Handheld Oscilloscope Multimeter

Oscilloscope · Signal Generator · Multimeter

HANDHELD OSCILLOSCOPE MULTIMETER · USER MANUAL

Model **OM-2**



■ Dual-channel 50 MHz · 3-in-1 · 66000-count true RMS

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This manual describes the safe operation, functions and specifications of the OM-2 handheld oscilloscope multimeter — a 3-in-1 instrument combining a dual-channel oscilloscope, a signal generator and a 66000-count digital multimeter with a 3.5-inch IPS display.

In the Box

- OM-2 meter × 1
- Carrying pouch × 1
- User manual × 1
- Red/black multimeter test leads × 1 set
- Oscilloscope probe × 1 (P2060, 60MHz)
- USB-C charging cable × 1

1 Safety

1.1 General safety requirements

To avoid electric shock, fire and personal injury, read the following safety precautions before use and use the product only for its intended purpose.

- Before use, inspect the case for cracks or missing plastic; pay particular attention to the insulation around the input ports.
- Use the correct input ports and function/range settings, and measure only within the specified ranges.
- Do not use the product around explosive gas or vapour, or in humid environments.
- Keep your fingers behind the finger guards of the test probe tips.
- Do not touch unused input ports while the instrument is connected to the circuit under test.
- Disconnect the test leads from the circuit before changing the function setting.
- Voltages above 36 V DC or 25 V AC may cause a severe shock hazard; avoid electric shock.
- Select the correct function and range to avoid instrument damage or personal injury.
- Do not use the instrument with the front or rear cover removed.

1.2 Grounding and charging safety

- A low battery may affect measurement accuracy; charge the instrument promptly.
- The grounds of the two channels are common: always connect the ground clip to earth or to the same potential during measurement.

- The probe ground lead is at earth potential. While charging via the USB cable, never clip the probe ground lead to a high voltage, otherwise the product may be damaged or personal injury may occur.
- When measuring voltages above 25 V AC or 36 V DC with the oscilloscope probe, keep the USB protective cover firmly closed and avoid touching exposed metal parts.

1.3 Measurement limits

Multimeter voltage measurements must not exceed the rated maximum (1000 V DC / 750 V AC); oscilloscope inputs must not exceed the probe rating (150 V on X1, 300 V on X10, DC + AC peak). Do not measure voltages above these limits to avoid damaging the instrument or risking personal injury.

2 Parts and keys



Fig. 1 Front view (part names as labelled)

2.1 Panel keys



Fig. 2 Panel keys and their menu mapping

F1–F4 keys: correspond to the 4 function menus shown on the display; press to select the desired function.

Power key: press and hold for 2 s to switch on/off; in multimeter mode, a short press enters relative (REL) measurement.

AUTO/RANGE key: in oscilloscope mode, a short press automatically captures the waveform; in multimeter mode, a short press selects manual ranging.

HOLD/SAVE key: in oscilloscope mode, a short press stops (STOP) or resumes (RUN) acquisition and a long press saves the waveform data; in multimeter mode, a short press holds or releases the reading.

MODE key: switches between oscilloscope, multimeter and signal generator functions.

Arrow keys: incrementally adjust parameters, move the cursor position and select menus.

MENU key: opens the system menu, 6 pages in total; switch pages with the Left/Right arrow keys.

3 Display and menus

3.1 Oscilloscope display

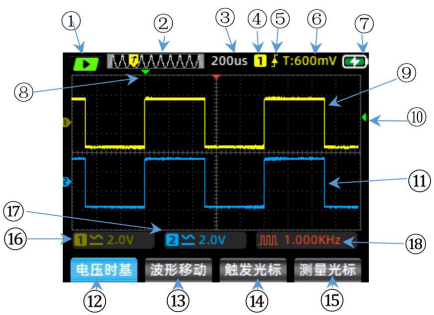


Fig. 3 Oscilloscope display

①	Run status	RUN: auto-triggered acquisition; WAIT: waiting for trigger (flashing); T·D: triggered waveform captured; STOP: acquisition stopped, waveform locked
②	Time-base window	Current time-base position within the record depth
③	Time-base scale	Current horizontal time-base setting
④	Trigger channel	Current trigger source: 1 = CH1, 2 = CH2
⑤	Trigger mode	Current trigger mode: rising or falling edge
⑥	Trigger level	Current trigger voltage setting
⑦	Battery	Battery status and charging indication
⑧	Horizontal trigger	Horizontal time-base position of the current trigger
⑨	Channel 1	CH1 waveform displayed in yellow
⑩	Vertical trigger	Vertical voltage position of the current trigger
⑪	Channel 2	CH2 waveform displayed in blue
⑫	V/t menu	Press F1 to switch channel (menu colour follows the channel); Up/Down keys adjust the amplitude, Left/Right keys adjust the time scale
⑬	Move menu	Short press F2 to switch channel, arrow keys move the waveform; long press F2 to centre the waveform
⑭	Trigger cursor	Up/Down keys adjust the vertical trigger position, Left/Right keys the horizontal position
⑮	Measure cursor	Selects the cursor axis to be adjusted
⑯	CH1 voltage	Coupling and voltage scale of channel 1
⑰	CH2 voltage	Coupling and voltage scale of channel 2

⑱	Signal generator status	Shows the square, pulse, sine or triangle symbol and the frequency setting according to the generator output state

3.2 Menu interface

- 主菜单



- 第一页通道设置菜单



- 第二页触发设置菜单



- 第三页辅助功能菜单



- 第四页辅助功能菜单



- 第五页扩展功能菜单



- 第六页扩展功能菜单



Fig. 4 MENU key menu interface

- Main menu: V/t / Move / Trigger cursor / Measure cursor
- Page 1: channel settings (channel / on-off / coupling / probe attenuation)
- Page 2: trigger settings (trigger mode / trigger edge / trigger source / sampling mode)

- Page 3: auxiliary functions (baseline cal. / restore / data save / language)
- Page 4: auxiliary functions (auto power off / backlight level / run mode / version)
- Page 5: extended functions (display mode / persistence / math / backlight time)
- Page 6: extended functions (extended app / measure cursor / value display / format)

In this manual the above screens are referred to as the main menu and menu pages 1 to 6.

4 Oscilloscope functions

4.1 Probe check

Safety: to avoid electric shock, keep your fingers behind the safety guard on the probe body; do not touch the metal tip while the probe is connected to a high-voltage source. Never exceed the probe rating (150 V max on X1, 300 V max on X10), otherwise the instrument may be damaged.

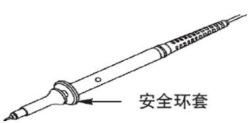


Fig. 5 Probe safety guard

Probe compensation: when connecting a probe to the oscilloscope for the first time, perform the following compensation check. An uncompensated or poorly compensated probe causes measurement errors.

1. After power-on, connect the probe to the signal input and apply a 1 kHz square wave.
2. Press AUTO and check the displayed waveform.

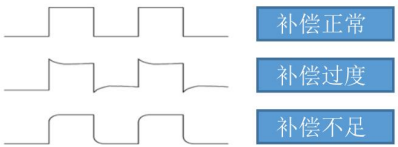


Fig. 6 Probe compensation (correct / over / under)

3. If the waveform is not correctly compensated, adjust the trimmer capacitor on the probe with the adjustment tool supplied or a suitable non-metallic screwdriver.

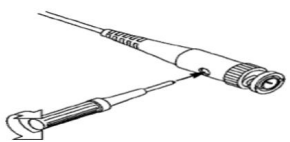


Fig. 7 Probe compensation adjustment

Probe attenuation setting: the probe attenuation setting affects the vertical scale reading. Make sure the attenuation switch on the probe matches the probe attenuation setting in the oscilloscope system menu: switch X1 = setting X1, switch X10 = setting X10.



Fig. 8 Probe attenuation switch (X1 / X10)

> With the probe set to X1, a probe marked 6 MHz/X1 limits the oscilloscope bandwidth to 6 MHz. To use the full bandwidth, set the switch to X10 or use a higher-grade probe.

4.2 Channel settings

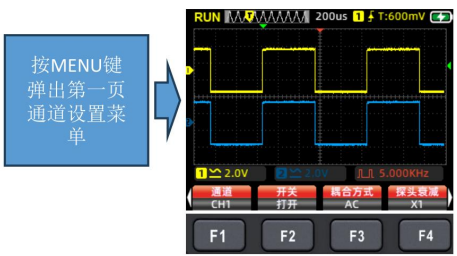


Fig. 9 Channel settings menu (press MENU to open menu page 1)

1. Press F1 to toggle CH1 / CH2 and select the channel to configure.
2. Press F2 to open or close the channel: when open, the channel waveform is displayed; when closed, it is hidden.
3. Press F3 to select DC or AC coupling for the channel.
4. Press F4 to toggle probe attenuation X1 / X10; this setting must match the attenuation switch on the probe.

4.3 Auto set

When an unfamiliar waveform appears, or to avoid tedious manual setup, press AUTO: the oscilloscope recognises the waveform type (sine or square) and adjusts its controls to display the input signal accurately.

4.4 Vertical system

The vertical system sets amplitude, scale and position of the waveform.

1. Vertical scale: press F1 in the main screen to select the V/t menu; Up key increases and Down key decreases the setting. With probe attenuation X1 the range is 20 mV to 10 V/div; with X10, 200 mV to 100 V/div.
2. Vertical position: press F2 to select the Move menu; Up/Down keys move the waveform up or down.

4.5 Horizontal system

Press F1 in the main screen to select the V/t menu.

1. Horizontal scale: Left/Right keys change the time base; the waveform expands or contracts about the screen centre. Right key reduces the time base, Left key enlarges it.
2. Horizontal position: select the Move menu and use the Left/Right keys; long press MENU to return the horizontal cursor to the centre (zero time base).
3. Roll mode: at a time base of 200 ms/div the oscilloscope enters roll mode automatically; trigger and horizontal position controls are disabled and the waveform scrolls from left to right. Roll mode suits low-speed signals and allows long-term observation of waveform trends.

4.6 Trigger system

To observe and analyse a specific or distinctive (continuous or transient) waveform in a circuit, set the trigger conditions; when the acquired signal meets the condition, the waveform is automatically captured and displayed.

- Trigger cursor: press F3 to select the trigger cursor menu; Left/Right keys adjust the horizontal trigger position, Up/Down keys the vertical position. The trigger level at the top-right of the screen follows the adjustment (referenced to the horizontal baseline).
- Trigger mode: press MENU, then Right to open menu page 2, and press F1 to choose:

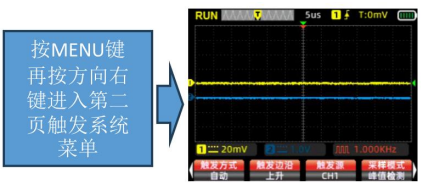


Fig. 10 Trigger settings menu

1. Auto: acquires and refreshes waveforms continuously; the waveform does not stay.
2. Normal: when the signal reaches the trigger level, the waveform is locked on screen while acquisition continues; on the next trigger the display updates (continuous triggering).
3. Single: when the signal reaches the trigger level, the waveform is locked, STOP is shown and acquisition stops; press HOLD to clear STOP and re-arm.

- Trigger edge: press F2 in menu page 2 and set rising or falling edge.

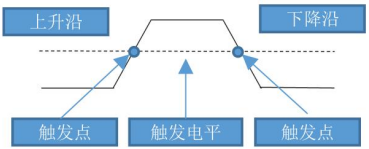


Fig. 11 Trigger edge

Rising edge: the trigger recognises the rising amplitude and fires when it reaches the trigger level; falling edge: the trigger recognises the falling amplitude and fires when it reaches the trigger level.

- Trigger source: press F3 to select CH1 or CH2 as the trigger source.
- Trigger position: press F4 to move the trigger position automatically to the 50% centre position.

4.7 Value measurement

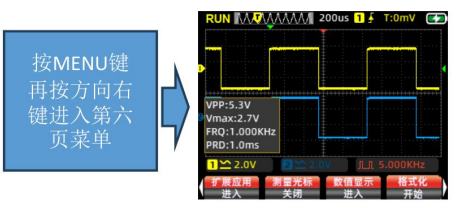


Fig. 12 Value measurement menu (press MENU then Right for menu page 6)

- Auto measurement: for an unknown signal, press AUTO; the measurement system recognises and adjusts the amplitude and time base and displays the matched waveform.

- Manual measurement: set the expected voltage, time base, cursor position, trigger, coupling and probe attenuation manually; connect the probe to the circuit and read the measured values.
- Value display: press F3 to open the value options. Eight groups of values are available: Vpp, Max, Min, RMS, frequency, duty cycle, period and frequency counter. Owing to the screen size, CH1 and CH2 can each display up to 4 groups; tick as required and press F3 to exit, the selected values are then shown on screen.

4.8 XY mode

Press F1 in extended menu page 5 to select X-Y display; the screen switches to a perpendicular CH1-vs-CH2 display, producing Lissajous figures that vary with the frequency ratio and phase difference of the two signals.

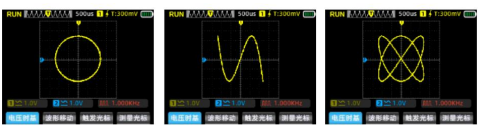


Fig. 13 XY mode (Lissajous figures)

4.9 Persistence

Press F2 in extended menu page 5 to select the persistence time: Min, 500 ms, 1 s, 10 s or Infinite.

4.10 Math operation (FFT)

Press F3 in extended menu page 5 to enable FFT; the corresponding FFT waveform appears on screen.

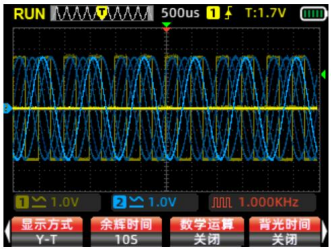


Fig. 14 FFT waveform

4.11 Backlight time

Press F4 in extended menu page 5 to set the backlight off time: 30 s, 60 s, 120 s or Off (unlimited).

4.12 Cursor measurement

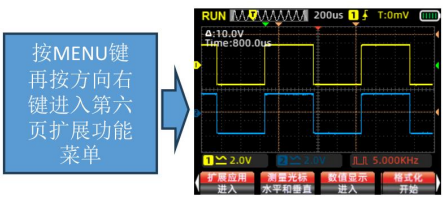


Fig. 15 Cursor measurement menu (press MENU then Right for menu page 6)

The measure-cursor menu offers horizontal cursors, vertical cursors or a combined horizontal + vertical pair; once opened, the values are shown at the top-left of the screen.

- Horizontal cursors: open the horizontal cursor axes, return to the main menu, press the measure-cursor button and select the upper/lower cursor to move; read the voltage between the two cursors.
- Vertical cursors: open the vertical cursor axes and select the left/right cursor to move; read the time between the two cursors.
- Horizontal + vertical cursors: open both cursor axes and read the voltage and time between the cursors.

4.13 Saving and viewing waveforms

Saving a waveform: long press HOLD/SAVE for 2 s; when the save prompt appears, release the key. The current waveform is saved automatically to memory as a sequentially numbered image.

Viewing and retrieving saved waveforms:

1. Open menu page 6 and press F1 to enter the extended application; the saved waveform images appear. Browse with the arrow keys, press MENU to open an image, press F3 to delete it.
2. Press F3 in menu page 3 to enter data-save mode; connect the instrument to a computer via the TYPE-C cable, open the USB drive and the pic folder to view the images, or download the waveforms to the computer for analysis. Press F2 to return to the measurement screen.

4.14 Language

Press F4 in menu page 3 to select Simplified Chinese or English.

4.15 Auto power off

Press F1 in menu page 4 to select the auto power-off time: 1, 10, 30, 60, 120 minutes or Off (unlimited). For short sessions 30 minutes is recommended; for long continuous use choose 120 minutes or Off.

4.16 Restore settings

Press F2 in menu page 3; when the prompt appears, press MENU and the instrument restarts with factory settings restored.

4.17 Run mode

Two run modes are provided, Normal and High-speed; press F3 in menu page 4 to switch. For input signals below 30 MHz the Normal mode is recommended; above 30 MHz use the High-speed mode.

- Normal mode: maximum sample rate 200 MSa/s, maximum bandwidth 30 MHz, lower power consumption.
- High-speed mode: maximum sample rate 280 MSa/s, maximum bandwidth 50 MHz, higher power consumption.

4.18 Backlight level

Press F2 in menu page 4 to select the backlight level: 30%, 50%, 80% or 100%. Indoors, 30% is recommended; adjust to suit the ambient lighting.

4.19 Baseline calibration

The instrument is 100% calibrated before leaving the factory. If a baseline zero offset appears after a large temperature change or a long idle period, calibrate the baseline: press F1 in menu page 3 and follow the prompt "unplug, then press MENU to start calibration".

> Do not connect any probe or input signal during calibration, otherwise the calibration may be skewed or the instrument damaged. Do not perform any other operation during calibration; wait until it completes.

5 Signal generator

5.1 Interface

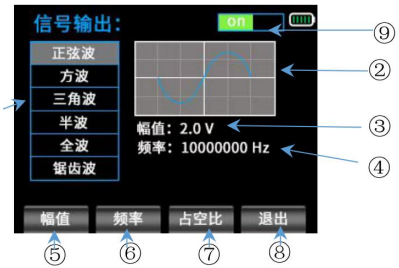


Fig. 16 Signal generator interface

①	Waveform type	Sine, square, triangle, half-wave, full-wave or sawtooth
②	Preview window	Shows the selected waveform
③	Amplitude	Shows the set output amplitude
④	Frequency	Shows the set output frequency
⑤	Amplitude menu	Sets the output voltage amplitude
⑥	Frequency menu	Sets the output frequency
⑦	Duty cycle	Sets the waveform duty cycle
⑧	Exit menu	Exits the setting mode
⑨	On/off	Turns the signal output on or off

5.2 Operation

Press MODE to switch to the signal generator screen, or press F1 in menu page 6 and select the signal-output setting.

- Waveform: Up/Down keys select sine, square, triangle, half-wave, full-wave or sawtooth; the preview window shows the selected waveform.
- Amplitude: press F1 to select the amplitude menu; Left/Right keys move the digit cursor, Up/Down keys set the amplitude.
- Frequency: press F2 to select the frequency menu; Left/Right keys move the digit cursor, Up/Down keys set the frequency.
- Duty cycle: press F3 to select the duty-cycle menu; Left/Right keys move the digit cursor, Up/Down keys set the duty cycle.
- Press F4 or the selected menu to exit the setting mode; press MENU to turn the signal output on or off.

> 1. The configured signal is output from the signal generator output port. 2. Never apply a voltage to the signal generator output port. 3. The oscilloscope input and the generator output share a common ground; pay attention to the polarity.

6 Multimeter functions

6.1 Display

Press MODE to enter multimeter mode.



Fig. 17 Multimeter display

①	HOLD	Press HOLD to keep the current reading
②	Battery	Battery status and charging indication
③	Analogue pointer	Pointer indicates the scale position of the main reading
④	Function symbols	Current function symbol: AC, DC, resistance, capacitance, diode, buzzer
⑤	Minus sign	Displayed for negative values
⑥	Main display	Multimeter reading, 66000 counts maximum
⑦	Unit symbol	Unit of the measured value
⑧	Ranging	AUTO: auto range; MANU: press RANGE to select a manual range
⑨	Max	Maximum reading during measurement
⑩	AVG	Average reading during measurement
⑪	Min / Hz	Minimum reading; in AC voltage/current measurement, shows the AC frequency (Hz)
⑫	Voltage	Press F1 to toggle DC voltage, AC voltage and AC VFC measurement

⑬	Ω / continuity / diode / capacitance	Press F2 for resistance; in resistance press F2 for continuity; in continuity press F2 for diode; in diode press F2 for capacitance
⑭	Current	Press F3 to toggle current measurement; in current mode the F4 menu shows the mA range
⑮	Millivolt	Outside current mode, press F4 for DC millivolts, press again for AC millivolts

If a reading is incorrect, press REL twice to reset the Max, AVG, Min or Hz value.

6.2 Input terminals



Fig. 18 Multimeter input terminals (top view)

10A terminal: input for current measurements (≤ 9.999 A).

mA terminal: input for current measurements (≤ 660 mA).

COM terminal: common (return) terminal for all measurements.

VΩHz terminal: input for AC/DC voltage, VFC (interference-rejecting AC voltage), resistance, capacitance, frequency, continuity and diode measurements.

6.3 Measuring AC/DC voltage

1. Insert the black lead into the COM terminal and the red lead into the VΩHz terminal.

2. For voltages below 660 mV, press F4 once for the millivolt function and twice for AC millivolts; for voltages above 660 mV, press F1 once for DC voltage and twice for AC voltage.
3. Touch the correct test points of the circuit with the probe tips.
4. Read the voltage on the display.

> Never exceed the rated maximum input, otherwise the instrument may be damaged or personal injury may occur. When measuring high-voltage circuits, avoid touching the high-voltage circuit.

6.4 Measuring AC/DC current

1. Insert the black lead into the COM terminal and the red lead into the 10A or mA terminal (choose the terminal according to its maximum rating and the estimated current); press F3 to open the current menu, in which F4 corresponds to the mA current.
2. Press the same menu key again to toggle between DC and AC.
3. Open the circuit path under test, connect the leads in series and apply power; read the current on the display.

> Never exceed the rated maximum current, otherwise the instrument may be damaged or personal injury may occur. If the current is unknown, test on the A terminal first and then select the terminal and range according to the reading. Never apply a voltage in the current function.

6.5 Measuring resistance

1. Insert the black lead into the COM terminal and the red lead into the VΩHz terminal.
2. Press F2 to enter the resistance function.
3. Touch the test points of the circuit with the probe tips.
4. Read the resistance on the display.

Before measuring resistance, confirm that all power in the circuit under test is off and all capacitors are fully discharged. Never apply a voltage in the resistance function.

6.6 Continuity test

1. Insert the black lead into the COM terminal and the red lead into the VΩHz terminal.
2. In the resistance function, press F2 to enter the continuity function.
3. Touch the two points of the circuit with the probe tips; the built-in buzzer sounds if they are shorted.

Never apply a voltage in the continuity and diode functions; disconnect the circuit power and discharge all high-voltage capacitors before testing.

6.7 Diode test

1. In the continuity function, press F2 once to enter the diode function.
2. Connect the red probe to the anode and the black probe to the cathode of the diode under test, then read the forward voltage. If the polarity is reversed, or the diode is defective, the display shows OL.

6.8 Measuring capacitance

1. Insert the black lead into the COM terminal and the red lead into the VΩHz terminal.
2. In the diode function, press F2 once to enter the capacitance function.
3. Connect the red probe to the positive and the black probe to the negative terminal of the capacitor.
4. Read the capacitance once the reading is stable.

6.9 Interference-rejecting AC voltage (VFC)

1. Insert the black lead into the COM terminal and the red lead into the VΩHz terminal.
2. Press F1 to switch to the VFC measurement screen for interference-rejecting AC voltage detection.
3. Probe the circuit under test and read the voltage on the display.

7 Specifications

7.1 General multimeter specifications

Display	IPS colour display, 66000 counts
LCD size	70 × 52 mm
Ranging	Auto / manual
Material	ABS + TPE
Sample rate	3 readings/s
True RMS	Yes
Data hold	Yes
Backlight	Yes
Low-battery indication	Yes
Auto power off	Yes

7.2 Mechanical specifications

Dimensions	95 × 40 × 178 mm
Weight	400 g (with battery)
Battery	18650 battery × 1
Warranty	One year

7.3 Environmental specifications

Operating temperature / humidity	0 to 40 °C, < 75 % RH
Storage temperature / humidity	−20 to 60 °C, < 80 % RH

7.4 Multimeter specifications

Function	Range	Resolution	Accuracy
DC voltage	6.6000 V	0.0001 V	±(0.05 % + 3)
DC voltage	66.000 V	0.001 V	±(0.05 % + 3)
DC voltage	660.00 V	0.01 V	±(0.05 % + 3)
DC voltage	1000.0 V	0.1 V	±(0.05 % + 3)
DC millivolt	66.000 mV	0.001 mV	±(0.5 % + 3)
DC millivolt	660.00 mV	0.01 mV	±(0.5 % + 3)
AC voltage	6.6000 V	0.0001 V	±(0.5 % + 3)
AC voltage	66.000 V	0.001 V	±(0.5 % + 3)
AC voltage	660.00 V	0.01 V	±(0.5 % + 3)
AC voltage	750.0 V	0.1 V	±(0.5 % + 3)
AC millivolt	66.000 mV	0.001 mV	±(0.8 % + 3)
AC millivolt	660.00 mV	0.01 mV	±(0.8 % + 3)

Accuracy specified at 25 °C ambient; AC voltage frequency response 40 Hz to 1 kHz.

Function	Range	Resolution	Accuracy
DC current	6.6000 A	0.0001 A	±(0.5 % + 3)
DC current	10.000 A	0.001 A	±(0.5 % + 3)
DC current (mA)	66.000 mA	0.001 mA	±(0.5 % + 3)
DC current (mA)	660.00 mA	0.01 mA	±(0.5 % + 3)

AC current	6.6000 A	0.0001 A	±(0.8 % + 3)
AC current	10.000 A	0.001 A	±(0.8 % + 3)
AC current (mA)	66.000 mA	0.001 mA	±(0.8 % + 3)
AC current (mA)	660.00 mA	0.01 mA	±(0.8 % + 3)

AC current frequency response 40 Hz to 1 kHz.

Function	Range	Resolution	Accuracy
Resistance	660.00 Ω	0.01 Ω	±(0.5 % + 3)
Resistance	6.6000 kΩ	0.0001 kΩ	±(0.2 % + 3)
Resistance	66.000 kΩ	0.001 kΩ	±(0.2 % + 3)
Resistance	660.00 kΩ	0.01 kΩ	±(0.2 % + 3)
Resistance	6.6000 MΩ	0.0001 MΩ	±(2 % + 3)
Resistance	66.000 MΩ	0.001 MΩ	±(2 % + 3)
Capacitance	9.999 nF	0.001 nF	±(5.0 % + 20)
Capacitance	99.99 nF	0.01 nF	±(2.0 % + 5)
Capacitance	999.9 nF	0.1 nF	±(2.0 % + 5)
Capacitance	9.999 µF	0.001 µF	±(2.0 % + 5)
Capacitance	99.99 µF	0.01 µF	±(2.0 % + 5)
Capacitance	999.9 µF	0.1 µF	±(2.0 % + 5)
Capacitance	9.999 mF	0.001 mF	±(5.0 % + 5)
Capacitance	99.99 mF	0.01 mF	±(5.0 % + 5)
Frequency	9.999 Hz	0.001 Hz	±(2.0 % + 2)
Frequency	99.99 Hz	0.01 Hz	±(0.1 % + 2)
Frequency	999.9 Hz	0.1 Hz	±(0.1 % + 2)
Frequency	9.999 kHz	0.001 kHz	±(0.1 % + 2)
Frequency	99.99 kHz	0.01 kHz	±(0.1 % + 2)
Diode	Yes		
Continuity	Yes		

High-value resistance is measured with environmental interference excluded.

7.5 Oscilloscope specifications

Bandwidth	50 MHz, dual channel
Sampling	Real-time sampling
Real-time sample rate	200 MSa/s / 280 MSa/s
Channels	2 (dual channel)
Input coupling	DC / AC
Input impedance	1 MΩ @ 16 pF
Probe attenuation	X1 / X10
Maximum input voltage	X1 < 150 V, X10 < 300 V (DC + AC peak)
Sample rate range	1.5 Sa/s to 280 MSa/s
Interpolation	(sinx)/x
Sweep range	10 ns/div to 20 s/div
Time-base accuracy	20 ppm
Record length	Up to 128 Kbyte
Vertical sensitivity	20 mV/div to 10 V/div
Position range	±4 divisions
Analogue bandwidth	50 MHz
Low-frequency response	> 10 Hz
Rise time	< 10 ns
DC gain accuracy	±3 %
Auto measurement	Period, frequency, Vpp, Max, Min, RMS, duty cycle, frequency counter

Trigger modes	Auto / Normal / Single
Trigger edge	Rising / falling
Run mode	Normal 200 MSa/s, High-speed 280 MSa/s
Display modes	YT, XY, Roll
Persistence	Min, 500 ms, 1 s, 10 s, Infinite
Max. generator output frequency	Sine 10 MHz; square / triangle / half-wave / full-wave 2 MHz; sawtooth 200 kHz

8 Maintenance

Except for replacing the battery and the fuse, do not attempt to repair the product or alter its circuits unless you are qualified and have the corresponding calibration, performance test and service instructions.

8.1 Cleaning

Clean the case with a damp cloth and a mild detergent; do not use abrasives or solvents. Dust or moisture in the test ports may affect the accuracy of readings. Disconnect all input signals before cleaning.

8.2 Charging the battery

When the low-battery icon appears on the screen, charge the battery promptly:



Fig. 19 Battery symbols (low / charging / full)

1. Charge via a DC 5 V adapter using the TYPE-C cable.

2. Or charge via a computer USB port using the TYPE-C cable.
3. While charging, the charge symbol is shown on screen.
4. When fully charged, the full-battery symbol is shown.
5. While charging, the red indicator built into the power key lights up; when the battery is full, the red indicator flashes or goes out.

8.3 Battery storage

If the instrument is not used for a long period (e.g. more than 6 months), charge the battery to 50%–70% and store the instrument in a cool, dry place. If the lithium battery shows rusting, leakage or swelling, remove and discard it immediately.

8.4 Replacing the battery

The built-in lithium battery is rechargeable but is a consumable. If the standby time becomes noticeably shorter, replace it with a new 18650 lithium battery of the same type; follow the fuse-replacement procedure.

> Observe the correct polarity when installing the battery.

8.5 Replacing the fuse

When the fuse is blown or faulty, replace it as follows:

1. Before replacing the fuse, remove the test leads and switch off the instrument.
2. Unscrew the four screws fixing the rear cover and remove the cover.
3. Remove the old fuse and fit a new fuse of the same type.
4. Refit the rear cover and tighten the screws.

9 Warranty

This product is covered by a one-year warranty from the date of purchase. The warranty does not cover blown fuses, damage to

general accessories, or damage caused by accidents, negligence, abuse, modification, contamination or abnormal operating conditions.

If the instrument freezes or hangs during use, restart it.

10 Compliance

10.1 Waste disposal and environmental protection (WEEE)

- Waste electrical and electronic equipment must be collected separately and must not be disposed of with household waste. Remove the built-in battery and dispose of it in accordance with local regulations; never burn it.

10.2 Directives and standards

This product complies with the applicable EU low-voltage and electromagnetic-compatibility directives (CE).

Notes

For calibration dates, test results and service history. Version V1.0