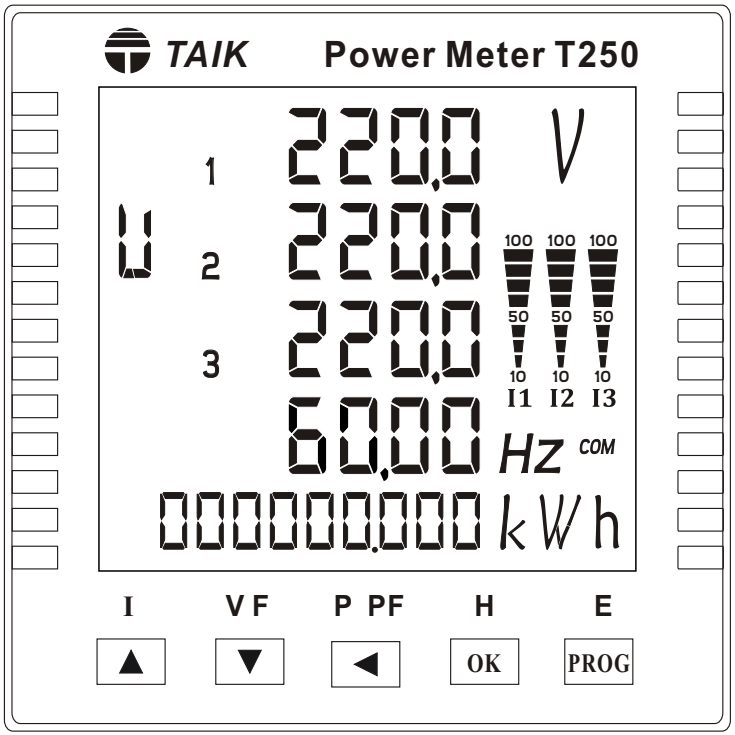
T250

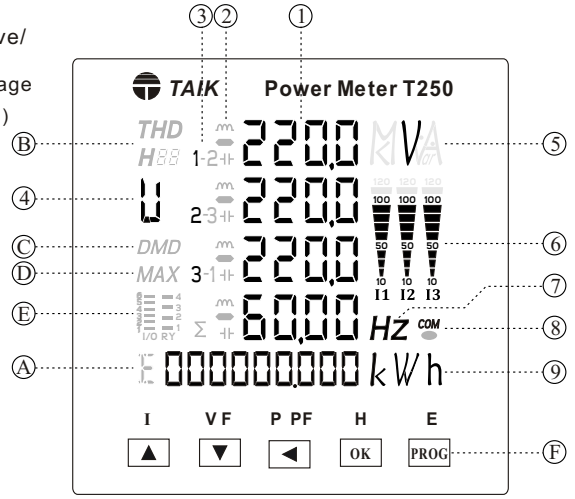
Instruction Manual



1. Hardware Structure:

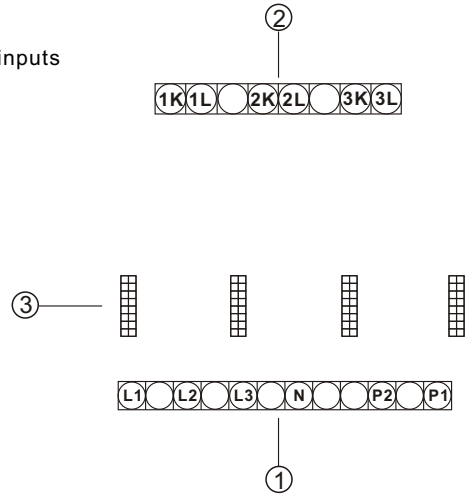
1.1 Display Screen:

① 4 rows of 4 digits
② Inductive/capacitive load or positive/ negative value
③ Values in line-neutral or line-line voltage
1 : L1 Value 1-2 : L1-2 Voltage (line to lin)
Σ: System Value
④ Measured electrical parameters
U : Voltage I : Current P : Watt
PF : PF Q : Var S : VA
⑤ Measured units
⑥ Load in current (%)
⑦ System frequency
⑧ COM: RS 485 module ●: Flashing as the communication is in progress
⑨ 9 digits, the unit in measured energy, and decimal point
Ⓐ Measured energy
I : Import WH or Ind VarH
E : Export WH C : Cap VarH
Ⓑ Individual harmonic rate (%)
Ⓒ Actual demand
Ⓓ Max.memorized values
Ⓔ Connecting status for the extended modules
Ⓕ 5 push buttons



1.2 Terminals Configuration:

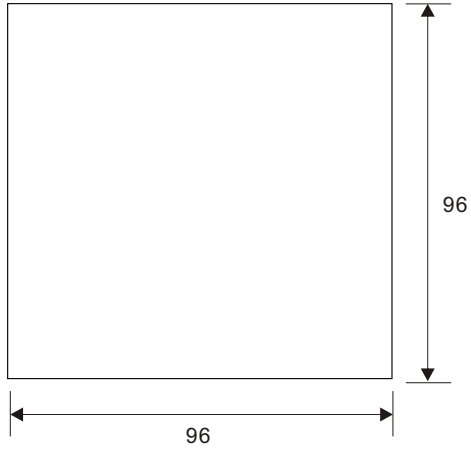
① Auxiliary power supply and voltage inputs
② Current inputs
③ Extended modules



2. Installation /Wiring:

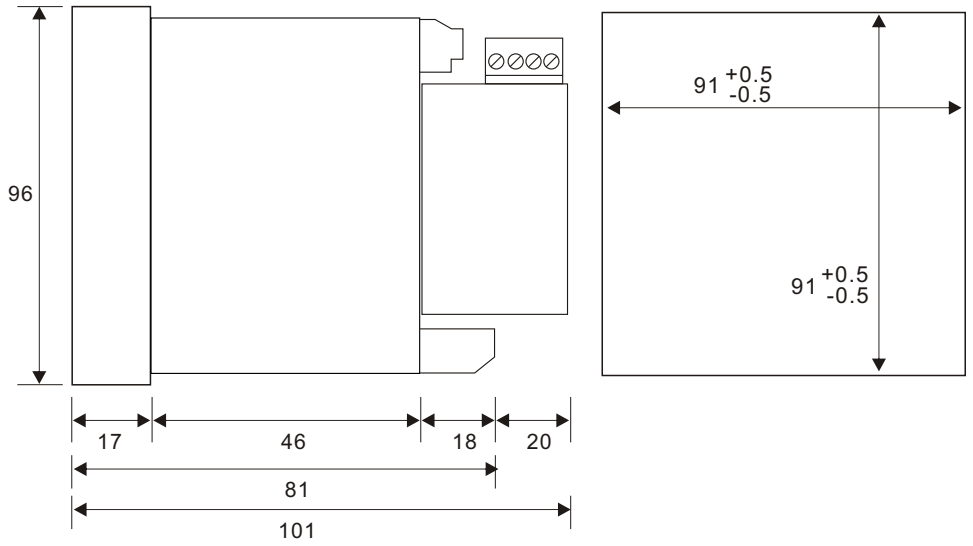
2.1 Dimension and Panel Cut-out (Unit: mm)

● Front View



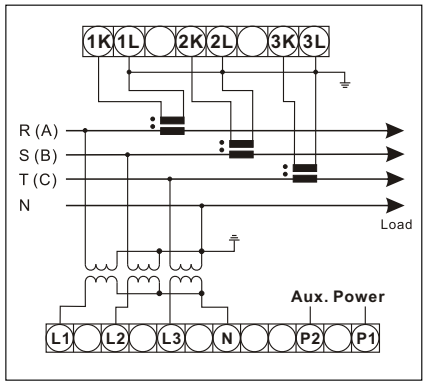
● Side View

● Cut-Out Size

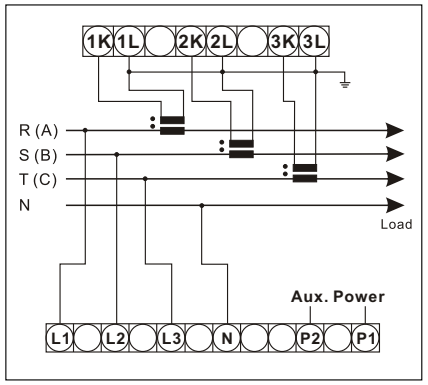


2.2 Connection Diagrams:

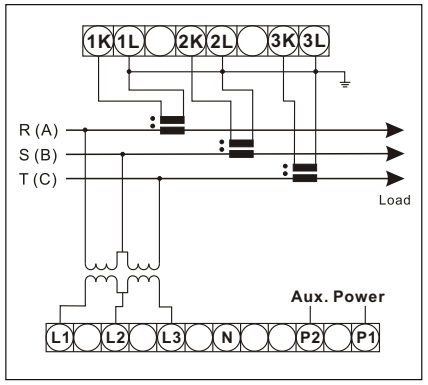
- 3 Phase 4 Wire (3 PTs, 3 CTs) SYS nEt = 3P4L



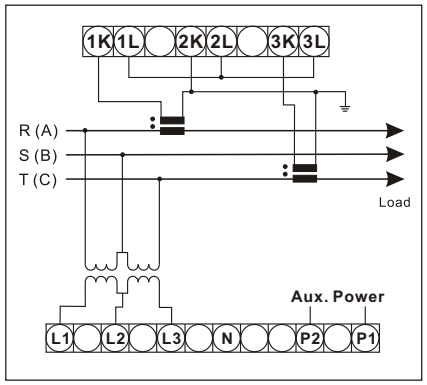
- 3 Phase 4 Wire (Only 3 CTs) SYS nEt = 3P4L



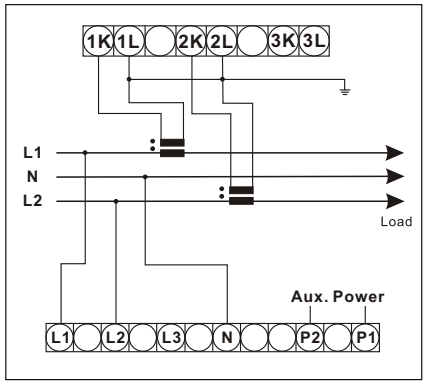
- 3 Phase 3 Wire (2 PTs, 3 CTs) SYS nEt = 3P3L



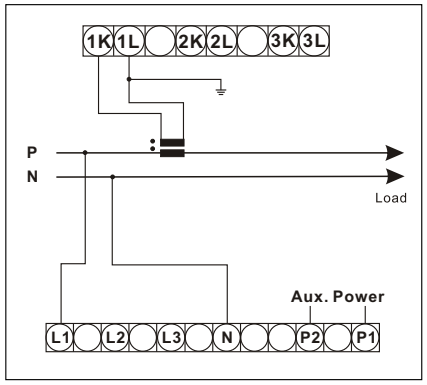
- 3 Phase 3 Wire (2 PTs, 2 CTs) SYS nEt = 3P3L



- 1 Phase 3 wire (Only 2 CTs) SYS nEt = 1P3L



- 1 Phase 2 Wire (Only 1 CT) SYS nEt = 1P2L



3. Functions of Buttons:

3.1 Keys Programming

I
▲

Display
Current demand and max. current demand

V F
▼

Display
Frequency, voltage and max. voltage

P PF
◀

Display
Apparent power, active power, reactive power, power factor, watt demand and max. watt demand

H
OK

Display

THD voltage and THD current
At the presence of THD display mode, press two buttons simultaneously:
Hold H OK + I ▲ or H OK + V F ▼ to select individual harmonic distortion rate

At the presence of individual harmonic distortion rate:

Hold H OK to return THD display mode

Formulation of THD

Hold simultaneously P PF ◀ + H OK to change by either default formula

$$THD = \sqrt{\frac{Vrms^2 - V_{(1)}rms^2}{V_{(1)}rms^2}} \times 100\%$$ Temporarily displayed legends T/ 1-5

$$THD = \sqrt{\frac{Vrms^2 - V_{(1)}rms^2}{Vrms^2}} \times 100\%$$ Temporarily displayed legends T/RMS

E
PROG

Press once : Displaying values in VAH, WH and VarH

Hold : Access to set up mode (Refer to 4.1)

3.1.1 Symbols of Phase Sequence (Refer to 1.1)

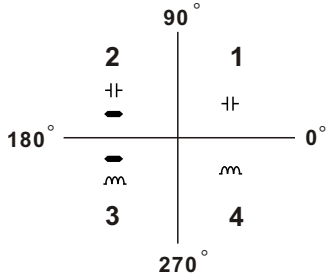
Display: 4 digits at the maximum figures up to 9999
Decimal point position of The M/K unit: The position of the decimal point in the M/K unit will automatically be varied with the rated inputs (CT and PT ratio set-up)

Values in line-neutral or line-line voltage :

1 : L1 values in line-neutral; 1-2: L1-L2 line-line voltage
2 : L2 values in line-neutral; 2-3: L2-L3 line-line voltage
3 : L3 values in line-neutral; 3-1: L3-L1 line-line voltage
Σ : System Values

Symbols :

: Inductive load
: Capacitive load
: Negative watt (Reverse current flow)



The angle lain between a base of measured voltage and the current is divided into 4 quadrants.

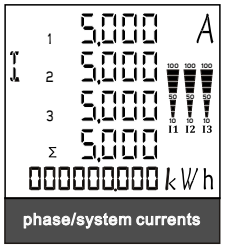
Vrms: The RMS Volt waveform
$V_{(1)}$rms: The RMS Volt on fundamental frequency waveform

3. Display Mode and Button Functions : Appearing the bargraph rate at % for the measured current on each display

3.2 Display in 3P4W: SYS nEt = 3P4L

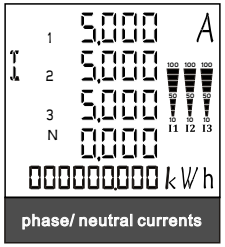
Current

I ▲



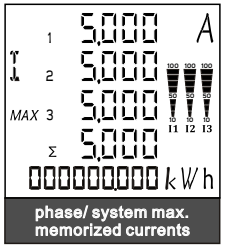
phase/system currents

I ▲



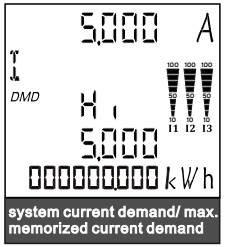
phase/ neutral currents

I ▲



phase/ system max. memorized currents

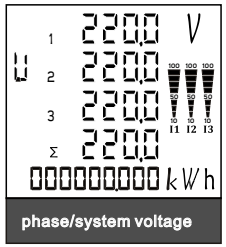
I ▲



system current demand/ max. memorized current demand

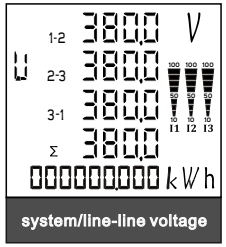
Volt/Frequency

V F ▼



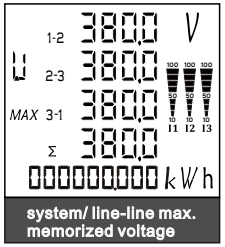
phase/system voltage

V F ▼



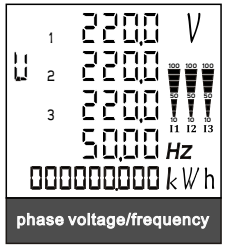
system/line-line voltage

V F ▼



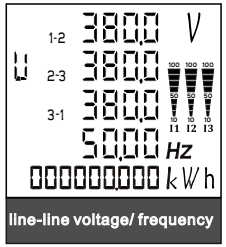
system/ line-line max. memorized voltage

V F ▼



phase voltage/frequency

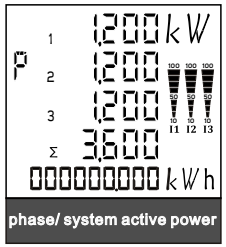
V F ▼



line-line voltage/ frequency

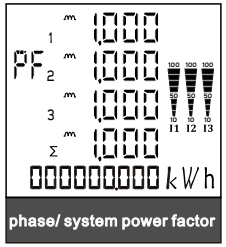
VA/W/Var/PF/Demand

P PF ◄



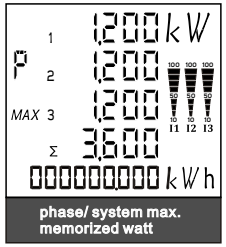
phase/ system active power

P PF ◄



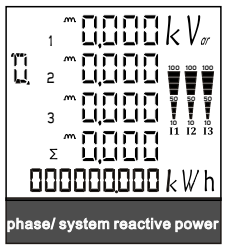
phase/ system power factor

P PF ◄



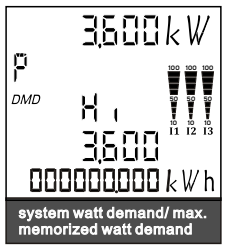
phase/ system max. memorized watt

P PF ◄



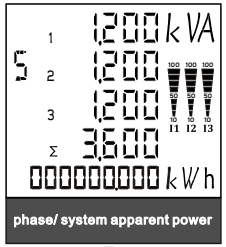
phase/ system reactive power

P PF ◄



system watt demand/ max. memorized watt demand

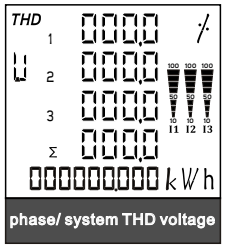
P PF ◄



phase/ system apparent power

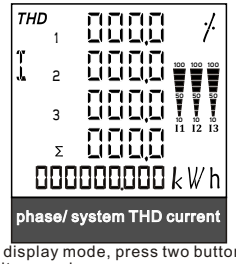
Individ. harmonic rate/THD

H OK



phase/ system THD voltage

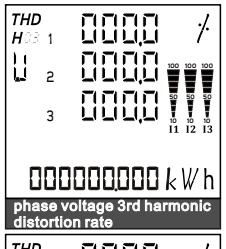
H OK



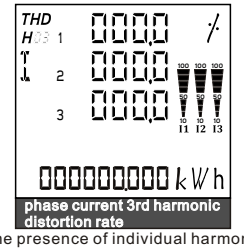
phase/ system THD current

THD display mode, press two buttons simultaneously:

Hold H OK + I ▲ or H OK + VF ▼ to select individual harmonic distortion rate :



phase voltage 3rd harmonic distortion rate



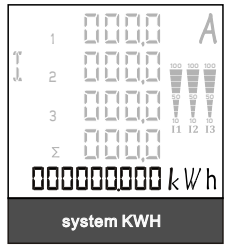
phase current 3rd harmonic distortion rate

At the presence of individual harmonic distortion rate:

Hold H OK to return THD display mode

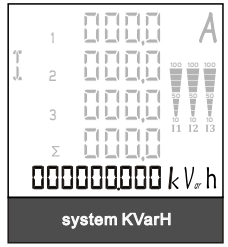
Energy

E PROG



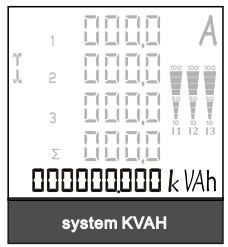
system KWH

E PROG



system KVarH

E PROG



system KVAH

***Set-up Flowchart**

In sub-menus mode, access to Hour Hour i_E :(set to YES) can be shown as follows

Import/ Export KWH

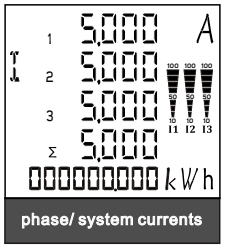
Ind/Cap KVarH

Appearing the bargraph rate at % for the measured current on each display

3.3 Display in 3P3W: SYS nEt = 3P3L

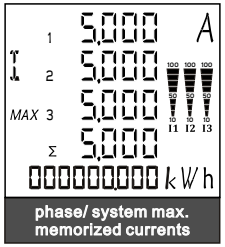
Current

I ▲



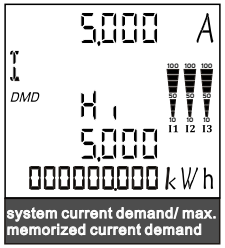
phase/ system currents

I ▲



phase/ system max. memorized currents

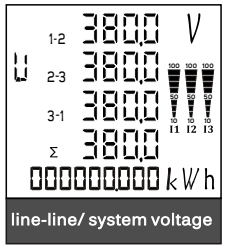
I ▲



system current demand/ max. memorized current demand

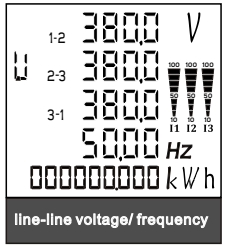
Volt/Frequency

V F ▼



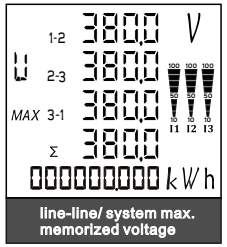
line-line/ system voltage

V F ▼



line-line voltage/ frequency

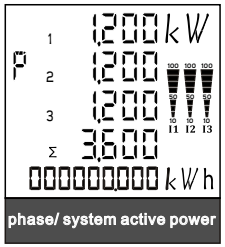
V F ▼



line-line/ system max. memorized voltage

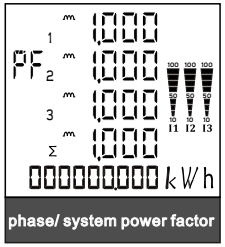
VA/W/Var/PF/Demand

P PF ◄



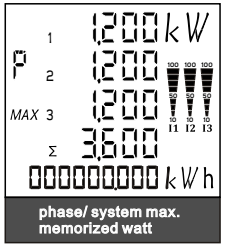
phase/ system active power

P PF ◄



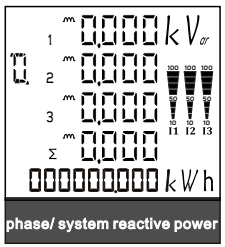
phase/ system power factor

P PF ◄



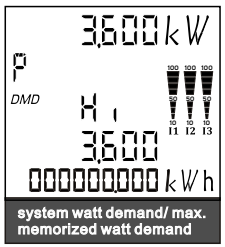
phase/ system max. memorized watt

P PF ◄



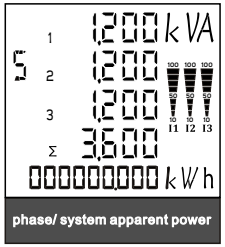
phase/ system reactive power

P PF ◄



system watt demand/ max. memorized watt demand

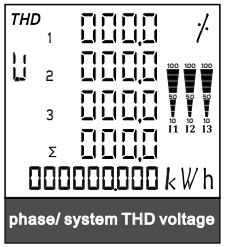
P PF ◄



phase/ system apparent power

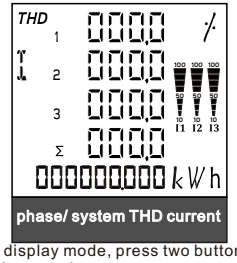
Individ. harmonic rate/THD

H OK



phase/ system THD voltage

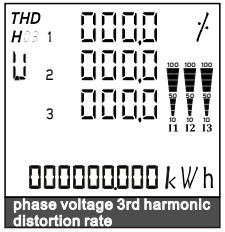
H OK



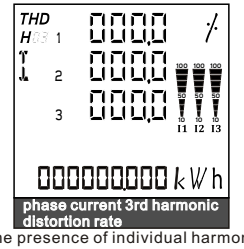
phase/ system THD current

THD display mode, press two buttons simultaneously:

Hold H OK + I ▲ or H OK + V F ▼ to select individual harmonic distortion rate:



phase voltage 3rd harmonic distortion rate



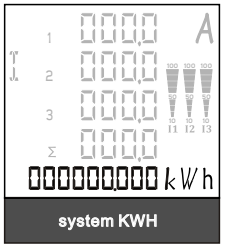
phase current 3rd harmonic distortion rate

At the presence of individual harmonic distortion rate:

Hold H OK to return THD display mode

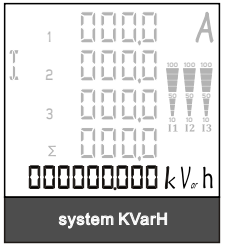
Energy

E PROG



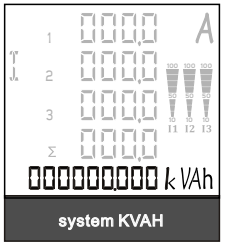
system KWH

E PROG



system KVarH

E PROG



system KVAH

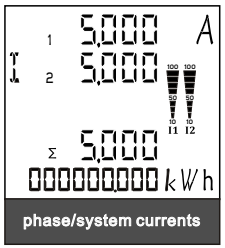
***Set-up Flowchart**

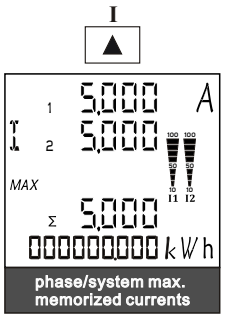
In sub-menus mode, access to Hour Hour i_E :(set to YES) can be shown as follows
Import/ Export KWH
Ind/Cap KVarH

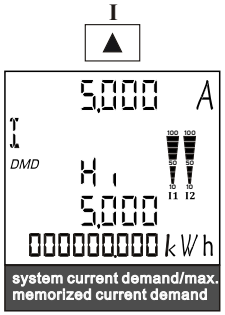
Appearing the bargraph rate at % for the measured current on each display

3.4 Display in 1P3W: SYS nEt = 1P3L

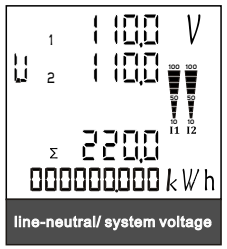
Current

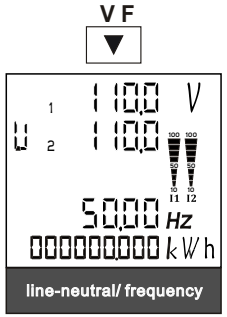


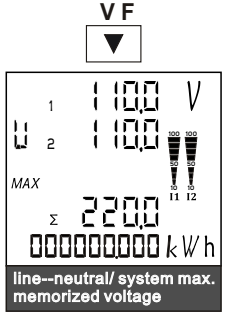




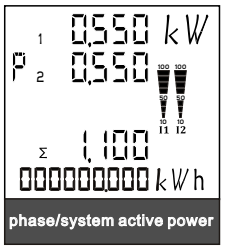
Volt/Frequency

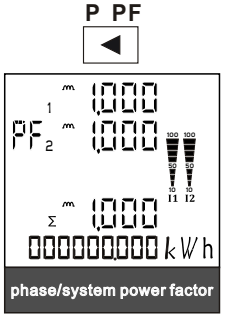


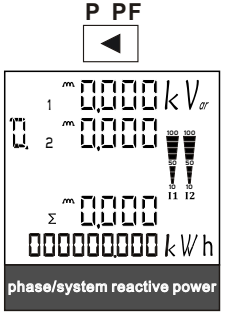


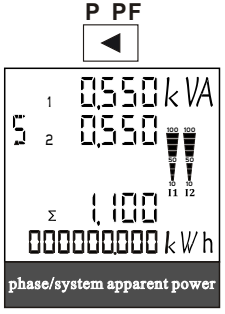


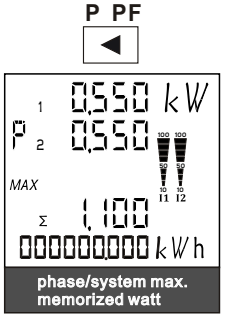
VA/W/Var/PF/Demand

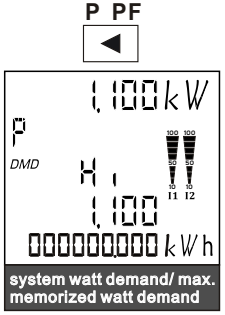




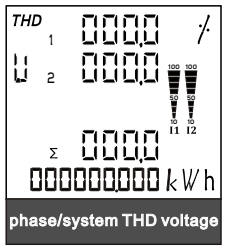


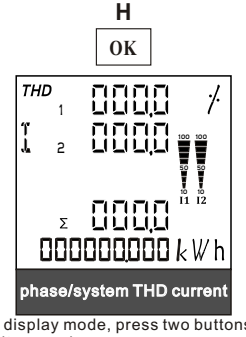






Individ. harmonic rate/THD

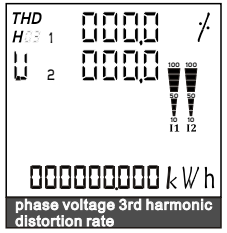


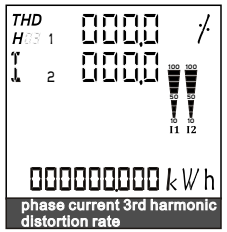


THD display mode, press two buttons simultaneously:

Hold H OK I ▲ or H OK VF ▼

to select individual harmonic distortion rate :

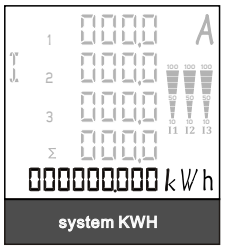


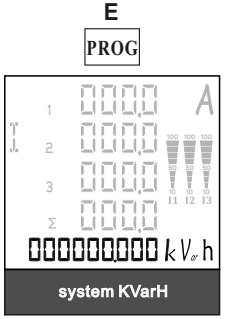


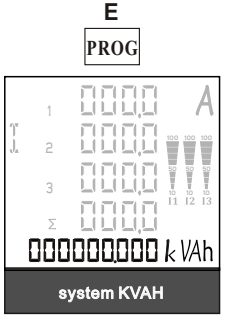
At the presence of individual harmonic distortion rate:

Hold H OK to return THD display mode

Energy







***Set-up Flowchart**

In sub-menus mode, access to Hour Hour i_E :(set to YES) can be shown as follows

Import/ Export KWH

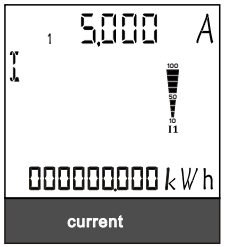
Ind/Cap KVarH

Appearing the bargraph rate at % for the measured current on each display

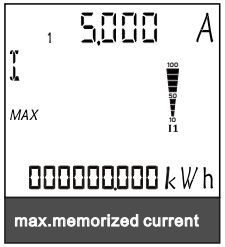
3.5 Display in 1P2W: SYS nEt = 1P2L

Current

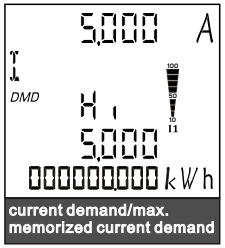
I ▲



I ▲

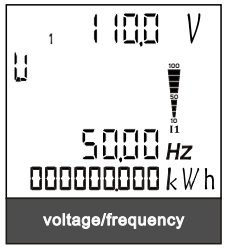


I ▲

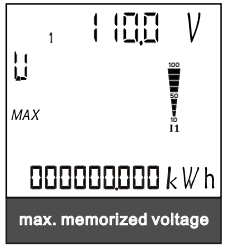


Volt/Frequency

V F ▼

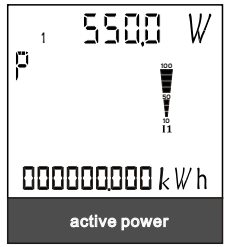


V F ▼

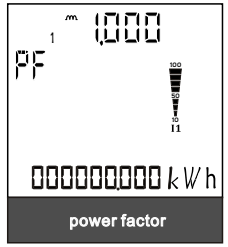


VA/W/Var/PF/Demand

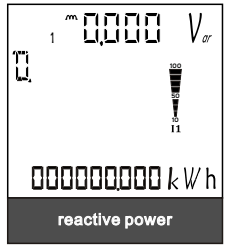
P PF ◄



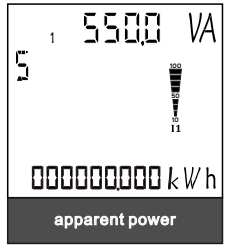
P PF ◄



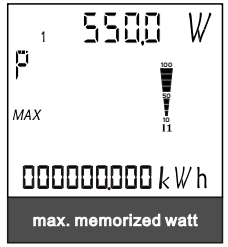
P PF ◄



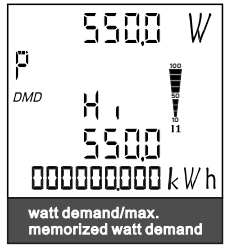
P PF ◄



P PF ◄

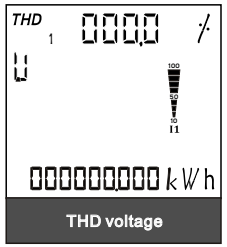


P PF ◄

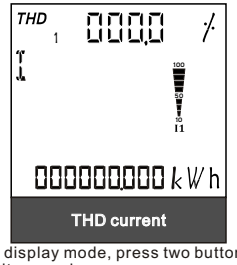


Individ. harmonic rate/THD

H OK

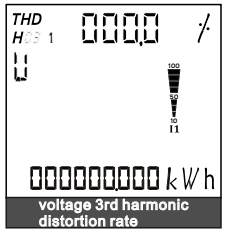


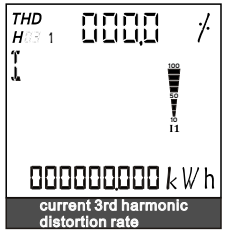
H OK



THD display mode, press two buttons simultaneously:

Hold H OK + I ▲ or H OK + V F ▼ to select individual harmonic distortion rate :



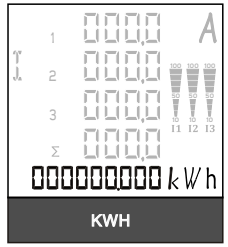


At the presence of individual harmonic distortion rate:

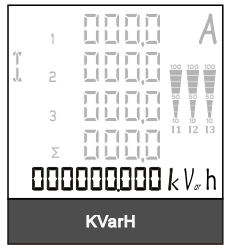
Hold H OK to return THD display mode

Energy

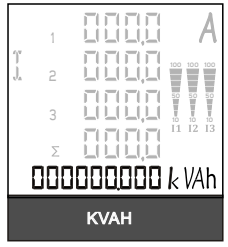
E PROG



E PROG



E PROG



***Set-up Flowchart**

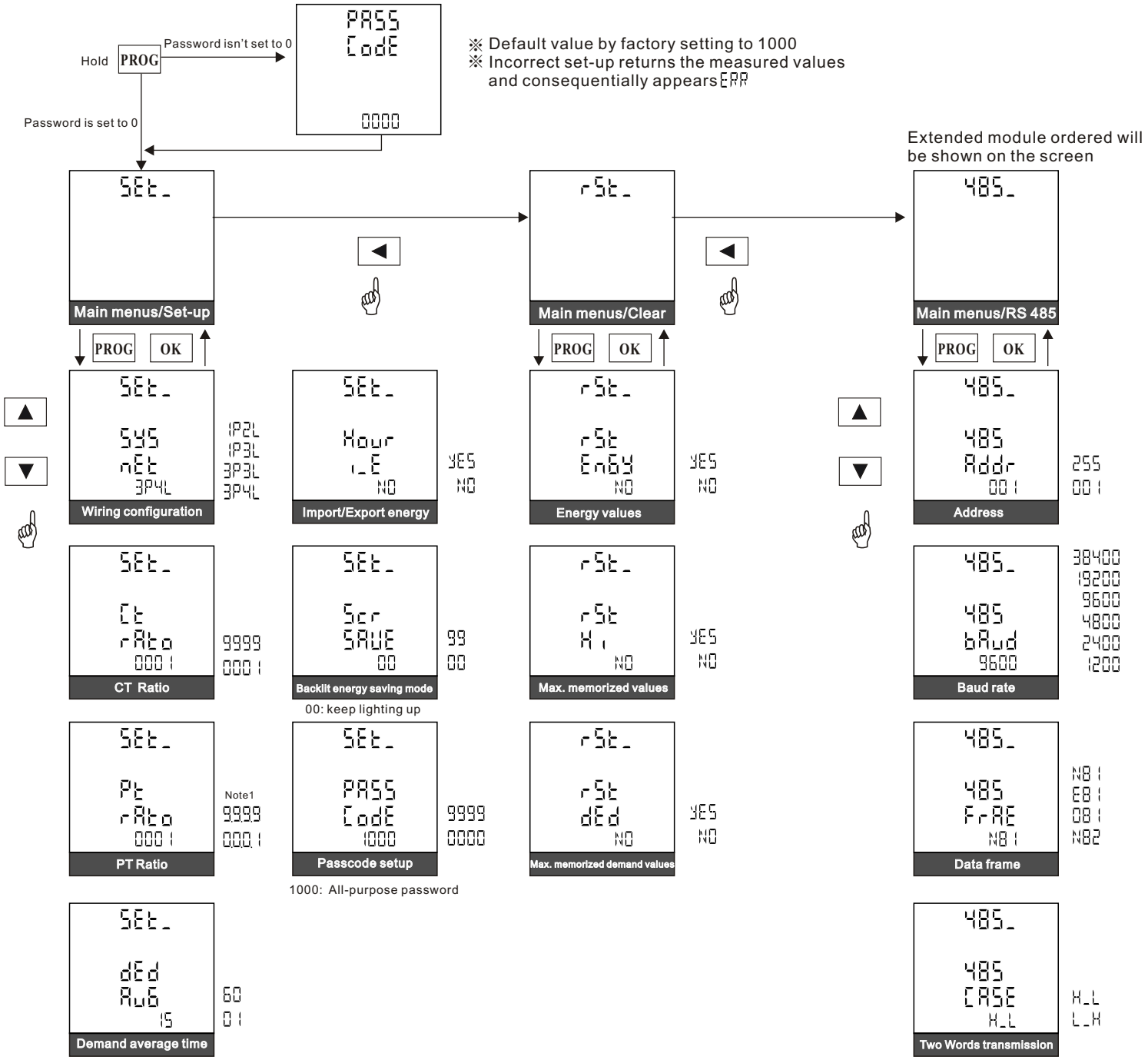
In sub-menus mode, access to Hour Hour i_E :(set to YES) can be shown as follows

Import/ Export KWH

Ind/Cap KVarH

4. Set-up Flowchart/ Buttons:

4.1 Set-up Flowchart:



4.2 Buttons:

● Functions:

Main menus:

- PROG Access to sub-menus
- ◄ Advance to the next menus
- OK Return to measured values
- ▲ Disable
- ▼ Disable

Sub-menus :

- PROG Access to values set-up
- OK Return to main menus
- ▲ Advance to next sub-menus
- ▼ Advance to next sub-menus
- ◄ Disable

Values Set-up:

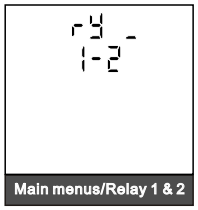
- ▲ Increased value
- ▼ Decreased value
- ◄ Vary digits position
- OK Confirm then return to sub-menus
- PROG Disable

Note 1: At the presence of PT ratio set-up, press simultaneously for setting the decimal point position.

4.3 Relay Contact & Analog Output (Extended modules) :

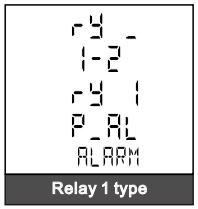
※Having an associated module can be shown on the screen, the I/O module is unavailable shown on the screen.

Relay module



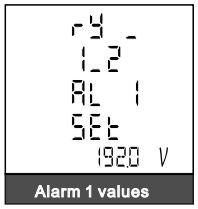
Same function but different defined code

PROG OK



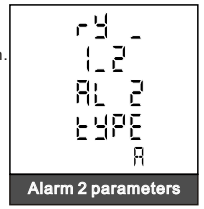
※ Relay 1 is set to PULSE 1 or ALARM 1

PULSE
ALARM

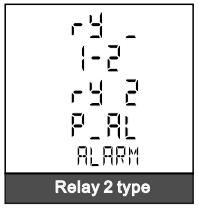


※ Relay 1 set to Alarm, which the corresponding parameters will be shown.

4 digit values set-up; The unit and decimal point will be set automatically.



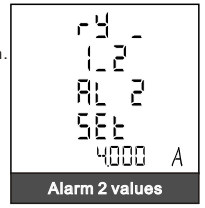
※ Relay 2 set to Alarm, which the corresponding parameters will be shown.



※ Relay 2 is set to PULSE 2 or ALARM 2

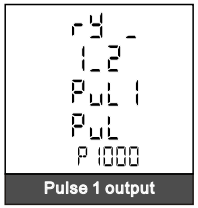
PULSE
ALARM

※ Relay 1 set to Alarm, which the corresponding parameters will be shown.

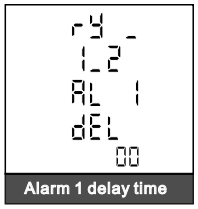


※ Relay 2 set to Alarm, which the corresponding parameters will be shown.

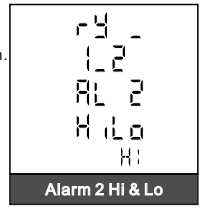
4 digit values set-up; The unit and decimal point will be set automatically.



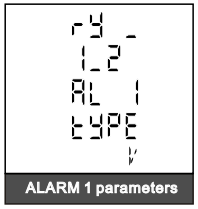
※ Relay 1 set to Pulse will be shown, and the pulse rate shall be set to the secondary value.



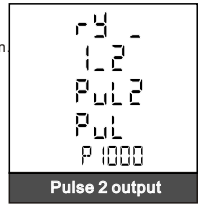
※ Realy 1 set to Alarm, which the corresponding parameters will be shown.



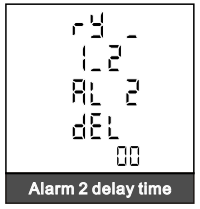
※ Relay 2 set to Alarm, which the corresponding parameters will be shown.



※ Relay 1 set to Alarm, which the corresponding parameters will be shown



※ Relay 2 set to Pulse will be shown, and the pulse rate shall be set to the secondary value.

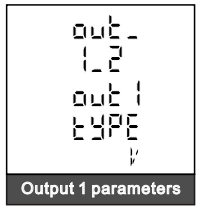


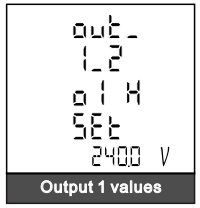
※ Relay 2 set to Alarm, which the corresponding parameters will be shown.

Analog module

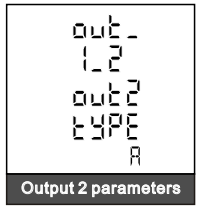
Same function but different defined code

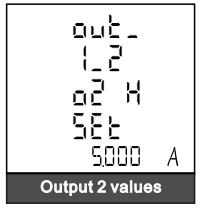
PROG OK





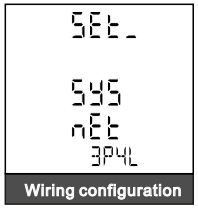
4 digit values set-up; The unit and decimal point will be set automatically.





4 digit values set-up; The unit and decimal point will be set automatically.

4.4 The reminders of Sub-Menus Set-up :



Wiring configuration

1P2L
1P3L
3P3L
3P4L

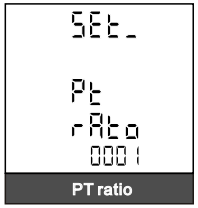
: The electrical connection shall correspond with the set wiring configuration

Two Words transmission

Being applied to Double Words" transmission

H_L : Hi word is set ahead, Low word is set behind
It is defined as "Swapped Float"

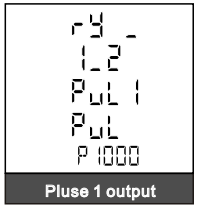
L_H : Low word is set ahead, Hi word is set behind
It is defined as "Float"



PT ratio

At the presence of PT ratio set-up, press ◄ OK simultaneously for setting the decimal point position.

9999
000.1



Pluse 1 output

Example: Setting the pulse rate as P100
which corresponds to the secondary value.

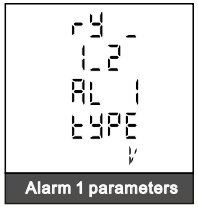
Import/Export energy

YES
no

: WH :Import/Export values
VarH : Ind/Cap values

1 : Import WH or Ind VarH

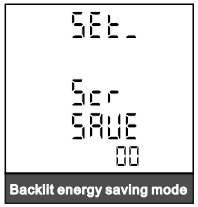
E : Export WH C : Cap VarH



Alarm 1 parameters

* Adopting "absolute value" for comparison

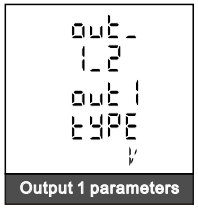
THDA : system THD current
THDV : system THD voltage
HZ : system frequency
PF : system power factor
DMDA : system current demand
DMDW : system watt demand
W : system watt
A : system current
V : system voltage (3P3W line-line voltage)



Backlit energy saving mode

99
00

: Time set-up for backlit energy saving .
After a touch on any of buttons, the backlit will automatically be lit up
00:keep lighting up



Output 1 parameters

HZ : system frequency
PF : system power factor
(bidirectional 4-12-20mA)
VAR : system reactive power
(bidirectional 4-12-20mA)
W : system active power
(unidirectional 4-20mA)
A : system current
V : system voltage (3P3W line-line voltage)

5. Specifications:

5.1 Measured Parameters and Accuracy:

Display	SYS	L1	L2	L3	Accuracy
L-L volt	●*	●	●	●	0.2%
L-N volt	●*	●	●	●	0.2%
Current	●*	●	●	●	0.2%
Active power	●	●	●	●	0.5%
Reactive power	●	●	●	●	0.5%
Apparent power	●	●	●	●	0.5%
Power factor	●*	●	●	●	0.5%
Frequency	●				0.05Hz
Import (KWH)	●	●	●	●	0.5%
Ind (KVarH)	●	●	●	●	0.5%
Export (KWH)	●	●	●	●	0.5%
Cap (KVarH)	●	●	●	●	0.5%
THD	●*	●	●	●	2%
Demand	●				0.5%

* Average Value Accuracy：F.S.%

5.2 Characteristics:

- **Accuracy performance range:**
  - Voltage ..... 0.6 ~ 120%
  - Current ..... 0.2 ~ 120%
  - Power energy ..... Volt: 0.6 ~ 120%, Amp: 0.2 ~ 120%
  - Power factor ..... COSΘ(SINΘ) 0.5 ~ 1
  - Frequency ..... 45 ~ 70Hz
  - Distortion level 31st
- **Input Voltage:**
  - Line-line Voltage ..... 3 ~ 520V
  - Line-neutral Voltage ..... 2 ~ 300V
  - Maximum overload 750V
  - Input impedance ..... ≥ 800KΩ
  - Power consumption ..... ≤ 0.1VA
- **Input Current:**
  - Current ..... 5A，1A(Option)
  - Power consumption ..... ≤ 0.1VA
  - Isolation ..... Phase to phase 600V
  - Starting current ..... 0.2%F.S.

- **THD % display:**
  - Current ..... ≥ 1% F.S.
  - Voltage ..... ≥ 10% F.S.
- **Power supply:**
  - Auxiliary power supply ..... AC/DC85~265V
    DC 20~60V (OPTION)
  - Power consumption ..... ≤ 4.5VA(Without extended module)
    ≤ 9VA(All extended modules)
  - Frequency Range ..... 45 ~ 65Hz
- **Display screen:**
  - Format ..... LCD blue backlit
  - Digit height ..... 3 rows of 4 digits 0.39"，10.0mm
    One row of 9 digits accumulative values
- **Set-up/Memorized Value:**
  - Memory method ..... FRAM
  - Memory time ..... 20 years at least
- **Communication:**
  - Interface RS485
  - Protocol ..... MODBUS ，RTU frame
  - Baud rate ..... 1200 ~ 38400 programmable
  - Address ..... 1 ~ 255 progtammable
  - Data format ..... N,8,1 / N,8,2 / O,8,1 / E,8,1 programmable
  - Parallel connection ..... 32 meters
- **Installation of pluggable modules：Max. 4 modules**
  - RS 485 ..... 1 module
  - Relay contacts ..... 2 modules
  - Digital inputs ..... 2 modules
  - Analog outputs ..... 2 modules

6.COMMUNICATIONS

6.1 Communication protocol

Utilizing MODBUS communication shall use a repeater as the meters are in parallel connection more than 30pcs.

6.2 Transmission Mode

RTU

6.3 Transmission Method

RS 485 (Half-Duplex)

6.4 Modbus Frame

6.4.1 Basic Command Framing：Hexadecimal Code

Start of frame	Address Field	Function Code	Data Field	Error Check	End of Frame

Start of frame：The data is not transmitted by a silent period of at least 4 characters

Address field ：The valid MODBUS addresses are in the range of 1-255, the address 0 for broadcast command is only valid for Function Code ⇨ 06H, but it doesn't reply to any message

Function code ：03H⇨Read Data
06H⇨Write Date

Data field ：The start address of a register. Reading N Words and Writing N values

Error check ：A 16 bit CRC

End of frame ：The data is not transmitted by a silent period of at least 4 characters

6.4.2 Bit Per Byte：Access to sub-menus for set-up

Start Bit	Data Bit	Parity	Stop	Frame	Setting values
1	8	None	2	N，8，2	0
1	8	Odd	1	O，8，1	1
1	8	Even	1	E，8，1	2
1	8	None	1	N，8，1	3

6.5 Reading Register Command：

Query：

Start of Frame	Address Field	Function Code	Start Address Hi	Start Address Lo	Number of Word Hi	Number of Word Lo	Error Check		End of Frame
	01H~FFH	03H	0~nnH	0 ~ nnH	0H	1~nnH	CRC Lo	CRC Hi	
	1 Byte	1 Byte	2Byte		2Byte		2Byte		

Response：(Command is correct)

Start of Frame	Address Field	Function Code	Number of Data Byte Count	D0、D1.. Dn (Hi,Lo,Hi,Lo....)	Error Check		End of Frame
	01H~FFH	03H			CRC Lo	CRC Hi	
	1 Byte	1 Byte	1Byte		2 Byte		

6.6 Writing Register Command: A single writing WORD command

Query：

Start of Frame	Address Field	Function Code	Start Address Hi	Start Address Lo	Value Hi..	Value ..Lo	Error Check		End of Frame
	01H~FFH	06H	0~nnH	0 ~ nnH	Setting Value		CRC Lo	CRC Hi	
	1 Byte	1 Byte	2Byte		2 or 4 Byte		2 Byte		

Response：(Response to the writing data if the command is correct)

Start of Frame	Address Field	Function Code	Start Address Hi	Start Address Lo	Value Hi..	Value .. Lo	Error Check		End of Frame
	01H~FFH	06H	0~nnH	0 ~ nnH	Setting Value		CRC Lo	CRC Hi	
	1 Byte	1 Byte	2Byte		2 or 4 Byte		2 Byte		

6.7 Message Error: (A command is error)

Start of Frame	Address Field	Function Code	Error Code	Error Check		End of Frame
	01H~FFH	83H or 86H		CRC Lo	CRC Hi	
	1 Byte	1 Byte	1 Byte	2 Byte		

- Function Code：Response to the received Function Code but MSB is set to 1, it functions like 03H⇨ 83H
- Error Code：
  - 01：Error Function
  - 02：Error Data Address
  - 03：Error Data Value

6.8 The CRC Calculation：

The CRC is calculated on all bytes of a message from the address to the last data byte inclusively. The CRC field is the result of a CRC calculation performed on the message contents. The meter will not reply to commands with a CRC in error and the host should re-transmit the command after a preset time-out period. If the host receives a string with a CRC in error, the transaction should be retransmitted. A message is represented for being from the address field to the data field.

The calculation is performed as follows：

1.Load a CRC register with 0xFFFF

2.Exclusive-OR the first 8 bytes of the message with the low-order of the CRC register. Put the result in the CRC register

3.Shift the CRC register one bit to the right, filling the MSB with a zero, and comparing the bit shifted out

4. Repeat step 3 if the SLSB=0; Exclusive-OR the CRC register with the value A001 Hex, and put the result in the CRC register if the SLSB=1

5. Repeat steps 3 and 4 until the 8 bits have been performed and tested

6. Repeat steps 2 to 5 until all bytes have been processed

7. Swap a message with the low and high order bytes after calculating the CRC register

The CRC Checking：

The returned CRC register is as unsigned short int.
The star address and the field of the data are transmitted, the returned CRC registered with the low and high byte has been swapped.

```
/*CRC Generation Function with 'C' language*/
/* Msg:*message to calculate CRC upon*/
/* usDatalen: number of bytes in message*/
unsigned int CRC16(char *Msg,unsigned char usDatalen)
{
    unsigned char uchCRCHi=0xFF ; /*CRC high byte*/
    unsigned char uchCRCLo=0xFF ;  /*CRC low byte*/
    unsigned char uIndex ;
    while(usDatalen--)/*pass through message buffer*/
    {
        uIndex=uchCRCHi^*Msg++ ; /*calculate the CRC*/
        uchCRCHi=uchCRCLO^auchCRCHi[uIndex] ;
        uchCRCLo=auchCRClo[uIndex] ;
    }
}
return (uchCRCHi<<8|uchCRCLo) ;
```



```
static unsigned char auchCRCHi[]={
0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,0x01,0xc0,
0x80,0x41,0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,
0x00,0xc1,0x81,0x40,0x00,0xc1,0x81,0x40,0x01,0xc0,
0x80,0x41,0x01,0xc0,0x80,0x41,0x00,0xc1,0x81,0x40,
0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,0x00,0xc1,
0x81,0x40,0x01,0xc0,0x80,0x41,0x01,0xc0,0x80,0x41,
0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,0x00,0xc1,
0x81,0x40,0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,
0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,0x01,0xc0,
0x80,0x41,0x00,0xc1,0x81,0x40,0x00,0xc1,0x81,0x40,
0x01,0xc0,0x80,0x41,0x01,0xc0,0x80,0x41,0x00,0xc1,
0x81,0x40,0x01,0xc0,0x80,0x41,0x00,0xc1,0x81,0x40,
0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,0x01,0xc0,
0x80,0x41,0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,
0x00,0xc1,0x81,0x40,0x00,0xc1,0x81,0x40,0x01,0xc0,
0x80,0x41,0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,
0x01,0xc0,0x80,0x41,0x00,0xc1,0x81,0x40,0x01,0xc0,
0x80,0x41,0x00,0xc1,0x81,0x40,0x00,0xc1,0x81,0x40,
0x01,0xc0,0x80,0x41,0x01,0xc0,0x80,0x41,0x00,0xc1,
0x81,0x40,0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,
0x00,0xc1,0x81,0x40,0x01,0xc0,0x80,0x41,0x01,0xc0,
0x80,0x41,0x00,0xc1,0x81,0x40};

static unsigned char auchCRCLo[]={
0x00,0xc0,0xc1,0x01,0xc3,0x03,0x02,0xc2,0xc6,0x06,
0x07,0xc7,0x05,0xc5,0xc4,0x04,0xcc,0x0c,0x0d,0xcd,
0x0f,0xcf,0xce,0x0e,0x0a,0xca,0xcb,0x0b,0xc9,0x09,
0x08,0xc8,0xd8,0x18,0x19,0xd9,0x1b,0xdb,0xda,0x1a,
0x1e,0xde,0xdf,0x1f,0xdd,0x1d,0x1c,0xdc,0x14,0xd4,
0xd5,0x15,0xd7,0x17,0x16,0xd6,0xd2,0x12,0x13,0xd3,
0x11,0xd1,0xd0,0x10,0xf0,0x30,0x31,0xf1,0x33,0xf3,
0xf2,0x32,0x36,0xf6,0xf7,0x37,0xf5,0x35,0x34,0xf4,
0x3c,0xfc,0xfd,0x3d,0xff,0x3f,0x3e,0xfe,0xfa,0x3a,
0x3b,0xfb,0x39,0xf9,0xf8,0x38,0x28,0xe8,0xe9,0x29,
0xeb,0x2b,0x2a,0xea,0xee,0x2e,0x2f,0xef,0x2d,0xed,
0xec,0x2c,0xe4,0x24,0x25,0xe5,0x27,0xe7,0xe6,0x26,
0x22,0xe2,0xe3,0x23,0xe1,0x21,0x20,0xe0,0xa0,0x60,
0x61,0xa1,0x63,0xa3,0xa2,0x62,0x66,0xa6,0xa7,0x67,
0xa5,0x65,0x64,0xa4,0x6c,0xac,0xad,0x6d,0xaf,0x6f,
0x6e,0xae,0xaa,0x6a,0x6b,0xab,0x69,0xa9,0xa8,0x68,
0x78,0xb8,0xb9,0x79,0xbb,0x7b,0x7a,0xba,0xbe,0x7e,
0x7f,0xbf,0x7d,0xbd,0xbc,0x7c,0xb4,0x74,0x75,0xb5,
0x77,0xb7,0xb6,0x76,0x72,0xb2,0xb3,0x73,0xb1,0x71,
0x70,0xb0,0x50,0x90,0x91,0x51,0x93,0x53,0x52,0x92,
0x96,0x56,0x57,0x97,0x55,0x95,0x94,0x54,0x9c,0x5c,
0x5d,0x9d,0x5f,0x9f,0x9e,0x5e,0x5a,0x9a,0x9b,0x5b,
0x99,0x59,0x58,0x98,0x88,0x48,0x49,0x89,0x4b,0x8b,
0x8a,0x4a,0x4e,0x8e,0x8f,0x4f,0x8d,0x4d,0x4c,0x8c,
0x44,0x84,0x85,0x45,0x87,0x47,0x46,0x86,0x82,0x42,
0x43,0x83,0x41,0x81,0x80,0x40};
```

6.9 Data Address: (Integers)

6.9.1 Set-up：

Address	(Hex)	Contents	Format	Word	Access	Range & Unit
0000	0000H	Display Page	Integer	1	R/W	0 - n (Note)
0001	0001H	Display Item	Integer	1	R/W	0 - n (Note)
0002	0002H	Power on Page	Integer	1	R/W	0 - n (Note)
0003	0003H	Power on Item	Integer	1	R/W	0 - n (Note)
0004	0004H	Reserve	Integer	1	R/W	
0005	0005H	Reserve	Integer	1	R/W	
0006	0006H	Reserve	Integer	1	R/W	
0007	0007H	System Net	Integer	1	R/W	0 - 3 (Note)
0008	0008H	Demand Average Times	Integer	1	R/W	1 - 60 (Note)
0009	0009H	485 Address	Integer	1	R/W	1-255
0010	000AH	485 Baud Rate	Integer	1	R/W	0 - 5
0011	000BH	485 Frame	Integer	1	R/W	0 - 3
0012	000CH	485 Case (HiLo||LoHi)	Integer	1	R/W	0 - 1 (Note)
0013	000DH	CT Ratio	Integer	1	R/W	1 - 9999
0014	000EH	PT Ratio	Integer	1	R/W	1 - 9999
0015	000FH	Password	Integer	1	R/W	0 - 9999
0016	0010H	Reset High	Integer	1	R/W	0 - 1 (1:Clear)
0017	0011H	Reset Energy	Integer	1	R/W	0 - 1 (1:Clear)
0018	0012H	Reset Demand High	Integer	1	R/W	0 - 1 (1:Clear)
0019	0013H	Display High Function	Integer	1	R/W	0 - 1 (1:YES)
0020	0014H	Display Hour I,E	Integer	1	R/W	0 - 1 (1:YES)
0021	0015H	Screen Save	Integer	1	R/W	0 - 99 (Note)
The extended modules correspond to the variables						
0022	0016H	Out1 Type	Integer	1	R/W	0 - 5 (Note)
0023	0017H	Out1 Hi Set	Integer	1	R/W	0 - 9999 (Note)
0024	0018H	Out2 Type	Integer	1	R/W	0 - 5
0025	0019H	Out2 Hi Set	Integer	1	R/W	0 - 9999
0026	001AH	Out3 Type	Integer	1	R/W	0 - 5
0027	001BH	Out3 Hi Set	Integer	1	R/W	0 - 9999
0028	001CH	Out4 Type	Integer	1	R/W	0 - 5
0029	001DH	Out4 Hi Set	Integer	1	R/W	0 - 9999
0030	001EH	RY1 Type	Integer	1	R/W	0 - 1 (Note)
0031	001FH	RY2 Type	Integer	1	R/W	0 - 1
0032	0020H	PUL1 Pulse Numbers	Integer	1	R/W	0 - 3 (Note)
0033	0021H	Alarm1 Type	Integer	1	R/W	0 - 8 (Note)
0034	0022H	Alarm1 Set	Integer	1	R/W	0 - 9999 (Note)
0035	0023H	Alarm1 HiLo Set	Integer	1	R/W	0 - 1 (Note)
0036	0024H	Alarm1 Delay Sec.	Integer	1	R/W	0 - 99 sec.
0037	0025H	PUL2 Pulse Numbers	Integer	1	R/W	0 - 3
0038	0026H	Alarm2 Type	Integer	1	R/W	0 - 8
0039	0027H	Alarm2 Set	Integer	1	R/W	0 - 9999
0040	0028H	Alarm2 HiLo Set	Integer	1	R/W	0 - 1
0041	0029H	Alarm2 Delay Sec.	Integer	1	R/W	0 - 99 sec.

Address	(Hex)	Contents	Format	Word	Access	Range & Unit
0042	002AH	Ry3 Type	Integer	1	R/W	0 - 1
0043	002BH	Ry4 Type	Integer	1	R/W	0 - 1
0044	002CH	PUL3 Pulse Numbers	Integer	1	R/W	0 - 3
0045	002DH	Alarm3 Type	Integer	1	R/W	0 - 8
0046	002EH	Alarm3 Set	Integer	1	R/W	0 - 9999
0047	002FH	Alarm3 HiLo Set	Integer	1	R/W	0 - 1
0048	0030H	Alarm3 Delay Sec.	Integer	1	R/W	0 - 99
0049	0031H	PUL4 Pulse Numbers	Integer	1	R/W	0 - 3
0050	0032H	Alarm4 Type	Integer	1	R/W	0 - 8
0051	0033H	Alarm4 Set	Integer	1	R/W	0 - 9999
0052	0034H	Alarm4 HiLo Set	Integer	1	R/W	0 - 1
0053	0035H	Alarm4 Delay Sec.	Integer	1	R/W	0 - 99
0054	0036H	Module status RY 1_2	Integer	1	R	0 - 3 (Note)
0055	0037H	Modbule status RY 3-4	Integer	1	R	0 - 3
0056	0038H	Modbule D/I status IO 1-3	Integer	1	R	0 - 7 (Note)
0057	0039H	Modbule D/I status IO 4-6	Integer	1	R	0 - 7

Remarkable descriptions：

Contents	Description
Display Page	0：V，1：A，2：P，3：THD
Display Item	Corresponding the displayed parameters and wiring configuration
Power On Page	The desired parameters in system as the meter is powered on：V，1：A，2：P，3：THD
Power On Item	Corresponding the displayed parameters
System Net	System nEt : Wiring configuration, 0: 3P4L,1:3P3L,2:1P3L,3:1P2L
Demand Average Times	The average demand time setting: 1-60 min.
485 Baud Rate	0:1200,1:2400,2:4800,3:9600,4:19200,5:38400
485 Frame	0:n,8,2,1:o,8,1,2:e,8,1,3:n,8,1
485 CASE	Two Words for transmission (Float/Long) 0:Lo_Hi,1:Hi_Lo
Screen Save	Backlit energy saving mode 00:Keep lighting up 1-99: Backlit disabled
Out x Type	0:V,1:A,2:W,3:Var,4:PF,5:HZ
Out x Hi Set	Corresponding the parameter unit and decimal point digit. Example：240V-->240.0, the values as 2400
RY x Type	0:PULSE,1:ALARM
PUL x Pulse Numbers	0:P 1,1:P 10,2:P 100,3:P1000
Alarm x Type	0:V,1:A,2:W,3:DMDW,4:DMDA,5:PF,6:HZ,7:THDV,8:THDA
Alarm x Set	Corresponding the parameter unit and decimal point digit. Example：240V-->240.0, the values as 2400
Alarm x HiLo Set	0:LO,1:HI
Module RY1_2 Status	0: All in normal open,1:RY1 Close,2:RY2 Close,3:RY1_2 Close
Module IO1_3 Status	0:All in normal open,1:IO1 Close,2:IO2 Close,4:IO3 Close

6.9.2 Values: Floating Point, Word transmission refers to 485 CASE for set-up

Address	(Hex)	Contents	Format	Word	Access	Range & Unit
4096	1000H	I_R L1	Float	2	R	A
4098	1002H	V_RN	Float	2	R	V
4100	1004H	V_RS	Float	2	R	V
4102	1006H	VA_R	Float	2	R	VA
4104	1008H	W_R	Float	2	R	W
4106	100AH	Var_R	Float	2	R	Var
4108	100CH	PF_R	Float	2	R	PF
4110	100EH	I_S L2	Float	2	R	A
4112	1010H	V_SN	Float	2	R	V
4114	1012H	V_ST	Float	2	R	V
4116	1014H	VA_S	Float	2	R	VA
4118	1016H	W_S	Float	2	R	W
4120	1018H	Var_S	Float	2	R	Var
4122	101AH	PF_S	Float	2	R	PF
4124	101CH	I_T L3	Float	2	R	A
4126	101EH	V_TN	Float	2	R	V
4128	1020H	V_TR	Float	2	R	V
4130	1022H	VA_T	Float	2	R	VA
4132	1024H	W_T	Float	2	R	W
4134	1026H	Var_T	Float	2	R	Var
4136	1028H	PF_T	Float	2	R	PF
4138	102AH	ΣA (Σ⇨ SYS)	Float	2	R	A
4140	102CH	ΣVΦ	Float	2	R	V
4142	102EH	ΣVL	Float	2	R	V
4144	1030H	ΣVA	Float	2	R	VA
4146	1032H	ΣW	Float	2	R	W
4148	1034H	ΣVar	Float	2	R	Var
4150	1036H	ΣPF	Float	2	R	PF
4152	1038H	ΣHZ	Float	2	R	HZ
4154	103AH	ΣVAH	Float	2	R	VAH
4156	103CH	ΣWH(Import)	Float	2	R	WH
4158	103EH	ΣWH(Export)	Float	2	R	WH
4160	1040H	ΣWH(Total)	Float	2	R	WH
4162	1042H	ΣVarH(Ind)	Float	2	R	VarH
4164	1044H	ΣVarH(Cap)	Float	2	R	VarH
4166	1046H	ΣVarH(Total)	Float	2	R	VarH
4168	1048H	ΣAn	Float	2	R	A
4170	104AH	Maximum I_R L1	Float	2	R	A
4172	104CH	Maximum V_RS	Float	2	R	V
4174	104EH	Maximum W_R	Float	2	R	W
4176	1050H	Maximum I_S L2	Float	2	R	A
4178	1052H	Maximum V_ST	Float	2	R	V
4180	1054H	Maximum W_S	Float	2	R	W
4182	1056H	Maximum I_T L3	Float	2	R	A
4184	1058H	Maximum V_TR	Float	2	R	V
4186	105AH	Maximum W_T	Float	2	R	W

Address	(Hex)	Contents	Format	Word	Access	Range & Unit
4188	105CH	MaximumΣA (Σ⇨ SYS)	Float	2	R	A
4190	105EH	MaximumΣVL	Float	2	R	V
4192	1060H	Maximum ΣW	Float	2	R	W
4194	1062H	Demand ΣW	Float	2	R	W
4196	1064H	Maximun DemandΣW	Float	2	R	W
4198	1066H	DemandΣA	Float	2	R	A
4200	1068H	Maximun DemandΣA	Float	2	R	A
4202	106AH	I_R THD L1	Float	2	R	%
4204	106CH	V_RN THD	Float	2	R	%
4206	106EH	V_RS THD	Float	2	R	%
4208	1070H	I_S THD L2	Float	2	R	%
4210	1072H	V_SN THD	Float	2	R	%
4212	1074H	V_ST THD	Float	2	R	%
4214	1076H	I_T THD L3	Float	2	R	%
4216	1078H	V_TN THD	Float	2	R	%
4218	107AH	V_TR THD	Float	2	R	%
4220	107CH	ΣA THD (Σ⇨ SYS)	Float	2	R	%
4222	107EH	ΣV THD	Float	2	R	%

6.9.3 Values: Long Integers, Word transmission refers to 485 CASE for set-up

Address	(Hex)	Contents	Format	Word	Access	Range & Unit
256	100H	Hour Scale	Long	2	R	
258	102H	ΣVAH (Σ⇨ SYS)	Long	2	R	VAH
260	104H	ΣWH(Import)	Long	2	R	WH
262	106H	ΣWH(Export)	Long	2	R	WH
264	108H	ΣWH(Total)	Long	2	R	WH
266	10AH	ΣVarH(Ind)	Long	2	R	VarH
268	10CH	ΣVarH(Cap)	Long	2	R	VarH
270	10EH	ΣVarH(Total)	Long	2	R	VarH

Hour Scale：The values will be re-calculated if the ratio of primary to secondary has been changed.

Value=Received Data * 10 ^ (Hour Scale - 3)。

Example：The address **132H** is represented as 12345678，and the **Hour Scale** is 5, thus the hour reading is calculated as follows.

ΣWH = 12345678 * 10 ^ (5 - 3) = 12345678 * 10 ^ 2

= 12345678 * 100 = 1234567800。

= 1234567800 WH = 1234567.800 KWH = 1234.5678 MWH。

If Hour scale = 5，put 5 in the given formula then get (5-3 = **2**)，and the unit for energy register is programmed as WH, so (**2-3 = -1)** is represented as **0.1KWH**，**or (2-6 = -4) as 0.0001 MWH**.

6.9.4 Value: Integers

Address	(Hex)	Contents	Format	Word	Access	Range & Unit
504	1F8H	V Unit	Integer	1	R	See 6.9.5
505	1F9H	V Dot	Integer	1	R	See 6.9.5
506	1FAH	A Unit	Integer	1	R	See 6.9.5
507	1FBH	A Dot	Integer	1	R	See 6.9.5
508	1FCH	Power_Unit	Integer	1	R	See 6.9.5
509	1FDH	Power_Dot	Integer	1	R	See 6.9.5
510	1FEH	Energy Unit	Integer	1	R	See 6.9.5
511	1FFH	Energy Dot	Integer	1	R	See 6.9.5
512	200H	I_R L1	Integer	1	R	A
513	201H	V_RN	Integer	1	R	V
514	202H	V_RS	Integer	1	R	V
515	203H	VA_R	Integer	1	R	VA
516	204H	W_R	Integer	1	R	W
517	205H	Var_R	Integer	1	R	Var
518	206H	PF_R	Integer	1	R	PF/1000
519	207H	I_S L2	Integer	1	R	A
520	208H	V_SN	Integer	1	R	V
521	209H	V_ST	Integer	1	R	V
522	20AH	VA_S	Integer	1	R	VA
523	20BH	W_S	Integer	1	R	W
524	20CH	Var_S	Integer	1	R	Var
525	20DH	PF_S	Integer	1	R	PF/1000
526	20EH	I_T L3	Integer	1	R	A
527	20FH	V_TN	Integer	1	R	V
528	210H	V_TR	Integer	1	R	V
529	211H	VA_T	Integer	1	R	VA
530	212H	W_T	Integer	1	R	W
531	213H	Var_T	Integer	1	R	Var
532	214H	PF_T	Integer	1	R	PF/1000
533	215H	ΣA (Σ⇨ SYS)	Integer	1	R	A
534	216H	ΣVΦ	Integer	1	R	V
535	217H	ΣVL	Integer	1	R	V
536	218H	ΣVA	Integer	1	R	VA
537	219H	ΣW	Integer	1	R	W
538	21AH	ΣVar	Integer	1	R	Var
539	21BH	ΣPF	Integer	1	R	PF/1000
540	21CH	ΣHZ	Integer	1	R	HZ/100
541	21DH	ΣVAH Hi Word	Integer	1	R	VAH
542	21EH	ΣVAH Lo Word	Integer	1	R	VAH
543	21FH	ΣWH (Import) Hi Word	Integer	1	R	WH
544	220H	ΣWH (Import) Lo Word	Integer	1	R	WH
545	221H	ΣWH (Export) Hi Word	Integer	1	R	WH
546	222H	ΣWH (Export) Lo Word	Integer	1	R	WH
547	223H	ΣWH (Total) Hi Word	Integer	1	R	WH
548	224H	ΣWH(Total) Lo Word	Integer	1	R	WH

6.9.4 Value: Integers

Address	(Hex)		Format	Word	Access	Range & Unit
549	225H	ΣVarH (Ind) Hi Word	Integer	1	R	VarH
550	226H	ΣVarH (Ind) Lo Word	Integer	1	R	VarH
551	227H	ΣVarH (Cap) Hi Word	Integer	1	R	VarH
552	228H	ΣVarH (Cap) Lo Word	Integer	1	R	VarH
553	229H	ΣVarH (Total) Hi Word	Integer	1	R	VarH
554	22AH	ΣVarH (Total) Lo Word	Integer	1	R	VarH
555	22BH	ΣAn	Integer	1	R	A
556	22CH	Maximum I_R L1	Integer	1	R	A
557	22DH	Maximum V_RS	Integer	1	R	V
558	22EH	Maximum W_R	Integer	1	R	W
559	22FH	Maximum I_S L2	Integer	1	R	A
560	230H	Maximum V_ST	Integer	1	R	V
561	231H	Maximum W_S	Integer	1	R	W
562	232H	Maximum I_T L3	Integer	1	R	A
563	233H	Maximum V_TR	Integer	1	R	V
564	234H	Maximum W_T	Integer	1	R	W
565	235H	Maximum ΣA (Σ⇨ SYS)	Integer	1	R	A
566	236H	Maximum ΣVL	Integer	1	R	V
567	237H	Maximum ΣW	Integer	1	R	W
568	238H	Demand ΣW	Integer	1	R	W
569	239H	Maximun Demand ΣW	Integer	1	R	W
570	23AH	Demand ΣA	Integer	1	R	A
571	23BH	Maximun Demand ΣA	Integer	1	R	A
572	23CH	I_R THD L1	Integer	1	R	0.1%
573	23DH	V_RN THD	Integer	1	R	0.1%
574	23EH	V_RS THD	Integer	1	R	0.1%
575	23FH	I_S THD L2	Integer	1	R	0.1%
576	240H	V_SN THD	Integer	1	R	0.1%
577	241H	V_ST THD	Integer	1	R	0.1%
578	242H	I_T THD L3	Integer	1	R	0.1%
579	243H	V_TN THD	Integer	1	R	0.1%
580	244H	V_TR THD	Integer	1	R	0.1%
581	245H	ΣA THD (Σ⇨ SYS)	Integer	1	R	0.1%
582	246H	ΣV THD	Integer	1	R	0.1%

6.9.5 Unit and Decimal Point：

The received integer data as the primary values. And the set-up in unit and decimal point must be completed after receiving data.
**The received values will be correct after the set-up in CT & PT ratio has completed. **

Data Address	Contents	Descriptions
1FAH	V Unit	Display unit in volt. 0：None，3：K,6：M, 9：G .
1FBH	V Dot	The decimal point position for voltage. 0：None,1：One, others for analogy.
The displayed voltage includes phase volt, line volt, max/min values and so on.		
1FCH	A Unit	Display unit in amp. 0：None, 3：K , 6：M, 9：G .
1FDH	A Dot	Display decimal point position for amp. 0：None,1：One, others for analogy.
The displayed current includes current, neutral current, max/min values, current demand and so on.		
1FEH	Power Unit	Display unit in power. 0：None, 3：K , 6：M, 9：G .
1FFH	Power Dot	The decimal point position for power. 0：None,1：One, other for analogy.
The displayed power includes VA, Watt, Var, Max/Min Watt, Demand Watt and Var and so on.		

Others：
PF：Fixed decimal point position at 3 digits.
Hz：Fixed decimal point position at 2 digits.
** If the **Unit** set to 6 represents M, and the **Dot** set to 3 represents 000, and then it can also be regarded as **Unit=K** and **Dot=0**. The other collocation can be analogized as well.**

Examples：11.4KV/114V、100/5A. 3P4W.
PT Ratio：100times, CT Ratio：20 times.
V Unit：3. V Dot：2. A Unit：0. A Dot：2. Power Unit：6. Power Dot：3.

If the fed volt is at 11.4kV, the fed amp is at 65A, the fed power factor is at 0.95, and the fed frequency is at 60, and therefore, the values in VA derives from 11.4KVx65Ax3=2223000=2.223MVA =2223kVA. And the values in W derives from VAxPF=223000x0.95=2111850.

The RS485 receives the following values：
V：1140. A：6500. HZ：6000.

Detailed explanations for the above values are below：
V：11.4KV, Unit in K (V unit=3), Decimal point at 2 digits (V Dot=2)
A：65.00A (A Unit=0), Decimal point at 2 digits (A Dot=2)
VA： 2.223 MVA or 2223 KVA
Unit in M (decimal point at 3 digits) or Unit in K (without decimal point)
W：2.111MW or 2111KW. Please refer to the description of VA
Unit in K (Energy Unit=3), without decimal point (Energy Dot=0)
PF：0.950. Decimal point at 3 digits
Hz：60.00Hz. Decimal point at 2 digits
Notice：The Unsigned Int is non-symbol, but the Signed Int is a value with positive/negative.
The values will be measured correctly if the corresponsive signals are matched.
Furthermore, some parameter units (kW, Var, Pf) display positive or negative.
Examples：PF=0.95：RS 485 values：950；PF= -0.95：RS 485 values：-(65536-64586)= -950

6.9.6 Value: Common integers

Address	(Hex)	Contents	Format	Word	Access	Range & Unit
1016	3F8H	V Unit	Integer	1	R	See 5.9.5
1017	3F9H	V Dot	Integer	1	R	See 5.9.5
1018	3FAH	A Unit	Integer	1	R	See 5.9.5
1019	3FBH	A Dot	Integer	1	R	See 5.9.5
1020	3FCH	Power_Unit	Integer	1	R	See 5.9.5
1021	3FDH	Power_Dot	Integer	1	R	See 5.9.5
1022	3FEH	Energy Unit	Integer	1	R	See 5.9.5
1023	3FFH	Energy Dot	Integer	1	R	See 5.9.5
1024	400H	V_RN	Integer	1	R	V
1025	401H	V_SN	Integer	1	R	V
1026	402H	V_TN	Integer	1	R	V
1027	403H	V_RS	Integer	1	R	V
1028	404H	V_ST	Integer	1	R	V
1029	405H	V_TR	Integer	1	R	V
1030	406H	I_R	Integer	1	R	A
1031	407H	I_S	Integer	1	R	A
1032	408H	I_T	Integer	1	R	A
1033	409H	ΣW (Σ⇨ SYS)	Integer	1	R	W
1034	40AH	ΣPF	Integer	1	R	PF/1000
1035	40BH	ΣWH (Total) Lo Word	Integer	1	R	WH
1036	40CH	ΣWH (Total) Hi Word	Integer	1	R	WH
1037	40DH	Demand ΣW	Integer	1	R	W
1038	40EH	Maximun Demand ΣW	Integer	1	R	W
1039	40FH	Demand ΣA	Integer	1	R	A
1040	410H	Maximun Demand ΣA	Integer	1	R	A
1041	411H	ΣHZ	Integer	1	R	HZ/100
1042	412H	ΣVΦ	Integer	1	R	V
1043	413H	ΣVL	Integer	1	R	V
1044	414H	ΣA	Integer	1	R	A
1045	415H	ΣVA	Integer	1	R	VA
1046	416H	ΣVar	Integer	1	R	Var
1047	417H	ΣVAH Lo Word	Integer	1	R	VAH
1048	418H	ΣVAH Hi Word	Integer	1	R	VAH
1049	419H	ΣVarH (Total) Lo Word	Integer	1	R	VarH
1050	41AH	ΣVarH (Total) Hi Word	Integer	1	R	VarH

** Energy/Hour: Lo Wordis set ahead, Hi Word is set behind.

6.9.7 Values : THD Current

Format :Integer Word:1 Access:R Unit:0.1%

HR	Contents	Address	(Hex)	Contents	Address	(Hex)	Contents	Address	(Hex)
02' HR	IR	1280	500H	IS	1310	51EH	IT	1340	53CH
03' HR	IR	1281	501H	IS	1311	51FH	IT	1341	53DH
04' HR	IR	1282	502H	IS	1312	520H	IT	1342	53EH
05' HR	IR	1283	503H	IS	1313	521H	IT	1343	53FH
06' HR	IR	1284	504H	IS	1314	522H	IT	1344	540H
07' HR	IR	1285	505H	IS	1315	523H	IT	1345	541H
08' HR	IR	1286	506H	IS	1316	524H	IT	1346	542H
09' HR	IR	1287	507H	IS	1317	525H	IT	1347	543H
10' HR	IR	1288	508H	IS	1318	526H	IT	1348	544H
11' HR	IR	1289	509H	IS	1319	527H	IT	1349	545H
12' HR	IR	1290	50AH	IS	1320	528H	IT	1350	546H
13' HR	IR	1291	50BH	IS	1321	529H	IT	1351	547H
14' HR	IR	1292	50CH	IS	1322	52AH	IT	1352	548H
15' HR	IR	1293	50DH	IS	1323	52BH	IT	1353	549H
16' HR	IR	1294	50EH	IS	1324	52CH	IT	1354	54AH
17' HR	IR	1295	50FH	IS	1325	52DH	IT	1355	54BH
18' HR	IR	1296	510H	IS	1326	52EH	IT	1356	54CH
19' HR	IR	1297	511H	IS	1327	52FH	IT	1357	54DH
20' HR	IR	1298	512H	IS	1328	530H	IT	1358	54EH
21' HR	IR	1299	513H	IS	1329	531H	IT	1359	54FH
22' HR	IR	1300	514H	IS	1330	532H	IT	1360	550H
23' HR	IR	1301	515H	IS	1331	533H	IT	1361	551H
24' HR	IR	1302	516H	IS	1332	534H	IT	1362	552H
25' HR	IR	1303	517H	IS	1333	535H	IT	1363	553H
26' HR	IR	1304	518H	IS	1334	536H	IT	1364	554H
27' HR	IR	1305	519H	IS	1335	537H	IT	1365	555H
28' HR	IR	1306	51AH	IS	1336	538H	IT	1366	556H
29' HR	IR	1307	51BH	IS	1337	539H	IT	1367	557H
30' HR	IR	1308	51CH	IS	1338	53AH	IT	1368	558H
31' HR	IR	1309	51DH	IS	1339	53BH	IT	1369	559H

6.9.8 Value : THD Voltage

Format :Integer Word:1 Access:R Unit:0.1%

HR	Contents	Address	(Hex)	Contents	Address	(Hex)	Contents	Address	(Hex)
02' HR	VR	1370	55AH	VS	1400	578H	VT	1430	596H
03' HR	VR	1371	55BH	VS	1401	579H	VT	1431	597H
04' HR	VR	1372	55CH	VS	1402	57AH	VT	1432	598H
05' HR	VR	1373	55DH	VS	1403	57BH	VT	1433	599H
06' HR	VR	1374	55EH	VS	1404	57CH	VT	1434	59AH
07' HR	VR	1375	55FH	VS	1405	57DH	VT	1435	59BH
08' HR	VR	1376	560H	VS	1406	57EH	VT	1436	59CH
09' HR	VR	1377	561H	VS	1407	57FH	VT	1437	59DH
10' HR	VR	1378	562H	VS	1408	580H	VT	1438	59EH
11' HR	VR	1379	563H	VS	1409	581H	VT	1439	59FH
12' HR	VR	1380	564H	VS	1410	582H	VT	1440	5A0H
13' HR	VR	1381	565H	VS	1411	583H	VT	1441	5A1H
14' HR	VR	1382	566H	VS	1412	584H	VT	1442	5A2H
15' HR	VR	1383	567H	VS	1413	585H	VT	1443	5A3H
16' HR	VR	1384	568H	VS	1414	586H	VT	1444	5A4H
17' HR	VR	1385	569H	VS	1415	587H	VT	1445	5A5H
18' HR	VR	1386	56AH	VS	1416	588H	VT	1446	5A6H
19' HR	VR	1387	56BH	VS	1417	589H	VT	1447	5A7H
20' HR	VR	1388	56CH	VS	1418	58AH	VT	1448	5A8H
21' HR	VR	1389	56DH	VS	1419	58BH	VT	1449	5A9H
22' HR	VR	1390	56EH	VS	1420	58CH	VT	1450	5AAH
23' HR	VR	1391	56FH	VS	1421	58DH	VT	1451	5ABH
24' HR	VR	1392	570H	VS	1422	58EH	VT	1452	5ACH
25' HR	VR	1393	571H	VS	1423	58FH	VT	1453	5ADH
26' HR	VR	1394	572H	VS	1424	590H	VT	1454	5AEH
27' HR	VR	1395	573H	VS	1425	591H	VT	1455	5AFH
28' HR	VR	1396	574H	VS	1426	592H	VT	1456	5B0H
29' HR	VR	1397	575H	VS	1427	593H	VT	1457	5B1H
30' HR	VR	1398	576H	VS	1428	594H	VT	1458	5B2H
31' HR	VR	1399	577H	VS	1429	595H	VT	1459	5B3H