



Mobile weather stations

Professional mobile weather station IMETEOLABS PWS-200M (Ultrasonic wind sensor)

IMETEOLABS PWS-200M measures wind direction and speed.

Wind direction and speed

It is measured using 4 ultrasonic sensors (ultrasonic anemometer). They cyclically record the airflow readings in the 4 directions of light. The device then calculates the result with an accuracy of $\pm 3\%$.

Weather station housing

The design of the weather station is compact and robust due to the absence of obsolete mechanical elements.

The plastic, ventilated housing is designed to protect the sensors from environmental influences and ensure trouble-free operation of the weather station. The warranty period is 1 year from the date of commissioning.

Software and communication interface

To manage the weather station, Jcom-iot programmers have developed a software called “IMETEOLABS PWS Configurator”. It allows you to view the data collected by the device in the form of tables and graphs.

IMETEOLABS PWS 200M weather station works in 2 encodings: ASCII format and MODBUS protocol.

For connection with other devices RS485 interface (twisted pair) is used.

Working principle

Smart weather station IMETEOLABS PWS-200M is connected to one of three devices:

- Data acquisition and transmission controller (wireless data transmission via NB-IoT/LoRaWAN/3G);
- interface converter (data transmission via Ethernet cable);
- computer (using RS-485/USB adapter).

These devices are used to transfer data from the weather station to the software “IMETEOLABS PWS Configurator”.

The software is available as an application for one PC or as an IoT platform on a separate server. The second option is more flexible: you can connect from any PC via a web browser and store data from other smart devices in a single system.

Technical specifications

| Name of characteristic | Value |
|---|--|
| Power supply | 12 V DC |
| Current consumption and input signal power | About 15 mA/12 VDC |
| Wind speed | Measuring range: 0...60 m/c Accuracy: ± 0.3 m/s or $\pm 3\%$ (0...35 m/s) |
| Wind direction | Measuring range 0...360 °. Accuracy: $\pm 3\%$ |
| Weight | About 0.8 kg |
| Operating conditions: air temperature, oC; relative humidity, %; atmospheric pressure, hPa | from - 50 to + 60; 0 to 100; 300 to 1200 |
| Interface | RS-485 (RS-232 on request) |
| GPS | Built-in |