MAXWELL DIGITAL MULTIMETERS 25608 Digital Automatic Clamp Meter with Resistance Measurement User Manual

Contents

1 MAXWELL DIGITAL MULTIMETERS 25608 Digital Automatic Clamp Meter with Resistance Measurement
2 OVERVIEW
3 Safety information
4 ATTENTION
5 Symbols used on the device and in the description
6 Specification
7 Controls
8 Using the multimeter
9 Maintenance
10 Accessories
11 Documents / Resources
12 Related Posts

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MAXWELL DIGITAL MULTIMETERS 25608 Digital Automatic Clamp Meter with Resistance Measurement

OVERVIEW

With a universal multimeter padlock unit, which is suitable for measuring AC current without breaking the circuit. It is characterized by ergonomic housing, compact size] and easy handling. The practical carrying case protects the product during transport.

- Diode test
- Continuity test
- Resistance measurement
- Frequency measurement
- Temperature measurement
- Large display with backlight
- Sound signals
- LED feedback
- Data retention
- **Accessories:** Instrument cable, Temperature probe, carrying case, battery (2 x AAA 1.5 V)

Display	4 digits, 34 x 28 mm
DC V	6 V – 600 V
AC V	6 V – 600 V
AC A	60 A – 600 A
Resistor	600 Ω – 60 MΩ
Frequency	10 Hz – 20 MHz
Capacity	0,1nF – 60mF
Temperature measurement	0 – 750 °C
Power supply	2 x 1.5 V AAA batteries
Dimensions	187 x 66 x 32 mm
Weight	~130 g

Safety information

This multimeter complies with IEC-61010 electronic standard CAT III 600 V.

Safety warnings

- To reduce the risk of electric shock or personal injury, follow these instructions:
- Never use the instrument if it is damaged. Check the integrity of the cover before use. Pay special attention to the insulation of the contacts.
- Check the insulation of the test leads or that they do not come into contact with metal. Replace the test leads if they are damaged.
- Do not use the instrument if it operates abnormally.
- If in doubt about the usage of the device, take it to a service center.
- Do not use the device in the presence of flammable, explosive gases, vapors and dusts.
- Never measure more than the maximum permissible measuring range.
- Check the operation of the padlock on a known circuit before use.
- When repairing the device, always use the parts recommended by the manufacturer.
- Measure with extreme caution at 30 V AC RMS, 42 V peak, or 60 V DC, as it could easily cause severe electric shock.
- If you use an additional probe, make sure that your fingers are behind the metal part of the probe in the insulated area during the measurement.
- Connect the second test lead (black) first to the object to be measured, then to the primary (red). When the measurement is completed, disconnect the primary from the circuit first and then the secondary.
- Always remove the test leads before opening the battery cover.
- Never use the instrument with the battery cover open or the housing damaged.
- To avoid errors in measurement results or possible personal injury („leaking current”), replace the battery in the device as soon as possible if the icon appears on the display.
- When using the padlock portion of the instrument, remove the test leads.
- Remove the padlock jaws from the circuit before opening the battery cover.

- CATIII – Contact protection measurement category III – can be used for indoor measurements, such as distribution cabinets, circuit breakers, wires, busbars, junction boxes, switches, sockets in a fixed design and for other industrial applications, such as the fixed connection of installed motors.
- Do not use the instrument for CAT IV measurements!

ATTENTION

To avoid damage to the device, always follow the instructions below: Turn off the power source or discharge the high capacity capacitors before measuring resistance, diode or continuity. Only perform measurements within the measuring range of the device. Do not connect to the circuit or object to be measured when turning the function selector knob.

Symbols used on the device and in the description

	**WARNING:** See the instructions in the user guide. Imp roper use can lead to damage to the device!
	Alternating Current (AC A)
	Alternating Voltage (AC V)
	Direct Voltage (AC V)
COM	Grounding

	Double insulation
	Diode
	Dangerous voltage value!

Description

This device is a compact digital padlock with 4 digit display for measuring AC voltage, DC voltage, alternating current, resistance, continuity diode and temperature. It is easy to handle and due to its small size it can be always at hand during a possible measurement.

General technical parameters.

Display	4 digits, LCD
maximum characteristic	6000
Overload display	“1” appears on the LCD
Sampling	About 3x in one second
Sensor	Padlock shaped for AC measurement
Receiving width of jaws	27 mm
Max. Measurable conductor	Ø 25 mm
Battery	1.5 V, 2 x AAA batteries
Low power indication	“BATTERY ” symbol on the display
Operating temperature	0 ºC – 40 ºC, <75% humidity
Storage temperature	-20 ºC – 60 ºC, <85% humidity
Dimensions	187 x 66 x 32 mm
Weight	approx. 150 g (including battery)
Note: The conductor must be in an area enclosed between the measuring jaws of the padlock for accurat e measurement	

Specification

Accuracy measurements were measured one year after calibration at a temperature between 18 ºC and 28 ºC and a relative humidity of <75%. Format: ± (% measured value + digit value)

AC voltage

	Measuring range	Resolution	Accuracy
	600 V	1 V	±(2,0%)
	Overload protection	DC 600 V AC 600V RMS	
	Input impedance	9 MΩ	
	Frequency	40 Hz – 400 Hz	
	Maximum input voltage	600 V RMS	

DC voltage

	Measuring range	Resolution	Accuracy
	600 V	1 V	±(1,8%)
	Overload protection	DC 600 V AC 600 V RMS	
	Input impedance	9 MΩ	
	Maximum input voltage	600 V RMS	

AC current

	Measuring range	Resolution	Accuracy
	2 A	1 mA	±(5,0% + 5)
	20 A	10 mA	±(3,0% + 5)
	200 A	100 mA	±(2,5% + 5)
	400 A	100 mA	±(2,5% + 5)
	600 A	1 A	±(2,5% + 5)
	Response time	average, calibrated for the sin e wave of the RMS	
	Frequency range	50 – 60 Hz	

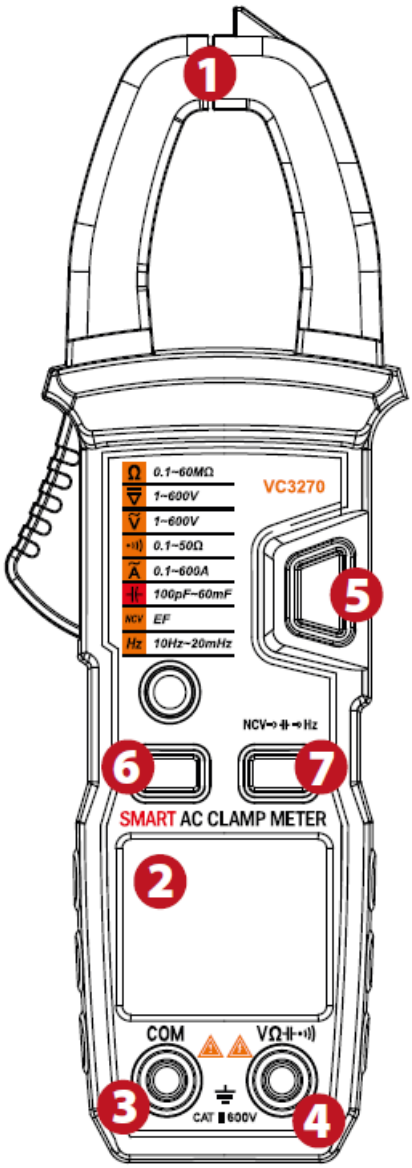
Resistance

	Measuring range	Resolution	Accuracy
	600 Ω	1 Ω	±(2,0% + 2)
	60 MΩ	1 KΩ	±(1,5% + 2)

Diode or continuity test

Measurement	Resolution	Accuracy
Continuity 	1 Ω	If the resistance is ≤ 30 Ω we will hear a beeping sound
Diode 	1 mV	The approximate opening voltage can b e read on the display.

Controls



1. **Measuring jaws:** Can be used to measure conductors. To achieve an accurate measurement result, the conductor must be located in an enclosed area between the jaws. Padlock release button (trigger): Used to open or close the measuring jaws.
2. **Display:** 4 digit LCD, max. Display: 6000
3. **„COM" socket:** For connecting the black (negative)test lead.
4. **„V Ω" socket:** For connecting the red (positive) test lead.
5. **Function selector (rotary) knob:** Used to select the desired measuring function and range and to switch the padlock on / off.
6. "H" key: After pressing the key, the currently measured] value remains fixed on the display, while is displayed in the upper right corner of the display. To deactivate the mode, press the key again
7. **„SET" button:** mode selection button between / and Ω / measuring modes.

Using the multimeter

Switching the display backlight on / off

It can be switched on after turning the rotary switch of the device. The backlight can be turned off after the device's

rotary switch is set to OFF, or after a few seconds the device will turn off the backlight automatically.

DC voltage measurement

- Insert the black test lead into the „COM” socket and the red into the „INPUT” socket.
- Touch the test leads to the source to be measured.
- The measured value can be read on the display.

AC voltage measurement

- Insert the black test lead into the „COM” socket and the red into the „INPUT” socket.
- Touch the test leads to the source to be measured. The measured value can be read on the display.

AC current measurement

- Press the trigger to release the jaws and then grasp the conductor in the enclosed area. Make sure the jaws close well. The measured value can be read on the display.

Note: Let’s measure one conductor at a time! The values of the phase running in one line and the zero sine cancel each other out, the measured value will be 0! Do not touch the measured conductor by hand, even if you are sure that it is perfectly insulated.

Resistance measurement

- Insert the black test lead into the „COM” socket and the red into the „INPUT” socket. Set the rotary selector to the  position.
- Touch the test leads to the source to be measured. The measured value can be read on the display.

Note: Before measuring resistance, make sure that the measured source is not connected to any power source and that all high-power capacitors are discharged.

Continuity test

- Insert the black test lead into the „COM” socket and the red into the „INPUT” socket.
- Use the „SELECT” button to select the appropriate measuring mode
- Touch the test leads in series with the source being tested.
- If the measured resistance is less than 30 Ω, the device will beep.

Diode measurement

- Insert the black test lead into the „COM” socket and the red into the „INPUT” socket. The polarity of the red line is positive.
- Touch the red test lead to the diode anode and the black to the cathode terminal. Read the diode opening voltage. The value is given in mV.

Battery replacement

If the  symbol appears on the display, it means that the battery in the device is low. To replace, remove the test leads] from the instrument and the test jaws from any measured circuit. Switch off the device. Then remove the battery cover. Replace worn batteries with the same voltage and size. (1.5 V, 2 X AAA) Pay attention to the polarity! Replace the battery cover.

Maintenance

You can clean the sockets as follows

Make sure that the measuring jaws are not connected to a circuit or measured object. Turn off the device and remove the test leads. Shake any dirt out of the socket. Dip in isopropyl alcohol e.g. an ear swab and gently wipe the sockets around. Wipe the appliance regularly with a damp cloth or a mild detergent cloth. Do not use solvents or abrasives. Dirt on the substrates can cause erroneous measurement results.

Accessories

- 1 user manual
- 1 pair of test leads
- 1 carrying case

Documents / Resources

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