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METROI

Single Phase Electronic Energy Meter User Manual



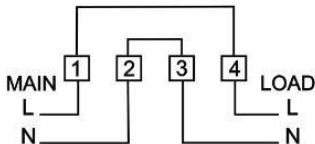
1. Product Appearance



2. Technical Parameter

Item	Parameter
Wiring Mode	Single Phase Two-wire LNNL
Rated Current (I _b)	5A
Max. Current (I _{max})	80A
Starting Current (0.4% I _b)	20mA
Rated Voltage (U _n)	230V
Voltage Range	80% U _n ~ 120%U _n
Frequency (f _n)	50Hz ± 5%
Accuracy Class	Active: IEC Class 1.0
Meter Constant	Active: 1000imp/kWh

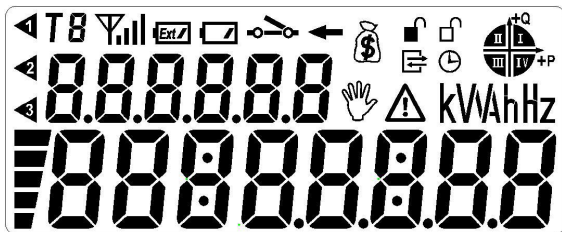
3. Wiring Diagram











4. LCD Display











4.1 LCD Display Introduction

Meter Full Display:



Symbol	Name	Function
8888888	Short code	Displays 3-digit short code
88888888	Main screen	Indicates electricity quantity, demand, time, voltage, current and meter ID number etc.
TB	Current tariff	Displays the current tariff
kVAhHz	Unit tag	Indicates units of registers: 1) Power: kW, kVA, 2) Energy: kWh, kVAh, 3) Current: A 4) Voltage: V 5) Frequency: Hz
	Tampering hand-shaped tag	Indicate if the meter is under tampering or not; the tampering event includes open meter cover and open terminal cover.

		<p>The display is as follows:</p> <ol style="list-style-type: none"> 1) Disappear, no tampering occurred. 2) Blink, detect tampering and confirm now.(Instantaneous state set) 3) Keep displaying, tampering event detected.(Confirmation state set)
	Alert tag	<p>Alert status includes two categories:</p> <ol style="list-style-type: none"> 1) Meter faults: relay faults, clock faults, un-calibrated meters, metering errors 2) Alert events: over current, over voltage, under voltage, over current, low power factor, current reverse. <p>The display is as follows:</p> <ol style="list-style-type: none"> 1) Disappear, no alert status has been detected. 2) Blink, alert event is detected. 3) Keep displaying, meter fault has been detected.
	Current Reverse tag	Indicate reversal current
	Relay tag	<p>Indicate the status of relay. The display is as follows:</p> <ol style="list-style-type: none"> 1) The symbol indicates the relay is on and keeps displaying. The relay is in connected status. 2)  The symbol indicates the relay is off and keeps displaying. The relay is in disconnected status. 3)  The symbol indicates the relay is off and blinks. The relay is in pre-connected status. 4)  The symbol indicates the relay is blinks. The relay is in the wrong status (The state of the relay detection circuit is inconsistent with the logic state of the relay).
	Credit level tag	<p>Indicate the meter is in the pre-paid mode, the current remained credit line level is classified as follows:</p> <p>When the low credit line is not 0, the ratio of low credit will be used to classify the level. When $0 < \text{Remained credit} \leq \text{Low credit}$, it is classified as 1 level; when $\text{Low credit} < \text{Remained credit} \leq 2$</p>

		times of low credit, it is classified as 2 level, and the subsequent level is analogized.
	Quadrant tag	Indicate the quadrant where the meter is operating: Note: When the meter is creeping, it only displays coordinate symbols, not quadrant symbols.
	Payment mode tag	When the meter is in the prepaid mode, the tag keeps displaying. When it in the prepaid mode, blink indicates a low credit alert.
	External battery tag	1) Disappear, external battery is normal. 2) Keep displaying, external battery voltage is low.
	Reserved	Reserved
	Reserved	Reserved
	Open meter cover tag	1) Disappear, meter cover has not been opened. 2) Blink, meter cover is open. 3) Keep displaying, meter cover has been turned on and will disappear after the tampering is cleared.
	Open terminal cover tag	1) Disappear, terminal cover has not been opened. 2) Blink, terminal cover is open. 3) Keep displaying, terminal cover has been turned on and will disappear after the tampering is cleared.
	Reserved	Reserved
	Reserved	Reserved
	Tag 1~3	Tag 1: Reserved Tag 2: Disappear: The meter is in user mode Keep displaying: The meter is in factory mode Tag 3: Disappear: The meter is in operating mode Keep displaying: The meter is in non-operating mode

4.2. Display List

➤ Auto scroll display list for the meter

Short Code	Display Items
007	Remained credit

➤ Power off display of meter

In prepaid mode:

Short Code	Display Items
007	Remained credit

In postpaid mode:


Short Code	Display Items
001	Total active energy (forward + reverse)

4.3 LED Indicator

LED	Description
Pulse LED	Pulse LED is red, and it blinks during power consumed
Alert LED	Alert LED is red, and it will blink when alert events occurred, and it keeps displaying when the relay is tripping.
Credit LED	Keep displaying in green when the credit is normal.
	The green light will blink when the energy is less than credit threshold.
	When the emergency mode hasn't been activated, the red light will blink when it is arrearage and the relay is opened.
	Under emergency mode (or under friendly period), the green and red lights will flash alternately during the consumption of power.
	Under emergency mode, the red light will keep displaying when it is arrearage and the relay is opened.

5. Power Purchase Process

5.1 Check Meter ID





Input "6"&"5" and then press "" via keypad, the meter will auto display 11-digit as the ID number in two screens.

Notice: The displayed No. shall be the same with the user ID (for purchasing power)

5.2 Purchase Power

- Visit the local power vending office to purchase power.
- Provide meter ID number to the operator.
- Inform the operator how much credit you want to buy and pay the bill.
- Obtain 20-digit TOKEN.

5.3 Recharge Meter

- Input the 20 digits of purchasing TOKEN via keypad.
- Confirm the entered TOKEN code on the display.
-  If TOKEN is input wrongly, please delete by "" on keypad.
-  After the input TOKEN is correct, press "" to confirm.
- If TOKEN is correct, "accept" shall be displayed on screen, and meter recharge is successful.
- If TOKEN is wrong, "reject" shall be displayed on screen, and recharge is failed.

6. LCD Data of Purchase Power

- If TOKEN is correct, "accept" will be displayed as follows:



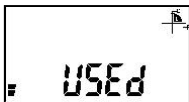
- If TOKEN is wrong, "reject" will be displayed as follows:



- If TOKEN is expired, "old" will be displayed as follows:



- If TOKEN has been used, "used" will be displayed as follows:



7. Troubleshooting

Conditions	Solutions
When LCD displays some symbols occur lack of stroke, unclear or energy LED flashes, but LCD has no display.	When LCD displays abnormal, contact the manufacturer or local agent to change LCD.
LCD has no display and the pulse LED doesn't flash.	<ol style="list-style-type: none"> 1. Check whether the wire is connect correctly or not; 2. Check whether voltage is within operating range.
LCD displays normal, but the energy pulse LED doesn't flash during power consumption.	<ol style="list-style-type: none"> 1. Check whether the wire connects correctly or not; 2. Power usage amount is less than 0.4%lb

8. Clean Meter

Use a soft cloth to clean meter until it is clean.

- Don't use sharp object to clean meter.
- Don't use wet cloth to clean meter.
- Don't use the liquid like alcohol to clean meter.