

Technical description

BOOTLOADER VERSION: 04.03
FIRMWARE VERSION: 01.03

The AtikoE2 air quality monitoring station allows you to measure temperature, pressure, humidity, dust content of 2.5 and 10 micron fractions in the air (PM 2.5 and PM 10), as well as the level of carbon dioxide (CO₂) with further transmission of this information via a radiolink.

An integrated temperature-humidity-pressure sensor allows you to automatically correct the received information depending on weather conditions, and the presence of a heating module enables to minimize the influence of the environment during fog, showers and at minus temperatures. The device is produced in two versions:

AtikoE2.1 - measures temperature, humidity, pressure and dust content;

AtikoE2.2 - measures temperature, humidity, pressure, dust content and carbon dioxide level.



Characteristics:

- LoRaWAN protocol support;
- 868 MHz frequency range;
- ABP and OTAA support;
- work in Class A or C;

- external antenna;
- the ability to customize all functions and set software updates via Bluetooth connection to a mobile device (phone, tablet, laptop).
- power supply from AC with the voltage of 220 V.

For AtikoE2.1:

- working range (temperature measurement range) – from -40 to +85°C (± 0.5°C);
- humidity measurement range – from 0 to 90% (±3%);
- pressure measurement range – from 300 to 1100 hPa(±1);

For AtikoE2.2:

- working range (temperature measurement range) – from +5 to + 50°C (± 0.5°C);
- humidity measurement range – from 0 to 90% (±3%);
- pressure measurement range – from 300 to 1100 hPa(±1);
- CO₂ concentration measuring range – from 400 to 2000 ppm(±5%);

Setting device parameters

The mobile application "Atiko Setter" allows you to set the signal parameters (power, prevalence rate, etc.), activation type (ABP or OTAA), device address, encryption keys, transmission channels (frequencies), temperature polling period, device name and also to update software. The message sending period is once an hour.



It is possible to set the minimum and maximum temperature limits for unscheduled sending of "alarm" messages.

AtikoE2 is connected to a mobile device via a Bluetooth adapter. For more detailed information refer to the documentation in the “**Atiko Setter**”.

Work in class A and C

In this mode, it is possible to set the period for polling the sensors and for broadcasting the device. The polling period can be set in the range from 2 to 1440 minutes via the mobile application "Atiko Setter". In class A and C, it is possible to transmit commands (data) to the device. For more detailed information refer to the [MQTT integration](#) (Sending section). The following are the commands supported by the device.

Command	Description
get_data	A request to receive an out-of-order data packet from a device
reset	Program reset of the device

Format of the transmitted data

The device transmits data on the internal battery condition, information from the universal inputs and the digital outputs' condition in Cayenne format.

Parameter	Type	LPP (HEX)	Channel	Data size (bytes)	Data Resolution per bit	Factor	Value
Power level	Analog input	2 (2)	0	2	0.01 Signed		V
Air temperature	Temperature Sensor	103 (67)	1	2	0.1 Signed MSB		°C
Air humidity	Humidity Sensor	104 (68)	1	1	0.5 Unsigned		%
Air pressure	Barometer	115 (73)	1	2	0.1 Unsigned MSB		hPa
PM2.5 level	Analog output	3 (3)	1	2	0.01 Signed	x100	ug/m3
PM10 level	Analog output	3 (3)	2	2	0.01 Signed	x100	ug/m3
CO2 level	Analog output	3 (3)	5	2	0.01 Signed	x100	ppm
Temperature in the thermo-camera	Temperature Sensor	103 (67)	2	2	0.1 Signed MSB		°C
Humidity in the thermo-camera	Humidity Sensor	104 (68)	2	1	0.5 Unsigned		%

Connecting the programmer

The device allows to connect a universal Bluetooth programmer to a I4-pin port located under the case cover for setting parameters via the “Atiko Setter” mobile application.

