产品合格证

符合标准: GB/T 22264

检 验 员: 检 01

出厂日期: 见产品或盒贴出厂编号

本产品经检验合格,准予出厂。

C-Lin 欣灵电气股份有限公司 XINLING ELECTRIC CO.,LTD

产品合格证

C-Lin®

欣灵电气股份有限公司

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RECYCLABLE

National High-Tech Enterprise Zhejiang Province

C-Lin 欣灵

使用手册

Products Instructions

HPZ Series

Programmable Three-Phase Power Meter

Thank you very much for using Xinling brand instruments and meters. Please read the user manual before using the product.

09A052Q0

I.Performance Overview

1.The HPZ series programmable three-phase power meter can perform real-time measurement of three-phase voltage and three-phase current in power lines. By installing different functional modules, it can realize functions such as switch input, switch output, analog transmission, and RS485 communication.
2.The meterfeatures 4-digit display with a precision of 0.5 class.
3.It adoptsthe standard Modbus-RTU communication protocol.
4.Users can set relay alarm parameters, transmission output parameters, and communication parameters via buttons.

II.Main Technical Specifications

1.Input Signals

♦ourrent signal: AC current 0-5A direct connection; continuous ♦eration: 1.2x rated value; instantaneous: 10x rated value for 1 second
♦♦oltage signal: AC voltage 0-500V direct connection; continuous peration: 1.2x rated value; instantaneous: 2x rated value for 1 second
Frequency: 40-60Hz
Input impedance: Voltage meter > 500kΩ; current meter < 2mΩ

2.Measurement & Display
♦Display range: 0-9999
♦Precision: 0.5 class
♦Resolution: 0.1 (for voltage); 0.001 (for current)

3.Output Functions
♦Switch output: Relay contact output; contact capacity: AC220V, 3A (resistive)
♦Analog output: DC4-20mA, DC0-20mA, DC0-10mA

4.Other Functions
♦Power supply: AC220V±10%, 50Hz (custom special power supply is available); power consumption ≤3VA.
♦Insulation resistance: ≥100MΩ; Withstand voltage: 2KV/1min (AC RMS value).
♦Operating conditions: Temperature: -10~50℃; Relative humidity: ≤90% (in an environment free of corrosive gases).

III.Naming Rules (Please use the following code to confirm whether the product delivered by our company matches the function you selected)

Product code: HPZ□-□-□ /□ /□
1 2 3 4 5

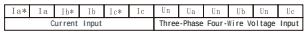
1.Outline Dimension Code

Unit (mm)

Product Code	Front Frame Dimension	Mounting Hole Dimension
HPZ96	96×96	91×91
HPZ42	123×123	112×112
HPZ80	84×84	76×76
HPZ72	75×75	68×68

2.Combination Codes 3A = Three-phase Ammeter 3V = Three-phase Voltmeter
3AV = Three-phase Current-Voltage Combination Meter
3.Function ModuleJ = Two-way Switch Contact Output
4.Function ModuleM = One-way Analog Transmitter Output
5. Function ModuleC4 = RS485 Communication Output

IV.Terminal Function Configuration

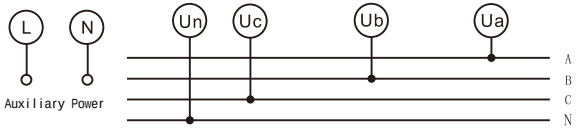


HPZ96/42 Current & Voltage Wiring Diagram

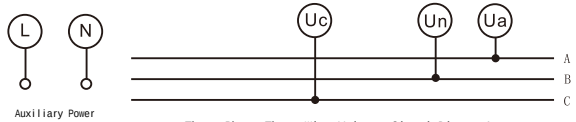
HPZ80/72 Current & Voltage Wiring Diagram

Note:The wiring diagram shown above is a comprehensive wiring diagram for full functions (current, voltage, communication). If the meter you purchased is HPZ96-3A, you only need to connect the current input terminals—this model does not support communication or voltage input functions.

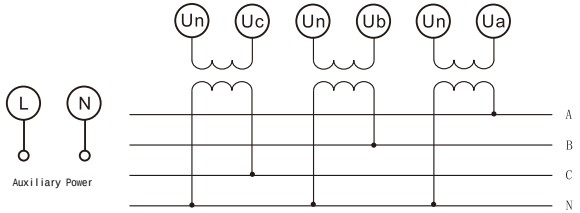
V.Typical Wiring & Precautions (The symbol " ⏦ " in the diagram represents a transformer)



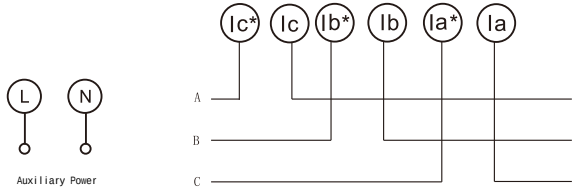
Three-Phase Four-Wire Voltage Signal Direct Input



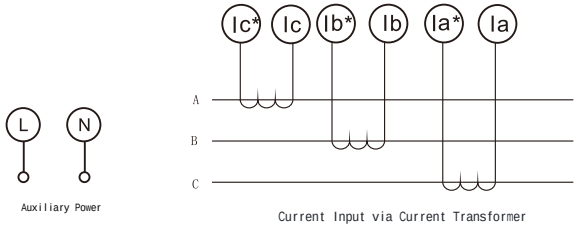
Three-Phase Three-Wire Voltage Signal Direct Input



Three-Phase Four-Wire Voltage Input via Transformer



Current Direct Input



1.Auxiliary Power

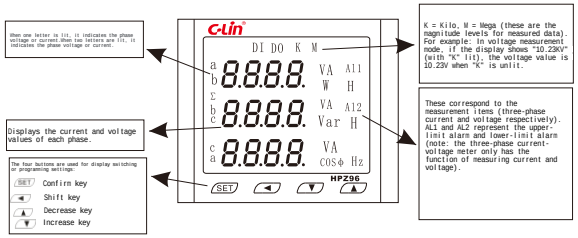
The meter requires an external auxiliary power supply to operate normally. Ensure the power supply provided is compatible with the meter to avoid damage.

2.Signal Input

Input voltage must not exceed the product's maximum input voltage (600V); otherwise, a voltage transformer (PT) should be used.Input current must not exceed the product's maximum input current (6A); otherwise, a current transformer (CT) should be used.

VI.Operation Instructions

1.Panel Description



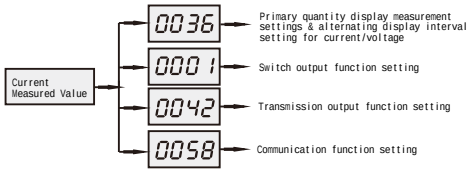
2. Menu Character Description

Parameter Symbol		Parameter Code	Factory Default Value	
			Current	Voltage
HALr	HALr	Primary quantity upper-limit alarm value setting	4.00	400.0
H-Hc	H-Hc	Primary quantity upper-limit alarm hysteresis	0.005	000.5
LALr	LALr	Primary quantity lower-limit alarm value setting	1.000	100.0
L-Hc	L-Hc	Primary quantity lower-limit alarm hysteresis	0.005	000.5
Jtim	Jtim	Relay alarm delay time	000.0	000.0
Ion	Ion	Current transmission object selection	0001	0001
obty	obty	Transmission output type	4-20mA	4-20mA
obL	obL	Display value corresponding to low end of quantity transmission	0.000	0000
obH	obH	Display value corresponding to high end of quantity transmission	5.000	500.0
Addr	Addr	Meter communication address	0001	0001
bAud	bAud	Meter communication baud rate	9600	9600
conn	conn	Meter communication check bit setting	nonE	nonE
disA	disA	Primary current display value	0005	0000
disU	disU	Primary voltage display value	0000	0000
time	time	Alternating display interval for current & voltage	005.0s	005.0s

Note：Switch output and analog transmission functions are only applicable to HPZ42 and HPZ96 models.
(The three-phase current-voltage combination meter does not support switch output or analog transmission functions.)

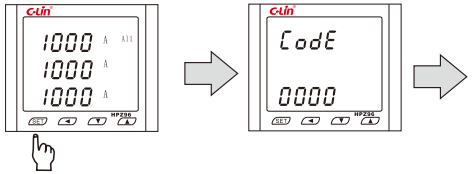
3.Operation Procedure

(1)Password Preset for Viewing or Modifying the Meter



(2) Set the Primary Quantity Display Value of the HPZ96-3A Three-Phase Ammeter

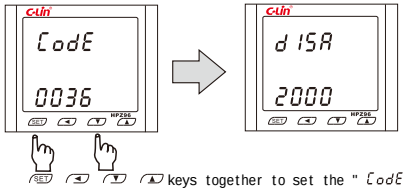
Example: Change the primary display current value of the HPZ96-3A three-phase ammeter from 1000/5A to 2000/5A.



Operation steps shown in the diagram：

a)In the normal display state, press the "SET" key once to enter the password preset state.

Notes:① When pressing the "SET" key, a short press (light tap) is sufficient—do not press and hold.
② The menu labeled "Code" corresponds to the password preset function.

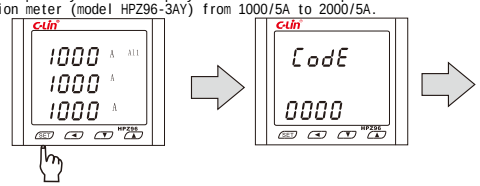


b) Use the SET ◄ ▼ ▲ keys together to set the " CodE " menu to " 0036". Then press the "SET" key once to enter the "dISa" setting interface.

c) Use the SET ◄ ▼ ▲ keys together to set the "dISa" menu to "2000". Then press and hold the "SET" key for 3 seconds—the meter will save the settings and return to the measurement interface.

Notes:① The password "0036" is the access code for the meter's quantity setting function.
② The "dISa" menu corresponds to the primary current display value.
③ For the "SET" function key: press and hold it for more than 3 seconds, and the meter will save the modifications and return to the measurement interface.

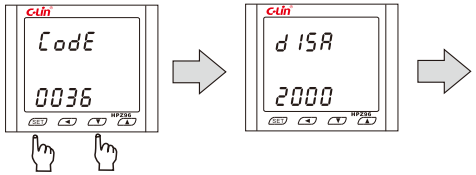
(3) Set the primary current display value of the three-phase current combination meter (model HPZ96-3AY) from 1000/5A to 2000/5A.



Operation Steps:

a) In the normal display interface, press the "SET" key lightly once to enter the password preset state.a) In the normal display interface, press the "SET" key lightly once to enter the password preset state.

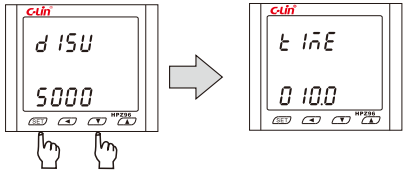
Note: ① When pressing the "SET" key, a short light press is sufficient—do not press and hold it.
② The menu labeled "Code" corresponds to the password preset function.



b) Then, use the SET key in combination with the directional keys (◄ ▼ ▲) to set the menu item "CodE" to "0036". Then press the "SET key" once to enter the "dISA" setting interface.

c) Then, use the SET key together with the directional keys (◄ ▼ ▲) to set the menu item "dISA" to "2000". Then press the "SET key" once to enter the "dISU" setting interface.

Notes:① The password "0036" is the access code for setting the primary electrical quantity parameters of the meter.
② The menu item "dISA" corresponds to the primary current display value.
③ The menu item "dISU" corresponds to the primary voltage display value.



d) Then, use the SET key together with the directional keys (◄ ▼ ▲) to set the menu item "dISU" to "5000". Then press the "SET key" once to enter the "tInE" setting modification interface.

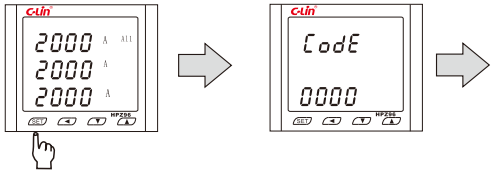
e) Then, use the SET key together with the directional keys (◄ ▼ ▲) to set the menu item "tInE" to "010.0". Then press and hold the "SET key" for 3 seconds – the meter will save the changes and return to the measurement interface.

Note：① The menu item "tInE" refers to the interval time for alternating display of current and voltage.② The "tInE" menu is only available on three-phase combined current and voltage meters.

(4) Configure the Digital Output Function of HPZ96-3A-J

Example: A system uses the HPZ96-3A-J 2000/5A three-phase ammeter to monitor the real-time current value of a three-phase motor during operation. The requirement is: trigger an alarm when the current of any phase exceeds 1500A; deactivate the alarm signal only when the currents of all three phases drop back to 1480A. If the motor operates below the rated voltage due to an abnormality, the current of a certain phase will drop below 1300A.

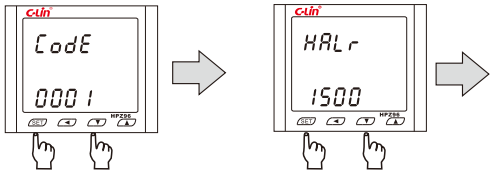
When this occurs, the lower-limit relay of the meter pulls in to trigger an alarm; the alarm stops when the currents of all three phases reach 1300A.



Operation Steps:

a) Under the normal display interface, press the "SET" key briefly to enter the password preset state;

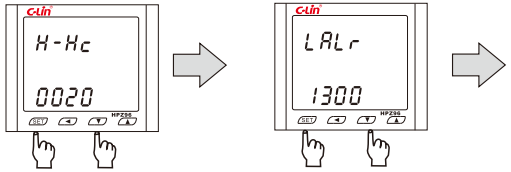
Notes:① When pressing the "SET" key, a brief press is sufficient—there is no need to hold it down.② The menu "CodE" is for password presetting.



b) Then, use the SET key in combination with the directional keys (◄ ▼ ▲) to set the menu item "CodE" to "0001". Then press the "SET key" once to enter the "HALr" setting modification interface.

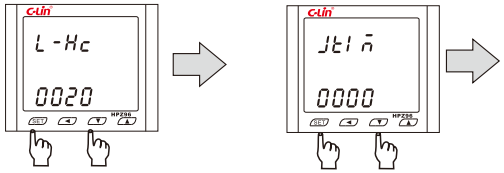
c) Then, use the SET key in combination with the directional keys (◄ ▼ ▲) to set the menu item "HALr" to "1500". Then press the "SET key" once to enter the "H-Hc" setting interface.

Notes:① The password "0001" is the access code for digital output function setting.
② The menu item "HALr" is for relay upper-limit alarm setting.
③ The menu item "H-Hc" is for upper-limit alarm hysteresis setting.



d) Then, use the SET key in combination with the navigation keys ◄ ▼ ▲ to set the menu "H-Hc" to "0020". Then press the "SET key" once to enter the setting modification interface of "LALr".
e) Then, use the SET key in combination with the navigation keys ◄ ▼ ▲ to set the menu "LALr" to "1300". Then press the "SET key" once to enter the setting interface of "L-Hc".

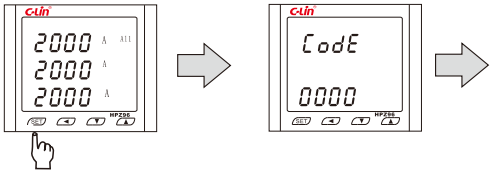
Notes:① The menu "LALr" is for the relay lower limit alarm setting.
② The menu "L-Hc" is for the lower limit alarm hysteresis value setting.



f) Use the SET ◄ ▼ ▲ navigation keys in combination to set the menu "L-Hc" to 0020.Then press the SET key once to enter the "Jt I n" setting and modification interface.
g) Use the SET ◄ ▼ ▲ navigation keys in combination to set the menu "Jt In" to 0000.Then press and hold the SET key for 3 seconds. The meter will save the changes and return to the measurement interface.

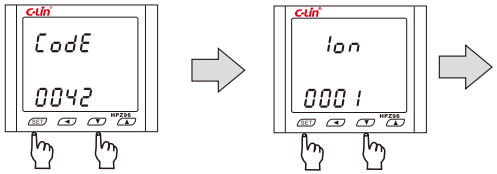
Note: The menu "Jt In" is used to set the relay startup delay time . Under normal circumstances, the delay time is set to 0000.

(5) Configure the Analog Output Function of HPZ96-3A-M Meter
Example: If the meter is a 2000/5A three-phase ammeter (model HPZ96-3A-M) and you need to convert phase A AC 0－1500A to DC 0－20mA for other meters, you must enable the meter's analog output function.



Operation Steps
a) From the normal display interface, press the **SET** key briefly to enter the password preset state.

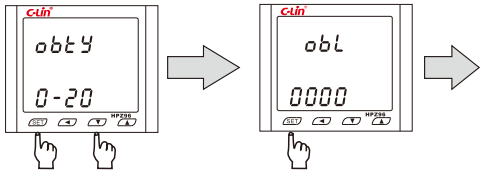
Notes：① When pressing the **SET** key, a short press is sufficient—do not hold it down.
② The menu "**CodE**" is used for password presetting.



b) Use the SET ◄ ▼ ▲ navigation keys in combination to set the menu "CodE" to 0042.Then press the SET key once to enter the "Ion" setting and modification interface.

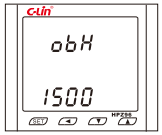
c) Use the SET ◄ ▼ ▲ navigation keys in combination to set the menu "Ion" to 0001.Then press the SET key once to switch the interface to the "obtY" menu.

Notes：① The menu value 0042 is the password for enabling the analog output function.
② The menu "Ion" is for phase selection of the analog output:
0001 = Phase A analog output, 0002 = Phase B analog output
0003 = Phase C analog output
③ The menu "obtY" is for selecting the analog output type, which includes:
0－20mA, 0－10mA, 4－20mA



d) Use the SET ◄ ▼ ▲ navigation keys in combination to set the menu "obtY" to 0-20. Then press the SET key once to enter the "obL" setting and modification interface.
e) Use the SET ◄ ▼ ▲ navigation keys in combination to set the menu "obL" to 0000. Then press the SET key once to switch the interface to the "obH" modification interface.

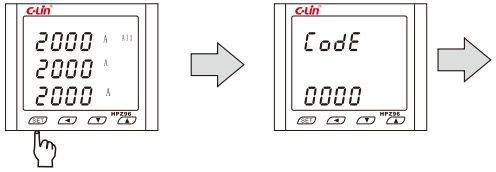
Notes：① The menu "obH" corresponds to the display value for the high end of the analog output.
② The menu "obL" corresponds to the display value for the low end of the analog output.



f) Use the SET ◄ ▼ ▲ navigation keys in combination to set the menu "obH" to 1500.Then press and hold the SET key. The meter will save the changes and automatically return to the measurement interface.

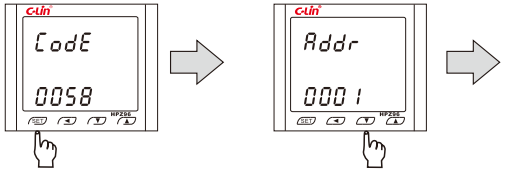
(6) Configure Meter Communication Function

Example: If the meter is a three-phase ammeter (model HPZ96-3A-C4) connected to a host computer, set the meter's communication address to 0001 and communication baud rate to 9600.



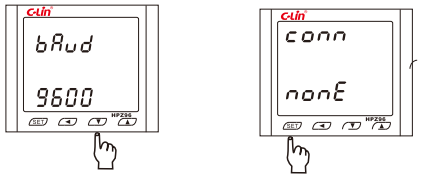
Operation Steps
a) From the normal display interface, press the **SET** key briefly to enter the password preset state.

Notes:① When pressing the SET key, a short press is sufficient—do not hold it down.② The menu "CodE" is used for password presetting.



b) Use the SET ◄ ▼ ▲ navigation keys in combination to set the menu "CodE" to 0058.Then press the SET key once to enter the "Addr" (communication address) setting and modification interface.
c) Use the SET ◄ ▼ ▲ navigation keys in combination to set the menu "Addr" to 0001.Then press the SET key once to switch the interface to the "bAud" (baud rate) modification interface.

Notes：① The password 0058 is used to access and configure the communication function settings.
② The menu "Addr" is for setting the communication address.
③ The menu "bAud" is for setting the communication baud rate.
④ The menu "conn" is for setting the communication parity bit.



d) Use the SET ◄ ▼ ▲ navigation keys in combination to set the menu "bAud" to 9600.Then press and hold the SET key. The meter will automatically save the modified parameters and return to the modification interface.
e) Use the SET ◄ ▼ ▲ navigation keys in combination to set the menu "conn" as required:
"nonE" = No Parity (Default)
"EUE n" = Even Parity
"odd" = Odd Parity

VII.Communication Protocol

1.Protocol Overview
Protocol Type: MODBUS-RTU
Physical Layer：Transmission Mode: RS-485 Communication Address: 1 ~ 247
Communication Baud Rate: 2400, 4800, 9600 (Default), 19200
Communication Medium: Shielded Twisted Pair

Link LayerTransmission Mode: Master-Slave Half-Duplex

Data Packet Format:
a. 1 start bit, 8 data bits, even parity bit, 1 stop bitb.
b. 1 start bit, 8 data bits, odd parity bit, 1 stop bitc.
c. 1 start bit, 8 data bits, no parity bit, 1 stop bit (Default)

Data Frame Format:

Address Code	Function Code	Data Code	Check Code
8-Bits	8-Bits	N*8-Bits	16-Bits

Notes:
(1) The transmission sequence of data packets is always fixed: Address Code → Function Code → Data Code → corresponding Check Code. Each data packet must be transmitted as a continuous bit stream. The meter's response time to a query is 0.1－0.5 seconds, with a typical value of 0.2 seconds.
(2) When a data frame reaches the terminal device, the addressed device will strip the frame header, read the data, and perform a check. If the verification is error-free, it will execute the task requested by the data, then return the data to the sender. The returned data includes:Address of the addressed deviceThe executed commandThe requested data generated by command executionA 2-byte Check Code
(3) Address Code: The address field is located at the start of the frame, consisting of 1 byte, which identifies the unique terminal device address specified by the user. Only the addressed terminal device will exchange data with the host.
(4) Function Code: The Function Code instructs the addressed terminal device to perform a specific function. The following table lists all Function Codes supported by this meter, along with their meanings and default behaviors.

Code	Description	Function
03H	Read Data	Retrieve the current data from one or more registers
08H	Energy Reset	Clear the energy data of the operated meter (for energy-measuring meters only)
10H	Preset Multiple Registers	Write multiple sets of binary data into multiple registers

(5) Data Code:The data code contains the information required for the terminal to execute a specific function, such as numerical values, reference addresses, or threshold values collected by the terminal when responding to a query.For example: If the function code instructs the terminal to read registers, the data code will specify the starting register and the number of registers to read.The data code contains the information required for the terminal to execute a specific function, such as numerical values, reference addresses, or threshold values collected by the terminal when responding to a query.For example: If the function code instructs the terminal to read registers, the data code will specify the starting register and the number of registers to read.

(6) Check Code：The check code provides a basis for the host and terminal to detect errors during data transmission. This error checking mechanism ensures that the host or terminal will not respond to erroneous data transmitted in the process, thereby improving the security and reliability of system data.

(7) Cyclic Redundancy Check (CRC) Calculation Method
The CRC occupies 2 bytes. Its value is calculated by the transmitting device, appended to the end of the data code, and sent out together. After receiving the data, the receiving device recalculates the check code for all data excluding the CRC code, then compares it with the received CRC check code. If the two values do not match, a data transmission error has occurred.

Procedure for Generating a CRC Check Code
①Initialize: Set a 16-bit register to 0xFFFF; this is referred to as the CRC register.
②XOR with first byte: Perform an XOR operation between the first byte of the data packet and the low byte of the CRC register, then store the result back into the CRC register.
③Right shift and check: Shift the CRC register right by 1 bit, filling the highest bit with 0, then check the value of the shifted-out lowest bit.
④Conditional XOR:If the lowest bit is 0: Repeat step 3 (next right shift).If the lowest bit is 1: Perform an XOR operation between the CRC register and 0xA001.
⑤Repeat shifts: Repeat steps 3 and 4 until 8 shifts have been completed for the current byte.
⑥Process next byte: Repeat steps 2－5 for the next data byte until all data bytes have been processed.
⑦Swap bytes: Swap the high and low bytes of the CRC register (low byte first, high byte second).
⑧Result: The final value of the CRC register is the CRC value.

2. Detailed Application Layer Function Description
The protocol described in this section uses the following format (numbers are in hexadecimal).
(1) Read Data (Function Code 03)
This function allows the user to retrieve the meter's operating parameters and configuration parameters on the host (a single continuous read/write operation cannot access more than 16 registers). An example is provided below:

This example shows reading data from Meter No. 01:
Register address 0000H: Data = 0001H
Register address 0001H: Data = 0000H
Register address 0002H: Data = 0001H
Register address 0003H: Data = 0001H

Message Format Sent by the Host

Host Transmission	Number of Bytes	Transmitted Information	Information Description
Slave Address	1	01H	Send information to the slave at address 01
Function Code	1	03H	Read registers
Starting Address	2	0000H	Starting address of parameters is 0000H
Number of Variables	2	0004H	Read 4 registers (8 bytes in total)
CRC Code	2	4409H	Calculated by the host

Message Format of Slave Response

Slave Response	Byte Count	Returned Information	Information Description
Slave Address	1	01H	From the slave device with address 01H
Function Code	1	03H	Read holding registers
Number of Bytes Read	1	08H	Read 4 holding registers (total 8 bytes)
Holding Register 00	2	0001H	Content of holding register at address 0000H
Holding Register 01	2	0000H	Content of holding register at address 0001H
Holding Register 02	2	0001H	Content of holding register at address 0002H
Holding Register 03	2	0001H	Content of holding register at address 0003H
CRC Code	2	1517H	Calculated by the meter

(2) Energy Register Reset (Function Code 08H)

This function allows the user to reset the energy data of the meter via the master device.

This example demonstrates the host clearing the energy data of the meter at slave address 01.

Host Transmission	Number of Bytes	Transmitted Information	Information Description
Slave Address	1	01H	Send command to the slave device at address 01
Function Code	1	08H	Clear the energy register
Register Address	2	00FFH	Address of the energy register
Register Value	2	FF00H	Value to trigger energy register clear
CRC Code	2	299CH	Calculated by the host

Response from Slave：The response message format and content are identical to the message sent by the host.The response message format and content are identical to the message sent by the host.

(3) Write Multiple Registers (Function Code 10H)
This function allows the host to set parameters in multiple consecutive registers of the meter (maximum 16 registers per consecutive read/write operation).
Example: Host sets parameters for registers 0000H－0003H in the meter at address 01
The parameters to be configured are:
Register address 0000H: Data = 0002H
Register address 0001H: Data = 0001H
Register address 0002H: Data = 012CH
Register address 0003H: Data = 00C8H

Message Format Sent by the Host：

Host Transmission	Number of Bytes	Transmitted Information	Information Description
Slave Address	1	01H	Send message to the slave device at address 01
Function Code	1	10H	Write Multiple Registers
Starting Address	2	0000H	Start from register address 0000H
Number of Variables	2	0004H	4 registers to be configured
Data Byte Length	1	08H	Total 8 bytes of data to be written
Data to Write 1	2	0002H	For register address 0000H
Data to Write 2	2	0001H	For register address 0001H
Data to Write 3	2	012CH	For register address 0002H
Data to Write 4	2	00C8H	For register address 0003H
CRC Code	2	69D9H	Calculated by the host

Message Format for Slave Response Return

Slave Response	Byte Count	Returned Information	Information Description
Slave Address	1	01H	From the host at address 01
Function Code	1	10H	Write multiple registers
Starting Address	2	0000H	Start from register address 0000H
Number of Variables	2	04H	4 registers
CRC Code	1	1CC3H	Calculated by the instrument

This function also actually allows the user to configure a single register of the instrument on the host. At this point, you only need to set the number of variables to 1, set the data byte length to 2 bytes, and point the start address to the address of the register to be modified.

Attachment: Parameter address allocation: (W: Write; R: Read)

Address	Code	Variable Name	Unit	Value Range	Read/Write	Remarks
0000H	Reserved					
0001H	Reserved					
0002H	HALr	Upper Power Alarm Value		0-9999	W/R	
0003H	H-HC	Upper Alarm Hysteresis Value		0-9999	W/R	
0004H	LALr	Lower Power Alarm Value		0-9999	W/R	
0005H	L-HC	Lower Alarm Hysteresis Value		0-9999	W/R	
0006H	JTIM	Relay Alarm Delay Time	0.1 seconds	0-600	W/R	
0007H	DISA	Primary Side Current Full Scale Value	Ampere	0-9999	W/R	
0008H	DISV	Primary Side Voltage Full Scale Value	Volt	0-9999	W/R	
0009H	TIME	Current & Voltage Display Cycle Interval	0.1 seconds	0-600	W/R	
000AH	Ion	Transmitter Object Selection		1-3	W/R	Note 1
000BH	obty	Transmitter Type Selection		0-2	W/R	Note 2
000CH	ObL	Transmitter Low-End Corresponding Display Value		0-9999	W/R	

000DH	ObH	Transmitter High-End Corresponding Display Value		0-9999	W/R	
000EH	Addr	Instrument Communication Address		1-247	W/R	
000FH	Baud	Instrument Communication Baud Rate		0-2	W/R	Note 3
0010H	conn	Communication Check Bit		0-2	R	Note 6
0011H	Reserved					
0012H	Reserved					
0014H	I1	Phase A Current	Ampere	0-9999	R	Note 4
0015H	I2	Phase B Current	Ampere	0-9999	R	
0016H	I3	Phase C Current	Ampere	0-9999	R	
0017H	U1	Phase A Voltage (AB Line Voltage)	Ampere	0-9999	R	Note 5
0018H	U2	Phase B Voltage (BC Line Voltage)	Ampere	0-9999	R	
0019H	U3	Phase C Voltage (CA Line Voltage)	Ampere	0-9999	R	
001AH	Reserved					
001BH	Reserved					
001CH	Reserved					
001DH	Reserved					
001EH	Reserved					
001FH	Reserved					

Communication Notes for Three-Phase Current and Voltage Meter:

Note 1: Data in the Transmitter Object Selection Register
(Ion)1 = Ia or Ua 2 = Ib or Ub 3 = Ic or Uc

Note 2: Data in the Transmitter Type Selection Register (obty)
0 = 0-20mA output 1 = 4-20mA output 2 = 0-10mA output

Note 3: Data in the Instrument Baud Rate Register (Baud)
0 = 2400 1 = 4800 2 = 9600

Note 4: The value in a certain phase current register of the meter is In, and in the primary side full-scale current value register (DISA) of the meter

Let the value be Am. Based on the meter's factory-set input current signal (1A or 5A), the Current Transformer (CT) ratio can be calculated as CT = Am/1 or CT = Am/5.

The secondary current value measured by the meter is In×0.001

The primary current value measured by the meter is In×0.001×CT

Note 5: Let Un be the value in a phase voltage register of the meter, and Vm be the value in the primary side full-scale voltage register (DISV) of the meter. Based on the meter's factory-set input voltage signal (100V or 500V), the Potential Transformer (PT) ratio can be calculated as PT = Vm/100 or PT = Vm/500.

The secondary voltage value measured by the meter is Un×0.1

The primary voltage value measured by the meter is Un×0.1×PT

Note 6: Communication check bit
0: No check1: Odd parity2: Even parity

VIII.Meter Installation and Precautions

1.Meter Installation Method:
Based on the meter's external dimensions and mounting hole size, drill a hole on the mounting panel. Embed the meter into the mounting hole, then insert the two mounting accessories into the mounting guide slots on both sides of the meter housing respectively, push them tightly by hand, and then tighten the screws.

2. Meter Usage Precautions:
(1) To ensure normal operation and accurate measurement of the meter, it must be preheated for 15 minutes first.

(2) The meter's range has been set at the factory to match the specification parameters provided by the user when placing the order. Before use, recheck whether the meter's range setting matches the specifications of the transformers or shunts used by the user. If there is a mismatch, the meter's range program needs to be reconfigured.

(3) The meter must be powered by the rated voltage when supplying power to it, so the power supply can only be turned on after the wiring work is completed.
(4) To ensure the meter can measure and control accurately, it is prohibited to operate it in environments with flammable and explosive gases, heavy dust, or corrosive gases.

IX.Ordering Instructions

When placing an order, please specify the required model, working power supply, input signal, transformation ratio, output requirements, communication functions, etc.
Examples:Model: HPZ96-3V; Working power supply: AC220V; Input signal: AC380V (or ***100V transformation ratio)
Model: HPZ96-3A; Working power supply: AC220V; Input signal: AC5A (or ***5A transformation ratio)
Model: HPZ96-3AV; Working power supply: AC220V; Input signal: Current AC5A + Voltage AC380V (or ***5A transformation ratio)