Smart X96-5S Series

Multi-Function Power Analyzer

USER MANUAL

2025 V1.00

Statements

Eastron reserves the right to amend the product specifications in this manual without prior notice. Before placing an order, please contact our company or local agent to get the latest specifications.

CONTENT

Version History

Version	Date	Changes
1.00	2025-12-19	Initial issue

Risk Information

Information for Your Own Safety

This manual does not contain all of the safety measures operating the equipment (module, device) for different conditions and requirements. However, it does contain information which you must know for your own safety and to avoid damages. This information is highlighted by a warning triangle, which indicates the degree of potential danger.

Warning

This means that failure to observe the instruction can result in death, serious injury or considerable material damage.

Caution

This means hazard of electric shock and failure to take the necessary safety precautions will result in death, serious injury or considerable material damage.

Qualified personnel

Operation of the equipment (module, device) described in this manual must only be performed by qualified personnel. Qualified personnel in this manual means people who are authorized to commission, start up, ground and label devices, systems and circuits in accordance with Safety Regulatory standards.

Proper handling

The prerequisites for perfect, reliable operation of the product are proper transport, storage, installation and operation and maintenance. When operating electrical equipment, some parts of this equipment automatically carry dangerous voltages. Improper handling can therefore result in serious injuries or material damages.

- ✧ Use only insulating tools.
- ✧ Do not connect while circuit is live (hot).
- ✧ Place the meter only in dry surroundings.
- ✧ Do not mount the meter in an explosive area or expose the meter to dust, mildew and insects.
- ✧ Make sure the wires are suitable for the maximum current of this meter.
- ✧ Make sure the AC wires are connected correctly before activating the current/voltage to the meter.
- ✧ Do not touch the clamps directly with metal, blank wire or your bare hands as you may get electrical shock.
- ✧ Make sure the protection cover is placed after installation.
- ✧ Installation, maintenance and reparation should only be done by qualified personnel.
- ✧ Never break the seals or open the front cover as this might influence the function, and will void the warranty.
- ✧ Do not drop, or allow strong physical Hit on the meter as the high precisely components inside may be damaged.
- ✧ This product is designed to be mounted inside of switchboards or cabinet on DIN rail.
- ✧ This device must have a suitable sized Circuit Breaker feeding the Multi Function Energy Meter so it does

not exceed the maximum rated current.

- ✧ The supply wiring of this device shall be suitable sized cable to match the installed circuit breaker.
- ✧ A Disconnection Device (Circuit Breaker) should be installed close to the Multi Function Energy Meter.
- ✧ The Disconnection Device shall be marked as the Disconnection Device for the Multi Function Energy Meter.

Disclaimer

We have checked the contents of this publication and every effort has been made to ensure that the descriptions are as accurate as possible.

However, deviations from the description cannot be completely ruled out, so that no liability can be accepted for any errors contained in the information given. The data in this manual is checked regularly and the necessary corrections are included in subsequent editions. We are grateful for any improvements that you suggest.

Chapter 1. Introduction

1.1 Product Introduction

The Smart X96-5S is a panel-mounted multifunctional energy analyzer. As a digital monitoring product, it integrates the functions of measurement, monitoring and communication in one device.
With modern computer and digital signal processing technologies, this series of meters can replace various discrete components such as traditional transmitters, indicating instruments and relays. Equipped with a RS-485 interface and MODBUS-RTU protocol, it can be easily integrated into various power monitoring , SCADA and energy management systems.
It measures common electrical parameters including three-phase current, voltage, active/reactive power and electrical energy comprehensively, making it suitable for real-time monitoring and data acquisition systems. With boasting excellent cost-performance ratio, the Smart X96-5S can directly replace conventional power transmitters and measuring instruments, and serves as a reliable choice for building intelligent and digital front-end acquisition units.

1.2 Product Characteristics

- Multi-parameter measurement
- AMR/SCADA System Integration
- RS485 Modbus RTU communication interface
- Bidirectional energy metering IMP & EXP
- Switchable current direction
- I/O Ports: 4 DI, 2 DO
- Advanced power quality analysis
- Real-time signal waveform display
- Fault Waveform Recording
- Alarm function
- Leakage current measurement (applicable only to Smart X96-5S-L)
- Temperature measurement (applicable only to Smart X96-5S-L)
- Full-color large-screen display

1.3 Application Scenarios

The Smart X96-5S Series multifunctional energy analyzers offer broad applicability and convenient system integration. They are suitable for various power supply scenarios, and perform particularly well in applications with high requirements for power quality and electricity safety, or those requiring automated management.
These meters can be applied in a wide range of fields including energy management systems, substation automation, distribution network automation, residential area power monitoring, industrial automation, smart buildings, intelligent distribution boards, and switch cabinets.
With their comprehensive communication functions and support for standard protocols, this series of meters can be seamlessly integrated into various real-time power monitoring systems, enabling stable and reliable data acquisition and monitoring.

Chapter 2. Technical Parameters

2.1 Technical Parameters

Electrical Characteristics			
Type of Measurement			RMS (3P, 3P+N)
Measurement Accuracy	Voltage		± 0.2%
	Current		± 0.2%
	Frequency		± 0.05%
	Power Factor		± 0.005
	Active Power		± 0.5% (5%Ib-Imax)
	Reactive Power		± 1% (5%Ib-Imax)
	Apparent Power		± 0.5% (5%Ib-Imax)
	Active Energy		Class 0.5S IEC62053-22 Class C EN50470-3:2022
	Reactive Energy		Class 2 IEC 62053-23
Data Update Rate			1s
Technical parameters	Aux. Power Supply		100~480V AC / 141~678V DC
	Voltage AC (Un)		3*230V(L-N)/400V(L-L)
	Voltage Range		50 to 600 V AC(L-L) 50 to 345 V AC(L-N)
	Frequency		45~65Hz
	CT	Primary	1~9999A
		Secondary	1A / 5A
	PT	Primary	100 ~ 500000 V
		Secondary	100 ~ 480 V
	Current Input		5A
	Maximum Current		6A
	Minimum Current		0.05A
	Starting Current (Ist)		0.005A
	Transition Current (Itr)		0.25A
	Over Current Withstand		20Imax for 0.5S
	AC Voltage Withstand		4KV/1min
	Impulse Voltage Withstand		6kV – 1.2/50μS waveform
	Voltage Circuit Power Consumption		≤ 2W/10VA
	Current Circuit Power Consumption		≤0.05VA
	Display		Color LCD screen
Mechanical Characteristics			
Weight			≈322g
IP Degree of Protection (IEC 60529)			IP51 Front Display IP20 Whole Meter
Dimensions (DxHxW)			73.5x96x96mm
Mounting			Vertical
Panel Thickness			1~5mm
Material of Meter Case			Self-extinguishing UL 94 V-0
Mechanical Environment			M1
Environmental Characteristics			
Operating Temperature			-25 to 75°C

Storage Temperature	-40 to 85°C
Operation humidity	≤90% Non-condensing
Storage Humidity	≤95% Non-condensing
Pollution Degree	II
Altitude	≤2000m
Vibration	10Hz ~ 50Hz, IEC 60068-2-6
Electromagnetic Compatibility	
Electrostatic Discharge	IEC 61000-4-2
Immunity to Radiated Fields	IEC 61000-4-3
Immunity to Fast Transients	IEC 61000-4-4
Surge (Impulse) Immunity	IEC 61000-4-5
Conducted Immunity	IEC 61000-4-6
Immunity to Magnetic Fields	IEC 61000-4-8
Immunity to Voltage Dips	IEC 61000-4-11
Radiated Emissions	CISPR 32
Conducted Emissions	CISPR 32
Safety	
Measurement Category	Per IEC61010-1 CAT III
Current Inputs	Require external Current Transformer for Insulation
Installation Category	CAT III
Over-voltage Category	CAT III
Protective Class	II
Interface 1	RS485
Interface 1 Protocol	MODBUS RTU
Communication Address	1 to 247
Transmission Mode	Half Duplex
Data Type	Floating Point
Transmission Distance	1000m Maximum
Transmission Speed	1200/2400/4800/9600(Default)/19200/38400/115200bps
Parity	NONE(Default)/ODD/EVEN
Stop Bits	1/2
Response Time	<100 ms
Interface 2	Ethernet
协议	Modbus-TCP
IP Address	192.168.1.200(Default)
IP port	502
Subnet Master	255.255.255.0
Gate way	192.168.1.1
DHCP	OFF(Default)
Digital output	
Number/Type	2 - electromagnetic relay
Output Frequency	1 Hz maximum
Switching Current	250 Vac at 3.0 Amps, 100k cycles,
Isolation	2.5 KVac for 1min
Digital Input	
Number	4
Input Resistance	10 kΩ
Maximum Frequency	1kHz
Response Time	10 milliseconds
Isolation	2.5 KVac for 1min

2.2 Product Features

Note:

● = Available

— = Not Available

Features	Models	
	Smart X96-5S	Smart X96-5S-L
Instantaneous Measurements		
Current	●	●
Voltage L-N	●	●
Voltage L-L	●	●
Frequency	●	●
Active Power	●	●
Reactive Power	●	●
Apparent Power	●	●
Power Factor	●	●
Load Type	●	●
Temperature Measurement	—	2
Leakage Current	—	1
Phase Sequence		
Voltage/Current Sequence Components	●	●
Phase Angle	●	●
Energy Values		
Active Energy	●	●
Reactive Energy	●	●
Apparent Energy	●	●
Time-of-use Energy	●	●
System Type		
3 P 3 W	●	●
3 P 4 W	●	●
Demand		
Current	●	●
Power	●	●
Maximum Current	●	●
Maximum Power	●	●
Configuration Parameters	●	●
Predicted Demand	●	●
Max/Min Values		
Voltage Max/Min Values	●	●
Current Max/Min Values	●	●
Active, Reactive, Apparent Power Max/Min Values	●	●
Power Factor Max/Min Value	●	●
Frequency Max/Min Value	●	●
Voltage/Current Unbalance Max/Min Values	●	●

Voltage/Current THD Max/Min Values	●	●
Timestamp	●	●
Power Quality		
Unbalance Factor	●	●
Voltage THD	●	●
Current THD	●	●
Voltage Harmonic Ratio (per order)	●	●
Current Harmonic Ratio (per order)	●	●
Voltage Crest Factor (per phase)	●	●
Telephone Influence Factor (TIF) (per phase)	●	●
Current K-Factor (per phase)	●	●
Voltage Swell & Sag	●	●
Alarm		
Alarm Channels	24	24
Time		
Real-Time Clock (RTC)	●	●
Waveform		
Real-time Waveform	●	●
Waveform Capture	●	●
Waveform Recording	●	●
Record		
Event Record	30	30
Alarm Record	●	●
Current Direction correction		
Current Direction correction	●	●
Communication		
RS485	●	●
Ethernet	●	●
Digital Input /Output		
DI	4	4
DO	2	2

技术标准:

[1] EN IEC61326-1: 2021 Electromagnetic Compatibility Directive - Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements

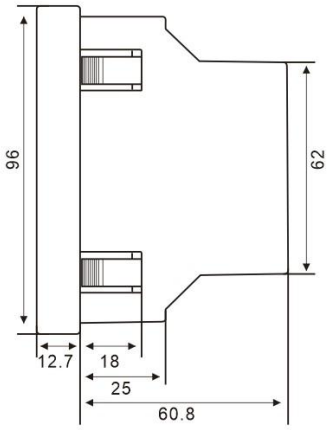
[2] EN IEC 61326-2-3: 2021 Electromagnetic Compatibility Directive

[3] EN61010-1:2010+A1:2019 Low Voltage Directive 2014/35/EU - Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

[4] EN61010-2-030:2010 Low Voltage Directive 2014/35/EU - Particular requirements for testing and measuring circuits

[5] EN 50470-3:2022 Electricity metering equipment - Part 3: Particular requirements - Static meters for AC active energy (class indexes A, B and C)

2.3 Dimensions



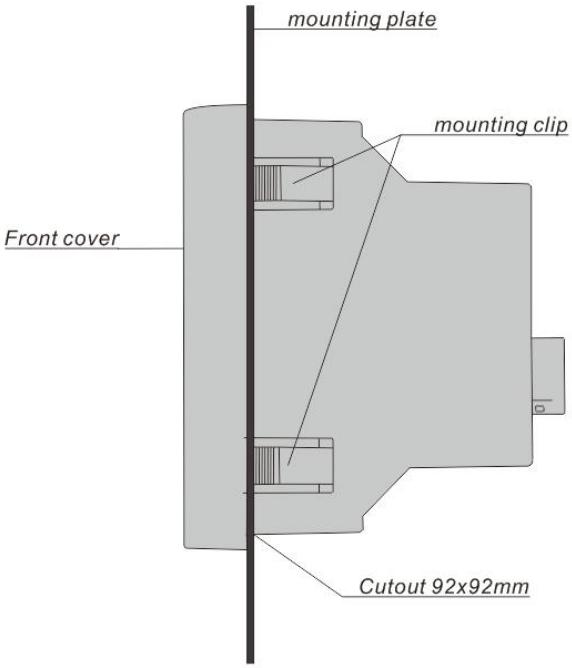
Height: 96mm
Width: 96mm
Depth: 73.5mm

Cutout:92x92 Unit:mm

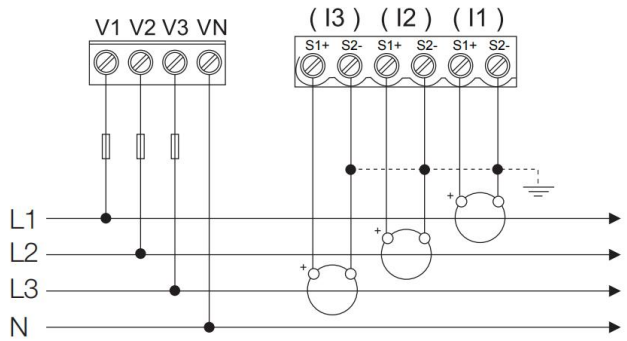
Smart X96-5S

Smart X96-5S-L

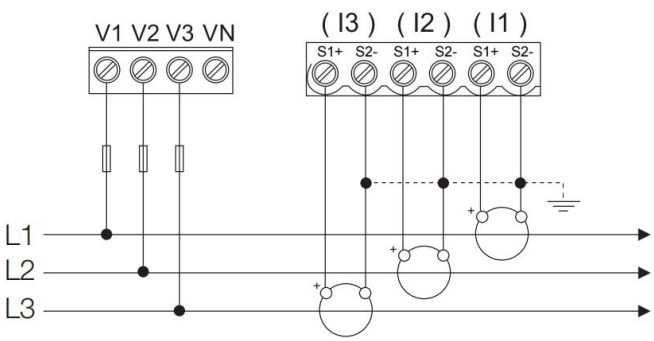
2.4 Mounting



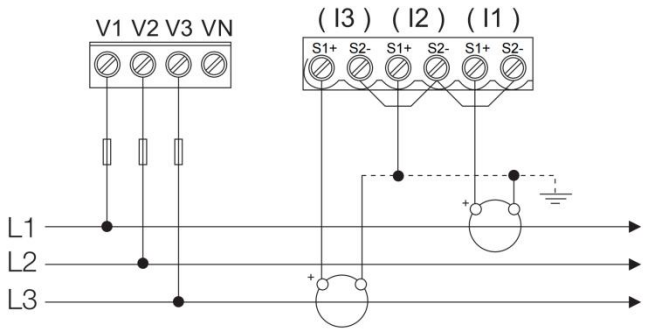
2.5 Wiring Diagram



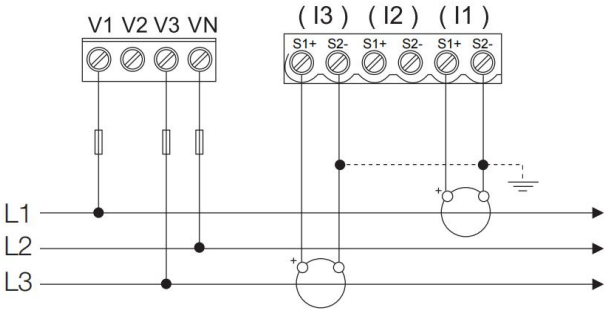
3P4W 3CT



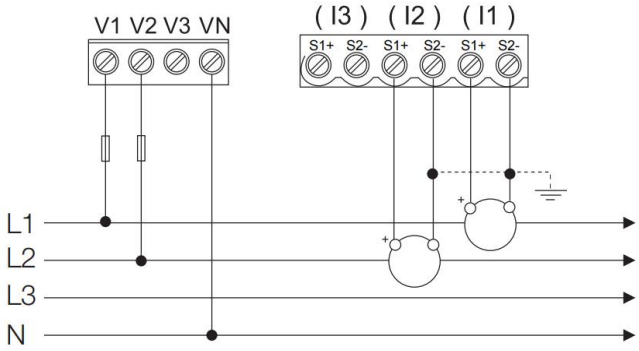
3P3W 3CT



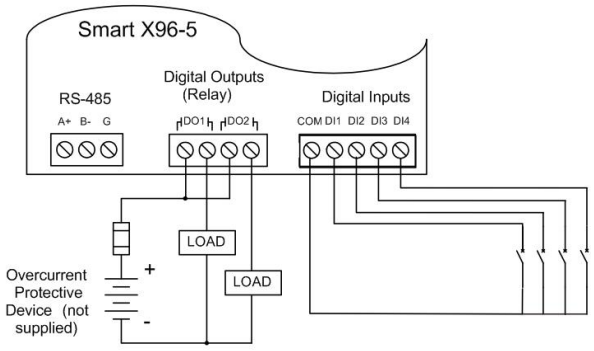
3P3W 2CT（V）



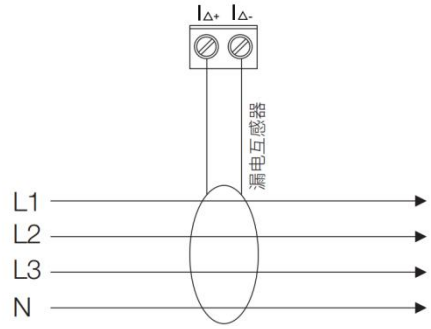
3P3W 2CT



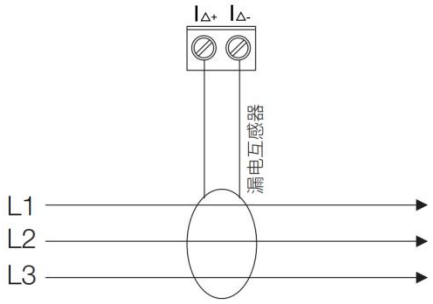
1P3W 2CT



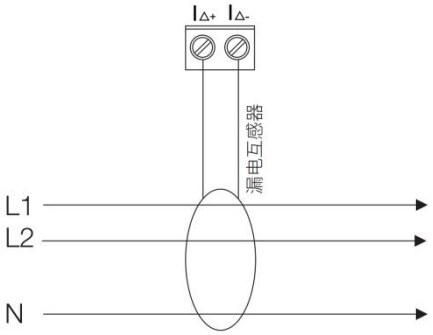
RS485 / DI / DO



3P4W Wiring for Leakage Current Transformer
(Applicable to Smart X96-5S-L only)



3P3W Wiring for Leakage Current Transformer
(Applicable to Smart X96-5S-L only)



1P3W Wiring for Leakage Current Transformer
(Applicable to Smart X96-5S-L only)

Wiring Diagram for Temperature Measurement
(Applicable to Smart X96-5S-L only)

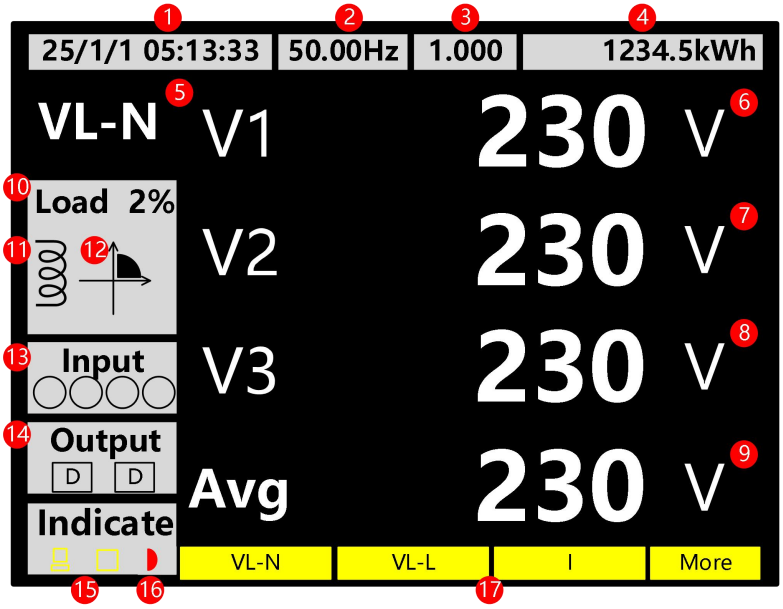
Wiring Guide

Terminal (V1, V2, V3, VN, I1, I2, I3,)	Measurement Connection	Screw Connection
	Strip Length	7-8mm
	Screw	M3
	Rigid/Supple	0.5-2.5mm2 (28-12AWG)
	Tightening Torque	0.5Nm
Terminal (A+, B-, G, DO1, DO2, COM, DI1, DI2, DI3, DI4)	Measurement Connection	Screw Connection
	Strip Length	6-7mm
	Rigid/Supple	0.5-1.5mm² (28 ~ 16AWG)
	Tightening Torque	0.2Nm

Chapter 3. Operation

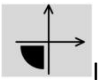
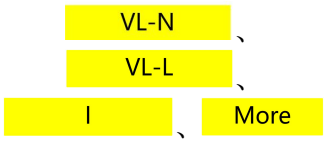
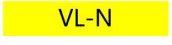
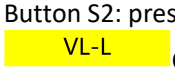
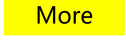
3.1 Installation Display

After connecting the wire correctly, the power supply is switched on, the device will boot up and display the first parameter screen (the phase voltage parameter screen), as shown in the figure below：



3.1.1 Introduction

Ref. No.	Name	Example	Description
①	Time	13/1/10 9:23:30	Displays the current date and time.
②	Frequency	50.00	Displays the current system frequency. It shows floating-point data (4 significant digits).
③	Power Factor	1.000	Displays the total power factor. It shows floating-point data (4 significant digits).
④	Total Active Energy	1234.5 KWh	Displays the total active energy consumption.
⑤	Interface Display Parameter Type	VL-N	Indicates that the interface displays phase voltage parameters.
⑥	L1 Phase Voltage	V1 220.0V	Displays the voltage value of Phase L1.
⑦	L2 Phase Voltage	V2 220.0V	Displays the voltage value of Phase L2.
⑧	L3 Phase Voltage	V3 220.0V	Displays the voltage value of Phase L3.
⑨	Average Phase Voltage	Avg 220.0V	Displays the average voltage of the three phases.
⑩	Load Rate	2%	The ratio of the current load current to the rated current.
⑪	Load Type		Indicates the load type:  Inductive load.

			 Capacitive load.
⑫	Quadrant		Indicates the current active power quadrant:  Indicates operation in Quadrant 1;  Indicates operation in Quadrant 2;  Indicates operation in Quadrant 3;  Indicates operation in Quadrant 4.
⑬	DI Status	 Represents DI1 to DI4 from left to right.	 Indicates the channel is set to DI and the DI signal status is ON;  Indicates the channel is set to DI and the DI signal status is OFF.
⑭	DO Status	 Represents DO1 and DO2 in the figure.	 Indicates the channel is set to DO and the output status is ON;  Indicates the channel is set to DO and the output status is OFF.
⑮	Communication Status		Indicates no data transmission Indicates the meter is sending data; Indicates the meter is receiving data.
⑯	Alarm Indicator		 Blinking: A system alarm is active;  Off/Not shown: No system alarm.
⑰	Button Definition		 Corresponding to the function of Button S2: press S2 to display phase voltage;  Corresponding to the function of Button S3: press S3 to display line voltage; Corresponding to the function of Button S4: press S4 to display current;  Corresponding to the function of Button S5: press S4 to display other buttons.

3.1.2 Keys

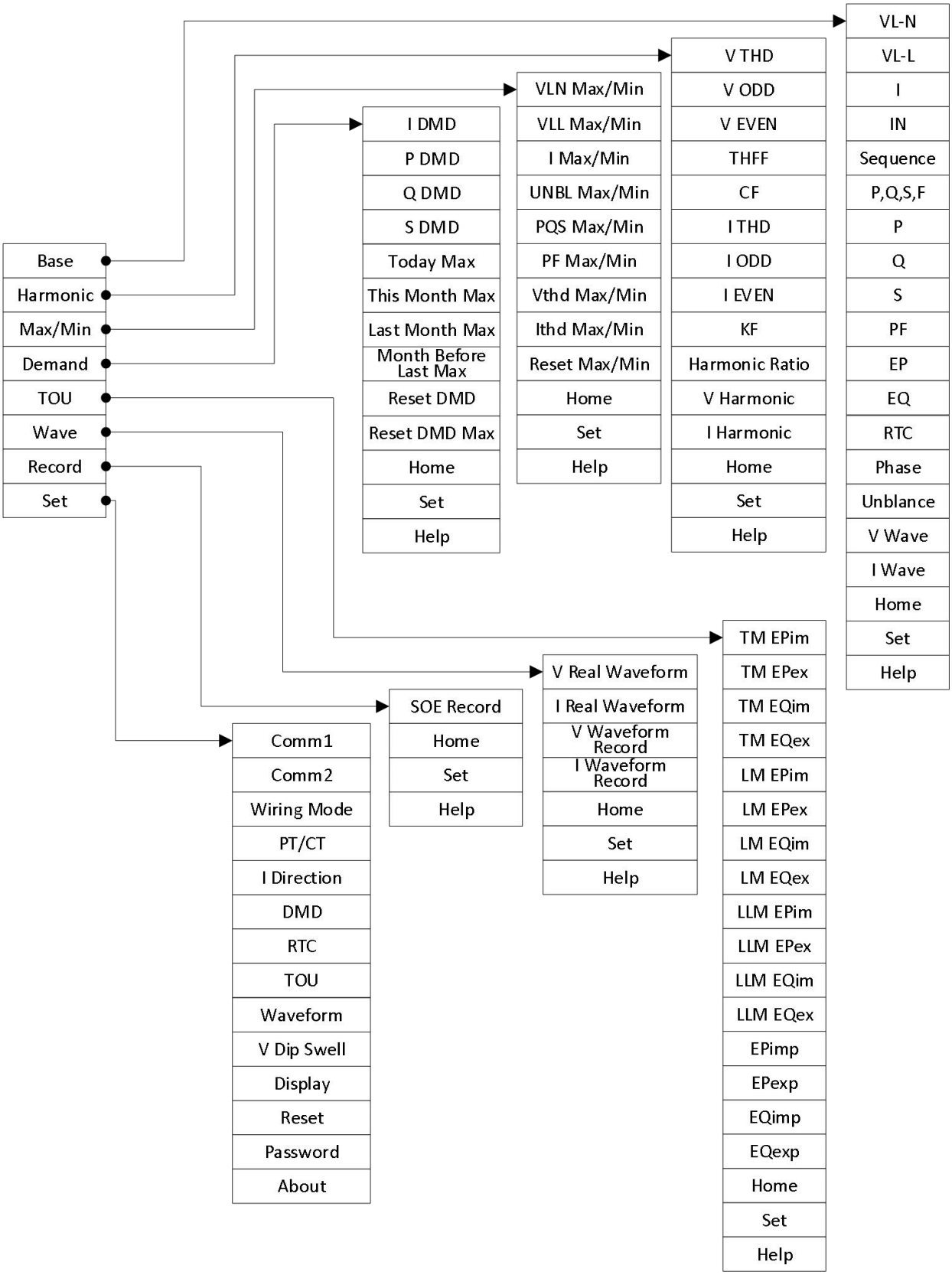
The system operates with five keys:

- The first key S1 is the HOME key; a short press returns to the homepage.
- In each display interface, the functions of the other four keys (S2 – S5) are displayed as button icons on the

color screen directly above them.

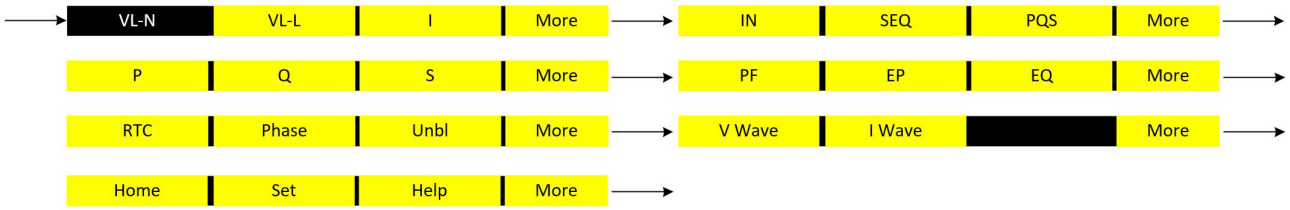
- In display mode, press the corresponding key to view the relevant data.
- In setting mode, press the corresponding key to perform related operations.
- Press and hold S3 for 2 seconds to enter the **Reset Max/Min values** interface.
- Press and hold S4 for 2 seconds to enter the **Reset Demand values** interface.

3.2 Menu directory



3.3 Basic Measurement

After the meter is powered on, it enters the basic measurement parameter display mode. Short-pressing the corresponding function key displays its associated parameter, and the key's background color matches that of the main display area. Short-pressing the key More toggles its function among the following states:

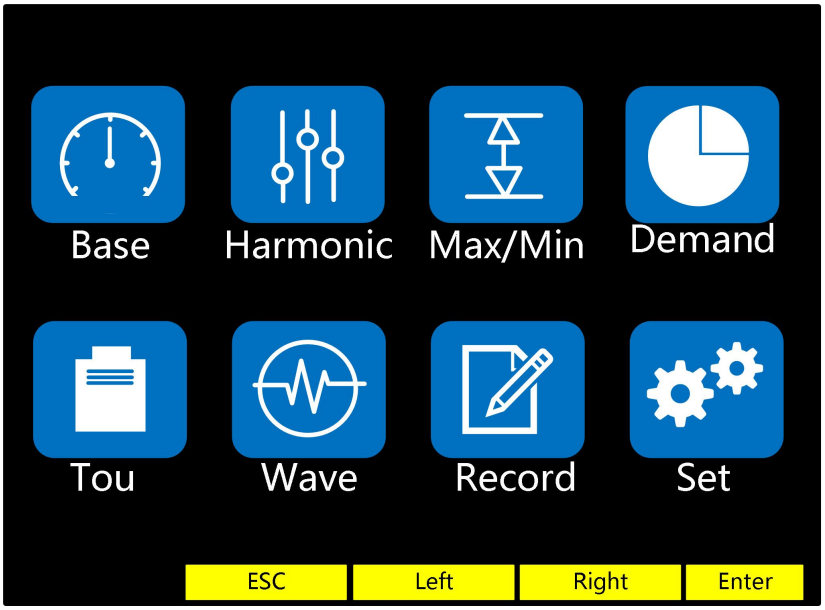


The functions of each key are defined as follows:

VL-N	Per-phase voltage and average value
VL-L	Per-phase line voltage and average value
I	Per-phase current and average value
IN	Per-phase current and neutral current
SEQ	Voltage and current positive, negative, and zero sequence components.
PQS	Total active power (P), Total reactive power (Q), Total apparent power (S), Frequency (F)
P	Per-phase active power and average value
Q	Per-phase reactive power and average value
S	Per-phase apparent power and average value
PF	Per-phase power factor and system power factor
EP	Import active energy, Export active energy, Total active energy, Net active energy and per-phase active energy
EQ	Import reactive energy, Export reactive energy, Total reactive energy, Net reactive energy, Phase reactive energy
RTC	Real-time clock
Phase	Voltage and current phase angles
Unbl	Voltage and current unbalance factors
V Wave	Real-time voltage waveform
I Wave	Real-time current waveform

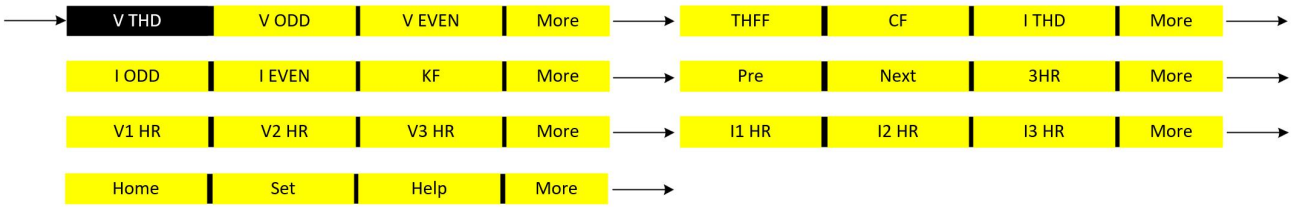
3.4 Other Measurement

Short-press the first key S1 to enter the main menu, and select the measurement parameter display mode in the main menu. Short-press ESC to exit the main menu; short-press Left Right to select a mode; short-press Enter to enter the corresponding mode.



3.4.1 Harmonics

Select Harmonics in the main menu to enter the harmonic parameter viewing mode. In this mode, short-press the key More to switch among the following states:

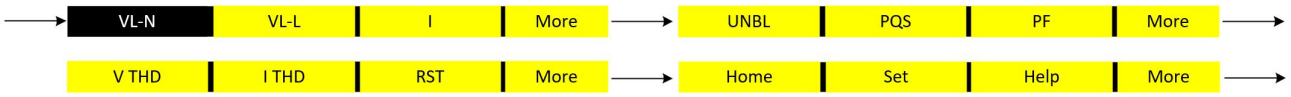


The functions of each key are defined as follows:

V THD	Total Harmonic Distortion (THD) for each phase voltage and the average.
V ODD	Odd harmonic distortion ratio for voltage.
V EVEN	Even harmonic distortion ratio for voltage.
THFF	Telephone harmonic form factor for voltage.
CF	Voltage crest factor for each phase.
I THD	Total Harmonic Distortion (THD) for each phase current and the average.
I ODD	Odd harmonic distortion ratio for current.
I EVEN	Even harmonic distortion ratio for current.
KF	Current K-factor for each phase.
Pre Next 3HR	Navigate to the previous individual harmonic order. Navigate to the next individual harmonic order. Navigate to the 3rdindividual harmonic order.
V1 HR V2 HR V3 HR I1 HR I2 HR I3 HR	Display harmonic spectrum (magnitude of each order) for V1, V2, V3, I1, I2, I3 in bar chart form.

3.4.2 Maximum/Minimum Values

Select Maximum/Minimum Values in the main menu to enter the maximum and minimum parameter viewing mode. In this mode, short-press the key More to switch among the following states:

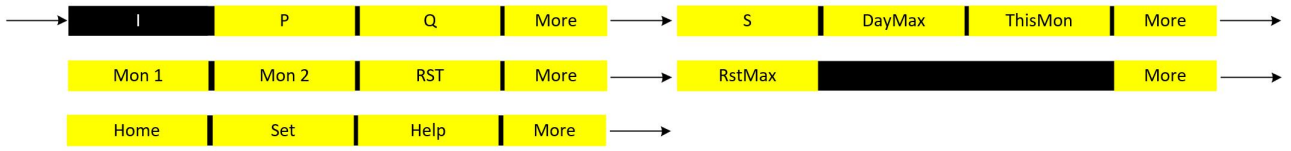


The functions of each key are defined as follows:

VL-N	Maximum and minimum values for phase voltages (V1, V2, V3).
VL-L	Maximum and minimum values for line voltages (V12, V23, V31).
I	Maximum and minimum values for phase currents (I1, I2, I3).
UNBL	Maximum and minimum values for voltage and current unbalance factors.
PQS	Maximum and minimum values for total active (P), reactive (Q), and apparent (S) power.
PF	Maximum and minimum values for power factor and system frequency.
V THD	Maximum and minimum values for voltage total harmonic distortion (THD).
I THD	Maximum and minimum values for current total harmonic distortion (THD).
RST	Resets all recorded maximum and minimum values.

3.4.3 Demand

Select Demand in the main menu to enter the demanded parameter viewing mode. In this mode, short-press the key More to switch among the following states:

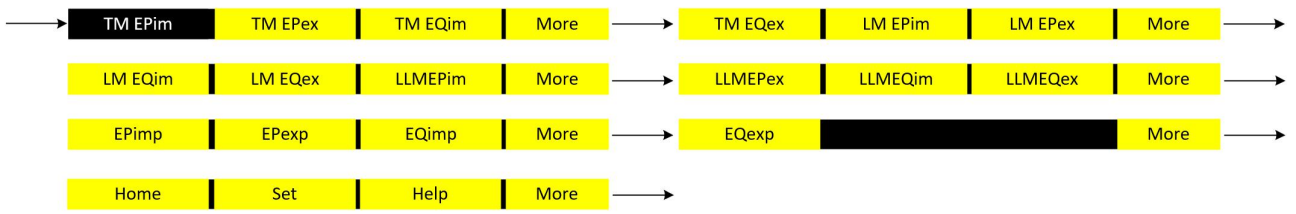


The functions of each key are defined as follows:

I	Demand value calculated from the average of three-phase currents.
P	Total active power demand value.
Q	Total reactive power demand value.
S	Total apparent power demand value.
DayMax	Maximum demand value recorded for the current day.
ThisMon	Maximum demand value recorded for the current month.
Mon 1	Maximum demand value recorded for the previous month.
Mon 2	Maximum demand value recorded for the month before last.
RST	Resets the current demand calculation, restarting the demand integration period.
RstMax	Resets the stored historical maximum demand values, clearing all past records.

3.4.4 Time-of-Use Energy

Select Time-of-Use Energy in the main menu to enter the time-of-use energy viewing mode. In this mode, short-press the key More to switch among the following states:

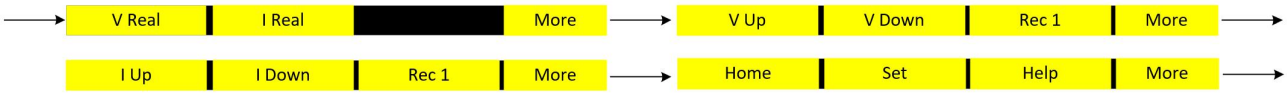


The functions of each key are defined as follows:

TM EPim	Active Energy Import (Current Month)
TM EPex	Active Energy Export (Current Month)
TM EQim	Reactive Energy Import (Current Month)
TM EQex	Reactive Energy Export (Current Month)
LM EPim	Active Energy Import (Previous Month)
LM EPex	Active Energy Export (Previous Month)
LM EQim	Reactive Energy Import (Previous Month)
LM EQex	Reactive Energy Export (Previous Month)
LLM EPim	Active Energy Import (The month before last)
LLM EPex	Active Energy Export (The month before last)
LLM EQim	Reactive Energy Import (The month before last)
LLM EQex	Reactive Energy Export (The month before last)
EPimp	Active Energy Import (Total)
EPexp	Active Energy Export (Total)
EQimp	Reactive Energy Import (Total)
EQexp	Reactive Energy Export (Total)

3.4.5 Waveform

Select Waveform Recording in the main menu to enter the recorded waveform and real-time waveform viewing mode. In this mode, short-press the key More to switch among the following states:

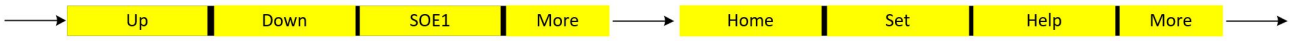


The functions of each key are defined as follows:

V Real	Voltage Real-time Waveform
I Real	Current Real-time Waveform
V Up V Down Rec 1	View Voltage Waveform from Record
I Up I Down Rec 1	View Current Waveform from Record

3.4.6 SOE and Alarm Record

Select Records in the main menu to enter the SOE and alarm record viewing interface. Press the key More to select SOE or alarm records, and press the up and down keys to choose the date of the records to view.



3.5 DI Input Status Indication (Input Display Area on Screen)

- DI is a wet contact. The meter is equipped with an internal 24VDC power supply, so no external power supply is required. When an external channel is configured as DI, the corresponding position will display the status ; when a signal is inputted to an external channel, the corresponding position will display the signal status .
- The status of DI can only be viewed and cannot be modified.

3.6 DO Output Status Indication (Output Display Area on Screen)

- When a channel is configured as a DO output, the corresponding position will display the status D; when a DO output signal is triggered on a channel, the corresponding position will display the activation status D.
- The DO status can be configured via the panel or through communication.

3.7 Communication Indication (Communication Status and Alarm Display Area)

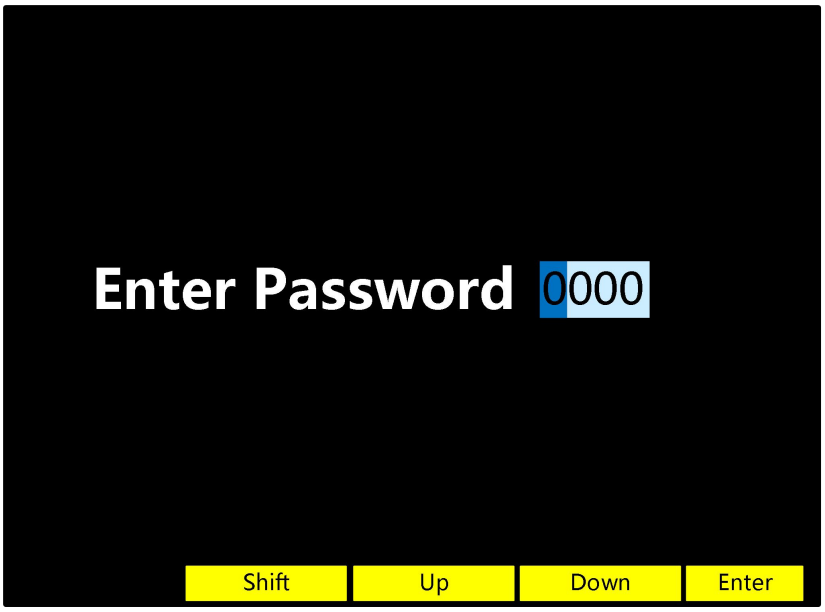
The system uses icons 、、 to indicate the communication status.

- Ensure that the RS485 data cables are connected correctly.
- The communication indication icons 、、 are used to indicate the data transmission status of the network.
- When the meter receives valid data, the corresponding icon will be displayed; when the meter sends data, the corresponding icon will be displayed; the corresponding icon will be displayed when there is no data transmission.

Chapter 4. Setup Mode

4.1 Entering the Setting Mode

Enter the main menu and select Settings to enter the setting mode. A valid password must be entered before accessing the setting mode.The password input method is as follows:



(1) Press the key Shift to select the target digit.

(2) Press the key Up to increase the digit by 1, cycling between 0 – 9.

(3) Press the key Down to decrease the digit by 1, cycling between 0 – 9.

(4) Repeat steps (1) – (3) to complete the password, then press the key Enter to confirm.

- After password entry:

If the password is valid, the meter will enter the setting mode.

If the password is invalid, the screen will display "Password error" and automatically return to the normal mode.

- The factory default password is 1000.
- Exit the setting mode via either of the following methods:

Manual exit: Follow the on-screen prompts to press the corresponding keys to save settings and exit.

Auto exit: If no operation is performed for 1 minute, the system will automatically exit the setting mode.

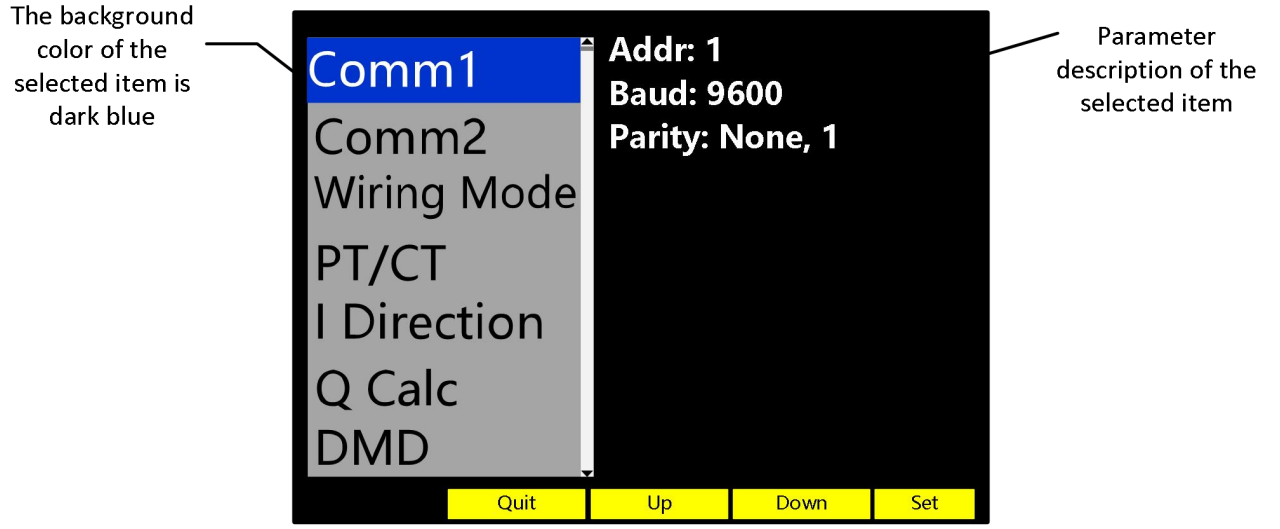
- Setting Storage & Protection

All settings are stored in non-volatile memory and remain effective permanently, unaffected by power failure. Once the password is set, it remains valid until the next modification.

4.2 Setting Mode Operation

The root menu display interface after the system enters the setting mode is as follows:

In setting mode, the root menu is showed as below:



4.2.1 Operation Instructions

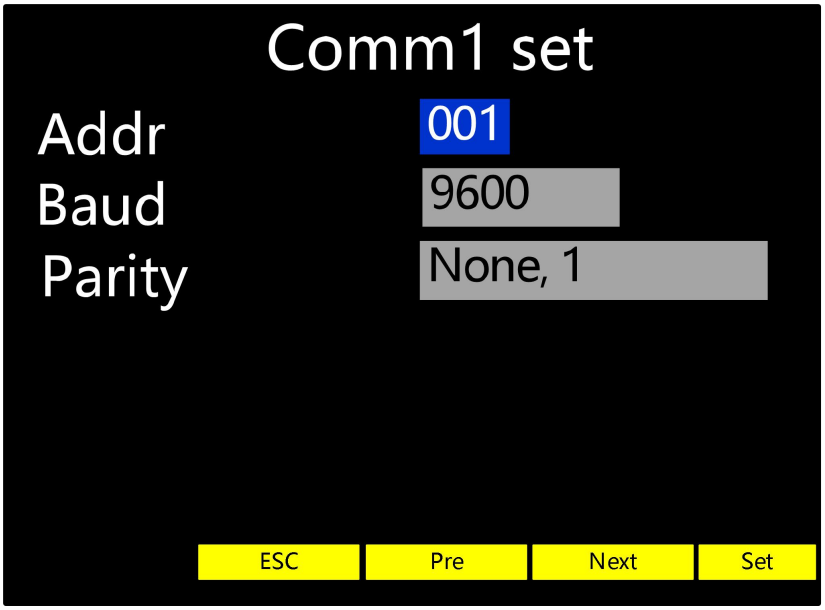
- The function of each key is displayed as a button icon on the color screen directly above it.
- Press the keys Up and Down to select the item to be configured; the background color of the selected item will turn dark blue.
- The current relevant parameters of the selected item will be displayed in the right area of the screen.
- Press the key Quit to quit the setting mode.
- Press the Confirm key Set to enter the configuration interface of the selected item.

The following items can be configured in the setting mode:

Comm1	Configure device communication address, baud rate, parity bit and stop bit.
Comm2	Configure Ethernet communication parameters: IP address (4 bytes), subnet mask (4 bytes), default gateway (4 bytes), IP port (2 bytes).
Wiring Mode	Configure wiring mode.
PT/CT	Configure PT primary and secondary side values; CT primary and secondary side values;
I Direction	Configure current direction.
DMD	Configure sliding interval time and number of sliding windows.
RTC	Configure real-time clock.
TOU	Configure time periods, tariff time and tariffs; time zones, time zone dates and time period tables.
Waveform	Configure samples per-cycle, manual trigger switch and trigger conditions.
V Dip Swell	Configure reference voltage, voltage Dip/swell switch, Dip/swell threshold, delay time and output ports.
Display	Configure display theme, backlight duration and language.
Reset	Reset maximum/minimum values, demand, demand maximum/minimum values, electrical energy, time-of-use energy and security count; restore factory settings.
Password	Reset the password for entering setting mode.
About	Display date and software version number.

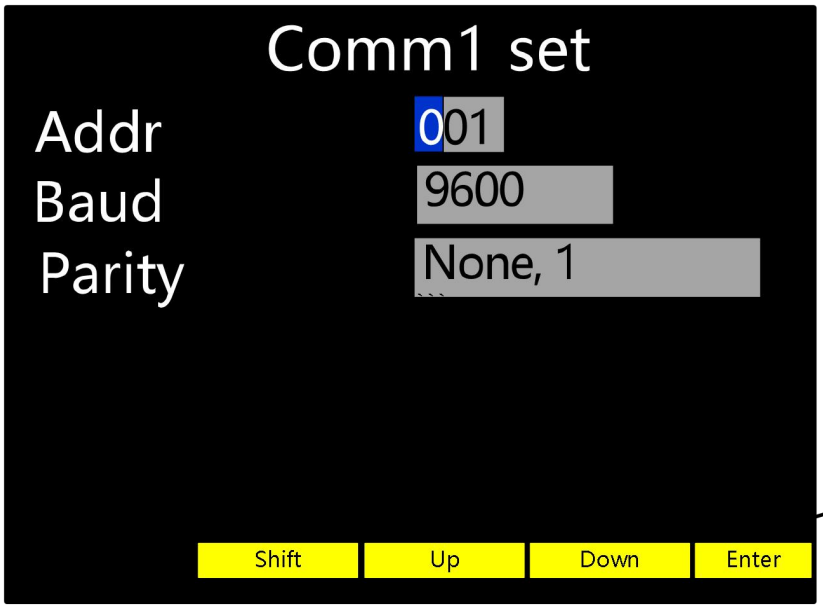
4.2.2 Operation Instructions (Taking Communication Settings as an Example)

(1) The display interface of communication port settings is as follows:



- Press the key ESC to quit the communication port settings and return to the root menu interface.
- Press the keys Pre or Next to switch between configuration items.
- Press the key Set to modify parameters.

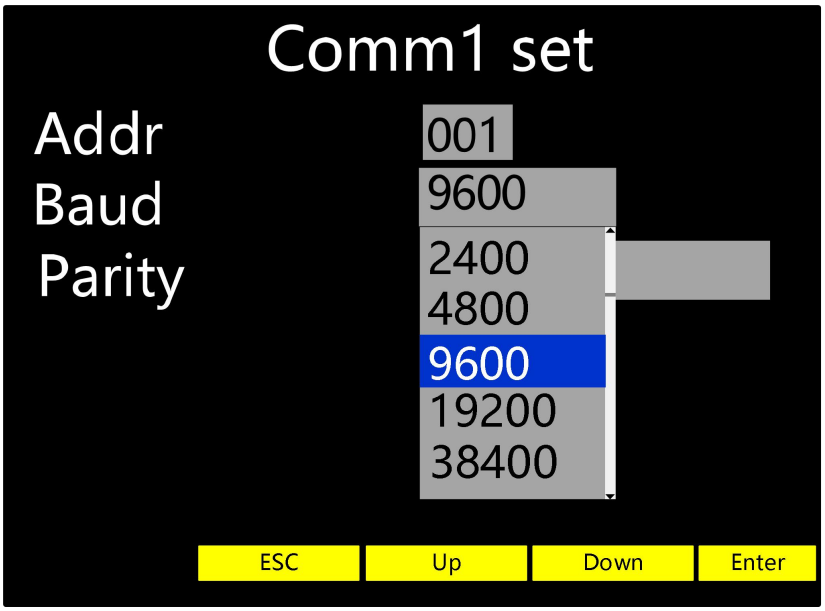
(2) The display interface of communication address setting is as follows:



Note: The functions of the keys have been redefined, and the definitions of key functions on each display interface are different

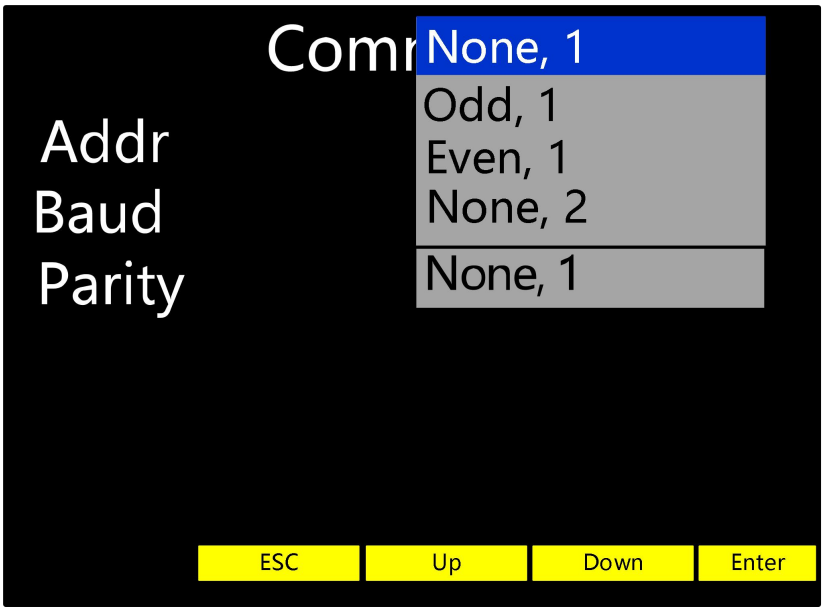
- Press the key Up to increase the digit by 1, cycling between 0–9.
- Press the key Down to decrease the digit by 1, cycling between 0–9.
- Press the key Enter to validate the current digit and move to the next digit.
- Repeat the above operations until the last (least significant) digit is configured, then press the key Shift to confirm.

(3) The display interface of baud rate setting is as follows:



- Press the key ESC to quit the baud rate setting and return to the communication settings interface.
- Press the keys Up or Down to select the desired baud rate.
- Press the key Set to validate the configured parameter and return to the communication settings display interface.

(4) The display interface of parity bit and stop bit setting is as follows:



- Press the ESC key to quit the baud rate setting and return to the communication settings interface.
- Press the keys Up or Down to select the desired parity bit and stop bit.
- Press the key Set to validate the configured parameters and return to the communication settings display interface.

At this point, the communication settings are complete. The procedure for configuring other parameters follows

the same logic.

Comm1	Address		Range: 1~247 Default: 1
	Baud rate		Option: 1200，2400，4800，9600，19200，38400，115200 Default: 9600
	Parity bit and Stop bit		Option: (None, 1); (Odd, 1); (Even, 1); (None, 2) Default: (None, 1)
Comm2	Ethernet communication parameters	IP address	Byte 1 Range: 1~255 Default: 192
			2 byte 2 Range: 1~255 Default: 168
			byte 3 Range: 1~255 Default: 1
			byte 4 Range: 1~255 Default: 200
		Subnet mask	byte 1 Range: 1~255 Default: 255
			byte 2 Range: 1~255 Default: 255
			byte 3 Range: 1~255 Default: 255
			byte 4 Range: 1~255 Default: 0
		Default gateway	byte 1 Range: 1~255 Default: 192
			byte 2 Range: 1~255 Default: 168
			byte 3 Range: 1~255 Default: 1
			byte 4 Range: 1~255

			Default: 1	
		IP port	Range: 0~65535 Default: 502	
	DHCP		Option: ON， OFF Default: OFF	
Wiring Mode	wiring mode.		Option：3P4W，3P3W3CT，3P3W2CT，1P3W Default: 3P4W	
PT/CT	PT primary		Range: 100- 500000V Default: 400 (3P3W), 230V（Qthers）	
	PT secondary		Range: 100- 480V Default: 400 (3P3W), 230V（Qthers）	
	CT primary		Range: 5-9999A（CT2=5A） 1-1999A（CT2=1A） Default: 0005A	
	CT secondary		Option：1A，5A Default: 5A	
I Direction	IA Direction		Option: Positive, Negative Default: Positive	
	IB Direction		Option: Positive, Negative Default: Positive	
	IC Direction		Option: Positive, Negative Default: Positive	
DMD	Sliding windows time		Range: 1-30min Default: 1min	
	Sliding windows Num		Range: 01-60min Default: 15min	
RTC	Configure real-time clock.		Set Time 20XX/XX/XX XX:XX:XX Year/Month/day Hour: Minute: Second Range: 2000/01/01 00:00:00-2099/12/31 23:59:59	
TOU	Period Table 1-6	Period	Period	Range: 1-10 Default: 1
			Tariff	Range: 0-4 Default: 0
			Start Hour	Range: 0-23 Default: 0
			Start Minute	Range: 0-59 Default: 0
	Schedule Table 1-6	Schedule	Month	Range: 1-12 Default: 0
			Day	Range: 1-31 Default: 0
			Weekday	Range: 1-6

			TOU Table	Default: 1
			Weekend TOU Table	Range: 1-6 Default: 1
Waveform	Basic set	Samples per-cycle	Option：8, 16, 32, 64, 128, 256 Default: 256	
		Manual Trigger	Option: OFF, ON Default: OFF	
V Dip Swell	Basic set	Reference Roltage	Option: 50-600V Default: 230V	
		Voltage Dip/swell Enable	Option: OFF, ON Default: ON	
	V Dip	Dip Threshold	Range: 10-90, Unit: %Ue Default: 90	
		Output	Option: None, DO1, DO2, Wave Default: None	
	V Swell	Swell Threshold	Range: 110-200, Unit: %Ue Default: 110	
		Output	Option: None, DO1, DO2, Wave Default: None	
Display	Display Color		Option： Theme 1，2，3，4，5 Default: Theme 5	
	Backlight		Option： 0, 1, 5, 10, 30, 60, 120min Default: 60min	
	language		Option: Chinese, English Default: Chinese	
Reset			Option： MAX/MIN, DMD, DMD MAX, DI COUNT	
Password			The password for entering the Settings mode can be reset. Range: 0000-9999 Default: 1000	
About			The firmware version number and its release date can be viewed.	

IF you have any question, please feel free to contact our sales team.

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