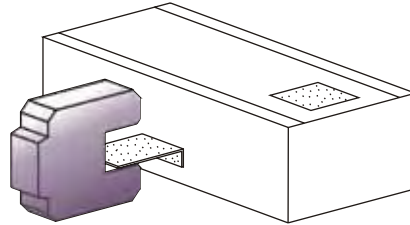
Model / 型號	PK5-1N	PK5-1N2	PK5-1P	PK5-1P2
Sensing type / 檢出方式	Through beam/對照式			
Sensing distance / 檢出距離	1M			
Emitting light / 發光源	Red LED (紅光LED) : 630 nm			
Operating voltage / 工作電壓	12 ~ 24 VDC±10% (Ripple P-P : 10% max.)			
Current consumption / 消耗電流	15 mA max.			
Output current / 輸出電流	24 VDC 100 mA max.			
Output Type / 輸出模式	NPN/L.on	NPN/D.on	PNP/L.on	PNP/D.on
Protection circuit / 保護電路	Reverse polarity protection, short circuit protection output 電源反接保護及輸出短路保護			
Response time / 反應時間	0.5 ms max.			
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC			
Voltage withstandability / 絕緣耐壓	1000 VAC for 1 minute			
Operating temperature / 工作時溫度	-10°C ~ +45°C (No freezing allowed不可結霜, 結冰)			
Ambient humidity / 工作時溼度	35% ~ 85% RH 相對溼度			
Storage temperature / 儲存時溫度	-10°C ~ +55°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	IP64			
Material / 外觀材質	ABS			
Wiring method / 出線方式	RX:Pre-wired / Ø2.4 × 2 M 3-wire		TX:Pre-wired / Ø2.4 × 2 M 2-wire	
Weight / 重量	Approx.40 g			

**◆ Dimensions / 外型尺寸圖:****Receiver/ 接收****NPN Type****Emitter/ 發射**

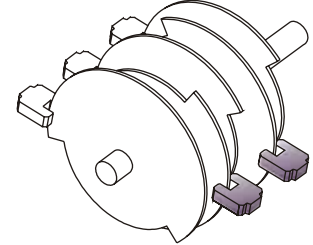
◆ Applications / 應用:



(A) Speed monitoring / 速度檢出



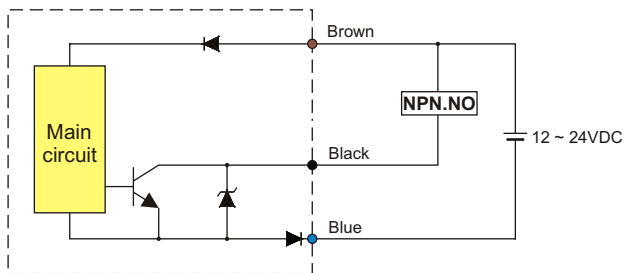
(B) Machine positioning / 位置檢出



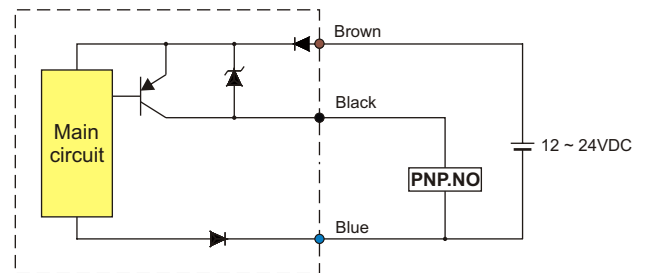
(C) Rotary cam sensing / 定位檢出

◆ SU DC Light Output Circuit Diagrams / 接線圖:

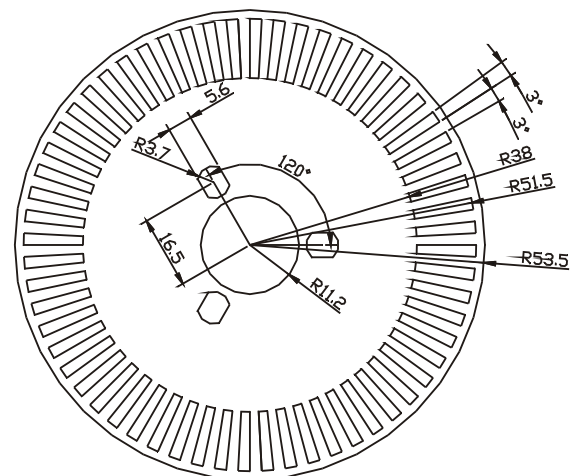
(a) SU-N



(b) SU-P



◆ Dimensions / 尺寸圖:



## ◆ Characteristics / 特性:

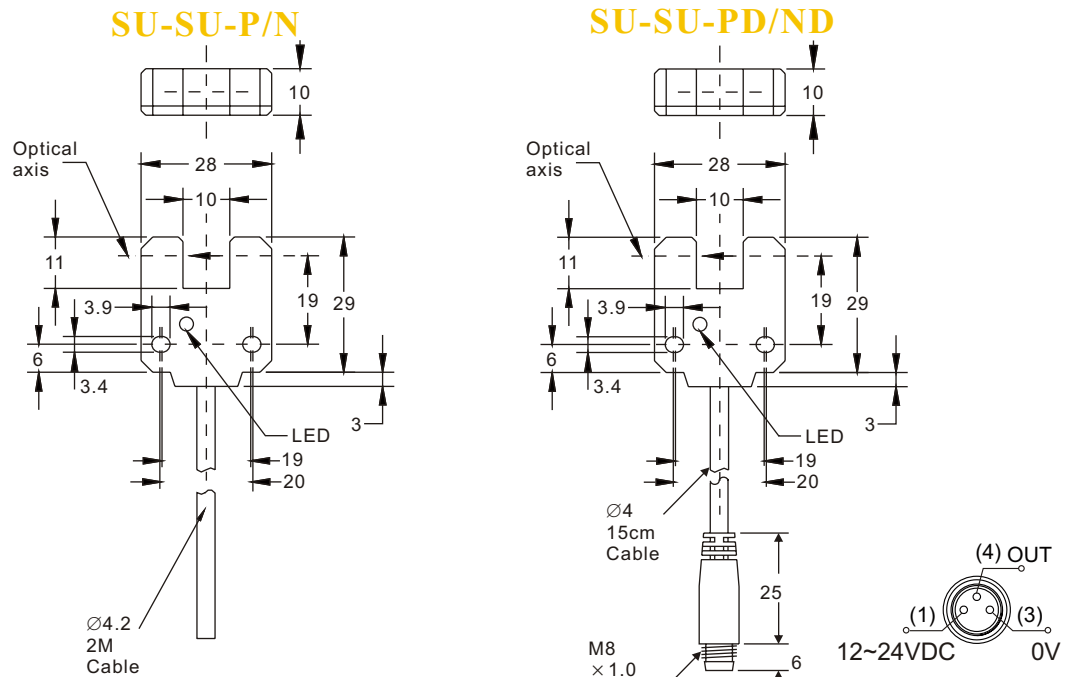
- High-speed response, 1 kHz (DC-light type)  
/ 體積小, 反應速度快約1kHz.
- Sensing distance 10mm, suitable for the detection of small objects.  
/ 檢測距離10mm, 適用於小物體檢測.
- Infrared beam axis 1mm width.  
/ 紅外線光軸檢測寬度1.0mm..



## ◆ Specifications / 規格表:

Model / 型號	SU-N	SU-ND	SU-P	SU-PD
	SU-N2	SU-N2D	SU-P2	SU-P2D
Scanning distance / 檢測距離	10 mm			
Min. detection object / 最小檢測物	Opaque / 非透明體 (0.5 × 2.0)			
Emitting light/發光源	Infrared LED 940nm			
Operating voltage / 工作電壓	DC : 12~24VDC			
Current consumption / 消耗電流	20 mA max.			
Output current / 輸出電流	24VDC : 100mA max			
Output Type / 輸出模式	NO Type	N:NPN,dark operated(open collector)		P:PNP,dark operated(open collector)
	NC Type	N2:NPN,light operated(open collector)		P2:PNP,light operated(open collector)
Response frequency / 反應頻率	1 KHz			
Ambient illumination/使用環境光源	Incandescent lamp / 白光 : 1,000 lux max.			
Insulation resistance / 隔離阻抗	20M Ω min. 500vdc			
Voltage withstandability / 絕緣耐壓	500 V AC for 1 minute			
Operating temperature/工作溫度範圍	- 10° C ~ + 55° C			
Ambient humidity/溼度範圍	45% ~ + 85 % RH			
Protection degree / 防水等級	IP 64			
Vibration resistance / 耐震頻率	1.5-mm peak-to-peak amplitude, 10 to 55 Hz, 2 hours each in X, Y, and Z directions			
Shock resistance / 耐震度	50G, repeated 10 times each in X, Y, and Z directions			
Material / 外殼材質	PC			
Wiring method / 出線方式	Pre-wired Ø4.2 × 2 M / 3-wire	M8 pigtailed type / M8 接頭15cm 電線式	Pre-wired Ø4.2 × 2 M / 3-wire	M8 pigtailed type / M8 接頭15cm 電線式
	Weight / 重量	Approx.55g	Approx.35g	Approx.55g

## ◆ Dimensions / 外型尺寸圖:

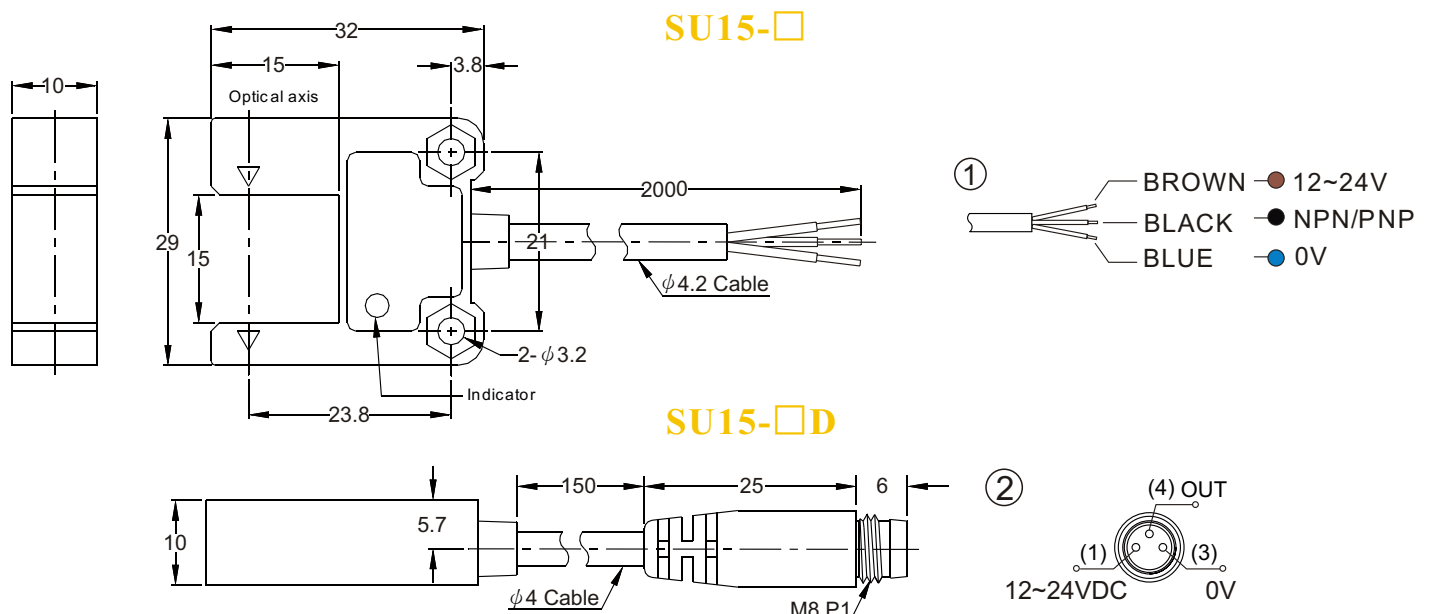


**SU15****U-shape Photo Sensor****RIKO****◆ Characteristics / 特性:**

- High-speed response, 1 kHz (DC-light type)  
/ 體積小, 反應速度快約1kHz.
- Wide vane, 15 mm (DC-light type)  
/ 檢測距離15mm, 適用於小物體檢測.

**◆ Specifications / 規格表:**

Model / 型號	SU15-N	SU15-ND	SU15-P	SU15-PD
	SU15-N2	SU15-N2D	SU15-P2	SU15-P2D
Sensing distance / 檢測距離	15 mm			
Min. detecting object / 最小檢測物	Opaque / 非透明體 (0.5 × 2.0)			
Emitting light / 發光源	Infrared LED 940nm			
Operating voltage / 工作電壓	DC : 12~24VDC			
Current consumption / 消耗電流	25 mA max.			
Output Type / 輸出模式	NO Type	N:NPN,dark operated(open collector)		P:PNP,dark operated(open collector)
	NC Type	N2:NPN,light operated(open collector)		P2:PNP,light operated(open collector)
Output current / 輸出電流	24VDC 100 mA max.			
Response frequency / 反應頻率	1 KHz			
Ambient illumination / 使用環境光源	Incandescent lamp / 白光 : 1,000 lux max.			
Insulation resistance / 隔離阻抗	20M Ω min. 500vdc			
Voltage withstandability / 絕緣耐壓	500 V AC for 1 minute			
Operating temperature / 工作溫度範圍	- 10 °C ~ + 55 °C			
Ambient humidity / 溼度範圍	45% ~ + 85 % RH			
Protection degree / 防水等級	IP 64			
Vibration resistance / 耐震頻率	1.5-mm peak-to-peak amplitude, 10 to 55 Hz, 2 hours each in X, Y, and Z directions			
Shock resistance / 耐震度	50G, repeated 10 times each in X, Y, and Z directions			
Material / 外觀材質	PC			
Wiring method / 出線方式	Pre-wired Ø4.2 × 2 M / 3-wire	M8 pigtailed type / M8 接頭15cm 電線式	Pre-wired Ø4.2 × 2 M / 3-wire	M8 pigtailed type / M8 接頭15cm 電線式
Weight / 重量	Approx.55g	Approx.35g	Approx.55g	Approx.35g

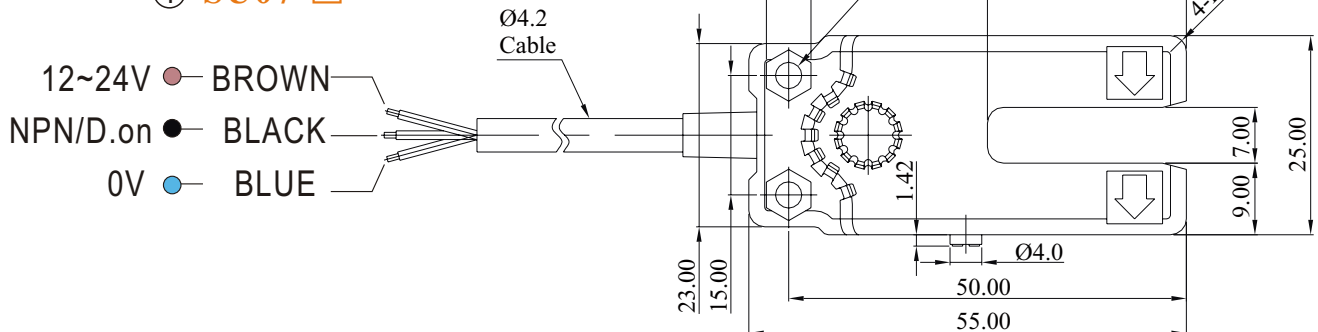
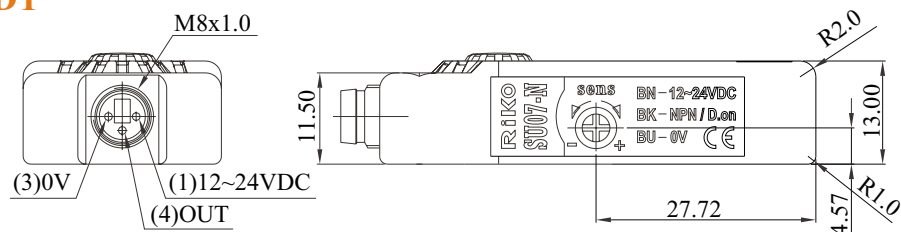
**◆ Dimensions/外型尺寸圖:**

**NEW****SU07****U-shape Photo Sensor****RIKO****◆ Characteristics / 特點:**

- The optimum sensitivity can be set easily according to different colors.  
/可依不同顏色，調整靈敏度。
- Suitable for address reading and cut mark sensing.  
/適合位置讀取和檢測裁切標記。

**◆ Specifications / 規格表:**

Output Type/輸出模式	NPN/NO	<b>SU07-N</b>	<b>SU07-ND1</b>
	PNP/NO	<b>SU07-P</b>	<b>SU07-PD1</b>
Scanning distance / 檢測距離		7 mm	
Min. detection object / 最小檢測物		4mm	
Emitting light/發光源		Red LED 660 nm	
Operating voltage / 工作電壓		DC : 12~24VDC	
Current consumption / 消耗電流		18 mA max.	
Output current / 輸出電流		24VDC : 100mA max.	
Response frequency / 反應頻率		1 ms max.	
Ambient illumination/使用環境光源		Incandescent lamp / 白光 : 1,000 lux max.	
Insulation resistance / 隔離阻抗		20M Ω min. 500VDC	
Voltage withstandability / 絕緣耐壓		500 V AC for 1 minute	
Operating temperature/工作溫度範圍		- 10 °C ~ + 55 °C	
Ambient humidity/溼度範圍		35 to 85 % RH	
Protection degree / 防水等級		IP 64	
Vibration resistance / 耐震頻率		1.5 mm peak to peak amplitude, 10 to 55 Hz, 2 hours in X,Y and z directions	
Shock resistance / 耐震度		50 G repeated 10 times each in X,Y and Z directions	
Material / 外殼材質		PC	
Wiring method / 出線方式		Pre-wired Ø4.2 × 2 M / 3-wire	M8 connector / M8接頭式
Weight / 重量		Approx.65g	

**◆ Dimensions / 外型尺寸圖:****① SU07-□****② SU07-□-D1**



## ◆ I/O Circuit Diagrams / 輸出部分的回路:

### NPN Type

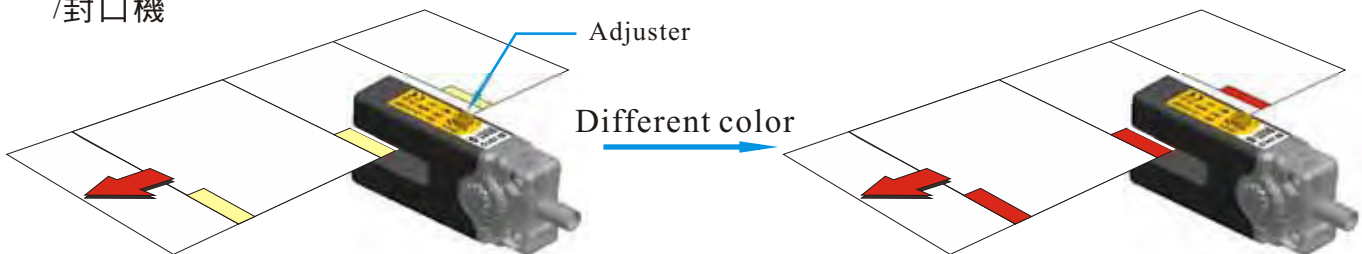
No. of optical axes/model	Operation mode	Timing charts	Output circuit
SU07-N SU07-ND1	D.on	<p>Incident light</p> <p>No incident light</p> <p>Operation indicator (rad) ON</p> <p>Control output ON</p> <p>Output transistor OFF</p> <p>Load (e.g., relay) Operate</p> <p>Reset</p> <p>(Between brown and black leads)</p>	

### PNP Type

No. of optical axes/model	Operation mode	Timing charts	Output circuit
SU07-P SU07-PD1	D.on	<p>Incident light</p> <p>No incident light</p> <p>Operation indicator (rad) ON</p> <p>Control output ON</p> <p>Output transistor OFF</p> <p>Load (e.g., relay) Operate</p> <p>Reset</p> <p>(Between brown and black leads)</p>	

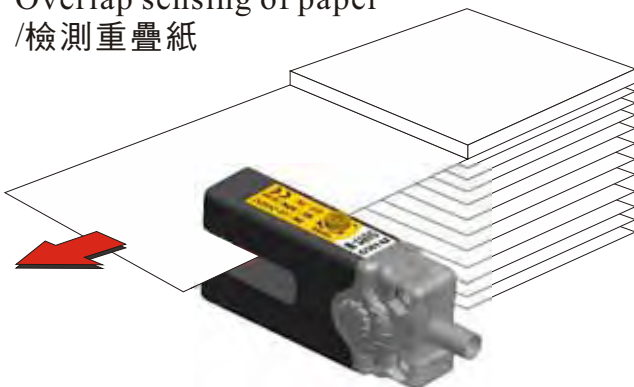
## ◆ APPLICATION / 應用例

### ◆ Sealing machine / 封口機



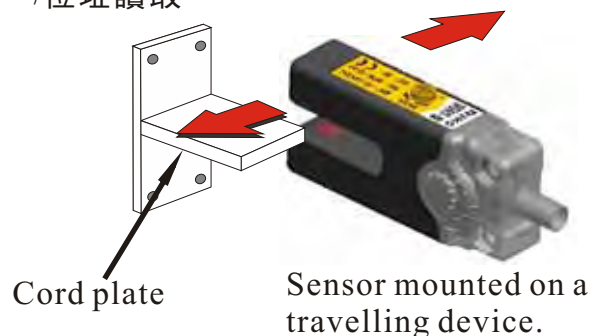
The optimum sensitivity can be set easily according to different colors.

### ◆ Overlap sensing of paper / 檢測重疊紙



Detecting paper feed on different printing machines.

### ◆ Address reading / 位址讀取



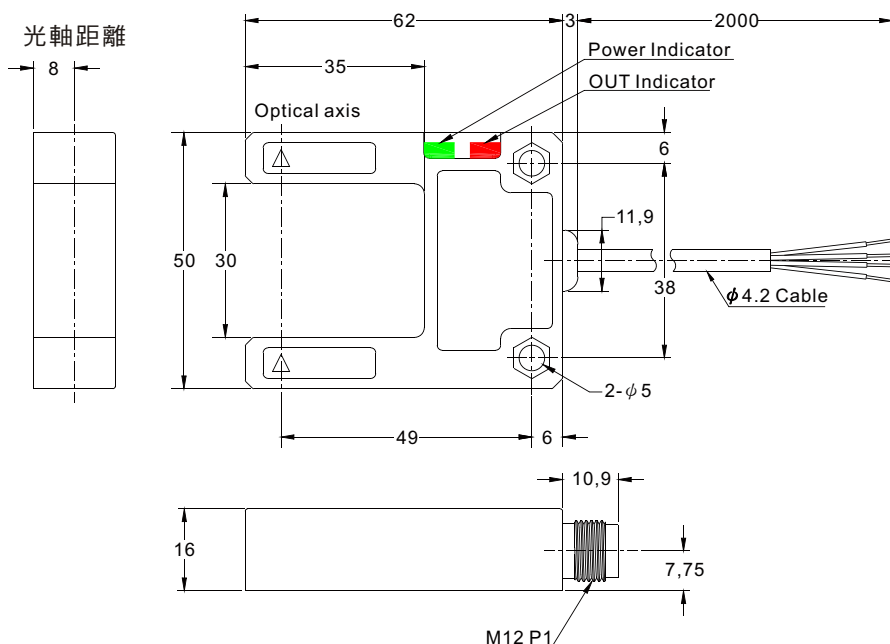
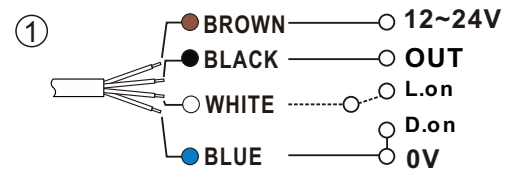
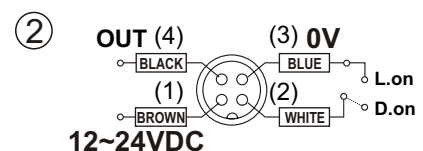
Detecting the position of the guided transportation.

**NEW****SU30****U-shape Photo Sensor****RIKO****◆ Characteristics / 特點:**

- Two indicators (power/sensing). Easy to recognize.  
雙指示燈(電源指示/感應指示)容易辨認。
- The distance is 7mm between front edge and first optic axis.  
第一光軸與前端相距7mm。
- L. on/D. on switch available.  
可作L.on/D.on選擇。

**◆ Specifications / 規格表:**

Output Type/輸出模式	NPN.NO/NC	<b>SU30-N</b>	<b>SU30-NK1</b>
	PNP.NO/NC	<b>SU30-P</b>	<b>SU30-PK1</b>
Scanning distance / 檢測距離		30 mm	
Min. detection object / 最小檢測物		4mm	
Emitting light/發光源		Infrared LED 940 nm	
Operating voltage / 工作電壓		DC : 12~24VDC	
Current consumption / 消耗電流		20 mA max.	
Output current / 輸出電流		24VDC : 100mA max.	
Response frequency / 反應頻率		1 ms max.	
Ambient illumination/使用環境光源		Incandescent lamp / 白光 : 3,000 lux max.	
Insulation resistance / 隔離阻抗		20M Ω min. 500VDC	
Voltage withstandability / 絕緣耐壓		500 V AC for 1 minute	
Operating temperature/工作溫度範圍		- 20 °C ~ + 60 °C	
Ambient humidity/溼度範圍		35 to 85 % RH	
Protection degree / 防水等級		IP 64	
Vibration resistance / 耐震頻率		1.5 mm peak to peak amplitude, 10 to 55 Hz, 2 hours in X,Y and z directions	
Shock resistance / 耐震度		50 G repeated 10 times each in X,Y and Z directions	
Material / 外殼材質		PC	
Wiring method / 出線方式		Pre-wired Ø4.2 × 2 M / 4-wire	M12 Plug-in connector type / M12接頭式
Weight / 重量		Approx. 86g	Approx. 26g

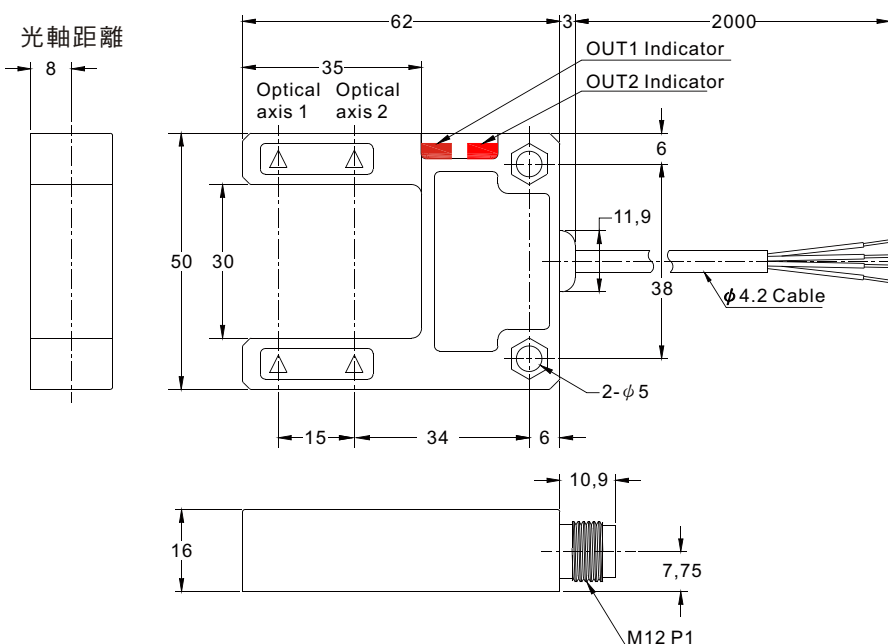
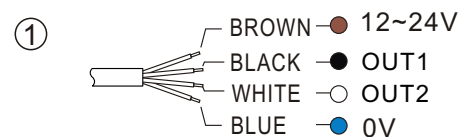
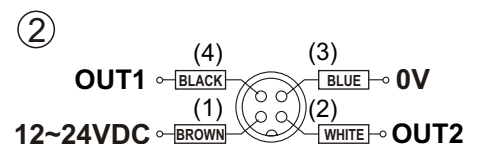
**◆ Dimensions / 外型尺寸圖:****SU30-□****SU30-□K1**

**NEW****SU30****U-shape Photo Sensor****RIKO****◆ Characteristics / 特點:**

- Two indicators (OUT1 Indicator/OUT2 Indicator).  
Easy to recognize.  
雙指示燈 (OUT1 Indicator/OUT2 Indicator) 容易辨認。
- The distance is 7mm between front edge and first optic axis. The distance is 15mm between two optic axes.  
第一光軸與前端相距7mm，兩光軸相距15mm。
- Two optic axes react respectively.  
兩光軸各自獨立感應。

**◆ Specifications / 規格表:**

Output Type/輸出模式	NPN.NO	<b>SU30-2N</b>	<b>SU30-2NK1</b>
	PNP.NO	<b>SU30-2P</b>	<b>SU30-2PK1</b>
Scanning distance / 檢測距離	30 mm		
Min. detection object / 最小檢測物	4mm		
Emitting light/發光源	Infrared LED 940 nm		
Operating voltage / 工作電壓	DC : 12~24VDC		
Current consumption / 消耗電流	30 mA max.		
Output current / 輸出電流	24VDC : 100mA max.		
Response frequency / 反應頻率	1 ms max.		
Ambient illumination/使用環境光源	Incandescent lamp / 白光 : 1,000 lux max.		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	500 V AC for 1 minute		
Operating temperature/工作溫度範圍	- 20 °C ~ + 60 °C		
Ambient humidity/溼度範圍	35 to 85 % RH		
Protection degree / 防水等級	IP 64		
Vibration resistance / 耐震頻率	1.5 mm peak to peak amplitude, 10 to 55 Hz, 2 hours in X,Y and z directions		
Shock resistance / 耐震度	50 G repeated 10 times each in X,Y and Z directions		
Material / 外殼材質	PC		
Wiring method / 出線方式	Pre-wired Ø4.2 × 2 M / 4-wire		M12 Plug-in connector type / M12接頭式
Weight / 重量	Approx. 86g		Approx. 26g

**◆ Dimensions / 外型尺寸圖:****SU30-2□****SU30-2□K1**

**NEW**

**SU30**

U-shape Photo Sensor

**RIKO**

◆ I/O Circuit Diagrams / 輸出部分的回路:

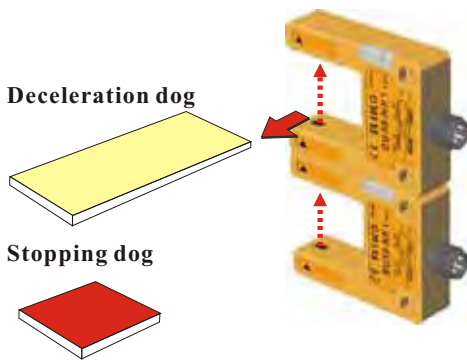
NPN Type

No. of optical axes/model	Operation mode	Timing charts	Output circuit				
1 axis SU30-N SU30-NK1	D.on	<p>Incident light</p> <p>No incident light</p> <p>(Between brown and black leads)</p>					
2 axis SU30-2N SU30-2NK1	D.on	<table border="1"> <thead> <tr> <th>Optical axis1</th> <th>Optical axis2</th> </tr> </thead> <tbody> <tr> <td> <p>Incident light</p> <p>No incident light</p> <p>(Between brown and black (white) leads)</p> </td> <td> <p>Incident light</p> <p>No incident light</p> <p>(Between brown and black (white) leads)</p> </td> </tr> </tbody> </table>	Optical axis1	Optical axis2	<p>Incident light</p> <p>No incident light</p> <p>(Between brown and black (white) leads)</p>	<p>Incident light</p> <p>No incident light</p> <p>(Between brown and black (white) leads)</p>	
Optical axis1	Optical axis2						
<p>Incident light</p> <p>No incident light</p> <p>(Between brown and black (white) leads)</p>	<p>Incident light</p> <p>No incident light</p> <p>(Between brown and black (white) leads)</p>						

◆ To detect the retardation and stop locations on stacker cranes and guided trolleys.

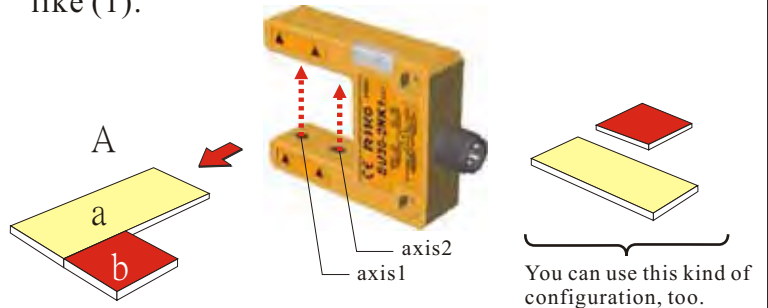
(1) One optic axis:

For retardation and stopping, you have to use two sensors.



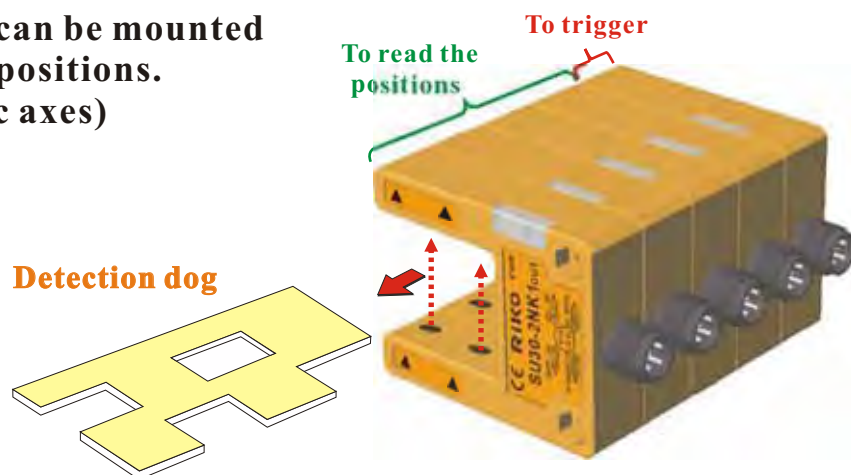
(2) Two optic axes:

Just need to use one sensor if you change the shape of dock like A. It will have the same application like (1).



The first optic axis detects the retardation on a.  
The second optic axis detects the stopping on b.

◆ Two optic axes sensors can be mounted side by side to read the positions.  
(A application of 8 optic axes)



### ◆ Characteristic / 特點:

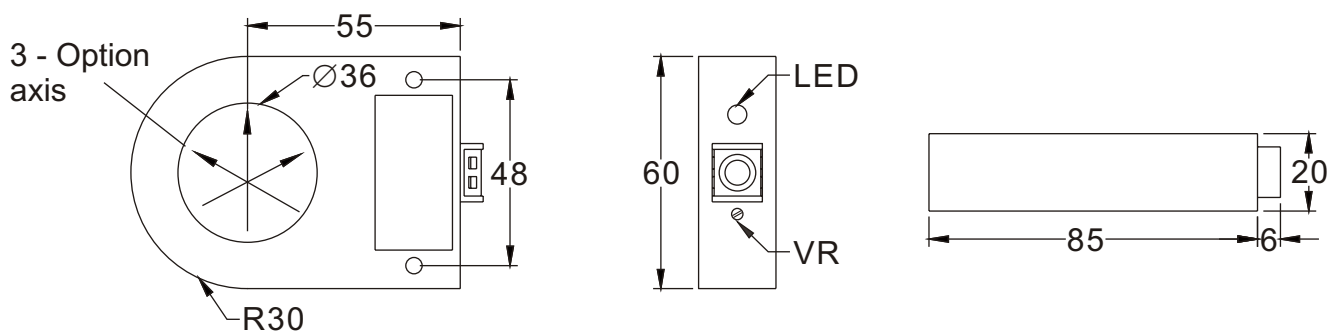
- Open collector output allows a wide range of applications, such as direct relay drive and P.L.C input.  
/ 開路集極輸出方式. 可應用於PLC作取樣用或驅動直流負載.
- Multiple output model (NO & NC and NPN & PNP open collector).  
/ 多狀態控制輸出方式 (NO & NC 和 NPN & PNP 集極開路電路輸出).
- 3 light converges to spot diameter of 2 mm.  
/ 紅外線發射3軸光點 2 mm大小.
- ABS housing. resin inside. Protection from oil, water, acid and alkaline.  
/ ABS外殼可耐酸檢, 增加使用壽命.



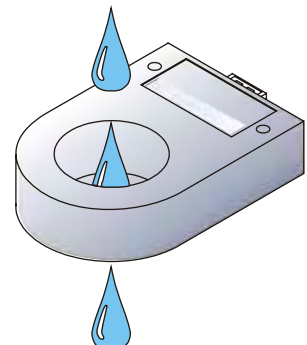
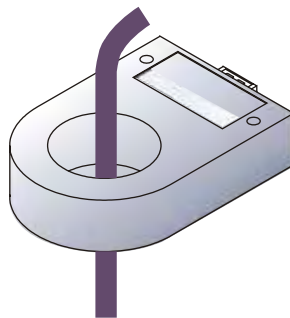
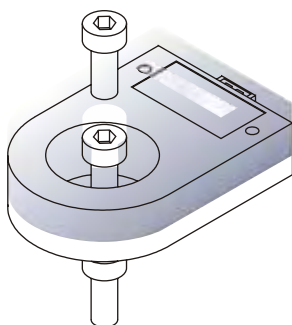
### ◆ Specifications / 規格表:

Model / 型號	<b>RQ36-KP2</b>
Sensing distance / 檢出距離	36mm
Min. detecting object / 最小檢測物	5mm min
Emitting light / 發光源	IR LED (950nm)
Operating Voltage / 工作電壓	DC : 12 ~ 24 VDC
Current Consumption / 消耗電流	40 mA
Output Current / 輸出電流	24 VDC 100 mA max
Output Type / 輸出模式	NPN.NO/NC PNP.L.NO/NC
Operating Temperature / 工作溫度範圍	- 25 °C ~ + 60 °C
Protection degree / 防水等級	IP 64
Wiring Method / 出線方式	Ø4.2 × 2 M / 4-wire
Recommended Power Unit / 應用電源供給單元	ST - 1 . ST - T2
Weight / 重量	Approx. 100g

### ◆ Dimension / 尺寸圖:

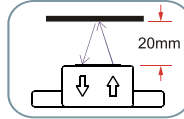


### ◆ Application / 應用範例:

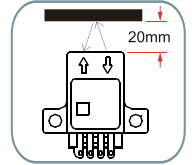


## ◆ Shape/外觀:

### ▶ Applications



### ▶ Applications

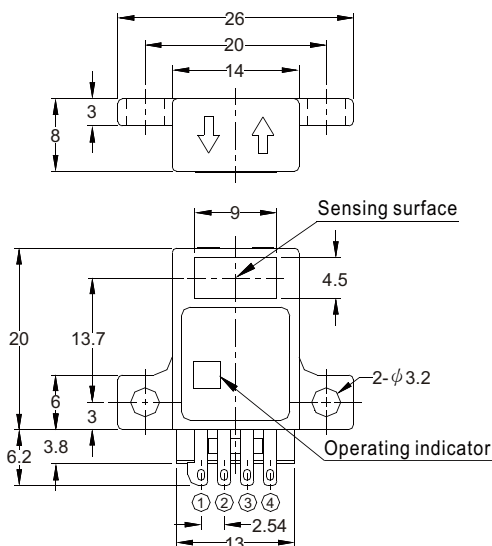


## ◆ Specifications /規格表:

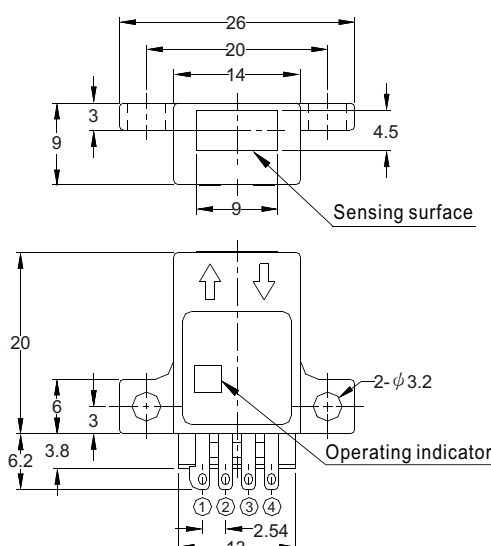
Model / 型號	<b>SPR-401-N</b>		<b>SPR-401-P</b> <b>SPR-401-P2</b>		<b>SPR-402-N</b>	<b>SPR-402-P</b> <b>SPR-402-P2</b>		
Sensing type / 檢出方式	Diffuse Reflection / 擴散反射式							
Sensing distance / 檢出距離	20 mm							
Emitting light / 發光源	Infrared LED 940 nm.							
Operating voltage / 工作電壓	DC: 12 ~ 24 VDC							
Current consumption / 消耗電流	25 mA max.							
Output current / 輸出電流	24 VDC 100 mA max							
Output Type / 輸出模式	NPN.NO/NC		PNP.NO PNP.NC		NPN.NO/NC		PNP.NO PNP.NC	
Response time / 反應時間	1 ms max.							
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC							
Voltage withstandability / 絕緣耐壓	1000VAC for 1minute							
Operating temperature / 工作溫度範圍	- 20 °C ~ + 45 °C							
Ambient humidity / 工作溼度範圍	35%~85% RH							
Material / 外觀材質	PC							
Wiring method / 出線方式	EE1001/EE1006							
Weight / 重量	Approx. 3g							

## ◆ Dimensions/尺寸圖:

### SPR-401-N/P

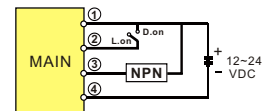


### SPR-402-N/P



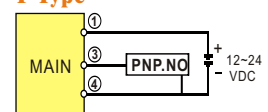
### NPN Type

Pin fitting			
①	②	③	④
+	L	OUT	-



### PNP Type

Pin fitting			
①	②	③	④
+	-	OUT	-



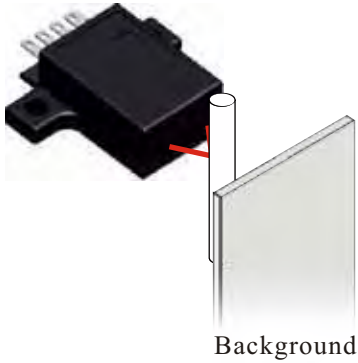
### P2 Type

Pin fitting			
①	②	③	④
+	-	OUT	-

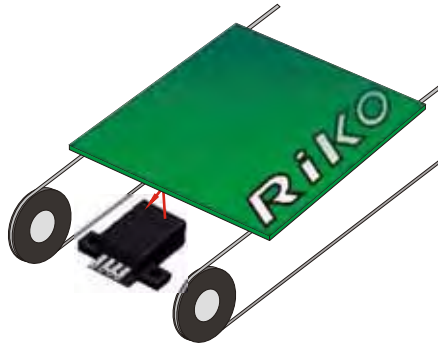


## ◆ Applications/應用例:

Not affected by the background.



To detect the PCB boards.

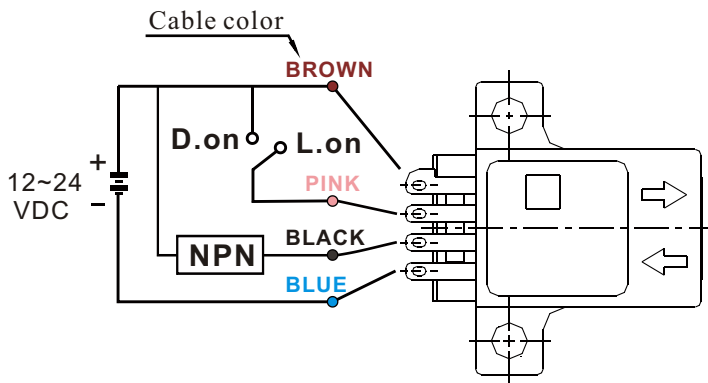


To detect the transparent objects.

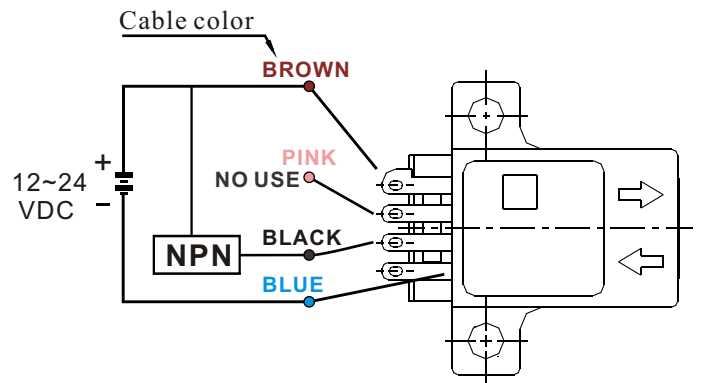


## ◆ Wiring diagrams/線路圖:

### NPN Type



### PNP Type

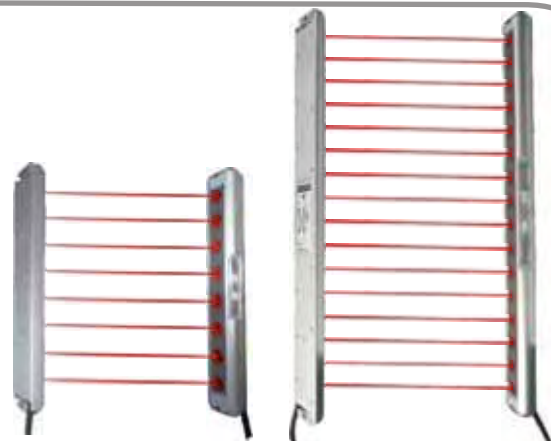
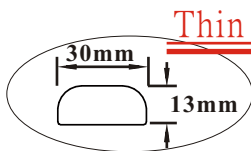


## ◆ Connectors / 線材

Model / 產品圖	Dimensions / 尺寸圖	Cable Color	Available Model	Operation Instructions
<b>EE-1006</b> 		1-BROWN 2-PINK 3-BLACK 4-BLUE	<b>SPR Series</b>	
<b>EE-1001</b> 		1-BROWN 2-PINK 3-BLACK 4-BLUE	<b>SPR Series</b>	

**NEW****OAP****General Purpose Compacted Area Sensor RIKO****◆ Characteristics / 特點:**

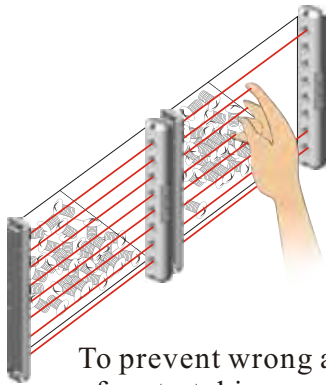
- Slim body, 13mm thickness only.  
/13mm超薄型，寬度僅有30mm。
- Min. Detectable Object  $\varnothing$ 30mm.  
/最小檢測物 $\varnothing$ 30mm。
- Green and red LEDs blink in sequence from top to bottom under normal emission. All LEDs light up under the emitting circuit failure.  
/未感應時，綠色與紅色LEDs依續閃爍，當有物體遮斷時，LEDs則全部一起亮。

**◆ Specifications / 規格表:**

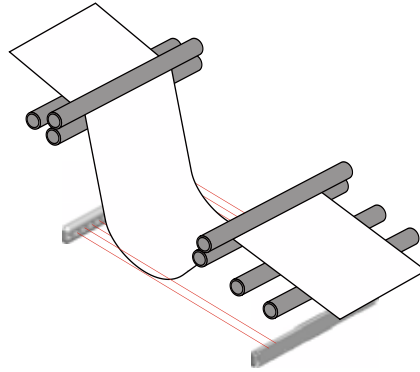
Output type / 輸出模式	NPN/D.on	OAP-2008-NK	OAP-2008S-NK	OAP-2016-NK	OAP-2016S-NK
	NPN/L.on	OAP-2008-N2K	OAP-2008S-N2K	OAP-2016-N2K	OAP-2016S-N2K
	PNP/D.on	OAP-2008-PK	OAP-2008S-PK	OAP-2016-PK	OAP-2016S-PK
	PNP/L.on	OAP-2008-P2K	OAP-2008S-P2K	OAP-2016-P2K	OAP-2016S-P2K
Sensing type / 檢出方式		Through beam / 對照式			
Resolution / 分辨率		30 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 (紅外線發光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.		7LEDs each on emitter and receiver.	
Running type / 運轉方式		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.			
		More than a beam is covered ON ( Dark On ) 任意一個光束被遮斷即輸出			
		More than a beam is covered OFF ( Light On ) 任意一個光束被遮斷即無輸出			
Operating voltage / 工作電壓		12 ~ 24 VDC $\pm$ 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		24VDC : 100 mA max.			
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		20M $\Omega$ min. 500VDC			
Voltage withstandability/絕緣耐壓		1000 VAC for 1 minute			
Operating temperature / 工作時溫度		- 10 $^{\circ}$ C ~ +45 $^{\circ}$ C ( No freezing allowed不可結霜, 結冰 )			
Ambient humidity / 工作時溼度		35% ~ 85% RH 相對溼度			
Storage temperature / 儲存時溫度		- 10 $^{\circ}$ C ~ +55 $^{\circ}$ 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 / 材質		ABS			
Wiring method / 出線方式		Transmitter : M12 pigtailed type(5P) / M12接頭15cm電線式			
		Receiver : M12 pigtailed type(5P) / M12接頭15cm電線式			
Weight / 重量		200g		253g	



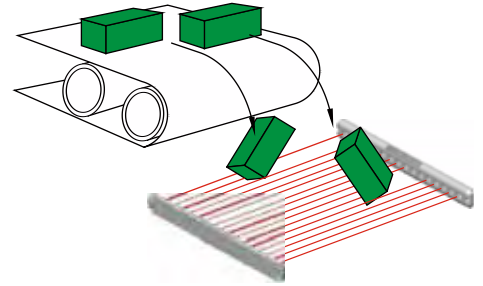
## ◆ Applications / 應用例



To prevent wrong access of parts-taking.  
防止誤取發動機部件

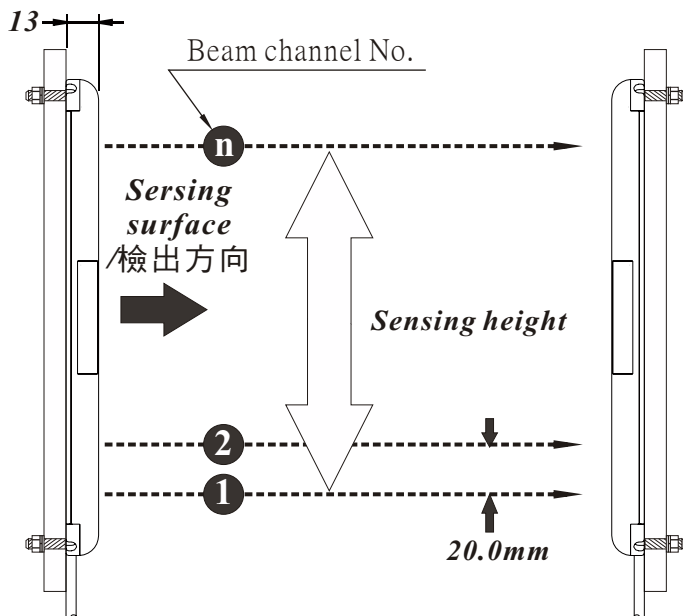


Detecting a reel.  
檢查卷筒



Detecting the falling objects in uncertain route.  
檢查路徑不確定的下落物體

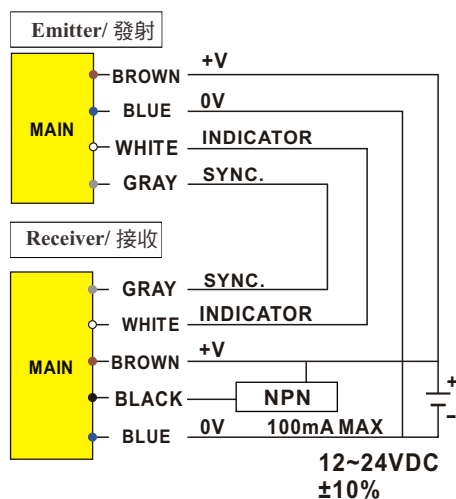
## ◆ Dimensions / 外型尺寸圖



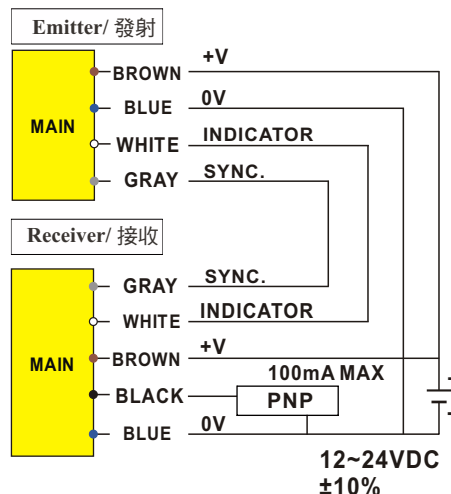
Model	Sensing distance	Sensing Height	No. of Beams	Output type
OAP-2008-NK	5M	140	8	NPN
OAP-2008-PK				PNP
OAP-2008S-NK	2M	140	8	NPN
OAP-2008S-PK				PNP
OAP-2016-NK	5M	300	16	NPN
OAP-2016-PK				PNP
OAP-2016S-NK	2M	300	16	NPN
OAP-2016S-PK				PNP

## ◆ I/O Circuit Diagram / 接線圖

### NPN open collector



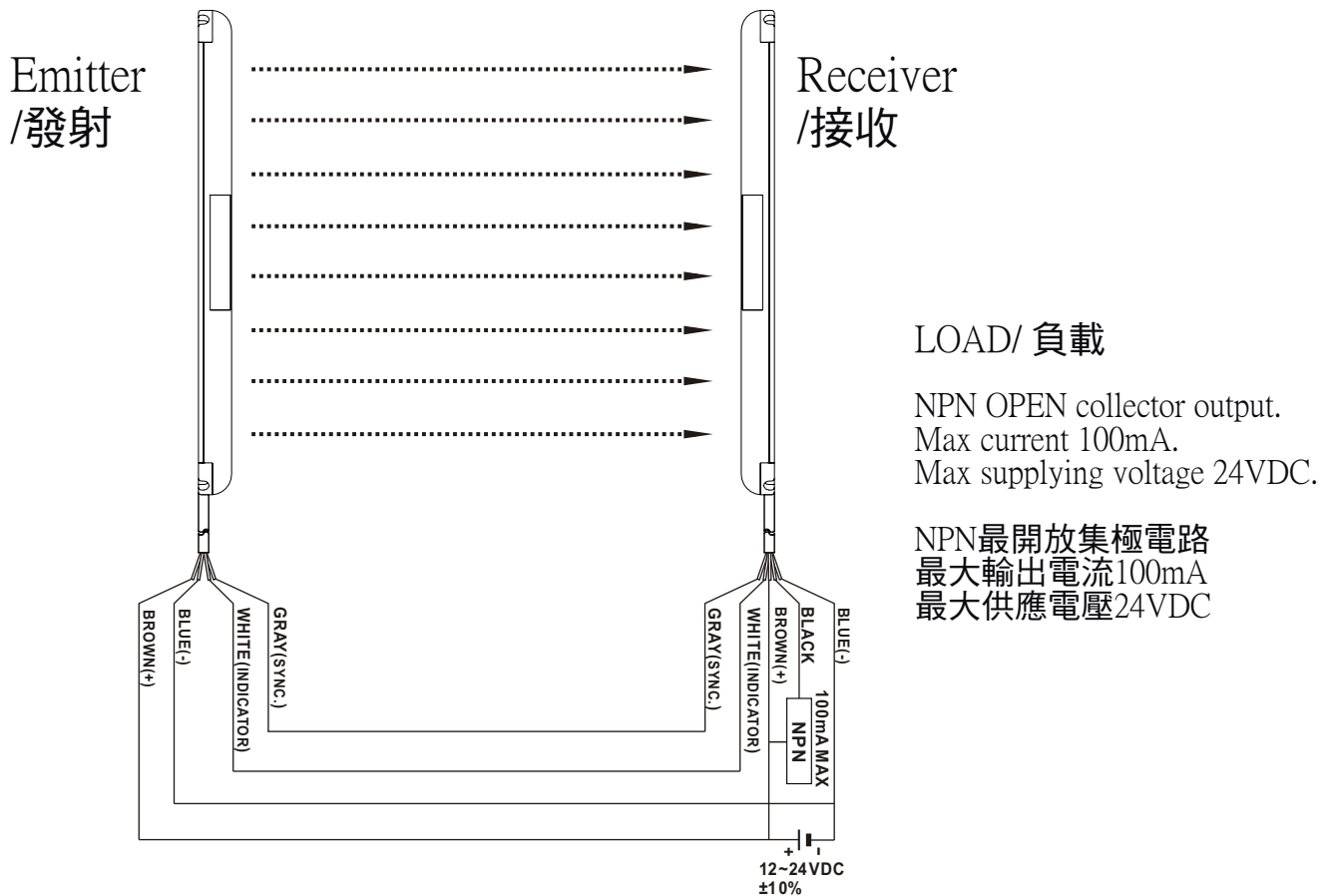
### PNP open collector



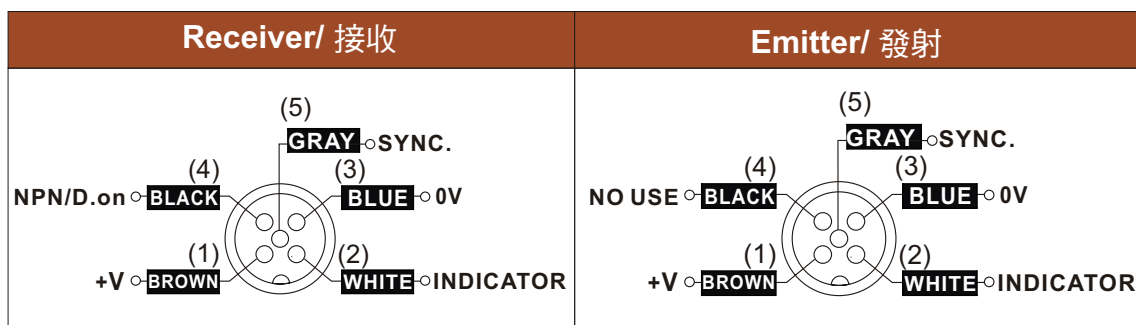
### Note:

- 1) Synchronizing should not touch + power or GND.
- 2) Use commonly the GND of supplying and transmitter, and the GND of receiver.

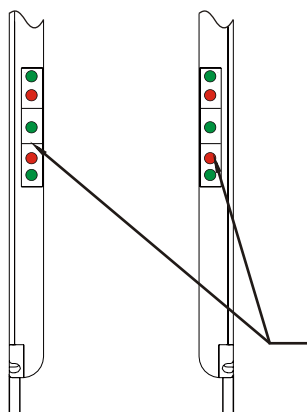
## WIRING DIAGRAM / 接線圖



### ◆ Connector / 連接頭



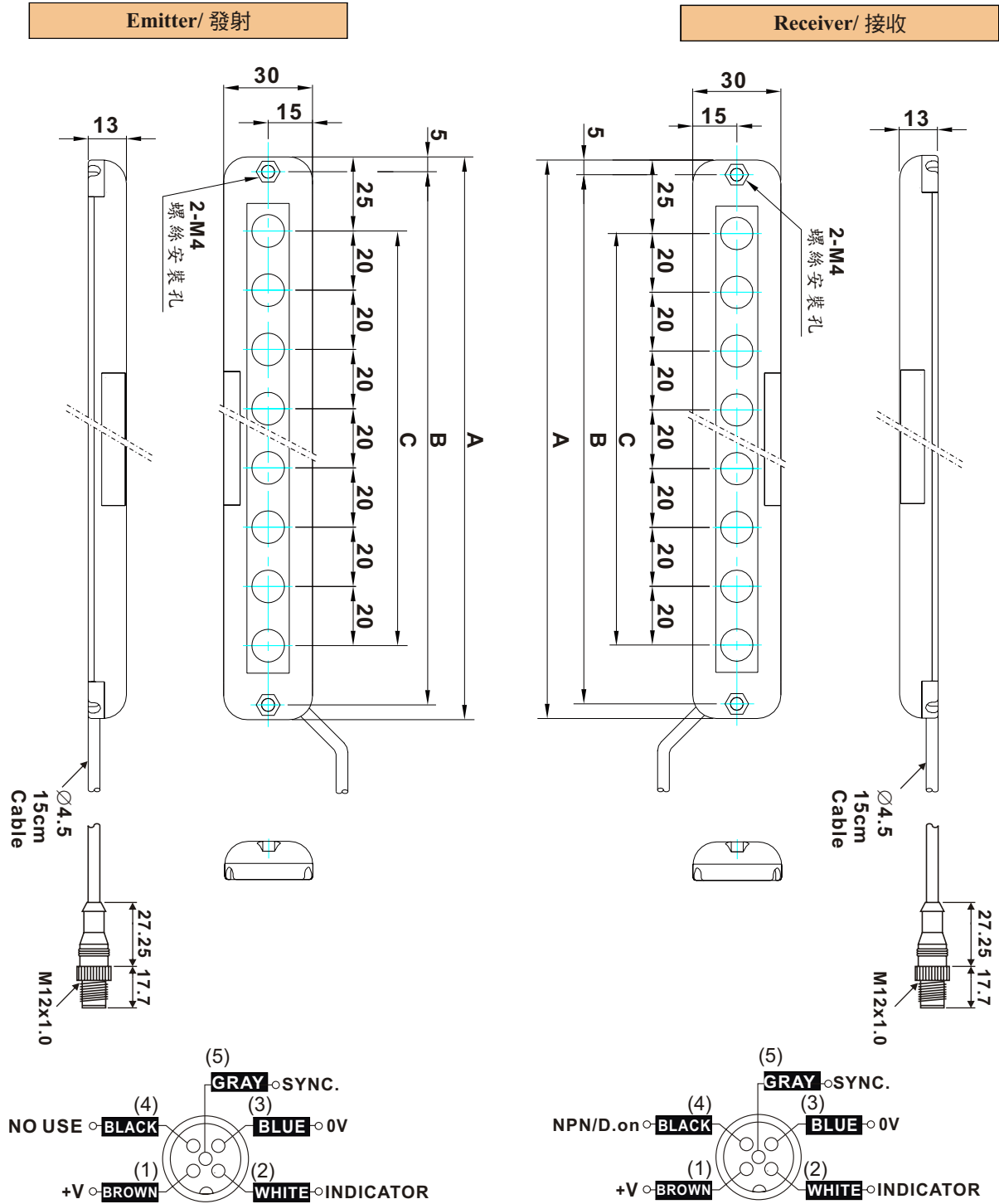
### ◆ Indicator / 指示燈



Model	LEDs
OAP-2008	5LEDs (Green, Red, Green, Red, Green)
OAP-2016	7LEDs (Green, Red, Green, Red, Green, Red, Green)

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.

## Dimensions / 尺寸圖



Model / 型號	A	B	C	No. of Beams / 光軸數
OAP-2008	190	180	140	8
OAP-2016	350	340	300	16

## ◆ Accessories / 選購配件

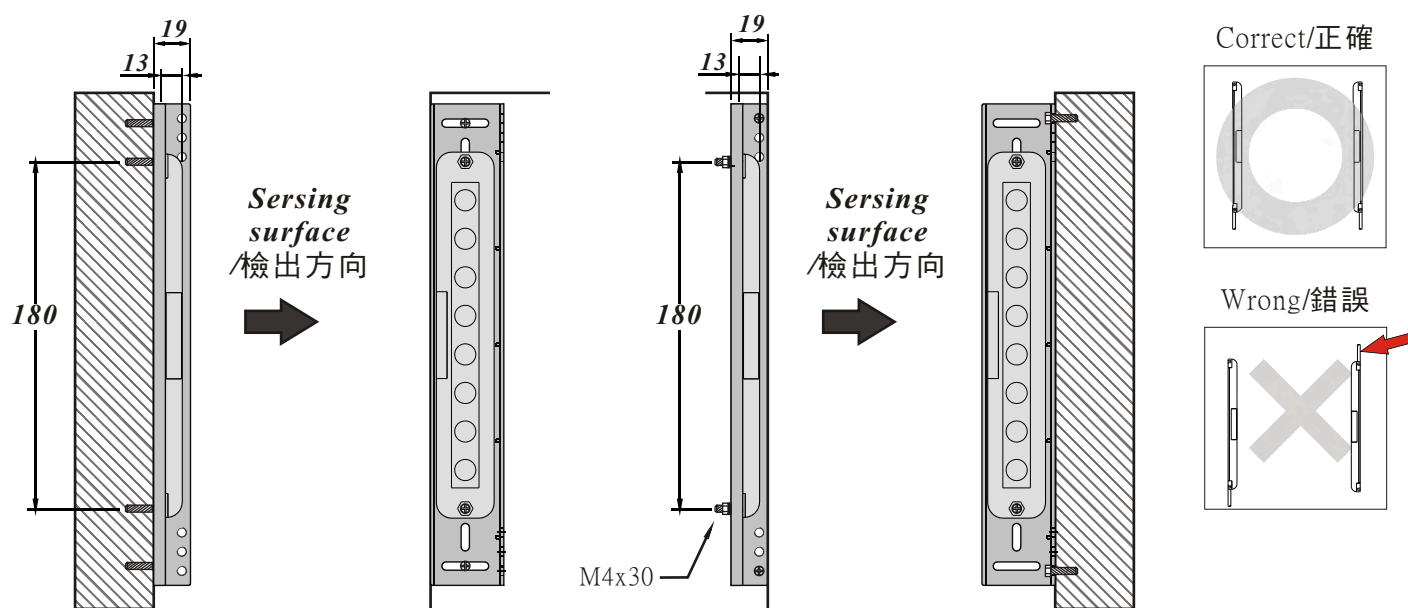
### ● Connectors / 線材

Dimensions / 尺寸圖	Wire Color	Available Model/適用機種
<p><b>2M : M125R-PUR-2M</b> <b>5M : M125R-PUR-5M</b></p>	<p>1-BROWN 2-WHITE 3-BLUE 4-BLACK 5-GRAY</p>	<p><b>OAP-□K Series</b> /OAP-□K系列機種</p> <p><b>Sensor side</b> /光電側</p> <p><b>Machine Side</b> /機台側</p>

### ● OAP-鐵架

Dimensions / 尺寸圖	Material	Available Model/適用機種
<p><b>OAP-M008</b></p>	<p><b>Iron</b> /鐵板</p>	<p><b>OAP-2008□-Series</b> /OAP-2008□-系列機種</p>

## ◆ Mounting / 固定方式



**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 AC power or 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 frame GND and G.  
If not, it will bring malfunction because of power switching noise.  
/使用開關調節器時，外殼FG9 GND和G必須接在一起，以避免電器雜訊造成機能故障
- 4) When installing or changing, be sure to turn off POWER.  
/安裝或更換時，請確定關掉電源。

**⚠ 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。

## 注意事項/ATTENTION

### ⚠ 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。

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

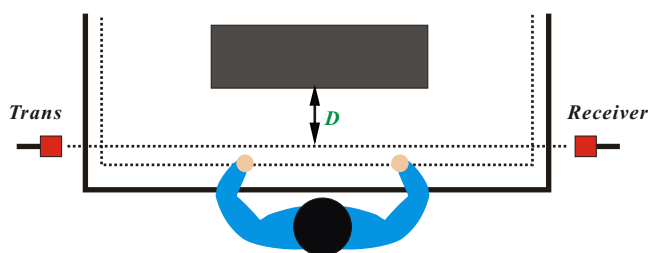
$$D = 1600 \times T + \alpha \quad (D > 500\text{mm})$$

$$D = \text{safe distance (mm)}$$

$$T = \text{response time (machine+sensor)}$$

$$\text{反應時間} = (\text{機器的反應時間} + \text{感應器的反應時間})$$

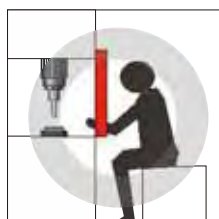
$$\alpha = 90\text{mm}$$



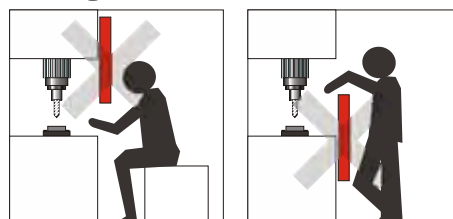
### ⚠ Warning3 / 警告3

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

Correct/正確

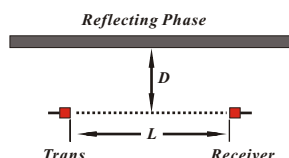
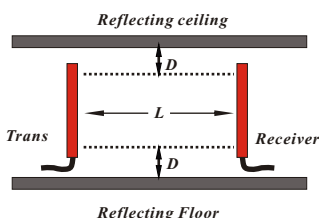


Wrong/錯誤



### ⚠ Warning4 / 警告4

When installing, please think of other reflecting object. It can 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

$$D \geq 150\text{mm}$$

$$L = 0.3 \sim 5\text{M}$$

## ◆ 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

### ◆ Applications /應用:



Semiconductor 半導體

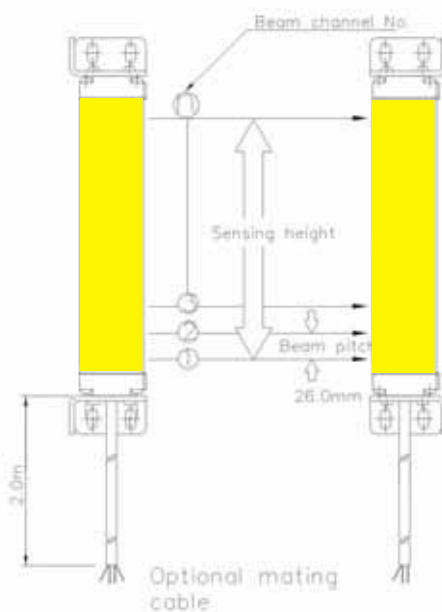


Factory automation 工廠自動化設備



Auto manufacturing 自動化生產

### ◆ Dimensions/外型尺寸圖:



### 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	φ5mm <sup>2</sup> 4-core cable,	
	5m	φ5mm <sup>2</sup> 4-core cable,	OAS26CC5
	275.0mm	φ5mm <sup>2</sup> 4-core cable	

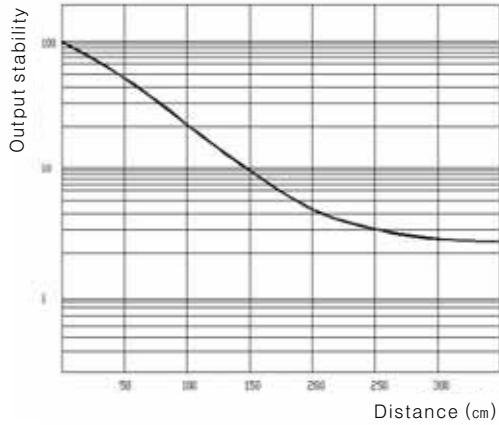


Item項目	OAS2608D	OAS2616D	OAS2624D	OAS2632D	OAS2640D
No. of beams/光束數	8	16	24	32	40
Detecting height 檢測高度	182	390	598	806	1,014
Beam Pitch/光束間距	26mm				
Detecting Range /檢測距離	0.3m to 4m				
Resolution/分辨率	30mm opaque object 不透明物體				
Supplying voltage供應電壓	10V to 24VDC±10%(ripple P-P:10% max.)				
Current consumption 電流消耗量	65mAMax.	70mAMax.	75mAMax.	80mAMax.	85mAMax
Electro-characteristics /電氣特性	NPN open collector開放集極電路, Load current 負載電流: max. 200mA (Max. 30Vdc) 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>■ Transmitter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( $\lambda = 870\text{nm}$ )				
Running type 運轉方式	More than a beam is covered ON (Dark ON)遮斷涵蓋一光束以上				
Protection circuit 保護電路	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: $-10^{\circ}\text{C} \sim +55^{\circ}\text{C}$ (shouldn't be any condensation or frost) 不可有任何的凝結或結霜 When keeping 保留時: $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$				
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 : Max10000lx Ambient light 周圍光線:Max 3000lx				
Insulation resistance 絕緣阻抗	20M $\Omega$ min.(At 500Vdc)				
Anti-voltage/逆電壓	1000VAC 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	370g	610g	840g	1,080g	1,320g
Optional Cable 可選擇線長	5m length 長度				

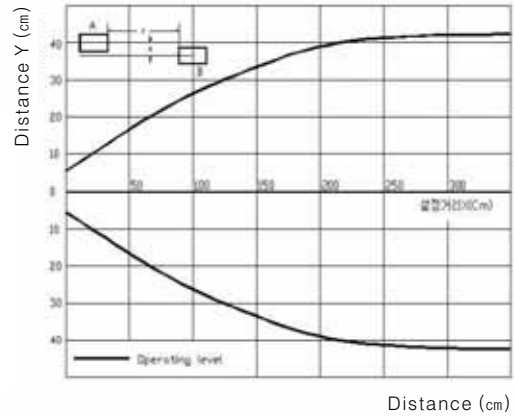
## ENGINEERING DATA 工程數據

### OPERATING RANGE 操作範圍

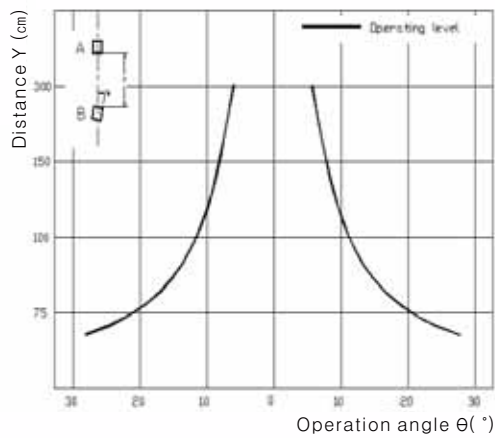
Distance vs Output stability  
距離相對於輸出穩定度



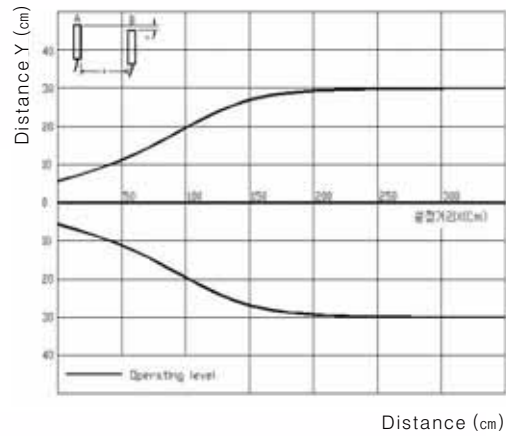
Parallel deviation (Horizontal)  
平行的偏向 (水平的)



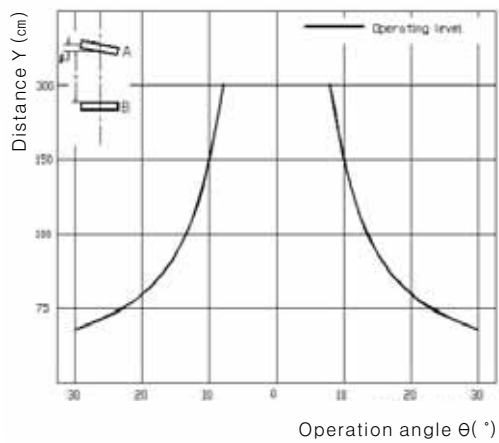
Angular deviation  
尖角的偏向



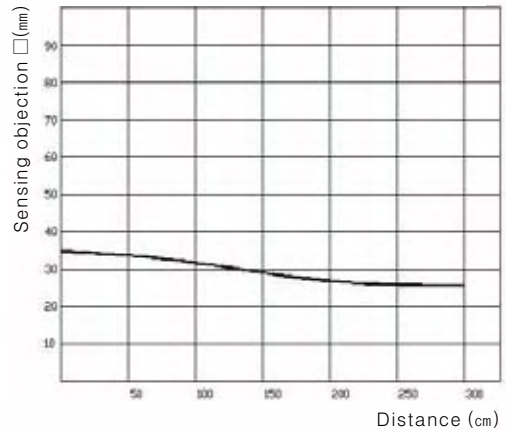
Parallel deviation (Vertical)  
平行的偏向 (垂直的)



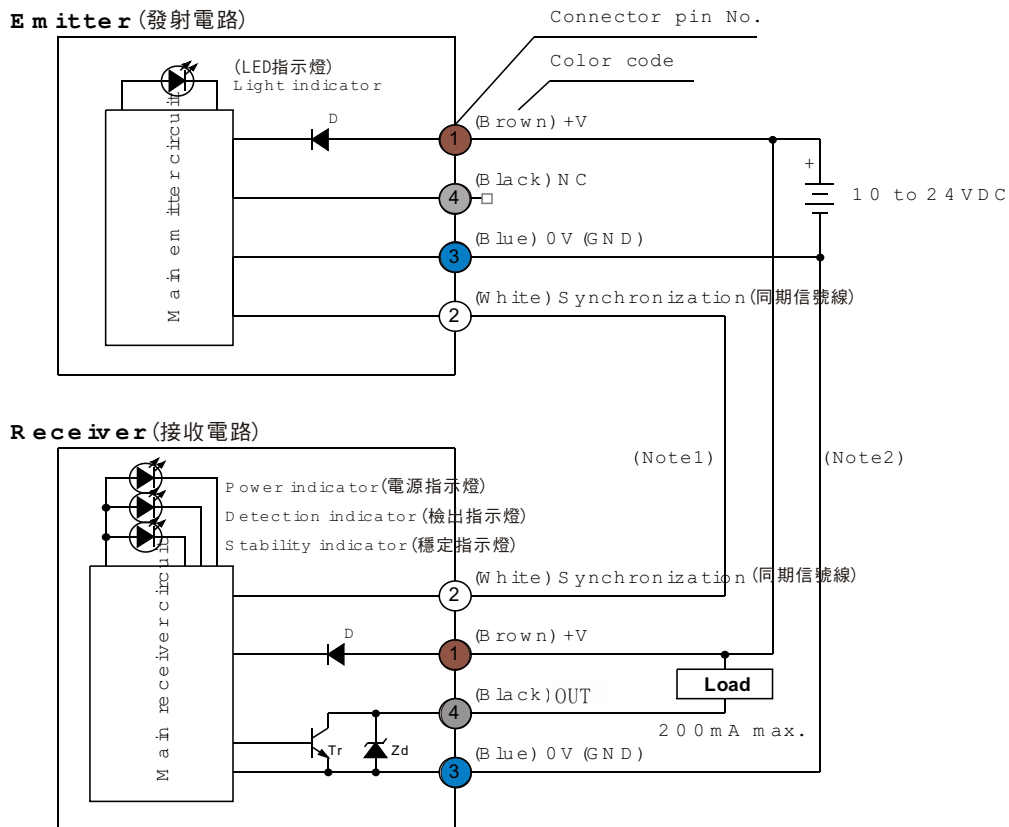
Angular deviation  
尖角的偏向



Distance vs Resolution  
距離相對於分辨率



## ■ I/O CIRCUIT DIAGRAM

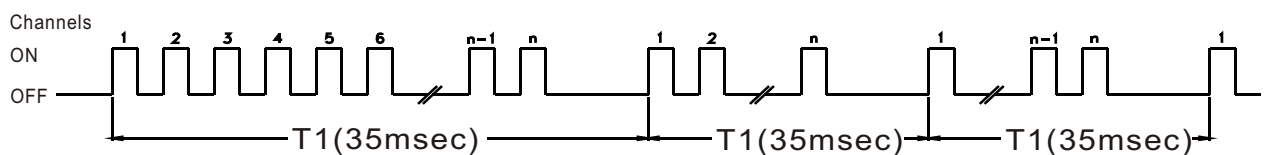


Note 1) Synchronizing should not touch + power or GND.  
/同期信號線不可同時碰觸+ power或GND。

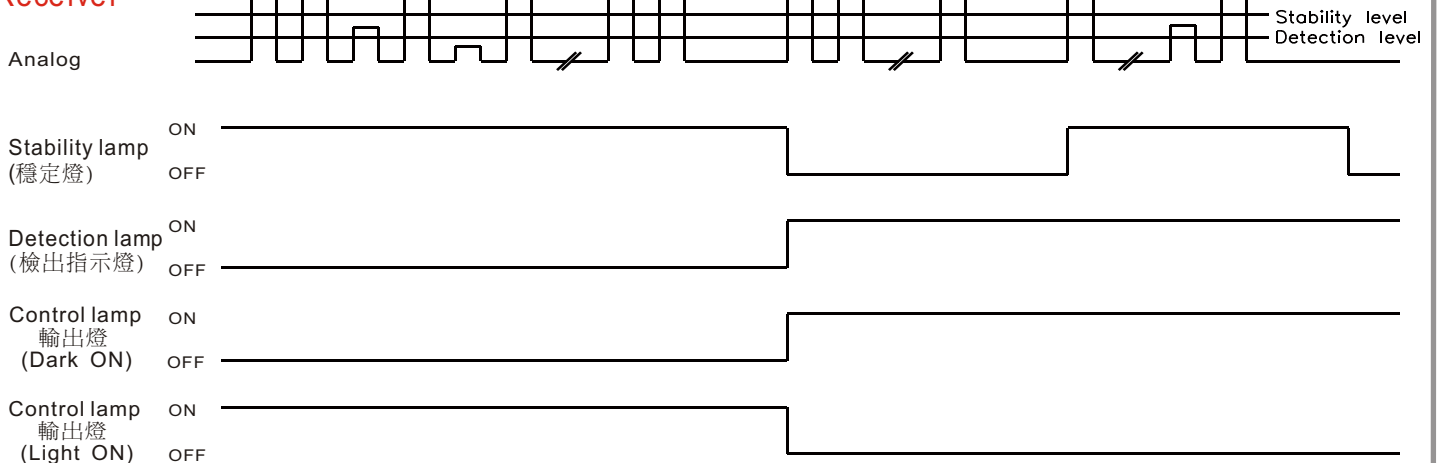
2) Use commonly the GND of supplying and transmitter, and the GND of receiver.  
/使用一般供給發射和接收的接地線。

## ■ TIME CHART 時序圖

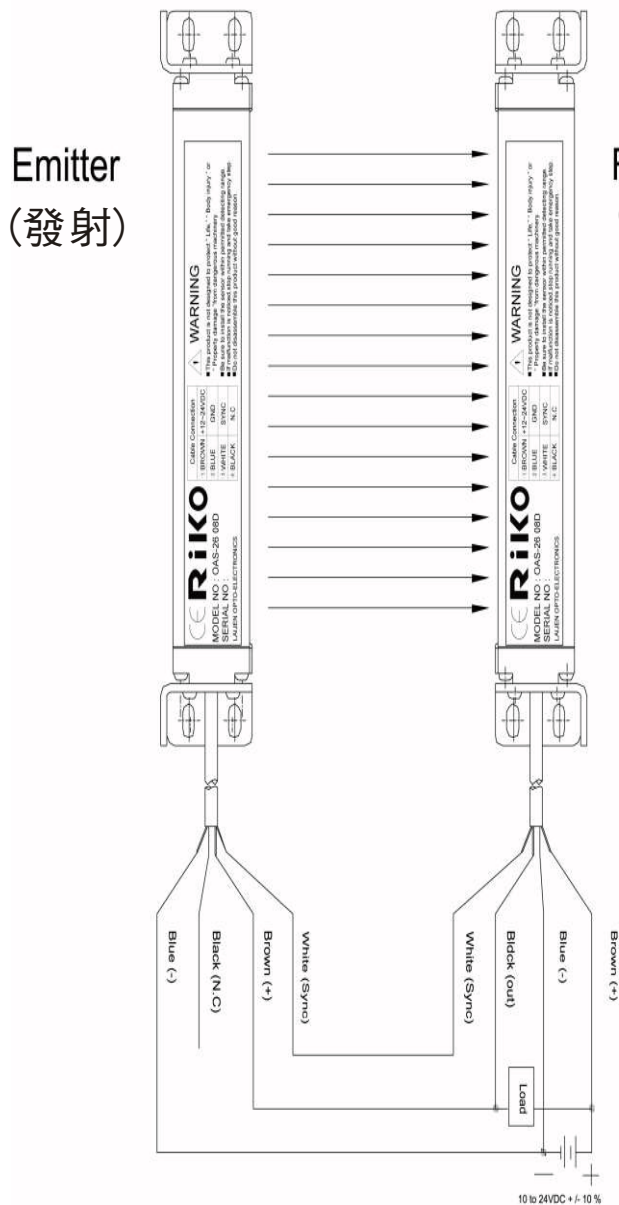
### Emitter



### Receiver



## WIRING DIAGRAM 接線圖



Receiver  
(接收)

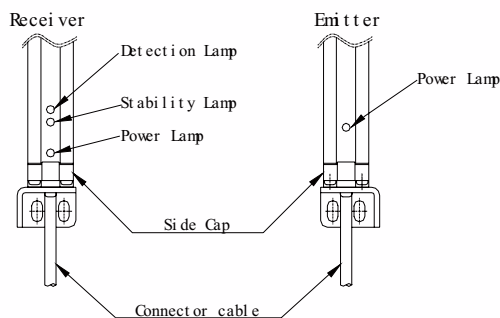
LOAD/負載

NPN OPEN collector output,  
Max current 200mA, Max supplying voltage 30Vdc.

/NPN開放集極電路最大輸出電流200mA，  
最大供應電壓30Vdc。

## Connector 連接頭

Pin No. 接腳號碼	Color	Name of signal line 信號線名稱	
		Receiver 接收器	Emitter 發射器
1	Brown 褐色	+V (10 to 24VDC±10%)	+V (10 to 24VDC±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

## ◆ Precautions/ 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 其他

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

■ Warning 1 / 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。

■ Warning 2 / 警告 2

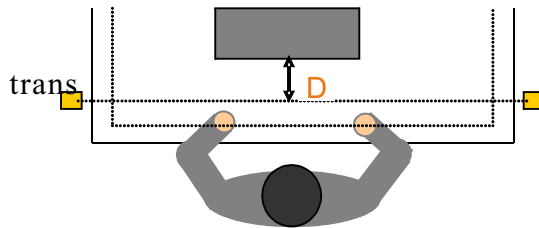
Be sure to set some amount of safe distance between the Sensor and dangerous point.  
/在感應器及危險區域間，必須保持安全距離。

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

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

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

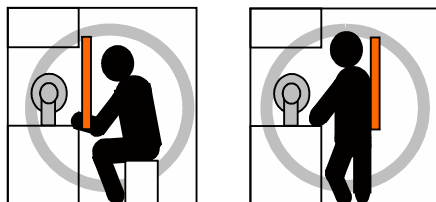
D=safe distance (mm) 安全距離  
T=response time (machine+sensor)  
反應時間=(機器的反應時間 + 感應器的反應時間)  
 $\alpha = 90\text{mm}$



■ Warning 3 / 警告 3

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

(Correct) 正確

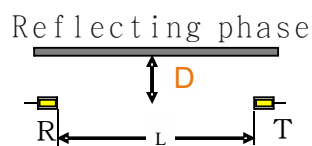
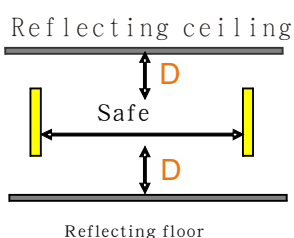


(Wrong) 錯誤

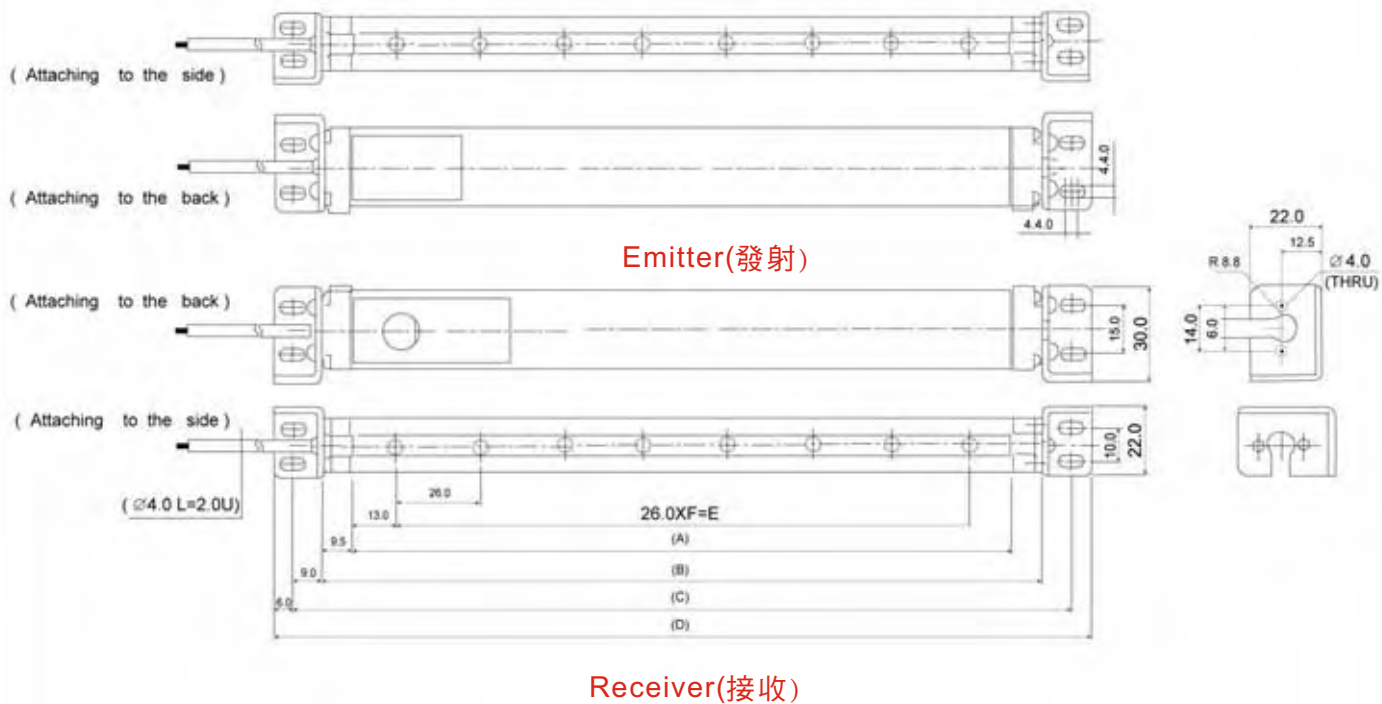


■ Warning 4 / 警告 4

When installing, please think of other reflecting object.  
It can 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  
 $D \geq 150\text{mm}$



Model	(A)	(B)	(C)	(D)	scan length (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

Miniature



Ø4

M5

最小外徑圓形近接開關

SC0401-N/P

SC0501-N/P



### Characteristic:

- Small housing, easy to install.
- Max. response speed 2KHz.
- High performance, stable sensing range.
- Protection degree of IP67, humidity environmental resistance.

### RN04 series



#### Characteristic:

- M8 connector, easy to maintain.
- Small size(34x18x18mm), easy to install.
- 2LED, easy to see the action monitor.

### JND02/04 series



#### Characteristic:

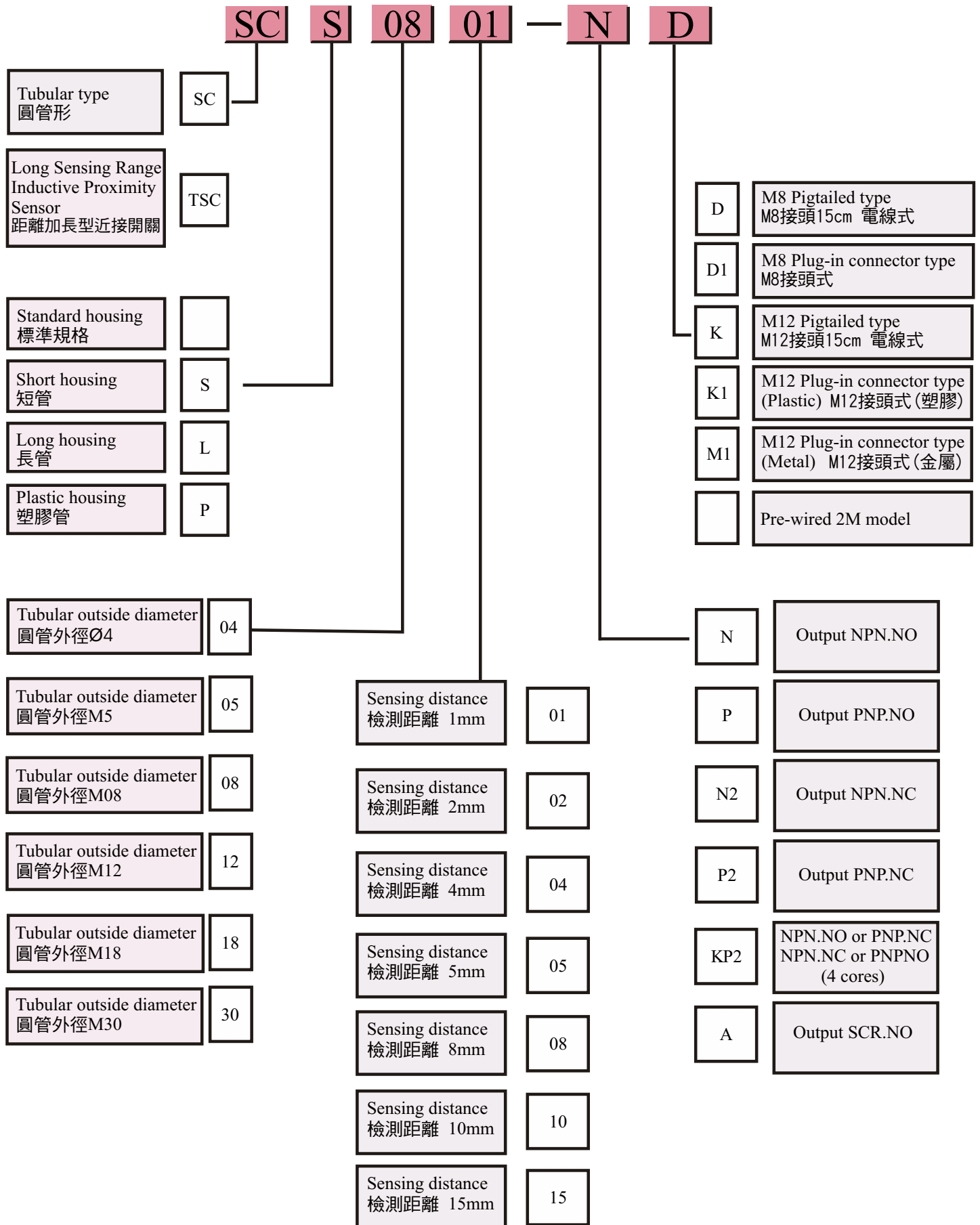
- Small size(32.6x12.5x7.2mm), easy to install.
- Easy check action reaction by two LED.
- Use the fixed ping. Secure the sensor in place.



# SC

# Tubular Inductive Proximity Sensor **RIKO**

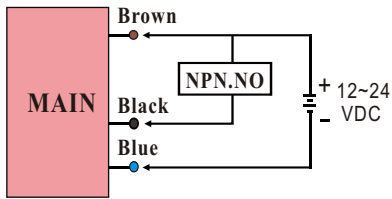
## ◆ Order Information/ 訂貨索引:



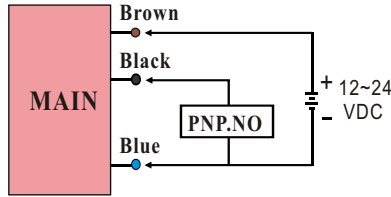
## ◆ Wiring diagrams / 接線圖:

### ● DC versions / 直流接線

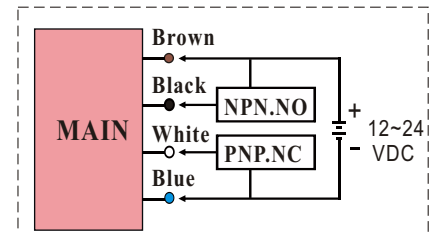
SC □ - N □



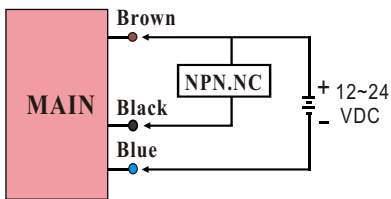
SC □ - P □



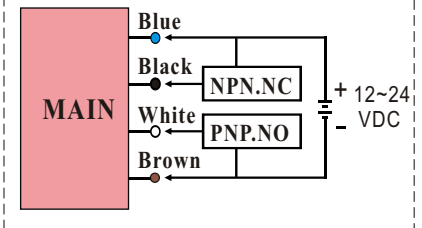
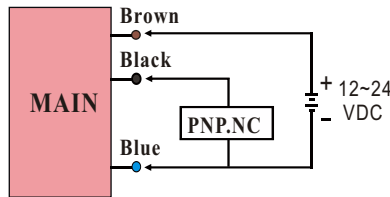
SC □ - KP2 □



SC □ - N2 □

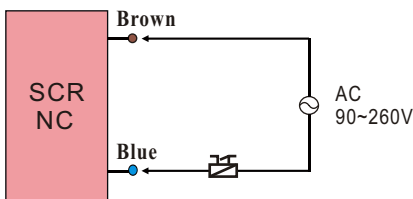


SC □ - P2 □

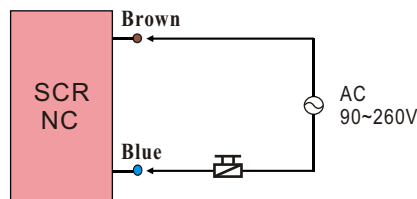


### ● AC versions / 交流接線

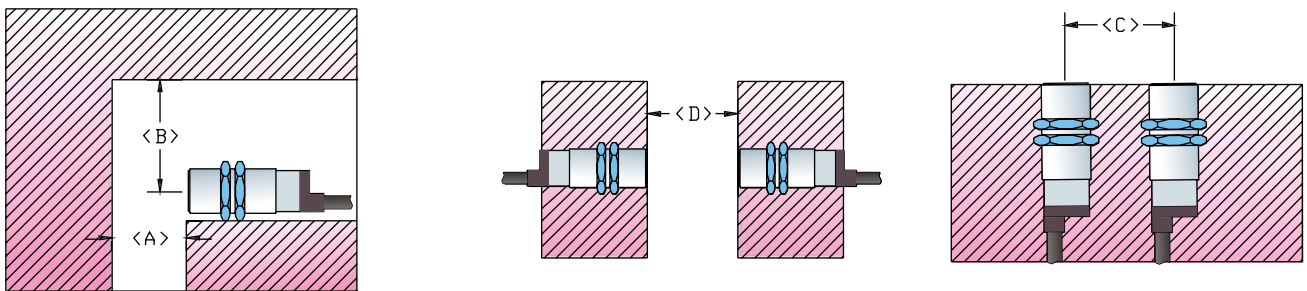
SC □ - A □



SC □ - A2 □



## ◆ Precautions proper installation / 安裝注意事項:



SC0801	A ≥ 08mm	B ≥ 12mm	C ≥ 16mm	D ≥ 16mm
SC0802	A ≥ 10mm	B ≥ 15mm	C ≥ 20mm	D ≥ 20mm
SC1202	A ≥ 12mm	B ≥ 18mm	C ≥ 25mm	D ≥ 25mm
SC1204	A ≥ 15mm	B ≥ 20mm	C ≥ 30mm	D ≥ 30mm
SC1805	A ≥ 15mm	B ≥ 20mm	C ≥ 30mm	D ≥ 30mm
SC1808	A ≥ 30mm	B ≥ 35mm	C ≥ 50mm	D ≥ 50mm
SC3010	A ≥ 30mm	B ≥ 40mm	C ≥ 60mm	D ≥ 60mm
SC3015	A ≥ 50mm	B ≥ 60mm	C ≥ 80mm	D ≥ 80mm

NEW

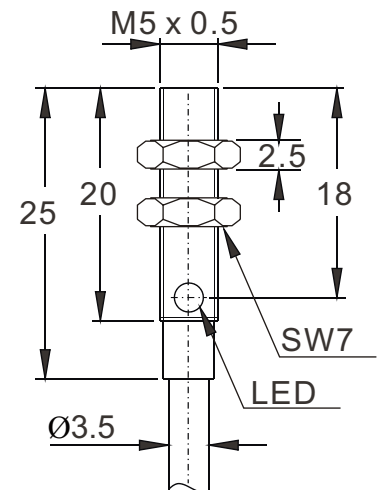
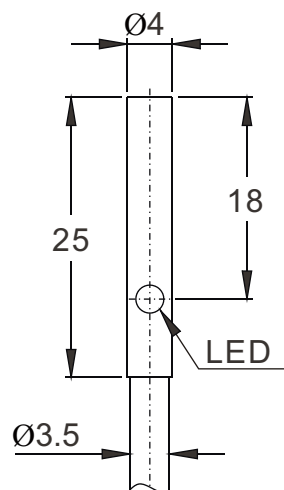
Ø4/M5

Tubular Inductive Proximity Sensor **RIKO**

## ◆ Shape/外觀:

◆ Specifications  
/規格表:

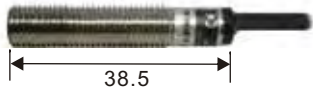

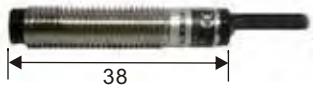

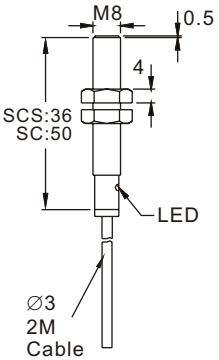
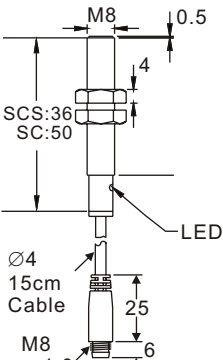
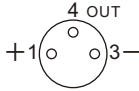
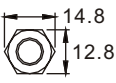
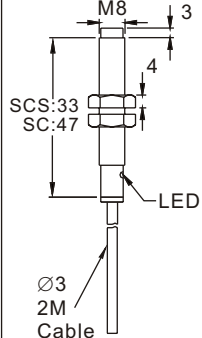
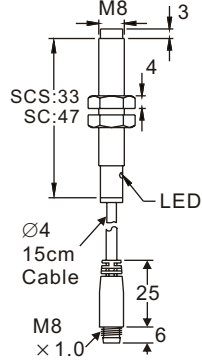
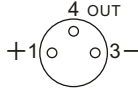
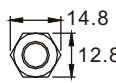
Output type /輸出模式	NPN.NO	SC0401-N	SC0501-N
	NPN.NC	—	—
	PNP.NO	SC0401-P	SC0501-P
	PNP.NC	—	—
	NPN.NO/NC PNP.NO/NC	—	—
	SCR.NO	—	—
	SCR.NC	—	—
Sensing surface / 檢測方向	Top surface / 前方		
Standard sensing object / 標準檢測物	Iron 4 x 4 x 1mm	Iron 5 x 5 x 1mm	
Sensing distance / 檢出距離	0.8 mm		
Secure sensing distance / 建議距離	0 to 0.5 mm		
Hysteresis / 遲滯	≤ 10 % of sensing distance		
Response frequency / 反應頻率	5K Hz		
Operating voltage / 工作電壓	DC: 10 ~ 30 VDC		
Current consumption / 消耗電流	≤ 10 mA no-load		
Output current / 輸出電流	200 mA max		
Leakage current / 漏電流	≤ 0.1 mA no-load		
Residual voltage / 殘餘電壓	≤ 2 VDC 200mA		
Voltage withstandability / 絕緣耐壓	1KV		
Operating temperature / 工作溫度範圍	- 25 °C ~ + 70 °C		
Protection degree / 防水等級	IP 67		
Wiring method / 出線方式	Ø3.5 x 2M x 3 cores		
Weight / 重量	Approx. 33.6g	Approx. 33.6g	

◆ Dimensions  
/尺寸圖:

# M8

# Tubular Inductive Proximity Sensor **RIKO**

## Specifications/規格表:

<p>SCS0801-□</p>  <p>SC0801-□ D</p>  <p>SCS0802-□</p>  <p>SC0802-□D1</p>  <p style="text-align: right;">&lt;unit:mm&gt;</p>		 <p style="text-align: center;">&lt;unit:mm&gt;</p>	   <p style="text-align: center;">&lt;unit:mm&gt;</p>	 <p style="text-align: center;">&lt;unit:mm&gt;</p>	   <p style="text-align: center;">&lt;unit:mm&gt;</p>
Output method / 輸出模式	NPN.NO	SC□0801-N	SC□0801-ND	SC□0802-N	SC□0802-ND
	NPN.NC	SC□0801-N2	SC□0801-N2D	SC□0802-N2	SC□0802-N2D
	PNP.NO	SC□0801-P	SC□0801-PD	SC□0802-P	SC□0802-PD
	PNP.NC	SC□0801-P2	SC□0801-P2D	SC□0802-P2	SC□0802-P2D
	NPN.NO/NC PNP.NO/NC	—	—	—	—
	SCR.NO	—	—	—	—
	SCR.NC	—	—	—	—
Sensing type / 檢出方式	Shielded / 隔離型		Unshielded / 非隔離型		
Standard sensing object / 標準檢測物	Iron 8 × 8 × 1 mm				
Sensing distance / 檢出距離	1 mm		2 mm		
Secure sensing distance / 建議距離	0 to 0.8 mm		0 to 1.6 mm		
Hysteresis / 遲滯	≦ 10 % of sensing distance				
Response frequency / 反應頻率	1 K Hz				
Operating voltage / 工作電壓	DC : 12 ~ 24 VDC				
Current consumption / 消耗電流	≦ 8 mA no-load				
Output current / 輸出電流	DC:24 V 100 mA max.				
Leakage current / 漏電流	≦ 1.1 mA no-load				
Residual voltage / 殘餘電壓	≦ 1.5 VDC				
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC				
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.				
Operating temperature / 工作溫度	- 20 °C ~ + 60 °C				
Protection degree / 防水等級	IP 66				
Wiring method / 出線方式	Pre-wired Ø3 × 2M / 3-wire	M8 pigtailed type / M8 接頭15cm 電線式	Pre-wired Ø3 × 2M / 3-wire	M8 pigtailed type / M8 接頭15cm 電線式	
Weight / 重量	Approx.30g	Approx.12g	Approx.30g	Approx.12g	

## Specifications/規格表:

SCS1202-□				
SC1202-□ D				
SC1202-□ M1				
		-□D	-□M1	-A□
		<unit:mm>	<unit:mm>	
	NPN.NO	SC□1202-N	SC□1202-ND	SC1202-NM1
Output method / 輸出模式	NPN.NC	SC□1202-N2	SC□1202-N2D	SC1202-N2M1
	PNP.NO	SC□1202-P	SC□1202-PD	SC1202-PM1
	PNP.NC	SC□1202-P2	SC□1202-P2D	SC1202-P2M1
	NPN.NO/NC PNP.NO/NC	SC1202-KP2	—	—
	SCR.NO	SC1202-A	—	SC1202-AM1
	SCR.NC	SC1202-A2	—	SC1202-A2M1
	Sensing type / 檢出方式		Shielded / 隔離型	
Standard sensing object / 標準檢測物		Iron 12 × 12 × 1 mm		
Sensing distance / 檢出距離		2 mm		
Secure sensing distance / 建議距離		0 to 1.6 mm		
Hysteresis / 遲滯		≤ 10 % of sensing distance		
Response frequency / 反應頻率		DC Type 1 K Hz/AC Type 20 Hz		
Operating voltage / 工作電壓		DC : 12 ~ 24 V/AC : 90 ~ 260 V		
Current consumption / 消耗電流		DC : ≤ 8 mA no-load/AC : 2 mA max		
Output current / 輸出電流		DC : 24 V 100 mA max/AC : 5 ~ 300 mA max		
Leakage current / 漏電流		≤ 1.1 mA no-load		
Residual voltage / 殘餘電壓		≤ 1.5 VDC		
Insulation resistance / 隔離阻抗		20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓		1000VAC for 1min.		
Operating temperature / 工作溫度		- 20 ° C ~ + 60 ° C		
Protection degree / 防水等級		IP 66		
Wiring method / 出線方式		N/P : Ø4.2 × 2M / 3-wire KP2 : Ø4.2 × 2M / 4-wire AC : Ø4.2 × 2M / 2-wire	M8 pigtailed type / M8 接頭15cm 電線式	M12 plug-in connector type / M12 接頭
Weight / 重量	SC	Approx. 65g	Approx. 15g	Approx. 20g
	SCL	Approx. 70g	Approx. 20g	Approx. 25g
	SCS	Approx. 60g	Approx. 15g	Approx. 20g

# M12

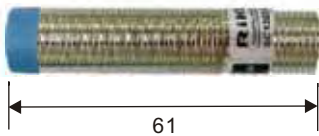
# Tubular Inductive Proximity Sensor **RIKO**

## Specifications/規格表:

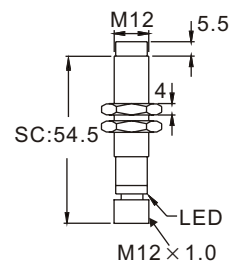
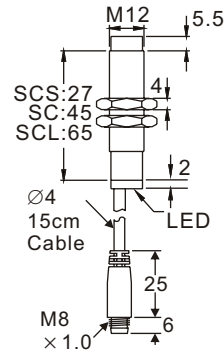
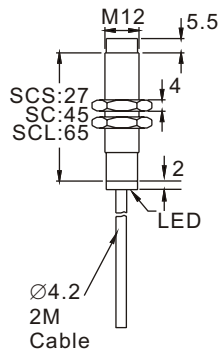
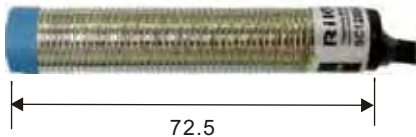
SCS1204-□D



SC1204-□M1



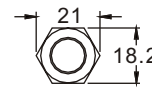
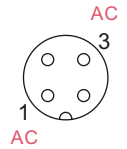
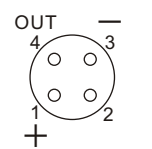
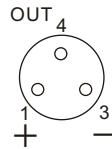
SCL1204-□



-□D

-□M1

-A□



<unit:mm>

<unit:mm>

Output method / 輸出模式	NPN.NO	SC□1204-N	SC□1204-ND	SC1204-NM1
	NPN.NC	SC□1204-N2	SC□1204-N2D	SC1204-N2M1
	PNP.NO	SC□1204-P	SC□1204-PD	SC1204-PM1
	PNP.NC	SC□1204-P2	SC□1204-P2D	SC1204-P2M1
	NPN.NO/NC PNP.NO/NC	SC1204-KP2	—	—
	SCR.NO	SC1204-A	—	SC1204-AM1
	SCR.NC	SC1204-A2	—	SC1204-A2M1

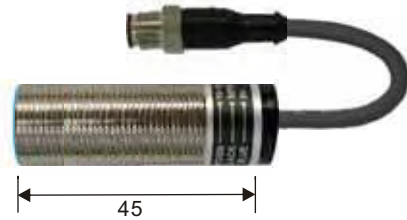
Sensing type / 檢出方式		Unshielded / 非隔離型		
Standard sensing object / 標準檢測物		Iron 12 × 12 × 1 mm		
Sensing distance / 檢出距離		4 mm		
Secure sensing distance / 建議距離		0 to 3.2 mm		
Hysteresis / 遲滯		≤ 10 % of sensing distance		
Response frequency / 反應頻率		DC Type 500Hz/AC Type 20 Hz		
Operating voltage / 工作電壓		DC : 12 ~ 24 V/AC : 90 ~ 260 V		
Current consumption / 消耗電流		DC : ≤ 8 mA no-load/AC : 2 mA max		
Output current / 輸出電流		DC : 24 V 100 mA max/AC : 5 ~ 300 mA max		
Leakage current / 漏電流		≤ 1.1 mA no-load		
Residual voltage / 殘餘電壓		≤ 1.5 VDC		
Insulation resistance / 隔離阻抗		20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓		1000VAC for 1 min.		
Operating temperature / 工作溫度		- 20 °C ~ + 60 °C		
Protection degree / 防水等級		IP 66		
Wiring method / 出線方式		N/P : Ø4.2 × 2M / 3-wire KP2 : Ø4.2 × 2M / 4-wire AC : Ø4.2 × 2M / 2-wire	M8 pigtailed type / M8 接頭15cm 電線式	M12 plug-in connector type / M12 接頭
Weight / 重量	SC	Approx. 65g	Approx. 15g	Approx. 20g
	SCL	Approx. 70g	Approx. 20g	Approx. 25g
	SCS	Approx. 60g	Approx. 15g	Approx. 20g

# M18

# Tubular Inductive Proximity Sensor **RIKO**

## Specifications/規格表:

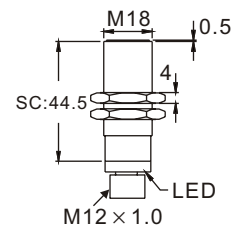
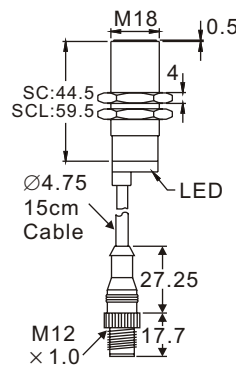
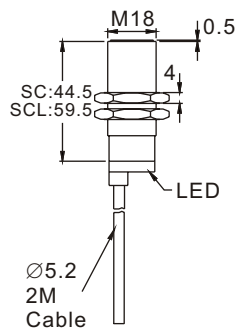
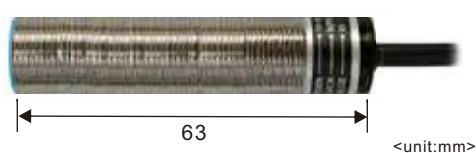
SC□1805-□K



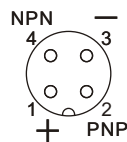
SC1805-□K1/M1



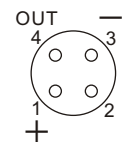
SCL1805-□



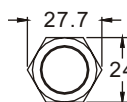
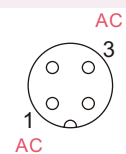
-KP2  
-KP2K1/M1



-□K  
-□K1/M1



-A□



<unit:mm>

Output method / 輸出模式	NPN.NO	SC□1805-N	SC□1805-NK	SC1805-NK1/NM1
	NPN.NC	SC□1805-N2	SC□1805-N2K	SC1805-N2K1/N2M1
	PNP.NO	SC□1805-P	SC□1805-PK	SC1805-PK1/PM1
	PNP.NC	SC□1805-P2	SC□1805-P2K	SC1805-P2K1/P2M1
	NPN.NO/NC PNP.NO/NC	SC□1805-KP2	SC□1805-KP2K	SC1805-KP2K1/KP2M1
	SCR.NO	SC1805-A	SC1805-AK	SC1805-AK1/AM1
	SCR.NC	SC1805-A2	SC1805-A2K	SC1805-A2K1/A2M1

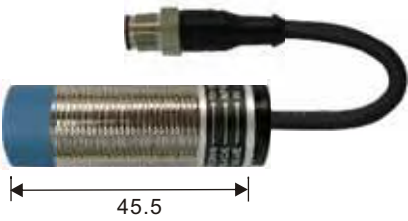
Sensing type / 檢出方式	Shielded / 隔離型		
Standard sensing object / 標準檢測物	Iron 18 × 18 × 1 mm		
Sensing distance / 檢出距離	5 mm		
Secure sensing distance / 建議距離	0 to 4.0 mm		
Hysteresis / 遲滯	≤ 10 % of sensing distance		
Response frequency / 反應頻率	DC Type 500 Hz / AC Type 20 Hz		
Operating voltage / 工作電壓	DC : 12 ~ 24 VDC / AC : 90 ~ 260 VAC		
Current consumption / 消耗電流	DC : ≤ 8 mA no-load / AC : 2 mA Max.		
Output current / 輸出電流	DC : 24 V 100 mA max. / AC : 5 ~ 300 mA max.		
Leakage current / 漏電流	≤ 1.1 mA no-load		
Residual voltage / 殘餘電壓	≤ 1.5 VDC		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.		
Operating temperature / 工作溫度	- 20 °C ~ + 60 °C		
Protection degree / 防水等級	IP 66		
Wiring method / 出線方式	N/P : Ø5.2 × 2M / 3-wire KP2 : Ø5.2 × 2M / 4-wire AC : Ø5.2 × 2M / 2-wire	M12 pigtailed type / M12 接頭15cm 電線式	M12 plug-in connector type / M12 接頭
Weight / 重量	SC	Approx. 96g	Approx. 35g
	SCL	Approx. 116g	Approx. 55g
			K1 : Approx. 30g/M1 : Approx. 35g K1 : Approx. 50g/M1 : Approx. 55g

# M18

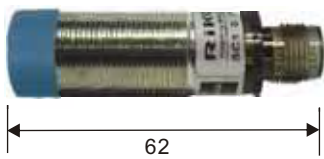
# Tubular Inductive Proximity Sensor **RIKO**

## Specifications/規格表:

SC1808-□K



SC1808-□K1/M1



**K1**  
Plastic

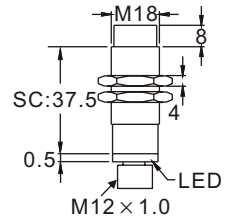
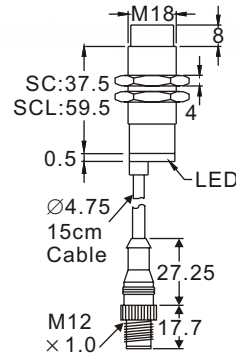
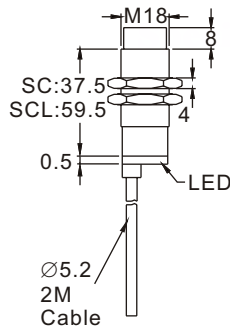


**M1**  
Nickel plated brass

SCL1808-□



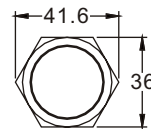
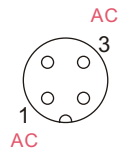
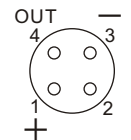
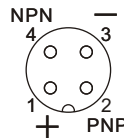
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-KP2K  
-KP2K1/M1

-□K  
-□K1/M1

-A□



<unit:mm>

Output method / 輸出模式	NPN.NO	SC□1808-N	SC□1808-NK	SC1808-NK1/M1
	NPN.NC	SC□1808-N2	SC□1808-N2K	SC1808-N2K1/M1
	PNP.NO	SC□1808-P	SC□1808-PK	SC1808-PK1/M1
	PNP.NC	SC□1808-P2	SC□1808-P2K	SC1808-P2K1/M1
	NPN.NO/NC PNP.NO/NC	SC□1808-KP2	SC□1808-KP2K	SC1808-KP2K1/M1
	SCR.NO	SC1808-A	SC1808-AK	—
	SCR.NC	SC1808-A2	SC1808-A2K	—
Sensing type / 檢出方式	Unshielded / 非隔離型			
Standard sensing object / 標準檢測物	Iron 18 × 18 × 1 mm			
Sensing distance / 檢出距離	8 mm			
Secure sensing distance / 建議距離	0 to 6.4 mm			
Hysteresis / 遲滯	≤ 10 % of sensing distance			
Response frequency / 反應頻率	DC Type 500 Hz / AC Type 20 Hz			
Operating voltage / 工作電壓	DC : 12 ~ 24 VDC / AC : 90 ~ 260 VAC			
Current consumption / 消耗電流	DC : ≤ 8 mA no-load / AC : 2 mA Max.			
Output current / 輸出電流	DC : 24V 100 mA max. / AC : 5 ~ 300 mA max.			
Leakage current / 漏電流	≤ 1.1 mA no-load			
Residual voltage / 殘餘電壓	≤ 1.5 VDC			
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC			
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.			
Operating temperature / 工作溫度	- 20 °C ~ + 60 °C			
Protection degree / 防水等級	IP 66			
Wiring method / 出線方式	N/P : Ø5.2 × 2M / 3-wire KP2 : Ø5.2 × 2M / 4-wire AC : Ø5.2 × 2M / 2-wire	M12 pigtailed type / M12 接頭15cm 電線式	M12 plug-in connector type / M12 接頭	
Weight / 重量	SC	Approx. 90g	Approx. 30g	K1 : Approx. 25g/M1 : Approx. 30g
	SCL	Approx. 115g	Approx. 55g	K1 : Approx. 50g/M1 : Approx. 55g



# M30

# Tubular Inductive Proximity Sensor **RIKO**

## Specifications/規格表:

SC3010-□



SC3010-□ K1/M1



**K1**  
Plastic



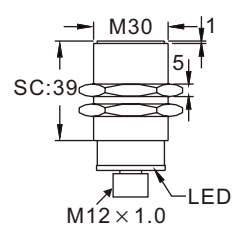
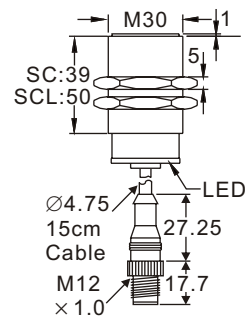
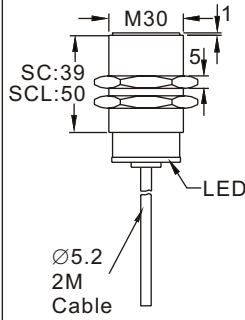
**M1**

Nickel plated brass

SCL3010-□ K



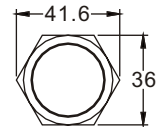
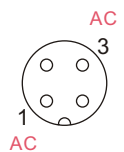
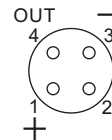
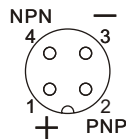
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-KP2  
-KP2K1/M1

-□ K  
-□ K1/M1

-A□



<unit:mm>

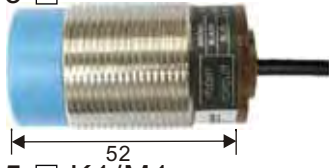
Output method / 輸出模式	NPN.NO	SC□3010-N	SC□3010-NK	SC3010-NK1/M1
	NPN.NC	SC□3010-N2	SC□3010-N2K	SC3010-N2K1/M1
	PNP.NO	SC□3010-P	SC□3010-PK	SC3010-PK1/M1
	PNP.NC	SC□3010-P2	SC□3010-P2K	SC3010-P2K1/M1
	NPN.NO/NC PNP.NO/NC	SC3010-KP2	SC3010-KP2K	SC3010-KP2K1/M1
	SCR.NO	SC3010-A	SC3010-AK	SC3010-AK1/M1
	SCR.NC	SC3010-A2	SC3010-A2K	SC3010-A2K1/M1
Sensing type / 檢出方式		Shielded / 隔離型		
Standard sensing object / 標準檢測物		Iron 30 × 30 × 1 mm		
Sensing distance / 檢出距離		10 mm		
Secure sensing distance / 建議距離		0 to 8 mm		
Hysteresis / 遲滯		≤ 10 % of sensing distance		
Response frequency / 反應頻率		DC Type 300 Hz / AC Type 20 Hz		
Operating voltage / 工作電壓		DC : 12~ 240 VDC / AC : 90 ~ 260 VAC		
Current consumption / 消耗電流		DC : ≤ 8 mA no-load / AC : 2 mA max.		
Output current / 輸出電流		DC : 24V 100 mA max. / AC : 5 ~ 300 mA max.		
Leakage current / 漏電流		≤ 1.1 mA no-load		
Residual voltage / 殘餘電壓		≤ 1.5 VDC		
Insulation resistance / 隔離阻抗		20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓		1000VAC for 1min.		
Operating temperature / 工作溫度		- 20 °C ~ + 60 °C		
Protection degree / 防水等級		IP 66		
Wiring method / 出線方式		N/P : Ø5.2 × 2M / 3-wire (KP2 : Ø5.2 × 2M / 4-wire) AC : Ø5.2 × 2M / 2-wire	M12 pigtailed type / M12 接頭15cm 電線式	M12 plug-in connector type / M12 接頭
Weight / 重量	SC	Approx. 145g	Approx. 90g	K1 : Approx. 80g/M1 : Approx. 100g
	SCL	Approx. 165g	Approx. 110g	K1 : Approx. 100g/M1 : Approx. 120g

# M30

# Tubular Inductive Proximity Sensor **RIKO**

## Specifications/規格表:

SC3015-□



SC3015-□ K1/M1



**K1**  
Plastic

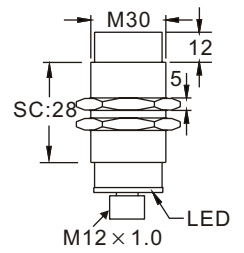
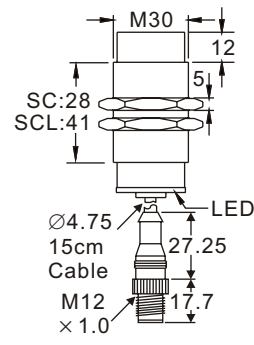
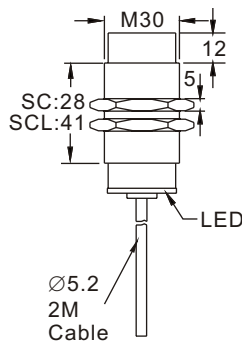


**M1**  
Nickel plated brass

SCL3015-□



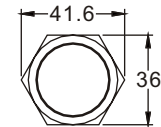
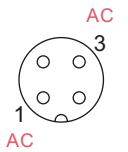
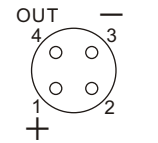
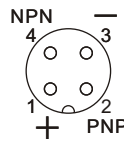
<unit:mm>



-KP2  
-KP2K1/M1

-□ K  
-□ K1/M1

-A□



<unit:mm>

Output method / 輸出模式	NPN.NO	SC□ 3015-N	SC□ 3015-NK	SC3015-NK1/M1
	NPN.NC	SC□ 3015-N2	SC□ 3015-N2K	SC3015-N2K1/M1
	PNP.NO	SC□ 3015-P	SC□ 3015-PK	SC3015-PK1/M1
	PNP.NC	SC□ 3015-P2	SC□ 3015-P2K	SC3015-P2K1/M1
	NPN.NO/NC PNP.NO/NC	SC□ 3015-KP2	SC□ 3015-KP2K	SC3015-KP2K1/M1
	SCR.NO	SC3015-A	SC3015-AK	SC3015-AK1/M1
	SCR.NC	SC3015-A2	SC3015-A2K	SC3015-A2K1/M1
Sensing type / 檢出方式	Unshielded / 非隔離型			
Standard sensing object / 標準檢測物	Iron 30 × 30 × 1 mm			
Sensing distance / 檢出距離	15 mm			
Secure sensing distance / 建議距離	0 ~ 12 mm			
Hysteresis / 遲滯	≤ 10 % of sensing distance			
Response frequency / 反應頻率	DC Type 300 Hz / AC Type 10 Hz			
Operating voltage / 工作電壓	DC : 12 ~ 24 VDC / AC : 90 ~ 260 VAC			
Current consumption / 消耗電流	DC : ≤ 8 mA no-load / AC : 2 mA max.			
Output current / 輸出電流	DC : 24V 100 mA max. / AC : 5 ~ 300 mA max.			
Leakage current / 漏電流	≤ 1.1 mA no-load			
Residual voltage / 殘餘電壓	≤ 1.5 VDC			
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC			
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.			
Operating temperature / 工作溫度	- 20 °C ~ + 60 °C			
Protection degree / 防水等級	IP 66			
Wiring method / 出線方式	N/P : Ø5.2 × 2M / 3-wire (KP2 : Ø5.2 × 2M / 4-wire) AC : Ø5.2 × 2M / 2-wire	M12 pigtailed type / M12 接頭15cm 電線式	M12 plug-in connector type / M12 接頭	
Weight / 重量	SC	Approx. 135g	Approx. 80g	K1 : Approx. 70g/M1 : Approx. 90g
	SCL	Approx. 170g	Approx. 115g	K1 : Approx. 105g/M1 : Approx. 125g

**M30****Tubular Inductive Proximity Sensor** **RIKO****Specifications/規格表:**

SCP3015-□



49

SCP3015-□K1



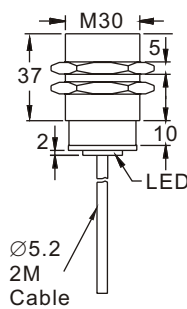
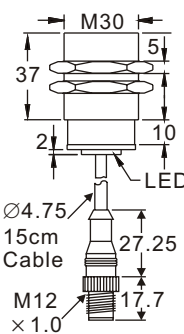
56.5

SCP3015-□K



49

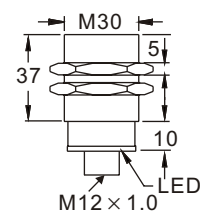
&lt;unit:mm&gt;

Ø5.2  
2M  
CableØ4.75  
15cm  
Cable

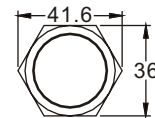
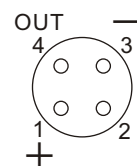
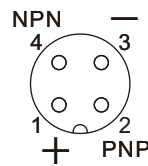
27.25

M12

x 1.0



M12 x 1.0

-□K2K  
-□K2K1-□K  
-□K1

&lt;unit:mm&gt;

Output method / 輸出模式	NPN.NO	SCP3015-N	SCP3015-NK	SCP3015-NK1
	NPN.NC	SCP3015-N2	SCP3015-N2K	SCP3015-N2K1
	PNP.NO	SCP3015-P	SCP3015-PK	SCP3015-PK1
	PNP.NC	SCP3015-P2	SCP3015-P2K	SCP3010-P2K1
	NPN.NO/NC    PNP.NO/NC	SCP3015-KP2	SCP3015-KP2K	SCP3015-KP2K1
	SCR.NO	—	—	—
	SCR.NC	—	—	—

Sensing type / 檢出方式	Unshielded / 非隔離型		
Standard sensing object / 標準檢測物	Iron 30 × 30 × 1 mm		
Sensing distance / 檢出距離	15 mm		
Secure sensing distance / 建議距離	0 to 12 mm		
Hysteresis / 遲滯	≦ 10 % of sensing distance		
Response frequency / 反應頻率	DC Type 300 Hz		
Operating voltage / 工作電壓	DC : 12 ~ 24VDC		
Current consumption / 消耗電流	DC : ≦ 30 mA no-load		
Output current / 輸出電流	DC : 24V 100 mA max.		
Leakage current / 漏電流	≦ 1.1 mA no-load		
Residual voltage / 殘餘電壓	≦ 1.5 VDC		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1 min.		
Operating temperature / 工作溫度	- 20 °C ~ + 60 °C		
Protection degree / 防水等級	IP 67		
Wiring method / 出線方式	N/P : Ø5.2 × 2M / 3-wire (KP2 : Ø5.2 × 2M / 4-wire)	M12 pigtailed type / M12 接頭15cm 電線式	M12 plug-in connector type / M12 接頭
Weight / 重量	Approx.120g	Approx.55g	Approx.50g

# M12

# Tubular Inductive Proximity Sensor **RIKO**

## ◆ Short Circuit Protection / Reverse Polarity Protection

The TSC series will activate the short circuit protection / reverse polarity protection to reduce the damage caused by the wrong operation.

## ◆ Modulize

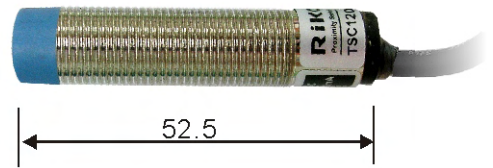
Modulized design with various products of pre-wired type and M8 pigtailed type. Customers can choose according to their requirements.

## ◆ Waterproof

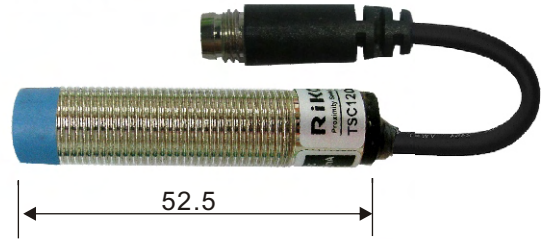
IP66 protection. The sensor can be installed outdoors. It can prevent damage caused by immersion or dip in water under regular standard.

## TSC1208 Longer Sensing Range

TSC1208-□



TSC1208-□D

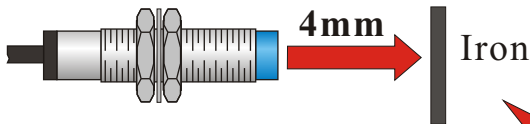


Longer sensing range   Short circuit protection   Noise immunity   Waterproof   Modulize

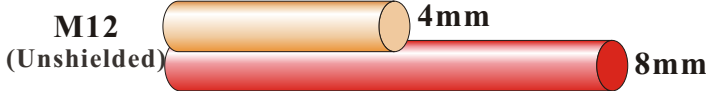
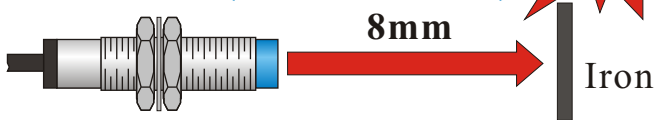
## ◆ Two times longer sensing distance than conventional models.

TSC series features 200% longer sensing distance than conventional models. It makes the detection more stable.

SC1204-□(Conventional model)

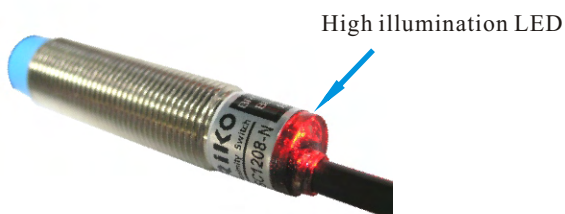


TSC1208-□(M12 Unshielded)

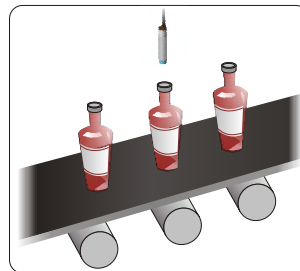


## ◆ Operation indicator

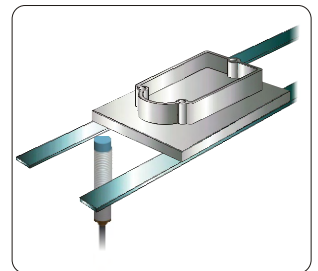
The entire tail cover is transparent. The light of red LED can be widely observable and the operation situation can be observed very quickly.



## ◆ Applications



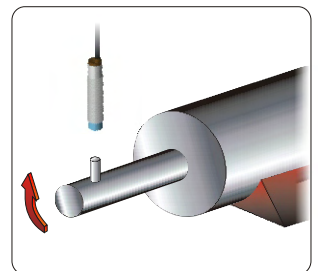
To detect the aluminum lid on the bottle.



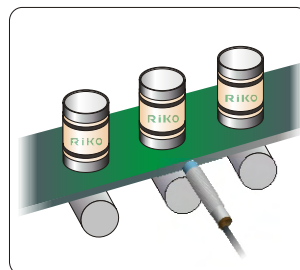
To detect traveling aluminum pallets.



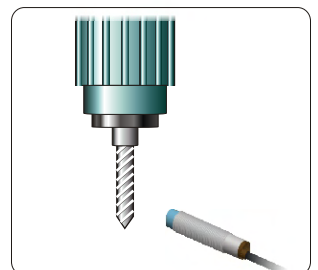
To detect the framework of HIC lead.



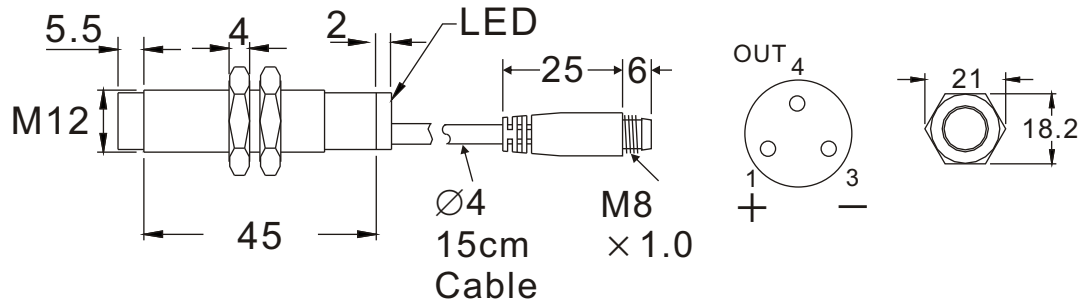
To detect axles.



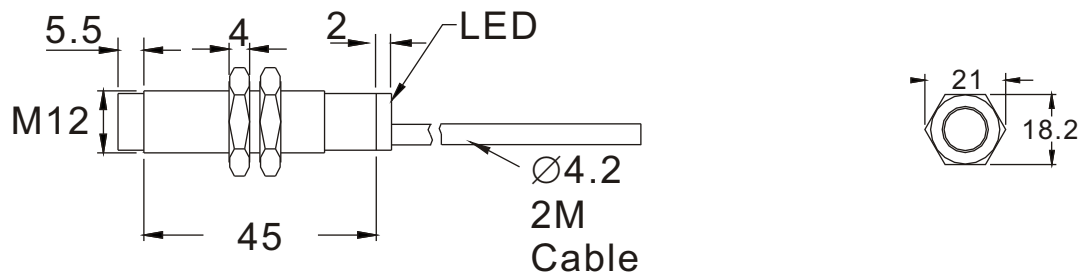
To detect aluminum can.



To detect if the drill is broken.

**M12****Tubular Inductive Proximity Sensor** **RIKO****Specifications/規格表:****TSC1208-□D**

&lt;unit:mm&gt;

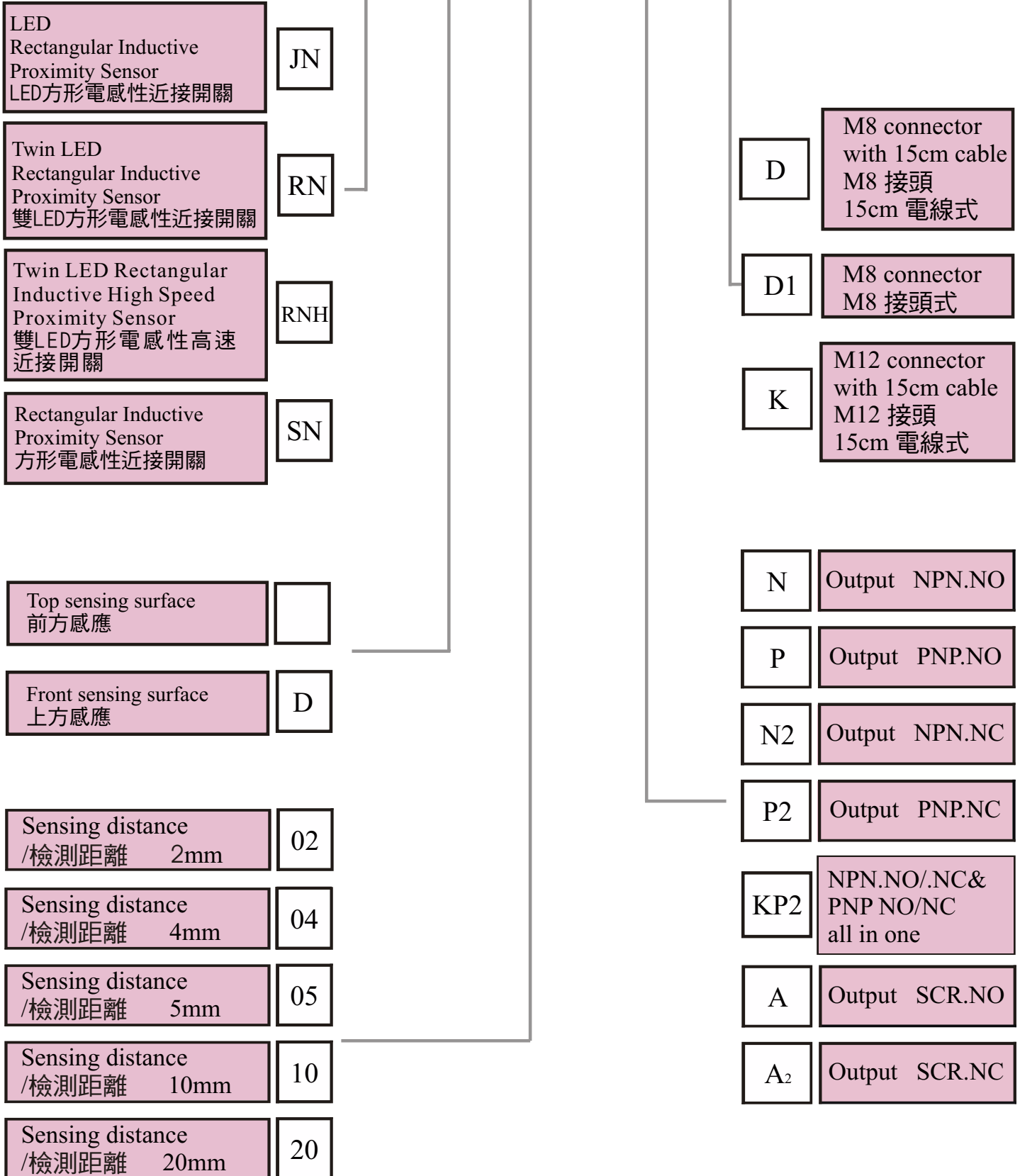
**TSC1208- □**

&lt;unit:mm&gt;

Output method /輸出模式	NPN.NO	<b>TSC1208-N</b>	<b>TSC1208-ND</b>
	NPN.NC	<b>TSC1208-N2</b>	<b>TSC1208-N2D</b>
	PNP.NO	<b>TSC1208-P</b>	<b>TSC1208-PD</b>
	PNP.NC	<b>TSC1208-P2</b>	<b>TSC1208-P2D</b>
	NPN.NO/NC PNP.NO/NC	—	—
	SCR.NO	—	—
	SCR.NC	—	—
	Sensing type / 檢出方式	Unshielded / 非隔離型	
Standard sensing object / 標準檢測物	Iron 12 × 12 × 1 mm		
Sensing distance / 檢出距離	8 mm		
Secure sensing distance / 建議距離	0 to 6.4 mm		
Hysteresis / 遲滯	≦ 20 % of sensing distance		
Response frequency / 反應頻率	200Hz		
Operating voltage / 工作電壓	DC : 12 ~ 24 V		
Current consumption / 消耗電流	DC : ≦ 8 mA no-load		
Output current / 輸出電流	DC : 24 V 100 mA max		
Leakage current / 漏電流	≦ 1.1 mA no-load		
Residual voltage / 殘餘電壓	≦ 1.5 VDC		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.		
Operating temperature / 工作溫度	- 20 °C ~ + 60 °C		
Protection degree / 防水等級	IP 66		
Wiring method / 出線方式	Ø4.2 × 2M / 3-wire	M8 pigtailed type/ M8 接頭15cm 電線式	
Weight / 重量	Approx. 65g	Approx. 15g	

## ◆ Order Information / 訂貨索引:

**SN** **D** **04** - **N** **D**



**JN/JND****Rectangular Inductive Proximity Sensor** **RIKO**

◆ Shape/外觀:



◆ Specifications /規格表:

Output method /輸出模式	NPN.NO	<b>JN02-N</b>	<b>JN02-ND</b>	<b>JND02-N</b>	<b>JND02-ND</b>	
	NPN.NC	—	—	—	—	
	PNP.NO	<b>JN02-P</b>	<b>JN02-PD</b>	<b>JND02-P</b>	<b>JND02-PD</b>	
	PNP.NC	—	—	—	—	
	NPN.NO/NC PNP.NO/NC	—	—	—	—	
	SCR.NO	—	—	—	—	
	SCR.NC	—	—	—	—	
Sensing Surface / 檢測方向	Top surface / 前方			Front surface / 上方		
Standard sensing object / 標準檢測物	Iron 8 × 8 × 1mm			Iron 8 × 8 × 1mm		
Sensing distance / 檢出距離	2 mm			2 mm		
Secure sensing distance / 建議距離	0 to 1.6 mm			0 to 1.6 mm		
Hysteresis / 遲滯	≅ 10 % of sensing distance			≅ 10 % of sensing distance		
Response frequency / 反應頻率	1K Hz			1K Hz		
Operating voltage / 工作電壓	DC: 10 ~ 30 VDC			DC: 10 ~ 30 VDC		
Current consumption / 消耗電流	≅ 8 mA no-load			≅ 8 mA no-load		
Output current / 輸出電流	30V 100 mA max			30V 100 mA max		
Leakage current / 漏電流	≅ 1.1 mA no-load			≅ 1.1 mA no-load		
Residual voltage / 殘餘電壓	≅ 1.5 VDC			≅ 1.5 VDC		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC			20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.			1000VAC for 1min.		
Operating temperature / 工作溫度範圍	- 20 °C ~ + 60 °C			- 20 °C ~ + 60 °C		
Protection degree / 防水等級	IP 64		IP 64		IP 64	
Wiring method / 出線方式	Pre-wire Ø3 x 2M/3-wire		M8 pigtailed type /M8 接頭15cm 電線式		Pre-wire Ø3 x 2M/3-wire	
Weight / 重量	Approx. 30g		Approx. 10g		Approx. 28g	
◆ Dimensions / 尺寸圖:						

## ◆ Shape/外觀:

## ◆ Specifications /規格表:



Output method /輸出模式	NPN.NO	<b>JN04-N</b>	<b>JN04-ND</b>	<b>JND04-N</b>	<b>JND04-ND</b>
	NPN.NC	<b>JN04-N2</b>	<b>JN04-N2D</b>	<b>JND04-N2</b>	<b>JND04-N2D</b>
	PNP.NO	<b>JN04-P</b>	<b>JN04-PD</b>	<b>JND04-P</b>	<b>JND04-PD</b>
	PNP.NC	<b>JN04-P2</b>	<b>JN04-P2D</b>	<b>JND04-P2</b>	<b>JND04-P2D</b>
	NPN.NO/NC PNP.NO/NC	—	—	—	—
	SCR.NO	—	—	—	—
	SCR.NC	—	—	—	—
Sensing Surface / 檢測方向	Top surface / 前方			Front surface / 上方	
Standard sensing object / 標準檢測物	Iron 12 × 12 × 1mm			Iron 12 × 12 × 1mm	
Sensing distance / 檢出距離	4 mm			4 mm	
Secure sensing distance / 建議距離	0 to 3.2 mm			0 to 3.2 mm	
Hysteresis / 遲滯	≅ 10 % of sensing distance			≅ 10 % of sensing distance	
Response frequency / 反應頻率	1K Hz			1K Hz	
Operating voltage / 工作電壓	DC: 10 ~ 30 VDC			DC: 10 ~ 30 VDC	
Current consumption / 消耗電流	≅ 8 mA no-load			≅ 8 mA no-load	
Output current / 輸出電流	30V 100 mA max			30V 100 mA max	
Leakage current / 漏電流	≅ 1.1 mA no-load			≅ 1.1 mA no-load	
Residual voltage / 殘餘電壓	≅ 1.5 VDC			≅ 1.5 VDC	
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC			20M Ω min. 500VDC	
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.			1000VAC for 1min.	
Operating temperature / 工作溫度範圍	- 20 °C ~ + 60 °C			- 20 °C ~ + 60 °C	
Protection degree / 防水等級	IP 64	IP 64	IP 64	IP 64	IP 64
Wiring method / 出線方式	Pre-wire Ø3 x 2M/3-wire	M8 pigtailed type /M8 接頭15cm 電線式	Pre-wire Ø3 x 2M/3-wire	M8 pigtailed type /M8 接頭15cm 電線式	M8 pigtailed type /M8 接頭15cm 電線式
Weight / 重量	Approx.26g	Approx.6g	Approx.26g	Approx.6g	Approx.6g
◆ Dimensions /尺寸圖:					



## ◆ Characteristics/特點:

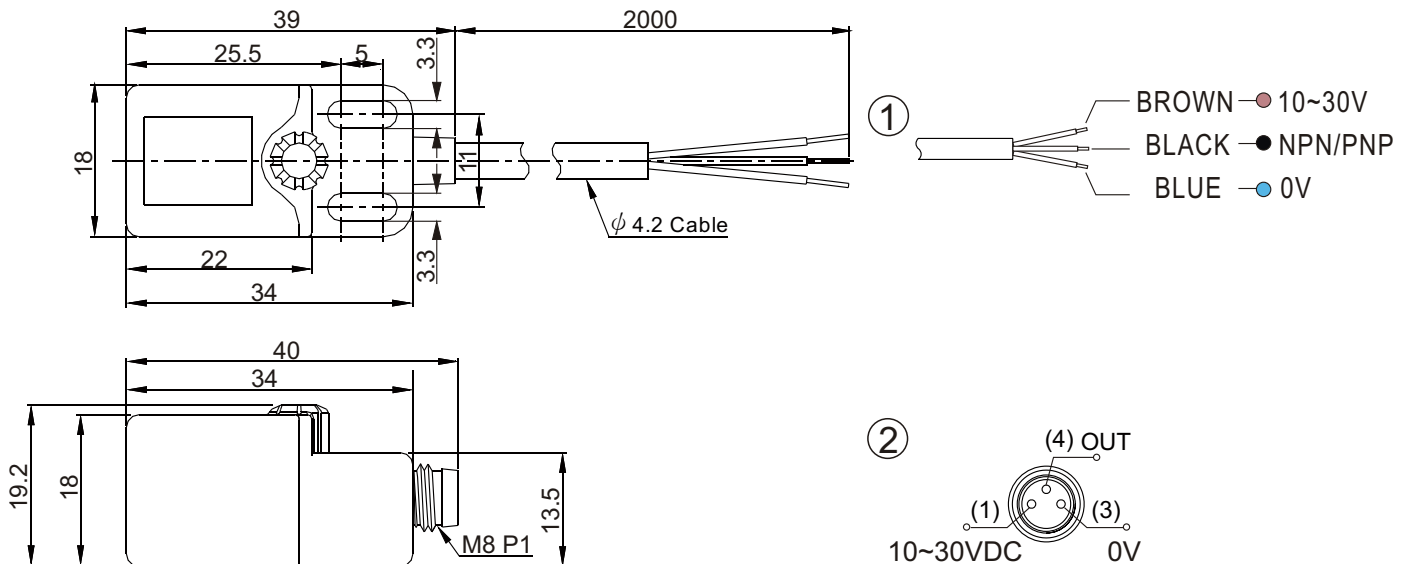
- Build-in twin LED, convenient for checking the operaton.  
/具有雙LED，檢測操作更方便
- Plug-in connector type is available, easy to connect, anyone can replace the new sensor in a minute.  
/具有長形孔，可微調安裝位置;插入式接線，安裝更換很容易



## ◆ Specifications/規格表:

Output method 輸出模式	NPN. NO	<b>RN04-N</b>	<b>RN04-ND1</b>
	NPN. NC	<b>RN04-N2</b>	<b>RN04-N2D1</b>
	PNP. NO	<b>RN04-P</b>	<b>RN04-PD1</b>
	PNP. NC	<b>RN04-P2</b>	<b>RN04-P2D1</b>
Sensing Surface / 檢測方向	Top surface / 前方		
Standard sensing object / 標準檢測物	Iron 18x18x1mm		
Sensing distance / 檢出距離	5mm		
Secure sensing distance / 建議距離	0to4mm		
Hysteresis / 遲滯	≤10% of sensing distance		
Response frequency / 反應頻率	500 Hz		
Operating voltage / 工作電壓	DC : 10~30VDC		
Current consumption / 消耗電流	≤8 mA no-load		
Output current / 輸出電流	DC : 30V 100 mA max.		
Leakage current / 漏電流	≤1.1 mA no-load		
Residual voltage / 殘餘電壓	≤1.5VDC		
Insulation resistance / 隔離阻抗	20M V min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.		
Operating temperature / 工作溫度範圍	-20°C ~ +60°C		
Protection degree / 防水等級	IP66		
Wiring method / 出線方式	φ 4.2x2M/3cores		M8 connector/ M8 接頭
Weight / 重量	Approx.60g		Approx.12g

## ◆ Dimensions/外型尺寸圖:



**RN****Rectangular Inductive Proximity Sensor** **RIKO**

## ◆ Characteristics/特點:

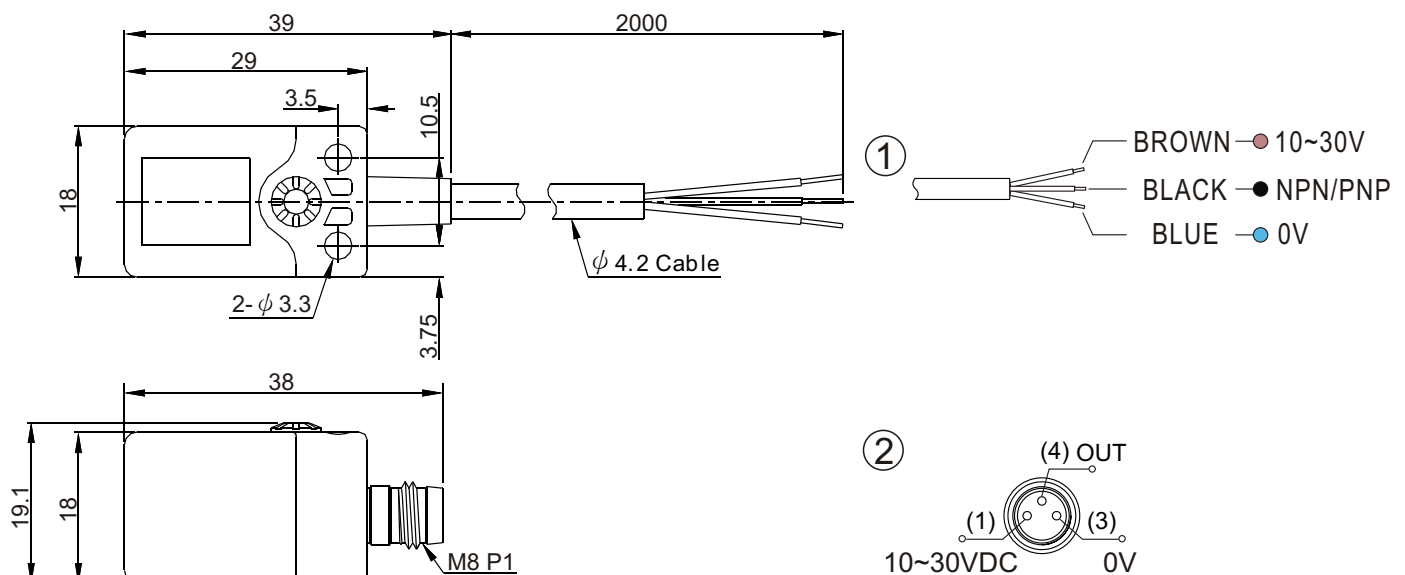
- Build-in twin LED, convenient for checking the operaton.  
/具有雙LED，檢測操作更方便
- Plug-in connector type is available, easy to connect, anyone can replace the new sensor in a minute.  
/具有長形孔，可微調安裝位置;插入式接線，安裝更換很容易



## ◆ Specifications/規格表:

Output method 輸出模式	NPN. NO	<b>RN05-N</b>	<b>RN05-ND1</b>
	NPN. NC	<b>RN05-N2</b>	<b>RN05-N2D1</b>
	PNP. NO	<b>RN05-P</b>	<b>RN05-PD1</b>
	PNP. NC	<b>RN05-P2</b>	<b>RN05-P2D1</b>
Sensing Surface / 檢測方向	Top surface / 前方		
Standard sensing object / 標準檢測物	Iron 18x18x1mm		
Sensing distance / 檢出距離	5mm		
Secure sensing distance / 建議距離	0to4mm		
Hysteresis / 遲滯	≤ 10% of sensing distance		
Response frequency / 反應頻率	500 Hz		
Operating voltage / 工作電壓	DC : 10~30VDC		
Current consumption / 消耗電流	≤ 8 mA no-load		
Output current / 輸出電流	30V 100 mA Max.		
Leakage current / 漏電流	≤ 1.1 mA no-load		
Residual voltage / 殘餘電壓	≤ 1.5VDC		
Insulation resistance / 隔離阻抗	20M Ω Min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.		
Operating temperature / 工作溫度範圍	-20°C ~+ 60°C		
Protection degree / 防水等級	IP66		
Wiring method / 出線方式	φ 4.2x2M/3cores	M8 connector / M8 接頭	
Weight / 重量	Approx.60g	Approx.12g	

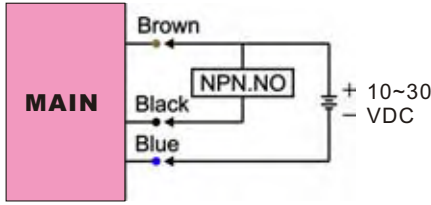
## ◆ Dimensions/外型尺寸圖:



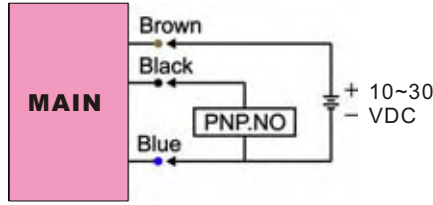
## ◆ Wiring diagrams / 接線圖:

### • DC versions / 直流接線

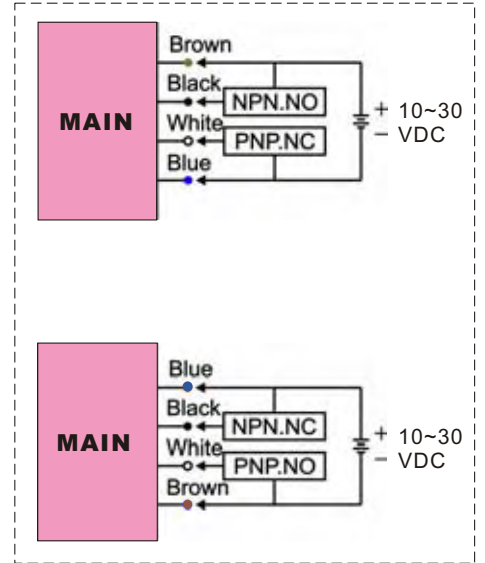
SN □ - N □



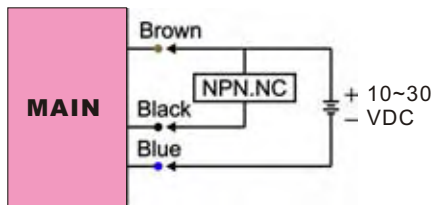
SN □ - P □



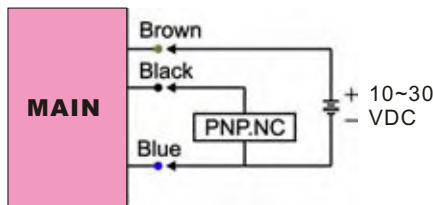
SN □ - KP2 □



SN □ - N2 □

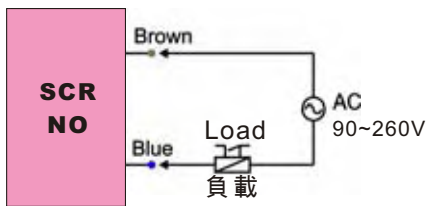


SN □ - P2 □

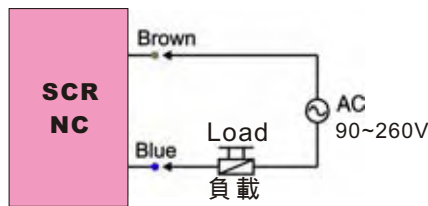


### • AC versions / 交流接線

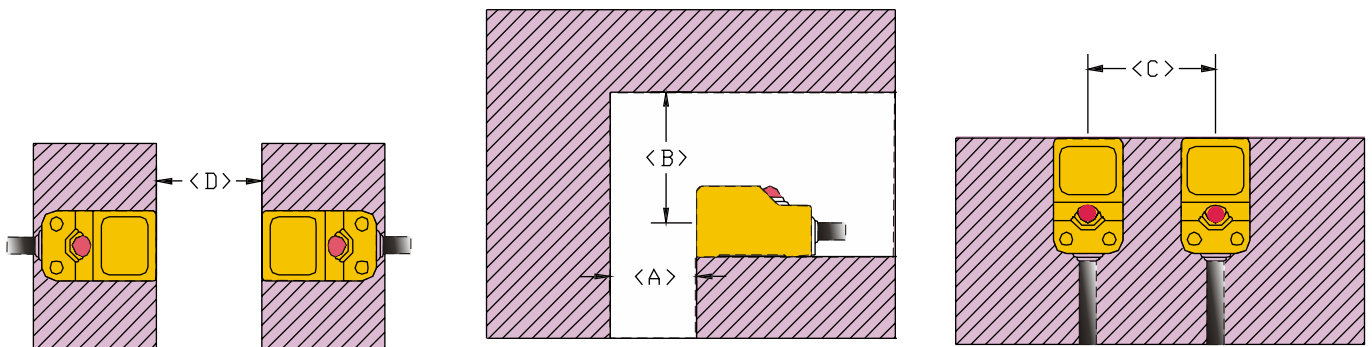
SN □ - A □



SN □ - A2 □



## ◆ Precautions for proper installation / 安裝注意事項:



SND04	A ≥ 15mm	B ≥ 20mm	C ≥ 30mm	D ≥ 30mm
SN04	A ≥ 15mm	B ≥ 20mm	C ≥ 30mm	D ≥ 30mm
SN05	A ≥ 20mm	B ≥ 25mm	C ≥ 40mm	D ≥ 40mm
SN10	A ≥ 40mm	B ≥ 30mm	C ≥ 60mm	D ≥ 60mm
SN20	A ≥ 80mm	B ≥ 45mm	C ≥ 80mm	D ≥ 80mm

**SN****Rectangular Inductive Proximity Sensor** **RIKO**

## ◆ Shape/外觀:



## ◆ Specifications /規格表:

Output method /輸出模式	NPN.NO	<b>SND04-N</b>	<b>SND04-ND</b>	<b>SN05-N</b>	<b>SN05-ND</b>
	NPN.NC	<b>SND04-N2</b>	<b>SND04-N2D</b>	<b>SN05-N2</b>	<b>SN05-N2D</b>
	PNP.NO	<b>SND04-P</b>	<b>SND04-PD</b>	<b>SN05-P</b>	<b>SN05-PD</b>
	PNP.NC	<b>SND04-P2</b>	<b>SND04-P2D</b>	<b>SN05-P2</b>	<b>SN05-P2D</b>
	NPN.NO/NC PNP.NO/NC	—	—	—	—
	SCR.NO	—	—	—	—
	SCR.NC	—	—	—	—
Sensing Surface / 檢測方向	Front surface / 上方		Top surface / 前方		
Standard sensing object / 標準檢測物	Iron 18 × 18 × 1mm		Iron 18 × 18 × 1mm		
Sensing distance / 檢出距離	4 mm		4 mm		
Secure sensing distance / 建議距離	0 to 3.2 mm		0 ~3.2 mm		
Hysteresis / 遲滯	≦ 10 % of sensing distance		≦ 10 % of sensing distance		
Response frequency / 反應頻率	500 Hz		500 Hz		
Operating voltage / 工作電壓	DC: 10 ~ 30 VDC		DC: 10 ~ 30 VDC		
Current consumption / 消耗電流	≦ 8 mA no-load		≦ 8 mA no-load		
Output current / 輸出電流	30V 100 mA max		30V 100 mA max		
Leakage current / 漏電流	≦ 1.1 mA no-load		≦ 1.1 mA no-load		
Residual voltage / 殘餘電壓	≦ 1.5 VDC		≦ 1.5 VDC		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.		1000VAC for 1min.		
Operating temperature / 工作溫度範圍	- 20 °C ~ + 60 °C		- 20 °C ~ + 60 °C		
Protection degree / 防水等級	IP 66	IP 66	IP 66	IP 66	
Wiring method / 出線方式	Pre-wired Ø4.2 × 2M / 3cores	M8 pigtailed type / M8 接頭15cm 電線式	Pre-wired Ø4.2 × 2M / 3cores	M8 pigtailed type / M8 接頭15cm 電線式	
Weight / 重量	Approx.60g	Approx.18g	Approx.60g	Approx.18g	
◆ Dimensions / 尺寸圖:					

**SN****Rectangular Inductive Proximity Sensor RIKO**

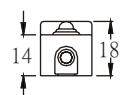
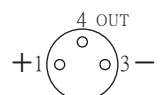
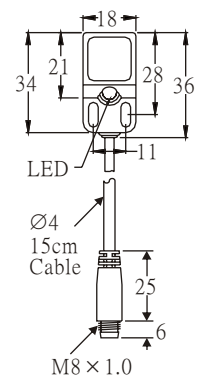
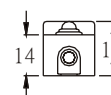
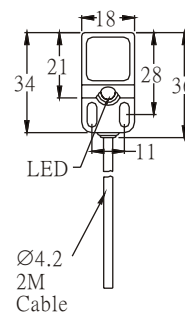
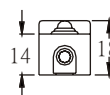
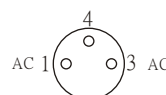
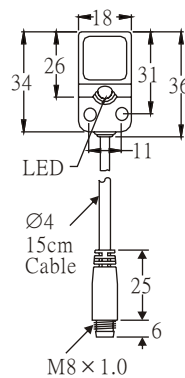
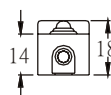
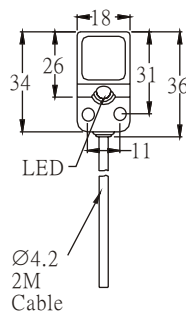
## ◆ Shape/外觀:



## ◆ Specifications /規格表:

Output method /輸出模式	NPN.NO	—	—	SN04-N	SN04-ND
	NPN.NC	—	—	SN04-N2	SN04-N2D
	PNP.NO	—	—	SN04-P	SN04-PD
	PNP.NC	—	—	SN04-P2	SN04-P2D
	NPN.NO/NC PNP.NO/NC	—	—	—	—
	SCR.NO	SN04-A	SN04-AD	—	—
	SCR.NC	SN04-A2	SN04-A2D	—	—
Sensing Surface / 檢測方向	Top surface / 前方		Top surface / 前方		
Standard sensing object / 標準檢測物	Iron 18 × 18 × 1mm		Iron 18 × 18 × 1mm		
Sensing distance / 檢出距離	4 mm		4 mm		
Secure sensing distance / 建議距離	0 to 3.2 mm		0 to 3.2 mm		
Hysteresis / 遲滯	≅ 10 % of sensing distance		≅ 10 % of sensing distance		
Response frequency / 反應頻率	20 Hz		500 Hz		
Operating voltage / 工作電壓	AC: 90 ~ 260 V		DC: 10 ~ 30 VDC		
Current consumption / 消耗電流	2 mA max		≅ 8 mA no-load		
Output current / 輸出電流	5~ 200 mA max		DC:30V 100 mA max		
Leakage current / 漏電流	≅ 2.0 mA no-load		≅ 1.1 mA no-load		
Residual voltage / 殘餘電壓	≅ 4VAC		≅ 1.5 VDC		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.		1000VAC for 1min.		
Operating temperature / 工作溫度範圍	- 20 °C ~ + 60 °C		- 20 °C ~ + 60 °C		
Protection degree / 防水等級	IP 66	IP 66	IP 66	IP 66	
Wiring method / 出線方式	Pre-wired Ø4.2 × 2M / 2-wire	M8 pigtailed type / M8 接頭15cm 電線式	Pre-wired Ø4.2 × 2M / 2-wire	M8 pigtailed type / M8 接頭15cm 電線式	
Weight / 重量	Approx.56g	Approx.15g	Approx.60g	Approx.18g	

## ◆ Dimensions /尺寸圖:



# SN

# Rectangular Inductive Proximity Sensor **RiKO**

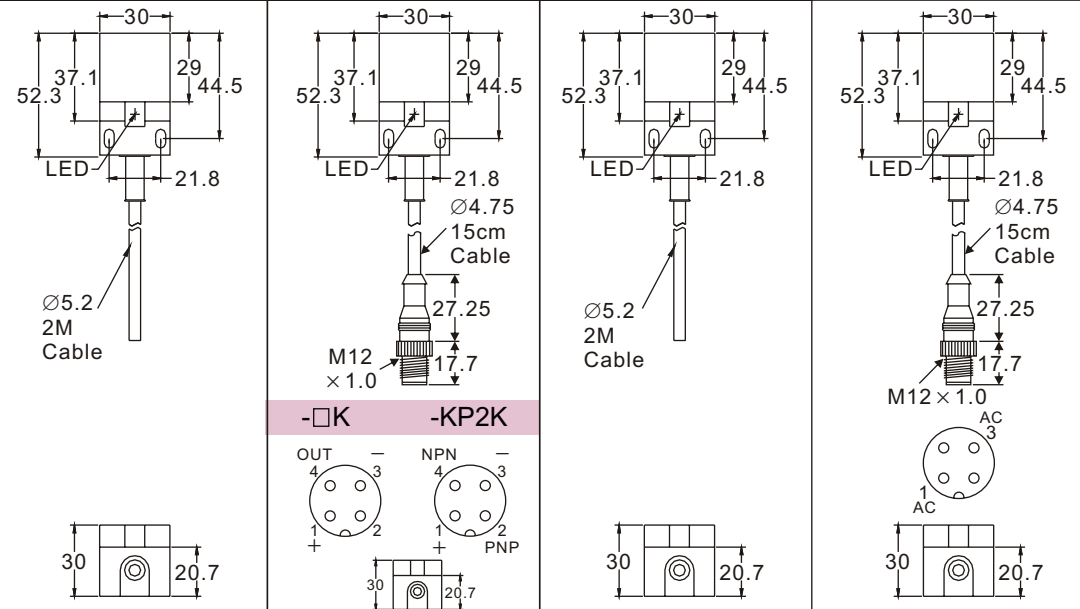
## ◆ Shape/外觀:



## ◆ Specifications /規格表:

Output method /輸出模式	NPN.NO	<b>SN10-N</b>	<b>SN10-NK</b>	—	—
	NPN.NC	<b>SN10-N2</b>	<b>SN10-N2K</b>	—	—
	PNP.NO	<b>SN10-P</b>	<b>SN10-PK</b>	—	—
	PNP.NC	<b>SN10-P2</b>	<b>SN10-P2K</b>	—	—
	NPN.NO/NC PNP.NO/NC	<b>SN10-KP2</b>	<b>SN10-KP2K</b>	—	—
	SCR.NO	—	—	<b>SN10-A</b>	<b>SN10-AK</b>
	SCR.NC	—	—	<b>SN10-A2</b>	<b>SN10-A2K</b>
Sensing Surface / 檢測方向	Top surface / 前方		Top surface / 前方		
Standard sensing object / 標準檢測物	Iron 30 × 30 × 1mm		Iron 30 × 30 × 1mm		
Sensing distance / 檢出距離	10 mm		10 mm		
Secure sensing distance / 建議距離	0 to 8 mm		0 to 8 mm		
Hysteresis / 遲滯	≦ 10 % of sensing distance		≦ 10 % of sensing distance		
Response frequency / 反應頻率	300 Hz		20 Hz		
Operating voltage / 工作電壓	DC: 10 ~ 30 VDC		AC: 90 ~ 260 VAC		
Current consumption / 消耗電流	≦ 8 mA no-load		2 mA max		
Output current / 輸出電流	DC:30V 100 mA max		5 ~ 300 mA max		
Leakage current / 漏電流	≦ 1.1 mA no-load		≦ 2.0 mA no-load		
Residual voltage / 殘餘電壓	≦ 1.5 VDC		≦ 4 VAC		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.		1000VAC for 1min.		
Operating temperature / 工作溫度範圍	- 20 °C ~ + 60 °C		- 20 °C ~ + 60 °C		
Protection degree / 防水等級	IP 66	IP 66	IP 66	IP 66	
Wiring method / 出線方式	Pre-wired Ø5.2 x 2M/3-wire (KP2:Ø5.2 x 2M/4 cores)	M12 pigtailed type / M12 接頭15cm 電線式	Pre-wired Ø5.2 x 2M/2-wire	M12 pigtailed type / M12 接頭15cm 電線式	
Weight / 重量	Approx.125g	Approx.70g	Approx.125g	Approx.70g	

## ◆ Dimensions /尺寸圖:



**SN****Rectangular Inductive Proximity Sensor** **RIKO**

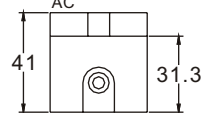
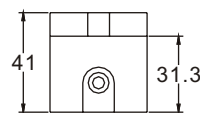
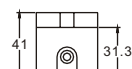
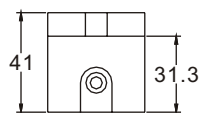
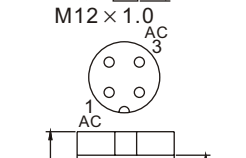
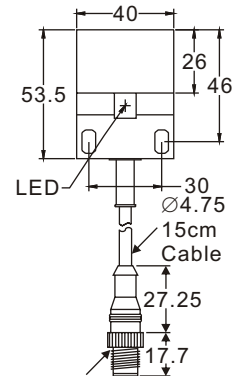
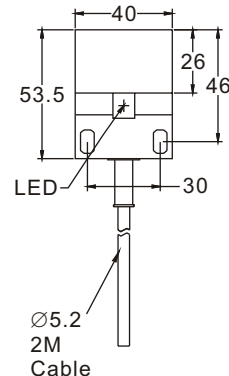
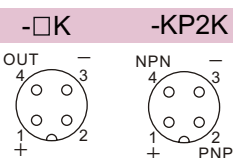
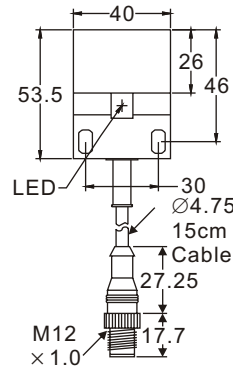
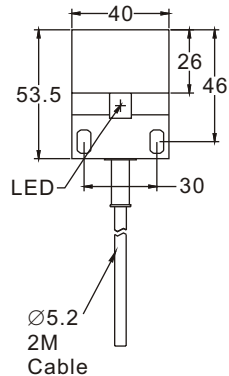
## ◆ Shape/外觀:



## ◆ Specifications /規格表:

Output method /輸出模式	NPN.NC	<b>SN20-N2</b>	<b>SN20-N2K</b>	—	—
	PNP.NO	<b>SN20-P</b>	<b>SN20-PK</b>	—	—
	PNP.NC	<b>SN20-P2</b>	<b>SN20-P2K</b>	—	—
	NPN.NO/NC PNP.NO/NC	<b>SN20-KP2</b>	<b>SN20-KP2K</b>	—	—
	SCR.NO	—	—	<b>SN20-A</b>	<b>SN20-AK</b>
	SCR.NC	—	—	<b>SN20-A2</b>	<b>SN20-A2K</b>
Sensing Surface / 檢測方向	Top surface / 前方		Top surface / 前方		
Standard sensing object / 標準檢測物	Iron 40 × 40 × 1mm		Iron 40 × 40 × 1mm		
Sensing distance / 檢出距離	20 mm		20 mm		
Secure sensing distance / 建議距離	0 to 16 mm		0 to 16 mm		
Hysteresis / 遲滯	≤ 10 % of sensing distance		≤ 10 % of sensing distance		
Response frequency / 反應頻率	50 Hz		20 Hz		
Operating voltage / 工作電壓	DC: 10 ~ 30 VDC		AC: 90 ~ 260 VAC		
Current consumption / 消耗電流	≤ 8 mA no-load		2 mA max		
Output current / 輸出電流	DC:30V 100 mA max		5 ~ 300 mA max		
Leakage current / 漏電流	≤ 1.1 mA no-load		≤ 2.0 mA no-load		
Residual voltage / 殘餘電壓	≤ 1.5 VDC		≤ 4 VAC		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.		1000VAC for 1min.		
Operating temperature / 工作溫度範圍	- 20 °C ~ + 60 °C		- 20 °C ~ + 60 °C		
Protection degree / 防水等級	IP 66	IP 66	IP 66	IP 66	
Wiring method / 出線方式	Pre-wired Ø5.2 x 2M/3-wire (Kp2:Ø5.2 x 2M / 4 cores)	M12 pigtailed type / M12 接頭15cm 電線式	Pre-wired Ø5.2 x 2M/2-wire	M12 pigtailed type / M12 接頭15cm 電線式	
Weight / 重量	Approx. 170g	Approx. 118g	Approx. 170g	Approx. 118g	

## ◆ Dimensions /尺寸圖:



## ◆ Inductive Ring Sensor / 環型近接感應器：

### GENERAL CHARACTERISTICS

In ring sensors, sensing is made within the ring itself. The sensors is activated when a metallic object is introduced within it. They are particularly suitable for applications where detection of small metal objects such as screws, nuts, washers etc... is requested and also for break detection of continuous metal wires that pass through it.

### 一般的特性

環型近接感應器的感應裝置就在其環形物中。當有金屬的物體通過此環形物時，感應器便產生作用。特別適合用於檢測細小的金屬物體，例如螺絲釘、螺帽、墊圈等。以及連續金屬線的斷裂檢測。感應器的外罩是塑膠製。內徑為5-12-15-22-25-30-44-63-100 mm。

### USE WITH A DELAYED AMPLIFIERS

All types of ring sensor can work in combination with a delayed amplifier of the programmable ALTP series which ensures the sensing of small object in rapid movement.

### 與延遲輸出共同使用

所有形式的環型近接感應器，都可以運用於可編程序的AL TP系列的延遲放大器，並可確保檢測快速移動的小物體。

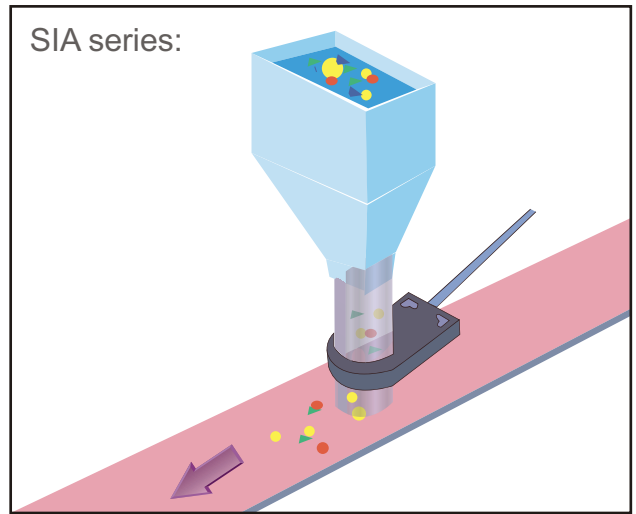
### EFFECTS OF METAL IN THE CLOSE VICINITY

If a moving metal part is close to the sensing area the functioning can be disturbed. In Order to avoid this , install the units some distance from metallic object. Ensure that this dose not interfere with the functioning.

### 金屬接近感應區域的影響

如果有移動的金屬零件靠近感應區域時，感應功能可能會被干擾。為了避免此情況發生，在裝置時，請與金屬物體保持一段距離，以確保不會干擾到感應功能。

SIA series:



MINIMUM DISTANCE BETWEEN SENSORS									
Model	SIA05	SIA12	SIA15	SIA22	SIA25	SIA30	SIA44	SIA63	SIA100
A(Fig.1)mm	25	30	30	60	20	60	300	300	600
A(Fig.1)mm	10	10	10	20	1	20	250	250	650

### SELECTION OF RING SENSOR

Selection should be made based on the minimum hole diameter required. In this way the sensitivity adjustment can be made within normal parameters

### 環型光電感應器的選擇

依據最小洞徑做選擇。如此敏銳性的調整可以在正常值內，而不會有不正當運作的風險。

### USE OF SENSOR

A distance equal to the width of the sensor should be left between each object that passes through the sensor. If more than one sensor is to be installed in close vicinity, the minimum distance indicated between sensors should be observed.

### 感應器的使用

通過感應器的每件物體，其間隔距離，至少要有一個感應器寬度的距離。如果有超過一個以上的感應器，被裝置在鄰近區域，相互間距離，必須遵守如附表所示的最小距離。



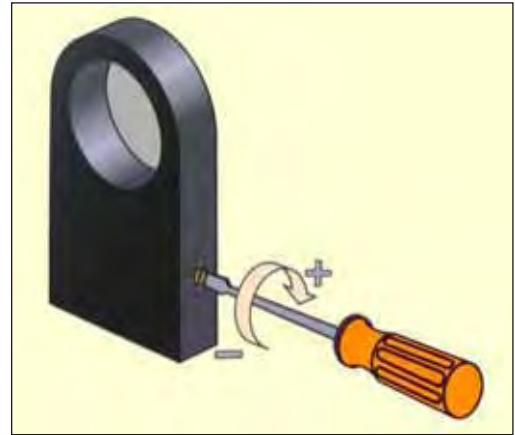
## ◆ Inductive Ring Sensors / 環型近接感應器:

### SENSITIVITY ADJUSTMENT

After having followed the instructions regarding the choice of the most suitable unit it is recommended that the sensitivity adjustment be carried out when the sensor is installed in the final position taking into account how much metal mass is close by which could alter its functioning. The sensitivity increases turning the trimmer clockwise.

### 靈敏度的調整

根據操作指南的指示，挑選最適合的型號後，強烈建議在最後安裝定位後，再做敏銳度的調整，並注意是否有任何的金屬物體會影響到它的正常功能。順時針方向旋轉可增加敏銳度。



### SWITCHING FREQUENCY

The switch frequency of inductive ring sensors depends on delayed impulse time (when inserted) according to the formula:

$$\text{Switching frequency (Hz)} = \frac{1}{(T \text{ impulse} + 10) \text{ ms}}$$

Vice versa, switching frequency will be as per chart beside.

### 動作頻率

環型近接感應器的切換頻率取決於被測物通過時延遲的脈衝時間，並依據以下公式：

$$\text{切換頻率 (Hz)} = \frac{1}{(T \text{ 脈衝} + 10) \text{ ms}}$$

同理可證，切換頻率將如右側圖表。

Model	Leght mm	Diameter mm
SIA05	1	0.7
SIA12	2	1.2
SIA15	2	1.2
SIA22	6	3
SIA25	7	4
SIA30	7	4
SIA44	9	5
SIA63	12	6
SIA100	20	12

### DELAY ON DE-ENERGIZATION

All our inductive ring sensors, NPN and PNP amplified versions, are supplied with an ON-OFF switch to activate and deactivate delay on de-energization 100ms. This delay allows the sensor to detect small metallic objects passing rapidly through the sensitivity area of the ring.

### 輸出延遲

所有我們的環型近接感應器(NPN和PNP放大型式)都備有ON-OFF開關，以控制輸出供給的延遲100ms。這個延遲提供感應器能夠檢測出金屬小物體快速的通過感應區域。

Model	Sw.Frequency Hz (min.~max.)
SIA05	600~1500
SIA12	600~1000
SIA15	600~1000
SIA22	600~1000
SIA25	600~800
SIA30	600~800
SIA44	600~600
SIA63	600~200
SIA100	≤ 100

## ◆ Shape/外觀:

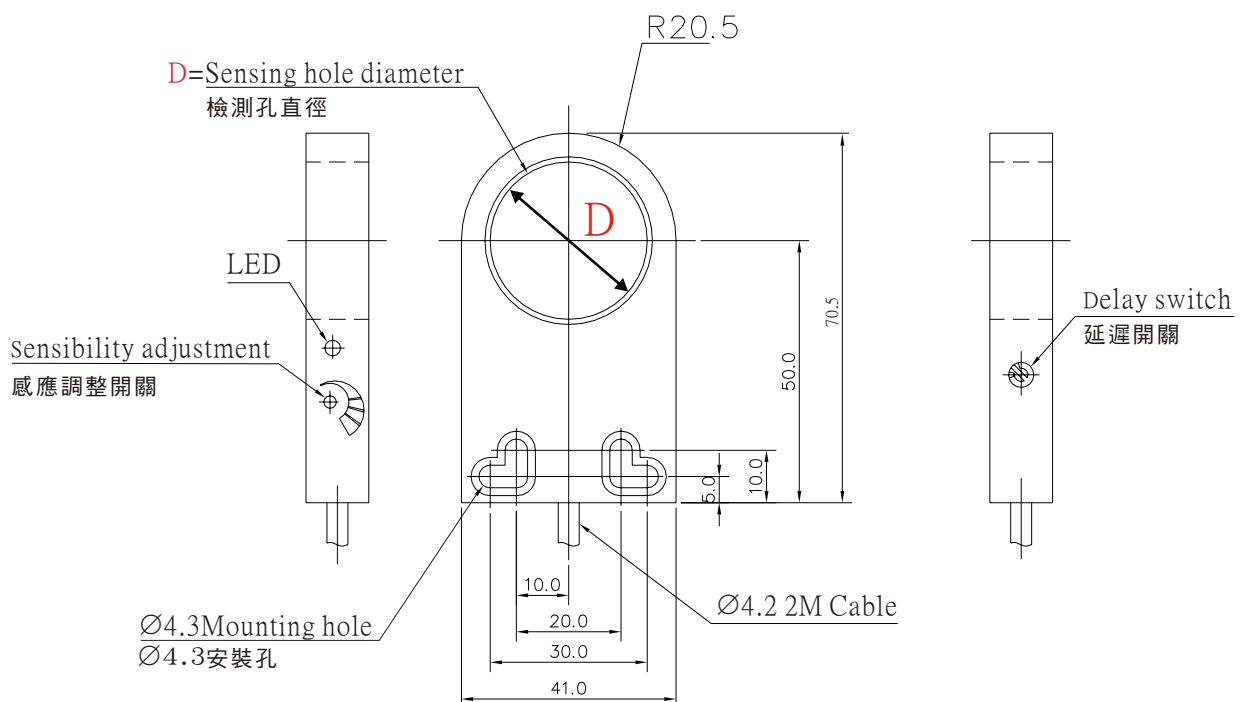


D=Sensing hole diameter / 檢測孔直徑

## ◆ Specifications / 規格表:

Output method 輸出模式	NPN.NO/NC	SIA05-N	SIA12-N	SIA15-N	SIA22-N	SIA30-N
	PNP.NO/NC	SIA05-P	SIA12-P	SIA15-P	SIA22-P	SIA30-P
Sensing hole diameter / 檢測孔直徑		D=5mm	D=12mm	D=15mm	D=22mm	D=30mm
Min. detecting object / 最小檢測物		0.7mm min	1.2mm min	2mm min	3mm min	
Operating voltage / 工作電壓	10 ~ 30 VDC					
Current consumption / 消耗電流	15 mA					
Output current / 輸出電流	24 VDC 100 mA max					
Operating temperature / 工作溫度範圍	- 20 °C ~ + 60 °C					
Protection degree / 防水等級	IP 65					
Wiring method / 出線方式	Ø4.2 × 2 M / 4-wire					
Recommended power unit/應用電源供給單元	ST - 1 . ST - T2					
Weight / 重量	Approx.100g					

## ◆ Dimensions / 尺寸圖:



### ◆ Shape/外觀:

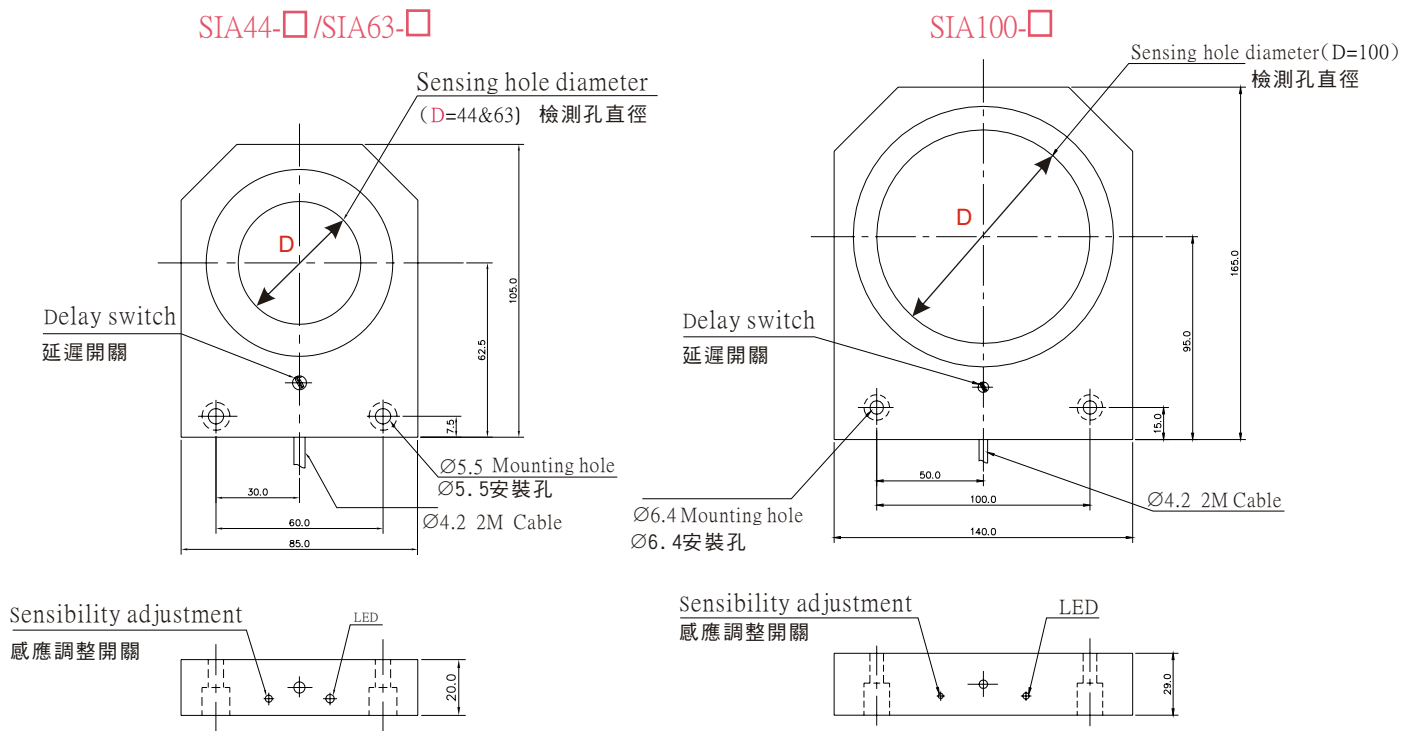


D=Sensing hole diameter / 檢測孔直徑

### ◆ Specifications / 規格表:

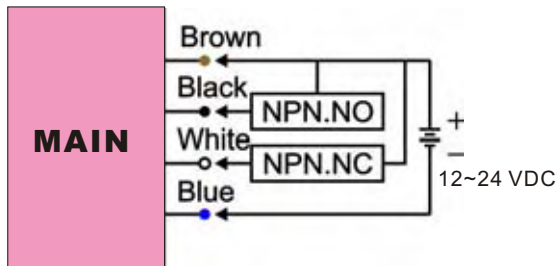
Output method / 輸出模式	NPN.NO/NC	SIA44-N	SIA63-N	SIA100-N
	PNP.NO/NC	SIA44-P	SIA63-P	SIA100-P
Sensing hole diameter / 檢測孔直徑		D=44mm	D=63mm	D=100mm
Min. detecting object / 最小檢測物		5mm min		10mm min
Operating voltage / 工作電壓		10 ~ 30 VDC		
Current consumption / 消耗電流		15 mA		
Output current / 輸出電流		24 VDC 100 mA max		
Operating temperature / 工作溫度範圍		- 20 °C ~ + 60 °C		
Protection degree / 防水等級		IP 65		
Wiring method / 出線方式		Ø4.2 × 2 M / 4-wire		
Recommended power unit / 應用電源供給單元		ST - 1 . ST - T2		
Weight / 重量		Approx.260g	Approx.220g	Approx.710g

### ◆ Dimensions / 尺寸圖:

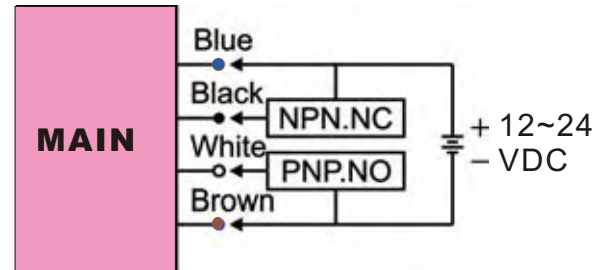


### ◆ Wiring diagrams / 接線圖:

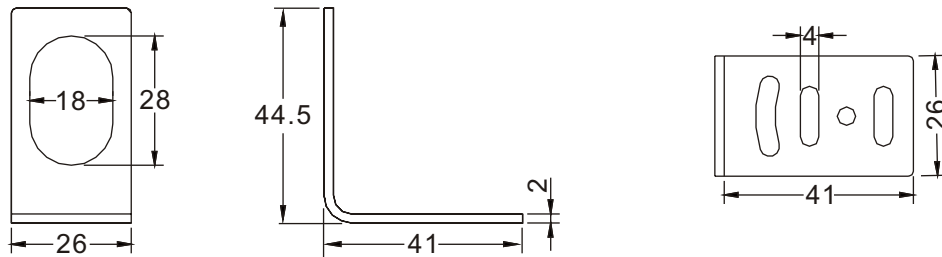
KC □ - B3



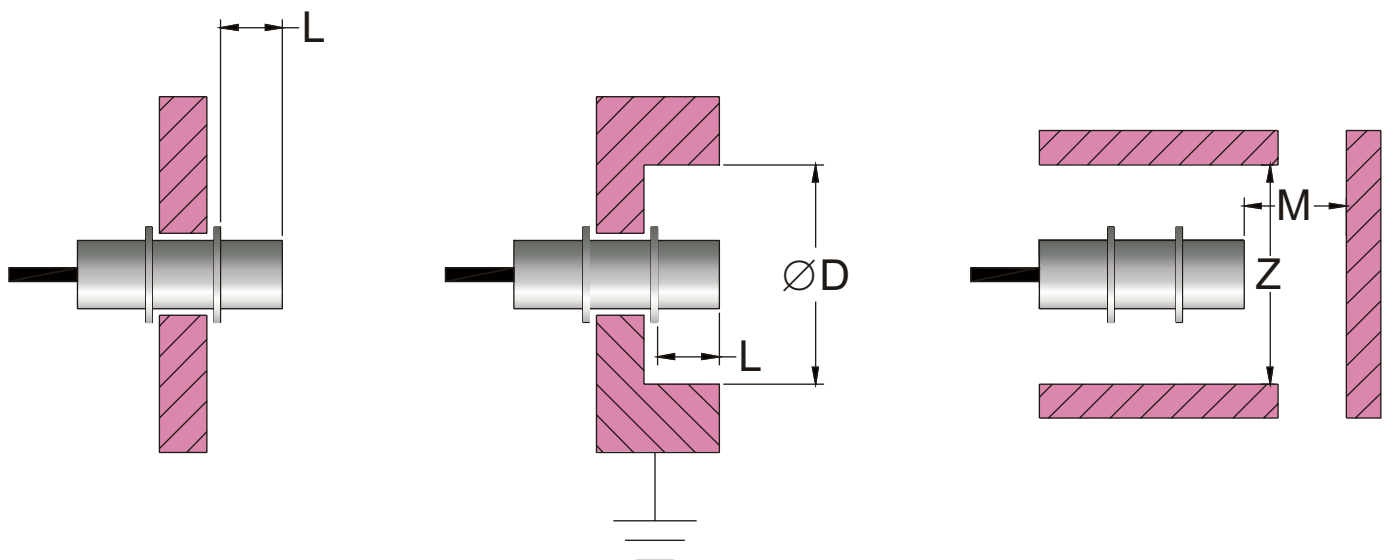
KC □ - KP2



### ◆ Mounting bracket / 固定架尺寸:



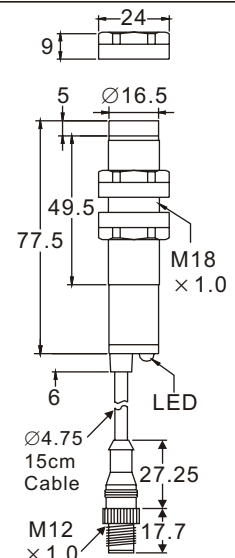
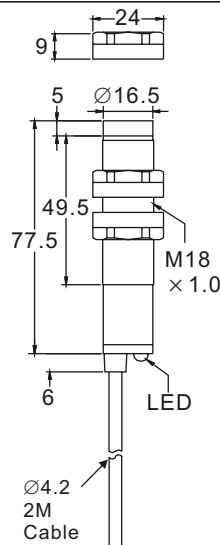
### ◆ Precaution for proper installation / 安裝注意事項:



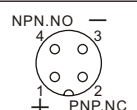
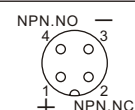
KC1810 D ≥ 40mm M ≥ 30mm L ≥ 60mm Z ≥ 60mm

**KC****Capacitive Proximity Sensor** **RIKO**◆ **Shape/外觀:**◆ **Specifications**  
/規格表:

Output method 輸出模式	NPN.NO/NC	<b>KC1810-B3</b>	<b>KC1810-B3K</b>
	PNP.NO/NC NPN.NO/NC	<b>KC1810-KP2</b>	<b>KC1810-KP2K</b>
Standard sensing object/標準檢出物	Conductor or electric - medium / 導體電中性		
Sensing distance / 檢出距離	1 ~ 10 mm		
Hysteresis / 遲滯	≤ 10 % of sensing distance		
Response frequency / 反應頻率	70 Hz		
Operating voltage / 工作電壓	DC : 12 ~ 24 V		
Current consumption / 消耗電流	≤ 8 mA no-load		
Output current / 輸出電流	DC:24VDC 100 mA max.		
Leakage current / 漏電流	≤ 1.1 mA no-load		
Residual voltage / 殘餘電壓	≤ 1.5 VDC		
Insulation resistance / 隔離阻抗	20M Ω min. 500VDC		
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.		
Operating temperature/工作溫度範圍	- 20 °C ~ + 60 °C		
Portection degree / 防水等級	IP 66		
Description / 圓柱外型	Standard / 標準M18		
Wiring method / 出線方式	Per-wired Ø4.2 × 2M / 4-wire	M12 pigtailed type / M12接頭 15cm電線式	
Weight / 重量	Approx.70g	Approx.35g	

◆ **Dimensions**  
/尺寸圖:

<b>KC1810-B3K</b>	<b>KC1810-KP2K</b>
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**KC****Capacitive Proximity Sensor** **RIKO**◆ **Shape/外觀:**◆ **Specifications**  
/規格表:

Output method 輸出模式	NPN.NO/NC PNP.NO/NC	KC3025-KP2	KC3025-KP2K	KC3025-KP2K1
Standard sensing object/標準檢出物	Conductor or electric - medium / 導體電中性			
Sensing distance / 檢出距離	2 ~ 25mm			
Hysteresis / 遲滯	$\leq 10\%$ of sensing distance			
Response frequency / 反應頻率	10 Hz			
Operating voltage / 工作電壓	DC : 12 ~ 24 V			
Current consumption / 消耗電流	$\leq 8$ mA no-load			
Output current / 輸出電流	DC:24VDC 100 mA max.			
Leakage current / 漏電流	$\leq 1.1$ mA no-load			
Residual voltage / 殘餘電壓	$\leq 1.5$ VDC			
Insulation resistance / 隔離阻抗	20M $\Omega$ min. 500VDC			
Voltage withstandability / 絕緣耐壓	1000VAC for 1min.			
Operating temperature/工作溫度範圍	- 20 °C ~ + 60 °C			
Portection degree / 防水等級	IP 66			
Description / 圓柱外型	Standard / 標準M18			
Wiring method / 出線方式	Per-wired $\varnothing 5.2 \times 2$ M / 4-wire	M12 pigtailed type / M12 接頭15cm 電線式	M12 plug-in connector type / M12 接頭	
Weight / 重量	Approx.135g	Approx.80g	Approx.70g	
◆ <b>Dimensions</b> /尺寸圖:				

### ◆ Characteristics/特點:

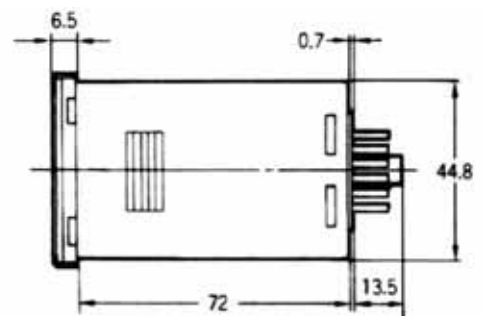
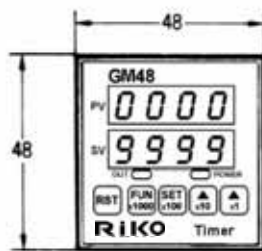
- Contact / transistor input./ 接點及晶體輸入
- 4 timer range setting. /4種時間範圍設定
- 11pin type/11pin型式
- 5 keys, easy to operate./面板5組按鍵, 設定容易
- 8 motion modes flexible manipulation./8種動作模態, 使用更有彈性
- LED display./ LED顯示器
- Small dimension (48x48x92mm) easy to install./體積小(48x48x92mm)安裝容易
- 12 VDC / 200mA power supply for the usage of external sensor. /提供12VDC 200mA電源, 供給外部SENSOR使用



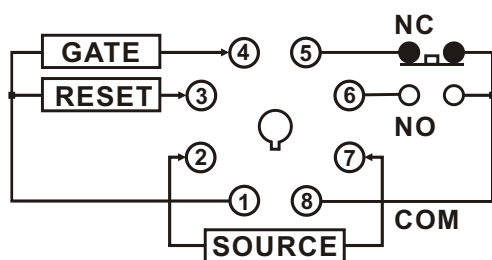
### ◆ Specifications/規格表:

Model / 型號	GM48-A	GM48-B	GM48-C
Input / 輸入	RESET, GATE	RESET, GATE	RESET, GATE, STARR
Motion mode / 動作模態	Power On Delay	4modes	8 modes
Pin / 接腳	8-Pin Round	8-Pin Round	14-Pin Round
Timer range / 時間範圍	0~99.99s 0~999.9s 0~99m59s 0~99h59m , 4modes		
	Fixed/固定	Adjustable/可設定	Adjustable/可設定
Operating voltage/ 電源	90~260VAC 50/60HZ		
Display / 顯示器	LED 4 digits X 2 (Red, Green)		
Output / 輸出	RELAY 1C/ 1A 250VAC		
Operating temperature / 工作時溫度	- 10 °C ~ 50 °C ( 14 °F ~ 122 °F)		
Reset time / 斷電重置	0.5sec		
Weight / 重量	Approx.105g		

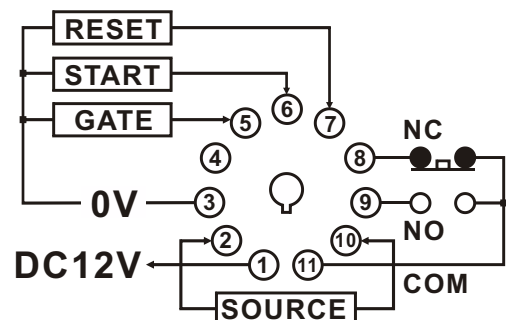
### ◆ Dimensions/外型尺寸圖:



GM48-A GM48-B Wiring diagrams /配線圖:

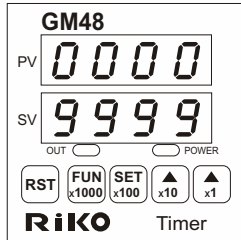


GM48-C Wiring diagrams /配線圖:



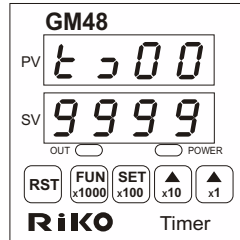
## ◆ Setting of "Output time" and "Output mode"/設定"輸出時間"及"輸出模態"

Setting/設定



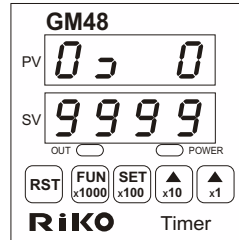
Picture 1/圖1

Output time/輸出時間



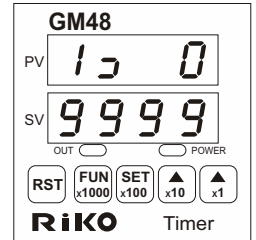
Picture 2/圖2

Motion mode/動作模態



Picture 3/圖3

Timer range/時間範圍



Picture 4/圖4

Press and hold on **FUN**  $\times 1000$  key for 3 seconds. The display will transfer to **picture 2**. Release the key and enter the setting mode of "Output time".

按住 **FUN**  $\times 1000$  鍵不放3秒後如<圖2>顯示並放開按鍵此時進入設定"輸出時間"模式

Note: The display will return to the normal timer condition, if press **SET**  $\times 100$  key at any time or do not press any key for more than 3 seconds.

註：任何時間按下 **SET**  $\times 100$  鍵或持續3秒沒有按任何按鍵則回到正常之計數模式

Press **FUN**  $\times 1000$  key to enter the setting mode of "Output mode". The display will transfer to **picture 3**.

按下 **FUN**  $\times 1000$  鍵後如<圖3>顯示並進入設定"動作模態"

Press **▲**  $\times 1$  key or **▲**  $\times 10$  key to set the "output time" (0~ 9.9 seconds).

按下 **▲**  $\times 1$  鍵或 **▲**  $\times 10$  鍵設定"輸出時間", 時間範圍為 0 ~ 9.9 秒。

Press **FUN**  $\times 1000$  key to enter the setting mode of "Timer range". The display will transfer to **picture 4**.

按下 **FUN**  $\times 1000$  鍵後如<圖4>顯示並進入設定"時間範圍"

Press **▲**  $\times 1$  key to set the "Motion mode" (0-7 modes).

按下 **▲**  $\times 1$  鍵設定"動作模態", 0 ~ 7組動作模態

Press **FUN**  $\times 1000$  key to return back to the setting mode of "Output time" to **picture 2**.

按下 **FUN**  $\times 1000$  鍵後如<圖2>顯示並回到設定"輸出時間"

Press **▲**  $\times 1$  key to set the "Timer range" (0~3 timer range)

按下 **▲**  $\times 1$  鍵設定"時間範圍" 0 ~ 3時間範圍



## ◆ Characteristics / 特點:

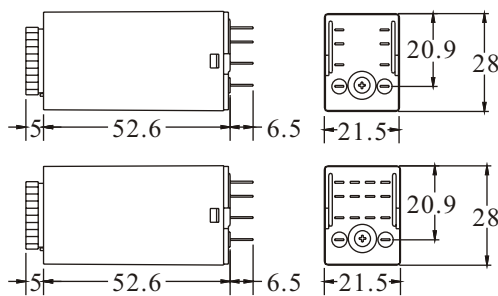
- High light LED indicator for timer operation.  
/ 高亮度雙LED電源指示燈.
- Varied specifications suitable for different operating voltages(AC110V,220V,DC12V,24V)  
/ 多樣化規格, 適用於AC110V, 220V, DC12V, 24V.
- The accurate tolerance of resetting accuracy 3%.  
/ 返復操作精確度3%.
- Contact:2 poles,4poles.Small dimension-varied installation ways,easy to install.  
/ 接點2極, 4極, 體積小, 安裝方式多樣化, 安裝容易.
- Suitable for the use in automatic systems,electronic communication equipments and household appliances.  
/ 適用自動控制系統, 電子通信設備及家用電氣.



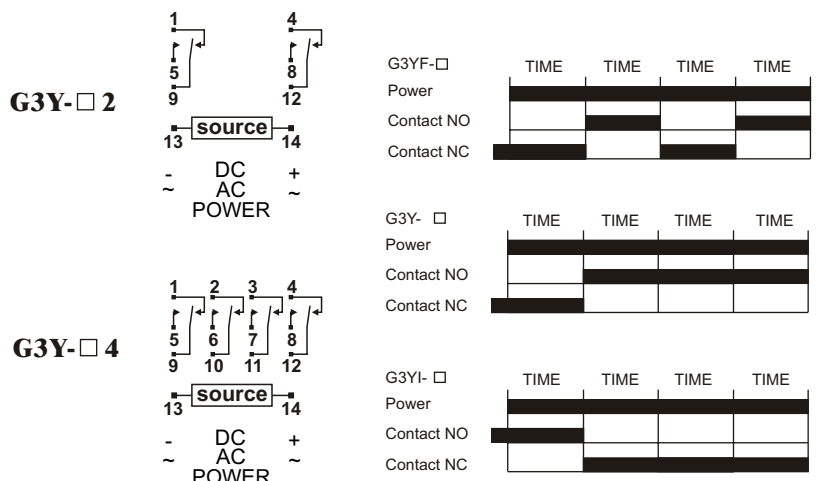
## ◆ Specifications / 規格表:

Catalog Listing/型號		G3Y-2	G3Y-4
Motion mode/動作模式		On Delay	On Delay
Contact/接點		2c/2組接點	4c/4組接點
Operating Voltage/供應電壓		AC12V,24V,110V,220V DC12V,24V	
Timer range/時間範圍		1.3.6.10.12.30秒/Sec	
		1.3.6.10.12.30.60分/Min	
Resetting time/復歸時間		0.1sec below	
Vibration/震動		10 to 50Hz,amplitude 1.00mm	
Accuracy/精確度	Setting time/往復誤差	Max. Scale $\pm 10\%$ below	
	Resetting time/設定誤差	Max. Scale $\pm 1\%$ below	
	Variation due to voltage change/電壓影響	Max. Scale $\pm 2\%$ below	
	Variation due to temperature change/溫度影響	Max. Scale $\pm 5\%$ below( $-20^{\circ}\text{C}\sim 60^{\circ}\text{C}$ )	
Ambient humidity / 工作溼度範圍		35%~85% RH	
Weight / 重量		Approx.40g	Approx.45g

## ◆ Dimensions / 尺寸圖:



## ◆ Wiring diagrams / 接線圖, 時序圖:



### ◆ Characteristics /特點:

- Power failure memory/斷電記憶保持
- 4 digits up and down counting function/四位數顯示，可往上或下計數
- Counting speed 30/2K CPS./計數速度 30/2K CPS
- 5 keys easy to operate./面板5組按鍵，設定容易
- 8 output modes flexible manipulation./8種輸出模態，使用更有彈性
- LED display./LED顯示器
- Small dimension (48x48x92mm) easy to install./體積小(48x48x92mm)安裝容易
- 12 VDC / 200mA power supply for the usage of external sensor. /提供12VDC 200mA電源，供給外部SENSOR使用

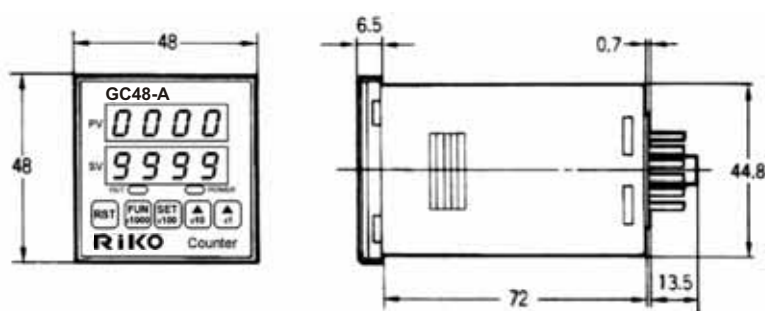


### ◆ Specifications /規格表:

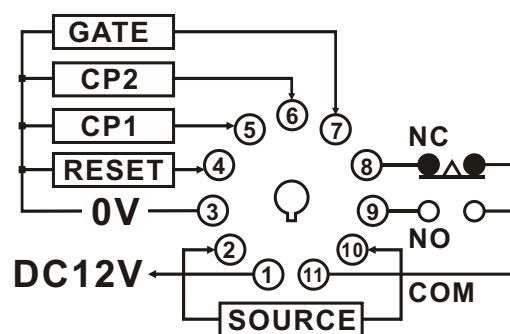
**GC18-A Specifications /電器規格**

Operating Voltage/電源	90~240VAC 50/60HZ	Input mode/輸入模態	Up count/ 上數
Display LED/顯示器	4 digits X 2 (Red, Green)		Down count/ 下數
External Input/外部輸入	RESET, CP1, CP2, GATE	Output mode/輸出模態	0~7, 8 modes
Output/輸出	RELAY 1C, 1A 250VAC	Counting speed /計數速度	30 CPS 或 2K CPS
Operating temperature /工作時溫度	-10°C~50°C (14°F~122°F)	Counting range /計數範圍	0000~9999
Weight / 重量	Approx.115g	Pin/接腳	11-Pin Round

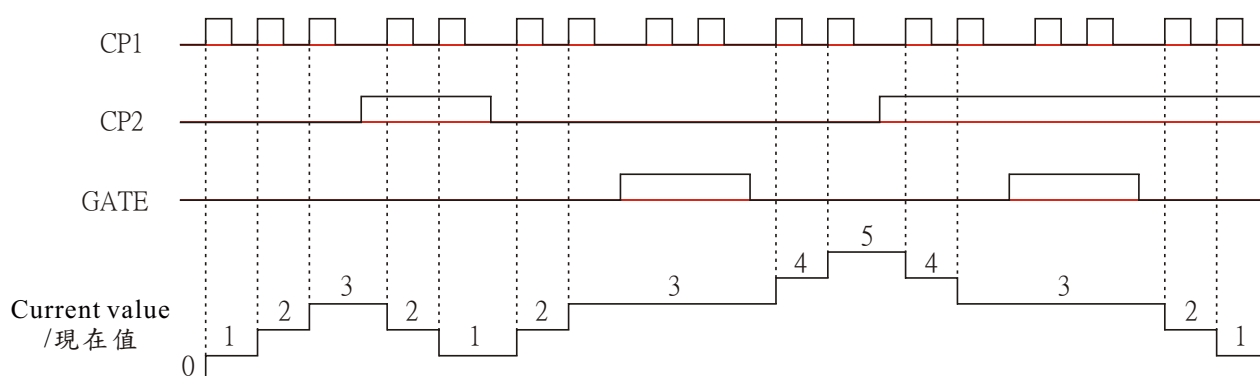
### ◆ Dimensions /外型尺寸圖:



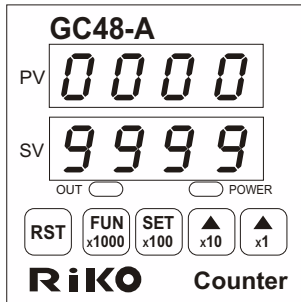
### ◆ Wiring diagrams /接線圖:



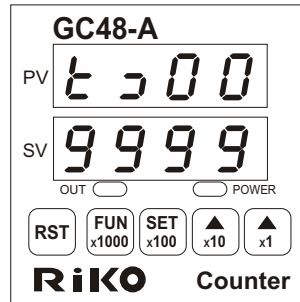
### ◆ Input Timing Chart /輸入時序圖:



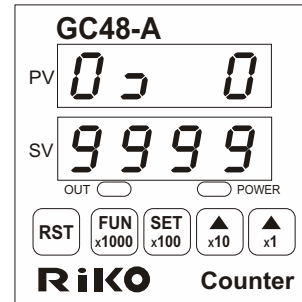
## ◆ Setting of "Output time" and "Output mode"/設定輸出時間及輸出模態



Picture 1/圖1



Picture 2/圖2



Picture 3/圖3

Press and hold on **FUN**  $\times 1000$  key for 3 seconds. The display will transfer to **picture 2**. Release the key and enter the setting mode of "Output time".

按住 **FUN**  $\times 1000$  鍵不放3秒後如<圖2>顯示並放開按鍵此時進入設定"輸出時間"模式

Note: The display will return to the normal timer condition, if press **SET**  $\times 100$  key at any time or do not press any key for more than 3 seconds.

註：任何時間按下 **SET**  $\times 100$  鍵或持續3秒沒有按任何按鍵則回到正常之計數模式

Press **FUN**  $\times 1000$  key to enter the setting mode of "Output mode". The display will transfer to **picture 3**.

按下 **FUN**  $\times 1000$  鍵後如<圖3>顯示並進入設定"輸出模態"

Press **▲**  $\times 1$  key or **▲**  $\times 10$  key to set the "Output time" (0~ 9.9 seconds).

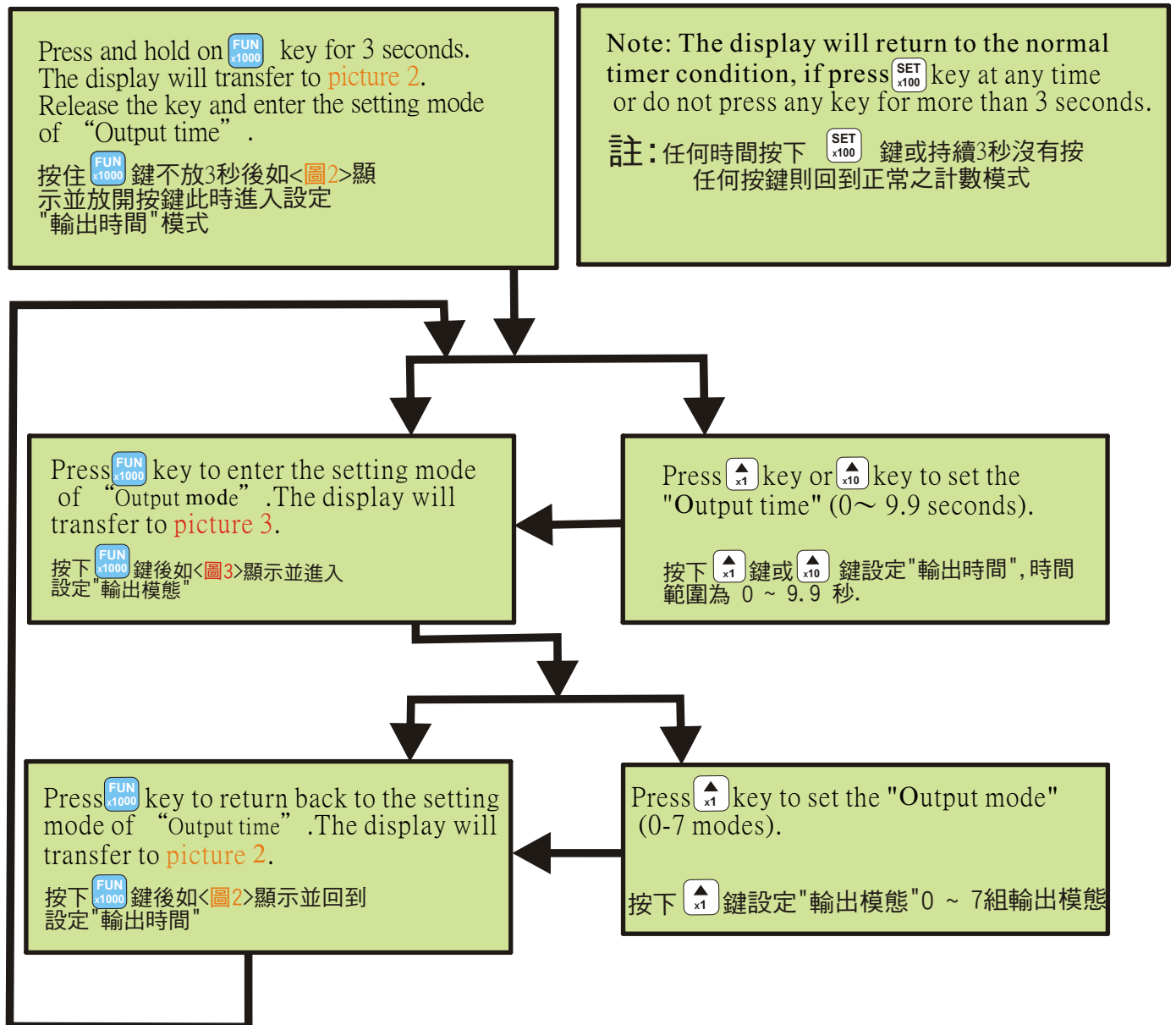
按下 **▲**  $\times 1$  鍵或 **▲**  $\times 10$  鍵設定"輸出時間", 時間範圍為 0 ~ 9.9 秒。

Press **FUN**  $\times 1000$  key to return back to the setting mode of "Output time". The display will transfer to **picture 2**.

按下 **FUN**  $\times 1000$  鍵後如<圖2>顯示並回到設定"輸出時間"

Press **▲**  $\times 1$  key to set the "Output mode" (0-7 modes).

按下 **▲**  $\times 1$  鍵設定"輸出模態"0 ~ 7組輸出模態

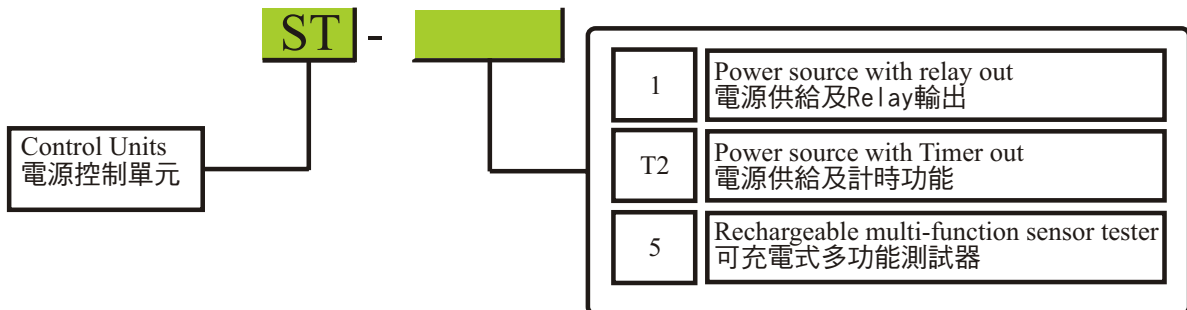


### ◆ Characteristics / 特性:

- 12VDC / 50mA external power supply.  
/ 提供電源輸出12VDC / 50mA.
- Available in NPN, PNP., ON / OFF-delay, One-shot, functions.  
/ 可接受NPN.或PNP.輸入方式.
- ON/OFF-Delay (0~10sec).  
ONE-Shot (0~10sec).
- Easy to wire.  
/ 操作容易簡便.



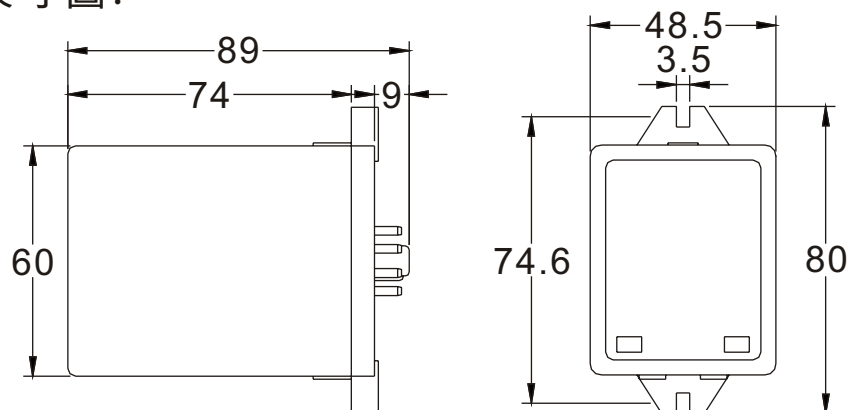
### ◆ Order Information/ 訂貨索引:



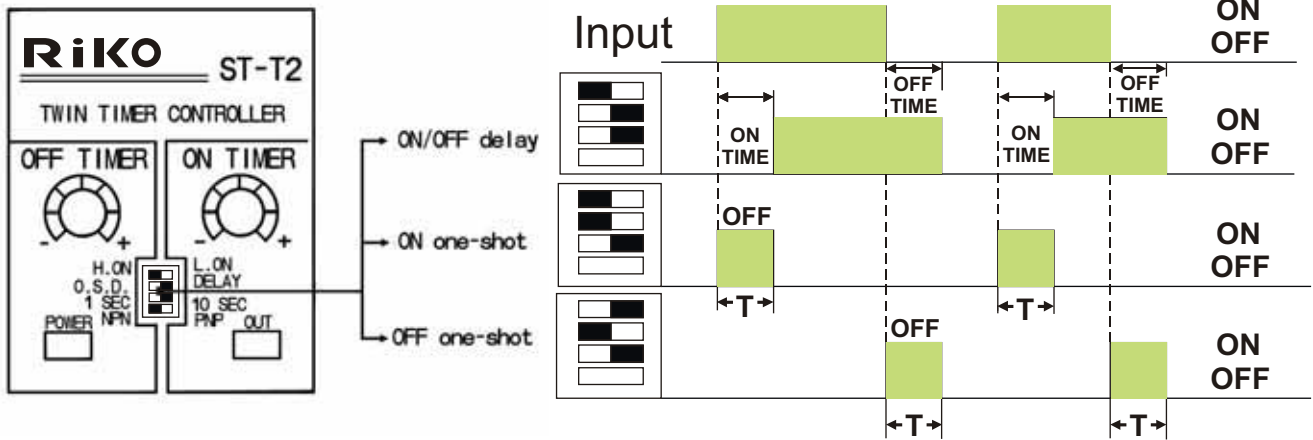
### ◆ Specifications / 規格表:

Catalog Listing / 型號	ST-1	ST-T2
Adopt controller / 控制選擇	Power Source with Relay Out / 電源供給及RELAY輸出	Power Source with Timer Function / 電源供給及計時功能
Input voltage / 輸入電壓	AC 110 V or AC 220 V 50 / 60 Hz (±10 %)	
Current consumption / 消耗電流	≤ 8mA NO-Load	
DC Output voltage / 直流輸出電壓	12 VDC ± 10%	
Output current / 輸出電流	50 mA max	
Delay timer functions / 延遲動作時間	-	ON / OFF - Delay Out (0 ~ 10 sec) One - Shot Out (0 ~ 10 sec)
Relay output / 輸出接點容量	250 VAC 3A	
Operating temperature/工作時溫度	- 25 °C ~ + 60 °C	
Weight / 重量	Approx.135g	Approx.240g

### ◆ Dimension / 尺寸圖:



◆ **ST-T2 Timing Chart / 時序圖:**

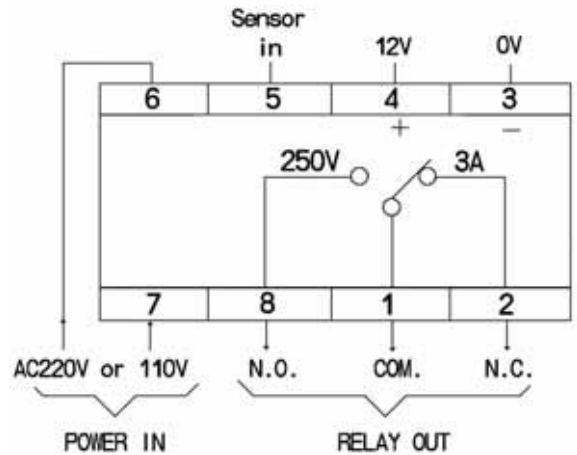


- The timer functions are selected by 4-DIP switches.  
/ 功能設定由面板指撥開關變更。
- T is the TIME of the Off Timer Range.  
/ T : 延遲時間範圍。
- The knob of ON TIMER must be at 0 sec. position during ON one-shot and OFF one-shot operations.  
/ 如果使用O. S. D. (ON one-shot and OFF one-shot)之功能, 請將ON TIMER旋鈕調至0 sec, 指撥開關切換至O. S. D.

◆ **Connection / 接腳圖:**

**SENSOR COMBINATION/ 組合應用**

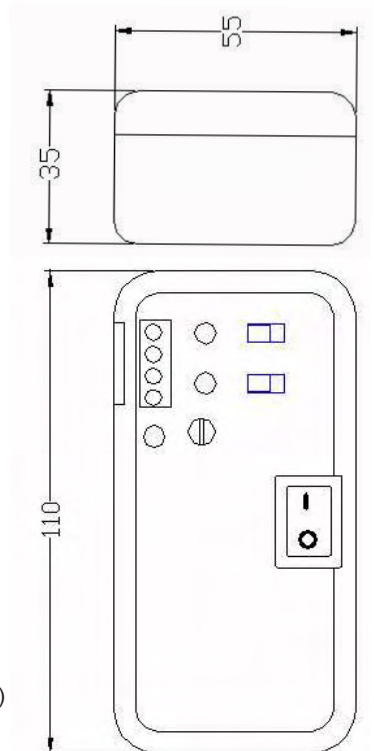
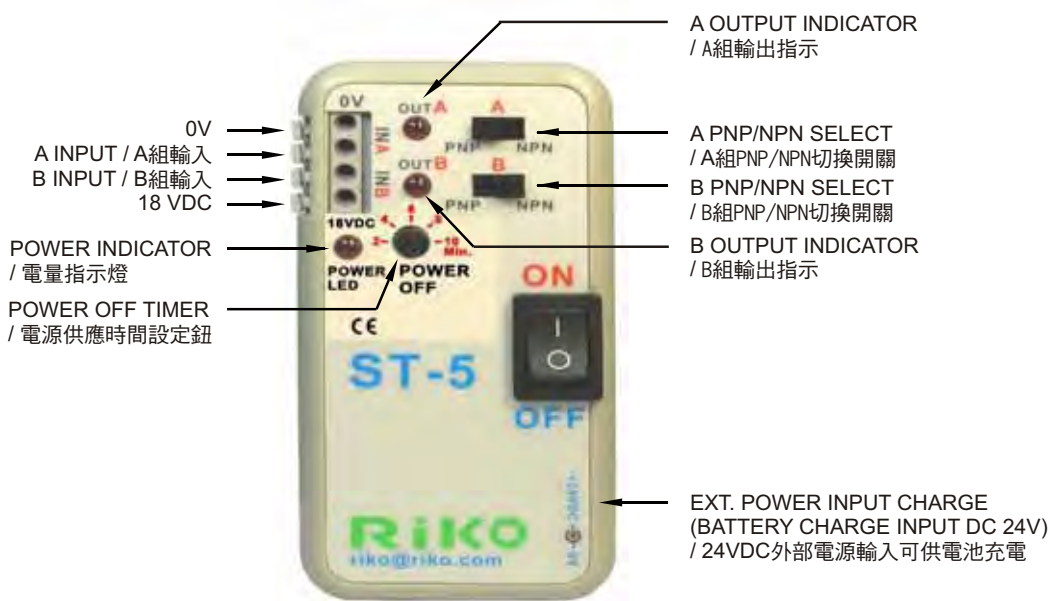
- Photoelectric Sensors / 光電開關
  - MF series
  - RMF series
  - SU series
  - TQ18 series
  - PK3 series
- Proximity Sensors / 近接開關
  - SN series
  - SC series
  - JND series
  - SIA series



### ◆ Characteristics/特點:

- Used to check photoelectric and proximity sensor.  
/可檢測光電開關與近接開關並供應18VDC給SENSOR使用
- Two LED indicators and two select switches for NPN or PNP.  
/提供二組NPN及PNP輸入測試
- Use 24VDC to recharge the battery .  
/可使用24VDC外部電源來進行電池充電
- Auto power off timer for saving power.  
/可設定電源供應時間
- LED indicator blinks when low power.  
/當電量不足時, 指示燈會閃爍
- Power source : 24DC or 18V Rechargeable battery .  
/使用電源為外部24VDC或內部一顆18V電池
- Input method : Wire ./輸入方式:出線式

### ◆ Panel description/功能位置:



- BATTERY CHARGER : ES18U24-P1J (OPTION)



Series	Model	Dimension
ES18U	ES18U24-P1J	79x54x33 mm
<b>Power output</b>		
24VDC		0.75A

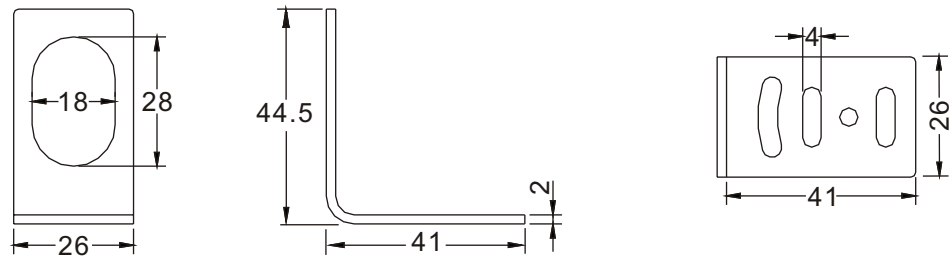
- BATTERY : ST-5-B01



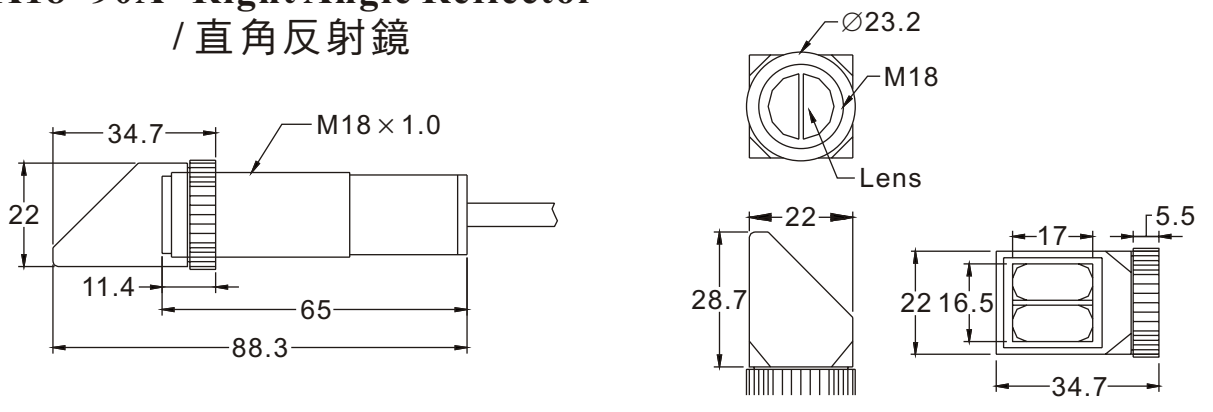
60x30mm

◆ **Dimensions / 尺寸圖:**

● **MF- 01 Mounting Bracket / 固定架**

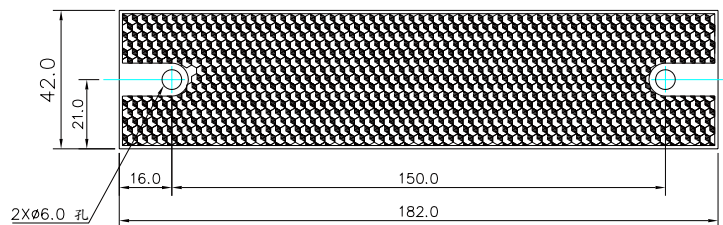


● **RA18- 90A Right Angle Reflector / 直角反射鏡**



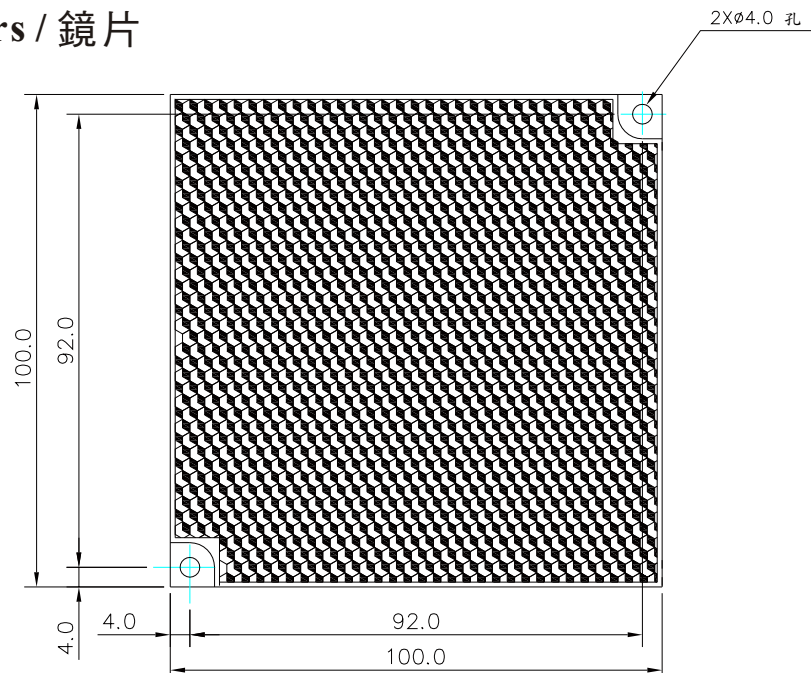
● **CTR4 Reflectors / 鏡片**

Thickness 6 mm



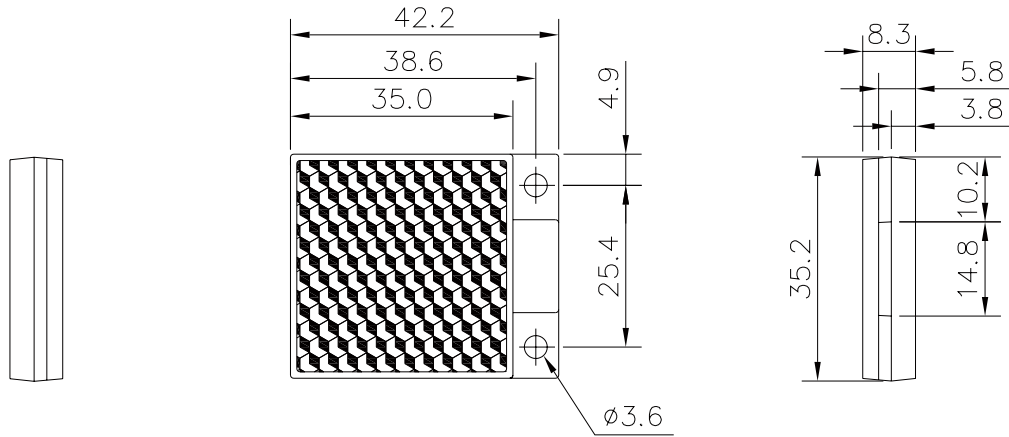
● **CTR10 Reflectors / 鏡片**

Thickness 9.5 mm

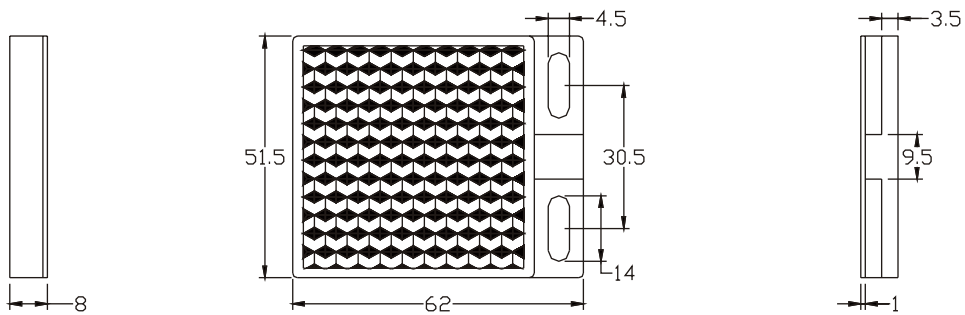


## ◆ Dimensions / 尺寸圖:

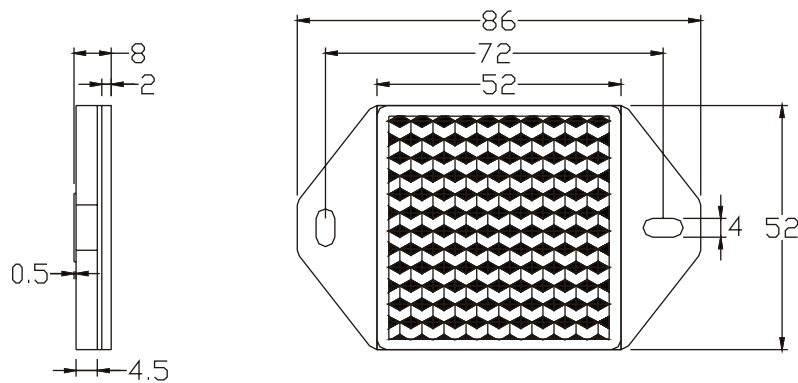
### ● RR-01 Reflectors / 鏡片



### ● RR-03 Reflectors / 鏡片



### ● RR-04 Reflectors / 鏡片

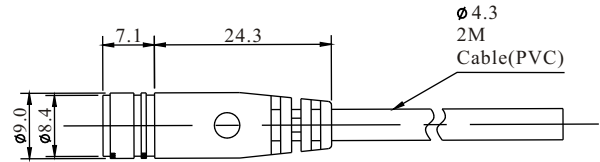
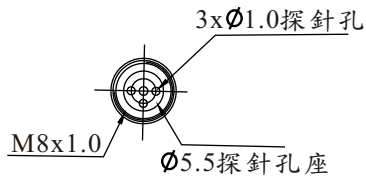




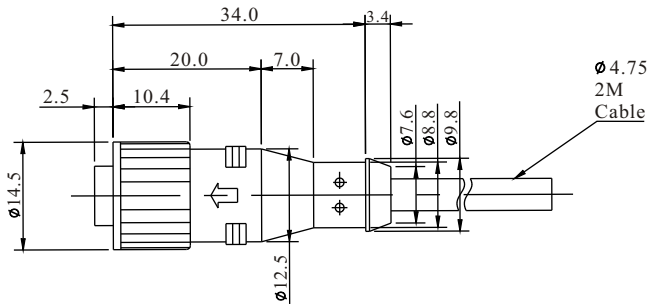
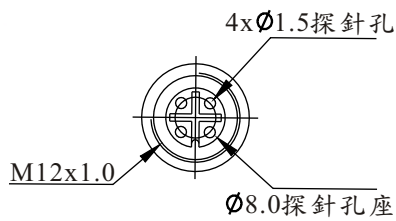
◆ Offers a wide range of connectors that comply with the reliability and application requirement in the field of industrial automation. 提供在工業自動化領域遵循可靠性和應用要求的大範圍連接器。

## ● Connectors / 連接線

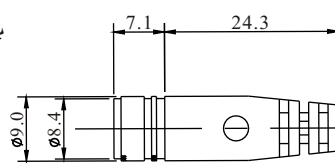
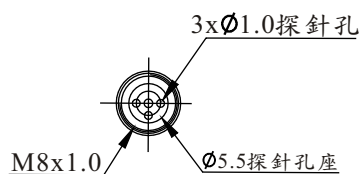
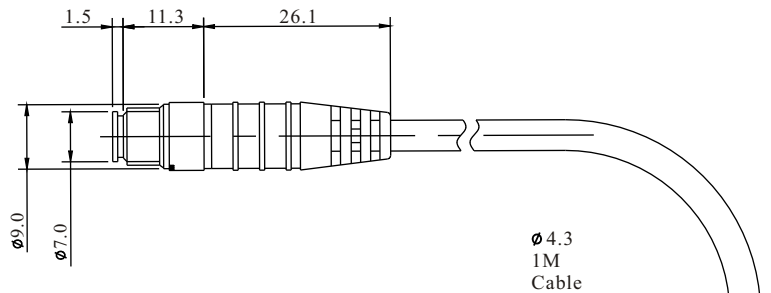
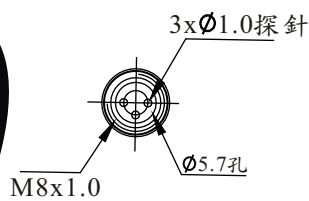
### M83R-2M-PVC



### M624PF2

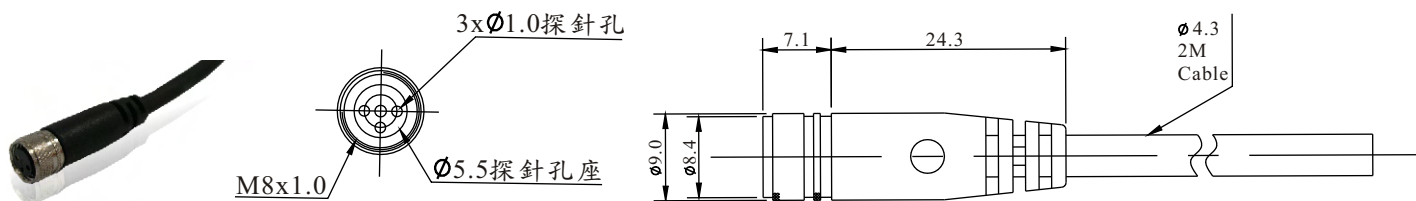


### M83RSW-PUR-1MB

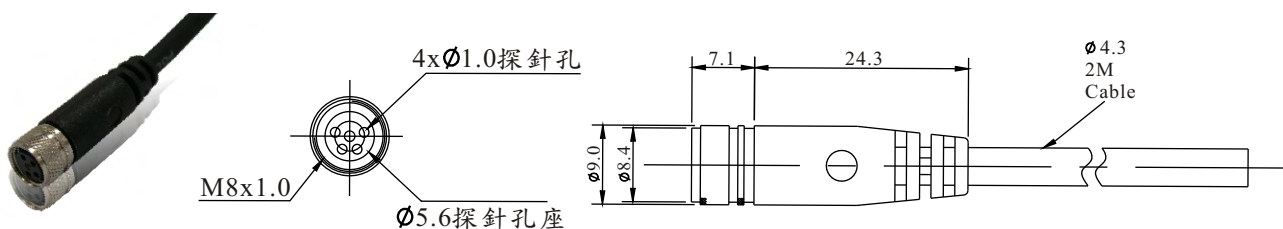


## ● Connectors / 連接線

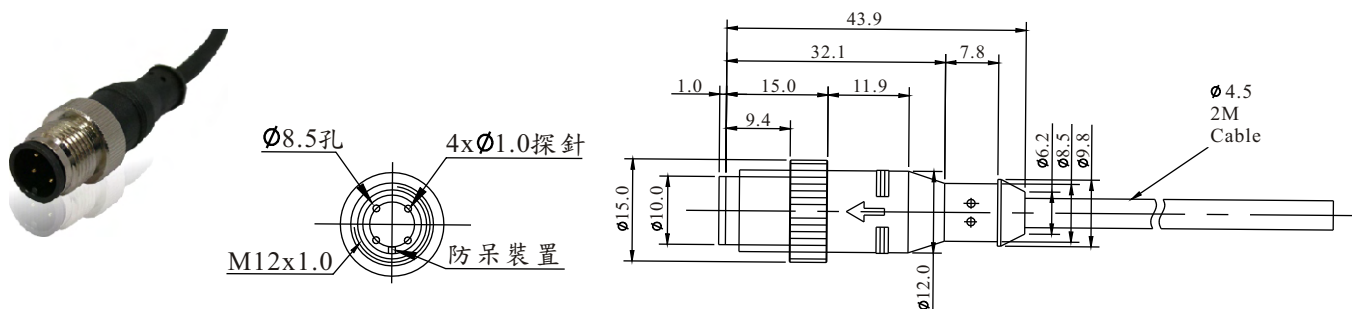
### M83R-2M-PUR-BLK



### M84R-PUR-2M

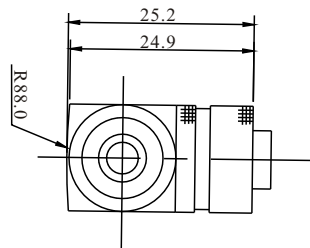
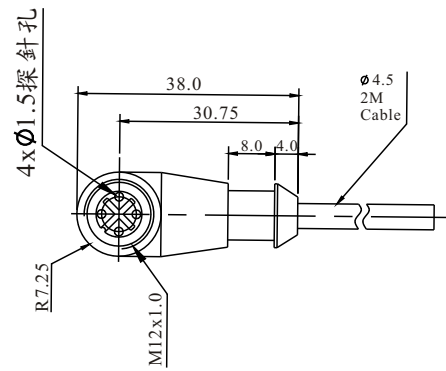
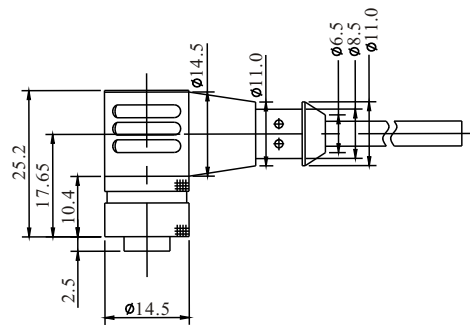


### M124QD-PUR-2M

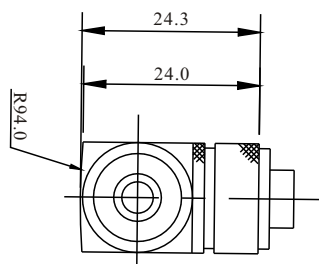
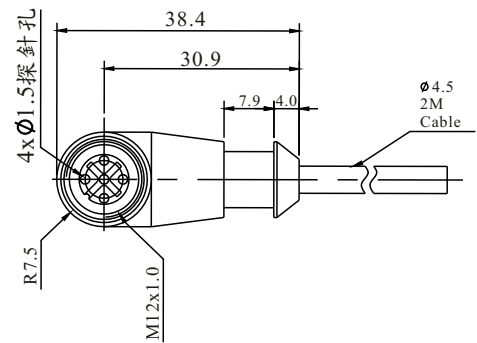
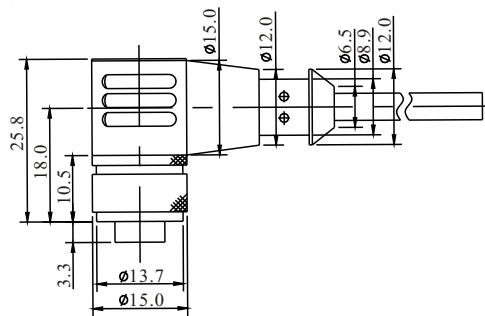


## ● Connectors / 连接線

### M124RL-PUR-2M



### MLPRL-PUR-5M



### EE-1006

