

|                                                                                   |                                    |  |         |
|-----------------------------------------------------------------------------------|------------------------------------|--|---------|
|  | Instruction Manual / 使用手冊          |  | F - 104 |
|                                                                                   | Multi-function power meter / 多功能電表 |  |         |

Thank you very much for using AMP series Multi-function power meter  
Please read this instruction manual before operating it to avoid from the malfunction.  
非常感謝您採用 AMP 系列多功能電表，使用前務必詳讀本使用手冊以防止無法正常使用！

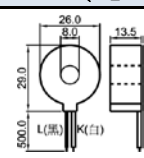
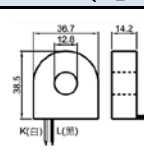
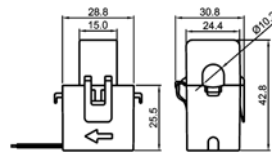
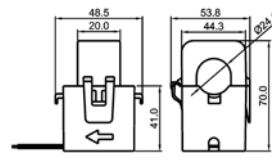
## Guiding of model / 型號索引

| ※ <u>APM</u> - <u>21</u> - <u>RS</u> - <u>5A</u> - <u>24V</u> |         |                                   |   |   |   |                 |                                            |
|---------------------------------------------------------------|---------|-----------------------------------|---|---|---|-----------------|--------------------------------------------|
|                                                               |         | 1                                 | 2 | 3 | 4 | 5               |                                            |
| 1                                                             | Series  | 「APM」: Multi-function power meter |   |   | 3 | Attached        | 「RS」: With RS-485 ; 「TR」: With transmitter |
| 2                                                             | Outline | 「21」: Din 96*48 ( Panel type )    |   |   | 4 | Current input   | 「5A」: 0 ~ 5A ; 「mA」: 0 ~ 100mA             |
|                                                               |         | 「32」: 34*93 ( DIN rail type )     |   |   | 5 | Auxiliary power | 「24V」: 18~60VDC ; 「non」: 90~265VAC         |

## Electrical data / 電氣規格

| Specification          | 規格                                                             | Date |
|------------------------|----------------------------------------------------------------|------|
| Power supply 工作電壓      | 90~265VAC 50/60Hz or 18~60VDC                                  |      |
| Power consumption 消耗功率 | AC : 5VA max. or DC : 2VA max.                                 |      |
| Measuring metho 量測方式   | True RMS                                                       |      |
| Sampling speed 取樣速度    | 128 point/cycle                                                |      |
| Wiring method 接線方式     | 「1P2L」 / 「1P3C」 / 「1P3L」<br>「3P3L」 / 「3P3C」 / 「3P4L」           |      |
| Input voltage 輸入電壓     | 480VAC(V <sub>LN</sub> ) max. or 690VAC(V <sub>LL</sub> ) max. |      |
| Current detection 電流偵測 | 1CT or 2CT or 3CT                                              |      |
| Input current 輸入電流     | 5A+20% max.                                                    |      |
| Operating circum. 工作環境 | 0 ~ 60℃ ; 5 ~ 85%RH                                            |      |
| Protection class 保護等級  | IP-20                                                          |      |
| Housing material 外殼材質  | Intensive PC+ABS (UL-94V0)                                     |      |

## CT data / CT 規格【K(White)/L(Black)】

| 「mA」                                                                                | CT-60 (Ct_rA =1500)       | 「mA」                                                                                 | CT-100 (Ct_rA =5000)     |
|-------------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------|--------------------------|
|   |                           |   |                          |
| 「mA」                                                                                | CT-CL10-100 (Ct_rA =3000) | 「A」                                                                                  | CT-CL24-1H1 (Ct_rA =100) |
|  |                           |  |                          |

## Measured data / 量測資料

| Measured data 量測資料            | Accuracy 精度                 | Resolution 解析度 | Measured Range 量測範圍                                             |
|-------------------------------|-----------------------------|----------------|-----------------------------------------------------------------|
| Voltage (V) 電壓                | ±0.2%                       | 0.1V           | 50 ~ 480VAC (V <sub>LN</sub> ) ; 50 ~ 690VAC (V <sub>LL</sub> ) |
| Current (I) 電流                | ±0.2%                       | 0.001A         | 0 ~ 5A (0 ~ 99999999)                                           |
| Active power (W) 有效功率         | ±0.5%                       | 0.1W           | -19999999 ~ 99999999                                            |
| Reactive power (Q) 無效功率       | ±0.5%                       | 0.1VAR         | -19999999 ~ 99999999                                            |
| Active watt hour (kWh) 有效電量   | Class 0.5S<br>(IEC62053-22) | 0.001kWh       | -19999999 ~ 99999999                                            |
| Reactive watt hour (kQh) 無效電量 | ±0.5%                       | 0.001kVarh     | -19999999 ~ 99999999                                            |
| Power frequency (Hz) 電源頻率     | ±0.5%                       | 0.1Hz          | 45.0 ~ 70.0Hz                                                   |
| Power factory (PF) 功率因素       | ±0.5%                       | 0.01           | -1.000 ~ 1.000                                                  |



## Display method / 顯示方式【「V1」=V12 / 「V2」= V13 / 「V3」= V32】

| Input mode  | Display block (kWh/kW)                                                                                      |
|-------------|-------------------------------------------------------------------------------------------------------------|
| 「1P2L」(1CT) | 「kWh」 / 「kW」 → 「CO <sub>2</sub> 」                                                                           |
| 「1P3L」(2CT) | 「kWh」 → 「kWh1」 → 「kWh3」 → 「kW」 → 「kW1」 → 「kW3」 → 「CO <sub>2</sub> 」                                         |
| 「1P3C」(3CT) | 「kWh」 → 「kWh1」 → 「kWh2」 → 「kWh3」 → 「kW」 → 「kW1」 → 「kW2」 → 「kW3」 → 「CO <sub>2</sub> 」                        |
| 「3P3L」(2CT) | 「kWh」 → 「kWh1」 → 「kWh2」 → 「kWh3」 → 「kW」 → 「kW1」 → 「kW2」 → 「kW3」 → 「CO <sub>2</sub> 」                        |
| 「3P3C」(3CT) | 「kWh」 → 「kWh1」 → 「kWh2」 → 「kWh3」 → 「kW」 → 「kW1」 → 「kW2」 → 「kW3」 → 「CO <sub>2</sub> 」                        |
| 「3P4L」(3CT) | 「kWh」 → 「kWh1」 → 「kWh2」 → 「kWh3」 → 「kW」 → 「kW1」 → 「kW2」 → 「kW3」 → 「CO <sub>2</sub> 」                        |
| Input mode  | Display block (V/A)                                                                                         |
| 「1P2L」(1CT) | 「Vn / A」 → 「Hz」 → 「PF」                                                                                      |
| 「1P3C」(3CT) | 「Vn / A」 → 「V1n / A1」 → 「V2n / A2」 → 「V3n / A3」 → 「Hz」 → 「PF」                                               |
| 「1P3L」(2CT) | 「V n / A」 → 「V1n / A1」 → 「V3n / A3」 → 「Hz」 → 「PF」                                                           |
| 「3P3L」(2CT) | 「V / A」 → 「V1 / A1」 → 「V2 / A2」 → 「V3 / A3」 → 「Hz」 → 「PF」                                                   |
| 「3P3C」(3CT) | 「V / A」 → 「V1 / A1」 → 「V2 / A2」 → 「V3 / A3」 → 「Hz」 → 「PF」                                                   |
| 「3P4L」(3CT) | 「V / A」 → 「Vn / A」 → 「V1 / A1」 → 「V1n / A1」 → 「V2 / A2」 → 「V2n / A2」 → 「V3 / A3」 → 「V3n / A3」 → 「Hz」 → 「PF」 |

## ■ Selection of display / 顯示切換【AMP-21】

| Setting conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| <p>Total KWH display<br/>顯示總 KWH</p> <p>Press <b>dsp</b> key ↓ 1 sec</p> <p>Average V<sub>LL</sub>/A display<br/>顯示平均 V<sub>LL</sub>/A 值</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>Average V<sub>n</sub>/A display<br/>顯示平均 V<sub>n</sub>/A 值</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>V1/A1 display<br/>顯示 V1/A1</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>V1n/A1 display<br/>顯示 V1n/A1</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>V2/A2 display<br/>顯示 V2/A2</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>V2n/A2 display<br/>顯示 V2n/A2</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>V3/A3 display<br/>顯示 V3/A3</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>V3n/A3 display<br/>顯示 V3n/A3</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>Hz display<br/>顯示 Hz</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>P F display<br/>顯示 P F</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>Total kWh display<br/>顯示總 kWh</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>kWh 1 display<br/>顯示 kWh 1</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>kWh 2 display<br/>顯示 kWh 2</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>kWh 3 display<br/>顯示 kWh 3</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>Total kW display<br/>顯示總 kW</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>kW 1 display<br/>顯示 kW 1</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>kW 2 display<br/>顯示 kW 2</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>kW 3 display<br/>顯示 kW 3</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> <p>CO<sub>2</sub> display<br/>顯示碳排累積量</p> <p>Press <b>▼</b> key ↓ Press <b>dsp</b> key</p> |                     | <p>【「V1」=V12 / 「V2」= V13 / 「V3」= V32】</p> <p>1&gt; Average Line voltage (L-L) &amp; Line current display<br/>2&gt; 「n」 is disappeared<br/>3&gt; Voltage 「dp」= 1 ; Current 「dp」= 0 ~ 3 (auto shift)</p> <p>1&gt; Average Phase voltage (L-N) &amp; Line current display<br/>2&gt; 「n」 is appeared<br/>3&gt; Voltage 「dp」= 1 ; Current 「dp」= 0 ~ 3 (auto shift)</p> <p>1&gt; L1 Line voltage (V12) : V1 at 「3P3L」【「n」 is disappeared】<br/>2&gt; L1 Line current (A1) : A1 at 「3P3L」<br/>3&gt; Voltage 「dp」= 1 ; Current 「dp」= 0 ~ 3 (auto shift)</p> <p>1&gt; L1 Phase voltage (V1n) : V1n at 「3P4L」【「n」 is appeared】<br/>2&gt; L1 Line current (A1) : A1 at 「3P4L」<br/>3&gt; Voltage 「dp」= 1 ; Current 「dp」= 0 ~ 3 (auto shift)</p> <p>1&gt; L2 Line voltage (V23) : V2 at 「3P3L」【「n」 is disappeared】<br/>2&gt; L2 Line current (A2) : A2 at 「3P3L」<br/>3&gt; Voltage 「dp」= 1 ; Current 「dp」= 0 ~ 3 (auto shift)</p> <p>1&gt; L2 Phase voltage (V2n) : V2n at 「3P4L」【「n」 is appeared】<br/>2&gt; L2 Line current (A2) : A2 at 「3P4L」<br/>3&gt; Voltage 「dp」= 1 ; Current 「dp」= 0 ~ 3 (auto shift)</p> <p>1&gt; L3 Line voltage (V31) : V3 at 「3P3L」【「n」 is disappeared】<br/>2&gt; L3 Line current (A3) : A3 at 「3P3L」<br/>3&gt; Voltage 「dp」= 1 ; Current 「dp」= 0 ~ 3 (auto shift)</p> <p>1&gt; L3 Phase voltage (V3n) : V3n at 「3P4L」【「n」 is appeared】<br/>3&gt; L3 Line current (A3) : A3n at 「3P4L」<br/>3&gt; Voltage 「dp」= 1 ; Current 「dp」= 0 ~ 3 (auto shift)</p> <p>1&gt; Power frequency<br/>2&gt; Decimal point = 1</p> <p>1&gt; Power factor<br/>2&gt; Decimal point = 2</p> <p>1&gt; Integrate effective energy (Total KWh)<br/>2&gt; Display range : -19999999 ~ 99999999<br/>3&gt; 「ut=1.0」: Decimal point = 3 ; 「ut=0.1k」: Decimal point = 1</p> <p>1&gt; L1 Integrate effective energy (kWh1)<br/>2&gt; Range : -19999999 ~ 99999999<br/>3&gt; 「ut=1.0」: Decimal point = 3 ; 「ut=0.1k」: Decimal point = 1</p> <p>1&gt; L2 Integrate effective energy (kWh2)<br/>2&gt; Display range : -19999999 ~ 99999999<br/>3&gt; 「ut=1.0」: Decimal point = 3 ; 「ut=0.1k」: Decimal point = 1</p> <p>1&gt; L3 Integrate effective energy (kWh3)<br/>2&gt; Display range : -19999999 ~ 99999999<br/>3&gt; 「ut=1.0」: Decimal point = 3 ; 「ut=0.1k」: Decimal point = 1</p> <p>1&gt; Effective power (Total kW)<br/>2&gt; Display range : -19999999 ~ 99999999<br/>3&gt; 「ut=1.0」: Decimal point = 4 ; 「ut=0.1k」: Decimal point = 3</p> <p>1&gt; L1 Effective power (kW1)<br/>2&gt; Display range : -19999999 ~ 99999999<br/>3&gt; 「ut=1.0」: Decimal point = 4 ; 「ut=0.1k」: Decimal point = 3</p> <p>1&gt; L2 Effective power (kW2)<br/>2&gt; Display range : -19999999 ~ 99999999<br/>3&gt; 「ut=1.0」: Decimal point = 4 ; 「ut=0.1k」: Decimal point = 3</p> <p>1&gt; L3 Effective power (kW3)<br/>2&gt; Display range : -19999999 ~ 99999999<br/>3&gt; 「ut=1.0」: Decimal point = 4 ; 「ut=0.1k」: Decimal point = 3</p> <p>1&gt; CO<sub>2</sub> Integrate volume (Kg)<br/>2&gt; Display range : 0 ~ 9999999.9 (dp=1)<br/>3&gt; Decimal point = 0</p> |

## Setting of parameter / 參數設定【AMP-21】

| Setting conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Display                                                                                                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>Running state<br/>運轉狀態</div> <div>Press <b>ENT</b> + <b>▲</b> key 3 sec</div> <div>Lock setting<br/>鎖住設定</div> <div>Press <b>ENT</b> key</div> <div>Input mode selecting<br/>輸入模式選擇</div> <div>Press <b>ENT</b> key</div> <div>kWh unit selection<br/>kWh 顯示單位選擇</div> <div>Press <b>ENT</b> key</div> <div>CT ratio setting<br/>CT 比值設定</div> <div>Press <b>ENT</b> key</div> <div>PT ratio setting<br/>PT 比值設定</div> <div>Press <b>ENT</b> key</div> <div>CO<sub>2</sub> coefficient setting<br/>碳排當量係數設定</div> <div>Press <b>ENT</b> key</div> <div>Alarm mode selecting<br/>警報模式選擇</div> <div>Press <b>ENT</b> key</div> <div>WH reset protection<br/>電能歸零保護設定</div> <div>Press <b>ENT</b> key</div> | <div> </div> <div> </div> <div> </div> <div> </div> <div> </div> <div> </div> <div> </div> <div> </div> <div> </div> | <p>1&gt; 「Lck.10」: All settable</p> <p>1&gt; 「1P2L」: Single phase 2 wires (1CT)    2&gt; 「1P3C」: Single phase 2 wires (3CT)<br/> 3&gt; 「1P3L」: Single phase 3 wires (2CT)    4&gt; 「3P3L」: 3 phase 3 wires (2CT)<br/> 5&gt; 「3P3C」: 3 phase 3 wires (3CT)        6&gt; 「3P4L」: 3 phase 4 wires (3CT)</p> <p>1&gt; 「ut = 0.1k」: unit = 0.1kWh &amp; 0.001kW, Input wattage ≤ 1800kW<br/> 2&gt; 「ut = 1.0」: unit = 0.001kWh &amp; 0.0001kW, Input wattage ≤ 18kW</p> <p>1&gt; Input 「5A」: Range: 1 ~ 999.9 (dp=1); Ex: Ct_rA = 20.0 → CT ratio = 100 : 5<br/> 2&gt; Input 「mA」: Range: 1 ~ 9999 (dp=0); Ex: Ct_rA = 3000 → CT ratio = 3000 : 1</p> <p>1&gt; Range: 0.01 ~ 99.99 (dp=2)<br/> Ex: Pt_rA = 1.00 → Voltage ratio = 1 : 1</p> <p>1&gt; Range: 0 ~ 1.000 (dp=3)<br/> 2&gt; Unit: Kg CO<sub>2</sub>e/KWH</p> <p>1&gt; Range: 0~3<br/> 2&gt; 「Alt = 0」: Without alarm; 「Alt = 1」: High alarm; 「Alt = 2」: Low alarm<br/> 「Alt = 3」: High &amp; Low alarm</p> <p>1&gt; 「RST=0」: Un-resettable<br/> 2&gt; 「RST=1」: Resettable (WH &amp; CO<sub>2</sub>)<br/> 3&gt; 「WH」 reset: Press the <b>SET</b> &amp; <b>▲</b> &amp; <b>▼</b> key 3 seconds<br/> (同時按 <b>SET</b> &amp; <b>▲</b> &amp; <b>▼</b> 鍵 3 秒)</p> |

## Setting of alarm / 警報設定【AMP-21】

| Setting conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Display                                                                                                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>KWH display<br/>顯示 KWH</div> <div>Press <b>ENT</b> key 3 sec</div> <div>Power factor alarm setting<br/>功率因素警報設定</div> <div>Press <b>ENT</b> key</div> <div>Power frequency alarm setting<br/>電源頻率設定</div> <div>Press <b>ENT</b> key</div> <div>Voltage alarm setting<br/>電壓警報設定</div> <div>Press <b>ENT</b> key</div> <div>Current alarm setting<br/>電流警報設定</div> <div>Press <b>ENT</b> key</div> <div>Alarm hysteresis setting<br/>警報應差值設定</div> <div>Press <b>ENT</b> key</div> <div>KW alarm setting<br/>KW 警報設定</div> <div>Press <b>ENT</b> key</div> <div>KQ alarm setting<br/>KQ 警報設定</div> <div>Press <b>ENT</b> key</div> | <div> </div> <div> </div> <div> </div> <div> </div> <div> </div> <div> </div> <div> </div> <div> </div> | <p>1&gt; Range: 0.00~1.00<br/> 2&gt; Alarm address (0212H/bit.8): Alarm ON → 0212H/bit.8=1<br/> 3&gt; dp=2</p> <p>1&gt; Range: 0.0~99.9<br/> 2&gt; Alarm address (0212H/bit.7): Alarm ON → 0212H/bit.7=1<br/> 3&gt; dp=1</p> <p>1&gt; Range: 0.0~999.9V<br/> 2&gt; Alarm address (0212H/bit.1~3): Alarm ON → 0212H/bit.1~3=1<br/> 3&gt; dp=1</p> <p>1&gt; Range: 0.0~999.9A<br/> 2&gt; Alarm address (0212H/bit.4~6): Alarm ON → 0212H/bit.4~6=1<br/> 3&gt; dp=1</p> <p>1&gt; Range: 0.0~100.0% of AL<sub>x</sub><br/> 2&gt; 「Alt = 1」: PV ≥ AL<sub>x</sub> * (1 + HYS%) → Alarm ON<br/> 「Alt = 2」: PV ≤ AL<sub>x</sub> * (1 - HYS%) → Alarm ON<br/> 「Alt = 3」: PV ≥ AL<sub>x</sub> * (1 + HYS%) or PV ≤ AL<sub>x</sub> * (1 - HYS%) → Alarm ON<br/> 3&gt; dp=1</p> <p>1&gt; Range: -19999.999 ~ 99999.999<br/> 2&gt; Alarm address (0212H/bit.9): Alarm ON → 0212H/bit.9=1<br/> 3&gt; dp=3</p> <p>1&gt; Range: -19999.999 ~ 99999.999<br/> 2&gt; Alarm address (0212H/bit.10): Alarm ON → 0212H/bit.10=1<br/> 3&gt; dp=3</p> |

# Selection of display / 顯示切換【AMP-32】

| Setting conditions                                                                                         | Display | Description                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total kWh display<br>顯示總 kWh<br>Press <b>dsp</b> key ↓ .3 sec                                              |         | $\text{「V1」} = V12 / \text{「V2」} = V13 / \text{「V3」} = V32$                                                                                                       |
| Average V <sub>L</sub> /A display<br>顯示平均 V <sub>L</sub> /A 值<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key |         | 1> Average Line voltage (L-L) & Line current display<br>2> 「n」 is disappeared<br>3> Voltage 「dp」 = 1 ; Current 「dp」 = 0 ~ 3 (auto shift)                          |
| Average V <sub>n</sub> /A display<br>顯示平均 V <sub>n</sub> /A 值<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key |         | 1> Average Phase voltage (L-N) & Line current display<br>2> 「n」 is appeared<br>3> Voltage 「dp」 = 1 ; Current 「dp」 = 0 ~ 3 (auto shift)                            |
| V1/A1 display<br>顯示 V1/A1<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                                     |         | 1> L1 Line voltage (V12) : V1 at 「3P3L」 【「n」 is disappeared】<br>2> L1 Line current (A1) : A1 at 「3P3L」<br>3> Voltage 「dp」 = 1 ; Current 「dp」 = 0 ~ 3 (auto shift) |
| V1n/A1 display<br>顯示 V1n/A1<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                                   |         | 1> L1 Phase voltage (V1n) : V1n at 「3P4L」 【「n」 is appeared】<br>2> L1 Line current (A1) : A1 at 「3P4L」<br>3> Voltage 「dp」 = 1 ; Current 「dp」 = 0 ~ 3 (auto shift)  |
| V2/A2 display<br>顯示 V2/A2<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                                     |         | 1> L2 Line voltage (V23) : V2 at 「3P3L」 【「n」 is disappeared】<br>2> L2 Line current (A2) : A2 at 「3P3L」<br>3> Voltage 「dp」 = 1 ; Current 「dp」 = 0 ~ 3 (auto shift) |
| V2n/A2 display<br>顯示 V2n/A2<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                                   |         | 1> L2 Phase voltage (V2n) : V2n at 「3P4L」 【「n」 is appeared】<br>2> L2 Line current (A2) : A2 at 「3P4L」<br>3> Voltage 「dp」 = 1 ; Current 「dp」 = 0 ~ 3 (auto shift)  |
| V3/A3 display<br>顯示 V3/A3<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                                     |         | 1> L3 Line voltage (V31) : V3 at 「3P3L」 【「n」 is disappeared】<br>2> L3 Line current (A3) : A3 at 「3P3L」<br>3> Voltage 「dp」 = 1 ; Current 「dp」 = 0 ~ 3 (auto shift) |
| V3n/A3 display<br>顯示 V3n/A3<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                                   |         | 1> L3 Phase voltage (V3n) : V3n at 「3P4L」 【「n」 is appeared】<br>3> L3 Line current (A3) : A3n at 「3P4L」<br>3> Voltage 「dp」 = 1 ; Current 「dp」 = 0 ~ 3 (auto shift) |
| Hz display<br>顯示 Hz<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                                           |         | 1> Power frequency<br>2> Decimal point = 1                                                                                                                        |
| PFdisplay<br>顯示 PF<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                                            |         | 1> Power factor<br>2> Decimal point = 2                                                                                                                           |
| Total kWh display<br>顯示總 kWh<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                                  |         | 1> Integrate effective energy (Total kWh)<br>2> Display range : -19999999 ~ 99999999<br>3> 「ut = 1.0」 : Decimal point = 3 ; 「ut = 0.1k」 : Decimal point = 1       |
| kWh 1 display<br>顯示 kWh 1<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                                     |         | 1> L1 Integrate effective energy (kWh1)<br>2> Range : -19999999 ~ 99999999<br>3> 「ut = 1.0」 : Decimal point = 3 ; 「ut = 0.1k」 : Decimal point = 1                 |
| kWh 2 display<br>顯示 kWh 2<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                                     |         | 1> L2 Integrate effective energy (kWh2)<br>2> Display range : -19999999 ~ 99999999<br>3> 「ut = 1.0」 : Decimal point = 3 ; 「ut = 0.1k」 : Decimal point = 1         |
| kWh 3 display<br>顯示 kWh 3<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                                     |         | 1> L3 Integrate effective energy (kWh3)<br>2> Display range : -19999999 ~ 99999999<br>3> 「ut = 1.0」 : Decimal point = 3 ; 「ut = 0.1k」 : Decimal point = 1         |
| Total kW display<br>顯示總 kW<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                                    |         | 1> Effective power (Total kW)<br>2> Display range : -19999999 ~ 99999999<br>3> 「ut = 1.0」 : Decimal point = 4 ; 「ut = 0.1k」 : Decimal point = 3                   |
| kW 1 display<br>顯示 kW 1<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                                       |         | 1> L1 Effective power (kW1)<br>2> Display range : -19999999 ~ 99999999<br>3> 「ut = 1.0」 : Decimal point = 4 ; 「ut = 0.1k」 : Decimal point = 3                     |
| kW 2 display<br>顯示 kW 2<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                                       |         | 1> L2 Effective power (kW2)<br>2> Display range : -19999999 ~ 99999999<br>3> 「ut = 1.0」 : Decimal point = 4 ; 「ut = 0.1k」 : Decimal point = 3                     |
| kW 3 display<br>顯示 kW 3<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                                       |         | 1> L3 Effective power (kW3)<br>2> Display range : -19999999 ~ 99999999<br>3> 「ut = 1.0」 : Decimal point = 4 ; 「ut = 0.1k」 : Decimal point = 3                     |
| CO <sub>2</sub> display<br>顯示碳排放量<br>Press <b>▼</b> key ↓ Press <b>dsp</b> key                             |         | 1> CO <sub>2</sub> Integrate volume (Kg)<br>2> Display range : 0 ~ 99999999 (dp=1)<br>3> Decimal point = 0                                                        |

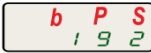
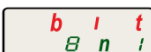
## Setting of parameter / 參數設定【AMP-32】

| Setting conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Display                                                                                                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>Running state<br/>運轉狀態</div> <div>Press <b>ENT</b> + <b>▲</b> key 3 sec</div> <div>Lock setting<br/>鎖住設定</div> <div>Press <b>ENT</b> key</div> <div>Input mode selecting<br/>輸入模式選擇</div> <div>Press <b>ENT</b> key</div> <div>kWh unit selection<br/>kWh 單位選擇</div> <div>Press <b>ENT</b> key</div> <div>CT ratio setting<br/>CT 比值設定</div> <div>Press <b>ENT</b> key</div> <div>PT ratio setting<br/>PT 比值設定</div> <div>Press <b>ENT</b> key</div> <div>CO<sub>2</sub> coefficient setting<br/>碳排當量係數設定</div> <div>Press <b>ENT</b> key</div> <div>Alarm mode selecting<br/>警報模式選擇</div> <div>Press <b>ENT</b> key</div> <div>WH reset protection<br/>電能歸零保護設定</div> <div>Press <b>ENT</b> key</div> | <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> | <p>1&gt; 「Lck.10」: All settable</p> <p>1&gt; 「1P2L」: Single phase 2 wires (1CT)    2&gt; 「1P3C」: Single phase 2 wires (3CT)<br/> 3&gt; 「1P3L」: Single phase 3 wires (2CT)    4&gt; 「3P3L」: 3 phase 3 wires (2CT)<br/> 5&gt; 「3P3C」: 3 phase 3 wires (3CT)        6&gt; 「3P4L」: 3 phase 4 wires (3CT)</p> <p>1&gt; 「u t = 0.1k」: kWh unit = 0.1kWh, Maximum input wattage ≤ 1800kW<br/> 2&gt; 「u t = 1.0」: kWh unit = 0.001kWh (1Wh), Maximum input wattage ≤ 18kW</p> <p>1&gt; Range: 1 ~ 999.9<br/> Ex: Ct.rA = 20.0 → CT ratio = 100 : 5 or CT ratio = 20 : 1</p> <p>1&gt; Input 「5A」: Range: 1 ~ 999.9 (dp=1); Ex: Ct.rA = 20.0 → CT ratio = 100 : 5<br/> 2&gt; Input 「mA」: Range: 1 ~ 9999 (dp=0); Ex: Ct.rA = 3000 → CT ratio = 3000 : 1</p> <p>1&gt; Range: 0 ~ 1.000<br/> 2&gt; Unit: Kg CO<sub>2</sub>e/KWh</p> <p>1&gt; Range: 0~3<br/> 2&gt; 「Alt = 0」: Without alarm; 「Alt = 1」: High alarm<br/> 「Alt = 2」: Low alarm 「Alt = 3」: High &amp; Low alarm</p> <p>1&gt; 「RST=0」: Un-resettable<br/> 2&gt; 「RST=1」: Resettable (WH &amp; CO<sub>2</sub>)<br/> 3&gt; 「WH」 reset: Press the <b>SET</b> &amp; <b>▲</b> &amp; <b>▼</b> key 3 seconds<br/> (同時按 <b>SET</b> &amp; <b>▲</b> &amp; <b>▼</b> 鍵 3 秒)</p> |

## Setting of alarm / 警報設定【AMP-32】

| Setting conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Display                                                                                         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>KWH display<br/>顯示 KWH</div> <div>Press <b>ENT</b> key 3 sec</div> <div>Power factor alarm setting<br/>功率因素警報設定</div> <div>Press <b>ENT</b> key</div> <div>Power frequency alarm setting<br/>電源頻率設定</div> <div>Press <b>ENT</b> key</div> <div>Voltage alarm setting<br/>電壓 警報設定</div> <div>Press <b>ENT</b> key</div> <div>Current alarm setting<br/>電流警報設定</div> <div>Press <b>ENT</b> key</div> <div>Alarm hysteresis setting<br/>警報應差值設定</div> <div>Press <b>ENT</b> key</div> <div>KW alarm setting<br/>KW 警報設定</div> <div>Press <b>ENT</b> key</div> <div>KQ alarm setting<br/>KQ 警報設定</div> <div>Press <b>ENT</b> key</div> | <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> | <p>1&gt; Range: 0.00~1.00<br/> 2&gt; Alarm address (0212H/bit.8): Alarm ON → 0212H/bit.8=1<br/> 3&gt; dp=2</p> <p>1&gt; Range: 0.0~99.9<br/> 2&gt; Alarm address (0212H/bit.7): Alarm ON → 0212H/bit.7=1<br/> 3&gt; dp=1</p> <p>1&gt; Range: 0.0~999.9V<br/> 2&gt; Alarm address (0212H/bit.1~3): Alarm ON → 0212H/bit.1~3=1<br/> 3&gt; dp=1</p> <p>1&gt; Range: 0.0~999.9A<br/> 2&gt; Alarm address (0212H/bit.4~6): Alarm ON → 0212H/bit.4~6=1<br/> 3&gt; dp=1</p> <p>1&gt; Range: 0.0~100.0% of AL<sub>x</sub><br/> 2&gt; 「Alt = 1」: PV ≥ AL<sub>x</sub> * (1 + HYS%) → Alarm ON<br/> 「Alt = 2」: PV ≤ AL<sub>x</sub> * (1 - HYS%) → Alarm ON<br/> 「Alt = 3」: PV ≥ AL<sub>x</sub> * (1 + HYS%) or PV ≤ AL<sub>x</sub> * (1 - HYS%) → Alarm ON<br/> 3&gt; dp=1</p> <p>1&gt; Range: -19999.999 ~ 99999.999<br/> 2&gt; Alarm address (0212H/bit.9): Alarm ON → 0212H/bit.9=1<br/> 3&gt; dp=3</p> <p>1&gt; Range: -19999.999 ~ 99999.999<br/> 2&gt; Alarm address (0212H/bit.10): Alarm ON → 0212H/bit.10=1<br/> 3&gt; dp=3</p> |

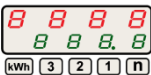
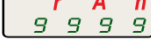
## Setting of Communication / 通訊參數設定【AMP-32】

| Function                                                                                                                                                                                                                                                                                          | Display                                                                                                                                                                                                                                                                                                                                                                                                                               | Range                                                                             | Description                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Control status<br>控制狀態<br>Press <b>ENT</b> & <b>▼</b> key 3 sec<br>Controller NO.<br>控制器編號設定<br>Press <b>SET</b> key<br>Communication protocol<br>通訊協定選擇<br>Press <b>SET</b> key<br>Communication speed<br>通訊速率選擇<br>Press <b>SET</b> key<br>Data configuration<br>資料結構選擇<br>Press <b>SET</b> key | <br><br><br><br> | 0 ~ 255<br>0 ~ 1<br>96 / 192<br>384 / 1152<br>8n1 / 8E1<br>8o1 / 8n2<br>7o1 / 7E1 | 1> Range : 0~255<br>1> 「rs=0」: Modbus-RTU<br>2> 「rs=1」: Modbus-ASCII<br>1> 「bPS=96」: 9600 bps      2> 「bPS=192」: 19200 bps<br>3> 「bPS=384」: 38400 bps    4> 「bPS=1152」: 115200 bps<br>1> 「8n1」: 8 bit non parity    2> 「8o1」: 8 bit odd parity<br>3> 「8E1」: 8 bit even parity   4> 「8n2」: 8 bit non parity<br>5> 「7o1」: 7 bit odd parity    6> 「7E1」: 7 bit even parity |

## Setting of Communication / 通訊參數設定【AMP-21】

| Function                                                                                                                                                                                                                                                                                          | Display                                                                                                                                                                                                                                                                                                                                                                                                                                       | Range                                                                             | Description                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Control status<br>控制狀態<br>Press <b>ENT</b> & <b>▼</b> key 3 sec<br>Controller NO.<br>控制器編號設定<br>Press <b>ENT</b> key<br>Communication protocol<br>通訊協定選擇<br>Press <b>ENT</b> key<br>Communication speed<br>通訊速率選擇<br>Press <b>ENT</b> key<br>Data configuration<br>資料結構選擇<br>Press <b>ENT</b> key | <br><br><br><br> | 0 ~ 255<br>0 ~ 1<br>96 / 192<br>384 / 1152<br>8n1 / 8E1<br>8o1 / 8n2<br>7o1 / 7E1 | 1> Range : 0~255<br>1> 「rs=0」: Modbus-RTU<br>2> 「rs=1」: Modbus-ASCII<br>1> 「bPS=96」: 9600 bps      2> 「bPS=192」: 19200 bps<br>3> 「bPS=384」: 38400 bps    4> 「bPS=1152」: 115200 bps<br>1> 「8n1」: 8 bit non parity    2> 「8o1」: 8 bit odd parity<br>3> 「8E1」: 8 bit even parity   4> 「8n2」: 8 bit non parity<br>5> 「7o1」: 7 bit odd parity    6> 「7E1」: 7 bit even parity |

## Setting of transmitter / 傳送設定【APM-32-TR】

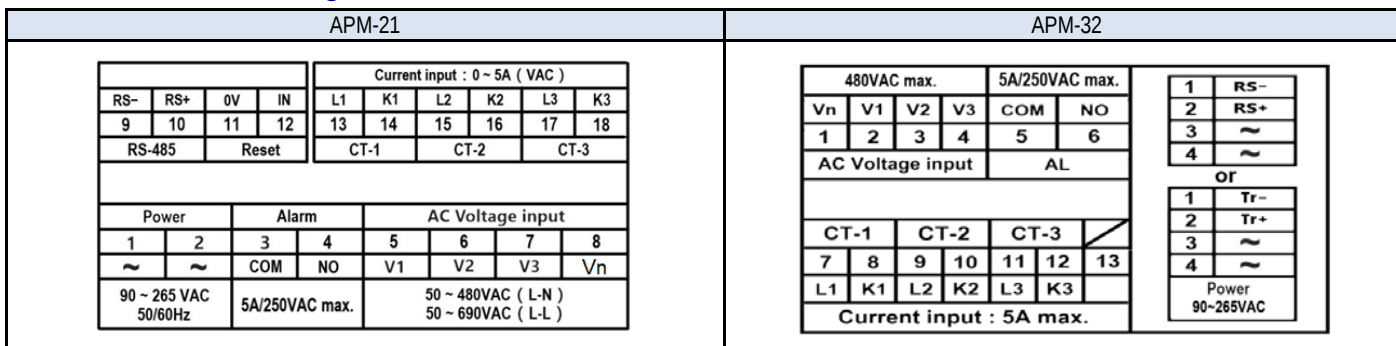
| Function                                                                                                                                                                                                                                                                                                                                           | Display                                                                                                                                                                                                                                                                                                                                                                                                                                         | Range                                                  | Description                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Control status<br>控制狀態<br>Press <b>▲</b> & <b>▼</b> key 3 sec<br>Unit selecting<br>傳送單位選擇<br>Press <b>SET</b> key<br>Transmitter range setting<br>傳送範圍設定<br>Press <b>SET</b> key<br>Press <b>SET</b> key 3 sec<br>4 mA offset correcting<br>4 mA 輸出偏差修正<br>Press <b>SET</b> key<br>20 mA offset correcting<br>20 mA 輸出偏差修正<br>Press <b>SET</b> key | <br><br><br><br> | u or ku or A<br>0 ~ 9999<br>-999 ~ 9999<br>-999 ~ 9999 | 1> 「tut = u」: W (Effective power (Total W)) (0~9999W)<br>2> 「tut = ku」: kW (Effective power (Total KW)) (0~999.9kW)<br>3> 「tut = A」: A (Average current) (0~999.9A)<br>1> 「rAn=9999」: 0~9999 → 0 ~ 20mA<br>1> 「4mA」: offset correcting<br>1> 「20mA」: offset correcting |

## Address of parameter / 通訊資料位址

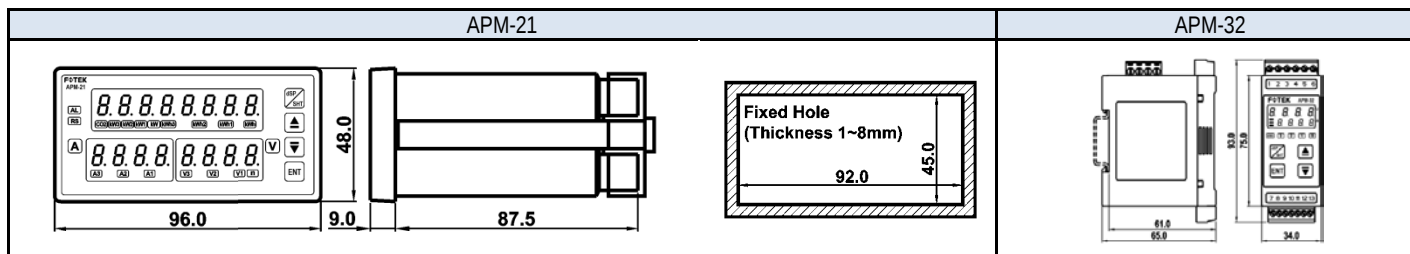
| Address | Description                                                 | Bytes | R/W | Address | Description                                                                                | Bytes | R/W |
|---------|-------------------------------------------------------------|-------|-----|---------|--------------------------------------------------------------------------------------------|-------|-----|
| 00 00H  | 「V1n」: L1 Phase voltage (dp=1)                              | 4     | R   | 02 46H  | 「kQh」: Lag integrated reactive energy of delay (dp=3)                                      | 4     | R   |
| 00 02H  | 「V2n」: L2 Phase voltage (dp=1)                              | 4     | R   | 02 48H  | 「kQh」: Total integrated reactive energy (dp=3)                                             | 4     | R   |
| 00 04H  | 「V3n」: L3 Phase voltage (dp=1)                              | 4     | R   | 02 4AH  | 「kWh1」: L1 Integrate effective energy (dp=3)                                               | 4     | R/W |
| 00 06H  | 「A1」: L1 Line current (dp=3)                                | 4     | R   | 02 4CH  | 「kWh2」: L2 Integrate effective energy (dp=3)                                               | 4     | R/W |
| 00 08H  | 「A2」: L2 Line current (dp=3)                                | 4     | R   | 02 4EH  | 「kWh3」: L3 Integrate effective energy (dp=3)                                               | 4     | R/W |
| 00 0AH  | 「A3」: L3 Line current (dp=3)                                | 4     | R   | 02 60H  | 「kWh」: Total integrate effective energy (dp=1)                                             | 4     | R   |
| 00 0CH  | 「PF」: Power factor (dp=2)                                   | 4     | R   | 02 62H  | 「kWhr」: Integrate regenerative energy (dp=1)                                               | 4     | R   |
| 00 0EH  | 「Hz」: Frequency (dp=1)                                      | 4     | R   | 02 64H  | 「kQh」: Lead integrated reactive energy (dp=1)                                              | 4     | R   |
| 00 10H  | 「W」: Effective power (Total W) (dp=1)                       | 4     | R   | 02 66H  | 「kQh」: Lag integrated reactive energy (dp=1)                                               | 4     | R   |
| 00 12H  | 「Q」: Reactive power (Total Q) (dp=1)                        | 4     | R   | 02 68H  | 「kQh」: Total integrated reactive energy (dp=1)                                             | 4     | R   |
| 00 14H  | 「V12」: L1 Line voltage (dp=1)                               | 4     | R   | 02 6AH  | 「kWh1」: L1 Integrate effective energy (dp=1)                                               | 4     | R/W |
| 00 16H  | 「V13」: L2 Line voltage (dp=1)                               | 4     | R   | 02 6CH  | 「kWh2」: L2 Integrate effective energy (dp=1)                                               | 4     | R/W |
| 00 18H  | 「V23」: L3 Line voltage (dp=1)                               | 4     | R   | 02 6EH  | 「kWh3」: L3 Integrate effective energy (dp=1)                                               | 4     | R/W |
| 00 1AH  | 「kW1」: L1 Effective power (dp=4)                            | 4     | R   | 20 00H  | 「Int」: Input mode selecting                                                                | 2     | R/W |
| 00 1CH  | 「kW2」: L2 Effective power (dp=4)                            | 4     | R   | 20 01H  | 「ut=0」: unit = 0.1kWh ; 「ut=1」: unit = 0.001kWh (1Wh)                                      | 2     | R/W |
| 00 1EH  | 「kW3」: L3 Effective power (dp=4)                            | 4     | R   | 20 02H  | 「Lck」: Lock setting                                                                        | 2     | R/W |
| 00 20H  | 「kQ1」: L1 Reactive power (dp=4)                             | 4     | R   | 20 03H  | 「CO <sub>2</sub> e」: CO <sub>2</sub> coefficient setting (dp=3)                            | 2     | R/W |
| 00 22H  | 「kQ2」: L2 Reactive power (dp=4)                             | 4     | R   | 20 04H  | 「V1」: Voltage alarm setting (dp=1) 【Alarm address : 「0212H-bit.1」】                         | 2     | R/W |
| 00 24H  | 「kQ3」: L3 Reactive power (dp=4)                             | 4     | R   | 20 05H  | 「V2」: Voltage alarm setting (dp=1) 【Alarm address : 「0212H-bit.2」】                         | 2     | R/W |
| 00 26H  | 「Vn」: Average phase voltage (dp=1)                          | 4     | R   | 20 06H  | 「V3」: Voltage alarm setting (dp=1) 【Alarm address : 「0212H-bit.3」】                         | 2     | R/W |
| 00 28H  | 「A」: Average current (dp=3)                                 | 4     | R   | 20 07H  | 「A1」: Current alarm setting (dp=1) 【Alarm address : 「0212H-bit.4」】                         | 2     | R/W |
| 00 2AH  | 「Vn」: Average line voltage (dp=1)                           | 4     | R   | 20 08H  | 「A2」: Current alarm setting (dp=1) 【Alarm address : 「0212H-bit.5」】                         | 2     | R/W |
| 00 30H  | 「A1」: L1 Line current (dp=1)                                | 4     | R   | 20 09H  | 「A3」: Current alarm setting (dp=1) 【Alarm address : 「0212H-bit.6」】                         | 2     | R/W |
| 00 32H  | 「A2」: L2 Line current (dp=1)                                | 4     | R   | 20 0AH  | 「Hz」: Current alarm setting (dp=1) 【Alarm address : 「0212H-bit.7」】                         | 2     | R/W |
| 00 34H  | 「A3」: L3 Line current (dp=1)                                | 4     | R   | 20 0BH  | 「PF」: Alarm setting (dp=2) 【Alarm address : 「0212H-bit.8」】                                 | 2     | R/W |
| 00 36H  | 「A」: Average current (dp=1)                                 | 4     | R   | 20 0CH  | 「kW」: (dp=3) Alarm setting 【Alarm address : 「0212H-bit.9」】                                 | 4     | R/W |
| 00 38H  | 「VA1」: L1 Average apparent power (dp=1)                     | 4     | R   | 20 0EH  | 「kQ」: (dp=3) Alarm setting 【Alarm address : 「0212H-bit.10」】                                | 4     | R/W |
| 00 3AH  | 「VA2」: L2 Average apparent power (dp=1)                     | 4     | R   | 20 10H  | 「HYS」: (dp=1) Alarm hysteresis setting                                                     | 2     | R/W |
| 00 3CH  | 「VA3」: L3 Average apparent power (dp=1)                     | 4     | R   | 20 11H  | 「ALT」: (0=ALT.0 , 1=ALT.1 , 2=ALT.2 , 3=ALT.3)                                             | 2     | R/W |
| 00 3EH  | 「VA」: Total apparent power (dp=1)                           | 4     | R   | 20 12H  | 「rSt」: 「WH」 reset protection setting (Resettable : bit.0=0)                                | 2     | R/W |
| 00 40H  | 「kW1」: L1 Effective power (dp=3)                            | 4     | R   | 20 13H  | 「RESET」: 「WH」 reset (Reset : bit.0=1)                                                      | 2     | R/W |
| 00 42H  | 「kW2」: L2 Effective power (dp=3)                            | 4     | R   | 20 14H  | 「CT」: CT secondary current 【「0」=1A ; 「1」=5A】                                               | 4     | R/W |
| 00 44H  | 「kW3」: L3 Effective power (dp=3)                            | 4     | R   | 20 16H  | 「CT」: CT primary current 【Range=1~9999】                                                    | 4     | R/W |
| 00 46H  | 「kW」: Total effective power (dp=3)                          | 4     | R   | 20 18H  | 「Pt」: PT ratio setting (dp=2) 【ratiox100 (100 to 9999)】                                    | 4     | R/W |
| 02 10H  | 「CO <sub>2</sub> 」: CO <sub>2</sub> Integrate volume (dp=1) | 4     | R   | 22 0CH  | 「Pulse unit」: 0=1WH ; 1=10WH ; 2=100WH ; 3=1KWH<br>4=5KWH ; 5=10KWH ; 6=50KWH ; 7=100KWH ; | 4     | R/W |
| 02 12H  | 「Alarm status address」: 【bit.0=1】→ ON                       | 2     | R   | 22 0EH  | 「VT」: VT ratiox100 (100 to 99999)                                                          | 4     | R/W |
| 02 40H  | 「kWh」: Integrate effective energy (dp=3)                    | 4     | R   | 22 10H  | 「CO <sub>2</sub> f」: Conversion factor (factor x100 ; 0~9999)                              | 4     | R/W |
| 02 42H  | 「kWhr」: Integrate regenerative energy (dp=3)                | 4     | R   | FE FFH  | 「RESET」: 「WH」 & 「CO <sub>2</sub> 」 reset (Reset : bit.0=1)                                 | 2     | R/W |
| 02 44H  | 「kQh」: Lead integrated reactive energy (dp=3)               | 4     | R   |         |                                                                                            |       |     |

※ 「WH」 reset : Press the **SET** & **▲** & **▼** key 3 seconds (同時按 **SET** & **▲** & **▼** 鍵 3 秒)

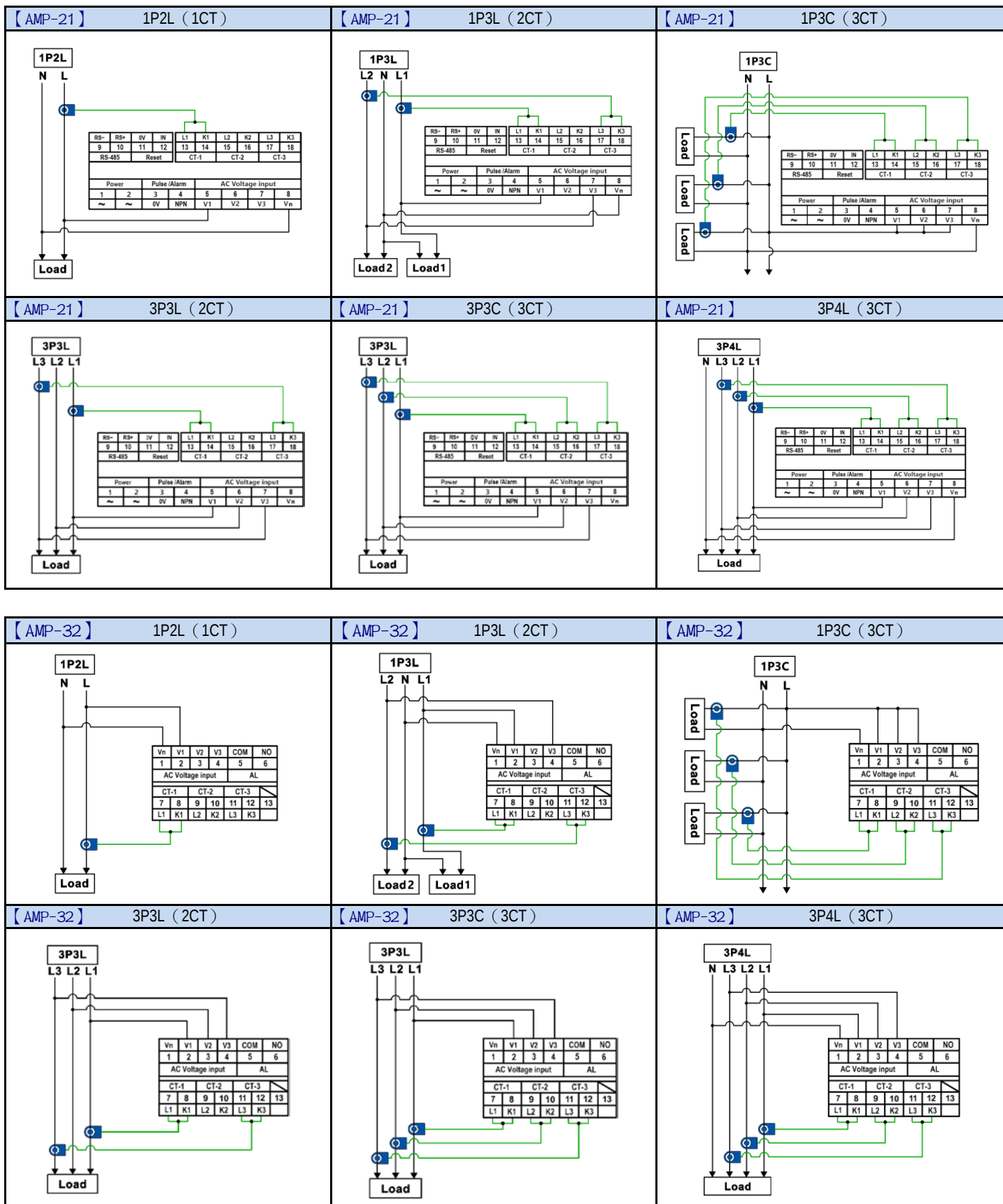
## Connection diagram / 接線圖



## Dimension / 尺寸圖



■ Connection diagram / 接線圖【CT:K = White wire(白線)/ L = Black wire(黑線)】



※「Effective power (kW1/ kW2/ kW3)」display negative value: CT direction or wiring is reversed.  
 ※「功率 (kW1/ kW2/ kW3)」顯示負值: CT 方向錯誤或 K/L 線接反。