

OWON CM2100B

OWON CM2100B Digital AC/DC Clamp Meter User Manual

Model: CM2100B

1. INTRODUCTION

The OWON CM2100B is a compact, smart, and portable digital AC/DC clamp meter designed for precise electrical measurements. Featuring 20000 counts and True RMS capabilities, it accurately measures AC/DC current, AC/DC voltage, resistance, capacitance, diode, and frequency. Its Bluetooth communication function allows for remote data viewing and instrument control via Android and Apple phones, supporting data recording and analysis.

2. SAFETY INFORMATION

WARNING:

- To avoid electrical shock, do not remove the test leads before replacing the battery.
- Always ensure the meter is set to the correct function and range before making measurements.
- Do not exceed the maximum input values for any range.
- Inspect the test leads for damage before each use. Do not use if insulation is compromised.
- Adhere to all local and national safety codes.

This device is designed for use by qualified personnel. Read and understand all instructions before operation.

3. SETUP

3.1 Package Contents

PACKING ACCESSORIES

One-stop service, more intimate.



- 1 CM2000 2 Multimeter Lead 3 Bolt Driver 4 Quick Guide
5 Soft Bag

Image: The CM2100B clamp meter and its accessories laid out, including the multimeter leads, a small screwdriver, the quick guide, and a soft carrying bag.

Verify that all items are present in the package:

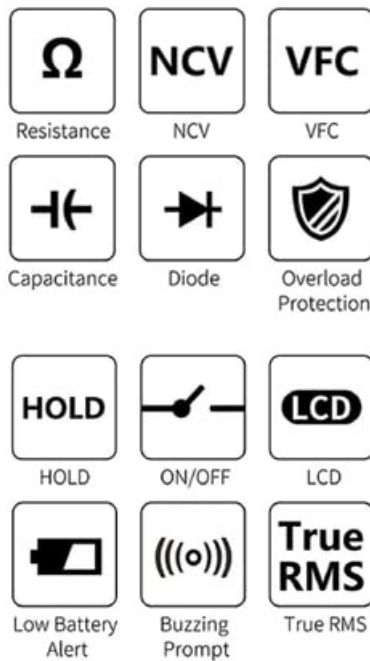
- 1 x OWON CM2100B Digital AC/DC Clamp Meter
- 1 x Multimeter Test Leads (Red and Black)
- 1 x Bolt Driver (Screwdriver)
- 1 x Quick Guide / User Manual
- 1 x Soft Carrying Bag

3.2 Product Overview



Image: A clear front view of the Owon CM2100B clamp meter, showing the clamp jaws, rotary dial, display screen, and function buttons.

CM2100B Bluetooth Module



20000

counts

V

600V AC/DC
Voltage Measure

A

100A AC/DC
Current Measure

Image: An infographic detailing the CM2100B's capabilities such as Resistance, NCV, VFC, Capacitance, Diode, Overload Protection, Data Hold, On/Off, LCD, Low Battery Alert, Buzzing Prompt, True RMS, 20000 counts, 600V AC/DC Voltage, and 100A AC/DC Current.

The CM2100B features a compact design with an intuitive rotary dial for function selection and a clear LCD display. Key components include:

- **Clamp Jaws:** For non-contact AC/DC current measurement.
- **Rotary Dial:** Selects measurement functions (Voltage, Current, Resistance, etc.).
- **LCD Display:** Shows measurement readings, units, and indicators.
- **Function Buttons:** Include ZERO/°C/°F, SELECT/VFC, HOLD, and NCV.
- **Input Jacks:** For connecting test leads for voltage, resistance, capacitance, and diode measurements.

3.3 Battery Installation



Image: The rear of the CM2100B meter, displaying the battery compartment cover and a warning label regarding battery replacement.

The CM2100B requires 2 x AAA 3V Lithium Metal batteries (included). To install or replace batteries:

1. Ensure the meter is turned OFF and disconnect all test leads from the meter and the circuit being measured.
2. Locate the battery compartment cover on the back of the meter.
3. Use the provided bolt driver (screwdriver) to loosen the screw securing the battery cover.

4. Remove the battery cover.
5. Insert the 2 x AAA batteries, observing the correct polarity (+/-) as indicated inside the compartment.
6. Replace the battery cover and tighten the screw.

4. OPERATING INSTRUCTIONS

4.1 Power On/Off and Function Selection

To power on the meter, rotate the central dial from the 'OFF' position to the desired measurement function. To power off, rotate the dial back to 'OFF'.

4.2 Measurement Functions

owon®

Mini Clamp Meter CM2000 Series



**HIGH
PRECISION**

**AUTO RANGE
AC/DC**

20000

Counts

V $\approx$

AC/DC
Voltage
Measure

A $\approx$

AC/DC
Current
Measure

MULTIPLE MEASUREMENT FUNCTIONS



Resistance



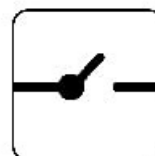
NCV



VFC



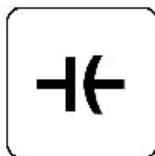
HOLD



ON/OFF



LCD



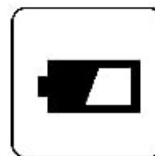
Capacitance



Diode



Overload
Protection



Low Battery
Alert



Buzzing
Prompt



True RMS

Image: A visual representation of the CM2100B's capabilities, including Resistance, NCV, VFC, HOLD, ON/OFF, LCD, Capacitance, Diode, Overload Protection, Low Battery Alert, Buzzing Prompt, and True RMS.

HIGH PRECISION AND RAPID DETECTION

AC/DC Voltage: 600V AC/DC Current: 100A

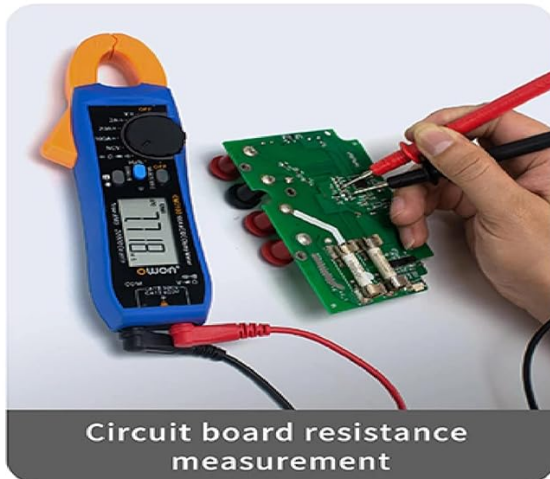
Automatic measurement, Max display **20000Counts**



Capacitance measurement maintenance tool



NCV - Inductive measurement of non-contact voltage



Circuit board resistance measurement



Diode measurement

Image: Four practical application scenarios for the CM2100B: Capacitance measurement, NCV (Non-Contact Voltage) inductive measurement, Circuit board resistance measurement, and Diode measurement.

The CM2100B offers a wide range of measurement capabilities:

- **AC/DC Current (A):** Use the clamp jaws to measure current without breaking the circuit. Ensure the conductor is centered within the jaws. Max 100A.
- **AC/DC Voltage (V):** Connect test leads to the appropriate input jacks and across the circuit. Max 600V.
- **Resistance (Ω):** Connect test leads across the component.
- **Capacitance (F):** Connect test leads across the capacitor.
- **Diode Test:** Connect test leads across the diode to check forward voltage drop.
- **Non-Contact Voltage (NCV):** Detect AC voltage without physical contact by bringing the meter's NCV sensor close to the conductor.
- **VFC (Variable Frequency Control):** For accurate measurements on variable frequency drives.
- **Frequency (Hz):** Measure the frequency of AC signals.
- **True RMS:** Provides accurate readings for non-sinusoidal waveforms.
- **HOLD Function:** Press the 'HOLD' button to freeze the current reading on the display. Press again to release.

4.3 Bluetooth Connectivity and Data Recording

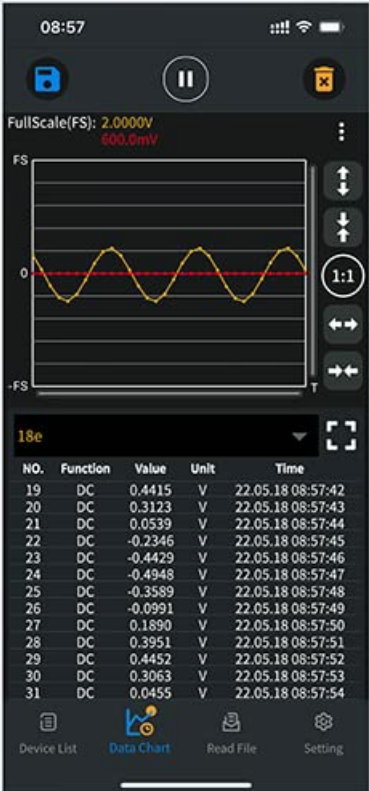
CM2100B



Meets your different needs.

Recorder Function

Automatically record the measured value of the monitoring object according to the user setting, and display it in icon mode to see the change trend at a glance. At the same time, the recorded data (CSV File) can be shared to the computer for further analysis.



NO.	Function	Value	Unit	Time
19	DC	0.4415	V	22.05.18 08:57:42
20	DC	0.3123	V	22.05.18 08:57:43
21	DC	0.0539	V	22.05.18 08:57:44
22	DC	-0.2346	V	22.05.18 08:57:45
23	DC	-0.4429	V	22.05.18 08:57:46
24	DC	-0.4948	V	22.05.18 08:57:47
25	DC	-0.3589	V	22.05.18 08:57:48
26	DC	-0.0991	V	22.05.18 08:57:49
27	DC	0.1890	V	22.05.18 08:57:50
28	DC	0.3951	V	22.05.18 08:57:51
29	DC	0.4452	V	22.05.18 08:57:52
30	DC	0.3063	V	22.05.18 08:57:53
31	DC	0.0455	V	22.05.18 08:57:54

Setting

Data Chart record interval 0H : 0M : 1s >

Data Chart record count 100 >

Auto save ☐

Period 0H : 5M : 0s >

A few times Once >

Theme Night >

About >

Exit >

Image: A split image showing the CM2100B's recorder function interface on a mobile app, with a data chart on the left and settings for data chart interval, count, auto save, and theme on the right.

The CM2100B features Bluetooth connectivity for enhanced functionality:

- Download the App:** Scan the QR code in the quick guide or visit <https://files.owon.com.cn/i-meter/> to download the official OWON i-Meter app for Android or Apple devices.
- Pairing:** Enable Bluetooth on your mobile device and open the i-Meter app. Follow the in-app instructions to connect to your CM2100B meter.
- Remote Control & Viewing:** Once connected, you can view real-time measurements, change settings, and control the meter remotely from your phone.
- Data Recording:** The app supports a recording function, allowing you to log measured values over time. This data can be analyzed within the app or exported (e.g., as a CSV file) for further analysis on a computer.
- Data Sharing:** Share recorded data with colleagues or for documentation purposes directly from the app.

5. MAINTENANCE

- **Cleaning:** Wipe the meter's casing with a damp cloth and mild detergent. Do not use abrasives or solvents. Ensure the meter is dry before use.
- **Storage:** If the meter is not used for an extended period, remove the batteries to prevent leakage. Store in a cool, dry place away from direct sunlight.
- **Calibration:** For professional use, periodic calibration by a qualified service center is recommended to ensure accuracy.

6. TROUBLESHOOTING

Problem	Possible Cause	Solution
Meter does not power on.	Dead or incorrectly installed batteries.	Check battery polarity. Replace batteries if necessary.
No reading or unstable reading.	Incorrect function selected; poor test lead connection; out of range.	Ensure correct function is selected. Check test lead connections. Verify measurement is within meter's range.
Bluetooth connection issues.	Bluetooth not enabled on device; app not installed; meter too far from device.	Ensure Bluetooth is on. Download and install the i-Meter app. Keep meter and device within Bluetooth range.
Low battery indicator.	Batteries are low.	Replace batteries immediately to ensure accurate readings.

7. SPECIFICATIONS

Feature	Specification
Model Number	QD-CM2100B
Display Counts	20000
Measurement Type	True RMS
AC/DC Current Range	Up to 100A
AC/DC Voltage Range	Up to 600V
AC Frequency Response	Up to 1000Hz
Connectivity	Bluetooth (Android & Apple support)
Power Source	2 x AAA 3V Lithium Metal batteries (included)
Product Dimensions	9.84 x 5.91 x 7.09 inches
Item Weight	0.5 Kilograms (1.1 Pounds)
Color	Multicolored
Manufacturer	OWON

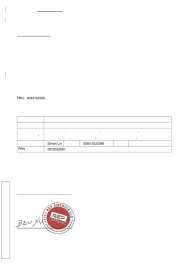
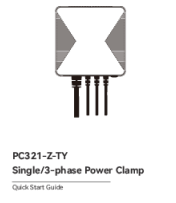
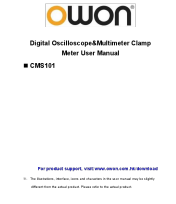
Feature	Specification
Date First Available	July 14, 2023

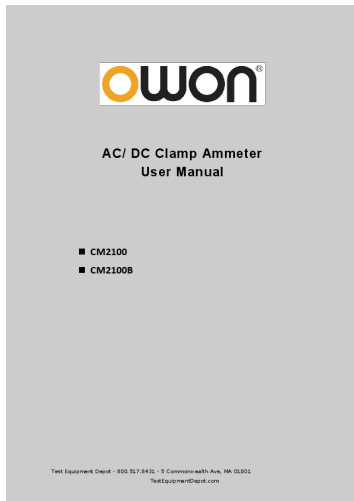
8. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official OWON website or contact your authorized dealer. Keep your purchase receipt as proof of purchase for any warranty claims.

For the latest software updates and additional resources, visit the OWON support page or the i-Meter app download link provided in Section 4.3.

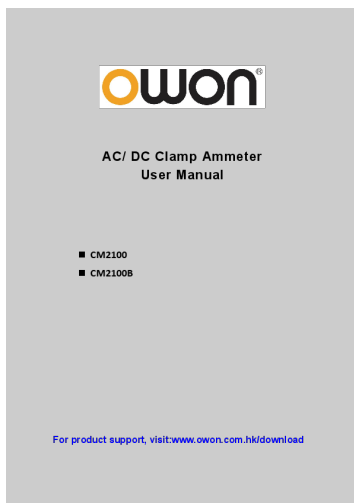
Related Documents

	U.S. Agent Designation for Xiamen OWON Technology Co., Ltd. by REP America LLC Official designation of REP America LLC as the U.S. agent for service of process for Xiamen OWON Technology Co., Ltd., listing authorized products including Power Clamp, WiFi Thermostat, and Smart Gateway.
	Owon PC321-Z-TY Single/3-phase Power Clamp Quick Start Guide Quick start guide for the Owon PC321-Z-TY Single/3-phase Power Clamp, covering safety, technical specifications, installation, and network configuration for ZigBee connectivity.
	OWON CMS101 Digital Oscilloscope & Multimeter Clamp Meter User Manual Comprehensive user manual for the OWON CMS101 Digital Oscilloscope & Multimeter Clamp Meter, covering safety information, quick start guide, instrument panel details, multimeter and oscilloscope usage, technical specifications, and maintenance.
	OWON OW18D/OW18E Handheld Digital Multimeter - Features & Specifications Detailed specifications and features for the OWON OW18D and OW18E handheld digital multimeters, including performance metrics, applications, and accessories. Accurate True RMS measurements.



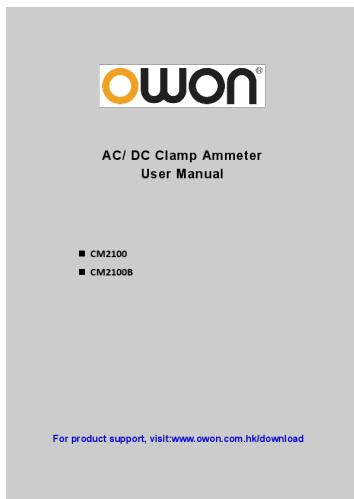
[\[pdf\]](#) User Manual Specifications

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User manual owon CM2100 CM2100BOWON CM2100B Digital Multimeter High Precision 20000 Count AC DC Current Clamp Tester True RMS VFC Diode Portable
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AC/ DC Clamp Ammeter User Manual CM2100 **CM2100B** For product support, visit:www.owon.com.hk/download Apr 2023 edition V1.0.2 Copyright LILLIPUT Company. All rights reserved. The LILLIPUT s products are under the protection of the patent rights, including ones which have already obtained the pate...
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[\[pdf\]](#) Safety Datasheet

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120MHz OWON OWON 1740832225264327 yiqifuwu uploadfile file 20250301 |||
WWW.OWON.COM.CN CONTENTS - 01 ADS3000 05 ADS800A900A 12 09 FDS 13
NDS4000 ... 18650 2.8LCD x x 248x94.5x37.8 mm USB 47 CM2100 **CM2100B** 20000
NCV VFC 1000Hz 2100B 2100B A V A V R F Hz 2...
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Technical Specifications

Basic conditions: Ambient temperature: 18 °C~28 °C; relative humidity: not more than 80%.

Note: During AC voltage/ current and capacitance measurement, the measurement accuracy shall be from 5% to 100% range.

Basic Function	Range	Minimum Resolution	Accuracy
DC Voltage(V)	200.00mV	0.01mV	±(0.7%+10dig)
	2.0000V	0.0001V	
	20.000V	0.001V	
	200.00V	0.01V	±(0.5%+5dig)
	600.0V	0.1V	
AC Voltage(V)	2.0000V	0.0001V	VFMS
	20.000V	0.001V	Frequency range: 40.0Hz~10kHz
	200.00V	0.01V	±(0.5%+10dig) VFC mode: (C&H)
	600.0V	0.1V	
	2.0000A	0.0001A	±(2%+8dig)
DC Current(A)	20.000A	0.01A	
	100.00A	0.1A	±(2%+3dig)
AC Current(A)	2.0000A	0.0001A	VFMS
	20.000A	0.001A	Frequency range: 40.0Hz~10kHz
	20.000A	0.01A	±(2%+10dig) VFC mode: (C&H)
	100.00A	0.1A	±(2%+5dig) VFC mode: (C&H)
	200.00A	0.01A	±(0.5%+10dig)
Resistance (Ω)	2.0000Ω	0.0001Ω	
	20.000Ω	0.001Ω	
	200.00Ω	0.01Ω	±(0.5%+10dig)
	2.0000kΩ	0.0001kΩ	
	20.000kΩ	0.001kΩ	±(1%+10dig)
Capacitance (pF)	2.0000pF	0.0001pF	
	20.000pF	0.001pF	±(1%+10dig)
	200.00pF	0.01pF	±(0.5%+10dig)
	2.0000nF	0.0001nF	
	20.000nF	0.001nF	±(1%+10dig)

1

[pdf] Specifications Dimension Guide

SpecificationsOwon CM2100 Series CM2100B Shop Clamp Meters Online SelectumCM2100 Meterselectumllc attachments owon Meter Technical SpecificationsSpecificationsExportCM2100 Without √ Battery 3V 1 5V×2 AAA Alkaline battery LCD Sizes 40mm*20mm Machine Weight 19kg Dimensions 181 26mm*60 3mm*32mmOwon Smart AC DC MeterCM2100 Meterfiles cn specifications ||| ||| Technical Specifications Basic conditions: Ambient temperature: 18 -28 ; relative humidity: not more than 80 . Note: During AC voltage/ current and capacitance measurement, the measurement accuracy shall be from 5 to 100 range. Basic Functi

Technical Specifications Basic conditions: Ambient temperature: 18 -28 ; relative humidity: not mor ... Temperature Relative Humidity Altitude Current excluded 17mm 10M CM2100 Without **CM2100B** 3V 1.5V2 AAA Alkaline battery 40mm*20mm 0.19kg 181.26mm*60.3mm*32mm 040 -1060 80 Operatin...

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[pdf] Safety Datasheet Accessories Catalog

Administrator Product Catalogue Accessories The accessories subject to final delivery Power Cord CD Rom Probe Adjust USB Cable Soft Bag optional Model SDS1104 Bandwidth Catalog Collection files owon cn catalogue |||

Product Catalogue Spectrum Analyzers Digital Storage Oscilloscopes Arbitrary Waveform Generators Pro ... rect connection of the wire to make the measurement safer. 55 Digital Multimeter Model: CM2100, **CM2100B** AC Current A AC VoltageV DC Current A DC VoltageV ResistanceR Capacitance F Range 2.0...

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