

# 5 位數頻率錶 (5 DIGITAL FREQUENCY METER )

MODEL  
MF

CE



## ■特點(FEATURES)

- 精確度0.01%滿刻度 (Accuracy 0.01% F.S.)
- 可量測 交流頻率/直流脈波頻率 (Measuring AC Frequency, Pulse(TTL,CMOS) Frequency)
- 最大輸入頻率 50KHz(Accepts input rates up to 50KHz)
- 小數點位置可任意規劃(Decimal point can be modified)
- 尺寸小、穩定性高(Dimension small and High stability)

1.MODEL:MF-□  
(選購型號)

| NO | Input Frequency | NO | Input Level | NO | Aux. Power |
|----|-----------------|----|-------------|----|------------|
| A  | 0~99.999 Hz     | 1  | Pulse(TTL)  | A  | AC110/220V |
| B  | 0~999.99 Hz     | 2  | Pulse(CMOS) | O  | SPECIFIED  |
| C  | 0~9999.9 Hz     | 3  | AC 2~60V    |    |            |
| D  | 0~49999 Hz      | 4  | AC 50~600V  |    |            |
| E  | SPECIFIED       | 9  | SPECIFIED   |    |            |

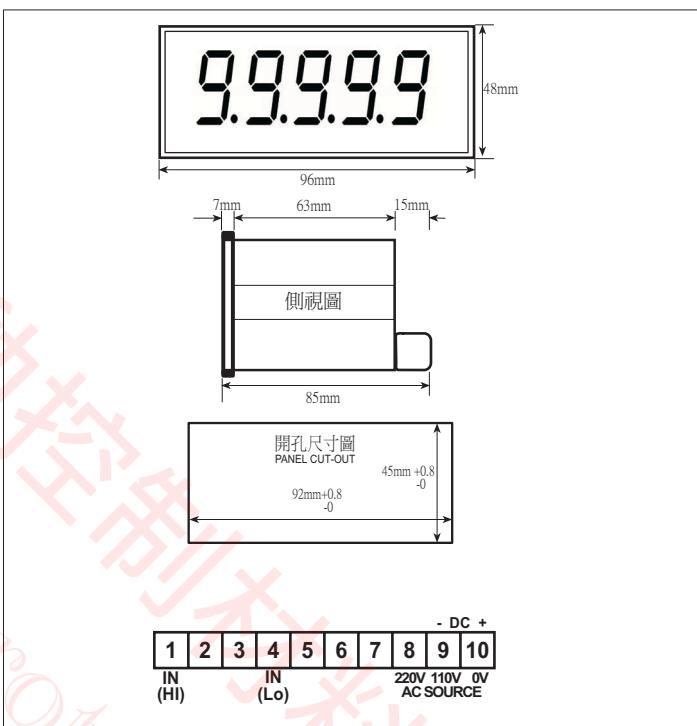
• ±20% of rate less  
3VA for AC input  
(50/60Hz)

## 2:SPECIFICATION (主要規格)

- Measuring accuracy : 0.01% F.S. (23±5°C)  
(精確度)
- Sampling time : 10 cycles/sec. (>10Hz)  
(取樣時間)
- Input impedance : >2M ohm or more  
(輸入阻抗)
- Max. input over : 1.5 x rated continuous  
(過載能力)
- Over input indication : 2 x rated 30 seconds  
(過載顯示)
- Readout range : 0~99999 digit adjustable  
(顯示值範圍)
- Parameter setting : Touch switches  
(參數設方式)
- Display : Red high efficiency LEDs high  
14.22mm (0.56")
- Dielectric strength : 2KVac/1 min. (input/power)  
(絕緣耐壓能力)
- Surge test : ANSI C37.90a/1974, DIN-IEC255-4  
(突波測試)
- Operating condition : impulse voltage 4KV (1.2 x 50us)  
(使用環境條件)
- Storage condition : 0~50°C (20 to 90% RH non-condensed)  
(存放環境條件)
- CE EMC Certification : EN 55022:1998/A1:2000 Class A  
(CE認證)
- EN 61000-3-2:2000  
EN 61000-3-3:1995/A1:2001  
EN 55024:1998/A1:2001

## 3.OUTSIDE DIMENSION AND CONNECTION DIAGRAM

(外型尺寸與開孔尺寸與配線圖)



## 4.ORDERING INFORMATION

(訂購方式)

## MODEL:MF-B4A

- Input Frequency : 0~999.99Hz  
(輸入頻率範圍)
- Input Level : AC 50~600V  
(輸入信號範圍)
- Aux. power suppr : AC110V or 220V±20%(50 or 60Hz)  
(輔助電源)

# 微電腦型交流電力控制電錶 ( MICROPROCESS AC POWER CONTROLLER METER )

MODEL  
MMP

CE



## ■特點(FEATURES)

- 精確度0.25%滿刻度 $\pm 1$ 位數(Accuracy 0.25% F.S. $\pm 1$  digit)
- 可量測交流瓦特/乏爾/功率因數/相角(Measuring watt/var/power factor/phase angel)
- 顯示範圍0~ $\pm 19999$ 可任意規劃(Programmable rate 0 to  $\pm 19999$  digit)
- 輸入與輸出絕緣耐壓 2千伏特/1分鐘(Dielectric strength 2KVac/1 min.(input/output/power))
- 突波測試強度4千伏特(1.2x50us)(surge test 4KV(1.2x50us))
- 2組警報功能(Dual alarm function )(Optional)
- 15BIT 類比輸出功能(15 bit DAC analog output function)(Optional)
- 數位RS-485界面(Digit RS-485 interface function)(Optional)

## 1.MODEL:MMP- □ □ - □ □ - □ □ □ □ (選購型號)

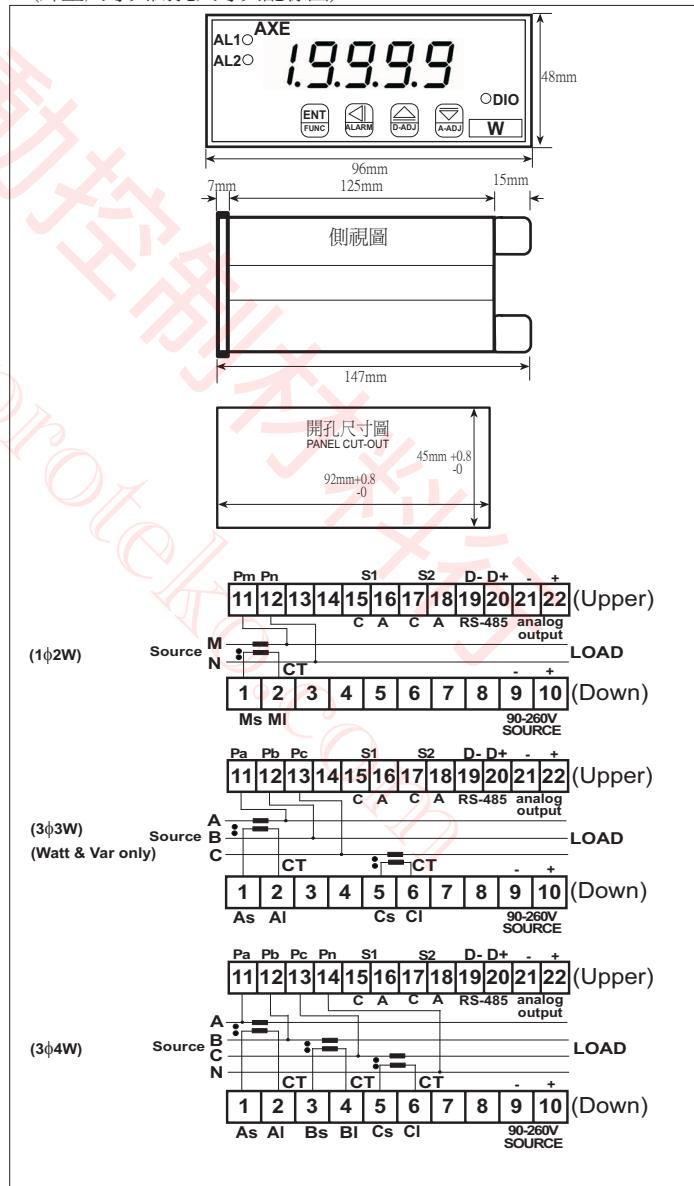
| NO | Input Type   | NO | Input unit | NO | Input Voltage      | NO | Input Current | NO | Input Frequency      | NO | Alarm | NO | Analog    | NO           | RS-485 | NO                        | Aux. Power   |
|----|--------------|----|------------|----|--------------------|----|---------------|----|----------------------|----|-------|----|-----------|--------------|--------|---------------------------|--------------|
| W  | Watt         | 1  | 1φ2W       | 1  | 0~120V             | 1  | 0~1A          | A  | 50Hz                 | 0  | None  | N  | None      | None         | A      | AC/DC18~60V               |              |
| V  | Var          | 3  | 3φ3W       | 2  | 0~240V             | 2  | 0~5A          | B  | 60Hz                 | 1  | One   | I  | DC4~20mA  | Y            | RS-485 | B                         | AC/DC90~260V |
| F  | Power Factor | 4  | 3φ4W       | 3  | 0~400V             | 9  | SPECIFIED     | C  | 400Hz                | 2  | Two   | V  | DC0~10V   | •Modbus mode |        | •Less 4VA for AC/DC input |              |
| A  | Phase Angel  | 9  | SPECIFIED  |    | Voltage $\pm 30\%$ |    |               |    | Frequency $\pm 10\%$ |    |       | R  | SPECIFIED |              |        |                           |              |

## 2.SPECIFICATION (主要規格)

- Measuring accuracy (精確度) (23 $\pm 5^\circ C$ ) : 0.25% F.S.(Watt,Var,phase angle)
- Input burden (輸入負載) : <0.2VA (Voltage)
- Maximum input over (最大過載能力) : Current related input: 3 x rated continuous Voltage related input: maximum 2 x rated continuous
- Over input indication (過載顯示) : "doFL" or "-doFL"
- Readout range (顯示值範圍) : 0~ $\pm 19999$  digit adjustable(MMP-W/V/A) -0.300~-1.000~+1.000~+0.300cosθ(MMP-F)
- Alarm action (繼電器動作方向) : HI or Lo adjustable
- Relay contact output (繼電器容量) : AC 250V-5A, DC 30V-7A
- Analog output resolution (類比輸出解析度) : 15 bit DAC
- Response time (輸出反應速度) : < 250ms(0~90%)
- Output drive capability (輸出負載能力) : < 10mA for voltage mode < 10V for current mode
- Output ripple (p-p) (輸出之漣波) : < 0.1% F.S.
- RS-485 address (通訊位址) : "01"~"FF"(0~255)
- RS-485 baud rate (傳輸速度) : 19200/9600/4800/2400 selective
- RS-485 protocol (通信協議) : Modbus RTU mode
- Temp. coefficient (溫度係數) : 100ppm/ $^\circ C$  (0~50 $^\circ C$ )
- Display (顯示幕) : Red high efficiency LEDs high 14.22mm(0.56")
- Parameter setting (參數設定方式) : Touch switches
- Memory mode (記憶型式) : Non-volatile E<sup>2</sup> PROM memory
- Dielectric strength (絕緣耐壓能力) : 2KVac/1 min. (input/output/power)
- Surge test (突波測試) : ANSI c37.90a/1974,DIN-IEC 255-4 impulse voltage 4KV(1.2x50us)
- Operating condition (使用環境條件) : 0~50 $^\circ C$ (20 to 90% RH non-condensed)
- Storage condition (存放環境條件) : 0~70 $^\circ C$ (20 to 90% RH non-condensed)
- CE EMC Certification (CE認證) : EN 55022:1998/A1:2000 Class A  
EN 61000-3-2:2000  
EN 61000-3-3:1995/A1:2001  
EN 55024:1998/A1:2001

## 3.OUTSIDE DIMENSION AND CONNECTION DIAGRAM

(外型尺寸與開孔尺寸與配線圖)



# 微電腦型交流瓦特/瓦特小時/(乏爾/乏爾小時)控制電錶

( MICROPROCESS WATT/WATTHOUR(VAR/VARHOUR) CONTROLLER METER )

MODEL  
MPH

CE



## ■特點(FEATURES)

- 精確度0.25%滿刻度±1位數(Accuracy 0.25%F.S.±1digit)
- 顯示範圍0至19999(瞬間量),0至99999999(九位數累積量)可任意規劃  
(Programmable rate 0 to 19999 digit (rate), 0 to 99999999 digit (totalizer))
- 瞬間量之最高顯示值可任意規劃(0至19999)(Programmable rate 0 to 19999 digit)
- 累積量之積算比例可任意規劃(0.00001至9999.9999)  
(Programmable scale factor (0.00001 to 9999.9999) (totalizer))
- 輸入與輸出絕緣耐壓2千伏特/1分鐘(Dielectric strength 2KVac/1 min.(input/output/power))
- 突波測試強度4千伏特(1.2x50us)(Surge test 4KV(1.2x50us))
- 二組警報功能(Dual alarm function) (Optional)
- 15 BIT 隔離類比輸出(15 bit DAC isolating analog output function) (Optional)
- 數位RS-485界面(Digit RS-485 interface function) (Optional)
- 數位脈波輸出(Digit pulse output function) (Optional)

## 1.MODEL: MPH-□ □ - □ □ □ - □ □ □ □ □

(選購型號)

| NO | Input Type | NO | Input unit | NO           | Input Voltage | NO             | Input Current | NO                           | Input Frequency | NO                        | Alarm | NO | Analog   | NO | RS-485   | NO           | Pulse                                       | NO | Aux. Power   |
|----|------------|----|------------|--------------|---------------|----------------|---------------|------------------------------|-----------------|---------------------------|-------|----|----------|----|----------|--------------|---|----|--------------|
| W  | Watt       | 1  | 1φ2W       | 1            | 0~120V        | 1              | 0~1A          | A                            | 50Hz            | 0                         | None  | N  | None     | N  | None     | N            | None  | A  | AC/DC18~60V  |
|    | Watthour   | 3  | 3φ3W       | 2            | 0~240V        | 2              | 0~5A          | B                            | 60Hz            | 1                         | One   | I  | DC4~20mA | Y  | RS-485   | Y            | 1pulse/count                                | B  | AC/DC90~260V |
| V  | Var        | 4  | 3φ4W       | 3            | 0~400V        | 9              | SPECIFIED     | C                            | 400Hz           | 2                         | Two   | V  | DC0~10V  | T  | DC4~20mA | •Modbus mode | •Standard open collector(Max. DC30V, <40mA) | R  | SPECIFIED    |
|    | Varhour    | 9  | SPECIFIED  | •Voltage±30% |               | •Frequency±10% |               | •Pulse output only one alarm |                 | •Less 5VA for AC/DC input |       |    |          |    |          |              |   |    |              |

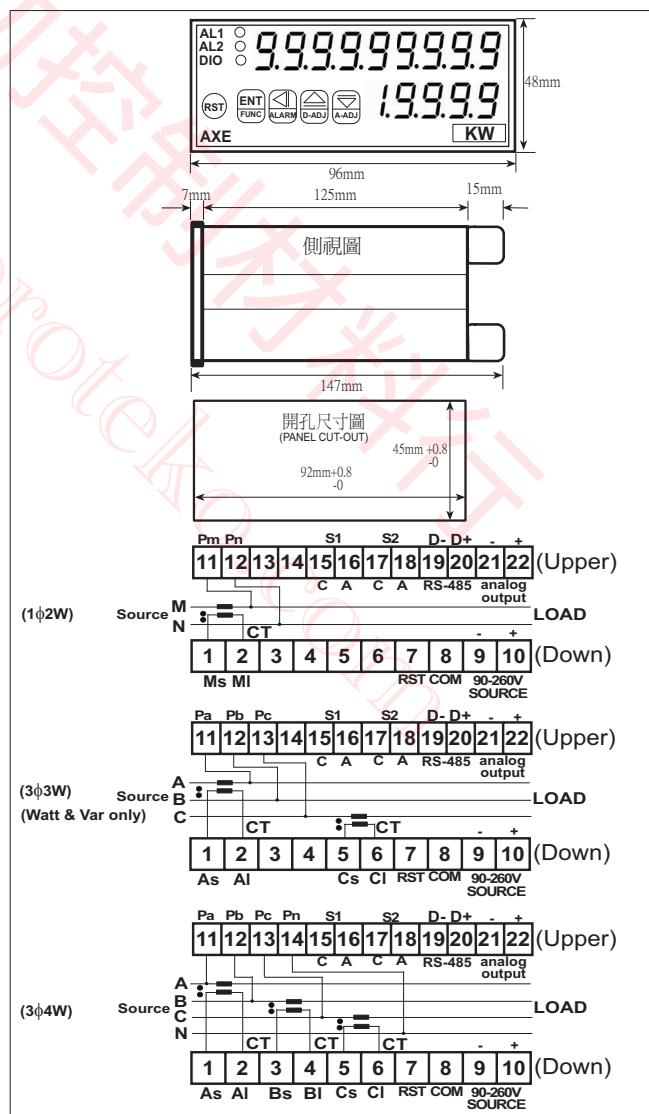
• Two-wire transmitter (Exciting voltage DC10~36V)

## 2.SPECIFICATION (主要規格)

- Measuring accuracy : 0.25% F.S.±1 digit (rate) (23±5°C) (精確度)
- Over input indication : " doFL " or "-doFL" (過載顯示)
- Readout (compare) range : 0~19999 adjustable(rate) 0~99999999 adjustable (totalizer) (顯示值(比較值)範圍)
- Alarm action : Hi or Lo adjustable (繼電器動作方向)
- Relay contact output : AC 250V-5A,DC 30V-7A (繼電器容量)
- Analog output resolution : 15 bit DAC (isolating) (類比輸出解析度)
- Response time : < 250ms (0~90%) (反應速度)
- Output drive capability : < 10mA for voltage mode < 10V for current mode <[(V+)-7.5V]/20mA for two-wire mode (輸出負載能力)
- Output ripple (p-p) : < 0.1% F.S. (輸出之漣波)
- RS-485 baud rate : 19200/9600/4800/2400 selective (傳輸速率)
- RS-485 address : "01"~"FF"(0~255) (通訊位址)
- RS-485 protocol : Modbus RTU mode (通訊協議)
- Temp. coefficient : 100ppm/°C (0~50°C) (溫度係數)
- Display : Red high efficiency LEDs high 10.16 mm(0.4") (顯示幕)
- Parameter setting : Touch switches (參數設定方式)
- Memory mode : Non-volatile E<sup>2</sup> PROM memory (記憶方式)
- Dielectric strength : 2KVac/1 min. (input/output/power) 1600 Vdc (input/output) (絕緣耐壓能力)
- Surge test : ANSI c37.90a/1974,DIN-IEC 255-4 impulse voltage 4KV(1.2x50us) (突波測試)
- Operating condition : 0~50°C(20 to 90% RH non-condensed) (使用環境條件)
- Storage condition : 0~70°C(20 to 90% RH non-condensed) (存放環境條件)
- CE EMC Certification : EN 55022:1998/A1:2000 Class A EN 61000-3-2:2000 EN 61000-3-3:1995/A1:2001 EN 55024:1998/A1:2001 (CE認證)

## 3.OUTSIDE DIMENSION AND CONNECTION DIAGRAM

(外型尺寸與開孔尺寸與配線圖)



# 微電腦型單相交流集合式電錶(單相二線系統) (MICROPROCESS AC MULTI-POWER METER)(1φ2W)

MODEL  
MMX-P1

CE



## ■特點(FEATURES)

- 精確度0.25%滿刻度±1位數(Accuracy 0.25% F.S.±1 digit)(ACA/ACV/WATT/VA)
- 可同時量測與顯示交流電壓、電流、頻率、瓦特、(功率因數/視在功率)(Measuring ACA/ACV/Frequency/WATT(power factor or Apparent power))
- 交流電壓、電流、瓦特皆為真正有效值(TRMS)(ACA/ACV/WATT for True RMS)
- 交流電流、瓦特之小數點可任意設定(ACA/WATT decimal point can be modified)
- 瓦特單位W或KW可任意設定(W or KW scale can be modified)
- CT比可任意設定(1至999)(CT rate can be modified(1 to 999))
- 輸入與輸出絕緣耐壓 2千伏特/分鐘(Dielectric strength 2KVac/1 min.(input/output/power))
- 突波測試強度4千伏特(1.2x50us)(surge test 4KV(1.2x50us))
- 數位RS-485界面(Digit RS-485 interface function)(Optional)

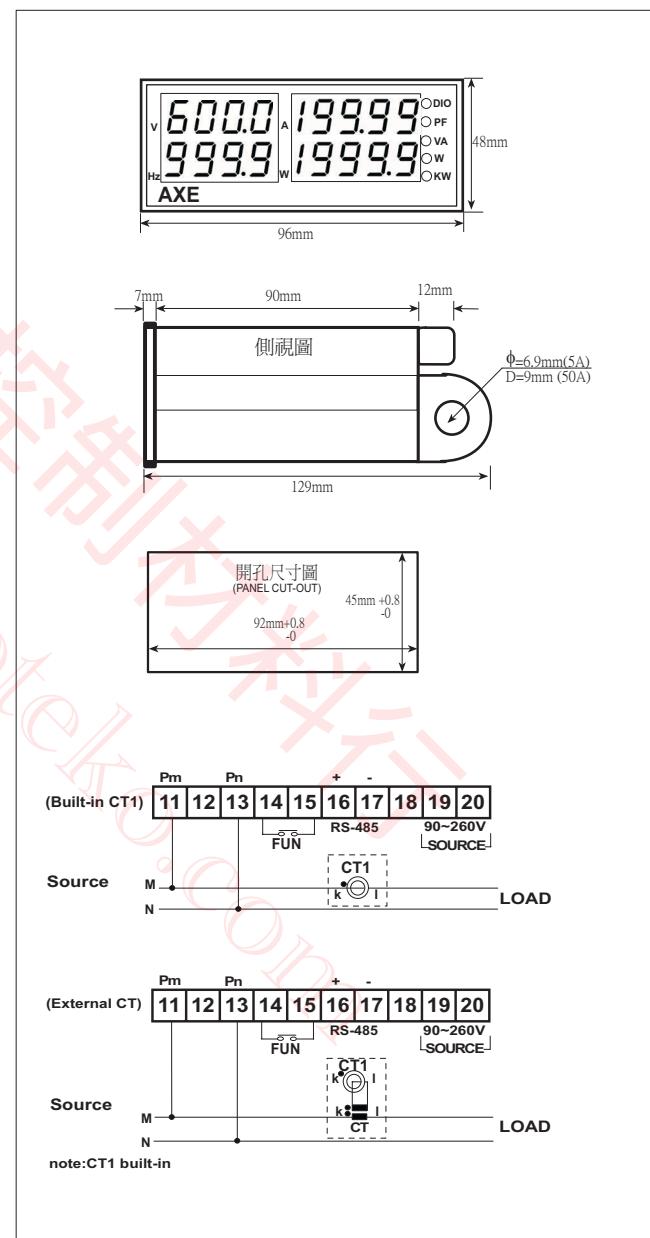
## 1: MODEL:MMX-P1-□ □ □ □

選購型號

| NO | Input Voltage | NO | Input Current | NO | RS-485       | NO | Aux. Power                |
|----|---------------|----|---------------|----|--------------|----|---------------------------|
| 1  | AC0~300.0V    | 2  | AC0~5A        | N  | None         | A  | AC/DC18~60V               |
| 2  | AC0~600.0V    | 3  | AC0~50A       | Y  | RS-485       | B  | AC/DC90~260V              |
| 9  | SPECIFIED     | 9  | SPECIFIED     |    | •Modbus mode |    | •Less 5VA for AC/DC input |

## 2.SPECIFICATION(主要規格)

- Measuring accuracy (精確度) (23±5°C)
  - : 0.1% F.S.±1 digit (Frequency)
  - : 0.25% F.S.±1 digit(ACA,ACV,Watt,VA)
  - : 0.25% F.S.±0.25%(Power Factor)
- Input burden (輸入負載)
  - : <0.2VA (Voltage)
  - : <0.2VA (Current)
- Maximum input over (最大過載能力)
  - : Current related input: 3 x rated continuous 10 x rated 30 sec. 25 x rated 3sec.
  - : 50 x rated 1sec.
- Over input indication (過載顯示)
  - : "doFL"
- Readout range (顯示值範圍)
  - : 0~600.0V(Voltage)
  - : 0~999.9Hz(Frequency)(<20% for voltage input)
  - : 0~19999 digit adjustable(Current, Watt, VA)
  - : -0.300~-1.000~+1.000~+0.300cosθ(PF)
- Sampling time (取樣時間)
  - : 2 cycles/sec.
- RS-485 address (通訊位址)
  - : "01"~"FF"(0~255)
- RS-485 baud rate (傳輸速度)
  - : 19200/9600/4800/2400 selective
- RS-485 protocol (通信協議)
  - : Modbus RTU mode
- Temp. coefficient (溫度係數)
  - : 100ppm/°C (0~50°C)
- Display (顯示幕)
  - : Red high efficiency LEDs high 10.16 mm(0.4")
- Parameter setting (參數設定方式)
  - : Touch switches
- Memory mode (記憶型式)
  - : Non-volatile E<sup>2</sup> PROM memory
- Insulation Resistance (絕緣阻抗)
  - : >100Mohm with 500V DC
- Dielectric strength (絕緣耐壓能力)
  - : 2KVac/1 min. (input/output/power)
  - : 1600 Vdc (input/output)
- Surge test (突波測試)
  - : ANSI c37.90a/1974,DIN-IEC 255-4 impulse voltage 4KV(1.2x50us)
- Operating condition (使用環境條件)
  - : 0~50°C(20 to 90% RH non-condensed)
- Storage condition (存放環境條件)
  - : 0~70°C(20 to 90% RH non-condensed)
- CE EMC Certification (CE認證)
  - : EN 55022:1998/A1:2000 Class A
  - : EN 61000-3-2:2000
  - : EN 61000-3-3:1995/A1:2001
  - : EN 55024:1998/A1:2001

3. OUTSIDE DIMENSION AND CONNECTION DIAGRAM  
(外型尺寸與開孔尺寸與配線圖)

# 三相交流電壓/電流電錶 (3 PHASE AC VOLTAGE/CURRENT METER )

MODEL  
MMP-3VI

CE



## ■特點(FEATURES)

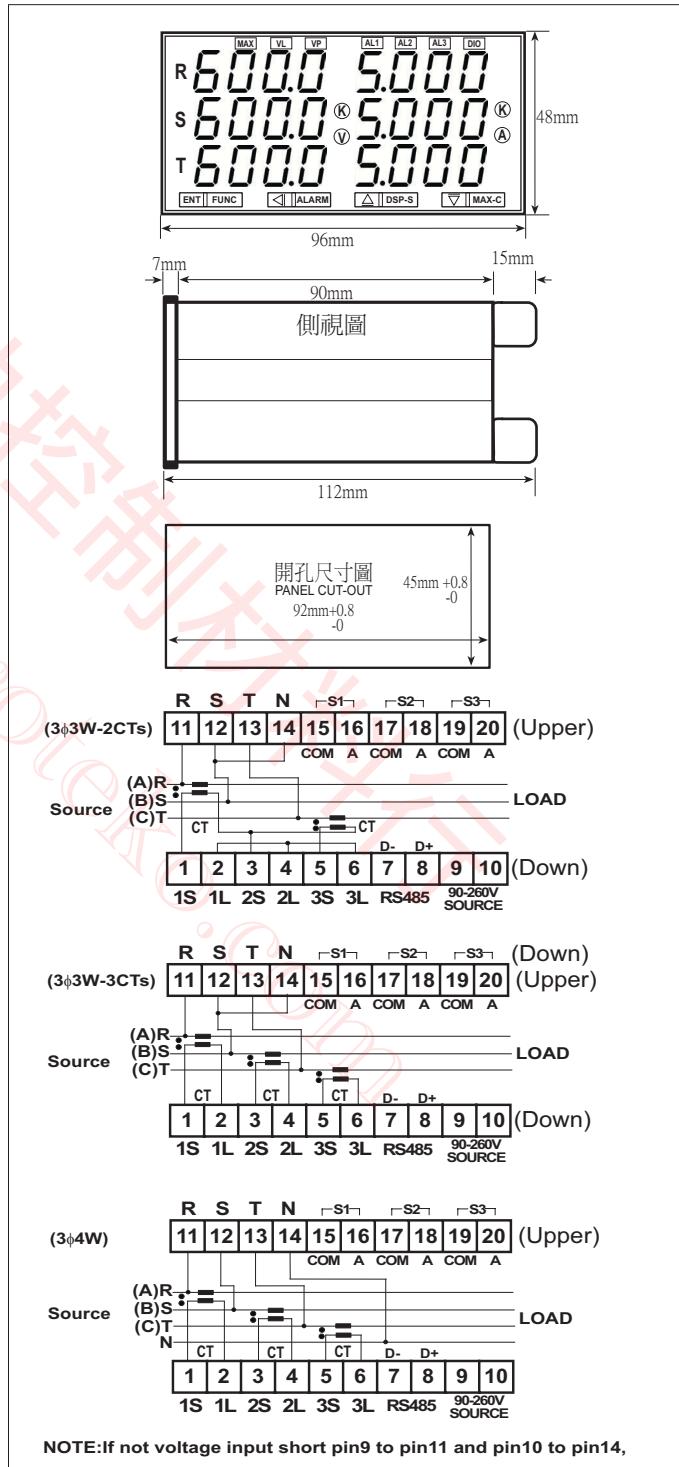
- 精確度0.15%滿刻度(Accuracy 0.15% F.S.)
- 可同時量測與顯示三相交流相電壓、線電壓、電流(Measuring ACV-line/ACV-phase/A)
- CT比與PT比可任意設定(1至9999)(CT rate/PT rate can be modified(1 to 9999))
- 手動與自動顯示模式可任意規劃(Manual or auto scanning mode can be modified)
- 突波測試強度4千伏特(1.2x50us)surge test 4KV(1.2x50us)
- 3組警報控制功能(Three alarm control function )(optional)
- 數位RS-485界面(Digit RS-485 interface function)(Optional)

## 1.MODEL:MMP-3VI-□ □ □

|        |              |              |              |        |                           |              |
|--------|--------------|--------------|--------------|--------|---------------------------|--------------|
| (選購型號) | NO           | Alarm Output | NO           | RS-485 | NO                        | Aux. Power   |
| N      | None         | N            | None         | Y      | A                         | AC/DC18~60V  |
| R      | Relay(Three) | R            | RS-485       |        | B                         | AC/DC90~260V |
| P      | Pulse(Three) |              | •Modbus mode |        | •Less 4VA for AC/DC input |              |

## 2.SPECIFICATION (主要規格)

- Measuring accuracy (精確度) : 0.15% F.S.(23±5°C)
- Input burden (輸入負載) : <0.15VA (Voltage/ Current)
- Maximum input over (最大過載能力) : Voltage related input:maximum AC 750V  
Current related input: 3 x rated continuous 10 x rated 30 sec. 25 x rated 3 sec. 50 x rated 1 sec.
- Over input indication (過載顯示) : "doFL"
- Measurement range (輸入範圍) : AC voltage(60~600V)(45~65Hz)  
AC current(0.05~5A)(45~65Hz)
- Sampling time (取樣時間) : 10 cycles/second(total)
- Scanning mode (掃瞄模式) : Auto or manual can be selective (Auto:chang page/10 second)
- CT/PT rate (CT/PT 比值) : 1~9999 adjustable
- Alarm delay time (繼電器延遲動作時間) : 0~999 second adjustable
- Pulse output type (脈波輸出形式) : Standard open-collector (Max.DC60V/120mA)
- Relay contact output (繼電器容量) : AC 250V-5A, DC 30V-7A
- RS-485 adress (通訊位址) : "01"~"FF"(0~255)
- RS-485 baud rate (傳輸速度) : 19200/9600/4800/2400 selective
- RS-485 protocol (通信協議) : Modbus RTU mode
- Temp. coefficient (溫度係數) : 50ppm/°C (0~60°C)
- Display (顯示幕) : Red high efficiency LEDs high 7.0mm(0.28")
- Parameter setting (參數設定方式) : Touch switches
- Memory mode (記憶型式) : Non-volatile E<sup>2</sup> PROM memory
- Dielectric strength (絕緣耐壓能力) : 2KVac/1 min. (input/output/power)
- Surge test (突波測試) : ANSI c37.90a/1974,DIN-IEC 255-4  
impulse voltage 4KV(1.2x50us)
- Operating condition (使用環境條件) : 0~50°C (20 to 90% RH non-condensed)
- Storage condition (存放環境條件) : 0~70°C (20 to 90% RH non-condensed)
- CE EMC Certification (CE認證) : EN 55022:1998/A1:2000 Class A  
EN 61000-3-2:2000  
EN 61000-3-3:1995/A1:2001  
EN 55024:1998/A1:2001

3.OUTSIDE DIMENSION AND CONNECTION DIAGRAM  
(外型尺寸與開孔尺寸與配線圖)

# 多功能集合式電力電錶(96x96mm)

(MULTI-FUNCTION POWER METER ,96x96mm)

MODEL  
MMP-2

## ■特點(FEATURES)

- 精確度 $\pm 0.25\%$ 滿刻度(Accuracy  $\pm 0.25\%$  F.S.)
- 可同時量測與顯示交流相電壓,線電壓,電流,實功率,虛功率,功率因素,頻率,仟瓦小時,需量(Measuring and display ACV/ACA/Watt/Var/Power factor/Frequency/KWH/DM(Demand))
- 輸入配線系統可任意選擇(Input measurement network can be selective(1φ2W/1φ3W/3φ3W/3φ4W))
- CT比與PT比可任意設定(1至9999)(CT rate/PT rate can be modified(1 to 9999))
- 手動與自動顯示模式可任意規劃(Manual or auto scanning mode can be modified)
- 2組警報控制功能(Two alarm control function )(optional)
- 2組脈波輸出功能(Two pulse output function )(optional)
- 數位RS-485界面(Digit RS-485 interface function)(Optional)

## 1.MODEL:MMP-2-□ □ □ □

(選購型號)

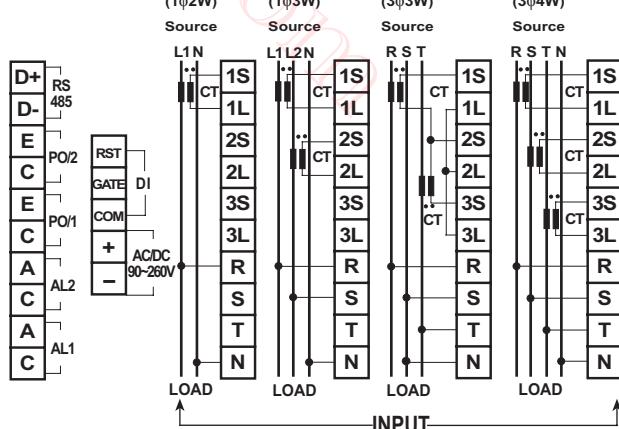
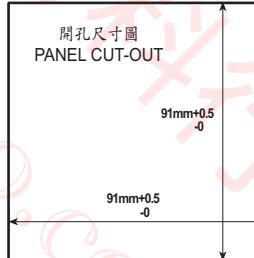
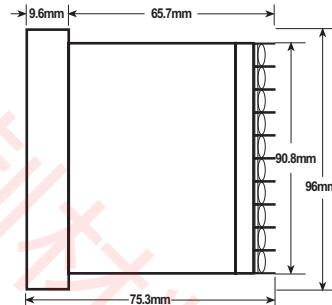
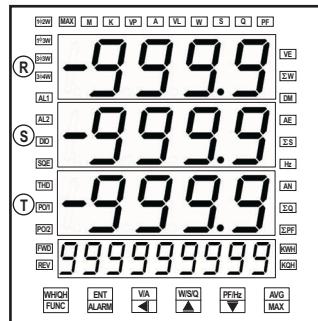
| NO | Alarm Output | NO                       | Pulse Output | NO           | RS-485 | NO                        | Aux. Power   |
|----|--------------|--------------------------|--------------|--------------|--------|---------------------------|--------------|
| N  | None         | N                        | None         | N            | None   | A                         | AC/DC18~60V  |
| R  | Two-Relay    | Y                        | Two-Pulse    | Y            | RS-485 | B                         | AC/DC90~260V |
| P  | Two-Pulse    | •Pulse is open-collector |              | •Modbus mode |        | •Less 4VA for AC/DC input |              |

## 2.SPECIFICATION (主要規格)

- Measuring accuracy (精確度) ( $23 \pm 5^\circ C$ ):  $\pm 0.25\%$  F.S.(V,A,W,Var,P.F./KWH)  
 $\pm 0.05\%$  F.S.(Frequency)
- Input burden (輸入負載):  $<0.15\text{VA}$  (Voltage/ Current)
- Maximum input over (最大過載能力): Current related input: 3 x rated continuous  
10 x rated 30 sec. 25 x rated 3 sec. 50 x rated 1 sec.  
Voltage related input: 750V
- Over input indication (過載顯示): "doFL"
- Sampling time (取樣時間): 1 cycles/second(total)
- Measurement range (輸入範圍): AC voltage (60~600V)  
AC current (0.05~5A)  
AC frequency(45.00~65.00Hz)
- Scanning mode (掃瞄模式): Auto or manual can be selective (Auto:chang page/10 second)
- Readout/compare range (顯示與比較值範圍): -9999~+9999 digit (V,A,W,Var,Hz,PF)  
0~99999999+FWD/REV (KWH/KQH)
- CT/PT rate (CT/PT 比值): 1~9999 adjustable
- Alarm delay time (繼電器延遲動作時間): 0~999 second adjustable
- Pulse output type (脈波輸出形式): Standard open-collector(Max.DC60V/120mA)
- Relay contact output (繼電器容量): AC 250V-5A, DC 30V-7A
- Pulse output/KWH (脈波輸出數量KWH): 0.001/0.01/0.1/1/10/100/1000 selective
- RS-485 adress (通訊位址): "00"~"FF"(0~255)
- RS-485 baud rate (傳輸速度): 38400/19200/9600/4800/2400 selective
- RS-485 protocol (通信協議): Modbus RTU mode
- Temp. coefficient (溫度係數): 50ppm/ $^\circ C$  (0~60 $^\circ C$ )
- Display (顯示幕): Red high efficiency LEDs high 14.22mm(0.56")  
Red high efficiency LEDs high 10.16mm(0.4") (KWH)
- Parameter setting (參數設定方式): Touch switches
- Memory mode (記憶型式): Non-volatile E<sup>2</sup> PROM memory
- Dielectric strength (絕緣耐壓能力): 2KVac/1 min. (input/output/power)
- Surge test (突波測試): ANSI c37.90a/1974,DIN-IEC 255-4  
impulse voltage 4KV(1.2x50us)
- Operating condition (使用環境條件): 0~50 $^\circ C$  (20 to 90% RH non-condensed)
- Storage condition (存放環境條件): 0~70 $^\circ C$  (20 to 90% RH non-condensed)
- CE EMC Certification (CE認證): EN 55022:1998/A1:2000 Class A  
EN 61000-3-2:2000  
EN 61000-3-3:1995/A1:2001  
EN 55024:1998/A1:2001

## 3.OUTSIDE DIMENSION AND CONNECTION DIAGRAM

(外型尺寸與開孔尺寸與配線圖)

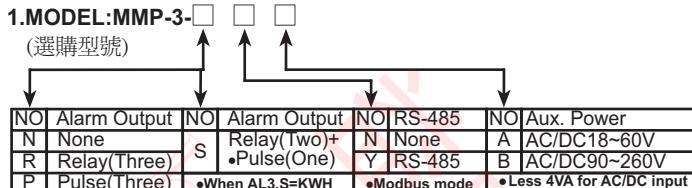
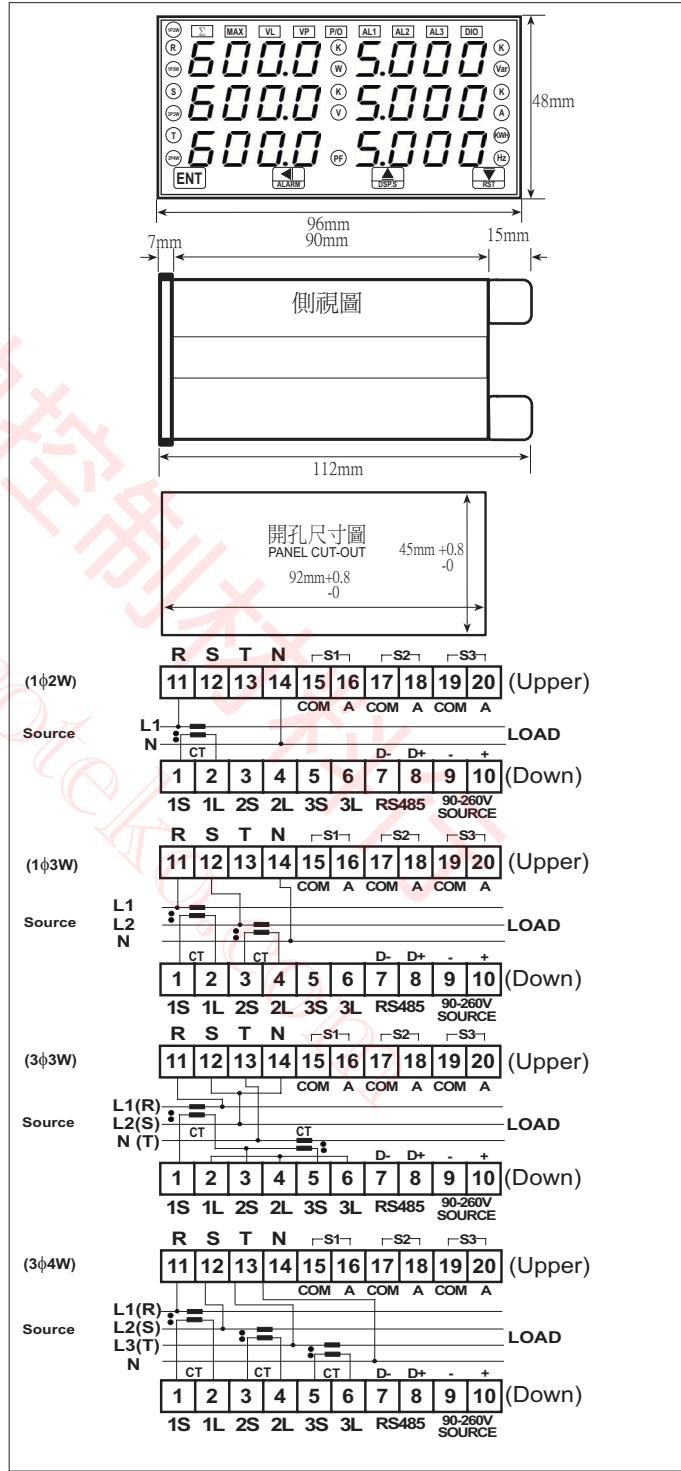


# 多功能集合式電力電錶 (MULTI-FUNCTION POWER METER)

MODEL  
MMP-3

## ■特點(FEATURES)

- 精確度 $\pm 0.25\%$ 滿刻度(Accuracy $\pm 0.25\%$  F.S.)
- 可同時量測交流相電壓、線電壓、電流、實功率、虛功率、功率因素、頻率、仟瓦小時(Measuring ACV/AC/A/Watt/Var/Power factor/Frequency/KWH)
- 輸入配線系統可任意選擇(Input measurement network can be selective(1φ2W/1φ3W/3φ3W/3φ4W))
- CT比與PT比可任意設定(CT rate/PT rate can be modified(1 to 9999))
- 手動與自動顯示模式可任意規劃(Manual or auto scanning mode can be modified)
- 3組警報控制功能(Three alarm control function)(optional)
- 數位RS-485界面(Digit RS-485 interface function)(Optional)


**3. OUTSIDE DIMENSION AND CONNECTION DIAGRAM**  
(外型尺寸與開孔尺寸與配線圖)
**2.SPECIFICATION** (主要規格)

- Measuring accuracy (精確度) $(23 \pm 5^\circ\text{C})$ :  $\pm 0.25\%$  F.S.(V,A,W,Var,P.F./KWH)
- Input burden (輸入負載):  $<0.2\text{VA}$  (Voltage/ Current)
- Maximum input over (最大過載能力): Current related input: 3 x rated continuous  
10 x rated 30 sec. 25 x rated 3 sec. 50 x rated 1 sec.  
Voltage related input: 750V
- Over input indication (過載顯示): "doFL"
- Sampling time (取樣時間): : 1 cycles/second(total)
- Measurement range (輸入範圍): : AC voltage (60~600V)  
AC current (0.05~5A)  
AC frequency(45.00~65.00Hz)
- Scanning mode (掃瞄模式): Auto or manual can be selective (Auto:chang page/5 second)
- CT/PT rate (CT/PT 比值): 1~9999 adjustable
- Alarm delay time (繼電器延遲動作時間): : 0~999 second adjustable
- Pulse output type (脈波輸出形式): Standard open-collector(Max.DC60V/120mA)
- Relay contact output (繼電器容量): : AC 250V-5A, DC 30V-7A
- Pulse output/KWH (脈波輸出數量KWH): : 0.001/0.01/0.1/1/10/100/1000 selective
- RS-485 address (通訊位址): : "01"~"FF"(0~255)
- RS-485 baud rate (傳輸速度): : 38400/19200/9600/4800/2400 selective
- RS-485 protocol (通信協議): Modbus RTU mode
- Temp. coefficient (溫度係數): : 50ppm/ $^\circ\text{C}$  (0~60 $^\circ\text{C}$ )
- Display (顯示幕): Red high efficiency LEDs high 7.0mm(0.28")
- Parameter setting (參數設定方式): Touch switches
- Memory mode (記憶型式): Non-volatile E<sup>2</sup> PROM memory
- Dielectric strength (絕緣耐壓能力): : 2KVac/1 min. (input/output/power)
- Surge test (突波測試): ANSI c37.90a/1974,DIN-IEC 255-4  
impulse voltage 4KV(1.2x50us)
- Operating condition (使用環境條件): : 0~50 $^\circ\text{C}$  (20 to 90% RH non-condensed)
- Storage condition (存放環境條件): : 0~70 $^\circ\text{C}$  (20 to 90% RH non-condensed)
- CE EMC Certification (CE認證): EN 55022:1998/A1:2000 Class A  
EN 61000-3-2:2000  
EN 61000-3-3:1995/A1:2001  
EN 55024:1998/A1:2001

# 6合1單相交流集合式電力電錶(24x48mm)

(SIX-FUNCTION AC POWER METER, 1φ2W, 24x48mm)

MODEL  
MMS-P

## ■特點(FEATURES)

- 精確度 $\pm 0.1\%$ 滿刻度(Accuracy $\pm 0.1\%$  F.S.)
- 可同時量測與顯示交流電壓/電流/仟瓦特/功率因數/頻率/仟瓦特小時(Measuring and display ACV/ACA/KW/Power factor/Frequency/KWH)
- 交流電壓、電流、瓦特皆為真正有效值(TRMS)(ACA/ACV/WATT for True RMS)
- 突波測試強度4仟伏特(1.2x50us)(surge test 4KV(1.2x50us))
- 尺寸小(24x48x48.5mm), 穩穩定性高(Dimension small (24x48x48.5mm) and High stability)
- 分離式端子, 配線容易(Discrete terminal, connector easy)

1: MODEL:MMS-P 

選購型號

| NO | Input Current | NO | Input Current          |
|----|---------------|----|------------------------|
| 1  | AC0~1.0000A   | 3  | CT(AC0~25.000A/50.00A) |
| 2  | AC0~5.000A    | 9  | SPECIFIED              |

• CT cable length 50cm, OD/ID/H=26/8.0/13.5mm

## 2.SPECIFICATION(主要規格)

- Aux. power supply (輔助電源) : AC80~260V(<0.5VA)
- Measuring accuracy (精確度) (23±5°C) : ±0.1% F.S.(Watt/KWH)  
±0.2% F.S.(V/A/P.F.)  
±0.05% F.S.(Frequency)
- Input burden (輸入負載) : <0.2VA (Voltage/Current)
- Maximum input over (最大過載能力) : Current related input: 3 x rated continuous  
10 x rated 30 sec. 25 x rated 3sec. 50 x rated 1sec.  
Voltage related input: Maximum AC300V continuous
- Measuring and display range : Voltage(AC80.0~260.0V)  
(量測與顯示範圍) Current(0.5~125%)  
Watt (0~260.0W)(AC0~1A)  
(0~1.3000KW)(AC0~5A)  
(0~6.500KW)(AC0~25A)  
(0~13.000KW)(AC0~50A)  
KWH(0~99.999/999.99/9999.9/99999 KWH auto-range)  
Frequency(45.0~65.0Hz)  
Power factor(1.000~0.500 P.F.)  
: "OVER" & "Unit indication"
- Over input indication (過載顯示) : 1 cycles/sec.
- Sampling time (取樣時間) : Auto or manual can be selective (Auto:chang page/5 second)
- Scanning mode (掃瞄模式) : 50ppm/°C (0~50°C)
- Temp. coefficient (溫度係數) : Red high efficiency LEDs high 10.16 mm(0.4")
- Display (顯示幕) : Touch switches
- Parameter setting (參數設定方式) : Non-volatile E<sup>2</sup> PROM memory
- Memory mode (記憶型式) : 2KVac/1 min. (input/case)
- Dielectric strength (絕緣耐壓能力) : ANSI c37.90a/1974,DIN-IEC 255-4  
impulse voltage 4KV(1.2x50us)
- Surge test (突波測試) : 0~50°C (20 to 90% RH non-condensed)
- Operating condition (使用環境條件) : 0~70°C (20 to 90% RH non-condensed)
- Storage condition (存放環境條件) : EN 55022:1998/A1:2000 Class A  
EN 61000-3-2:2000  
EN 61000-3-3:1995/A1:2001  
EN 55024:1998/A1:2001
- CE EMC Certification (CE認證) : CT:OD/ID/H=26/8.0/13.5mm

3. OUTSIDE DIMENSION AND CONNECTION DIAGRAM  
(外型尺寸與開孔尺寸與配線圖)