



TMM-10

Multifunction Power Meter

Operation Manual

FM4 40A246 Rev.0

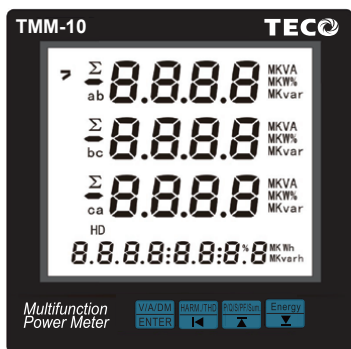


TMM-10 Operation Manual

Description

TMM-10 multifunction power meter provide high accuracy single phase and three-phase measuring and displaying, energy accumulating, power quality analysis, and data communication. Hardware can be option a RS485 Modbus communication port.

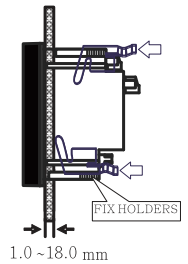
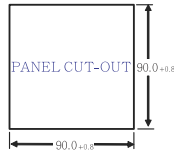
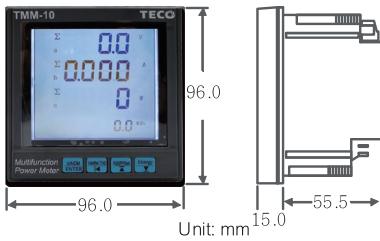
Panel Description



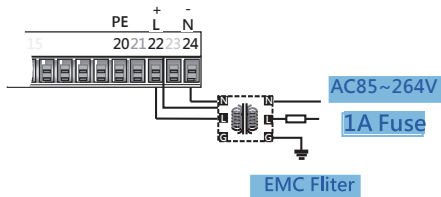
- V/A/DM ENTER** Enter / Confirm
Quickly index: Voltage/ Current
- HARM./THD** Shift input position /
Press 2sec back to previous menu
Quickly index: THD
- P/Q/S/PPF/Sum** Up / Number increase
Quickly index: Power parameters
- Energy** Down / Number decrease
Quickly index: Energy parameters

| Display | Description |
|---------------------------------------------|-----------------------------------------------------------------------------------|
| Three line of 8 digits in the metering area | Display metering data such as voltage 、 current 、 power factor 、 unbalance 、 etc. |
| MKVA·MKW·MKvar·% | Display metering data unit |
| a、b、c | a, b, c for 3 phase |
| ab、bc、ca | a-b, b-c, c-a for 3 phase line to line |
| Eight 8 | Display energy value |
| MKWh、MKvarh | Display energy unit |
| HD | THD of Voltage / Current |
| Σ | Summary or Average |
| ➤ | Communication indicator icon |
| - | Wiring changed |

Dimensions & Installation



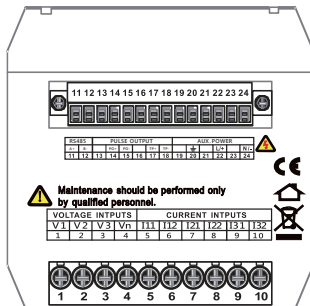
AUX Power



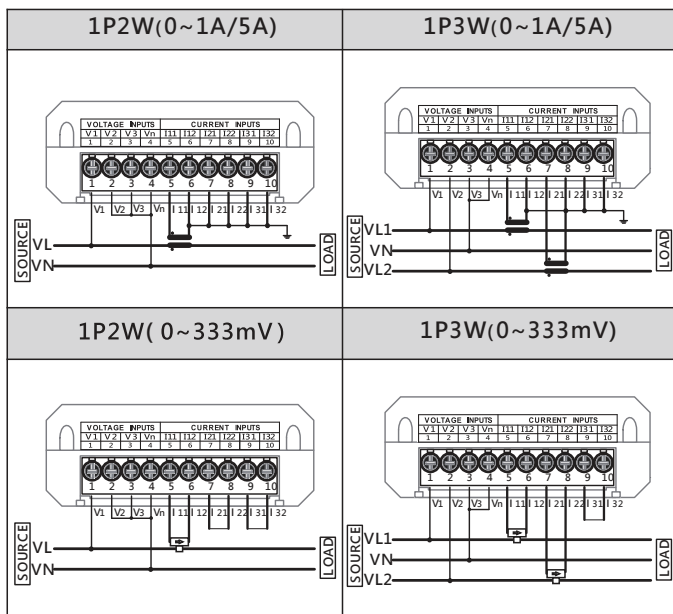
RS485 Communication port

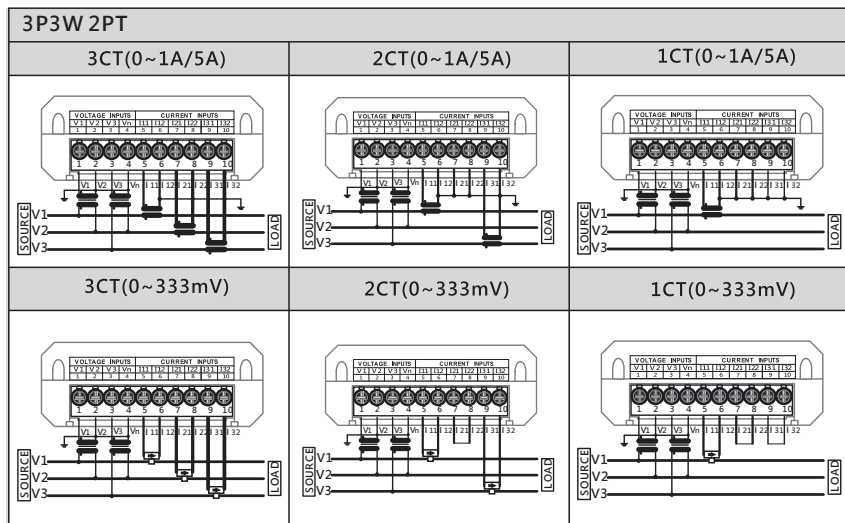
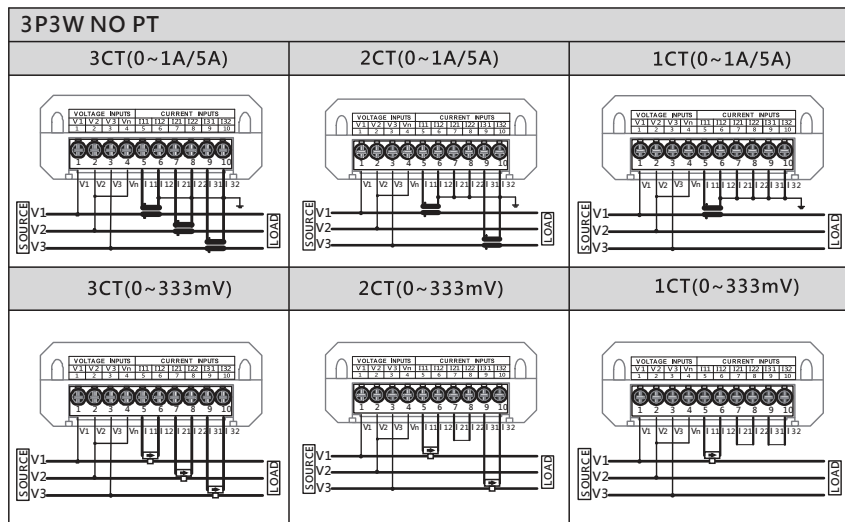


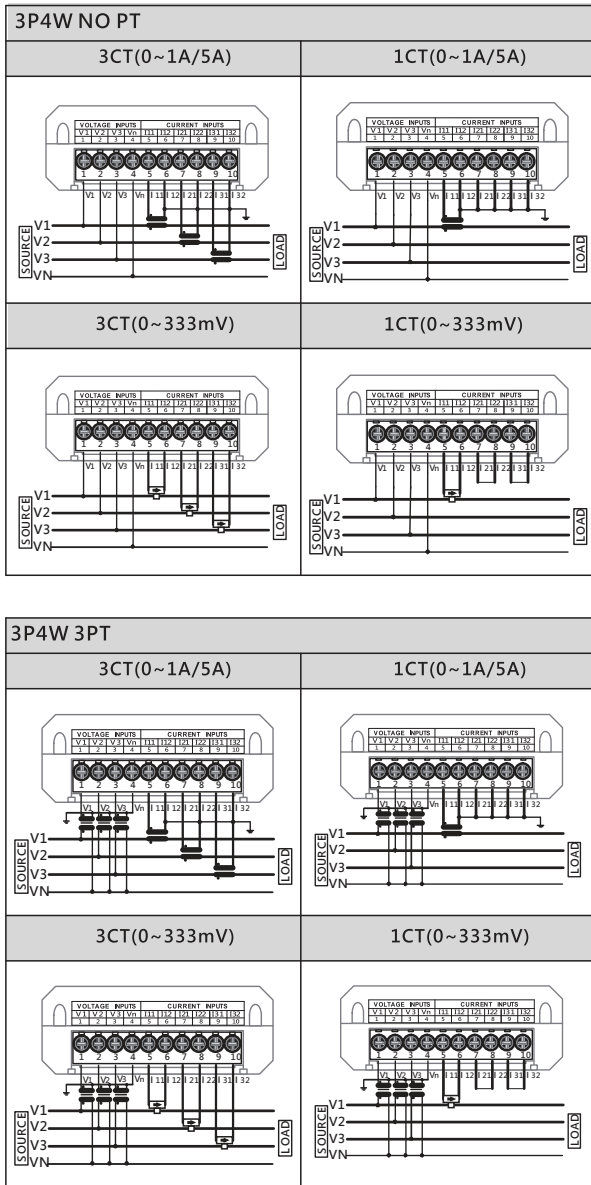
Connection diagram



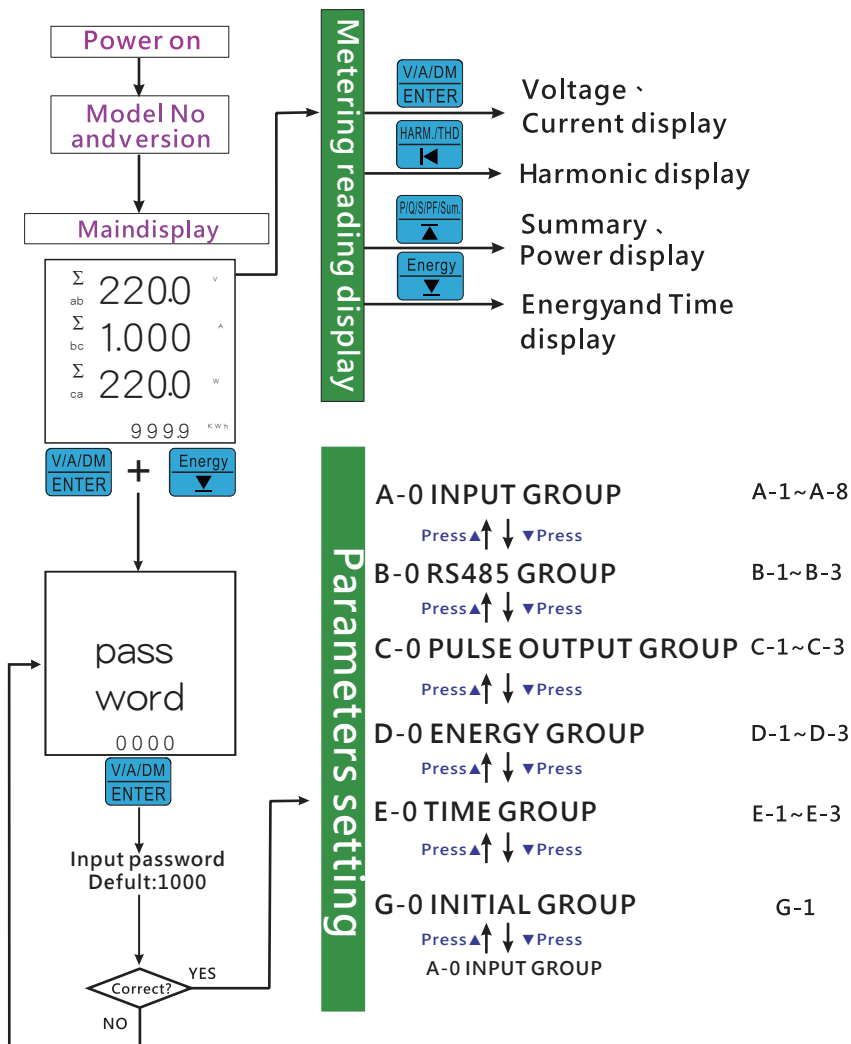
Voltage and current connection (CT secondary side distinguishes 1A/5A and 333mV)





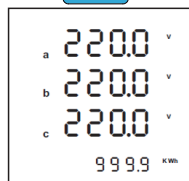


Operational flow chart



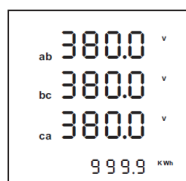
Voltage/ Current display

Press **V/A/DM**
ENTER



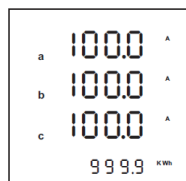
Each phase voltage

V/A/DM
ENTER



Each line voltage

V/A/DM
ENTER

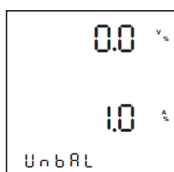


Each phase current

V/A/DM
ENTER

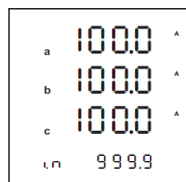
Back to each
phase voltage

V/A/DM
ENTER



unbal Voltage/
Current unbalance

V/A/DM
ENTER

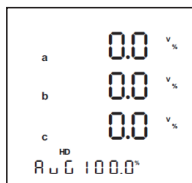


Current & Neutral current

Total harmonic display

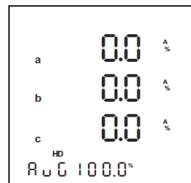
Press **HARM./THD**
←

System type:
1P2W/1P3W/
3P4W1CT/
3P4W3CT



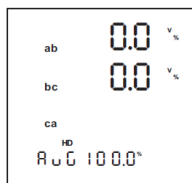
Each phase voltage
harmonic & Average
phase voltage harmonic

HARM./THD
←



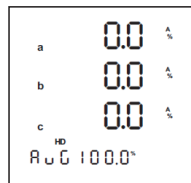
Current harmonic &
Average current
harmonic

System type:
3P3W1CT/
3P3W2CT/
3P3W3CT/



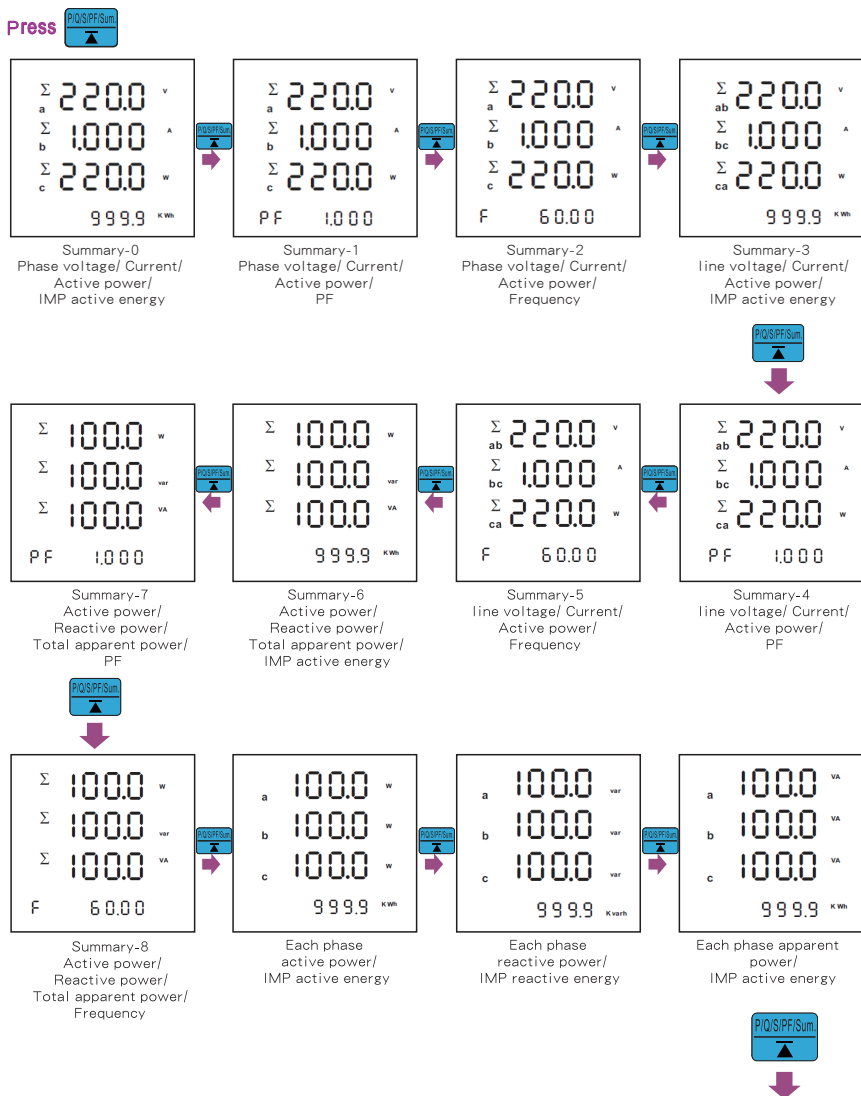
Each line voltage
harmonic & Average line
voltage harmonic

HARM./THD
←

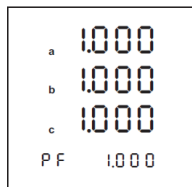


Current harmonic &
Average current
harmonic

Summary and Power parameters display

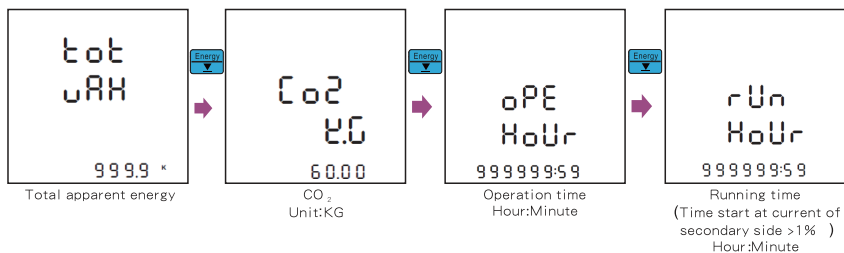
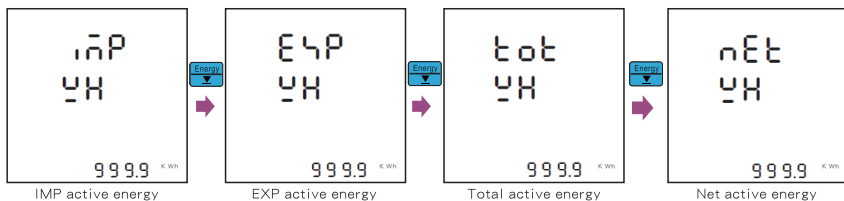


Back to Summary-0



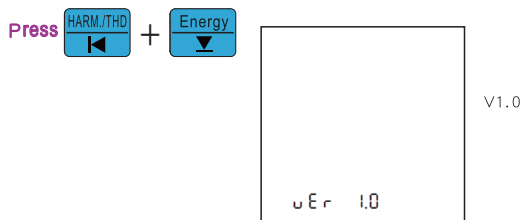
Each phase power factor/
Average power factor

Energy and Time display




Back to IMP active energy

Model · Optional · Version display

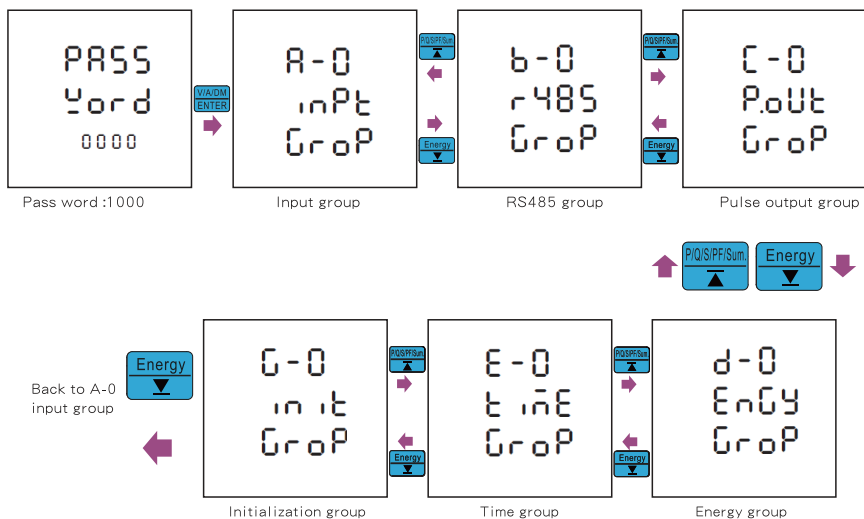


Parameters setting

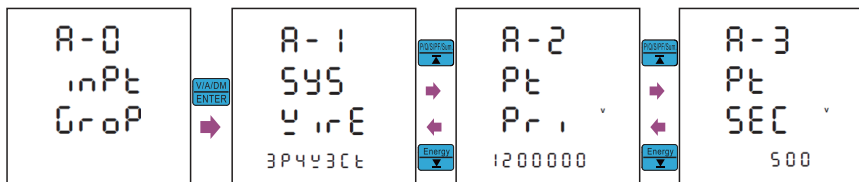
 :into setting or confirm setting

 :Press 2 sec back to previous menu or main display

Press  + 



Input Group

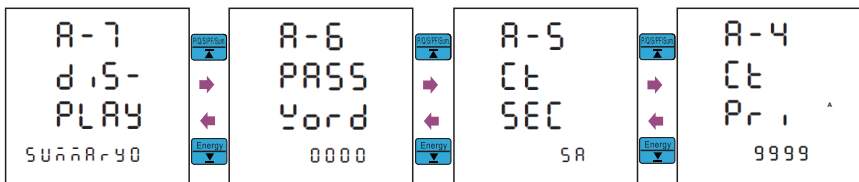


Input group

System type:
1P2W/1P3W/3P3W1CT/
3P3W2CT/3P3W3CT/
3P4W1CT/3P4W3CT

Voltage setting of
PT primary side
100-120000V

Voltage setting of
PT second side
50-500V

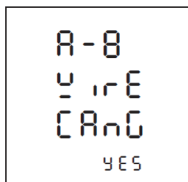
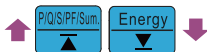


Main display select
SUMMARY0-8

Password modify
0000-9999

Current setting of
CT secondary side
1A/5A/333mV
(If default is 333mV, it
cannot be changed)

Current setting of
CT primary side
5-9999A

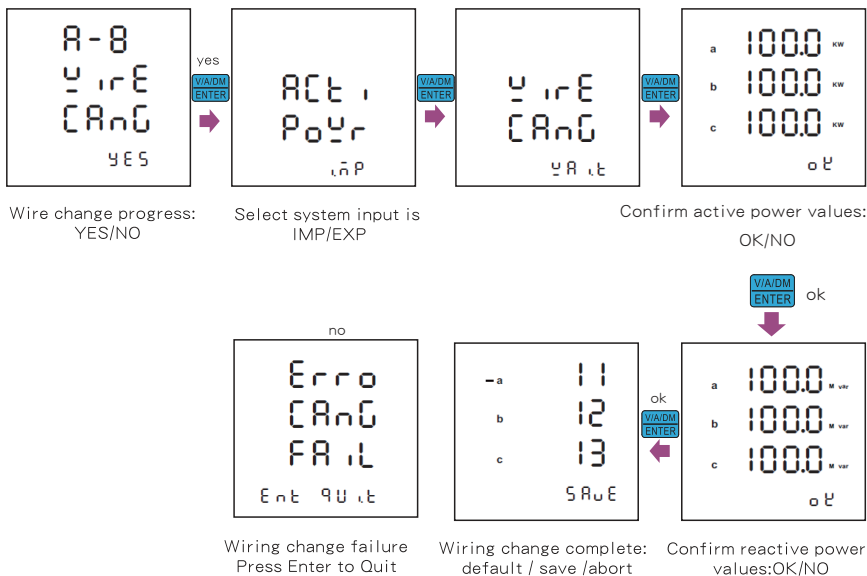


Back to A-1
System
type

Auto wiring change
YES/NO

Refer the next page

Auto wiring change



Auto wiring change condition limit :

3P4W-3CT : VN must be correct and $\theta < \pm 59^\circ$

3P4W-1CT : $\theta < \pm 59^\circ$

3P3W-2CT : V2 must be correct and $\theta < \pm 59^\circ$

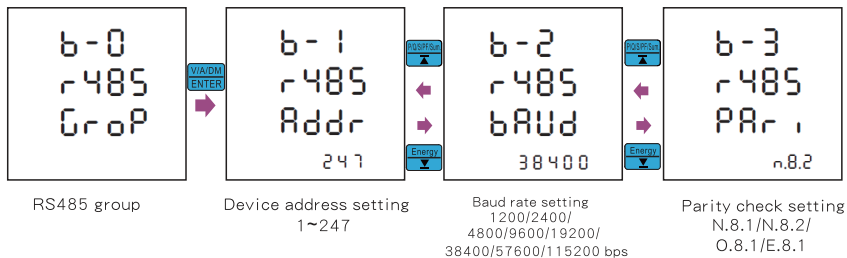
3P3W-3CT : V2 must be correct and $\theta < \pm 59^\circ$

1P3W : VN must be correct and $\theta < \pm 59^\circ$

1P2W : $\theta < \pm 59^\circ$

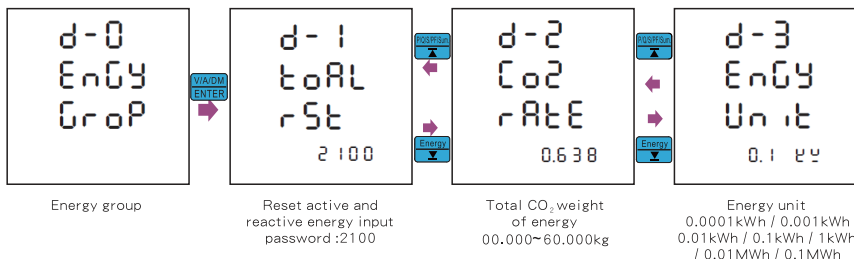
3P3W-1CT:N/A

RS485 Group



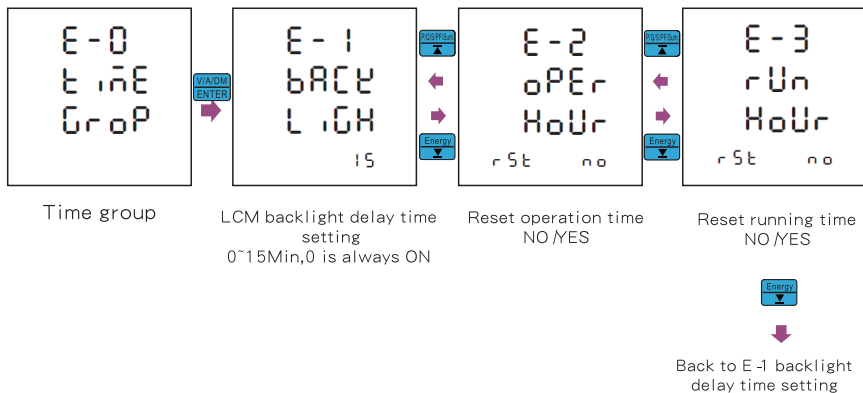
Back to C-1 Parameter setting of pulse output

Energy Group

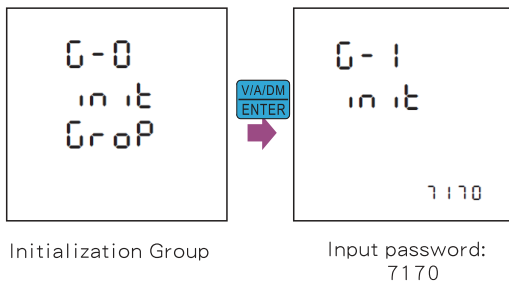


Back to D-1 Reset energy

Time Group



Initial Group



RS485 communication table

System setting (Function code : 03h , 06h , 10h)

Input group

| Parameter | Address | Range | Description | Default | Property |
|-------------|---------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|
| SYS WIRE | 0000h | 0-6 | Metering system type 0: 1P2W 1: 1P3W 2: 3P3W1CT 3: 3P3W2CT 4: 3P3W3CT 5: 3P4W1CT 6: 3P4W3CT | 6 | R/W |
| PT PRI | 0001h | 100 - 1200000V | PT Primary side voltage(High Word) | 500 | R/W |
| | 0002h | | PT Primary side voltage(Low Word) | | R/W |
| PT SEC | 0003h | 50-500V | PT Secondary side voltage | 500 | R/W |
| CT PRI | 0004h | 5-9999A (1-9999A) | CT Primary side current | 5 | R/W |
| PASS WORD | 0005h | 0000-9999 | Password setting | 1000 | R/W |
| DISPLAY | 0006h | 0-8 | Main summary display select 0: SUMMARY 3-PHASE 0 1: SUMMARY 3-PHASE 1 2: SUMMARY 3-PHASE 2 3: SUMMARY 3-PHASE 3 4: SUMMARY 3-PHASE 4 5: SUMMARY 3-PHASE 5 6: SUMMARY 3-PHASE 6 7: SUMMARY 3-PHASE 7 8: SUMMARY 3-PHASE 8 | 0 | R/W |
| Data Config | 0007h | 0-3 | bit 0: Floating data bit 1: Integer data 0: Big-Endian 1: Little-Endian | 0 | R/W |
| CT SEC | 0008h | 0-2 | CT Secondary side current 0: 5A 1: 1A 2: 333mV | 0 | R/W |

*CT secondary current (0008h), if 333mV is specified, this address cannot be written, can only be read, and the response value is fixed at 2.

RS485 communication setting

| Parameter | Address | Range | Description | Default | Property |
|------------|---------|-------|------------------------------------------------------------------------------------------|---------|----------|
| RS485 ADDR | 002Ah | 1-247 | Device address setting | 1 | R/W |
| RS485 BAUD | 002Bh | 0-7 | Baud rate 0: 1200 1: 2400 2: 4800 3: 9600 4: 19200 5: 38400 6: 57600 7: 115200 bps | 3 | R/W |
| RS485 PARI | 002Ch | 0-3 | Parity Check 0: N,8,1 1: N,8,2 2: O,8,1 3: E,8,1 | 1 | R/W |

Energy setting

| Parameter | Address | Range | Description | Default | Property |
|----------------------|---------|-----------------|-------------------------------------------------------------------------------------------------------|---------|----------|
| TOAL RST | 0048h | 0-1 | Reset Active, Reactive, Apparent energy and CO ₂ values 0: NO 1: YES | 0 | R/W |
| CO ₂ RATE | 004Ah | 00.000-60.000kg | Rate setting of CO ₂ weight per kWh | 638 | R/W |
| ENERGY UNIT | 004Bh | 0-6 | Energy unit setting: 0: 0.0001kWh 1: 0.001kWh 2: 0.01kWh 3: 0.1kWh 4: 1kWh 5: 0.01MWh 6: 0.1MWh | 3 | R/W |

Time setting

| Parameter | Address | Range | Description | Default | Property |
|---------------|---------|---------|---------------------------------------------------|---------|----------|
| BACK LIGH | 004Eh | 0-15Min | LCM backlight delay time setting : 0 is always ON | 1 | R/W |
| OPER HOUR RST | 0055h | 0-1 | Reset operation time 0:NO 1:YES | 0 | R/W |
| RUN HOUR RST | 0056h | 0-1 | Reset running time 0:NO 1:YES | 0 | R/W |

Initialization setting

| Parameter | Address | Range | Description | Default | Property |
|-----------|---------|-----------|---------------------------|---------|----------|
| INIT | 0062h | 0000-9999 | Initialization code: 7170 | 0 | R/W |

Metering parameters reading(Code : 03h)

| Parameter | Address | Range | Description | Default | Property |
|-----------|---------|---------------------------|--------------------------------------|---------|----------|
| FREQ | 0130h | 45.00 - 65.00Hz | Frequency | | R |
| U1 | 0131h | 0.0 - 1200000.0V | Phase1 voltage (High Word) | | R |
| | 0132h | | Phase1 voltage(Low Word) | | R |
| U2 | 0133h | 0.0 - 1200000.0V | Phase2 voltage(High Word) | | R |
| | 0134h | | Phase2 voltage(Low Word) | | R |
| U3 | 0135h | 0.0 - 1200000.0V | Phase3 voltage(High Word) | | R |
| | 0136h | | Phase3 voltage(Low Word) | | R |
| ULN.AVG | 0137h | 0.0 - 1200000.0V | Average phase voltage(High Word) | | R |
| | 0138h | | Average phase voltage(Low Word) | | R |
| U12 | 0139h | 0.0 - 1200000.0V | Phase1 line voltage(High Word) | | R |
| | 013Ah | | Phase1 line voltage(Low Word) | | R |
| U23 | 013Bh | 0.0 - 1200000.0V | Phase2 line voltage(High Word) | | R |
| | 013Ch | | Phase2 line voltage(Low Word) | | R |
| U31 | 013Dh | 0.0 - 1200000.0V | Phase3 line voltage(High Word) | | R |
| | 013Eh | | Phase3 line voltage(Low Word) | | R |
| ULL.AVG | 013Fh | 0.0 - 1200000.0V | Average line voltage(High Word) | | R |
| | 0140h | | Average line voltage(Low Word) | | R |
| I1 | 0141h | 0.000 - 9999.999A | I1 current(High Word) | | R |
| | 0142h | | I1 current(Low Word) | | R |
| I2 | 0143h | 0.000 - 9999.999A | I2 current(High Word) | | R |
| | 0144h | | I2 current(Low Word) | | R |
| I3 | 0145h | 0.000 - 9999.999A | I3 current(High Word) | | R |
| | 0146h | | I3 current(Low Word) | | R |
| I.AVG | 0147h | 0.000 - 9999.999A | Average current(High Word) | | R |
| | 0148h | | Average current(Low Word) | | R |
| IN | 0149h | 0.000 - 9999.999A | Neutral current(High Word) | | R |
| | 014Ah | | Neutral current(Low Word) | | R |
| P 1 | 014Bh | -999999999 - 999999999W | Phase1 active power(High Word) | | R |
| | 014Ch | | Phase1 active power(Low Word) | | R |
| P 2 | 014Dh | -999999999 - 999999999W | Phase2 active power(High Word) | | R |
| | 014Eh | | Phase2 phase active power (Low Word) | | R |
| P 3 | 014Fh | -999999999 - 999999999W | Phase3 active power(High Word) | | R |
| | 0150h | | Phase3 active power(Low Word) | | R |
| P SUM | 0151h | -999999999 - 999999999W | Total active power(High Word) | | R |
| | 0152h | | Total active power(Low Word) | | R |
| Q 1 | 0153h | -999999999 - 999999999VAR | Phase1 reactive power(High Word) | | R |
| | 0154h | | Phase1 reactive power (Low Word) | | R |
| Q 2 | 0155h | -999999999 - 999999999VAR | Phase2 reactive power (High Word) | | R |
| | 0156h | | Phase2 reactive power (Low Word) | | R |
| Q-3 | 0157h | -999999999 - 999999999VAR | Phase3 reactive power(High Word) | | R |
| | 0158h | | Phase3 reactive power (Low Word) | | R |
| Q-SUM | 0159h | -999999999 - 999999999VAR | Total reactive power(High Word) | | R |
| | 015Ah | | Total reactive power (Low Word) | | R |
| S-1 | 015Bh | 0 - 999999999VA | Phase1 apparent power(High Word) | | R |
| | 015Ch | | Phase1 apparent power(Low Word) | | R |
| S-2 | 015Dh | 0 - 999999999VA | Phase2 apparent power(High Word) | | R |
| | 015Eh | | Phase2 apparent power(Low Word) | | R |
| S-3 | 015Fh | 0 - 999999999VA | Phase3 apparent power (High Word) | | R |
| | 0160h | | Phase3 apparent power(Low Word) | | R |
| S.SUM | 0161h | 0 - 999999999VA | Total apparent power(High Word) | | R |
| | 0162h | | Total apparent power(Low Word) | | R |
| PF1 | 0163h | - 0.020 - + 1.000 - 0.020 | Phase1 p over factor | | R |
| PF2 | 0164h | - 0.020 - + 1.000 - 0.020 | Phase2 power factor | | R |
| PF3 | 0165h | - 0.020 - + 1.000 - 0.020 | Phase3 power factor | | R |
| PF.AVG | 0166h | - 0.020 - + 1.000 - 0.020 | Average Power Factor | | R |
| Uunbl | 0167h | 0 - 300.0 | Voltage unbalance | | R |
| Iunbl | 0168h | 0 - 300.0 | Current unbalance | | R |

| Parameter | Address | Range | Description | Default | Property |
|-----------|---------|-----------------------------|------------------------------------|---------|----------|
| AE-IMP | 0181h | 0.0 - 9999999.9kWh | Import active energy(High Word) | | R |
| | 0182h | | Import active energy(Low Word) | | R |
| AE-EXP | 0183h | 0.0 - 9999999.9kWh | Export active energy(High Word) | | R |
| | 0184h | | Export active energy(Low Word) | | R |
| AE-Total | 0185h | 0.0 - 9999999.9kWh | Total active energy(High Word) | | R |
| | 0186h | | Total active energy(Low Word) | | R |
| AE-Net | 0187h | -9999999.9 - 9999999.9kWh | Net active energy(High Word) | | R |
| | 0188h | | Net active energy(Low Word) | | R |
| RE-IMP | 0189h | 0.0 - 9999999.9kVARh | Import reactive energy(High Word) | | R |
| | 018Ah | | Import reactive energy(Low Word) | | R |
| RE-Exp | 018Bh | 0.0 - 9999999.9kVARh | Export reactive energy(High Word) | | R |
| | 018Ch | | Export reactive energy(Low Word) | | R |
| RE-Total | 018Dh | 0.0 - 9999999.9kVARh | Total reactive energy(High Word) | | R |
| | 018Eh | | Total reactive energy(Low Word) | | R |
| RE-Net | 018Fh | -9999999.9 - 9999999.9kVARh | Net reactive energy(High Word) | | R |
| | 0190h | | Net reactive energy(Low Word) | | R |
| SE-Total | 0191h | 0.0 - 9999999.9kVAh | Total apparent energy(High Word) | | R |
| | 0192h | | Total apparent energy(Low Word) | | R |

| Parameter | Address | Range | Description | Default | Property |
|-----------------|---------|---------------------|---------------------------------------------------|---------|----------|
| CO ₂ | 0195h | 0.000 - 99999.999kg | Total CO ₂ weight of energy(High Word) | | R |
| | 0196h | | Total CO ₂ weight of energy(Low Word) | | R |

| Parameter | Address | Range | Description | Default | Property |
|----------------|---------|-----------------|----------------------------|---------|----------|
| OPERATING HOUR | 0198h | 0 - 59999999Min | Operation time(High Word) | | R |
| | 0199h | | Operation time(Low Word) | | R |
| RUN HOUR | 019Ah | 0 - 59999999Min | Running time(High Word) | | R |
| | 019Bh | | Running time(Low Word) | | R |

| Parameter | Address | Range | Description | Default | Property |
|-------------|---------|--------------|-----------------------------------|---------|----------|
| U1(U12).THD | 029Fh | 0.0 - 100.0% | U1(U12) total harmonic of voltage | | R |
| U2(U23).THD | 02A0h | 0.0 - 100.0% | U2(U23) total harmonic of voltage | | R |
| U3(U31).THD | 02A1h | 0.0 - 100.0% | U3(U31) total harmonic of voltage | | R |
| UAVG.THd | 02A2h | 0.0 - 100.0% | Average total harmonic of voltage | | R |
| I1.THd | 02A3h | 0.0 - 100.0% | I1 total harmonic of current | | R |
| I2.THd | 02A4h | 0.0 - 100.0% | I2 total harmonic of current | | R |
| I3.THd | 02A5h | 0.0 - 100.0% | I3 total harmonic of current | | R |
| Iavg.THd | 02A6h | 0.0 - 100.0% | Average total harmonic of current | | R |

User define setting(Code : 03h, 06h, 10h)

| Parameter | Address | Range | Description | Default | Property |
|-----------|---------|-------------------------------------------|-------------------------------|---------|----------|
| U_DF01P | 5000h | 0130h~0177h 0181h~019Bh 029Fh~02A6h | Parameters address assignment | 0130h | R/W |
| U_DF02P | 5001h | | | 0131h | R/W |
| U_DF03P | 5002h | | | 0132h | R/W |
| U_DF04P | 5003h | | | 0133h | R/W |
| U_DF05P | 5004h | | | 0134h | R/W |
| U_DF06P | 5005h | | | 0135h | R/W |
| U_DF07P | 5006h | | | 0136h | R/W |
| U_DF08P | 5007h | | | 0137h | R/W |
| U_DF09P | 5008h | | | 0138h | R/W |
| U_DF10P | 5009h | | | 0139h | R/W |
| U_DF11P | 500Ah | | | 013Ah | R/W |
| U_DF12P | 500Bh | | | 013Bh | R/W |
| U_DF13P | 500Ch | | | 013Ch | R/W |
| U_DF14P | 500Dh | | | 013Dh | R/W |
| U_DF15P | 500Eh | | | 013Eh | R/W |
| U_DF16P | 500Fh | | | 013Fh | R/W |
| U_DF17P | 5010h | | | 0140h | R/W |
| U_DF18P | 5011h | | | 0141h | R/W |
| U_DF19P | 5012h | | | 0142h | R/W |
| U_DF20P | 5013h | | | 0143h | R/W |
| U_DF01V | 5014h | | Reading of parameters | | R |
| U_DF02V | 5015h | | | | R |
| U_DF03V | 5016h | | | | R |
| U_DF04V | 5017h | | | | R |
| U_DF05V | 5018h | | | | R |
| U_DF06V | 5019h | | | | R |
| U_DF07V | 501Ah | | | | R |
| U_DF08V | 501Bh | | | | R |
| U_DF09V | 501Ch | | | | R |
| U_DF10V | 501Dh | | | | R |
| U_DF11V | 501Eh | | | | R |
| U_DF12V | 501Fh | | | | R |
| U_DF13V | 5020h | | | | R |
| U_DF14V | 5021h | | | | R |
| U_DF15V | 5022h | | | | R |
| U_DF16V | 5023h | | | | R |
| U_DF17V | 5024h | | | | R |
| U_DF18V | 5025h | | | | R |
| U_DF19V | 5026h | | | | R |
| U_DF20V | 5027h | | | | R |

User define field function description:

This function is let users to read the value of the parameters of what to be read at once time. Will be read of the parameters register code fill in 5000h ~ 5013h then can read the value of the parameters from 5014h~5027h

For example:

If 0131h write to 5000h (High word register of U1 phase voltage) ,
and 0132h write to 5001h (Low word register of U1 phase voltage)
Read 5014h and 5015h are value of U1 phase voltage .

Floating data Function (code:03h)

| Parameter | Address | Range | Description | Default | Property |
|-----------|---------|--------------------------|-----------------------|---------|----------|
| FREQ | 7000h | 45.00 - 65.00Hz | Frequency | | R |
| | 7001h | | | | |
| U1 | 7002h | 0.0 - 1200000.0 V | Phase 1 voltage | | R |
| | 7003h | | | | |
| | 7004h | | | | |
| U2 | 7005h | 0.0 - 1200000.0 V | Phase2 voltage | | R |
| | 7006h | | | | |
| U3 | 7007h | 0.0 - 1200000.0 V | Phase3 voltage | | R |
| | 7008h | | | | |
| ULN.AVG | 7009h | 0.0 - 1200000.0 V | Average phase voltage | | R |
| | 700Ah | | | | |
| U12 | 700Bh | 0.0 - 1200000.0 V | Phase1 line voltage | | R |
| | 700Ch | | | | |
| U23 | 700Dh | 0.0 - 1200000.0 V | Phase2 line voltage | | R |
| | 700Eh | | | | |
| U31 | 700Fh | 0.0 - 1200000.0 V | Phase3 line voltage | | R |
| | 7010h | | | | |
| ULL.AVG | 7011h | 0.0 - 1200000.0 V | Average line voltage | | R |
| | 7012h | | | | |
| I1 | 7013h | 0.000 - 9999.999A | I1 current | | R |
| | 7014h | | | | |
| I2 | 7015h | 0.000 - 9999.999A | I2 current | | R |
| | 7016h | | | | |
| I3 | 7017h | 0.000 - 9999.999A | I3 current | | R |
| | 7018h | | | | |
| I.AVG | 7019h | 0.000 - 9999.999A | Average current | | R |
| | 701Ah | | | | |
| IN | 701Bh | 0.000 - 9999.999A | Neutral current | | R |
| | 701Ch | | | | |
| P-1 | 701Dh | -999999999- 999999999W | Phase1 active power | | R |
| | 701Eh | | | | |
| P-2 | 701Fh | -999999999- 999999999W | Phase2 active power | | R |
| | 7020h | | | | |
| P-3 | 7021h | -999999999- 999999999W | Phase3 active power | | R |
| | 7022h | | | | |
| P.SUM | 7023h | -999999999- 999999999W | Total active power | | R |
| | 7024h | | | | |
| Q-1 | 7025h | -999999999- 999999999VAR | Phase1 reactive power | | R |
| | 7026h | | | | |
| Q-2 | 7027h | -999999999- 999999999VAR | Phase2 reactive power | | R |
| | 7028h | | | | |
| Q-3 | 7029h | -999999999- 999999999VAR | Phase3 reactive power | | R |
| | 702Ah | | | | |
| Q.SUM | 702Bh | -999999999- 999999999VAR | Total reactive power | | R |
| | 702Ch | | | | |
| S-1 | 702Dh | 0- 999999999VA | Phase1 apparent power | | R |
| | 702Eh | | | | |
| S-2 | 702Fh | 0- 999999999VA | Phase2 apparent power | | R |
| | 7030h | | | | |
| S-3 | 7031h | 0- 999999999VA | Phase3 apparent power | | R |
| | 7032h | | | | |
| S.SUM | 7033h | 0- 999999999VA | Total apparent power | | R |
| | 7034h | | | | |
| PF1 | 7035h | -0.020 - + 1.000 - 0.020 | Phase1 p ower factor | | R |
| | 7036h | | | | |
| PF2 | 7037h | -0.020 - + 1.000 - 0.020 | Phase2 power factor | | R |
| | 7038h | | | | |
| PF3 | 7039h | -0.020 - + 1.000 - 0.020 | Phase3 power factor | | R |
| | 703Ah | | | | |
| PF.AVG | 703Bh | -0.020 - + 1.000 - 0.020 | Average Power Factor | | R |
| | 703Ch | | | | |
| Uunbl | 703Dh | 0- 300.0% | Voltage unbalance | | R |
| | 703Eh | | | | |
| Iunbl | 703Fh | 0- 300.0% | Current unbalance | | R |

| Parameter | Address | Range | Description | Default | Property |
|-----------------|---------|--------------------------|----------------------------------------|---------|----------|
| U1(U12).THD | 7050h | 0.0-100.0% | U1(U12) total harmonic of voltage | | R |
| | 7051h | | | | |
| U2(U23).THD | 7052h | 0.0-100.0% | U2(U23) total harmonic of voltage | | R |
| | 7053h | | | | |
| U3(U31).THD | 7054h | 0.0-100.0% | U3(U31) total harmonic of voltage | | R |
| | 7055h | | | | |
| UAVG.THd | 7056h | 0.0-100.0% | Average total harmonic of voltage | | R |
| | 7057h | | | | |
| I1.THd | 7058h | 0.0-100.0% | I1total harmonic of current | | R |
| | 7059h | | | | |
| I2.THd | 705Ah | 0.0-100.0% | I2total harmonic of current | | R |
| | 705Bh | | | | |
| I3.THd | 705Ch | 0.0-100.0% | I3total harmonic of current | | R |
| | 705Dh | | | | |
| IAVG.THd | 705Eh | 0.0-100.0% | Average total harmonic of current | | R |
| | 705Fh | | | | |
| AE-IMP | 7060h | 0.0-9999999.9kWh | Import active energy | | R |
| | 7061h | | | | |
| AE-Exp | 7062h | 0.0-9999999.9kWh | Export active energy | | R |
| | 7063h | | | | |
| AE-Total | 7064h | 0.0-9999999.9kWh | Total active energy | | R |
| | 7065h | | | | |
| AE-Net | 7066h | -999999.9-9999999.9kWh | Net active energy | | R |
| | 7067h | | | | |
| RE-IMP | 7068h | 0.0-9999999.9kVARh | Import reactive energy | | R |
| | 7069h | | | | |
| RE-Exp | 706Ah | 0.0-9999999.9kVARh | Export reactive energy | | R |
| | 706Bh | | | | |
| RE-Total | 706Ch | 0.0-9999999.9kVARh | Total reactive energy | | R |
| | 706Dh | | | | |
| RE-Net | 706Eh | -999999.9-9999999.9kVARh | Net reactive energy | | R |
| | 706Fh | | | | |
| SE-Total | 7070h | 0.0-9999999.9kVAh | Total apparent energy | | R |
| | 7071h | | | | |
| CO ₂ | 7072h | 0.000-99999.999kg | Total CO ₂ weight of energy | | R |
| | 7073h | | | | |

Character Symbol

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | b | C | d | E | F | G | H | i | J | K | L | M |
| R | b | C | d | E | F | G | H | i | J | K | L | n |
| n | o | P | q | r | S | t | U | v | W | X | y | Z |
| n | o | P | q | r | S | t | U | v | W | X | y | Z |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | / | . | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | / | . | |

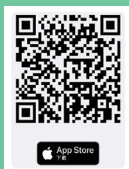
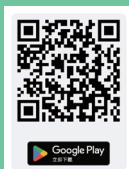


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