



WM150

Watt meter and servo tester
User manual



Read Chapter 1 - Safety Precautions before first use. The device is intended solely for DC circuits up to 50 V. Never connect it to mains voltage.

Importer: Rotorama, s.r.o. · www.rotorama.cz

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1. Safety Precautions

Read this manual carefully before first use and keep it for future reference.

1.1 Manufacturer's instructions

- ① WM150 allows input voltage **1-50 V** in the **SOURCE** port. When the input voltage is lower than **6 V**, you need to provide a USB 5 V power supply. To ensure that the power supply voltage is consistent, pay attention to the positive and negative **polarity** of the power supply when connecting it.
- ② Do not use this product in heat, moisture, flammable or explosive atmospheres.
- ③ Do not leave this product unattended while in use to prevent accidents.
- ④ Please unplug the input power timely when not using this product.

1.2 Intended use of the device

The WM150 is intended solely for measurement in **DC circuits up to 50 V**, typically in model and FPV equipment – measuring power-system current draw and battery capacity, and testing servos and speed controllers.

✖ The device is not intended for connection to mains voltage or any mains-supplied circuit. It has no measurement category (CAT) assigned. Connecting it to the mains is life-threatening and will destroy the device.

1.3 General safety rules

- Never exceed the limit values in Chapter 7. Exceeding the voltage or current range may destroy the device and cause a fire.
- Check the **polarity** of both ports before connecting. Reverse polarity may permanently damage the device and connected equipment.
- Always connect the measuring leads **firmly**. A loose or dirty joint heats up at high currents and creates a fire hazard.
- Do not connect or disconnect the battery under load. Reduce the current draw to a minimum first.
- Use the device indoors and in dry conditions only. Protect it from water, dust and vibration.
- Do not disassemble or modify the device.
- Do not continue to use a visibly damaged device or lead.
- Keep the device out of the reach of children. It is not a toy.
- The device and the leads heat up at high currents. Do not touch them right after a measurement and let air circulate freely.

✖ Measuring leads, connectors and batteries are not included. Choose their cross-section and current rating to match the current actually measured.

2. Product Overview

The WM150 is a voltage and current power tester. It shows the measured values in real time on a colour display, both numerically and graphically.

2.1 Main features

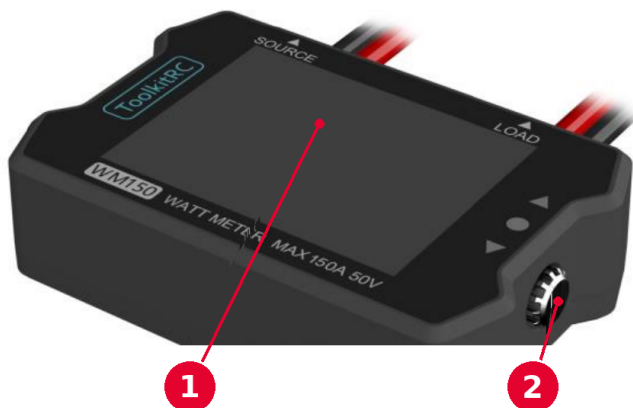
- Output **PWM** signal with an accuracy of **1 µs** – the device also serves as a servo and speed controller tester.
- **Low voltage alarm.** When the voltage is lower than 6 V and USB power is not supplied, it will alarm.
- **Real-time** detection of voltage, current and power, displayed in curves or graphics.
- The device is simulated as a **USB flash drive**, and the upgrade file is copied to implement product firmware upgrade.

2.2 Package contents

Item	Quantity
WM150 watt meter	1×
USB cable	1×
Manufacturer's quick manual	1×

✳ **The package contents correspond to the manufacturer's data. Measuring leads and connectors are not included.**

3. WM150 Layout



Front of the device

- ① **Display** – colour display with the main interface.
- ② **Knob** – turning it sets the pulse width of the output PWM signal, pressing it locks the value.



Back of the device

- ③ **LOAD** port – output to the load (the device being measured).
- ④ **SOURCE** port – input from the power supply, e.g. a battery.
- ⑤ **Signal port** – PWM signal output for a servo or a speed controller.
- ⑥ **USB** port – 5 V power supply for the device and firmware upgrade.

✱ **The measured current always flows through the device: power supply to the SOURCE port, load to the LOAD port. Mind the polarity of both ports.**

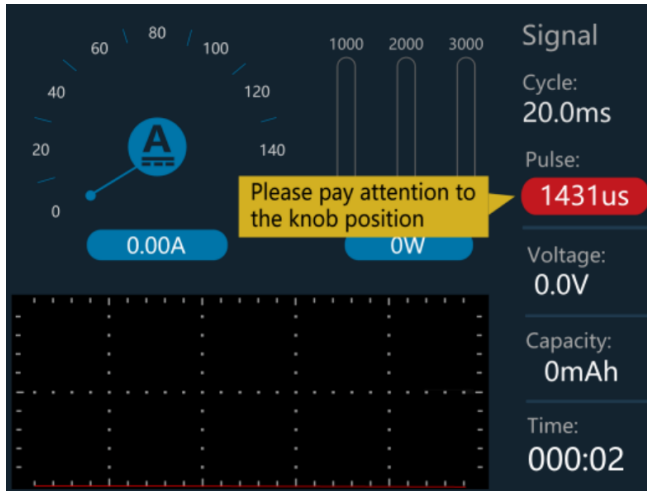
4. First Start

- ① Connect the power supply of **1-50 V** voltage to the input port on the back of the WM150. You need to provide a USB 5 V power supply when the voltage is lower than **6 V**. Otherwise it will alarm or not boot.
- ② The display shows the boot logo and stays for **2 seconds**.
- ③ Boot sound with do-re-mi simultaneously.
- ④ After the boot is completed, the display enters the main interface as shown below:



Main interface after booting

- ⑤ If the position of the knob is not at the **minimum position**, there will be a prompt "Please pay attention to the knob position" after booting, as shown below:



Prompt about the knob position

⑥ Turn the knob to the minimum to start using it.

❖ **The texts on the device display are in English and are not localised by the manufacturer. The meaning of the individual values is described in Chapter 5.**

5. Main Interface

After booting, the system enters the main interface. The individual values on it have the following meaning:

Value on the display	Meaning
Dial on the left	Current display with an accuracy of 10 mA . The maximum acquisition current is 150 A .
Histogram in the middle	Power display in watts (W).
Cycle – 20.0ms	Period of the output PWM signal. The period cannot be changed.
Pulse – 1000us	Pulse width of the output PWM signal. It is controlled by the knob.
Voltage – 11.2V	Input voltage in volts (V).
Capacity – 0mAh	Capacity accumulation . The unit will change with the size of the capacity: less than 1 ampere, the unit is mAh, otherwise it is ampere-hour.
Time – lower right	Working time in seconds.
Grid at the bottom	Graphical representation of the main port output current.

6. Other Functions

6.1 Firmware upgrade

After connecting the WM150 to the computer with the USB cable in the box, the computer will recognise the **USB flash drive named Toolkit**. Download the upgrade file **app.upg** from the manufacturer's official website and overwrite the file on this USB flash drive to upgrade the firmware.

❖ **Do not disconnect the device from the computer and do not interrupt the power supply during the upgrade. Interrupting the upgrade may render the device inoperable.**

6.2 Maintenance and storage

- Clean the device with a dry or slightly damp soft cloth. Do not use solvents or abrasive agents.
- Keep the port contacts clean and undamaged. A dirty contact increases the contact resistance and heats up at high currents.
- Store the device in a dry place, away from direct sunlight and sources of heat.
- Disconnect the power supply from the device if you are not going to use it for a longer period.

7. Specification

Group	Parameter	Value
Input	Voltage	1-50 V at max. 150 A
	USB	5.0 V / 1 A; firmware upgrade via USB 3.0
Output	PWM	1000-2000 μ s at 50 Hz
Display	LCD	TFT 2.4", resolution 320 × 240
Product	Size	80 × 54 × 23 mm
	Weight	120 g
Individual packing	Size	87 × 87 × 28 mm
	Weight	140 g

✱ The data correspond to the manufacturer's technical specification. The manufacturer reserves the right to change the parameters without prior notice.

7.1 Manufacturer

Manufacturer	ToolkitRC Technology (Shenzhen) Co., Ltd.
Country of origin	People's Republic of China
Manufacturer's website	www.toolkitrc.com

8. Information for the EU and Czech Market

8.1 Importer and responsible person in the EU

The product is placed on the European Union market by the importer stated below, who is at the same time the responsible person within the meaning of Article 16 of Regulation (EU) 2023/988 of the European Parliament and of the Council on general product safety (GPSR).

Importer / responsible person in the EU	Rotorama, s.r.o.
Company ID (IČO)	051 57 692
VAT ID (DIČ)	CZ05157692
Registered office	Okrajová 1351, 674 01 Třebíč, Czech Republic
E-mail	info@rotorاما.cz
Phone	+420 252 252 098
Website	www.rotorاما.cz

8.2 Product conformity



- The product bears the **CE** marking and complies with the requirements of the applicable European Union harmonisation legislation.
- A copy of the **EU Declaration of Conformity** is available from the importer at the address stated above or at the e-mail address info@rotorاما.cz.
- **Product identification:** the type designation **WM150** is marked on the front of the device; the serial number, or the batch number, is given on the rating label on the device or on its packaging.

8.3 Disposal of electrical equipment



- The crossed-out wheeled bin symbol on the product, its packaging or in the documentation means that at the end of its service life the product **must not be disposed of together with mixed municipal waste.**
- Hand it over at a take-back point for electrical equipment – at a collection yard, at a take-back point of a collective system, or at the retailer when purchasing a new equivalent product. Take-back is free of charge for the end user.
- The obligations under Act No. 542/2020 Coll., on end-of-life products, are fulfilled by the importer through a collective take-back system.
- Proper disposal helps prevent negative impacts on the environment and human health and contributes to the reuse of secondary raw materials.

Through its contractual partner **ASEKOL a.s.**, the company ensures the take-back of waste electrical equipment from households and the separate collection of waste electrical equipment, batteries and accumulators in accordance with the applicable legislation. The customer is entitled to hand over old electrical equipment or a battery or accumulator at any collection point of the above contractual partner. The addresses of these take-back points are listed at www.asekol.cz, www.ecobat.cz and also <https://visoh2.mzp.cz/RegistrMistZO/RegistrMistZOPublic/MapaMistZpetOdberu>.

9. Warranty and rights arising from defective performance

The rights and obligations of the contracting parties are governed by Czech law, in particular Act No. 89/2012 Coll., the Civil Code, and Act No. 634/1992 Coll., on consumer protection.

- The seller is liable to the buyer for the product being free of defects on receipt. If the buyer is a consumer, a defect may be notified **within two years of receipt** of the product (Section 2165 of the Civil Code).
- If a defect appears within **one year** of receipt, the product is deemed to have been defective already at the time of receipt (Section 2161(5) of the Civil Code).
- When purchasing online, a consumer has the right to **withdraw from the contract within 14 days** of receiving the goods without giving a reason (Section 1829 of the Civil Code).
- Claims should be made with the retailer from whom you purchased the product. The importer's contact details are given in Chapter 8.1.
- The competent body for out-of-court settlement of consumer disputes is the **Czech Trade Inspection Authority**, Štěpánská 796/44, 110 00 Prague 1, www.coi.cz.