

WON-G1

WON-G1 Multifunction Energy Meter is an advanced device designed to measure and monitor various electrical parameters in an energy distribution system.

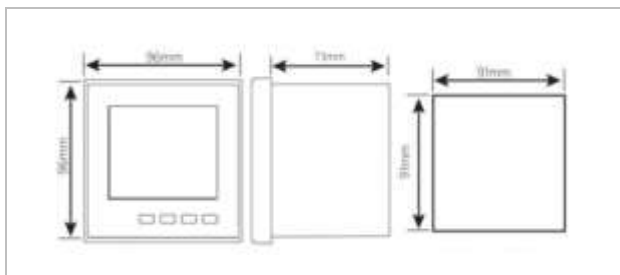
It provides real-time data on the consumption and quality of electrical power, enabling businesses, industries, and households to better understand their energy usage, improve efficiency, and reduce operational costs.

WON-G1 Multifunction energy meters typically offer a comprehensive range of measurements and features that go beyond basic energy metering.

Key Functions

- 4 Line High Resolution LCD Display with Backlight
- Kwh Energy value in all pages Always in Display
- Three-phase power measurement
- Modular design, flexible configuration of each function Parameter settings are permanently stored in power failure
- Support RS-485 communication, MODBUS-RTU protocol
- Adopt AC-DC dual-use power supply
- Simple and convenient installation and wiring
- Password protection
- 3 Phase 4 Wire or 3 Phase 3 Wire Field Selection through Push Button
- Display of Instantaneous, Maximum and Average of Voltage, Current and Power
- Multiple electrical parameters in a single device

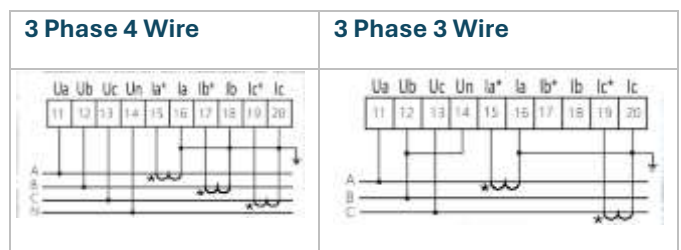
Dimension



Applications

- Energy Management System (Ems)
- Commercial and industrial sub-metering
- Building management and monitoring systems (BMS)
- Power control Centre (PCC) panels
- Motor control Centre (MCC) panels
- LV distribution panels
- Control and relay panels
- Automation and monitoring system
- Building management and monitoring systems (BMS)
- Power control Centre (PCC) panel

Wiring Diagram



Measurements

- **Active Power (kW):** Measures the actual power consumption in real-time, essential for determining energy costs.
- **Reactive Power (kVAR):** Tracks non-working power, which is used for maintaining the electromagnetic fields in equipment such as motors and transformers.
- **Apparent Power (kVA):** Indicates the total power supplied, including both active and reactive power.
- **Energy Consumption (kWh):** Measures the total energy used over a specific period, allowing for accurate billing and consumption analysis. Measures voltage (V) and current (A) for each phase, helping to ensure the system is operating within its specified limits. Tracks frequency (Hz) to detect any anomalies in the power supply.
- **Frequency (Hz):** Measures the frequency of the electrical supply, typically 50 Hz or 60 Hz, to ensure that the system operates within the desired range.
- **Power Factor (PF)** Displays the power factor, a critical parameter for determining energy efficiency. A low power factor indicates inefficient use of electricity, which could lead to additional charges from utilities.
- **Real Time Display:** Features a digital display that shows key parameters like voltage, current, power, and energy consumption in real time, helping operators monitor system health and performance at a glance.

LCD Segments on Display

1	2	3	4	5	6	7	8	9	0	A	B
1	2	3	4	5	6	7	8	9	0	A	b
C	D	E	F	G	H	I	J	K	L	M	N
[	d	E	F	G	H	,	J	K	L	n	n
O	P	Q	R	S	T	U	V	W	X	Y	Z
o	P	q	r	s	t	u	v	w	x	y	z

Product Features

- Suitable for 1P2W, 3P3W, 3P4W networks LV/MV/HV
- Measurement of Each phase and total power parameters
- Modbus RS-485 communication and speed up to 19200bps
- High-resolution large screen, Gray background and black characters with a wide field of view
- Phase-by-phase and total power and current demand statistics
- Real-time display of load specific gravity fan chart
- Bidirectional metering, Each phase active and reactive power metering
- Unbalanced (zero line) current and voltage
- Phase sequence and phase angle display
- Manual and automatic rotating display page turn, backlight delay can be set
- 1A/5A transformer type access, variable ratio field programmable
- Device housing, mounting size 92*92mm

Technical Specifications

Type	CT Operated
Wiring	3 phase 4 wires or 3 phase 3 wires
CT Ratio	CT Ratio -/5 or -/1A Programmable
Accuracy	Accuracy Energy Class0.5S, Accuracy Voltage 0.2%, Accuracy Current 0.2%
Frequency	45-60 Hz
Power supply voltage	AC/DC85~265V
Voltage	Power consumption <5VA, Rated Voltage AC 100V, 230V,400V, Voltage Power consumption <0.4VA/Phase
Current	Rated Current AC 5A(0.02A-6A), Current Power Consumption <0.2VA/Phase
Communication	RS485 Modbus 4.8kbps, 9.6kbps, 19.2kbps
Temperature	Operation temperature: -20°C~55°C, Storage: -25°C~70°C
IP Class	IP 51
Dimensions	96x96mm Cut-out size: 92+0,8 mm x 92+0,8 mm
Electromagnetic Compatibility test EMC	Electrostatic discharge immunity test GB/T 17626.2-2006 test level 4, test voltage 8kV
RF electromagnetic field immunity test	GB/T 17626.3-2006:test level 3, test field strength of 10V/ m
Fast transient pulse group test	GB/T 17626.4-2008 other 500V
Surge (shock) immunity test	GB/T 17626.5-2008 test level 4, test voltage 4kV
RF field induction conducted harassment immunity test	GB/T17626.6-2008:test level 3, test field strength of 10V/ m
Voltage transients, short interruptions and voltage changes in the immunity test	GB/T 17626.11-2008 current and voltage test error qualified
Oscillation wave immunity test	GB/T 17626.12-1998: Class B ITE test, qualified
Humidity	≤90%RH, non-condensing, no corrosive air
Altitude	≤2500m
Certification	CE Certified

Button Details

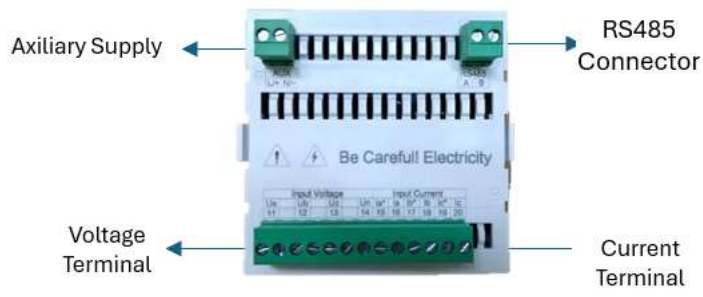


Enter BUTTON to make Settings

DOWN BUTTON To go to next page/next value in downwards

UP BUTTON To go to next page/Next value in upwards

ESC/BACK BUTTON To Go to previous Page/Escape BUTTON



Auxiliary Supply

RS485 Connector

Voltage Terminal

Current Terminal

Display Details

	The Model Number WON-G1 and Device Serial Number will be displayed
	After the startup interface completes the self-test, it enters the three-phase voltage display interface and acts as the home display

Parameter Displays

	From Home display, Press DOWN BUTTON ③ to see Phase to Phase Voltage
	Press BUTTON ③, Displays three-phase current.
	Press BUTTON ③, Display three-phase active power
	Press DOWN BUTTON ③, Displays three-phase reactive power
	Press DOWN BUTTON ③, Displays the three-phase apparent power.

	Press DOWN BUTTON ③, Displays three-phase power factor
	Press DOWN BUTTON ③, Displays three-phase total active power, three-phase total reactive power, three-phase total apparent power
	Press DOWN BUTTON, Displays total three-phase power factor, System frequency, Current.
	Press DOWN BUTTON ③, Displays three-phase average active power, three-phase average voltage, and three-phase average current.
	Current Press DOWN BUTTON, Displays three-phase active power maximum, three-phase voltage maximum, and three-phase maximum.
	Press DOWN BUTTON ③, Displays Import active energy.
	Press DOWN BUTTON ③, Displays the Export active energy.
	Press DOWN BUTTON ③, Display of Import reactive energy
	Press DOWN BUTTON Displays the Export reactive energy.

	Press DOWN BUTTON Displays the Export reactive energy.
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Setting Displays

	In the Home screen, Press BUTTON 4 To go to Setting mode Main User
	Press BUTTON 4 to go to Password page
	Press BUTTON 2 to enter password as 0001 Display the password display, as shown in the left figure, enter the correct setup parameter to enter the setup parameter interface, the factory initial password is 0001.
	Press BUTTON 4, to enter the System Parameter Setup menu item screen.

Power Parameter Setting

	Press BUTTON ③, find the power parameter setting menu item interface.
	Press BUTTON ④, Display the PT setting

	Press BUTTON ④, Display PT ratio parameter setting interface, Use UP and DOWN Button set the desired PT ratio value (Setting value:1-5000) For LV is 230/240
	Press BUTTON ④, Return to Electrical Parameter Setting Options screen Through BUTTON ② BUTTON ③, to got to CT Ratio Setting menu item.
	Press BUTTON ④, Displays the CT ratio parameter setting interface, Using UP and DOWN BUTTON Set the desired CT ratio value (Set value: 1-5000). Directly enter the value, Example 100/5A -> Enter the value as 20
	Press BUTTON ④, Return to Electrical Parameter Setting Options screen, Through BUTTON ② and BUTTON ③, Go to Line System Settings menu item.
	Press BUTTON ④, it starts blink and shows '3P4L' or '3P3L'. Use the UP and DOWN buttons to select the required mode
	After the setup is complete., Press BUTTON ④, Confirm the setting, and press BUTTON ① Select 'y' to flash., and Press BUTTON ④ Confirmation of saving parameters

Communication Settings

	Entering the User Settings screen, Press BUTTON ③, Go to Communication Parameters Setting Parameter menu item screen.
	Press BUTTON ④, Displays the Communication Parameter Options screen, Through BUTTON ② and BUTTON ③
	Press BUTTON ④, Displays the communication address setting screen Through BUTTON ② and BUTTON ③ Set the desired communication address value (set value: 1-253).

	Press BUTTON ④, Return to Communication Parameter Options screen, Press BUTTON ② and BUTTON ③ Locate the Communication Baud Rate menu item.
	Press BUTTON ④, Baud rate setting screen is displayed, Through BUTTON ② and BUTTON ③ Set the desired communication baud rate (Setting options: 4800/9600/19200)
	Press BUTTON ④, Return to Communication Parameter Options screen, Through BUTTON ② and BUTTON ③, Go to Parity setting DATA. Communication Verification Settings menu item.
	Press BUTTON ④ and Through BUTTON ② and BUTTON ③ Setting the required parity bit (set value: no/even/odd)
	After the setup is complete, Press BUTTON ④, to confirm the setting, press BUTTON ① Select “y” flashing, press BUTTON ④. Confirmation of saving parameters

Reset Settings

	Entering the User Settings screen, press BUTTON ③, Go to the System Parameter Setup menu item screen.
	Press BUTTON ④, Displays the system parameter setting screen, Through BUTTON ② and , BUTTON ③, select ‘YES’ to clear the energy data or ‘NO’ to retain the energy data. Press Button 4 to confirm the selection.
	After the setup is complete, Press BUTTON ④, to confirm the setting, press continuously BUTTON ① Select the “y” flashing, and press BUTTON ④ Confirm the saving of the parameters.

Backlight Delay Time Settings

	Entering the User Settings screen, press BUTTON ③, Go to the System Parameter Setup menu item screen.
	Press BUTTON ④, Displays the system parameter setting screen, Through BUTTON ② BUTTON ③, Find the Backlight Delay menu item
	Press BUTTON ④, Display the backlight delay time setting interface, the default delay time is 60S. Through BUTTON ② BUTTON ③, Set the desired backlight delay time (when the time is set to 0, the backlight is always on).
	After the setup is complete, press BUTTON ④, to confirm the setting, press continuously BUTTON ① Select “y” flashing, and press BUTTON ④ Confirmation of saving parameters

Password Settings

	Entering the User Settings screen, Press BUTTON ③, Locate the System Parameter Setup menu item screen.
	Press BUTTON ④, Displays the system parameter setting screen, Through BUTTON ② and BUTTON ③, Locate the User Password menu item
	Press BUTTON ④, Display the user password setting screen, Through BUTTON ② and BUTTON ③, Set the desired new user password.
	After the setup is complete, Press BUTTON ④, Confirmation of settings, continuously Press BUTTON ① select “y” flashing Press BUTTON ④ Confirm the saving of the parameters.

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