

Digital weather station

LABOTRIX METEO W2

PRODUCT PASSPORT

Kyiv

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1. Basic product information

- 1.1. Product name — Digital weather station.
- 1.2. Trademark — Labotrix.
- 1.3. Model — Meteo W2; full trade name — LABOTRIX METEO W2.
- 1.4. Manufacturer — Labotrix Group Limited, China.
- 1.5. Intended use: The Meteo W2 digital weather station is designed for measuring and remotely transmitting the main weather parameters both in educational institutions and for home monitoring. The product consists of an internal console equipped with a multi-color display and a remote external sensor. The station measures temperature and humidity indoors and outdoors, barometric pressure, wind speed and direction, precipitation, UV radiation level and illumination. The data is transmitted via radio to the console, where it is displayed in a convenient format. It is used for conducting observations in science classes.
- 1.6. Design features: The console is equipped with a large LCD display, which makes it easy to read readings from a distance. The external sensor assembly has a solar panel for charging batteries during the day and a built-in antenna for wireless communication. The sensors are protected from moisture and have a reliable mount for mounting on a mast. The console operates both from a power adapter and from batteries.

2. Technical specifications

- Brand — Labotrix
- Model — Meteo W2
- The article number is LTX-METEO-W2
- Product type — digital weather station with remote sensor
- Display — liquid crystal screen with multi-color indication, size 130×80 mm
- Indoor temperature measurement range (degrees Celsius) — from -10 to +60
- Temperature measurement error (degrees Celsius) — ± 1
- Outdoor temperature measurement range (degrees Celsius) — from -40 to +65
- Relative humidity measurement range (percentage) — from 0 to 99
- Humidity measurement error (percentage) — ± 5
- Barometric pressure measurement range (hectopascals) — from 300 to 1100
- Pressure measurement error (hectopascal) — ± 3
- Wind speed measurement range (meter per second) — from 0 to 50
- Wind direction measurement range (degrees) — from 0 to 360
- Wind direction change accuracy (degrees) — ± 10
- Rainfall measurement range (millimeter) — from 0 to 9999
- UV index measurement range — from 1 to 15 and above
- Illumination measurement range (lux) — from 0 to 200,000
- Illuminance measurement error (percentage) — ± 15

- Radio communication — frequency 433.92 MHz, range in open terrain (meter) — 90
- Sensor data update period (second) — 16
- Console power supply — 5V, 1A adapter or three AAA batteries
- Sensor power supply — three AA batteries or solar panel charging
- Sensor battery life (months) — 12 under normal conditions
- Sensor body material - stainless steel and impact-resistant plastic
- Language of marking and operating documentation — Ukrainian
- Product marking — trademark, model and a space for the inventory number
- Packaging - individual corrugated cardboard box with console, sensor and fasteners
- Documentation supplied — product passport with warranty card and operating manual
- Ready to use - console and sensor come ready to assemble according to instructions, no additional special tools required
- Surface care - the console and sensor housings can be wiped with a dry or slightly damp cloth
- User requirements — mast mounting and initial setup is performed by a teacher or lab technician, students work with the console under supervision
- Placing the console in the classroom - on the teacher's desk or on a wall shelf within direct sight of the students
- Service life (year) — 5
- Warranty period (month) — 12

3. Equipment

- Console with display and control keys — 1 pc.
- Outdoor sensor fully assembled with solar panel — 1 pc.
- Weather vane (wind direction sensor) — 1 pc.
- Cup anemometer (wind speed sensor) — 1 pc.
- Rain gauge funnel — 1 pc.
- Stainless steel mounting mast — 1 pc.
- U-bolts for fastening to the mast (M5) — 2 pcs.
- Washers and nuts for bolts - 4 pcs.
- L-shaped aluminum base — 1 pc.
- Mounting screws of different sizes — 3 pcs.
- Waterproof rubber plugs — 2 pcs.
- M5 wrench for tightening nuts — 1 pc.
- Precision screwdriver — 1 pc.
- Power adapter 5 V, 1 A — 1 pc.
- Product Passport and Warranty Card — 1 pcs
- Individual transport packaging — 1 pcs

Batteries for the console and sensor are not included and must be purchased separately. Before first use, you must assemble the sensor and set the time on the console.

4. Safety measures

4.1. General requirements

- Before first use, read this passport carefully, especially the safety sections.
- The device is used by a teacher or an adult who has received occupational safety instructions. Students work with the device only under adult supervision.
- Before installing at height, make sure the mast is strong and the mounting is secure.
- Do not install the weather station during a thunderstorm or thunderstorm activity nearby.

4.2. Electrical safety

- The power adapter is rated for 5 V DC. Do not use an adapter with a different voltage or polarity.
- Make sure the adapter and radio sensor cables are not damaged before connecting them to the console.
- Keep the adapter and console in a dry place, away from splashes and dripping water.

4.3. Mechanical safety and installation

- Installing a weather station at height requires compliance with safety regulations. Carry out work in calm, dry weather. Provide appropriate means for working at height.
- The mast should be located at least 1.5 meters away from houses, trees and other wind obstacles.
- Use only the supplied M5 U-bolts. Overtightening the nuts may damage the sensor.

4.4. It is strictly forbidden

- Install the station during a thunderstorm or thunderstorm activity - the mast may attract a lightning strike.
- Immerse the console or sensor in water and rinse them under running water.
- Disassemble and modify the design of the device, except for the operations for assembling the sensor as provided for in the instructions.
- Store the station in explosive environments and near flammable materials.
- Leave metal objects (keys, screws) on the sensor or within easy reach near heights.

5. Preparation for work

- 5.1. Unpack the weather station and check the completeness: console, sensor, mast, fasteners, adapter.
- 5.2. Install AAA batteries into the console (three pieces) or connect the power adapter to an outlet.
- 5.3. Install AA batteries into the outdoor sensor (three pieces) and close the battery compartment cover.
- 5.4. On the console, press the Power button to turn it on. The display should show all items for a few seconds — this is a health check.
- 5.5. Use the SET keys to set the date and time on the console. The process is described in the time setting instructions.
- 5.6. Allow the console and sensor to synchronize for 2-3 minutes. The temperature, humidity, and pressure values should appear on the display.

6. Procedure

6.1. Activation and synchronization

- Turn on the console by pressing the Power button. A welcome page with the moon phase and weather forecast should appear on the screen.
- The outdoor sensor will automatically send a signal to the console every 16 seconds. If no data is received within a minute, the search icon on the display will light up.

6.2. Viewing weather data

- Press the SET key to cycle through the different display modes: date and time, precipitation, dew point, average wind speed, pressure.
- Use the CHANNEL/+ or MAX/MIN/- keys to switch between units of measurement and data display methods.
- The display always shows indoor and outdoor temperature and humidity, pressure, and weather forecast.

6.3. Maximum and minimum values

- Press the MAX/MIN key once to view the highest parameter values for the period.
- Press again to view the smallest values.
- Hold down the MAX/MIN key for three seconds to reset all recorded extremes.

6.4. Alarm settings

- Press the ALARM key to enter the upper and lower limit setting mode for various parameters.
- Use the CHANNEL/+ and MAX/MIN/- keys to set the desired limits.
- The device will beep and flash if the parameter goes beyond the set limit.

6.5. Completion of work

- Before turning off, make sure the console is in a safe place, protected from free falls.
- Press the Power button to turn off the console. Data is stored in memory even when turned off.

7. Care, maintenance and possible malfunctions

7.1. Cleaning

- Wipe the console and sensor with a dry, soft cloth monthly or as needed.
- Remove any dust and dirt from the display and buttons with a soft brush or air.
- To remove stubborn dirt, use a cloth lightly dampened with distilled water, then wipe dry.
- Clean the rain gauge funnel annually to remove leaves, insects, and debris. Remove any obstructions from the internal mechanism.
- Never use abrasives, solvents, alcohol or products containing chlorine.

7.2. Periodic control

- Check the condition of the batteries monthly: replace them if the low battery icon appears on the console.
- Check the radio connection: if the console is not receiving data from the sensor, move the sensor closer to the console (minimum 1.5 m, maximum 30 m).
- Make sure the sensor's solar panel is clean and receiving enough light to charge the batteries.
- If the appliance does not function properly even after the above steps, contact an authorized service center.

7.3. Possible malfunctions and ways to eliminate them

Symptom	Possible cause	User actions
Dashes (- -) appear on the display instead of sensor data	Radio communication lost; sensor batteries are dead	Press the CHANNEL/+ button for 3 seconds to search for the sensor; replace the AA batteries in the sensor; move the sensor closer to the console
The temperature readings inside and outside are drastically different	Sensors need 30–60 minutes to acclimatize; tolerance is ± 2 °C	Allow sensors to stabilize; use calibration function to match with reference thermometer

Symptom	Possible cause	User actions
Humidity readings are inaccurate	Sensor needs acclimatization; relative humidity is low or very high (outside the range of 20–90%)	Give the sensor time to adapt; calibrate the sensor with a reference hygrometer at the recommended range.
No precipitation data available.	Rain gauge funnel blocked by leaves or mud; tipping mechanism dirty	Clean the funnel and mechanism; check that the funnel moves freely when tilting the sensor
Wind direction readings are incorrect	The weather vane is incorrectly oriented relative to the compass; installation error	Reorient the weather vane to the south (Northern Hemisphere) or north (Southern Hemisphere); rotate the sensor so that the letter S points to the south direction
The display is dim or difficult to see	Batteries are dead; backlight is off	Replace the console batteries with new ones; press the SNOOZE button to turn on the backlight.
The console and sensor get hot	Prolonged exposure to solar radiation; adapter malfunction	Place the console in the shade; unplug the adapter and let the device cool down; contact service

8. Storage and transportation conditions

- Store the device in a dry, well-ventilated room at a temperature of +5 °C to +40 °C and a relative humidity of no more than 80%.
- Protect the console and sensor from direct sunlight, condensation, and dust during long-term storage.
- Do not leave the weather station in a humid environment: humidity leads to oxidation of contacts and malfunction of sensors.
- For long-term storage (more than three months), remove the batteries from the console and sensor to prevent them from leaking.
- Transport the station in its original rigid packaging or in a protective box with shock-absorbing material.

- When transporting over long distances, place the sensor in a protective position and secure it to avoid mechanical damage.
- The storage period before commissioning is unlimited provided that the stated requirements are observed.

9. Warranty obligations

- 9.1. The warranty period of the product is 12 months from the date of sale specified in the warranty card.
- 9.2. The manufacturer guarantees that the product complies with the declared technical characteristics, provided that the rules for transportation, storage and operation set out in this passport are followed.
- 9.3. During the warranty period, product defects that have arisen due to the manufacturer's fault will be eliminated free of charge. The method of elimination (repair, component replacement or product replacement) is determined by the service center.
- 9.4. Warranty service is provided upon receipt of a correctly and completely filled out warranty card and a document confirming the fact and date of purchase.
- 9.5. The warranty does not apply to cases where the malfunction is caused by:
 - mechanical damage, in particular cracks, chips and deformation of the housing and of the components of the product;
 - violation of the operating, storage or transportation rules set out in this passport;
 - ingress of liquid or foreign objects into the product, and also the action of insects and animals;
 - independent disassembly, repair or modification of the product, in particular repair at unauthorized workshops;
 - use of the product other than for its intended purpose;
 - force majeure circumstances (fire, flood, earthquake, etc.).
- 9.6. The warranty does not apply to natural wear and tear of the coating and appearance of the product, as well as to consumables.

10. Product disposal

- The product must not be disposed of together with unsorted municipal waste. This is indicated by the marking in the form of a crossed-out container on the product or its packaging.
- After the end of the service life, hand the product over to a collection point for the corresponding waste or to an organization holding the appropriate permit.
- Hand over the packaging elements (cardboard, polymer materials) to the corresponding streams of recyclable materials.

Contacts

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Conditions of use and storage of the product

The product is intended for educational work in general secondary education institutions and is used only under the control and supervision of a teaching staff member; the recommended age of students — from 10 years, that is, students of grade 5 and of higher grades. Keep the product in a dry, clean and ventilated room at a temperature from +5 to +40 °C and relative air humidity up to 80 % without condensation, separately from heat sources and out of direct sunlight, moisture and dust. Use the product exclusively for its intended purpose and do not allow drops, impacts or other mechanical damage. If you notice damage, a crack or any malfunction, stop working with the product immediately and inform the teacher or the responsible person of the educational institution; repairing the product on your own is prohibited.

WARRANTY CARD

Product name:	Digital weather station
Product model:	LABOTRIX METEO W2
Serial number:	
Date of sale:	
Warranty period:	12 months from the date of sale
Trading organization:	
Signature of the seller:	

The goods have been received in working order, without visible damage, complete, and have been checked in my presence. I have no claims regarding the quality of the goods; I have read and agree to the operating and warranty service conditions.

Full name of the buyer

Buyer's phone number Buyer's signature

Dear Customer!

Thank you for choosing Labotrix products. After-sales service of this product is provided in accordance with the regulations of the company and the legislation of the country of sale. So that we can serve you quickly and without unnecessary formalities, check that this warranty card is filled in correctly at the moment of purchase and keep it together with the payment document throughout the entire warranty period. When applying for repair, hand the product over to the seller or to the service center together with the filled-in card.

Procedure for applying

1. The right to free warranty service for the product is valid for 12 months from the date of sale specified in the warranty card. Within this period, components that have failed due to a manufacturing defect are repaired or replaced without payment from the buyer.
2. Before contacting, make sure that the malfunction is not caused by the reasons listed in section 9 of this passport, and if possible, use the table of possible malfunctions in section 7.3.
3. After the 12-month warranty period, repairs are carried out for a fee; the cost of work and spare parts is determined depending on the nature of the malfunction.

Grounds for refusal of warranty service

The company reserves the right to refuse free service or to perform the work on a paid basis if at least one of the following circumstances is established:

- absence of the warranty card, its incomplete or corrected completion, and also the absence of a document confirming the purchase;
- non-conformity of the serial number of the product with the number specified in the card, or damage to the factory marking;
- traces of independent disassembly, repair or modification of the product;
- damage caused by violation of the operating rules, connection to an unsuitable power source or external mechanical impact;
- damage as a result of force majeure circumstances.

Service Records

Date of entry	Description of the malfunction	Work performed	Position, signature, full name of the responsible person