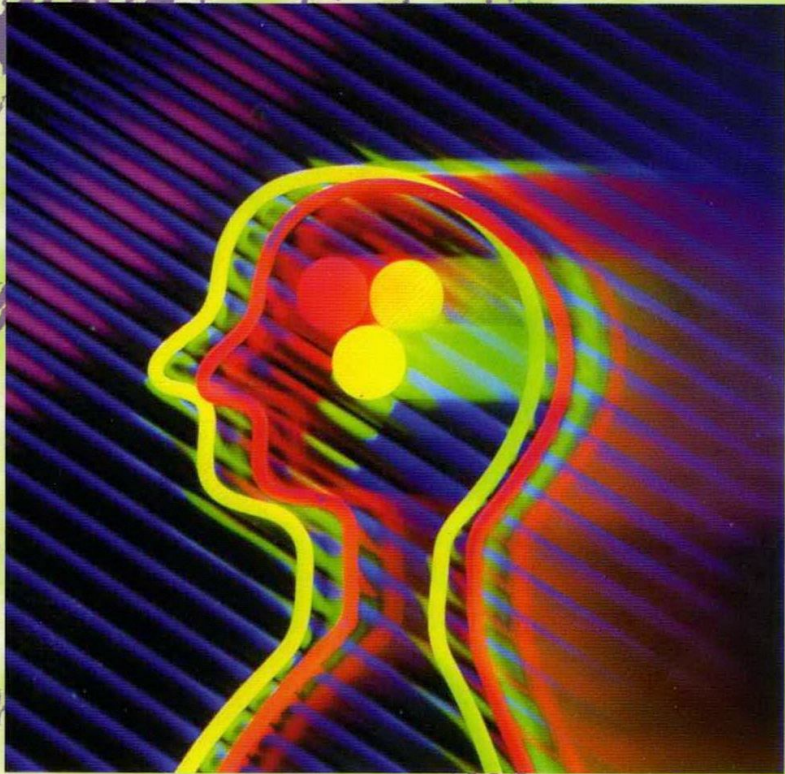


A1-512
521-21

FOTEK

SENSOR

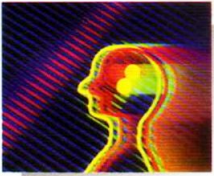


35.4.301
5.1(6.5)
38(51)

陽明電機股份有限公司

18(24) 18(24)

— 自動化控制器材專業製造廠 —



經營理念

- 追求永續經營
- 客戶是永遠的朋友
- 堅持品牌、追求至善
- 不斷研發生產物超所質的產品
- 責任、務實、創新、邁向未來



成立 1985 年

主要產品

- 計時器
- 轉速表
- 電壓表
- 光電開關
- 磁簧開關
- 溫度控制器
- 欠逆相保護器
- 計數器
- 線速表
- 電流表
- 近接開關
- 固態繼電器
- 液位控制器
- 馬達起動器

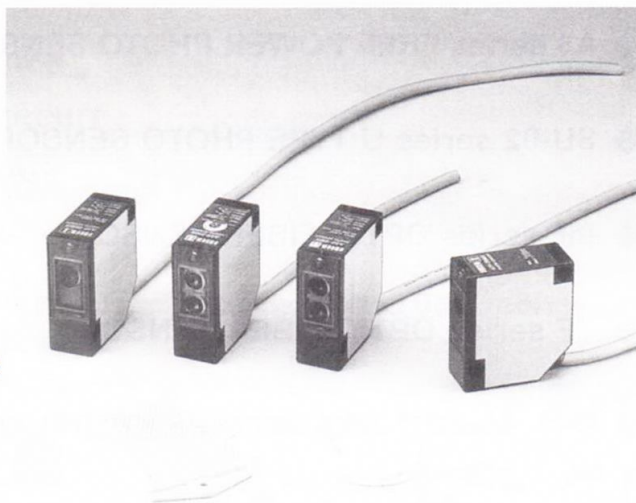
Established 1985

Main product

- Timer
- Tachometer
- Voltage Meter
- Photo Sensor
- Reed Sensor
- Temperature Controller
- Phase Relay
- Counter
- Line Speed Meter
- Current Meter
- Proximity Sensor
- Solid State Relay
- Floatless Level Relay
- Y- Δ Starter

| | |
|--|-------|
| ◆ A3 series FREE POWER PHOTO SENSOR | 1~3 |
| ◆ SU-02 series U TYPE PHOTO SENSOR | 4 |
| ◆ mF series OPTIC FIBER SENSOR | 5~8 |
| ◆ FF series OPTIC FIBER SENSOR | 9~12 |
| ◆ M18 series TUBULAR TYPE PHOTO SENSOR | 13~16 |
| ◆ MS series MINI TYPE PHOTO SENSOR | 17~19 |
| ◆ LT series M30 THRU BEAM TYPE PHOTO SENSOR..... | 20 |
| ◆ MS-02W series AT MARK SENSOR..... | 21~24 |
| ◆ FM series MARK SENSOR | 25~26 |
| ◆ F series STANDARD TYPE PHOTO SENSOR | 27~28 |
| ◆ SU-07 series U TYPE PHOTO SENSOR | 29~30 |
| ◆ FS/AS series AMPLIFIER SEPERATED TYPE PHOTO SENSOR... | 31~32 |
| ◆ PS/PM series INDUCTIVE PROXIMITY SENSOR..... | 33~40 |
| ◆ CP series CAPACITY PROXIMITY SENSOR | 41~42 |
| ◆ FC series MAGNETIC REED SENSOR | 43~44 |
| ◆ C series SENSOR CONTROLLER | 45~46 |
| ◆ TW series DC TWO WIRES INDUCTIVE PROXIMITY SENSOR..... | 47 |
| ◆ CONNECTER | 48 |

- ※ Extensive operating voltage
DC 12~240V or AC 24~240V
- ※ High capacity relay output 3A/250VAC
- ※ High compact structure IP-65
- ※ Multi surge killer circuit effectively protects from surge damage
- ※ B type (Normal close type)
have no stock maybe ,
accepted order to manufacture
Model : A3R-30XB , A3R-1MXB , A3R-2MXB
A3G-2MRB , A3G-4MXB
A3T-10MXB , A3T-20MXB
- ※ Polarityzd Mirror Relylexyre
(A3G-4MRE)Reflex type available

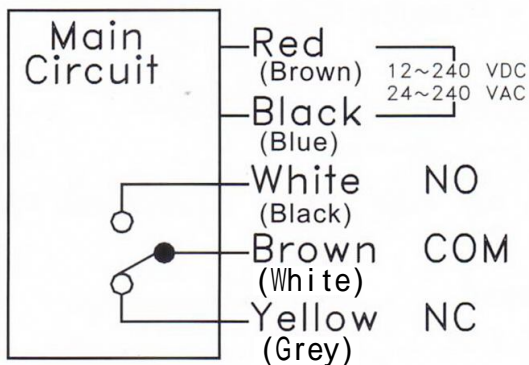


General Specification

| Specification | Data |
|----------------------|--|
| Operating Voltage | 12~240 VDC ; 24~240 VAC , 50/60HZ |
| Current Consumption | 2VA max. |
| Output Method | Relay |
| Contact Current | 5A/250 VAC |
| Response Time | 15ms |
| Illumination | Lamplight < 10,000 Lux. ; Sunlight < 30,000 Lux. |
| Connection Method | 5 Cores / 6.0 φ X 2m |
| Noise Resistance | 1500Vp - p/1 μS |
| Surge Resistance | 2 KV/1 μ S |
| Vibration Resistance | 10~55Hz / 1.5mm , 2 Hour In X.Y.Z. Direction |
| Housing Material | Case : Intensive ABS ; Lens : PC |
| Operating Temp./Hum. | -20 C ~ +60 C ; 35% ~ 85% RH |

Connection diagram

Connection Diagram



Reflex Type

| Type | Standard Type | | | Water-Proof Type | | |
|----------------------|---------------------------------|---------|---------|------------------|----------|----------|
| Model | A3R-30X | A3R-1MX | A3R-2MX | A3R-30XP | A3R-1MXP | A3R-2MXP |
| Sensing Distance | 30cm | 100cm | 200cm | 30cm | 100cm | 200cm |
| Protection Class | IP-65 | | | IP-67 | | |
| Operating Voltage | 12~240 VDC ; 24~240 VAC 50/60Hz | | | | | |
| Output Method | Relay | | | | | |
| Output Status | NO. <Received ON > | | | | | |
| Sensitivity Adjuster | 270° Trimmer | | | | | |
| Emitter | Infrared LED | | | | | |
| Min. Sensible Object | 5.0 φ | | | | | |
| Weight | Appr.145g | | | Appr.155g | | |

Mirror Reflex Type

| Type | Standard Type | | | | Water-Proof Type | |
|----------------------|---------------------------------|----------|----------|--------------|------------------|--------------|
| Model | A3G-2MR | A3G-2MRS | A3G-4MRE | A3G-4MX | A3G-2MRP | A3G-4MXP |
| Sensing Distance | 3m | 2m | 4m | 4m | 3m | 4.5m |
| Emitter | Red LED | Red LED | Red LED | Infrared LED | Red LED | Infrared LED |
| Sensing Adjuster | Trimmer | Without | | | Trimmer | Without |
| Protect Class | IP-65 | | | | IP-67 | |
| Operating Voltage | 12~240 VDC ; 24~240 VAC 50/60Hz | | | | | |
| Output Method | Relay | | | | | |
| Output Status | NO. < Break ON > | | | | | |
| Min. Sensible Object | 2.0 φ | 5.0 φ | | 2.0 φ | 5.0 φ | |
| Weight | Appr.145g | | | | Appr.155g | |

Thru Beam Type

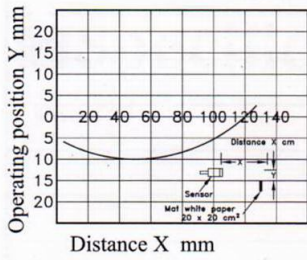
| Type | Standard Type | | | Water-Proof Type | | |
|----------------------|---------------------------------|----------|----------|------------------|-----------|-----------|
| Model | A3T-3MX | A3T-10MX | A3T-20MX | A3T-3MXP | A3T-10MXP | A3T-20MXP |
| Sensing Distance | 3m | 10m | 20m | 3m | 10m | 20m |
| Protection Class | IP-65 | | | IP-67 | | |
| Operating Voltage | 12~240 VDC ; 24~240 VAC 50/60Hz | | | | | |
| Output Method | Relay | | | | | |
| Output Status | NO. < Break ON > | | | | | |
| Emitter | Infrared LED | | | | | |
| Sensitivity Adjuster | Without | | | | | |
| Min. Sensible Object | 2.0 φ | 5.0 φ | 10.0 φ | 2.0 φ | 5.0 φ | 10.0 φ |
| Weight | Appr.285g | | | Appr.305g | | |

Characteristic Curve < Typical >

Diffuse Reflex type

A3R-1MX

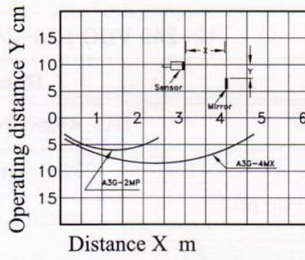
Sensing area



Mirror Reflex type

A3G-2MR/A3G-4MX

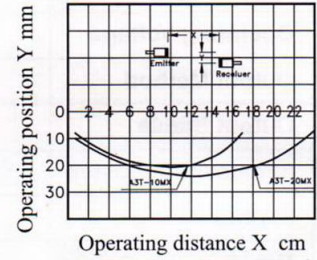
Setting range



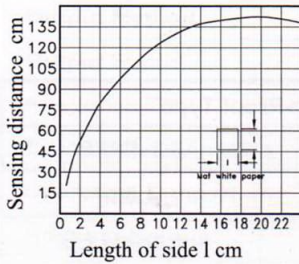
Thru Beam type

A3T-10MX/A3T-20MX

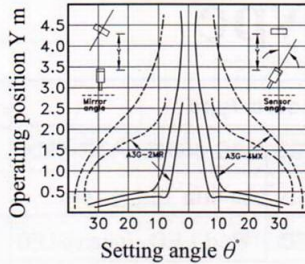
Setting range



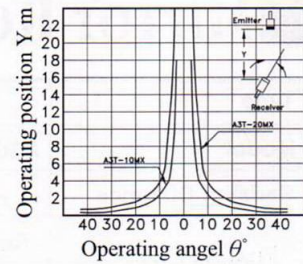
Sensing area



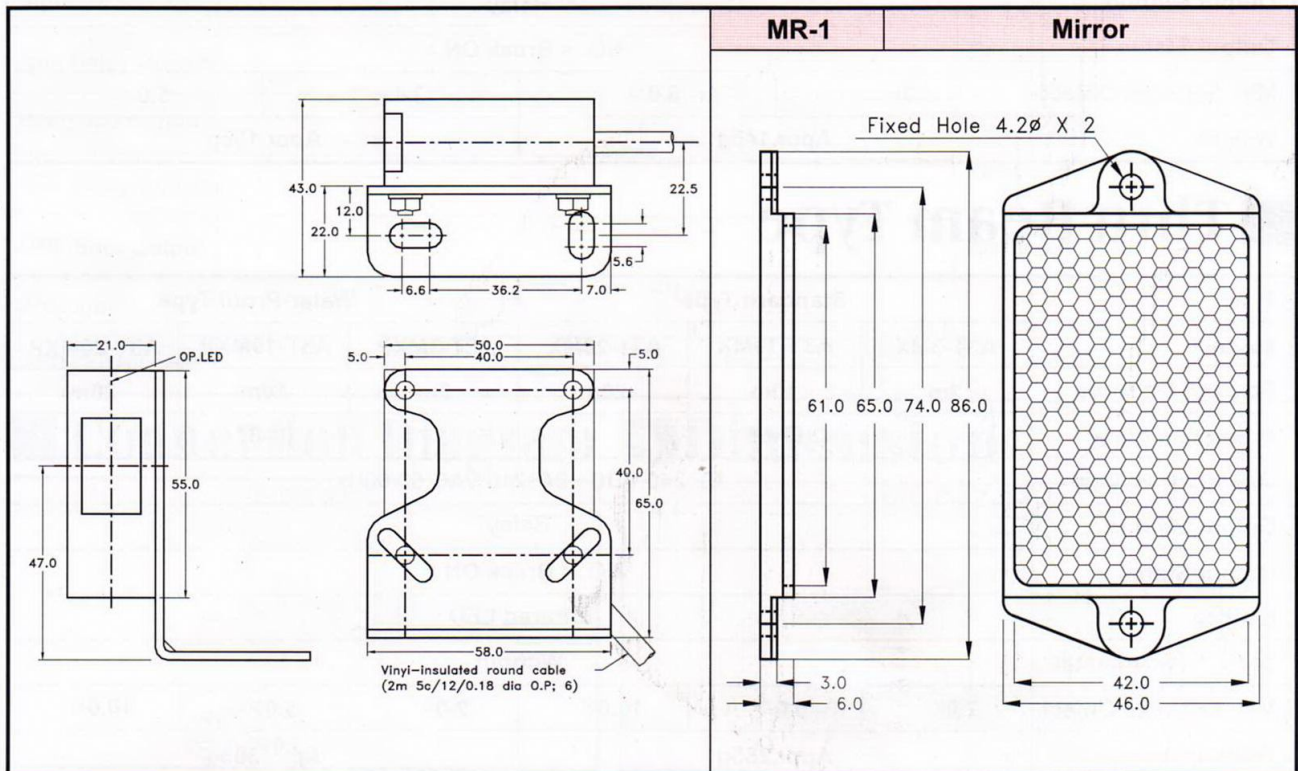
Setting angle



Setting angle



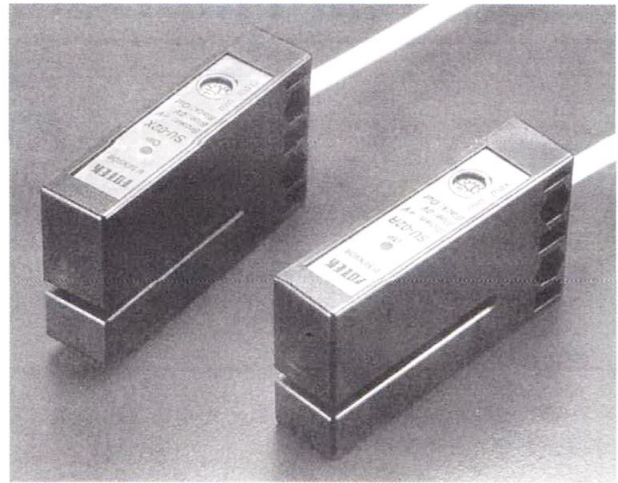
Dimension



HIGH SPEED U TYPE LABEL SENSOR

SU-02
series

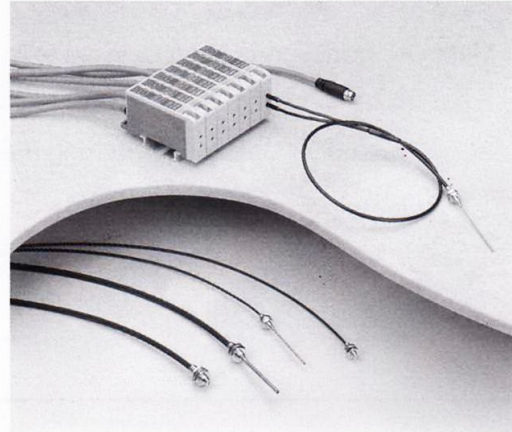
- * High Speed Response : 10 KHZ
- * Label Non - Transparent Tape Detectable.
< SU-02X >
- * Mark ON Transparent Tape Detectable.
< SU-02R >
- * Suiting For Label Machine or Packing Machine.



Specification

| Model | SU-02X | SU-02XP | SU-02R | SU-02RP |
|-------------------------------------|---|---------|--------------------|---------|
| Output Method | NPN | PNP | NPN | PNP |
| Emitter | Infrared LED | | Red LED | |
| Operating Voltage | 10~30 VDC ; Current Consumption 40mA max. | | | |
| Output Current | 150mA max. | | | |
| Output Status | NO | | | |
| Sensible Object | Non - Transparent Object | | Transparent Object | |
| Response Frequency | 10KHZ | | | |
| Illumination | Lamplight < 3,000 Lux ; Sunlight < 5,000 Lux. | | | |
| Connection Method | 3 Cores / 4.0φ X 2m | | | |
| Housing Material | PC Plastics | | | |
| Operating Temp./Hum. | -20 C~+70 C ; 35%~85% RH | | | |
| Sensitivity Adjuster | 270 Trimmer | | | |
| Output Circuit & Connection Diagram | <p>NPN</p> | | <p>PNP</p> | |
| Dimension | | | | |
| | Weight : 65g | | | |

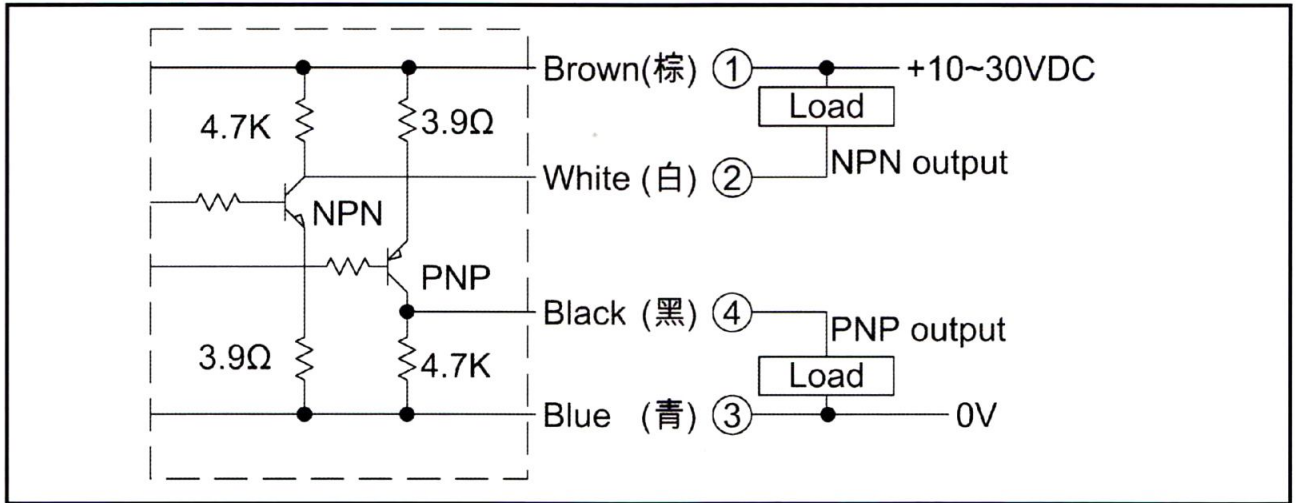
- ※ **High speed response time: 0.2 ms**
高速應答: 0.2 ms
- ※ **AUTOTUNNING of SENSITIVITY & EMITTING STRENGTH**
Easy to finish the OPTIMUM SETTING condition.
感度 & 發射強度自動設定: 容易完成最佳設定狀態
- ※ **OUTPUT OFF DELAY : 0.1s (optional)**
輸出復歸延遲: 0.1s (選用)
- ※ **DARK ON / LIGHT ON CHANGEABLE**
遮光動作 / 入光動作 可切換
- ※ **NPN & PNP TWO OUTPUT**
NPN & PNP 雙輸出



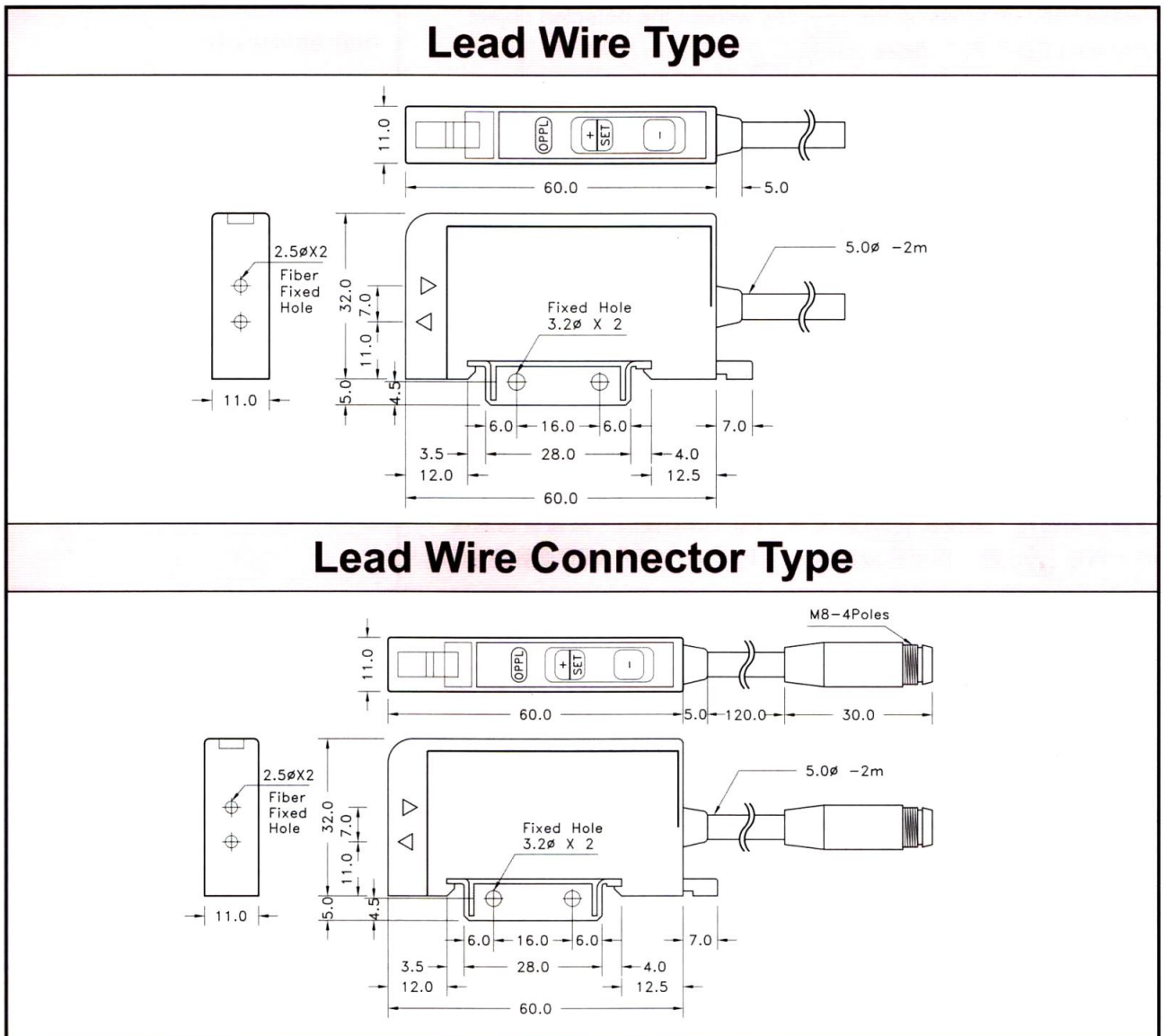
■ SPECIFICATION / 規格

| TYPE 型式 | | LEAD WIRE 出線式 | | LEAD WIRE CONNECTOR 出線頭接式 | |
|---------------------|------|--|---------|------------------------------|------------|
| Model | 型號 | mF-06R | mF-06RT | mF-06R-M8 | mF-06RT-M8 |
| Output OFF delay | 輸出延遲 | Non | 0.1s | Non | 0.1s |
| Response time | 應答時間 | 0.2ms | | | |
| Emitter | 發射光源 | High efficiency Red LED | | | |
| Operating voltage | 工作電壓 | 10-30 VDC; Ripple < 20% of peak to peak | | | |
| Current consumption | 耗電流 | 45 mA max. | | | |
| Output method | 輸出方式 | NPN & PNP two output | | | |
| Output status | 輸出狀態 | NO / NC changeable | | | |
| Output current | 輸出電流 | 150 mA max. | | | |
| Leakage current | 漏電流 | 0.8 mA max. | | | |
| Residual voltage | 殘留電壓 | 0.8 V max. | | | |
| Protection circuit | 保護電路 | SHORT CIRCUIT & POLARITY REVERSED PROTECTION | | | |
| Connection method | 接線方式 | 4 C/5.0Ø X 2m | | M8 Lead wire connector | |
| Housing material | 外殼材質 | Intensive ABS | | | |
| Protection class | 保護等級 | IP-65 | | | |
| Circumstance | 工作環境 | -20 °C ~ + 60 °C ; 35 ~ 85 % RH | | | |

Output Circuit / 輸出迴路




Dimension / 尺寸圖






SETTING OF SENSITIVITY/ 感度設定

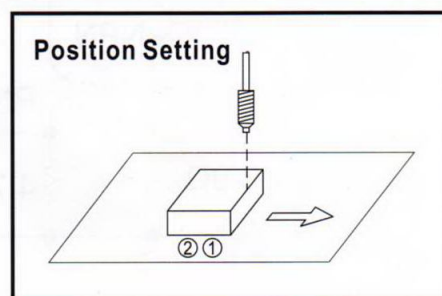
REFLEX TYPE/ 直接反射型

SETTING OF POSITION/ 定位設定


Please keep on pressing the  key with the detected object
Until the LED " PL " flicks slowly.


Then press the  key again to finish the SETTING OF POSITION.
(LED " PL " & " OP " will be turned ON)

有被檢測物時，請按住  鍵直到 " PL " LED 慢閃，然後再按  鍵，即可完成設定。[" PL " & " OP " LED 都會亮起來]





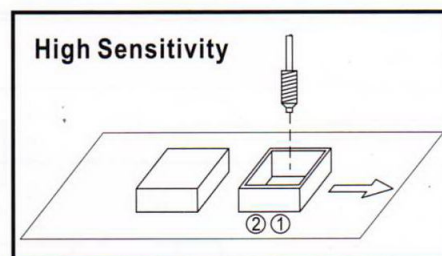
SETTING OF HIGH SENSITIVITY/ 高感度設定

Please keep on pressing the  key without the detected object
Until the LED " PL " flicks slowly,


Then press the  key again to finish the setting.


(LED " PL " will be turned ON, LED " OP " will be turned OFF)

無被檢測物時，請按住  鍵直到 " PL " LED 慢閃，然後再按  鍵，即可完成設定。[" PL " LED 會亮起來， " OP " LED 會熄掉]





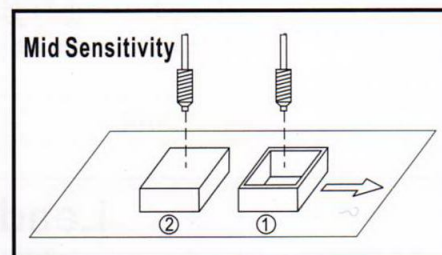
SETTING OF MID SENSITIVITY/ 中感度設定

Please keep on pressing the  key without the detected object
Until the LED " PL " flicks slowly,


Then press the  key again with the detected object


To finish the setting. (LED " PL " & " OP " will be turned ON)

無被檢測物時，請按住  鍵直到 " PL " LED 慢閃，然後有檢測物時，再按  鍵，即可完成設定。[" PL " & " OP " LED 都會亮起來]




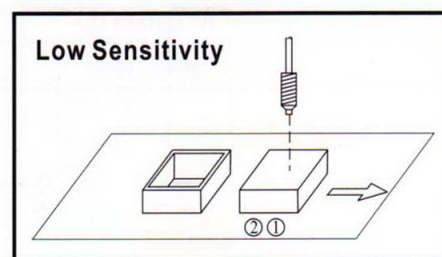
SETTING OF LOW SENSITIVITY/ 低感度設定

Please keep on pressing the  key with the detected object
Until the LED " PL " flicks slowly。

Then press the  key again with the detected object

To finish the setting. (LED " PL " & " OP " will be turned ON)

有被檢測物時，請按住 " SET " 鍵直到 " PL " LED 慢閃，然後再按  鍵，即可完成設定。[" PL " & " OP " LED 都會亮起來]




THRU BEAM TYPE/ 透過型


SETTING OF HIGH SENSITIVITY/高感度設定


Please keep on press the  key without the detected object

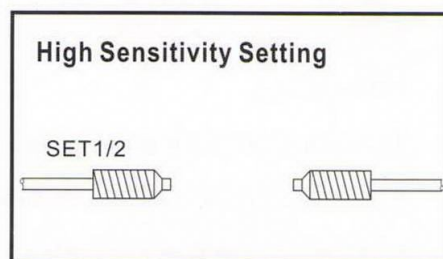
Until the LED " PL " flicks slowly,

Then press the  key again to finish the setting.


(LED " PL " & " OP " will be turned ON)

無被檢測物時，請按住  鍵直到 " PL " LED慢閃，然後再按


 鍵，即可完成設定。[" PL " & " OP " LED都會亮起來]




SETTING OF MID SENSITIVITY/中感度設定


Please keep on press the  key with the detected object

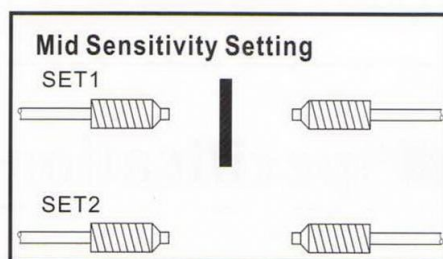
Until the LED " PL " flicks slowly,

Then press the  key again without the detected object

To finish the setting. (LED " PL " & " OP " will be turned ON)

有被檢測物時，請按住  鍵直到 " PL " LED慢閃，移開被檢測物後


再按  鍵，即可完成設定。[" PL " & " OP " LED都會亮起來]



SETTING OF LOW SENSITIVITY/低感度設定


Please keep on press the  key with the detected object


Until the LED " PL " flicks slowly,

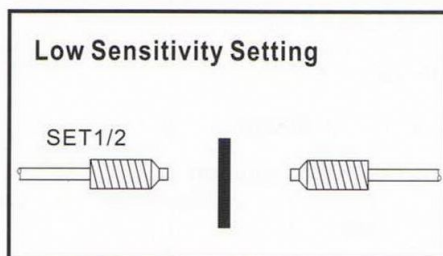
Then press the  key again with the detected object

To finish the setting.

(LED " PL " will be turned ON, LED " OP " will be turned OFF)

有被檢測，物時請按住  鍵直到 " PL " LED慢閃，然後再按


 鍵，即可完成設定。[" PL " LED會亮起來，" OP " LED會熄掉]






REMARKS/備註



1> IF LED " PL " flicks fast after finishing setting, It is the maximal sensitivity condition.

如果完成設定 " PL " LED快閃，表示完成最大感度設定。


2> On the detecting condition if pressing the  key may add the sensitivity or



Press the  key may reduce the sensitivity.


在檢測狀態，按  鍵可增加感度/按  鍵可減弱感度。

3> To change the output status please keep on pressing the  key and pressing the  key

To change the output status.

(If keep on pressing the  over 3 sec will enter to the setting condition)

如果要改變輸出狀態，請按住  鍵然後再按  鍵即可改變輸出狀態。

(注意，不要按  超過3秒，否則會進入感度設定狀態)

4> On the detecting status. LED " PL " is the pilot of stability.

在檢測狀態，" PL " LED是穩定指示燈。

High speed response time 0.1 ms/ON.

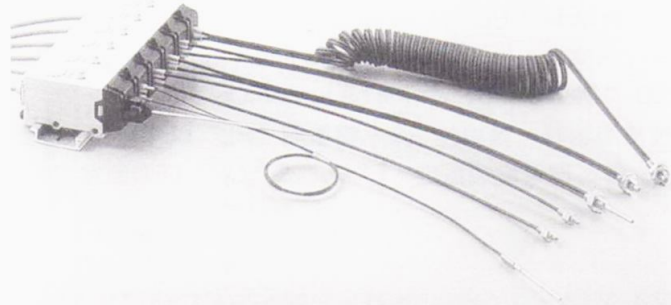
Free cut fiber cable.

DIN rail fixer.

Thermal drift less than $1\mu m^{\circ}C$

Illumination over 10,000 Lux of lamp light.

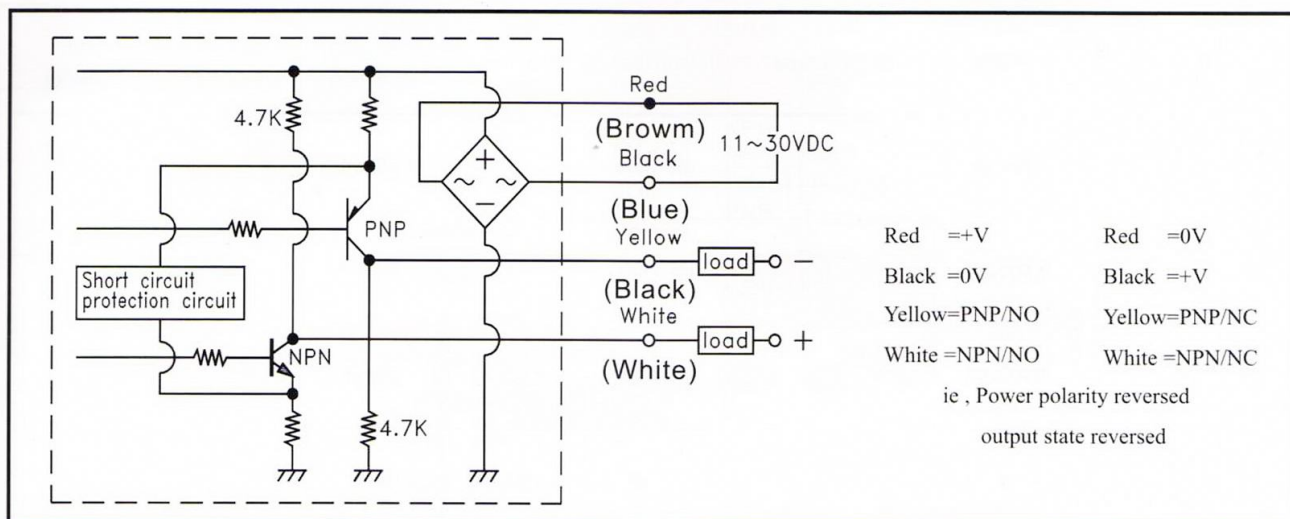
Fiber sensor with high repetitive $5\mu m$.



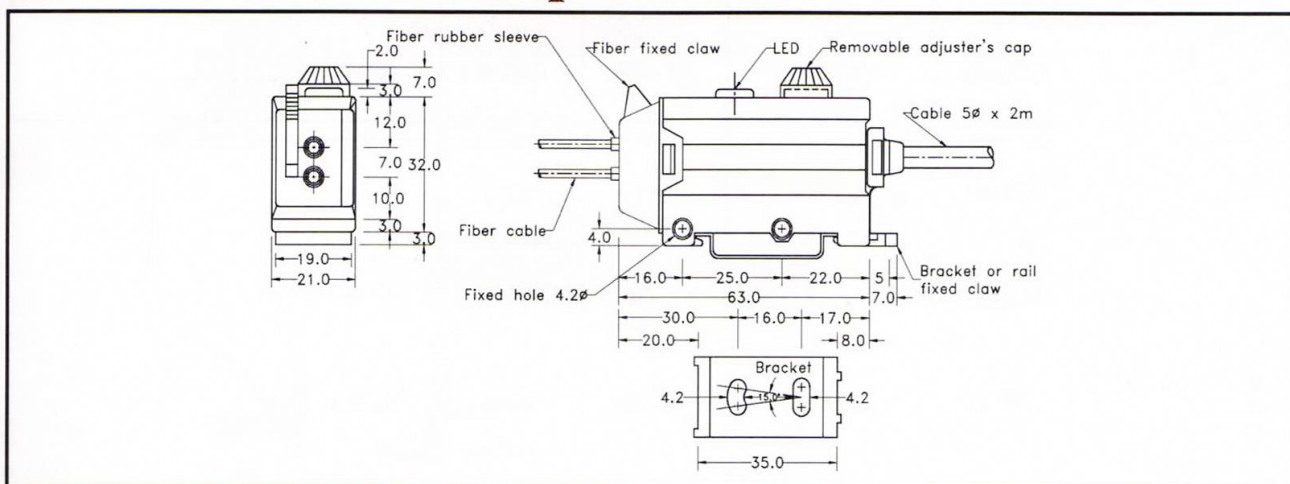
■ Specification < Amplifier Unit >

| Output Method | Standard Type | | Long Distance Type | |
|----------------------|---|--------------|--------------------|--------------|
| | FF-03R | FF-03X | FF-06R | FF-06X |
| Model | FF-03R | FF-03X | FF-06R | FF-06X |
| Emitter | Red LED | Infrared LED | Red LED | Infrared LED |
| Response Time | ON : 0.1ms , OFF : 0.15ms | | | |
| Hysteresis | < 5% of Sensing Distance | | | |
| Operating Voltage | 11~30 VDC ; Ripple < 20% of Peak to Peak | | | |
| Current Consumption | 30 mA max. | | 40 mA max. | |
| Residual Voltage | < 0.8V | | | |
| Leakage Current | < 0.8mA | | | |
| Output Method | NPN & PNP Two Way Output | | | |
| Output Status | NO/NC Changeable | | | |
| Output Current | 150mA max. | | | |
| Protection Method | Short Circuit & Polarity Reversed Protection | | | |
| Connection Method | 4 Cores / 5.0 φ X 2m | | | |
| Protect Class | IP-65 | | | |
| Illumination | Lamp light < 5,000 Lux ; Sunlight < 10,000 Lux. | | | |
| Operating Temp./Hum. | -20°C~+70°C ; 35%~85% RH | | | |
| Housing Material | PBT | | | |
| Weight | Appr. 105g | | | |

Output Circuit & Connection Diagram



Dimension < Amplifier Unit >

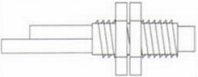
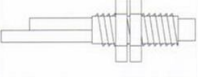
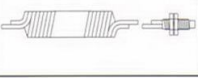
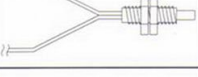
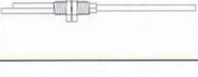
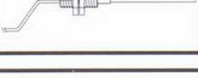
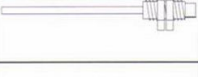
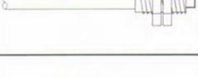






Attachment < Lens >

| Type | Right View Lens | | Aside View Lens | |
|----------------------|-----------------|------------|-----------------|------------|
| Model | FL-1 | | FL-2 | |
| Shape | | | | |
| Suitable fiber unit | FPT-02 | | | |
| Amplifier | FF-03R (X) | FF-06R (X) | FF-03R (X) | FF-06R (X) |
| Sensing distance | 1200mm | 2000mm | 400mm | 600mm |
| Min. sensible object | 1 φ | | | |

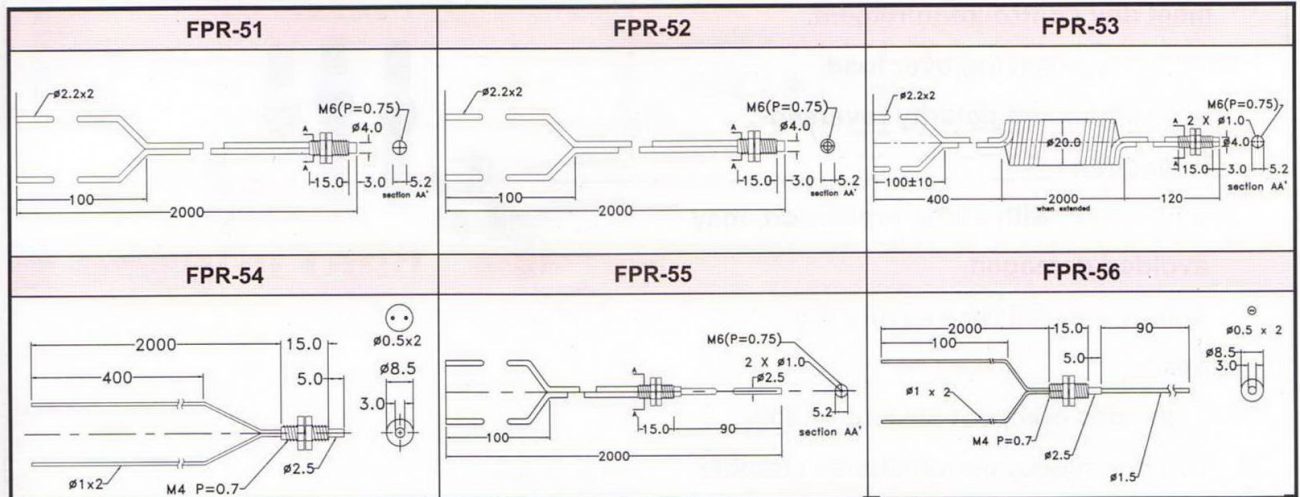
FPR/FPT series

FIBER CABLE UNIT

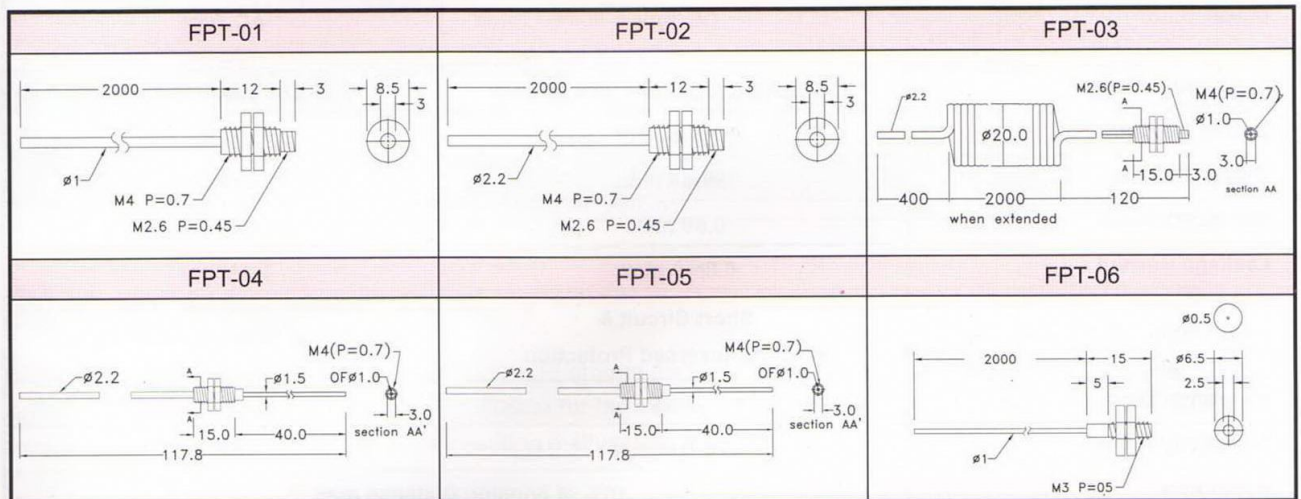
| Type | Mode | Model | Fiber shape | Amplifier | Min. detectable object | Sensing distance | Operating temperature | Fiber material |
|----------------|--------------------------------|--------|---|-----------|------------------------|------------------|-----------------------|----------------|
| Reflex Type | M6 1.0 φ X 2 | FPR-51 |  | mF-06R | 0.03 φ | 65mm | -40°C +70°C | Poly-plasctic |
| | M6 1.0 φ X 1 0.25 φ X 15 | FPR-52 |  | mF-06R | 0.03 φ | 65mm | | |
| | M6 1.0 φ X 2 | FPR-53 |  | mF-06R | 0.03 φ | 30mm | | |
| | M4 0.5 φ X 2 | FPR-54 |  | mF-06R | 0.03 φ | 45mm | | |
| | M6 1.0 φ X 2 | FPR-55 |  | mF-06R | 0.03 φ | 65mm | | |
| | M4 0.5 φ X 2 | FPR-56 |  | mF-06R | 0.03 φ | 45mm | | |
| Thru Beam Type | M4 0.5 φ X 1 | FPT-01 |  | mF-06R | 0.5 φ | 100mm | -40°C +70°C | Poly-plasctic |
| | M4 1.0 φ X 1 | FPT-02 |  | mF-06R | 0.5 φ | 300mm | | |
| | M4 1.0 φ X 1 | FPT-03 |  | mF-06R | 0.5 φ | 100mm | | |
| | M4 1.0 φ X 1 | FPT-04 |  | mF-06R | 0.5 φ | 250mm | | |
| | M4 0.5 φ X 1 | FPT-05 |  | mF-06R | 0.5 φ | 250mm | | |
| | M3 0.5 φ X 1 | FPT-06 |  | mF-06R | 0.5 φ | 150mm | | |

Dimension

Reflex Type



Thru Beam Type



- ※ All type with sensitivity adjuster, easy to get the best sensing condition.
- ※ All DC type with NPN & PNP output, meet any control requirement.
- ※ All DC type having over load protection, and polarity reversed-Protection.
- ※ All AC type with surge protection, may avoided damaged.
- ※ Unique vertical type saving mounted space.
- ※ High solid compact structure, IP66 applied in poor circumstance suitable.



■ Specification

| Power Type | DC Type | AC Type |
|----------------------|--|---------------------------------|
| Operating Voltage | 10 ~ 30 VDC , Ripple < 20% of Vp-p | 90 ~ 250 VAC , 50 / 60 Hz |
| Output Method | NPN & PNP | SCR |
| Output Current | 150mA max. | 100mA max. |
| Residual Voltage | 0.8V max. | |
| Leakage Current | 0.8mA max. | 2mA max. |
| Protection Circuit | Short Circuit & Polarity Reversed Protection | Surge Protection Circuit |
| Response Time | 2ms | 10ms |
| Sensitivity Adjuster | 270° Trimmer | Non |
| Hysteresis | 10% of Sensing Distance max. | |
| Illumination | Lamplight < 10,000 Lux. ; Sunlight < 30,000 Lux. | |
| Connection Method | Lead Wire : 4 Cores / 5.0φ X 2m | Lead Wire : 3 Cores / 4.2φ X 2m |
| | Plug : 4 Pins | Plug : 3 Pins |
| Housing Color | Grey | Blue |
| Housing Material | Intensive Polyimid | |
| Operating Temp./Hum. | -20°C ~ +60°C ; 35% ~ 95% RH | |
| Protection Class | IP-66 | |
| Weight | | |

■ Reflex Type

| Type | Model | Output Status | Sensing Direction | Sensing Distance | Operating Voltage | Current Consumption | Output Method | Sensitivity Adjuster |
|-----------|----------------|---------------|-------------------|------------------|----------------------|---------------------|-------------------------|----------------------|
| Lead Wire | CDR-10X | NO | Horizontal | 10cm | 10~30VDC | 25mA max. | NPN & PNP 150mA max. | 270° Trimmer |
| | CDR-10XB | NC | | 30cm | | | | |
| | CDR-30X | NO | | | | | | |
| | CDR-30XB | NC | | | | | | |
| | CDR-30X-V | NO | Vertical | 30cm | | | | |
| | CDR-30XB-V | NC | | | | | | |
| | CAR-10X | NO | Horizontal | 10cm | 90~250VAC 50/60Hz | 0.5VA max. | SCR 100mA | 270° Trimmer |
| | CAR-10XB | NC | | | | | | |
| | CAR-10X-V | NO | Vertical | 10cm | | | | |
| | CAR-10XB-V | NC | | | | | | |
| Connector | CDR-10X-M12 | NO | Horizontal | 10cm | 10~30VDC | 25mA max. | NPN & PNP 150mA max. | 270° Trimmer |
| | CDR-10XB-M12 | NC | | 30cm | | | | |
| | CDR-30X-M12 | NO | | | | | | |
| | CDR-30XB-M12 | NC | | | | | | |
| | CDR-30X-V-M12 | NO | Vertical | 30cm | | | | |
| | CDR-30XB-V-M12 | NC | | | | | | |

■ Mirror Reflex Type

| Type | Model | Output Status | Sensing Direction | Sensing Distance | Operating Voltage | Current Consumption | Output Method | Sensitivity Adjuster |
|-----------|----------------|---------------|-------------------|------------------|-------------------|---------------------|-------------------------|----------------------|
| Lead Wire | CDM-1MR | NO | Horizontal | 0.1m~1.6m | 10~30VDC | 20mA max. | NPN & PNP 150mA max. | 270° Trimmer |
| | CDM-1MRB | NC | | 0.1m~2.5m | | | | |
| | CDM-2MX | NO | | | | | | |
| | CDM-2MXB | NC | | | | | | |
| | CDM-2MX-V | NO | Vertical | 0.1m~2.0m | | | | |
| | CDM-2MXB-V | NC | | | | | | |
| | CAM-2MX | NO | Horizontal | 0.1m~2.0m | 90~250VAC | 0.5VA max. | SCR 100mA | 270° Trimmer |
| | CAM-2MXB | NC | | | | | | |
| | CAM-2MX-V | NO | Vertical | 0.1m~2.0m | | | | |
| | CAM-2MXB-V | NC | | | | | | |
| Connector | CDM-2MX-M12 | NO | Horizontal | 0.1m~2.5m | 10~30VDC | 20mA max. | NPN & PNP 150mA max. | 270° Trimmer |
| | CDM-2MXB-M12 | NC | | | | | | |
| | CDM-2MX-V-M12 | NO | Vertical | 0.1m~2.0m | | | | |
| | CDM-2MXB-V-M12 | NC | | | | | | |

Thru Beam Type

| Type | Model | Output Status | Sensing Direction | Sensing Distance | Operating Voltage | Current Consumption | Output Method | Sensitivity Adjuster |
|-----------|----------------|---------------|-------------------|------------------|-------------------|---------------------|--------------------|----------------------|
| Lead Wire | CDT-10MX | NO | Horizontal | 10m | 10~30VDC | P<20mA R<25mA | NPN & PNP 150mA | 270° Trimmer |
| | CDT-10MXB | NC | | | | | | |
| | CDT-6MX-V | NO | Vertical | 6m | | | | |
| | CDT-6MXB-V | NC | | | | | | |
| Connector | CDT-10MX-M12 | NO | Horizontal | 10m | 10~30VDC | P<20mA R<25mA | NPN & PNP 150mA | 270° Trimmer |
| | CDT-10MXB-M12 | NC | | | | | | |
| | CDT-6MX-V-M12 | NO | Vertical | 6m | | | | |
| | CDT-6MXB-V-M12 | NC | | | | | | |

Guiding of Model

Ex. CDR-30X-B-V-M12

① ② ③ ④ ⑤ ⑥

① Model

CDR=DC Reflex Type
 CAR=AC Reflex Type
 CDM=DC Mirror Reflex Type
 CAM=AC Mirror Reflex Type
 CDT=DC Thru Beam Type

② Sensing Distance

30=30cm
 2M=2m
 10M=10m

③ Light Source

X=Infrared LED
 R=Red LED

④ Output Status

B=NC Type
 Non=NO Type

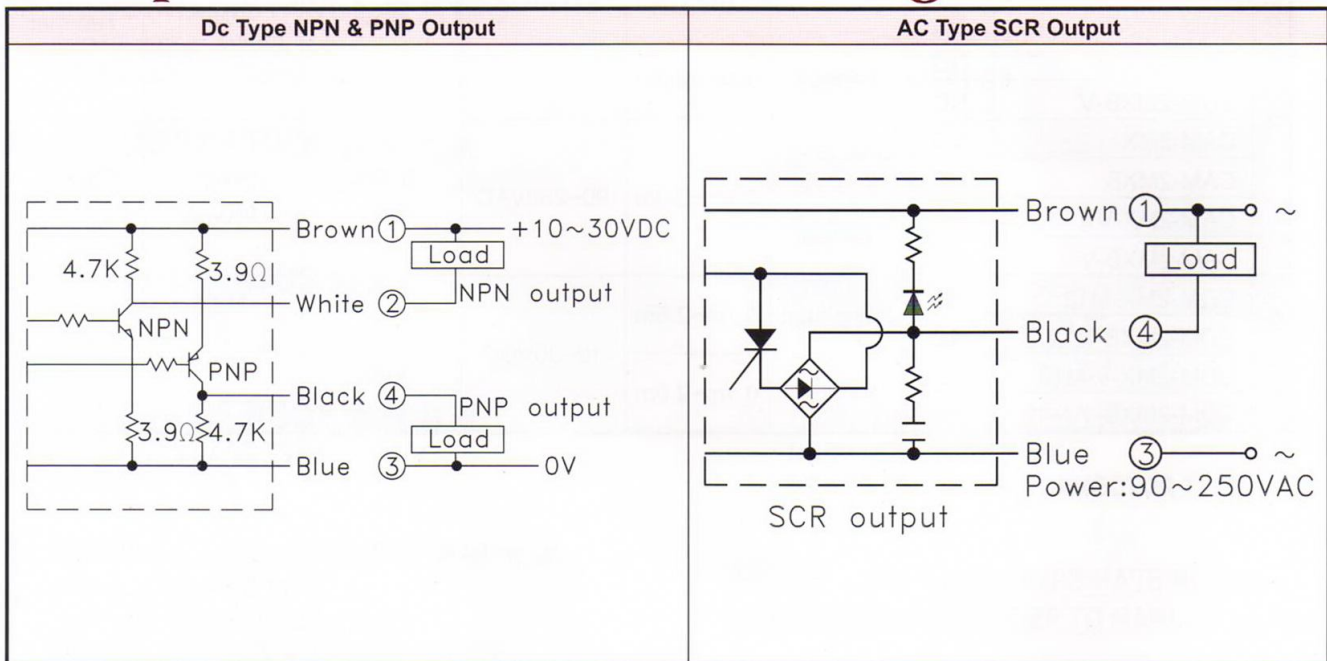
⑤ Sensing Direction

V=Vertical Type
 Non=Horizontal Type

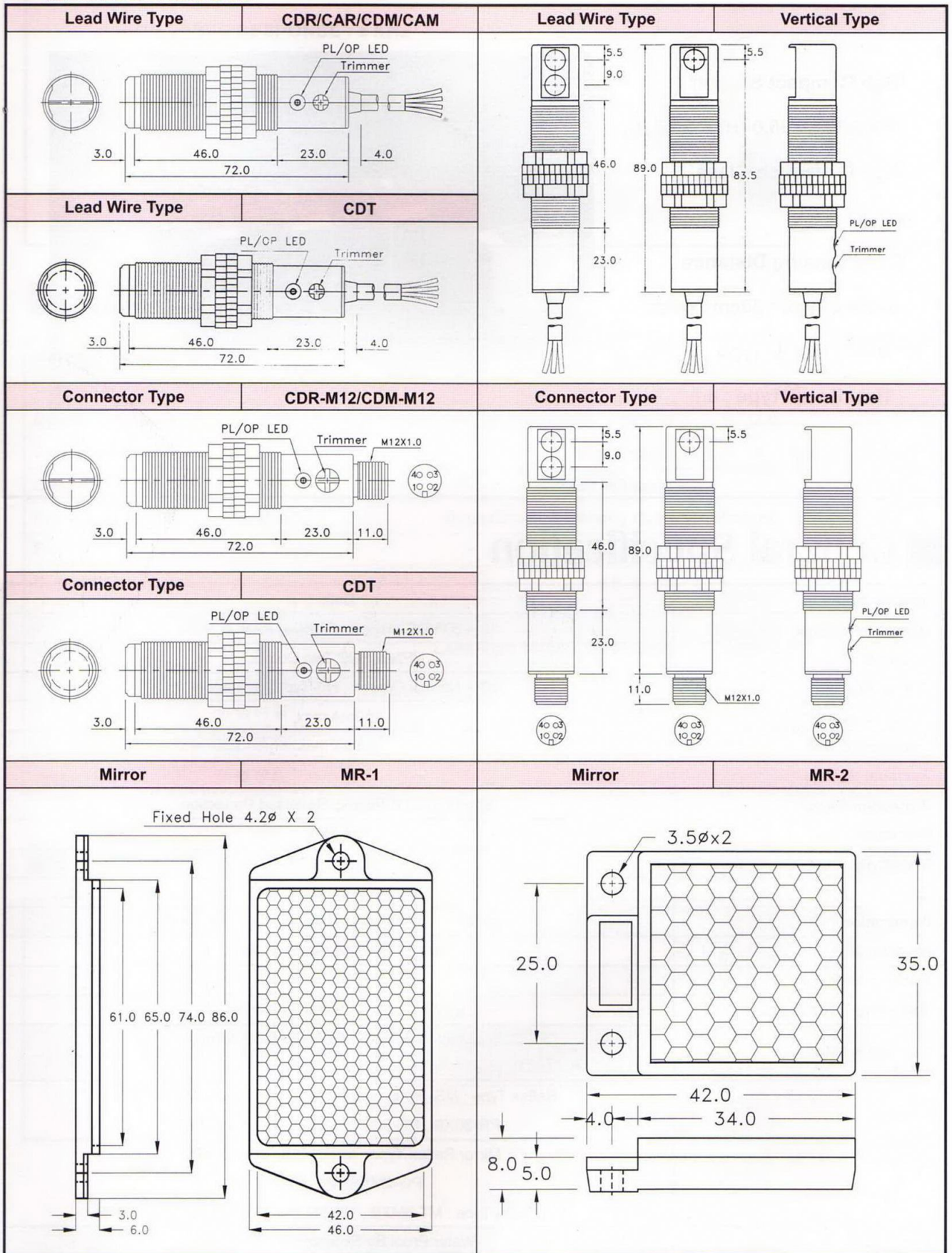
⑥ Connector Type

M12= M12x1.0

Output Circuit & Connection Diagram



Dimension



High Compact Structure

- 13.5 (W) X 25.0 (H) X 30.0 (L)

High Protection Class

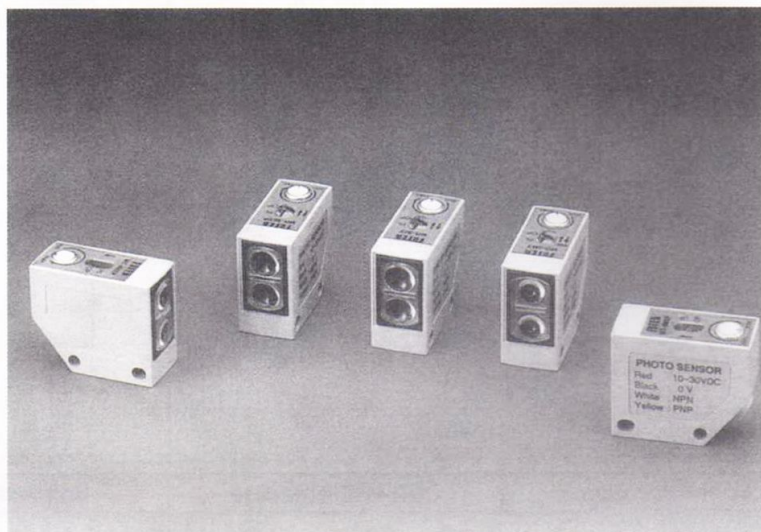
- IP-67

Long Sensing Distance

- Reflex Type : 30cm , 60cm

- Mirror Reflex Type : 2m

- Thru Beam Type : 6m



General Specification

| Specification | Data |
|----------------------|--|
| Operating Voltage | 10 ~ 30 VDC ; Ripple < 20% of Peak to Peak |
| Output Method | NPN & PNP Two Output |
| Output Status | NO < Normal Open > , NC Type Available Also |
| Output Current | 150mA max. |
| Leakage Current | 0.8mA max. |
| Residual Voltage | 0.6V max. |
| Protection Circuit | Short Circuit & Polarity Reversed Protection |
| Response Time | 2ms Max. |
| Sensitivity Adjuster | 270° Trimmer |
| Emitter | Infrared LED |
| Illumination | Sunlight < 10,000 Lux. ; Lamplight < 5,000 Lux. |
| Hysteresis | 10% of Sensing Distance Max. |
| Housing Material | Case : PBT ; Lens : PC |
| Operating Temp./Hum. | -20°C ~ +60°C ; 35% ~ 85% RH |
| Connection Method | Lead Wire Type : 4 Cores / 5.0φ X 2m Plug Type : 4 Pins |
| Model of NC Type | Reflex Type : MR-30XB , MR-30XPB , MR-60XB , MR-60XPB PR-30XB , PR-30XPB , PR-60XB , PR-MXPB Mirror Reflex Type : MG-2MXB , MG-2MXPB , PG-2MXB , PG-2MXPB Thru Beam Type : MT-6MXB , MT-6MXPB , PT-6MXB , PT-6MXPB |
| Remarks | Water Proof By Expose Filled for IP-67 |

Reflex Type

| Type | Lead Wire Type | | | | Plug Type | | | |
|---------------------|--|---------|--------|---------|-----------|---------|--------|---------|
| Model | MR-30X | MR-30XP | MR-60X | MR-60XP | PR-30X | PR-30XP | PR-60X | PR-60XP |
| Protection Class | IP-65 | IP-67 | IP-65 | IP-67 | IP-65 | IP-67 | IP-65 | IP-67 |
| Sensing Distance | 30cm | | 60cm | | 30cm | | 60cm | |
| Operating Voltage | 10~30 VDC ; Ripple < 20% Peak to Peak | | | | | | | |
| Current Consumption | 30mA max. | | | | | | | |
| Output Method | NPN & PNP Two Way Output | | | | | | | |
| Output Status | NO < Normal Open > | | | | | | | |
| Output Current | 150mA max. | | | | | | | |
| Emitter | Infrared LED | | | | | | | |
| Protection Circuit | Short Circuit & Polarity Reversed Protection | | | | | | | |
| Weight < Appr. > | 78g | 84g | 78g | 84g | 12g | 18g | 12g | 18g |

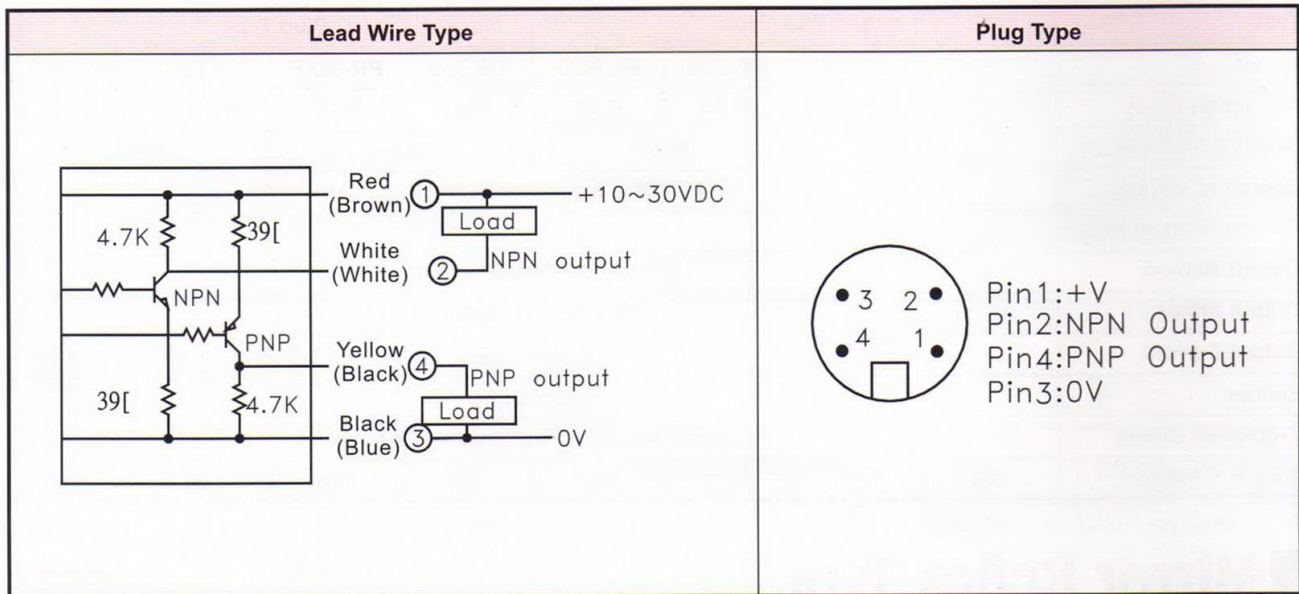
Mirror Reflex Type

| Type | Lead Wire Type | | Plug Type | |
|---------------------|--|---------|-----------|---------|
| Model | MG-2MX | MG-2MXP | PG-2MX | PG-2MXP |
| Protection Class | IP-65 | IP-67 | IP-65 | IP-67 |
| Sensing Distance | 2m | | | |
| Operating Voltage | 10~30 VDC ; Ripple < 20% Peak to Peak | | | |
| Current Consumption | 30mA max. | | | |
| Output Method | NPN & PNP Two Way Output | | | |
| Output Status | NO < Normal Open > | | | |
| Output Current | 150mA max. | | | |
| Emitter | Infrared LED | | | |
| Protection Circuit | Short Circuit & Polarity Reversed Protection | | | |
| Weight < Appr. > | 78g | 84g | 12g | 18g |

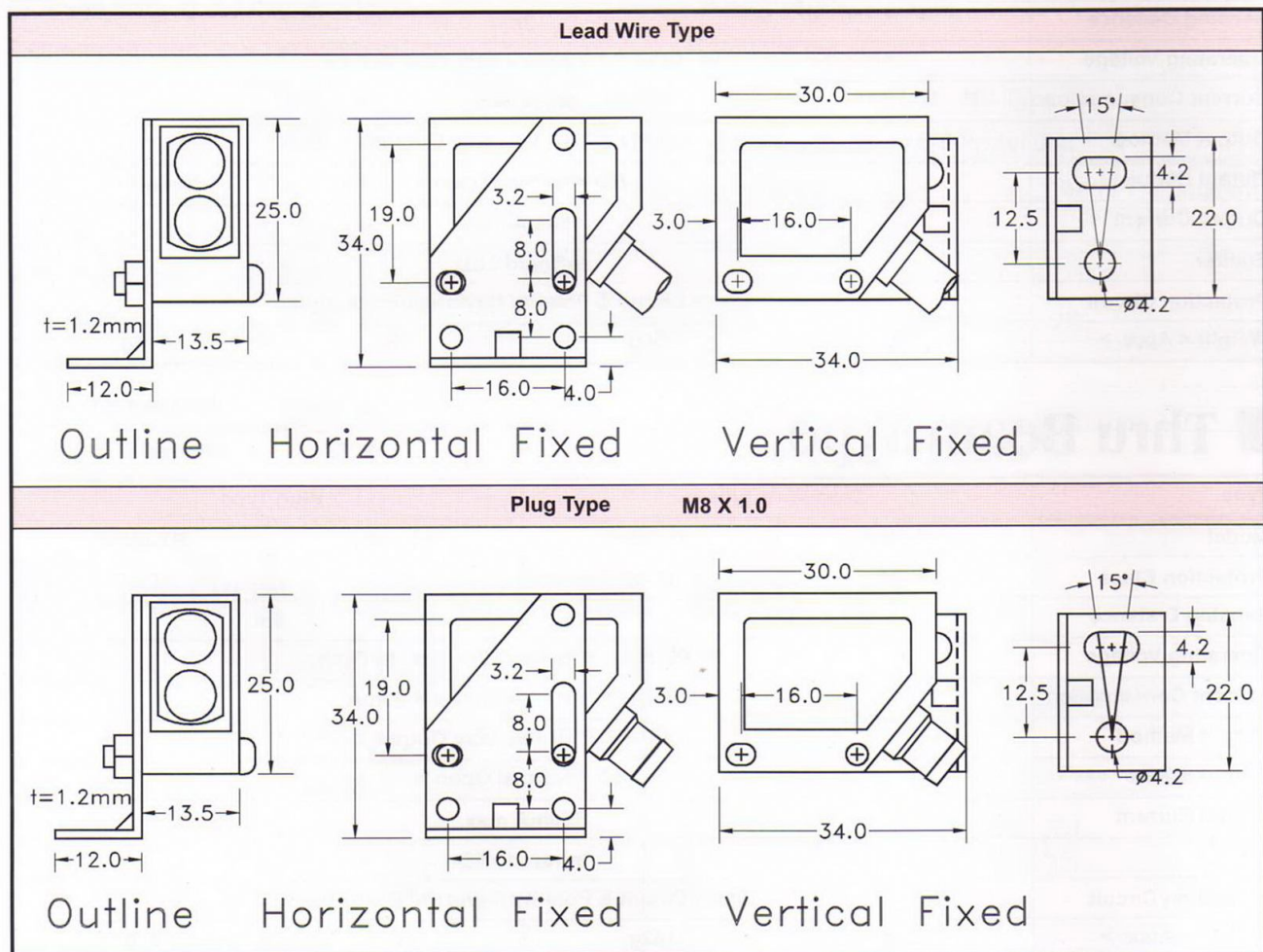
Thru Beam Type

| Type | Lead Wire Type | | Plug Type | |
|---------------------|--|---------|-----------|---------|
| Model | MT-6MX | MT-6MXP | PT-6MX | PT-6MXP |
| Protection Class | IP-65 | IP-67 | IP-65 | IP-67 |
| Sensing Distance | 6m | | 6m | |
| Operating Voltage | 10~30 VDC ; Ripple < 20% Peak to Peak | | | |
| Current Consumption | Emitter < 20mA , Receiver < 25mA | | | |
| Output Method | NPN & PNP Two Way Output | | | |
| Output Status | NO < Normal Open > | | | |
| Output Current | 150mA max. | | | |
| Emitter | Infrared LED | | | |
| Protection Circuit | Short Circuit & Polarity Reversed Protection | | | |
| Weight < Appr. > | 180g | 162g | 20g | 32g |

Output Circuit & Connection Diagram



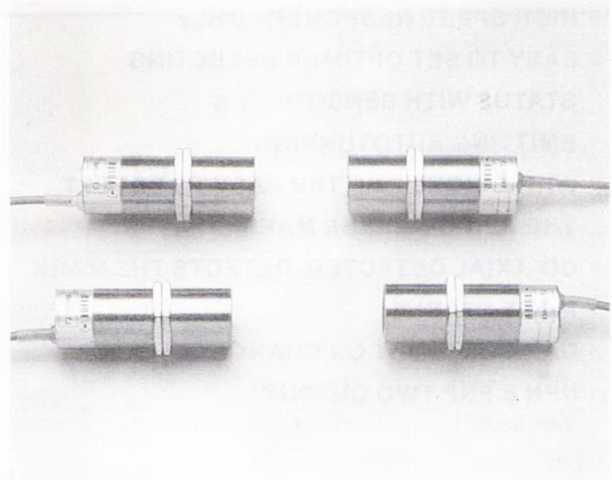
Dimension



M30 LONG DISTANCE THRU BEAM TYPE PHOTO SENSOR

LT series

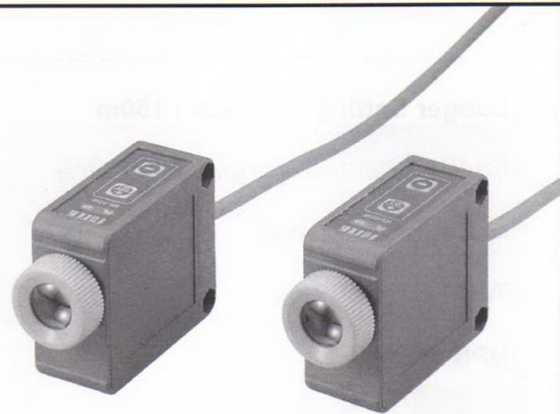
- ※ Longer Setting Distance : 150m
- ※ Enough Setting Margin : Over 50%
of Setting Distance.
- ※ Two Way Output :
NPN & PNP



Specification

| Model | LT-40MX | LT-80MX | LT-150MX |
|-----------------------------|--|------------------------|----------|
| Setting Distance | 40m+50% | 80m+50% | 150m+50% |
| Min. Sensible Object | 10.0 φ | 30.0 φ | 50.0 φ |
| Sensitivity Adjuster | Non | | |
| Hysteresis | < 20% of Setting Distance | | |
| Response Time | 5ms | 50ms | |
| Operating Voltage | 10~30VDC ; Ripple < 20% of Peak to Peak | | |
| Current Consumption | Emitter < 30mA ; Receiver < 20mA | | |
| Output Method | NPN & PNP Two Way Output | | |
| Light Source | Infrared LED | | |
| Cable | Emitter : 2 Cores / 4.2 φ X 2m ; Receiver : 4 Cores / 5.0 φ X 2m | | |
| Operating Temp./Hum. | -20°C ~+60°C ; 35% ~ 95% RH | | |
| Housing Material | Cu Plated Ni | | |
| Output Circuit & Connection | <p>Emitter</p> | <p>Receiver</p> | |
| Dimension | | | |

- ※ HIGH SPEED RESPONSE : 5 KHz
- ※ EASY TO SET OPTIMUM DETECTING STATUS WITH SENSITIVITY & EMITTING AUTOTUNNING
- ※ WHITE LIGHT EMITTER EASY TO DETECT THE RED OR GREEN MARK
- ※ CO-AXIAL DETECTOR DETECTS THE MARK MORE STABLE
- ※ DARK ON/LIGHT ON CHANGEABLE
- ※ NPN & PNP TWO OUTPUT






■ Specification


| Type | 型 式 | LEAD WIRE | | M12 CONNECTER | |
|---------------------|------|--|----------|---------------|--------------|
| Model | 型 號 | MS-02W | MS-02W-H | MS-02W-M12 | MS-02W-H-M12 |
| Response time | 應答時間 | 0.2 mS | 0.1 mS | 0.2 mS | 0.1 mS |
| Setting distance | 設定距離 | 25.0±2.0 mm | | | |
| Emitter | 發射光源 | White Light Led | | | |
| Light spot | 光 點 | 2.0 φ | | | |
| Operating voltage | 工作電壓 | 10-30 VDC; Ripple < 20% of peak to peak | | | |
| Current consumption | 消耗電流 | 40 mA max. | | | |
| Output method | 輸出方式 | NPN & PNP two output | | | |
| Output status | 輸出狀態 | NO or NC Changeable | | | |
| Output current | 輸出電流 | 150 mA max. | | | |
| Leakage current | 漏電流 | 0.8 mA max. | | | |
| Residual voltage | 殘留電壓 | 0.8 V max. | | | |
| Protection circuit | 保護電路 | Short Circuit & Polarity Reversed Protection | | | |
| Illumination | 耐外亂光 | Lamplight < 5,000Lux; Sunlight < 10,000Lux | | | |
| Connection method | 接線方式 | 4C/5.0 φ × 2m | | M12 x 1.0 | |
| Housing material | 外殼材質 | Intensive PBT | | | |
| Protection class | 保護等級 | Ip-65 | | | |
| Circumstance | 工作環境 | -20°C ~ + 60°C ; 35% ~ 85 % RH | | | |

■ Setting of Sensitivity / 感度設定

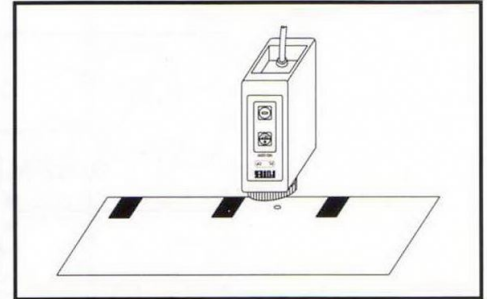
Setting On Background/背景動作設定

After PRESSING The  Key , The LED " PL " Flicks Slowly ,
Then Please Press The  Key to Finish The Setting Of Sensitivity
< LED " PL " & " OP " Turn On >



按住  鍵 3 秒後 , " PL " LED 會慢閃


再按  鍵即可完成感度設定


< " PL " 及 " OP " LED 都會亮著 >



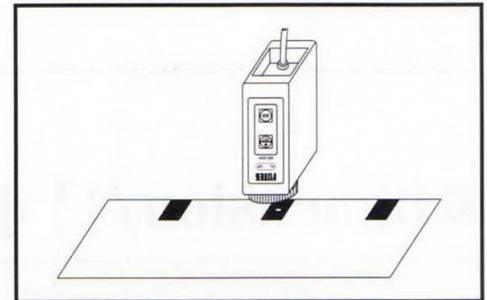
Setting On Mark Point/標誌點動作設定

After PRESSING The  Key , The LED " PL " Flicks Slowly ,
Then Please Press The  Key to Finish The Setting Of Sensitivity
< LED " PL " Turn On , LED " OP " Off >


按住  鍵 3 秒後 , " PL " LED 會慢閃



再按  鍵即可完成感度設定


< " PL " LED 亮著 " OP " LED 熄滅 >





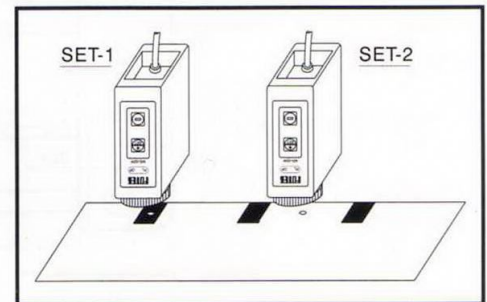
Setting On Two Position/兩點設定

SET 1 : On the Mark Point , After Pressing The  Key 3 Sec. ,
The LED " PL " Flicks Slowly

SET 2 : On the Background ,
High Sensitivity To Press The  Key
Low Sensitivity To Press The  Key

SET 1 : 再標誌點上按  鍵 3 秒 , " PL " LED 會慢閃


SET 2 : 在背景上高感度設定按  鍵 , 低感度設定按  鍵






Remarks/備註

1 > If LED " PL " Flicks Fastly After Finishing Setting , It is The Maximun Sensitivity Condition.


完成設定後 " PL " LED 快閃 , 表示設定成最大感度狀態



2 > On The Detecting Condition , If Pressing The  Key May Add The Sensitivity


Or Pressing The  Key May Reduce The Sensitivity

在檢測狀態 , 按  鍵可以增加感度 , 按  鍵可以減弱感度

3 > To Change The Output Status , Please Keep On Pressing The  Key And Pressing The  Key To Change The Output Status .

< If Keep On Pressing The  Key Over 3 Sec. Will Enter To The Setting Condition >

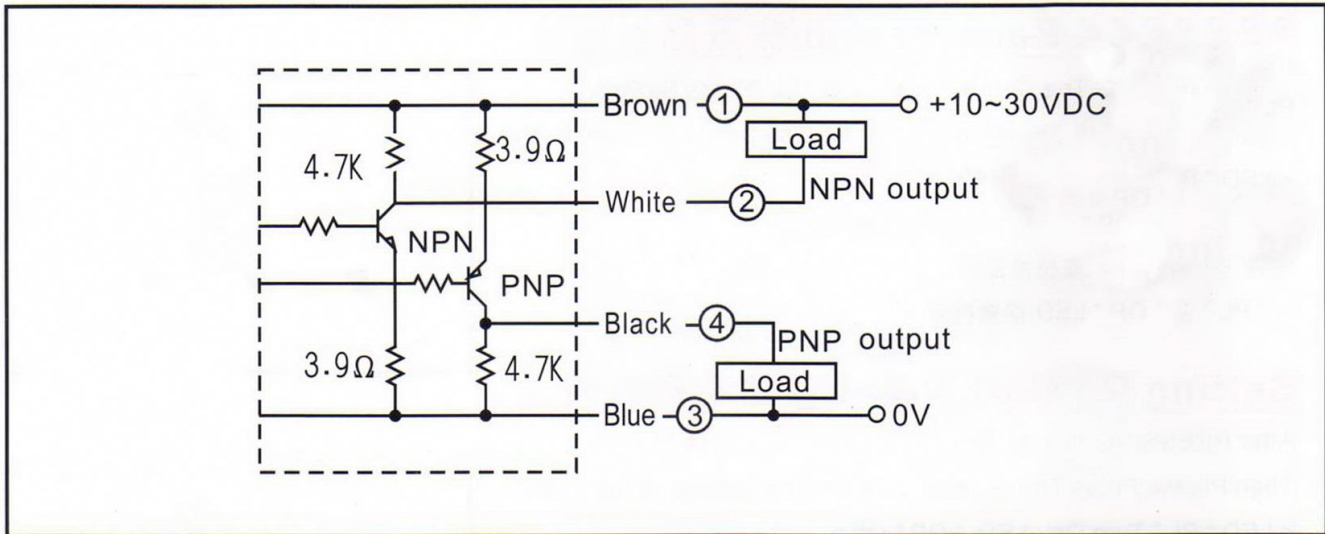
如果要改變輸出狀態 , 請按住  鍵再按  鍵即可改變輸出狀態。

< 注意, 不要持續按  鍵超過3秒 , 否則會進入感度設定狀態 >

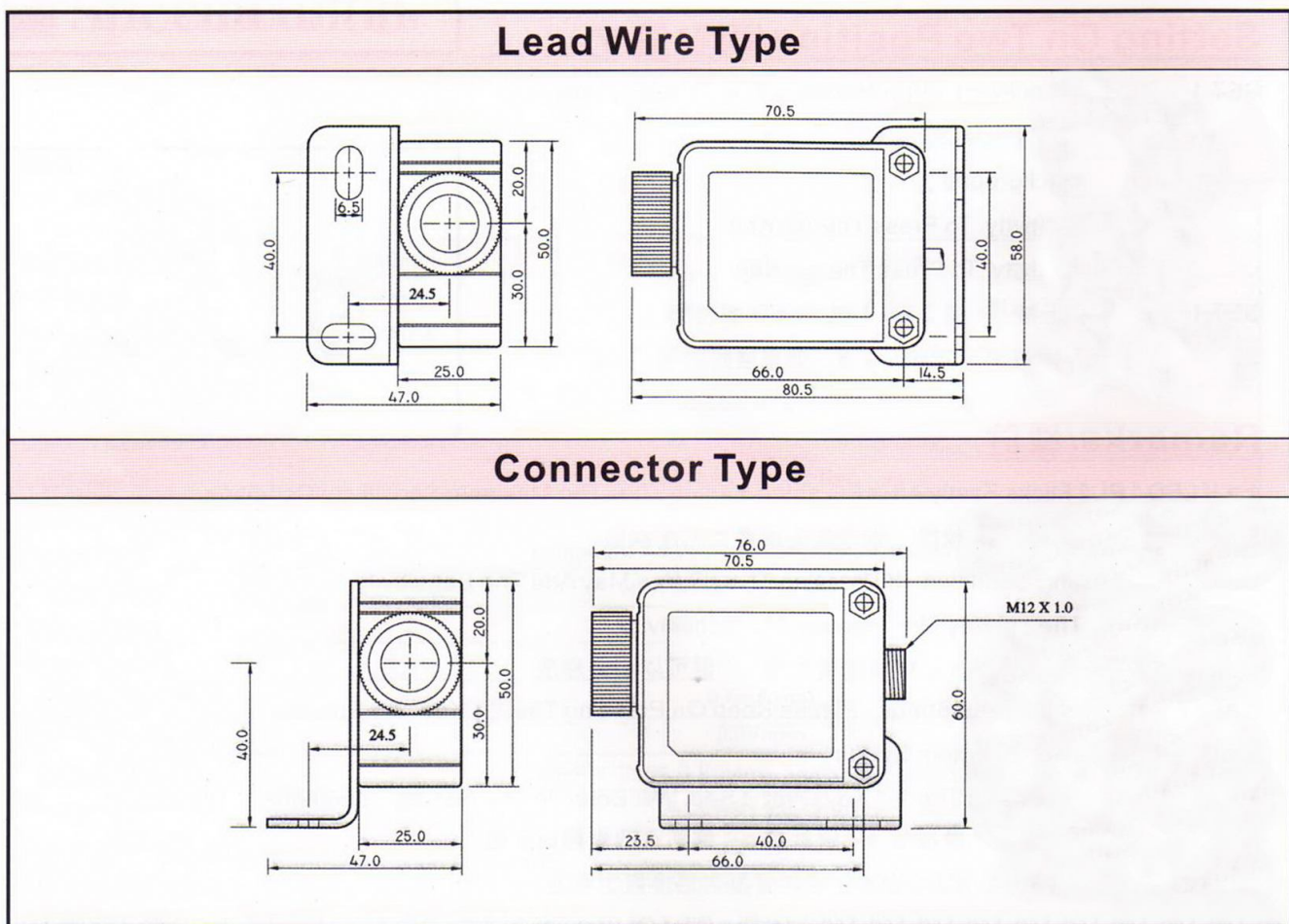
4 > On The Detecting Status , LED " PL " Is The Pilot Of Stability

在檢測狀態 , " PL " LED 是穩定指示燈

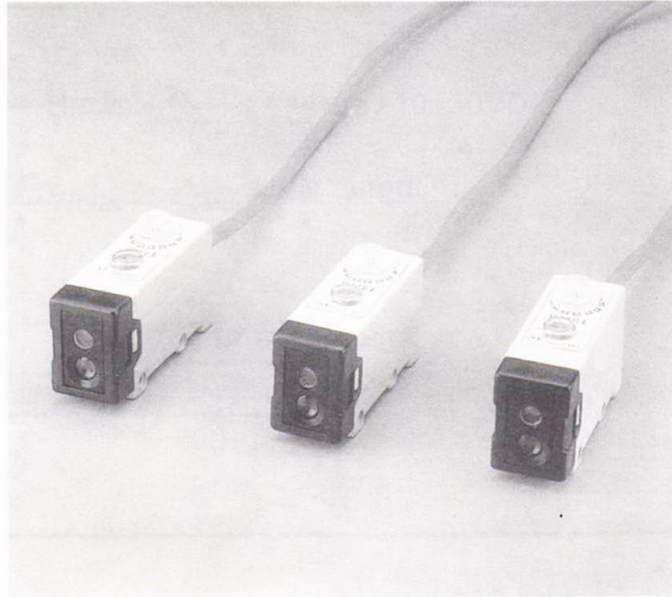
Output Circuit/輸出迴路



Dimension/尺寸圖



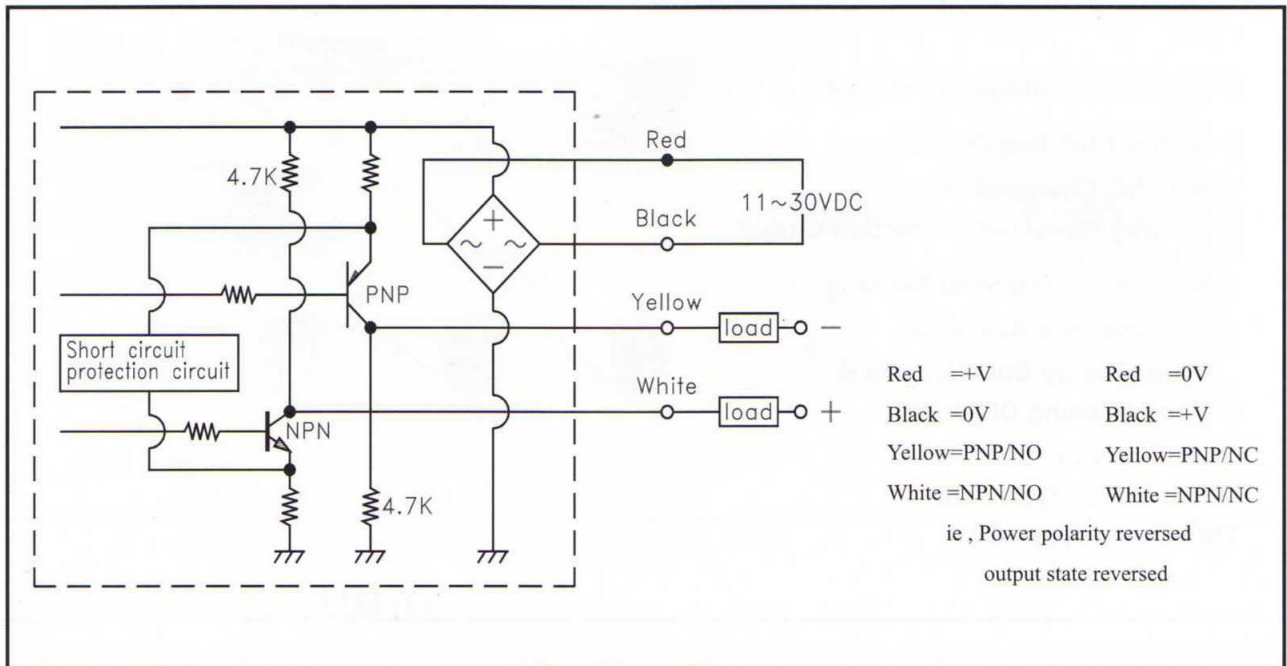
| Item | Description | Quantity | Unit Price | Total |
|------|-------------|----------|------------|-------|
| 1 | ... | ... | ... | ... |
| 2 | ... | ... | ... | ... |
| 3 | ... | ... | ... | ... |
| 4 | ... | ... | ... | ... |
| 5 | ... | ... | ... | ... |
| 6 | ... | ... | ... | ... |
| 7 | ... | ... | ... | ... |
| 8 | ... | ... | ... | ... |
| 9 | ... | ... | ... | ... |
| 10 | ... | ... | ... | ... |
| 11 | ... | ... | ... | ... |
| 12 | ... | ... | ... | ... |
| 13 | ... | ... | ... | ... |
| 14 | ... | ... | ... | ... |
| 15 | ... | ... | ... | ... |
| 16 | ... | ... | ... | ... |
| 17 | ... | ... | ... | ... |
| 18 | ... | ... | ... | ... |
| 19 | ... | ... | ... | ... |
| 20 | ... | ... | ... | ... |
| 21 | ... | ... | ... | ... |
| 22 | ... | ... | ... | ... |
| 23 | ... | ... | ... | ... |
| 24 | ... | ... | ... | ... |
| 25 | ... | ... | ... | ... |
| 26 | ... | ... | ... | ... |
| 27 | ... | ... | ... | ... |
| 28 | ... | ... | ... | ... |
| 29 | ... | ... | ... | ... |
| 30 | ... | ... | ... | ... |
| 31 | ... | ... | ... | ... |
| 32 | ... | ... | ... | ... |
| 33 | ... | ... | ... | ... |
| 34 | ... | ... | ... | ... |
| 35 | ... | ... | ... | ... |
| 36 | ... | ... | ... | ... |
| 37 | ... | ... | ... | ... |
| 38 | ... | ... | ... | ... |
| 39 | ... | ... | ... | ... |
| 40 | ... | ... | ... | ... |
| 41 | ... | ... | ... | ... |
| 42 | ... | ... | ... | ... |
| 43 | ... | ... | ... | ... |
| 44 | ... | ... | ... | ... |
| 45 | ... | ... | ... | ... |
| 46 | ... | ... | ... | ... |
| 47 | ... | ... | ... | ... |
| 48 | ... | ... | ... | ... |
| 49 | ... | ... | ... | ... |
| 50 | ... | ... | ... | ... |
| 51 | ... | ... | ... | ... |
| 52 | ... | ... | ... | ... |
| 53 | ... | ... | ... | ... |
| 54 | ... | ... | ... | ... |
| 55 | ... | ... | ... | ... |
| 56 | ... | ... | ... | ... |
| 57 | ... | ... | ... | ... |
| 58 | ... | ... | ... | ... |
| 59 | ... | ... | ... | ... |
| 60 | ... | ... | ... | ... |
| 61 | ... | ... | ... | ... |
| 62 | ... | ... | ... | ... |
| 63 | ... | ... | ... | ... |
| 64 | ... | ... | ... | ... |
| 65 | ... | ... | ... | ... |
| 66 | ... | ... | ... | ... |
| 67 | ... | ... | ... | ... |
| 68 | ... | ... | ... | ... |
| 69 | ... | ... | ... | ... |
| 70 | ... | ... | ... | ... |
| 71 | ... | ... | ... | ... |
| 72 | ... | ... | ... | ... |
| 73 | ... | ... | ... | ... |
| 74 | ... | ... | ... | ... |
| 75 | ... | ... | ... | ... |
| 76 | ... | ... | ... | ... |
| 77 | ... | ... | ... | ... |
| 78 | ... | ... | ... | ... |
| 79 | ... | ... | ... | ... |
| 80 | ... | ... | ... | ... |
| 81 | ... | ... | ... | ... |
| 82 | ... | ... | ... | ... |
| 83 | ... | ... | ... | ... |
| 84 | ... | ... | ... | ... |
| 85 | ... | ... | ... | ... |
| 86 | ... | ... | ... | ... |
| 87 | ... | ... | ... | ... |
| 88 | ... | ... | ... | ... |
| 89 | ... | ... | ... | ... |
| 90 | ... | ... | ... | ... |
| 91 | ... | ... | ... | ... |
| 92 | ... | ... | ... | ... |
| 93 | ... | ... | ... | ... |
| 94 | ... | ... | ... | ... |
| 95 | ... | ... | ... | ... |
| 96 | ... | ... | ... | ... |
| 97 | ... | ... | ... | ... |
| 98 | ... | ... | ... | ... |
| 99 | ... | ... | ... | ... |
| 100 | ... | ... | ... | ... |



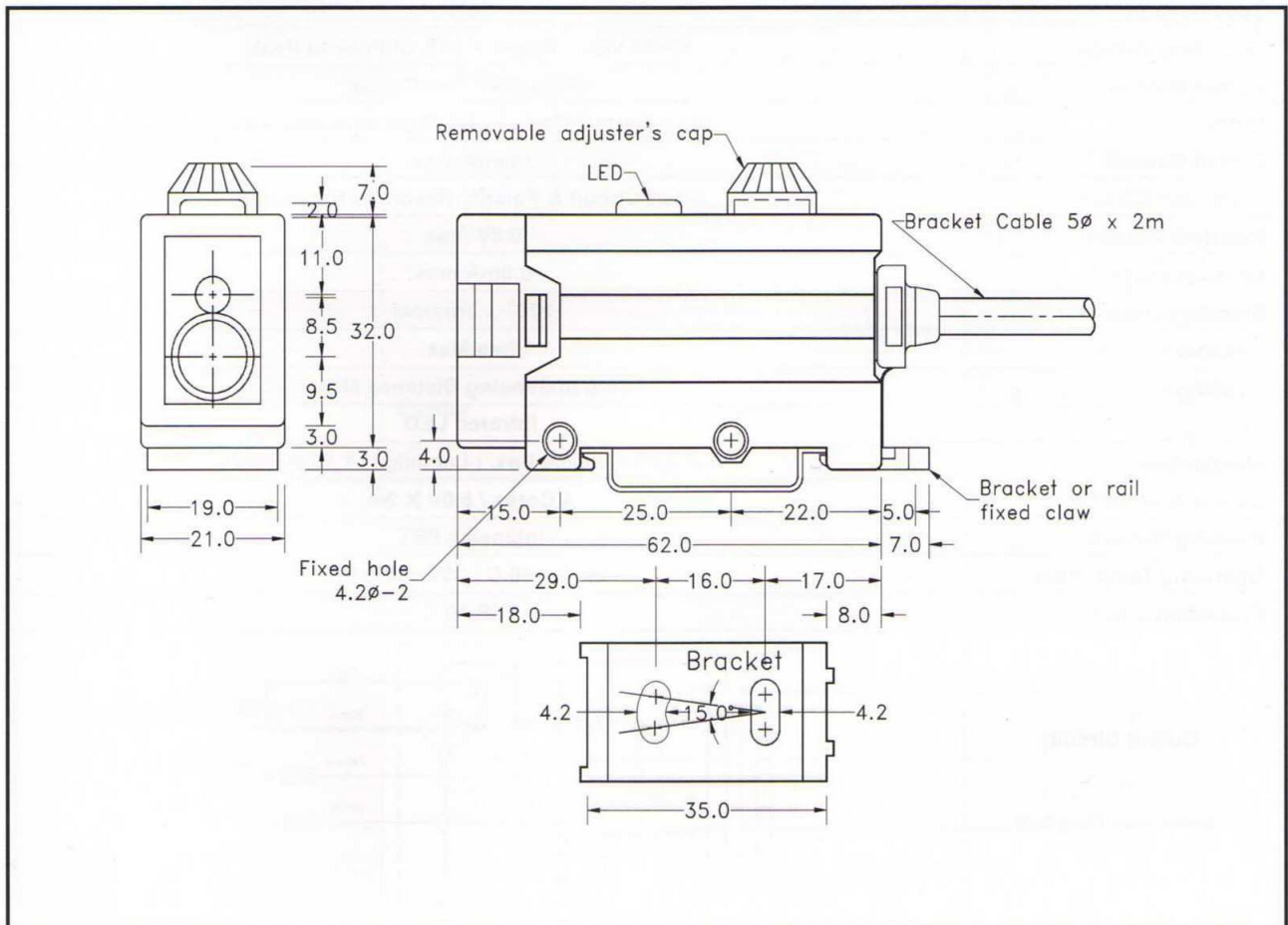
■ Specification

| Type | High Speed Type | Standard Type | | |
|----------------------|--|--------------------|------------------|---------|
| Model | FM-01R FM-01G | FM-01PR FM-01PG | FM-03R FM-03G | FM-10R |
| Setting Distance | 15.0mm | 12.0mm | 32.0mm | 100.0mm |
| Light Spot | 1.0φ | 2.0φ | | |
| Response Time | 0.25ms | 2ms | | |
| Sensitivity Adjuster | 270° Trimmer | | | |
| Operating Voltage | 11~30 VDC ; Ripple < 20% of Peak to Peak | | | |
| Current Consumption | 45mA max. | 30mA max. | | |
| Light Source | G : Green Led ; R : Red Led | | | |
| Hysteresis | 5% of Sensing Distance | | | |
| Illumination | Lamplight < 5,000 Lux ; Sunlight < 10,000 Lux. | | | |
| Output Method | NPN & PNP Two Way Output | | | |
| Output Status | NO / NC Changeable | | | |
| Output Current | 150mA max. | | | |
| Leakage Current | 0.8mA max. | | | |
| Residual Voltage | 0.8V max. | | | |
| Protection Circuit | Short Circuit & Polarity Reversed Protection | | | |
| Connection Method | 4 Cores / 5.0φ X 2m | | | |
| Housing Material | PBT | | | |
| Operating Temp./Hum. | -20° C~+60 C° ; 35%~85%RH | | | |
| Protection Class | IP-65 | | | |
| Weight | Appr. 105g | | | |

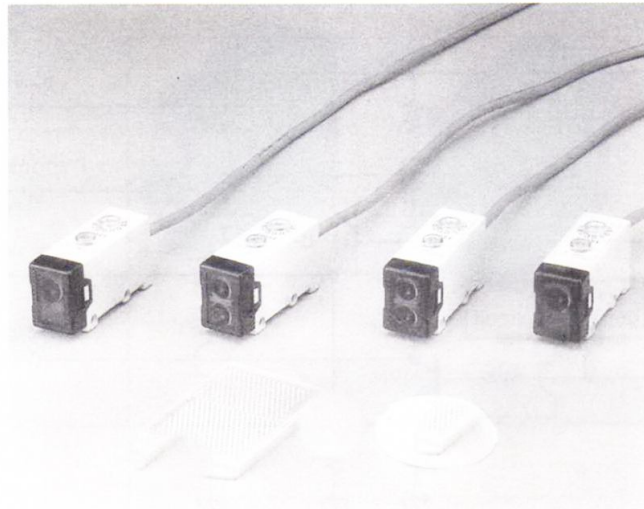
Output Circuit & Connection Diagram



Dimension



- ✧ Operating Voltage : 11~30VDC
- ✧ NPN & PNP Two Output ,
NO / NC Changeable .
- ✧ Polarity Reversed Protection Circuit .
- ✧ Vertical & Horizontal Sensing
Direction Are Available .
Protected By Short Circuit &
- ✧ Long Sensing Distance
Reflex Type : 2M
Mirror Reflex Type : 4M
Thru Beam Type : 20M



General Specification

| Specification | Data |
|-------------------------------------|--|
| Operating Voltage | 10~30 VDC ; Ripple < 20% of Peak to Peak |
| Output Method | NPN & PNP Two Output |
| Output Status | NO < Normal Open > , NC Type Available Also |
| Output Current | 150mA max. |
| Protection Circuit | Short Circuit & Polarity Reversed Protection |
| Residual Voltage | 0.8V max. |
| Leakage Current | 0.8mA max. |
| Sensitivity Adjuster | 270° Trimmer |
| Response Time | 2ms Max. |
| Hysteresis | 10% of Sensing Distance Max. |
| Emitter | Infrared LED |
| Illumination | Sunlight < 50,000 Lux. ; Lamplight < 10,000 Lux. |
| Connection Method | 4 Cores / 5.0φ X 2m |
| Housing Material | Intensive PBT |
| Operating Temp./Hum. | -20°C~+60°C ; 35%~85% RH |
| Protection Class | IP-65 |
| Output Circuit & Connection Diagram | |

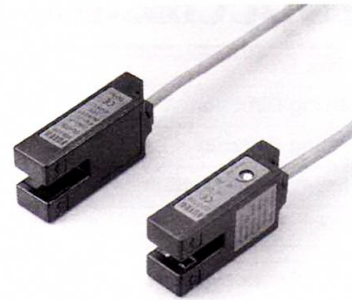
Specification

| | | | | |
|---------------------|----------------------------------|------------------|-----------------|------------------|
| Reflex Type | FR-1MX | FR-1MX-V | FR-2MX | FR-2MX-V |
| Sensing Direction | Horizontal | Vertical | Horizontal | Vertical |
| Sensing Distance | 1m | | 2m | |
| Current Consumption | 20mA max. | | 35mA max. | |
| Weight | Appr. 105g | Appr. 120g | Appr. 105g | Appr. 125g |
| Mirror Reflex Type | FG-3MX | | FG-3MX-V | |
| Sensing Direction | Horizontal | | Vertical | |
| Sensing Distance | 4m | | | |
| Current Consumption | 20mA max. | | | |
| Weight | Appr. 105g | | Appr. 120g | |
| Thru Beam Type | FT-10MX | FT-10MX-V | FT-20MX | FT-20MX-V |
| Sensing Direction | Horizontal | Vertical | Horizontal | Vertical |
| Sensing Distance | 10m | | 20m | |
| Current Consumption | Emitter < 30mA ; Receiver < 20mA | | | |
| Weight | Appr. 210g | Appr. 240g | Appr. 210g | Appr. 240g |

Dimension

| FR • FG | FR-V • FG-V | Mirror MR-1 |
|--|---|--|
| <p>Technical drawing of FR and FG sensors. Dimensions include: 2.0, 7.0, 8.0, 12.0, 32.0, 19.0, 21.0, 13.0, 3.0, 4.0, 15.0, 25.0, 22.0, 5.0, 62.0, 29.0, 16.0, 17.0, 18.0, 35.0, 8.0, 4.2, 4.2. Components labeled: Removable adjuster's cap, LED, Bracket Cable 5#x2M, Bracket or rail fixed claw, Bracket.</p> | <p>Technical drawing of FR-V and FG-V sensors. Dimensions include: 21.0, 8.5, 12.0, 18.5, 82.0, 35.0, 7.0, 2.0, 33.0, 7.0, 2.0, 35.0, 28.5, 25.0, 16.0, 17.0, 22.0, 3.0, 7.0. Components labeled: Fixed bracket, Fixed hole 4.2#-2, Removable adjuster's cap, LED, Bracket or rail fixed claw, Cable 5# x 2m.</p> | <p>Technical drawing of Mirror MR-1. Dimensions include: 61.0, 65.0, 74.0, 86.0, 3.0, 6.0, 42.0, 46.0. Component labeled: Fixed Hole 4.2# X 2.</p> |
| FT | FT-V | |
| <p>Technical drawing of FT sensor. Dimensions include: 21.0, 2.0, 33.0, 7.0, 2.0, 10.5, 10.5, 28.5, 82.0, 35.0, 7.0, 3.0, 38.5, 35.0, 25.0, 16.0, 17.0, 22.0, 18.0, 35.0, 8.0, 4.2, 4.2. Components labeled: Fixed bracket, Fixed hole 4.2#-2, Removable adjuster's cap, LED, Bracket or rail fixed claw, Cable 5# x 2m.</p> | <p>Technical drawing of FT-V sensor. Dimensions include: 2.0, 7.0, 10.5, 18.5, 32.0, 19.0, 21.0, 3.0, 3.0, 35.0, 25.0, 22.0, 5.0, 7.0, 62.0, 29.0, 16.0, 17.0, 18.0, 35.0, 8.0, 4.2, 4.2. Components labeled: Removable adjuster's cap, LED, Bracket Cable 5#x2M, Bracket or rail fixed claw, Fixed hole 4.2#-2, Bracket.</p> | |

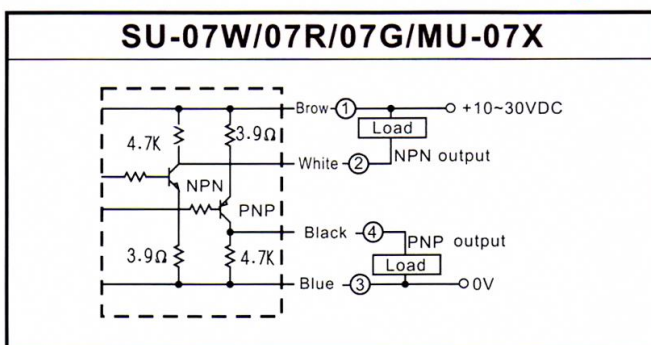
- ✧ WHITE LIGHT MARK SENSOR
EASY TO DETECT THE "REEN" OR "RED" MARK
- ✧ HIGH STABILITY & RELIABILITY
- ✧ LOW COST & HIGH QUALITY



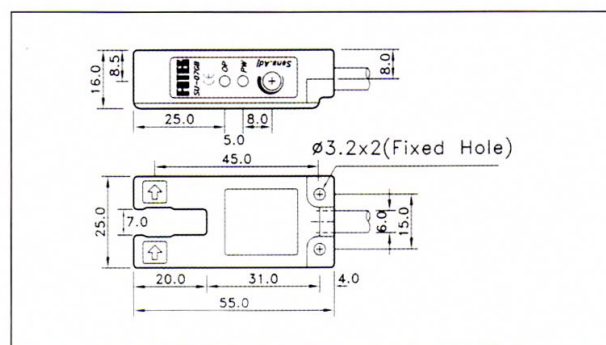
SPECIFICATION

| TYPE 型式 | MARK SENSOR | | | LABEL SENSOR | |
|-------------------------------|-------------|--|-----------|--------------|------------------|
| | Model 型號 | SU-07W | SU-07G | SU-07R | MU-07X |
| Emitter 發射光源 | | White Led | Green Led | Red Led | Infrared Led |
| Operating voltage 工作電壓 | | 10-30 VDC; Ripple < 20% of peak to peak | | | |
| Current consumption 消耗電流 | | 30 mA max. | | | |
| Sensitivity adjuster | | 270° Trimmer | | | |
| Output method 輸出方式 | | NPN & PNP two output | | | |
| Output current 輸出電流 | | 150 mA max. | | | |
| Output status 輸出狀態 | | Standard : NO Type ; SU-07 -B : NC Type | | | |
| Protection circuit 保護迴路 | | Short Circuit & Polarity Reversed Protection | | | |
| Sensible object 可被檢測物 | | Transparent Object | | | Semi-Transparent |
| Min.sensible object 最小可檢測物 | | 2.0 φ | | | |
| Response frequency 響應頻率 | | 1 K Hz | | | |
| Illumination 耐外亂光 | | Lamplight <5000 LUX ; Sunlight < 10,000 LUX | | | |
| Connection method 接線方式 | | 4 φ / 4φ X 2m | | | |
| Housing material 外殼材質 | | Intensive ABS | | | |
| Operating temp/hum 工作環境 | | -20°C ~ + 60°C ; 35% ~ 85 % RH | | | |
| Protection 保護等級 | | IP-65 | | | |

Output Circuit & Connection Diagram



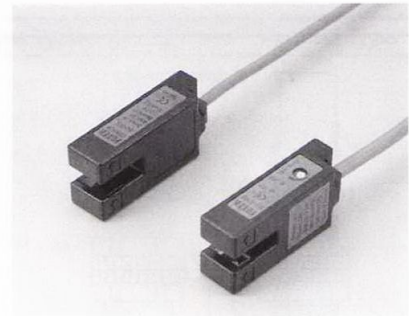
Dimension



U TYPE HIGH SPEED GEAR SENSOR

SU-07X series

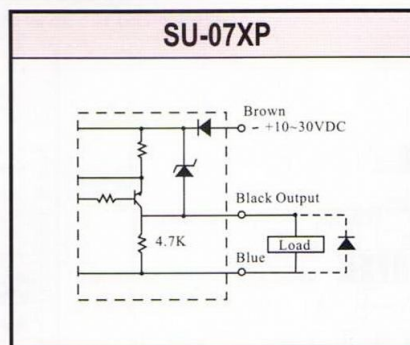
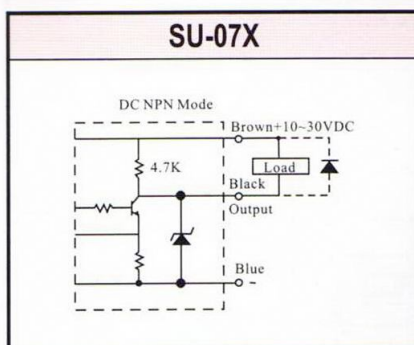
- ※ HIGH SPEED RESPONSE : 5 KHz
- ※ HIGH STABILITY & RELIABILITY
- ※ LOW COST & HIGH QUALITY



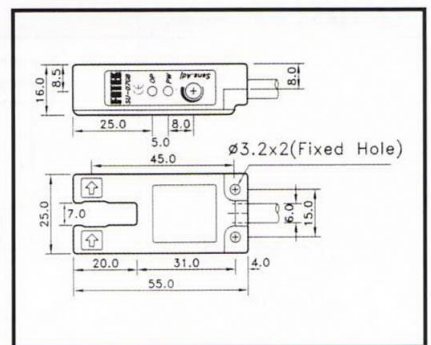
SPECIFICATION

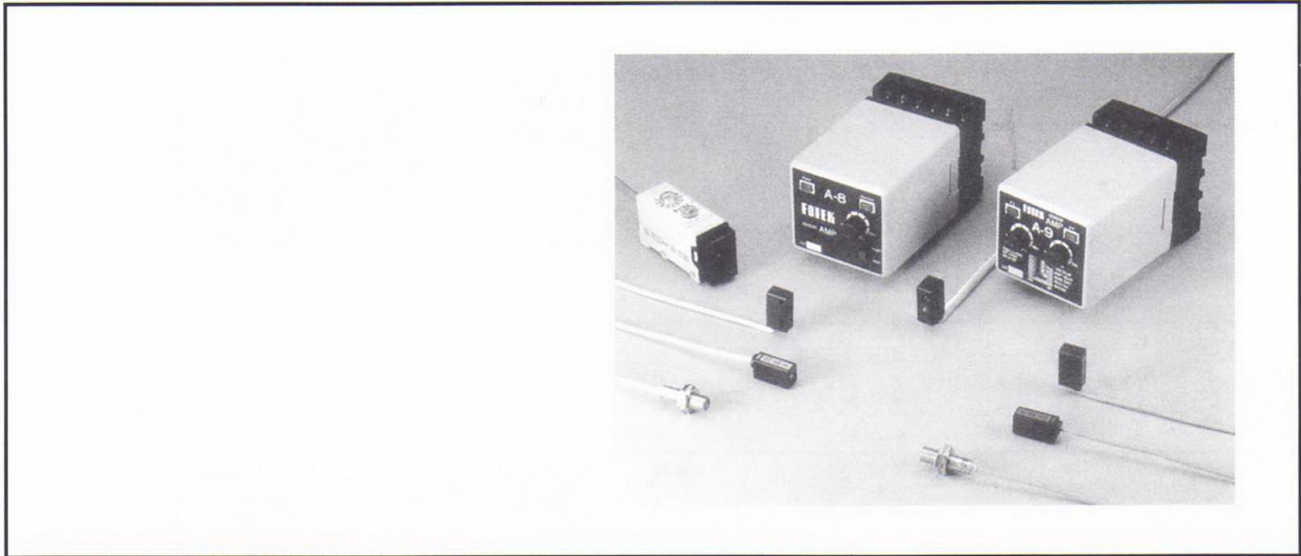
| Model | 型號 | SU-07X | SU-07XP |
|---------------------|--------|--|---------|
| Output method | 輸出方式 | NPN | PNP |
| Operating voltage | 工作電壓 | 10-30 VDC; Ripple < 20% of peak to peak | |
| Current consumption | 消耗電流 | 30 mA max. | |
| Output current | 輸出電流 | 150 mA max. | |
| Protection circuit | 保護迴路 | Short Circuit & Polarity Reversed Protection | |
| Emitter | 發射光源 | Infrared Led | |
| Min.sensible object | 最小可檢測物 | 1.0 ϕ | |
| Response frequency | 響應頻率 | 5 K Hz | |
| Illumination | 耐外亂光 | Lamplight < 5000 LUX ; Sunlight < 10,000 LUX | |
| Connection method | 接線方式 | 4 ϕ / 3 ϕ X 2m | |
| Housing material | 外殼材質 | Intensive ABS | |
| Operating temp/hum | 工作環境 | -20 $^{\circ}$ C ~ + 70 $^{\circ}$ C ; 35% ~ 85 % RH | |
| Protection | 保護等級 | IP-65 | |

Output Circuit & Connection Diagram



Dimension

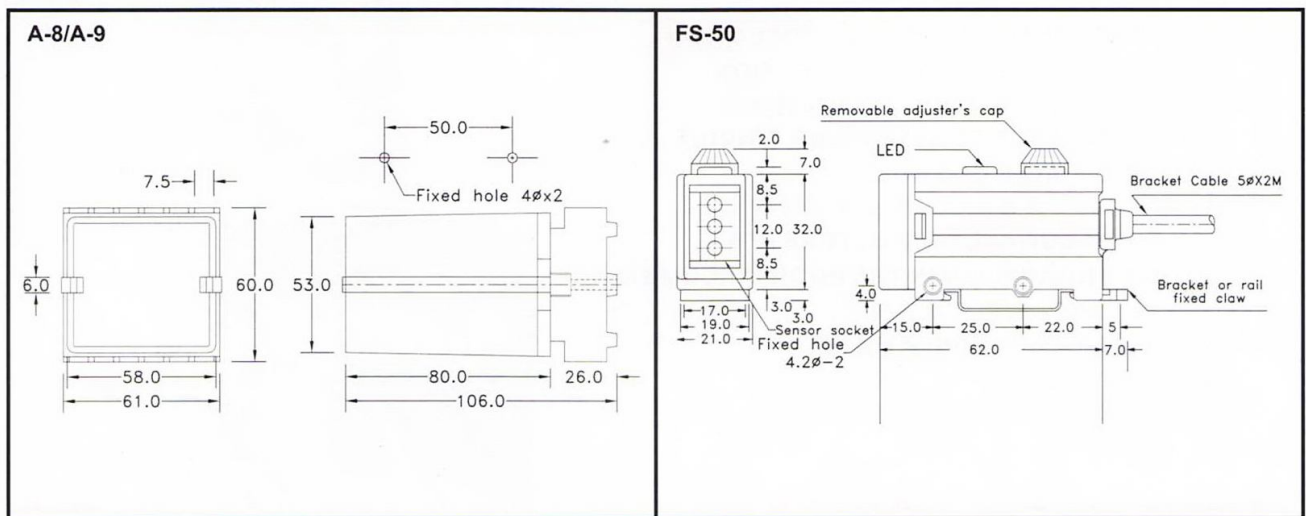




Amplifier Unit

| Type | AC Type | | DC Type |
|----------------------|---------------------------|--|-------------------|
| Model | A-8 | A-9 | FS-50 |
| Operating Voltage | 110/220VAC , 50/60Hz | | 11~30 VAC |
| Current Consumption | 3VA max. | | 30mA max. |
| Response Time | 15ms | 2ms | 2ms |
| Output Method | Relay , 5A/250 VAC | | NPN & PNP , 150mA |
| Output Control | Non | Timer : 0.01s~10s Adjustable ON Delay OFF Delay One Shot | Non |
| Output Status | NO / NC Changeable | | |
| Sensitivity Adjuster | 270° Trimmer | | |
| Operating Temp./Hum. | -20°C~+60°C ; 35%~250% RH | | |
| Connection Diagram | | | |

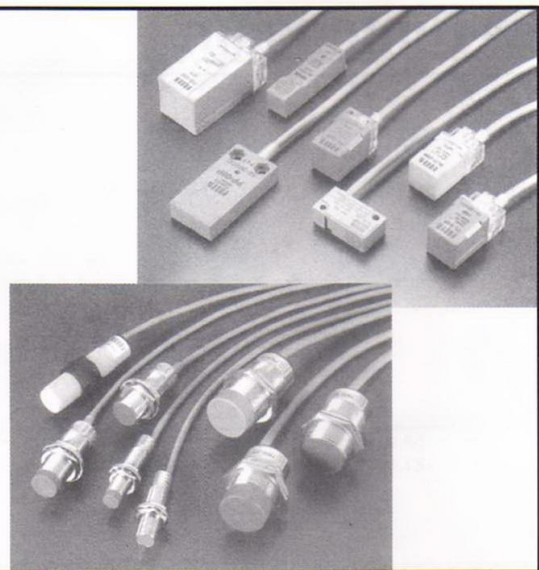
Dimension



Sensor Head Unit

| Type | Shape & Dimension | Model | Light Source | Sensible Distance | Sensible Object | Illumination | Housing Material | Operating Temp |
|----------------|-------------------|-----------|--------------|-------------------|---|----------------------------|------------------|---------------------|
| Thru Beam Type | | SV-10 | Green LED | 15cm | 2 φ | Infrared LED | Intensive-ABS | -20°C +60°C |
| | | SV-15 | Red LED | 15cm | 0.5 φ | | | |
| | | SV-30 | Red LED | 30cm | 1 φ | | | |
| | | SV-50 | Red LED | 50cm | 2 φ | Lamp-light ≤ 10,000 LUX | | |
| | | SV-2M | Infrared | 200cm | 2 φ | | | |
| | | SH-10 | Green LED | 15cm | 2 φ | Sunlight ≤ 30,000 LUX | | |
| | | SH-15 | Red LED | 15cm | 0.5 φ | | | |
| | | SH-30 | Red LED | 30cm | 1 φ | | | |
| | | SH-50 | Red LED | 50cm | 2 φ | Red LED Green LED | | |
| | | SH-2M | Infrared | 200cm | 2 φ | | | |
| | SC-10 | Green LED | 15cm | 2 φ | Lamp-light < 5,000 LUX Sunlight < 10,000 LUX | | | |
| | SC-15 | Red LED | 15cm | 0.5 φ | | | | |
| | SC-30 | Red LED | 30cm | 1 φ | | | | |
| | SC-50 | Red LED | 50cm | 2 φ | | | | |
| | SC-2M | Infrared | 200cm | 2 φ | | | | |
| Reflex Type | | SB-03 | Red LED | 3m | 2 φ | | | |
| | | SB-10 | Infrared LED | 10cm | 1 φ | | | |

- ※ DC TYPE WITH SHORT CIRCUIT PROTECTION AND POLARITY REVERSED PROTECTION
直流型都附有短路保護和極性反接保護迴路
- ※ AC TYPE WITH SURGE ABSORBING CIRCUIT MAY AVOID SURGE DAMAGED
交流型都附有突波吸收迴路可避免突波破壞
- ※ HIGH SOLID COMPACT STRUCTURE IP-67 SUITED TO BE APPLIED IN THE POOR CIRCUMSTANCE
堅固結構- IP67- 適用各種環境
- ※ ALL MODELS WITH OPERATING LED, EASY TO ADJUSTED
全機種附動作指示燈便於安裝調整



Guiding of Model 型號索引

TUBULAR TYPE

Ex. PM - 12 04-N B-S -M12
 ① ② ③ ④ ⑤ ⑥ ⑦

- 1> TYPE 型式
PM= SCREW TYPE 螺絲型
- 2> OUTLINE DIAMETER 外徑
08=M8x1.0 18=M18x1.0
12=M12x1.0 30=M30x1.5
- 3> SENSING DISTANCE 檢測距離
02=2.0 mm 10=10.0 mm
05=5.0 mm 15=15.0 mm
- 4> OUTPUT METHOD 輸出方式
N=NPN P=PNP
S=SCR
- 5> OUTPUT STATUS 輸出狀態
NON= NO TYPE
B= NC TYPE B= NC TYPE
- 6> LENGTH OF BODY 本體長度
NON= STANDARD TYPE
S= SHORT TYPE
- 7> CONNECTING METHOD 接線方式
NON= LEAD WIRE TYPE
M12= M12 CONNECTOR TYPE
PG= M8 LEAD WIRE CONNECTOR TYPE

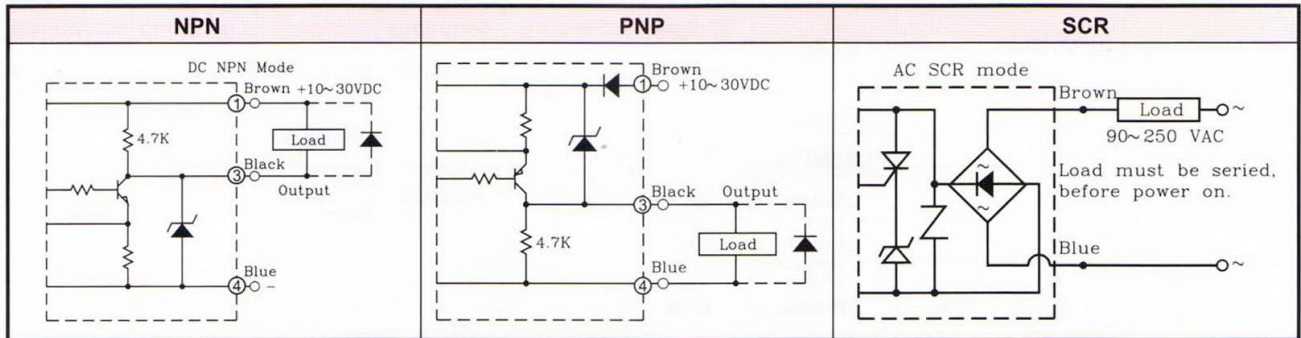
SQUARE TYPE

Ex. LS - 04 N B - V-PG
 ① ② ③ ④ ⑤ ⑥

- 1> TYPE 型式
PS=SQUARE TYPE PP=PLATE TYP
PL=LONG TYPE BS=MICRO TYPE
- 2> SENSING DISTANCE 檢測距離
04= 4.0 mm 10= 10.0mm
05= 5.0 mm 15= 15.0 mm
- 3> OUTPUT METHOD 輸出方式
N= NPN P= PNP
- 4> OUTPUT STATUS 輸出狀態
NON= NO TYPE
B= NC TYPE B= NC TYPE
- 5> DIRECTION OF SENSING
V= VERTICAL TYPE 垂直式
NON= HORIZONTAL TYPE 水平式
- 6> CONNECTION METHOD 接線方式
NON= LEAD WIRE TYPE
PG= M8 LEAD WIRE CONNECTOR TYPE

**NOTE : THE B<NC> TYPE HAVE NO STOCK
MAYBE,ACCEPTED ORDER TO MANUFACTURE**

Output Circuit & Connection Diagram



General Data

| Specification | DC Type | AC Type |
|-----------------------|--|---------------------------|
| Operating Voltage | 10~30 VDC | 90~250VAC |
| Power Ripple | < 20% of Peak to Peak | 50/60Hz |
| Output Current | 150mA max. | 100mA max. |
| Current Consumption | < 10mA | < 2mA |
| Residual Voltage | < 0.1V | |
| Leakage Current | < 0.8mA | < 4.0mA |
| Hysteresis | <10% of Sensing Distance | |
| Thermal Drift | < 10 μ m/ C | |
| Voltage Drift | < 1 μ m/V | |
| Protection Circuit | Short Circuit & Polarity Reversed Protection | Surge Protection Circuit |
| Operating Temp./Hum. | -20 $^{\circ}$ C~+80 $^{\circ}$ C ; 35%~95% RH | |
| Protection Class | IP-67 | |
| Wiring Method | 3 Cores / 4.2 ϕ X 2m | 2 Cores / 4.2 ϕ X 2m |
| Color of Sensing Face | NPN : Red ; PNP ; Green | Blue |

Application Hints

When using a switching regulator , please be sure to ground the FG (Frame Ground) and G (Ground) terminal , If failure to do so , it may result in malfunction of the sensor due to the noise of the switching regulator. The ripple of the DC power supply is required to be less than 20% to avoid resulting malfunction of the sensor.

Square Type < Plastic Housing >

| Outline Dimension | Model | Output Method | Sensing Distance | Mounting Method | Sensing Direction | Operating Voltage | Response Frequency |
|-------------------|----------|---------------|------------------|-----------------|-------------------|-------------------|--------------------|
| | LS-04N-V | NPN | 4.0mm | Non-Flushed | Vertical | 10 ~ 30 VDC | 2KHZ |
| | LS-04P-V | PNP | | | Horizontal | | |
| | LS-04N | NPN | | | | | |
| | LS-04P | PNP | | | | | |
| | SP-05N | NPN | 5.0mm | Non-Flushed | Vertical | 10 ~ 30 VDC | 800HZ |
| | SP-05P | PNP | | | | | |
| | BS-02N | NPN | 2.0mm | Flushed | Vertical | 10 ~ 30 VDC | 2KHZ |
| | BS-02P | PNP | 4.0mm | Non-Flushed | | | |
| | BS-04N | NPN | | | | | |
| | BS-04P | PNP | | | | | |
| | PP-05N | NPN | 5.0mm | Flushed | Vertical | 10 ~ 30 VDC | 800HZ |
| | PP-05P | PNP | 8.0mm | Non-Flushed | | | |
| | PP-08N | NPN | | | | | |
| | PP-08P | PNP | | | | | |
| | PS-04N-V | NPN | 4.0mm | Non-Flushed | Vertical | 10 ~ 30 VDC | 2KHZ |
| | PS-04P-V | PNP | Horizontal | | | | |
| | PS-04N | NPN | | | | | |
| | PS-04P | PNP | | | | | |
| | PS-05N | NPN | 5.0mm | Flushed | Horizontal | 10 ~ 30 VDC | 800HZ |
| | PS-05P | PNP | 8.0mm | Non-Flushed | | | |
| | PS-08N | NPN | | | | | |
| | PS-08P | PNP | | | | | |
| | PL-05N | NPN | 5.0mm | Flushed | Horizontal | 10 ~ 30 VDC | 800HZ |
| | PL-05P | PNP | 8.0mm | Non-Flushed | | | |
| | PL-08N | NPN | | | | | |
| | PL-08P | PNP | | | | | |
| | PS-05S | SCR | 5.0mm | Flushed | Horizontal | 90 ~ 250 VAC | 20HZ |
| | PS-08S | SCR | 8.0mm | Non-Flushed | | | |
| | PS-10N | NPN | 10.0mm | Flushed | Horizontal | 10 ~ 30 VDC | 500HZ |
| | PS-10P | PNP | 15.0mm | Non-Flushed | | | |
| | PS-15N | NPN | | | | | |
| | PS-15P | PNP | Horizontal | 90 ~ 250 VAC | 20HZ | | |
| | PS-10S | SCR | | | | 10.0mm | Flushed |
| | PS-15S | SCR | | | | 15.0mm | Non-Flushed |

M8/M12 Tubular Type

| Outline Dimension | Model | Output Status | Output Method | Operating Voltage | Sensing Direction | Response Frequency | Mounting Method |
|-------------------|---------------|---------------|---------------|-------------------|-------------------|--------------------|-----------------|
| | PM08-01N | NO | NPN | 10 ~ 30 VDC | 1.0mm | 2.5KHZ | Flushed |
| | PM08-01NB | NC | | | | | |
| | PM08-01P | NO | PNP | | | | |
| | PM08-01PB | NC | | | | | |
| | PM08-02N | NO | NPN | 10 ~ 30 VDC | 2.0mm | 2.5KHZ | Non-Flushed |
| | PM08-02NB | NC | | | | | |
| | PM08-02P | NO | PNP | | | | |
| | PM08-02PB | NC | | | | | |
| | PM12-02N-S | NO | NPN | 10 ~ 30 VDC | 2.0mm | 2.5KHZ | Flushed |
| | PM12-02NB-S | NC | | | | | |
| | PM12-02P-S | NO | PNP | | | | |
| | PM12-02PB-S | NC | | | | | |
| | PM12-04N-S | NO | NPN | 10 ~ 30 VDC | 4.0mm | 2.5KHZ | Non-Flushed |
| | PM12-04NB-S | NC | | | | | |
| | PM12-04P-S | NO | PNP | | | | |
| | PM12-04PB-S | NC | | | | | |
| | PM12-02N | NO | NPN | 10 ~ 30 VDC | 2.0mm | 2.5KHZ | Flushed |
| | PM12-02NB | NC | | | | | |
| | PM12-02P | NO | PNP | | | | |
| | PM12-02PB | NC | | | | | |
| | PM12-04N | NO | NPN | 10 ~ 30 VDC | 4.0mm | 2.5KHZ | Non-Flushed |
| | PM12-04NB | NC | | | | | |
| | PM12-04P | NO | PNP | | | | |
| | PM12-04PB | NC | | | | | |
| | PM12-02S | NO | SCR | 90 ~ 250 VAC | 2.0mm | 20HZ | Flushed |
| | PM12-02SB | NC | | | | | |
| | PM12-04S | NO | SCR | 90 ~ 250 VAC | 4.0mm | 20HZ | Non-Flushed |
| | PM12-04SB | NC | | | | | |
| | PM12-02N-M12 | NO | NPN | 10 ~ 30 VDC | 2.0mm | 2.5KHZ | Flushed |
| | PM12-02NB-M12 | NC | | | | | |
| | PM12-02P-M12 | NO | PNP | | | | |
| | PM12-02PB-M12 | NC | | | | | |
| | PM12-04N-M12 | NO | NPN | 10 ~ 30 VDC | 4.0mm | 2.5KHZ | Non-Flushed |
| | PM12-04NB-M12 | NC | | | | | |
| | PM12-04P-M12 | NO | PNP | | | | |
| | PM12-04PB-M12 | NC | | | | | |

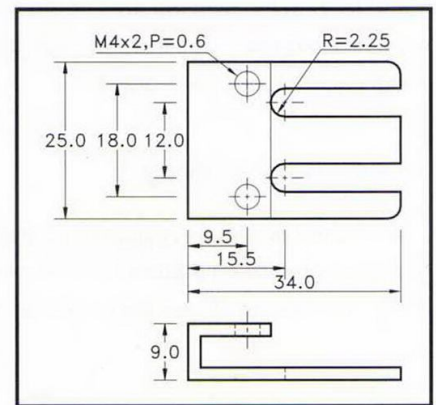
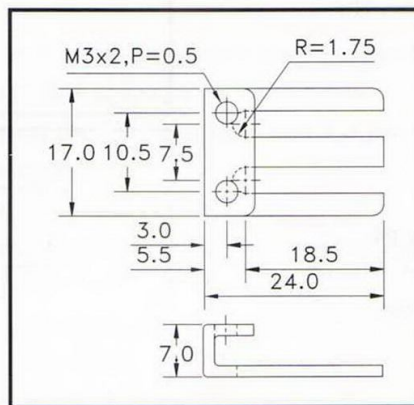
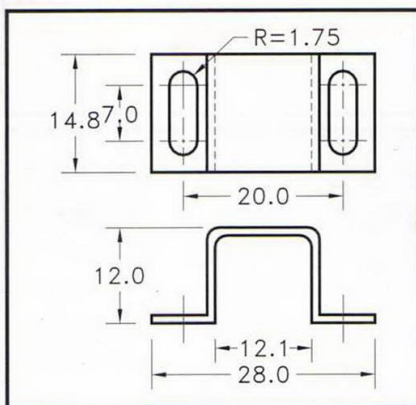
M18 Tubular Type

| Outline Dimension | Model | Output Status | Output Method | Operating Voltage | Sensing Direction | Response Frequency | Mounting Method |
|-------------------|---------------|---------------|---------------|-------------------|-------------------|--------------------|-----------------|
| | PM18-05N-S | NO | NPN | 10 ~ 30 VDC | 5.0mm | 800HZ | Flushed |
| | PM18-05NB-S | NC | | | | | |
| | PM18-05P-S | NO | PNP | | | | |
| | PM18-05PB-S | NC | | | | | |
| | PM18-08N-S | NO | NPN | 10 ~ 30 VDC | 8.0mm | 800HZ | Non-Flushed |
| | PM18-08NB-S | NC | | | | | |
| | PM18-08P-S | NO | PNP | | | | |
| | PM18-08PB-S | NC | | | | | |
| | PM18-05N | NO | NPN | 10 ~ 30 VDC | 5.0mm | 800HZ | Flushed |
| | PM18-05NB | NC | | | | | |
| | PM18-05P | NO | PNP | | | | |
| | PM18-05PB | NC | | | | | |
| | PM18-08N | NO | NPN | 10 ~ 30 VDC | 8.0mm | 800HZ | Non-Flushed |
| | PM18-08NB | NC | | | | | |
| | PM18-08P | NO | PNP | | | | |
| | PM18-08PB | NC | | | | | |
| | PM18-08N-P | NO | NPN | 10 ~ 30 VDC | 8.0mm | 800HZ | Non-Flushed |
| | PM18-08NB-P | NC | | | | | |
| | PM18-08P-P | NO | PNP | | | | |
| | PM18-08PB-P | NC | | | | | |
| | PM18-08S-P | NO | SCR | | | | |
| | PM18-08SB-P | NC | | | | | |
| | PM18-05S | NO | SCR | 90 ~ 250 VAC | 5.0mm | 20HZ | Flushed |
| | PM18-05SB | NC | | | | | |
| | PM18-08S | NO | SCR | 90 ~ 250 VAC | 8.0mm | 20HZ | Non-Flushed |
| | PM18-08SB | NC | | | | | |
| | PM18-05N-M12 | NO | NPN | 10 ~ 30 VDC | 5.0mm | 800HZ | Flushed |
| | Pm18-05NB-M12 | NC | | | | | |
| | PM18-05P-M12 | NO | PNP | | | | |
| | PM18-05PB-M12 | NC | | | | | |
| | PM18-08N-M12 | NO | NPN | 10 ~ 30 VDC | 8.0mm | 800HZ | Non-Flushed |
| | PM18-08NB-M12 | NC | | | | | |
| | PM18-08P-M12 | NO | PNP | | | | |
| | PM18-08PB-M12 | NC | | | | | |

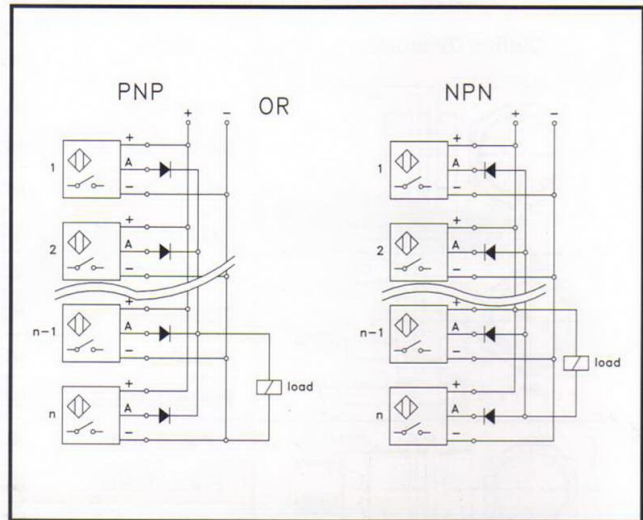
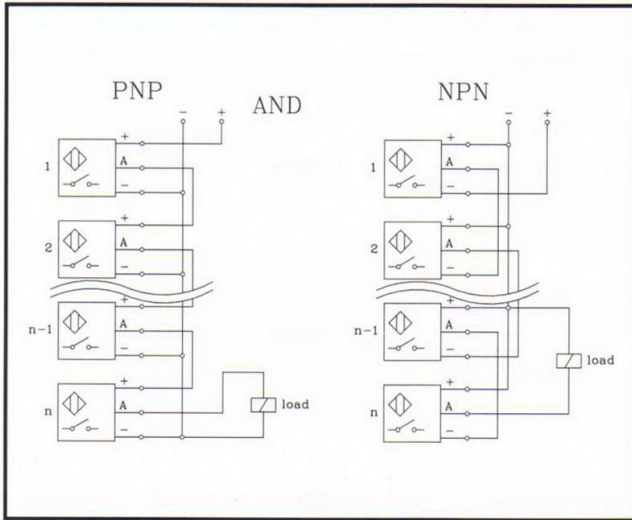
M30 Tubular Type

| Outline Dimension | Model | Output Status | Output Method | Operating Voltage | Sensing Direction | Response Frequency | Mounting Method |
|-------------------|-------------|---------------|---------------|-------------------|-------------------|--------------------|-----------------|
| | PM30-10N-S | NO | NPN | 10 ~ 30 VDC | 10.0mm | 500HZ | Flushed |
| | PM30-10NB-S | NC | | | | | |
| | PM30-10P-S | NO | PNP | | | | |
| | PM30-10PB-S | NC | | | | | |
| | PM30-15N-S | NO | NPN | 10 ~ 30 VDC | 15.0mm | 500HZ | Non-Flushed |
| | PM30-15NB-S | NC | | | | | |
| | PM30-15P-S | NO | PNP | | | | |
| | PM30-15PB-S | NC | | | | | |
| | PM30-10N | NO | NPN | 10 ~ 30 VDC | 10.0mm | 500HZ | Flushed |
| | PM30-10NB | NC | | | | | |
| | PM30-10P | NO | PNP | | | | |
| | PM30-10 PB | NC | | | | | |
| | PM30-15N | NO | NPN | 10 ~ 30 VDC | 15.0mm | 500HZ | Non-Flushed |
| | PM30-15NB | NC | | | | | |
| | PM30-15P | NO | PNP | | | | |
| | PM30-15PB | NC | | | | | |
| | PM30-10S | NO | SCR | 90 ~ 250 VAC | 10.0mm | 20HZ | Flushed |
| | PM30-10SB | NO | | | | | |
| | PM30-15S | NO | SCR | 90 ~ 250 VAC | 15.0mm | 20HZ | Non-Flushed |
| | PM30-15SB | NO | | | | | |

Fixed Bracket



■ Connecting Method of AND & OR



■ Basic Definition of Inductive Proximity Sensor

Target

Which is steel , 1 mm thick ness , square form with width lengths equal to the diameter of the sensing surface , if the target is made of a different material , the sensing distance must be multiplied by the Correction Factors .

Accuracy < Repetition >

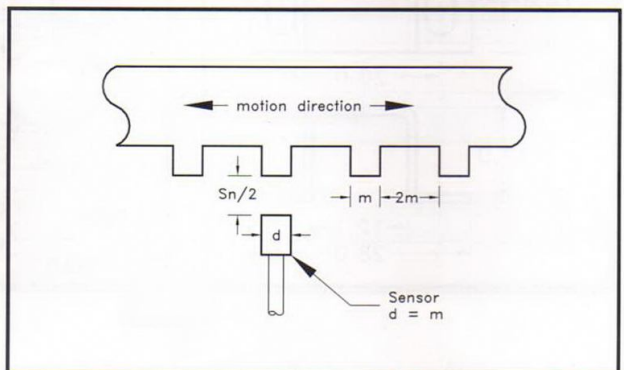
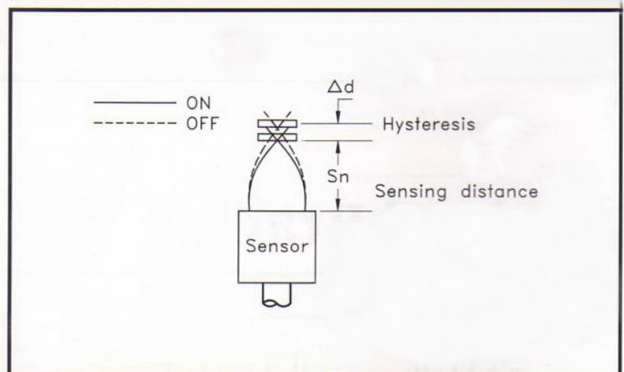
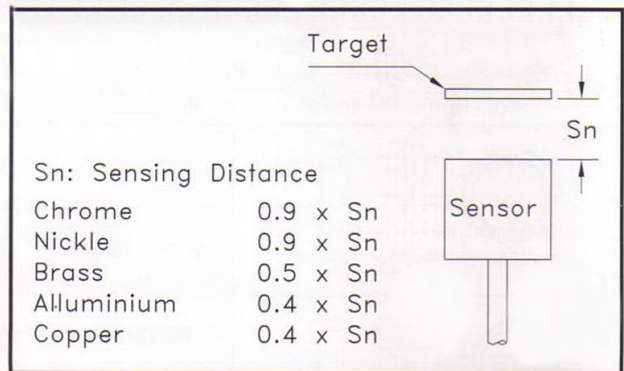
Tolerance of operating position that sensor is certainly operated under the same conditions .

Hysteresis

Hysteresis is the different distance between the operating points that the target is approaching and leaving the sensing area of the sensor , The value is expressed as a percentage of the sensing distance , $\langle \Delta d / S_n \% \rangle$.

Switch frequency

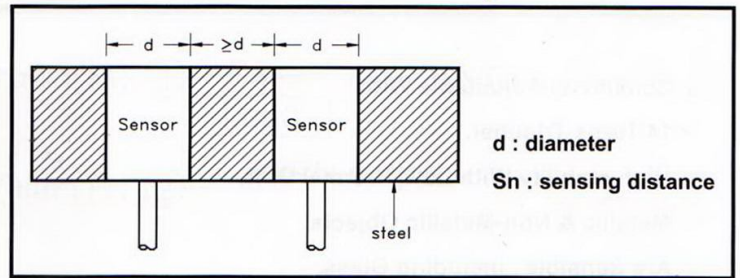
This is the maximum response frequency per second , based on a pulse / pause ratio of 1:2 . The sketch shows the condition of test .



How To Install Induction Proximity Sensor

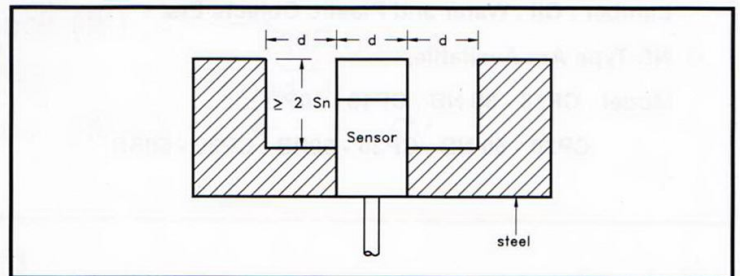
Flushed type

A proximity sensor can be flushed mounted in metal and surrounded by metal up to the level of the active face.



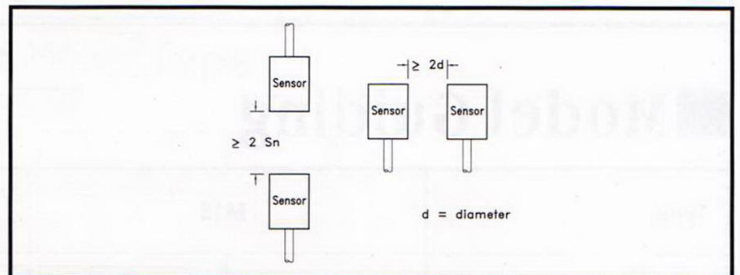
Non-flushed

A proximity sensor cannot be flushed in metal, a clear zone of 3 times of the diameter of the sensing surface must be kept.



Mutual Interference

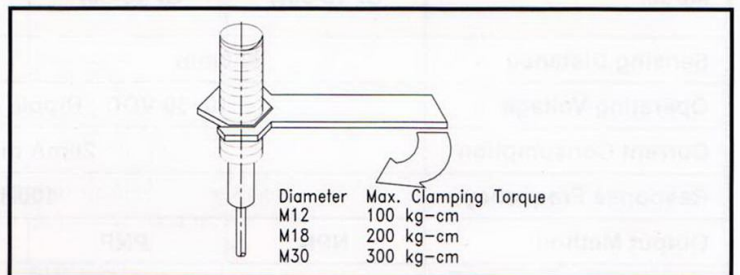
Installing inductive proximity sensors of the same model face to face or side by side, please set the minimum distance between the sensors larger than the diameter of sensor, to avoid the malfunction.



Clamping torque

Be sure to set a spring washer when fixing the sensor.

Don't tighten the sensor's mounting screw of PM series, with a clamping torque higher the right values.



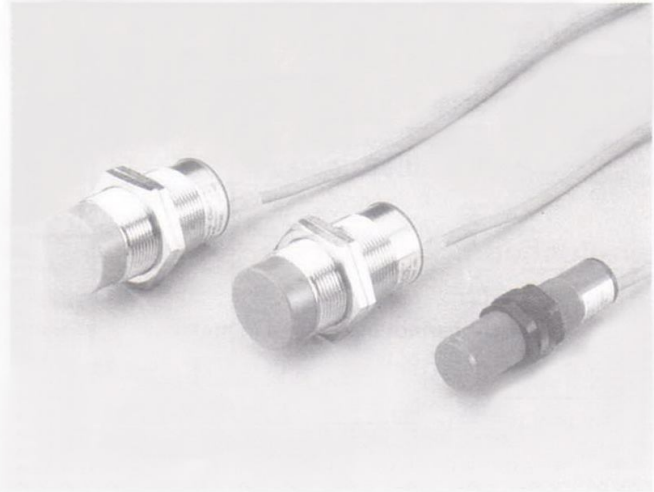
Wiring

To avoid being influenced by noise. Try best to separate the cable of the sensor from power lines and high

If extend the sensor cable, use a cable which diameter as same as that.

CP series CAPACITIVE PROXIMITY SENSOR CE

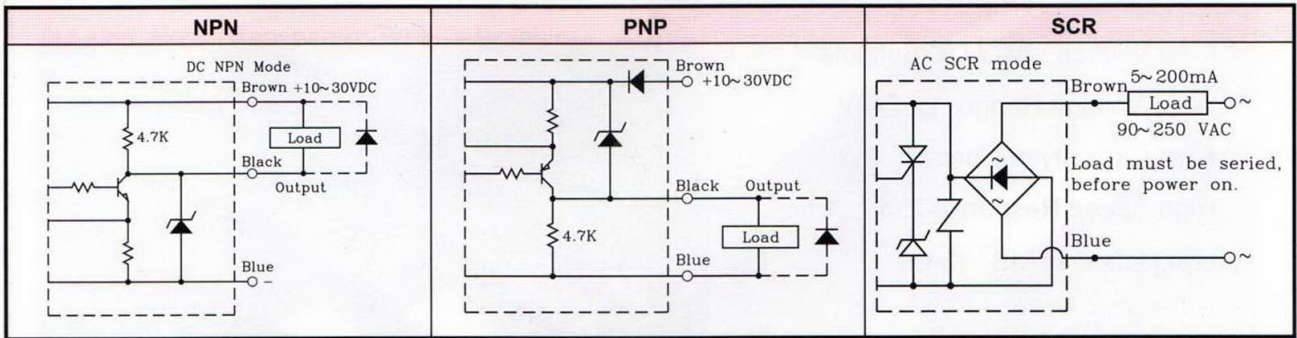
- ※ Sensitivity Adjustable With 14 Turns Trimmer.
- ※ High stability With Low Thermal Drift.
- ※ Metallic & Non-Metallic Objects. Are Sensible , Including Glass. Lumber , Oil , Water and Plastic Objects Ets.
- ※ NC Type Are Available,
Model : CP18 - 30 NB , CP18 - 30PB ,
CP30 - 50 NB , CP30 - 50PB , CP30 - 50SB



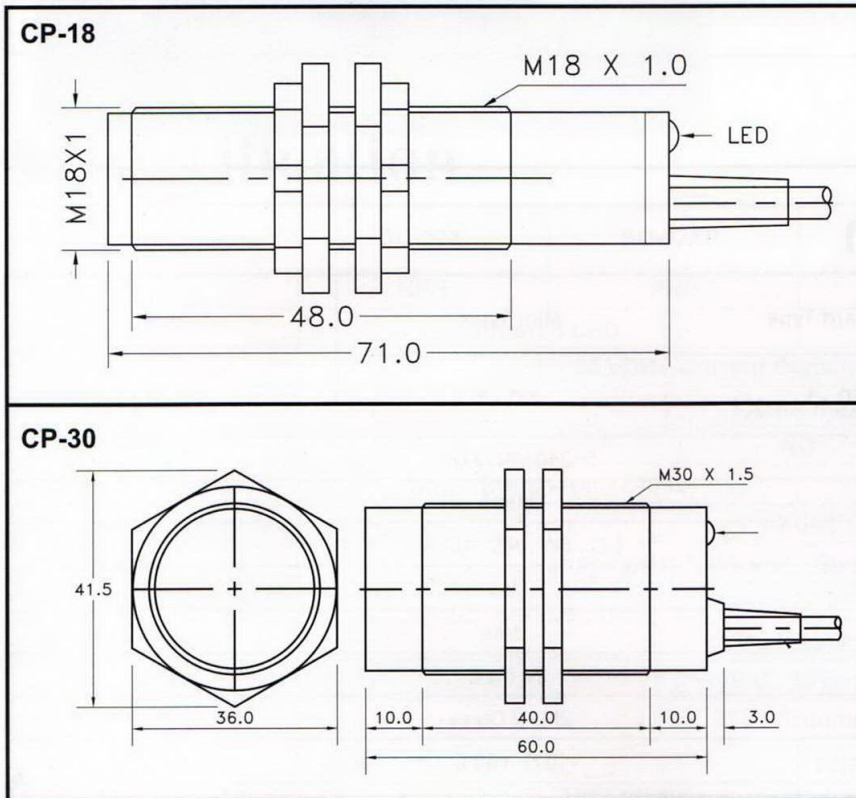
Model Guiding

| Type | M18 | | M30 | | |
|----------------------|--|----------|--------------|----------|-------------|
| Model | CP18-30N | CP18-30P | CP30-50N | CP30-50P | CP30-50S |
| Sensing Distance | 20.0mm | | 30.0mm | | 30.0mm |
| Operating Voltage | 10~30 VDC ; Ripple < 20% of Vp-p | | | | 90~250 VAC |
| Current Consumption | 20mA max. | | | | 1.5 VA max. |
| Response Frequency | 100Hz | | | | 15Hz |
| Output Method | NPN | PNP | NPN | PNP | SCR |
| Output Current | 150mA max. | | | | 100mA |
| Leakage Current | < 0.8mA | | | | < 2.0mA |
| Circuit Protection | Polarity reversed & Over load protection | | | | |
| Sensitivity Adjuster | 14 Turns trimmer | | | | |
| Operating Temp./Hum. | -20°C~+60°C ; 35%~95% RH | | | | |
| Protection Class | IP-66 | | | | |
| Housing Material | Ploymid | | Cu plated Ni | | |
| Weight | Appr. 70g | | Appr. 160g | | |

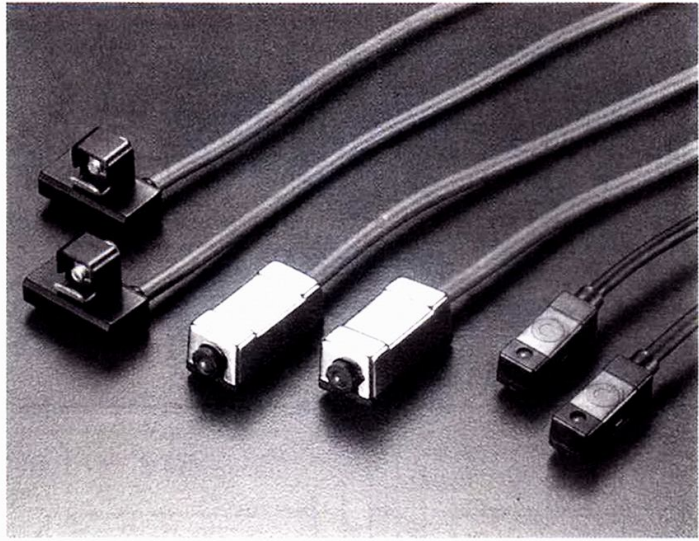
Output Circuit & Connection Diagram



Dimension



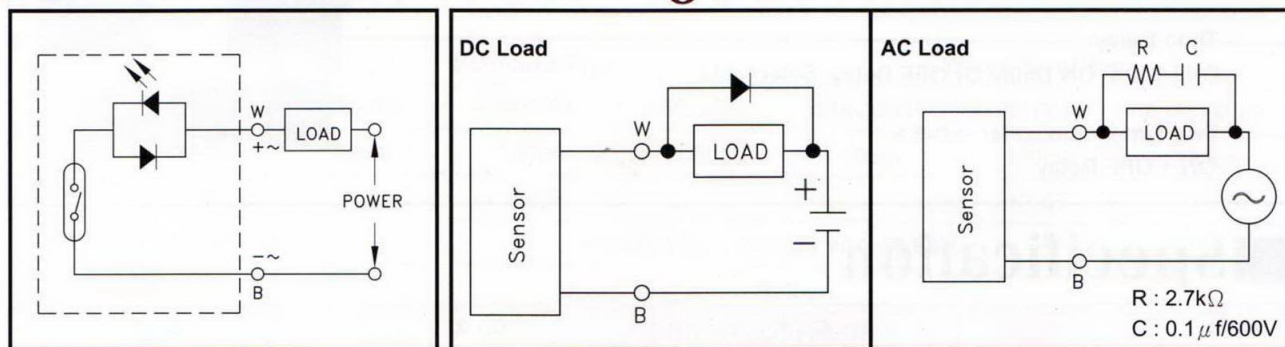
- * Free Voltage : AC / DC Suitable
- * Wide Voltage Range : 5~240V
- * High Capacity of Contact : 8W
- * High Speed Response Time : 1ms
- * Long Life Over 10^7 Times



Specification

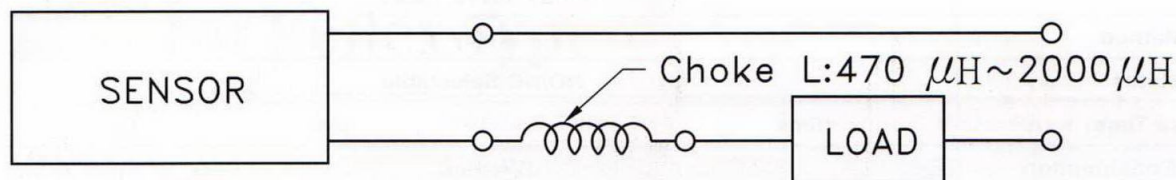
| Type | Standard Type | Mini Type | T Type |
|-------------------|--|-----------|--------|
| Model | FC - 1 | FC - 2 | FC - 3 |
| Operating Voltage | 5~240 VAC / DC | | |
| Rated Current | 50mA | | |
| Rated Wattage | DC : 8W , AC : 10VA | | |
| Output Status | NO | | |
| Response Time | 1ms | | |
| Voltage Drop | 2V max. | | |
| Connection Method | 2M / 2 Cores | | |
| Operating Temp. | -10 C~+60 C | | |
| Protection Class | IP-66 | IP-64 | IP-66 |
| Weight | 42g | 33g | 35g |
| Model of NC | FC-1B , FC-2B & FC-3B , Specification same As NO Type , But Operating Voltage is 5~24 VDC , 20mA / 2W Only | | |
| Dimension | | | |

■ Circuit & Connection Diagram / Protection Circuit



■ Notice

If The Lead Wire of Reed Sensor is Extended Over 10m , Please Serie The Choke To Reed Sensor , As Closure As Possible .



■ Fixed Parts

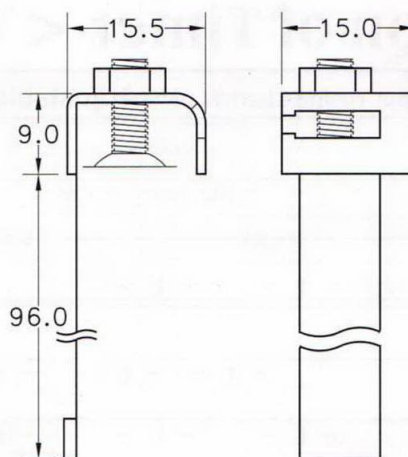
Band

PN - 16 - S

Material of Cylinder
S : Stainless Steel
A : Aluminum Alloy

Diameter of Cylinder

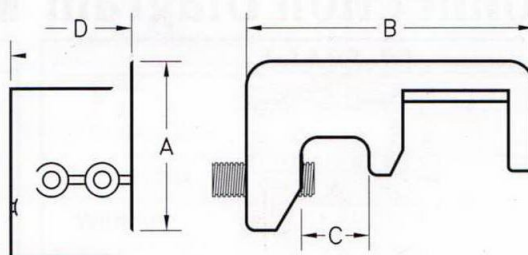
16 : 16.0 φ
20 : 20.0 φ
:
:
150 : 150.0 φ



Bracket

Unit : mm

| Model | A | B | C | D |
|-------|------|------|------|------|
| PM-6 | 20.5 | 31.0 | 6.0 | 12.0 |
| PM-8 | 20.5 | 34.0 | 8.0 | 12.0 |
| PM-10 | 21.0 | 36.0 | 10.0 | 12.0 |



- * Synchronized Control Suitable
- * Time Delay:
ONE Shot, ON Delay Or OFF Delay Selectable.
- * Two Timer Controller < C-3 >
ON + OFF Delay



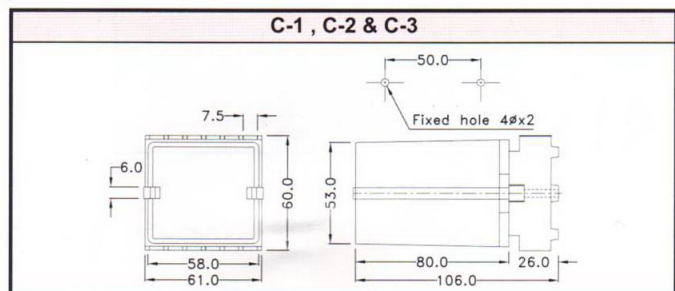
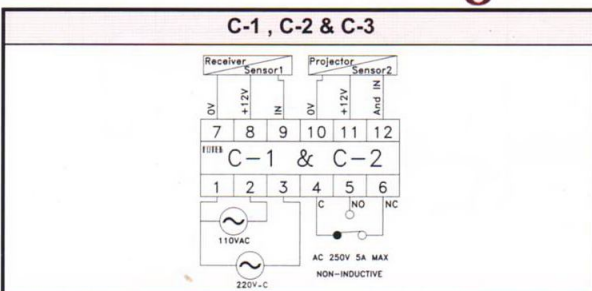
Specification

| Model | C - 1 | C - 2 | C - 3 |
|----------------------|------------------------------|---|---|
| Operating Voltage | 110V/220VAC ± 20%, 50/60 Hz | | |
| DC Power Output | 150mA/12VDCmax. | | |
| Output Control | Non | One Shot ON Delay & OFF Delay Selectable Range : 0.01s~10.0s | Timer 1: ON Delay Timer 2: One Shot ON Delay & OFF Delay |
| Output Method | Relay | | |
| Output Status | NO/NC Selectable | | |
| Response Time | 15ms | 1ms | |
| Current Consumption | 3VA max. | | |
| Operating Temp./Hum. | -20°C ~ +60°C ; 35% ~ 85% RH | | |
| Housing Material | Intensive ABS | | |

Function of Timer < C-2/C-3 >

| Timer | Output Timing Chart T : < Adjustable > | Remarks |
|------------------|--|---|
| Input<Hi → Lo> | | t : Delay Time Range : 0.01s ~ 1s 0.1s ~ 10s Selectable Input : Hi → Lo Enable And Input : Hi → Lo Disable |
| Non Delay Output | | |
| ON Delay Output | | |
| OFF Delay Output | | |
| ONE Shot Output | | |
| AND Input | | |
| AND Output | | |

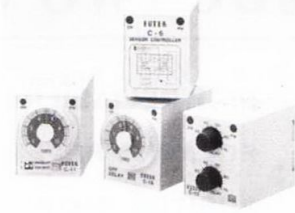
Connection Diagram Dimension



SENSOR CONTROLLER

C
series

- * High Compact, High Reliability & Low Cost Sensor Controller.
- * Input NPN or PNP Selectable
(A:NPN B:PNP)
- * Suited for Proximity Sensor or Photo Sensor
- * C-6:Standard Controller
- * C-10:OFF DELAY Controller
- * C-11:ON DELAY or ONE SHOT Controller.
- * C-12:ON+OFF DELAY Controller(Twin Timer)



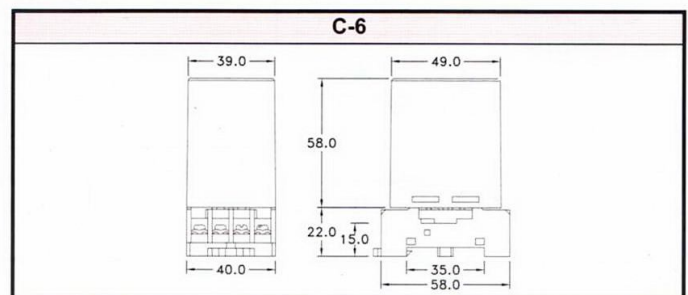
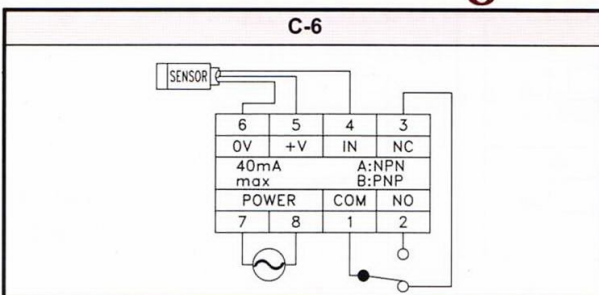
Specification

| Model | C - 6 | C - 10 | C - 11 | C - 12 |
|-----------------------|-------------------------------------|-----------|----------------------|----------------------|
| Timer | Non | OFF DELAY | ON DELAY or ONE SHOT | ON DELAY + OFF DELAY |
| Range of Timer | 0~10 Secretary Adjustable | | | |
| Power Supply | 110V or 220V or 380VAC± 20% 50/60Hz | | | |
| Input Method | NPN or PNP Selectable | | | |
| Ouput Method | Realay(5A/250 VAC) | | | |
| Response Time | 15ms | 1ms | | |
| DC Power Output | 12 VDC / 40 mA max. | | | |
| Current Consumption | 3 VA max | | | |
| Insulation Resistance | 100MΩ /500 VDC | | | |
| Dielectric Strength | 2.5KV / 1 min. | | | |
| Protection Class | IP-65 | | | |
| Operating Temp./Hum. | -20℃~60℃;35%~85%RH | | | |
| Housing Material | Intensive ABS | | | |
| Socket | PF-085A | | | |
| Weight | | | | |

Function of Timer <C-10/C-11/C-12>

| Model | Timer | Output Timing Chart | Remarks |
|-------|---------------------|---------------------|---|
| | PNP INPUT | | (一)Mode Selecting "A" NPN INPUT "B" PNP INPUT (二)Range of Timer 0.01S~10.0S Adjustable |
| C-6 | NON DELAY | | |
| C-10 | OFF DELAY | | |
| C-11 | ON DELAY | | |
| C-11 | ONE SHOT | | |
| C-12 | ON DELAY+ OFF DELAY | | |

Connection Diagram Dimension

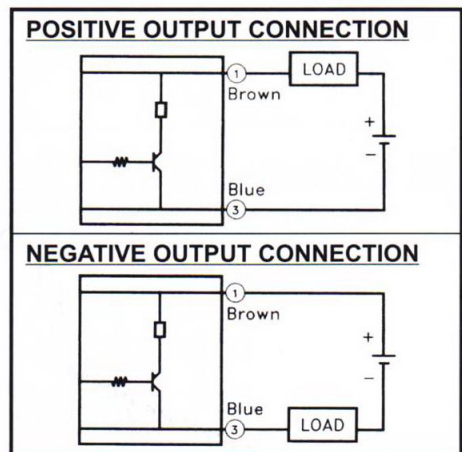
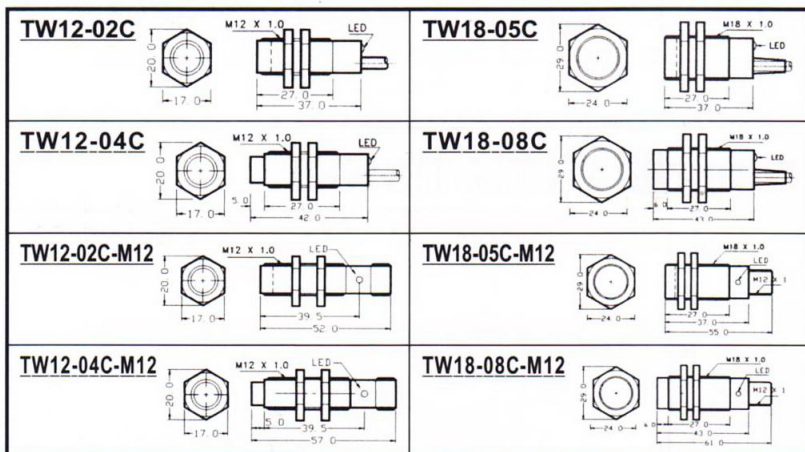


DC TWO WIRES TYPE 兩線式 近接開關

- ※ HIGH RELIABILITY WITH SHORT CIRCUIT & POLARITY REVERSED PROTECTION CIRCUIT
- ※ POSITIVE OUTPUT OR NEGATIVE OUTPUT ARE AVAILABLE
- ※ PROTECTION CLASS : IP-67
- ※ LOW LEAKAGE CURRENT : 0.8 mA MAX.

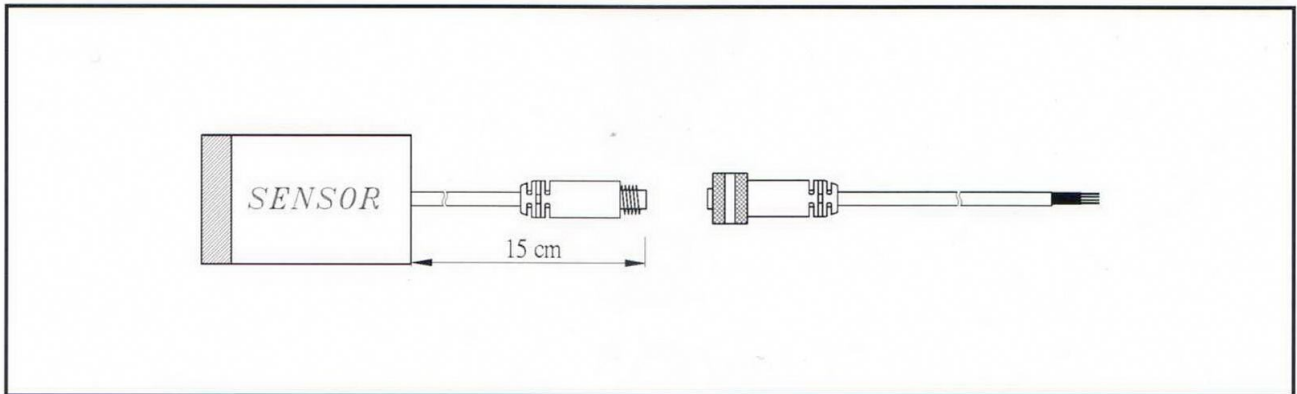
SPECIFICATION 規格

| Outline | 外形 | M12 | | M18 | |
|------------------------|------|--|-------------|----------|-------------|
| Model | 型號 | TW12-02C | TW12-04C | TW18-05C | TW18-08C |
| Mounting method | 安裝方式 | Flushed | Non-Flushed | Flushed | Non-Flushed |
| Sensing distance | 檢測距離 | 2.0 mm | 4.0 mm | 5.0 mm | 8.0 mm |
| Setting distance | 有效距離 | 0~1.6 mm | 0~3.2 mm | 0~4.0 mm | 0~6.4 mm |
| Response Frequency | 應答速度 | 1.0 KHz | 800 Hz | 500 Hz | 400 Hz |
| Hysteresis | 感差 | 10 % of Sensing Distance max. | | | |
| Operating voltage | 工作電壓 | 10-30 VDC; Ripple < ± 20% of peak to peak | | | |
| Leakage current | 漏電流 | 0.8 mA max. | | | |
| Residual voltage | 殘留電壓 | 4.0V max. | | | |
| Output current | 輸出電流 | 5.0-150.0 mA | | | |
| Protection circuit | 保護迴路 | Short Circuit & Polarity Reversed Protection | | | |
| Connection method | 出線方式 | 2 Cores/4.0φ -2m or M12 Connector | | | |
| Housing material | 外殼材質 | Cu Plated Ni | | | |
| Protection class | 保護方式 | IP-67 | | | |
| Operating circumstance | 工作環境 | -20°C ~ 80°C | | | |



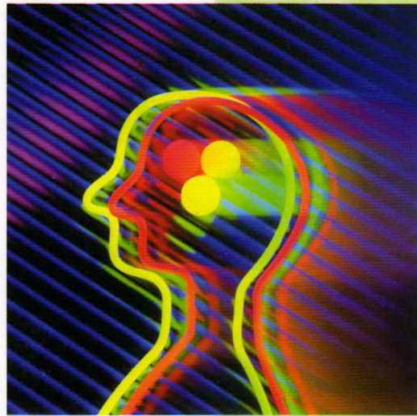
SENSOR WITH M8 LEAD WIRE CONNECTOR & M8/M12 CONNECTOR CABLE

M8 LEAD WIRE CONNECTOR TYPE ALL SENSORS ARE AVAILABLE



M8 & M12 CONNECTING LEAD WIRE CABLE

| MODEL | OUTLINE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|--|---------|-------|---------|--------|-----|-----|---|-------|---------|----|---------|--------|---|-------|---------|----|---------|--------|---|------|--|--|--|--|---|-------|--|--|--|--|
| M8-3C-□M | <table border="1"> <thead> <tr> <th>4P PLUG</th> <th>COLOR</th> <th>規格</th> <th>"A"</th> <th>"B"</th> <th>"C"</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>BROWN</td> <td>M8-3m</td> <td>3m</td> <td>50± 3mm</td> <td>5± 1mm</td> </tr> <tr> <td>2</td> <td>BLACK</td> <td>M8-5m</td> <td>5m</td> <td>50± 3mm</td> <td>5± 1mm</td> </tr> <tr> <td>3</td> <td>BLUE</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | 4P PLUG | COLOR | 規格 | "A" | "B" | "C" | 1 | BROWN | M8-3m | 3m | 50± 3mm | 5± 1mm | 2 | BLACK | M8-5m | 5m | 50± 3mm | 5± 1mm | 3 | BLUE | | | | | | | | | | |
| 4P PLUG | COLOR | 規格 | "A" | "B" | "C" | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | BROWN | M8-3m | 3m | 50± 3mm | 5± 1mm | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | BLACK | M8-5m | 5m | 50± 3mm | 5± 1mm | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | BLUE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M8-4C-□M | <table border="1"> <thead> <tr> <th>4P PLUG</th> <th>COLOR</th> <th>規格</th> <th>"A"</th> <th>"B"</th> <th>"C"</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>BROWN</td> <td>M8-3m</td> <td>3m</td> <td>50± 3mm</td> <td>5± 1mm</td> </tr> <tr> <td>2</td> <td>WHITE</td> <td>M8-5m</td> <td>5m</td> <td>50± 3mm</td> <td>5± 1mm</td> </tr> <tr> <td>3</td> <td>BLUE</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>BLACK</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | 4P PLUG | COLOR | 規格 | "A" | "B" | "C" | 1 | BROWN | M8-3m | 3m | 50± 3mm | 5± 1mm | 2 | WHITE | M8-5m | 5m | 50± 3mm | 5± 1mm | 3 | BLUE | | | | | 4 | BLACK | | | | |
| 4P PLUG | COLOR | 規格 | "A" | "B" | "C" | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | BROWN | M8-3m | 3m | 50± 3mm | 5± 1mm | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | WHITE | M8-5m | 5m | 50± 3mm | 5± 1mm | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | BLUE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | BLACK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M12-□M | <table border="1"> <thead> <tr> <th>4P PLUG</th> <th>COLOR</th> <th>規格</th> <th>"A"</th> <th>"B"</th> <th>"C"</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>BROWN</td> <td>M12-3m</td> <td>3m</td> <td>50± 3mm</td> <td>5± 1mm</td> </tr> <tr> <td>2</td> <td>WHITE</td> <td>M12-5m</td> <td>5m</td> <td>50± 3mm</td> <td>5± 1mm</td> </tr> <tr> <td>3</td> <td>BLUE</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>BLACK</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | 4P PLUG | COLOR | 規格 | "A" | "B" | "C" | 1 | BROWN | M12-3m | 3m | 50± 3mm | 5± 1mm | 2 | WHITE | M12-5m | 5m | 50± 3mm | 5± 1mm | 3 | BLUE | | | | | 4 | BLACK | | | | |
| 4P PLUG | COLOR | 規格 | "A" | "B" | "C" | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | BROWN | M12-3m | 3m | 50± 3mm | 5± 1mm | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | WHITE | M12-5m | 5m | 50± 3mm | 5± 1mm | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | BLUE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | BLACK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M12-L□M | <table border="1"> <thead> <tr> <th>4P PLUG</th> <th>COLOR</th> <th>規格</th> <th>"A"</th> <th>"B"</th> <th>"C"</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>BROWN</td> <td>M12-L3m</td> <td>3m</td> <td>50± 3mm</td> <td>5± 1mm</td> </tr> <tr> <td>2</td> <td>WHITE</td> <td>M12-L5m</td> <td>5m</td> <td>50± 3mm</td> <td>5± 1mm</td> </tr> <tr> <td>3</td> <td>BLUE</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>BLACK</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | 4P PLUG | COLOR | 規格 | "A" | "B" | "C" | 1 | BROWN | M12-L3m | 3m | 50± 3mm | 5± 1mm | 2 | WHITE | M12-L5m | 5m | 50± 3mm | 5± 1mm | 3 | BLUE | | | | | 4 | BLACK | | | | |
| 4P PLUG | COLOR | 規格 | "A" | "B" | "C" | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | BROWN | M12-L3m | 3m | 50± 3mm | 5± 1mm | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | WHITE | M12-L5m | 5m | 50± 3mm | 5± 1mm | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | BLUE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | BLACK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



量產化、標準化、製造世界標準電控器材。
先進技術、嚴格品管，提供最佳品質保證。

**To Manufacture The World-Standard Controls
By Mass-Producing & Standardizing**

**To Offer Excellent Quality Assurance
By Advanced Manufacture Technology &
Strict Total Auality Control**

**陽明電機股份有限公司
FOTEK CONTROLS CO., LTD.**

AGENT: