WON-G3D100

WON-G3D100 series three-phase rail-mounted Energy meter is a series of three-phase multifunctional Energy meters for power parameter acquisition and analysis, which can support the measurement and analysis of various power parameters, such as voltage, current, four-quadrant power parameters, power factor, etc., and at the same time.
It can provide a variety of power parameter metering, such as Bi-Directional active and reactive power, etc.

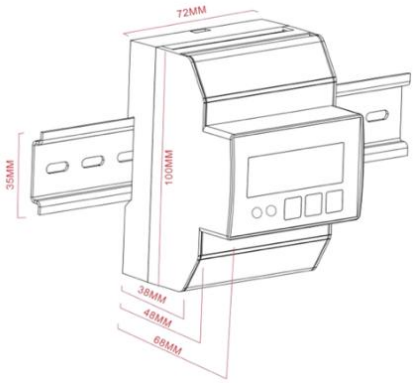
Key Functions

- 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 RS485Communication, 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

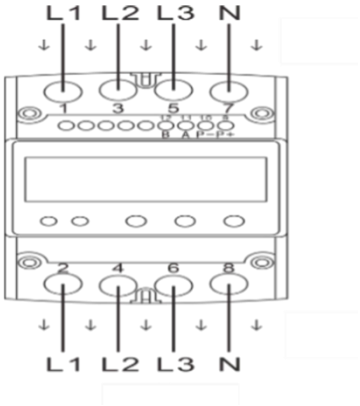
Applications

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

Dimensions



Wiring Diagram



Measurements

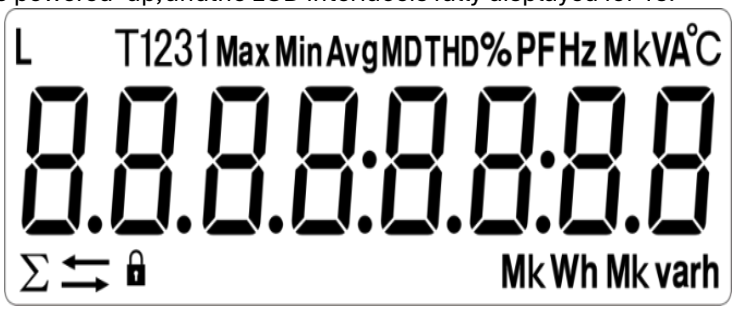
- **Active Power (kW):** Measures the actual power consumption in real-time, essential for determining energy costs.
- **Reactive Power (kVArh):** Tracks non-working power, which is used for maintaining the electromagnetic fields in equipment such as motors and transformers.
- **Apparent Power (kVA):** 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.

Product Features

- **Direct Connection:** No Need for Current Transformers (CTs): A direct-connected meter does not require external current transformers for measurement. The meter is directly connected to the electrical supply, which is suitable for applications up to 100A.
- **Accuracy:** High Accuracy: Typically, direct connected energy meters have high accuracy ratings Class 1 to ensure precise energy measurement.
- **Wide Voltage Range:** Supports Various Voltages: Designed to operate over a wide voltage range, making them suitable for different regions or systems, typically ranging from 120V to 480V AC
- **Display**: LCD Display: Many meters feature a digital display to show the measured energy values (active and reactive energy in kWh or kVArh), voltage, current, power factor, etc.
- Multi-Parameter Display: In addition to energy consumption, some meters can display parameters like current, voltage, frequency, power factor, and instantaneous power (kW).
- **Communication Capabilities:** Modbus RS-485 Communication: Modbus RTU, allowing for integration into energy management systems or for remote monitoring.
- **Pulse Output:** Pulse output can be provided for integration with remote monitoring systems or automated billing systems
- **Compliance with Standards:** Compliance with IEC/ANSI Standards: These meters generally comply with international standards like IEC 62053 or ANSI C12.1 to ensure reliability and consistency.
- **Installation Flexibility:** Compact and Easy to Install: These meters are often compact and can be easily installed in standard meter boxes or panels. Suitable for Various Applications: Used in single-phase or three-phase systems depending on the model.
- **Energy Efficiency Features:** Low Power Consumption: Energy meters are designed to consume minimal power, ensuring that they do not add significant load to the system they are monitoring. These features make the 100A direct connected energy meter a reliable and efficient device for measuring electrical energy consumption in systems where the current demand is 100A or less.

Operational Instructions

The meter is powered up, andthe LCD interfaceis fully displayed for 1s.



Technical Features

Type	Direct Connection
Rated Voltage	230VAC
Voltage Range	176~276VAC
Rated Current	10A
Maximum Current	100A
Minimum Current	0.5A
Starting current	0.4% times the rated current
Power Consumption	＜2W/10VA
Frequency	50/60Hz
Withstanding Voltage	4kV/1min
Pulse withstand voltage	6kV-1.2us
Pulse output	400imp/kWh（default）
	400 imp/kWh/kVarh（configurable）
Communication- RS485 Modbus	
Baud Rate	4800, 9600,19200 bps
Parity	None, Odd, even
Device id	1-255
Accuracy	
Voltage & Current	±0.5%
Frequency	±0.2%
Power factor	±1%
Active power	±1%
Reactive power	±1%
Apparent power	±1%
Active energy	Class 1 ICE52053-21 Class B EN50470-3
Reactive energy	±1%
Display	LCD
Overload	30 times maximum current 0.01s
Operating environment	
Working Temperature	-25℃~+55℃
Storage Temperature	-40℃~+75℃
Relative humidity	0~95%RH，non-condensing
Elevation	＜2000m
Vibration	10Hz~50Hz，IEC 60068-6,2g

Scrolling Display

After the system initialization is completed, the meter displays the measured power value, and by default, the total active power is displayed. If the user wants to view other power information, he can press the “Up” and “Down” buttons to view it.

The display contents are shown in the following display sequence：

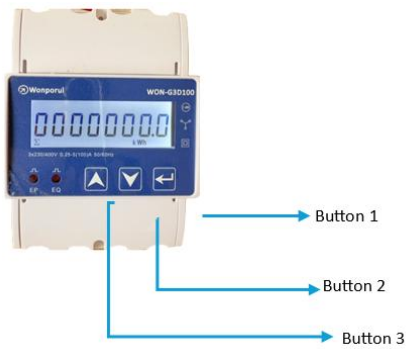
Total active power ↓
Total resettable active power ↓
Forward active power ↓
Forward and reverse active power ↓
Forward reactive power ↓
Reverse reactive power ↓
L1 voltage ↓
L2 voltage ↓
L3 voltage ↓
L12 voltage ↓
L23 voltage ↓
L31 voltage ↓
L1 current ↓
L2 current ↓
L3 current ↓
L1 active power ↓
L2 active power ↓
L3 active power ↓
Total reactive power ↓
Total apparent power ↓
L1 power factor ↓
L2 power factor ↓
L3 power factor ↓
Total power factor ↓
Frequency ↓
Pulse constant ↓
Communication address ↓
Baud rate ↓
Calibration mode ↓
Version number

Display List

00000689 kWh	Total Active Energy
0000 1286 kWh	Total Resettable Active Energy
00000379 kWh	Import Active Energy
00000044 kWh	Export Active Energy
00000 180 kvarh	Import Reactive Energy
00000080 kvarh	Export Reactive Energy
L1 2300 V	L1 Voltage
L2 2300 V	L2 Voltage
L3 2300 V	L3 Voltage
L12 381.0 V	L12 Voltage
L23 381.0 V	L23 Voltage
L31 381.0 V	L31 Voltage
L1 5.000 A	L1 Current
L2 5.000 A	L2 Current
L3 5.000 A	L3 Current

L1 1.100 kW	L1 Active Power
L2 1.100 kW	L2 Active Power
L3 1.100 kW	L3 Active Power
Σ 3.300 kW	Total Active Power
Σ 0.0 kvar	Total Reactive Power
Σ 3.300 kVA	Total Apparent Power
L1 PF 1.000	L1 Power Factor
L2 PF 1.000	L2 Power Factor
L3 PF 1.000	L3 Power Factor
Σ PF 1.000	Total Power Factor
Hz 50.00	Frequency
Σ PLS 0400 kWh	Pulse Constant
Add 001	Device Address
bd 9600	Baud Rate
PrtY n	Parity Method
23 01.00	Version Number

Setting Mode



Pulse Settings

PLS t	Pulse Width Setting Default:80mS
StOP 1	Stop bit Default:1
ScrL 00	Scroll interval display time Default:0S Setting range:0 ~60S
LP 60	Backlight retention time Default: 60 min Setting range: 0（OFF）/ 5/ 10/ 20/ 30/60
clr kWh	Reset Power Zero long press Enter the Zero screen
PAS 1000	Password Setting Default:1000

Pass Code & RS485 settings

PAS 1000	Password To enter setup mode, the system requires a login password. Default password:1000
Add 001	Correspondence address Default communication address： 001 Setting range: 001~247
bd 9600	Baud Rate Default value:9600bps Setting range: 1200, 2400, 4800, 9600bps.
PrtY N	Calibration method default: N Setting range： N（no parity）, E（even parity）, O（odd parity）
PLS oUt Σ kWh	Pulse Output Default: Total active energy Setting range: total active energy/forward active energy/reverse active energy
PLS cSt	Pulse Setting Default: 400 Setting range: 400 / 6400

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