WARIOWEATHER.COM

User guide for IP Weather Station

WARIOWEATHER ME15

WARIO inside

(for firmware ME220006)

Content

1 Important notes

It is important to read this user guide very carefully and follow all the instructions given while installing the device. Then store it for future reference if necessary.

Device specification

The ME15 weather station consists of a control unit and a set of outdoor sensors. It can be further extended with additional GSM modul (GSM/GPRS 850/900/1800/1900MHz, MiniSIM) for mobile data collection and battery power supply with renewable source power supply such as a photovoltaic panel.

The weather station can be operated using a combination of POE network adapter and backup batteries, or without the POE adapter, in combination with renewable source of energy (1-2 FVE panels) with a battery. The battery can power the weather station for up to 70 h (when fully charged, depending on battery age and operation conditions).

Powering the weather station from the renewable source is only possible when the batteries are used.The measured values can easily be displayed on a computer, smartphone, tablet or any other device with an Internet browser. The weather station can also be integrated into higher-level systems. Communication is then mediated via TCP/IP protocol and data can be read using the ModBus technology or the XML format. More information about integration of the weather station into higher-level systems can be found in a separate user guide available at **www.warioweather.com** in the "Download" section.

If you want to access your data in a clear and easily understandable way or if you want to share it with other users, you can register your weather station at **www.warioweather.com** and you will get many additional features and extensions.

Safety instructions

Please read the following instructions very carefully before plugging in your device to electricity or connecting it to your computer, in order to prevent any potential injuries and minimize the risk of damaging the weather station and/or its accessories.

The manufacturer carries no responsibility for any damage resulting from incorrect installation or non-compliance with this user guide or technical instructions. If these safety instructions are not followed the device may not be safe to use and data might be inaccurate. Wanet Ltd. offers warranty service conditions of which are specified in a document available at **www.warioweather.com** and warranty is performed based on this document or the legislation of the Czech Republic. Installation and configuration of the weather station and computer network should be performed by a person with the appropriate knowledge and skills.

Opening or removing the outer lid can result in electrical shock. Because the device is exposed to outdoor weather conditions, all the installation steps must be followed carefully to prevent water leaking into the control unit area. The supplied power supply can only be used in electrical circuit with a voltage that corresponds to the label on the power supply. Some parts of the sensors are fragile and therefore close attention must be paid while handling them during installation or cleaning. Do not use the device in environments with aggressive chemical compounds and gases and do not clean or soak the device with chemical detergents. Do not place the weather station close to devices with strong electromagnetic fields.

Do not use the device if it is malfunctioning or if it shows visible signs of damage. The outdoor sensors for measuring wind speed and direction, solar radiation and precipitation, should be kept clean during winter. Also keep in mind that even a thin layer of snow can significantly influence the measured values, especially in case of the rain gauge if not heated (heated rain gauge is optional).

When using the FVE panel, perform regular cleaning to ensure continuous operation of the weather station without power outages.

2 Locating the Weather Station

Installing and using the weather station

The weather station is intended for outdoor use. Minimum distance from the ground is 1 m and the maximum possible distance from the energy supply, data switch or router is 25 m (the 25 m distance does not apply when using the renewable power supply with GSM). The station must be placed in an open-space and the surrounding area must be free of any devices that could potentially influence the measured values. In order to guarantee accurate measurements, the station must also be unshaded and no obstacles should prevent normal air flow. In the winter, the mechanical sensors must be kept clean.

Unsuitable places for installing the station or sensors

- Installation underneath a roof or some other mechanical barrier
- Installation facing other direction than South on the Northern hemisphere or North on the Southern hemisphere.
- Installation between two buildings close to each other.
- Installation on a chimney or heating/air conditioning exhaust
- Installation in a location that is hard to reach, making the station difficult to access.
- Installation in a place where there is a risk of damaging the sensors or the control unit.
- Installation in a place where the weather station sensors readily become dirty.

Installing the console and mounting pole

The weather station is only supplied with two basic telescopic sections of the mounting pole, to which the actual sensors are attached using plastic or metal mounting arm. This mounting pole must be attached to the console or a mast. Available is also an optional multi-functional console Meteo, which is intended for installation of the weather station itself and various configurations of the sensors and additional accessories. The main advantage of this system is flexibility in configuration options. Pay close attention to choosing the appropriate console and its attachment, ensuring maintenance of stable position.

Connecting the station

The connectors are connected to the control unit via holes in the plastic cover. The weather station is equipped with locking connectors RJ11 and RJ45 for connecting the sensors and the data cable. How to connect the particular connectors is explained on the control panel of the weather station.

3 Unpacking

Prior to the installation check that all components and hardware are included.

Package contents:

1 / 2pcs telescopic sections of the mounting pole
2 / 1pc plastic mounting arm for the wind speed and wind direction sensor
3 / 1pc wind direction sensor
4 / 1pc wind speed sensor
5 / 1pc rain gauge arm
6 / 1pc rain gauge
7 / 1pc case with control unit and install accessories
8 / 1pc radiation shield for the combined sensors with a metal arm
9 / 1pckg connection screws
10 / 2pcs installation clips for the console and telescopic part of the mounting pole
11 / 4pcs tightening belts
12 / 1pc power supply (PoE)
13 / 3pcs data cables

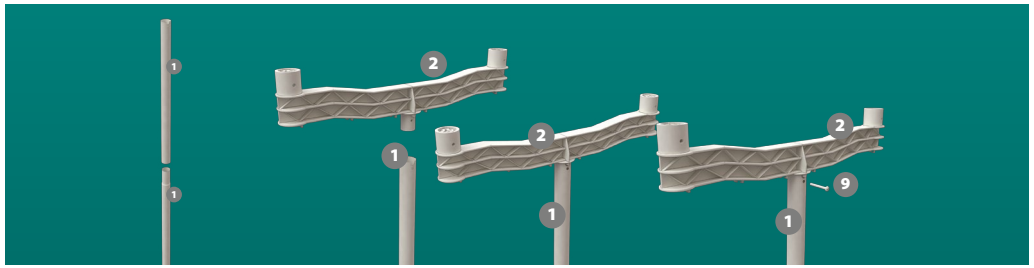
The actual components such as the install openings or the number of components connecting the station, may differ slightly from the ones depicted on the pictures or specified in the user guide as there are several types of installation arms, screws and clips used. All connectors and conductors must be connected while the control unit of the station is turned off.

Installation

Step 1

It is recommended to begin the installation with the main telescopic mounting pole (part 1) and plastic wind speed and wind direction arm (part 2). Connect the first part of the telescopic mounting pole with the plastic wind sensor arm using the locking mechanism and making sure it is locked on both sides. Then fix the position of both parts using nuts and bolts in order to make sure it is well fixed.

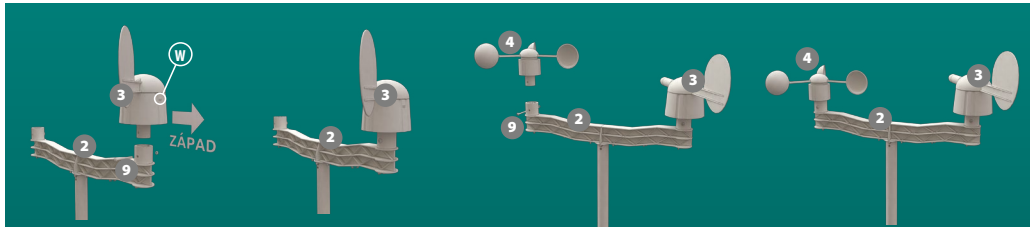
If you are using the multi-functional Meteo console, the procedure is the same as if using the plastic wind sensor arm (part 2). This type of installation is recommended if you wish to measure wind speed and wind direction at a different height than for example the air temperature and humidity.



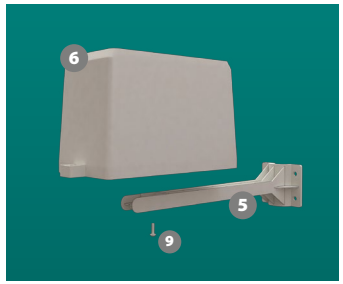
Step 2

Next install the wind direction (part 3) and wind speed sensor (part 4). It is necessary to make sure that when installing the weather direction sensor, the label "W" on the actual sensor is in the direction pointing outwards from the plastic mounting arm and connect the sensor by the locking mechanism to it. Then use nuts and bolts to fix them permanently.

Next connect the wind speed sensor (part 4) with the plastic mounting arm. Just like with the wind direction sensor, first use the locking mechanism and subsequently use nuts and bolts for tight connection.



Step 3



Next step is to complete the plastic rain gauge arm (part 5) and the rain gauge itself (part 6). Connect both parts together using the locking mechanism and fix them tightly by a small screw (part 9). Attach the entire plastic arm and rain gauge to the main telescoping mounting pole. If you want to increase the overall height of the weather station from the install console, extend the telescopic mounting pole with the other part of it. Tighter attachment can be achieved by screwing the control unit arms together. It is not always necessary to use both parts of the main mounting pole and installation can also be performed using just one of them.

Step 4

Attach the pole screws to the case with the control unit. Place it so that the attachment to the pole is as close to the center of the case as possible. Then attach the case with the control unit tightly to the mountain pole.

In case of using the battery, choose the location of the case so that it is least exposed to direct sunlight. Lifetime of the battery is affected by the number of power cycles, operational temperature and can differ based on its placement. It is recommended to check the battery state every 2 years.

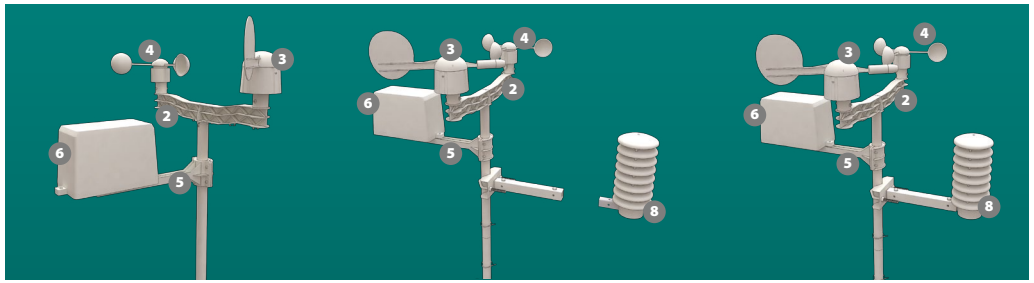
The cables going through the bushings attach by first removing the gasket of the bushing, then insert the cable, put back the gasket and complete the bushing again.

Make sure that the cables running through the bushing are tightly connected and sealed to prevent moisture getting inside the case.

Step 5

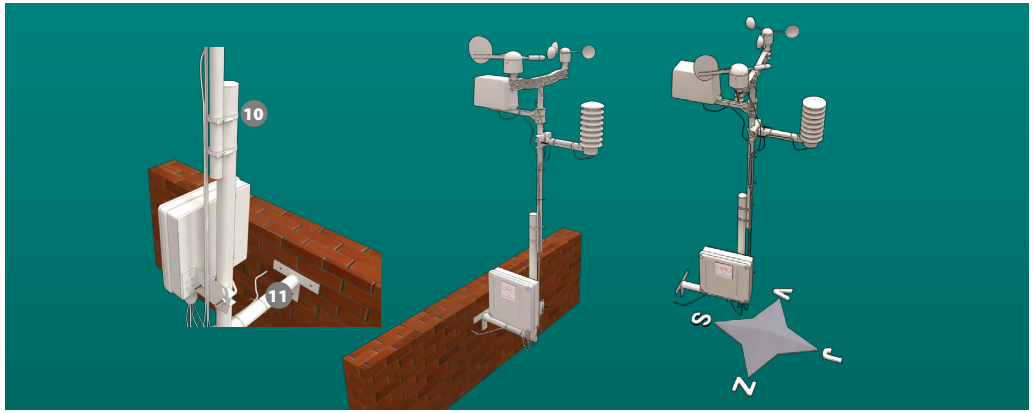
The attachment of the telescopic mounting pole and the weather station to the prepared console, is done by attaching it by clips to the console (part 10). Orientation of the whole weather station in space relative to geographical position and the actual sensors is very important. Tight fixation in all directions is important and it should also be placed perpendicularly in all directions. If the weather station is not fixed tightly or is not placed perpendicularly, measurements might be inaccurate.

Place the radiation shield of the combined sensors to the pole within the length of the supplied cable.



Step 6

Mechanically verify that the weather station is tightly fixed in its location and set its orientation so that the label W of the wind direction sensor faces the West and the radiation shield of the combined sensors is unshaded and facing South (Northern hemisphere) or North (Southern hemisphere). Then use tightening belts (part 11) to attach the cables leading to the control unit of the weather station. If the data cable goes over parts of the consoles or other features in the interior, it must always be tightly attached. The data cable is resistant against UV light and is intended for outdoor use. Make sure all parts are tightly fixed and that the cables are well attached. Otherwise measurements might be inaccurate, errors arise or it could even lead to the malfunctioning of the whole station.

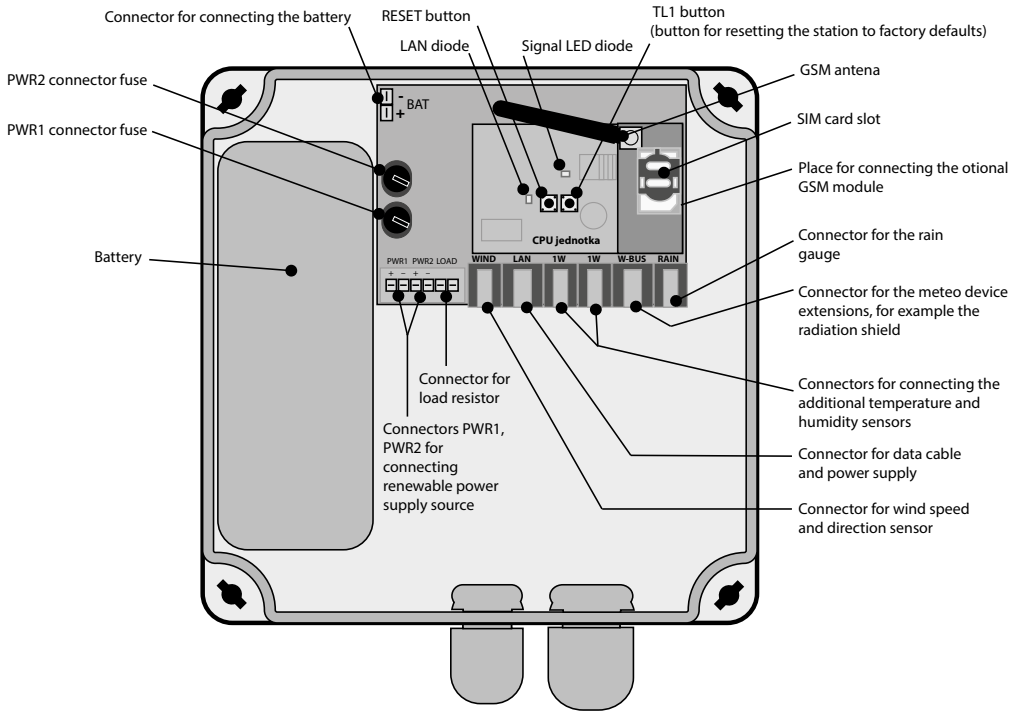


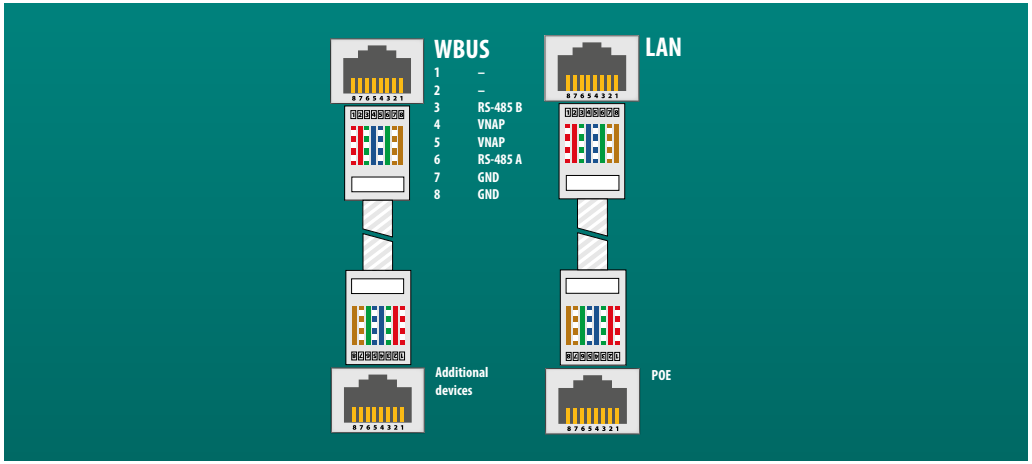
Step 7

Connect all the cables to the control unit. The weather station uses the RJ11 and RJ45 connectors for connection and communication between the control unit and the sensors. Connectors for data communication and WBUS interface are different from these and must not be interchanged.

- Connect the wind speed and wind direction sensor to the receptacle labeled as “WIND”
- Connect the rain gauge to the receptacle labeled as “RAIN”. This connector also includes connection for heated rain gauge, which is optional.
- Data cable from the PoE adapter connect to the receptacle labeled “LAN”. If you use the renewable power supply, connect only the LAN cable without the power supply.
- Connect the optional temperature or temperature/humidity sensors to the receptacles labeled “1W”.
- Connect the WBUS (for example the combined sensor radiation shield) interface data cable to the receptacle labeled “WBUS”.

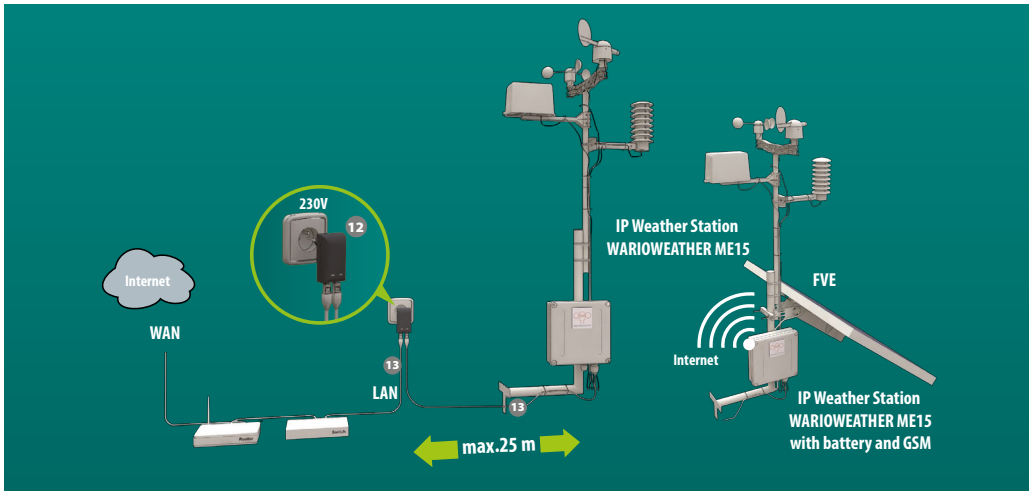
Step 8





Step 9

All that is necessary to do now in order to finish the installation is plugging in the power adapter and subsequently connecting it to your router or switch (in case of battery power it is not necessary to connect the cables to the power supply, but make sure it is fully charged). Correct connection is signaled by flashing of the green LED diode (see Status LED diode). The weather station is now ready to be used.



Measured, calculated and additional parameters

- outdoor air temperature
- apparent air temperature
- relative air humidity
- dew point
- atmospheric pressure
- average wind speed
- wind gust
- wind direction
- solar radiation
- rain gauge (optionally with automatic heating mechanism)
- weather station can be further connected to two independent cabled temperature or temperature/ humidity sensors (5 and 10 m).
- biometeorological forecast

- current date and time
- elevation
- geographical coordinates
- Moon phase
- zodiac
- sun rise, sun set and day length
- civil twilight and its length
- nautical twilight and its length
- astronomical twilight and its length
- name day for the current and next day
- daily maximum and minimum of the measured values
- short-term weather forecast for the next 6 h
- long-term weather forecast retrieved from the internet for the next 3 days
- 60 minute weather history in 1 min intervals displayed using mini graphs and trends
- daily weather history in 2 min intervals
- weekly weather history in 15 min intervals
- monthly weather history in 60 min intervals
- annual weather history in daily intervals

Extensions

The weather station can be extended with a GSM modul for mobile data collection, or a battery power supply with additional renewable power source, such as a photovoltaic panel. In order to extend the range of measured values, other meteo devices can optionally be connected to the weather station. The devices are connected to the station via the WBUS 485 interface at a maximum distance from the weather station control unit of 500 m. As many as 16 additional devices can be connected (maximum distance and device number depends on the particular configuration and conditions).

4

Configuration and settings

Status LED diode

- Red light continuously on – SD card not found or reset button pressed
- Green light flashing at 2s intervals - application running, everything OK.
- Green light alternating 1s off, 0.5s on - configuration file not found, default configuration must be restored
- Alternate flashing of red and green light – data corrupted, default configuration must be restored.

Status LAN diode

- Red light flashing – active LAN connection detected

Reset and default button

The button for reset and default configuration restore is next to the LED diode on the side of the connectors.

Function Restart by pressing button

Press the reset button at the bottom side of the weather station box. After releasing the button, the weather station will restart. Successful restoration of default settings and weather station activity is signaled by flashing of green LED diode on the control unit.

Function Default configuration by pressing button

Default configuration resets all the parameters of the weather station with the exception of history data to default values.

While the device is on, press and hold down the RESET button together with the TL1 button. After pressing these two buttons together, release the RESET button and hold the TL1 button for another 5 seconds. Then you can release the TL1 button as well and factory defaults will be loaded (default). Successful reset is signaled by green light flashing on the LED diode on the control unit.

5 Sensor range, resolution and technical specifications

	Range	Resolution
Outdoor temperature	-55 to +125 °C	± 0,5 °C (-10 to +85 °C) ± 2 °C (-55 to -10 °C a +85 to +125 °C)
Atmospheric pressure	150 to 1150 hPa	± 1,5 % (at 25 °C)
Outdoor humidity	0 to 100 %	± 5 % (10 to 60 %, at 25 °C) ± 8 % (0 to 10 % a 60 to 100 %, at 25 °C)
Precipitation	0 to 9999 mm	tipping bucket capacity: 0,3 mm
Wind speed	0 to 45 m/s (160 km/h)	threshold 0,5m/s
Wind direction	0 to 360 °	
Solar radiation	0 to 1250 W/m2	± 10 %

Operating temperature of Weather station -30 to +65 °C.

1W connectors for independent cable temperature or temperature/humidity sensors.

	Range	Resolution
External temperature sensor (protection IP68)	-55 to +125 °C	± 0,5 °C (-10 to +85 °C) ± 2 °C (-55 to -10 °C a +85 to +125 °C)
External temperature / humidity sensor	-55 to +125 °C 0 to 100 %	± 2 °C (-55 to +125 °C) ± 5 % (10 to 60 %, at 25 °C) ± 8 % (0 to 10 % a 60 to 100 %, at 25 °C)

Operational weather station voltage is 12-24V. Power consumption is <1W and when using the heated rain gauge approximately 18 W (when the heating is active). The weather station uses passive PoE as a power supply.

Voltage for renewable power supplies (connector PWR 1, PWR 2): 12V, max 30 W. Only use devices supplied by the manufacturer!

Battery type: Aku Pack NiMH 14.4 V. Capacity 4600 mAh. Only use batteries supplied by the manufacturer!

6 Device installation and configuration

Configuration and viewing all the data is done using the browser. The default IP address to access the station is **192.168.55.56** and subnet mask 255.255.255.0. Only the IPv4 protocol is supported.

Network settings can be variable depending on which operating system you use and the following default configuration of the weather station must be taken into account.

Default configuration of the weather station:

Version 4 IP protocol (TCP/IPv4)

IP address: 192.168.55.1

Subnet mask: 255.255.255.0

DNS set up: not necessary.

To enter the homepage of the weather station control panel type the following address into your browser address bar: 192.168.55.56.

7 Main features of the weather station web interface

The integrated web interface is used to view and configure all data and parameters. A browser which supports the HTML5 technology is required.

In order to prevent inputting incorrect data, all fields are validated before new value is saved and in case of a value with incorrect format a warning sigh will be displayed (⚠) along with an error message. Unless the value is corrected, no changes can be saved.

8 Weather station configuration

Section – Settings

The Settings section is where you configure the entire weather station. Make sure all the parameters are properly set in order to ensure correct measurement and access to the actual station.

If you are accessing the "Settings" station for the very first time, authorization is required. Default user name is **„admin"** and password also **„admin"**.

9 Section – Network

This section is for setting up network communication with the weather station.

Tab LAN

DHCP

Enabling this option will allow mirroring all network settings from the higher-level DHCP server.

IP address

IP address settings

Subnet mask

Subnet mask settings

NETBIOS name

Option to set NETBIOS name. NETBIOS support depends on the particular OS and internet browser used.

Default gateway

Here you can specify the IP address of your router or modem IP address.

Server DNS

IP address and DNS server settings.

Section Web server

Web server port

Options for weather station web server port

Internet web interface

This option enables loading the weather station interface from the Internet and therefore the actual web server of the weather station will not be overloaded by downloading of the interface by several users simultaneously viewing it. This feature is disabled by default, meaning the web interface is loaded directly from the weather station.

Section ModBus

The weather station ModBus is for TCP/IP. Port for communication is 502.

ModBus

Enabling/disabling ModBus communication.

ModBus address

Option to set default ModBus address. Default value is "1000".

Tab Http Proxy

Http proxy

This option enables network communication with higher-level proxy server.

Proxy server

Proxy server address configuration.

Proxy port

Proxy server port configuration.

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Section – Users

This section is for specifying login details for access to the weather station. If you forget the login information, it will not be possible to configure or access the station in any way and in order to regain access it will be necessary to restore your station to factory defaults. It is recommended that these values are changed from the default setting to prevent unauthorized users from accessing or changing configuration of the station.

User name

User name for access, default value is **"admin"**.

Password

Default password is **"admin"**.

If you want to change the password for accessing the weather station you will have to retype the new password for verification purposes.

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Section – Security

This section allows configuring how the access to data is secured.

Secured ModBus access

Enabling or disabling secured access to ModBus.

IP address

Option to specify a particular IP address that will be given access to the weather station for ModBus communication.

Require login upon start up

Option to enable or disable secured access to the actual weather station and measured values.

Shared key

This allows access of external application or web server to the weather station data via a shared key.

12 Section – Sensors

This section integrates configuration of the weather station sensors.

Tab – sensor management

ModBus table

List of all available ModBus addresses.

Add sensor

Option to add new sensor types.

Ping

Option to verify functionality of the network device. IP addresses of up to 8 sensors can be specified.

Label

Option to name a particular sensor.

IP address

Option to specify the IP address of a network device.

Tab – measurement settings

Temperature and humidity measurement

This option selects the type of measurement of the internal weather station sensors (temperature and humidity).

Current values

settings for the current temperature and humidity measurement

Trend

15 minute floating average of the temperature and humidity values

Tab Units

Unit setings

SI units – setting units of the data displayed in the web interface to SI (°C, hPa, m/s, mm, m)

Imperial units - setting units of the data displayed in the web interface to imperial units (°F, In, mph, ft)

13 Section – Extensions

This section aggregates all configuration options for additional peripheries that can be connected to the station and is organized based on the type of the particular periphery.

Tab – Weather station sensors

This option is for connecting additional temperature or temperature / humidity to the independent 1W inputs.

Update sensors

This option will search for new sensors in 1W inputs.

Tab – Heated rain gauge

This option will enable heated rain gauge.

Enable heated rain gauge

This option enables or disables heated rain gauge.

Tab – Battery

This option is for setting up the battery.

Battery power supply

This option is for enabling or disabling support for connected battery.

Primary energy source

This option enables choosing the primary source of energy to charge the battery (PoE or renewable source – for example a photovoltaic panel).

If the station is powered from the renewable source, it must not be connected to the PoE adapter at the same time, otherwise it could be damaged.

Tab - Device

This option enables extending the weather station with additional functionality or measured values. Connection of all new peripheries is done using the WBUS receptacle at the weather station.

Search devices

This option searches for new devices connected to the WBUS. In the displayed list you can remove disconnected devices as well as add newly detected ones.

List of connected devices

This list shows all devices currently connected to the WBUS, with the possibility of configuring or removing them.

14 Section – Location

This section is to specify the location of the weather station in order to correctly calculate for example the atmospheric pressure, weather forecast etc.

You can use the tool available at **www.warioweather.com,** to easily find the exact coordinates and elevation of your station just by placing a marker on a map. These you then subsequently copy to the appropriate fields in the settings.

Location

Name for station location.

Elevation

Setting the correct elevation is very important for the adjustment and calculation of the atmospheric pressure. If this value does not correspond to the actual elevation of your station, then the value of sea-level pressure will not be accurate. If the elevation is set to 0, the sea-level pressure will correspond to the absolute pressure.

Geographical coordinates (GPS)

This option is for specifying the exact geographical coordinates of where the weather station is placed. The values must be set correctly in order to accurately determine solar radiation, sun rise and sunset and for correct retrieval of Internet weather forecast.

Latitude (N)

Latitude of the station, value should be given as a decimal number (eg. 49.45820).

Longitude (E)

Longitude of the station, value should be given as a decimal number (eg. 18.14239).

15 Section – Display

Tab – Meteo

This section allows specification of the display and position of the individual measured values at the Meteo tab. You can drag and drop the individual tabs or enable/disable them. The Meteo section is divided into two parts – the Main dashboard and the Extended dashboard. This is for viewing on devices with variable size of the display.

Default view configuration

This option is for configuring default view for the Meteo section.

Tab – View

Here you can specify the display and position of the individual measured values for the Overview tab.

Reset to default view

This option will restore the default view for the Overview tab.

16 Section – Email

This section is for specifying information regarding email communication. If you set a condition and select the option to send email when the condition is fulfilled, then it is necessary to make sure all these fields are correctly filled in in order for the email to be delivered. Servers that require SSL encryption for sending emails are not supported. After filling in the parameters for email communication it is good to test immediately, whether the setting is correct and the email sending function is working.

Sending emails

Enabling or disabling email sending feature.

Server

Name of the mail server.

Port

Port number of the mail server, default value is 25.

From

Email address of the sender.

Server authorization required

Enable this option if the mail server requires authorization for access.

User name

Specifying user name for access to your mailbox.

Password

Specifying password for access to your mailbox.

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Section – GSM

In this section you can specify the parameters for connecting the station to the internet via GSM. The GSM modul is an optional accessory for the weather station. Before activation, make sure it is properly connected and that the antenna is connected to it.

GSM communication

Enabling/disabling GSM interface

PIN

Specification of the SIM card PIN number. If there is no PIN number used with that SIM card, leave the field blank.

Specifying the access point (APN)

Fill in as specified by your provider

Verification type

Fill in as specified by your provider

User name

Fill in as specified by your provider

Password

Fill in as specified by your provider

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Section – Synchronization

Configuration of synchronization of values with higher-level server.

Enable synchronization

Enabling or disabling synchronization with higher-level server.

Enable synchronization with www.warioweather.com

Enabling or disabling automatic synchronization of measured data with the server at www.warioweather.com.

Synchronization code

Insert the synchronization code you received after registering your station at www.warioweather.com.

Synchronization with www.warioweather.com - disabled

Enabling or disabling synchronization with higher-level server.

Server

Configuration of the server where you want to send data. Server can be specified either by its domain name or an IP address.

Port

Configuration of the port number used for communication with the server (in most cases set to 80).

Address

Configuration of the address (path) to the server script, which will receive and process the data from the weather station.

19 Section – Language

Choosing language and name days.

System language

Choose language for the weather station web interface.

Name day specification

Select country to be used for name day display.

20 Section – Date and Time

This section is for configuring date and time. These values are very important of proper logging of data and weather overview. If your station is connected to the Internet it is recommended to enable synchronization of date and time via the NTP service.

Time zone

Time zone of the station location.

Automatic DST

Enabling/disabling automatic daylight savings time shift.

Automatic date and time synchronization

Enabling automatic synchronization of date and time from the internet.

Primary NTP server

Configuration of NTP server to be used for date and time synchronization.

NTP port

Configuration of NTP port to be used for date and time synchronization.

Secondary NTP server

Configuration of secondary NTP server to be used for date and time synchronization.

Date

Setting of current date.

Time

Setting of current time.

Use PC time

Enabling time synchronization with the computer time.

Time format

Setting of display time format.

Date format

Setting of display date format.

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Section – System

This section shows some important information about the station.

Serial Number

Weather station serial number.

Model

Weather station model.

Firmware

Current firmware version installed in the station. If the station is connected to the Internet a warning sign will appear when newer version is available.

Runtime

Runtime since last boot up.

DB creation date

Date when the database was created.

Firmware update

Option to update the weather station firmware. Before the actual update it is recommended to restart the control unit. The firmware file is in fwr format. Configuration of all the sections and tabs is not changed during firmware update. Always perform the update when connected via LAN to the local network and make sure the new firmware file is intended for the particular station model and it is newer than the currently installed one. If additional information for the user is included with the firmware, carefully read it and follow the instructions.

Factory default

This will reset all the values to default configuration. Weather station database will not be affected.

Control unit restart

This option will restart the weather station control unit.

Database reset

This option will reset the database and thus erase all the data in it.

Technical support

Enabling this feature will allow more detailed logging of the weather station state and operation for service and technical support purposes.

Information

General information about the weather station.

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Viewing measurements– section „Meteo“

A: Weather station menu; B: Measured values/sensors tab on the main dashboard; C: trend graph for the last hour; D: daily minimum and maximum values; E: Additional current weather information; F: Current time; G: Home button, always takes you to the home screen; H: station location and elevation; I: Current date and name day; J: Current date and time; K: Log off button; L: Measured values/sensors tab on the extended dashboard

All current weather information can be viewed in the Meteo section. All values are updated in 10 second intervals. The measured and calculated values are displayed in individual tabs and some tabs can be viewed in two modes – current measured values from the sensor or trend graphs for the last hour. These two views can be toggled by clicking on the corresponding tab. Minimum and maximum values are always calculated since midnight of that day.

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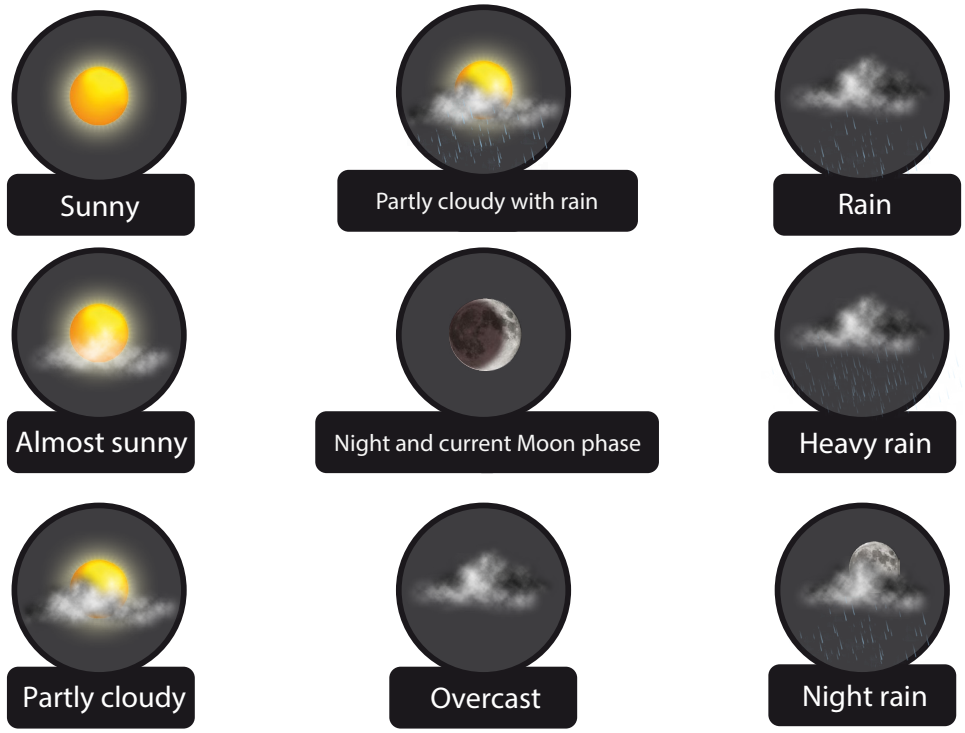
Description of the individual tabs in the „Meteo“ section



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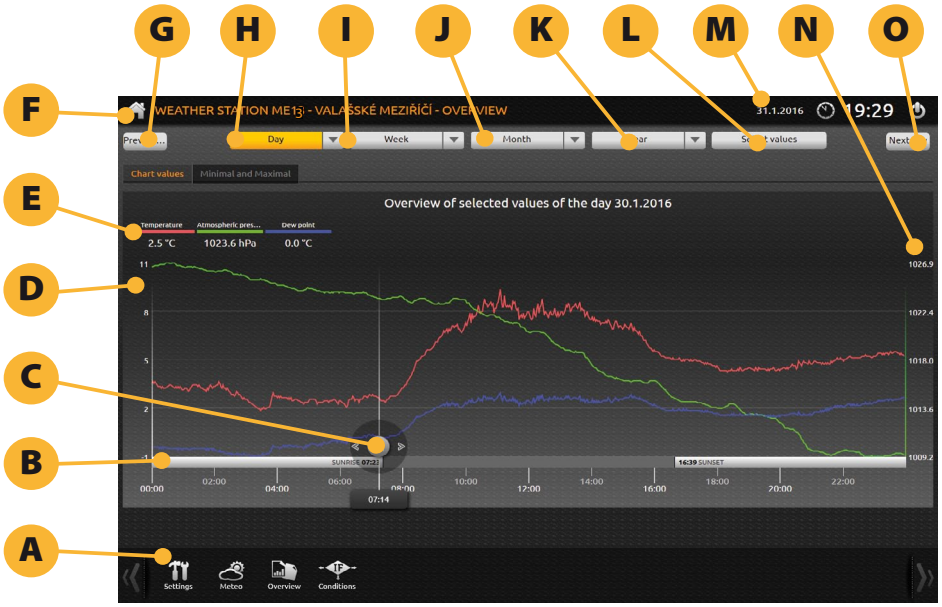
Viewing history data- section „Overviews“



A: Weather station menu; B: X-axis of the graph with time values and in case of the daily graph also sun rise and sun set; C: Slider for moving in time; D: Y-axis of the graph of particular parameter shown in the legend; F: Home button that will take you to the main page; G: “Previous” button will show you previous value depending on the currently displayed value and time span; H: The “Day” button shows information for the current day and clicking the arrow next to it allows choosing any other day in a calendar; I: The “Week” button shows information for the current week and clicking the arrow next to it allows choosing a particular week from a list; J: The “Month” button shows information for the current month and clicking the arrow next to it allows choosing a particular month from a list; K: The “Year” button shows information for the current year and clicking the arrow next to it allows choosing a particular year from a list; L: Clicking the “Select parameters” button will show you a list of parameters to choose the one to be displayed in the graph; M: Current date and time; N: Y2 axis with values for the parameter highlighted in the legend with the corresponding color; O: “Next” button will show you next value depending on the currently displayed value and time span.

The Overview section allows you to view history data for a maximum of 10 years since the beginning of measurements. You can select parameters and sensors you want to be displayed in the graph and the graphs can have either daily, weekly, monthly or annual span.

On the left there is a slider that allows changing the displayed time frame. The Overview section consists of two tabs – “Graphs” (shows graphs of selected variables) and “Minimum and maximum”, which shows the extreme values for a particular time period.

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Section „Conditions“

All control conditions are set in the conditions editor. The manufacturers carries no responsibility for consequences of incorrectly set parameters or using inappropriate devices.

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Section „List of conditions“

This section allows you to easily view the defined conditions. If you want to create a new condition, use the corresponding icon ( ) in the toolbar. The toolbar also shows percentage of maximum available number of conditions currently set. This will increase as you set more active conditions. The maximum allowed number of conditions is 16.

Each condition can contain up to 8 items (events, actions) and in the Expert mode it is possible to create one subsequent event. The toolbar is displayed above the list of conditions and provides all the tools available for configuring the conditions, such as:

- number of conditions used
- new condition
- back, leave without saving
- bin, deleting conditions
- condition configuration
- saving conditions

Display and configuration of the sensors depends on the particular configuration of the weather station and its type and on the connected peripheries.

New condition

Creating a new condition.

Field – Condition name

Name for the actual condition.

Field – Condition

Configuring whether the default state of the condition is ON or OFF. When OFF is selected, the condition will not be processed. If set to ON it will be processed immediately after saving.

Field – Editor mode

Editor of conditions is divided into two modes for creating conditions.

Basic mode – simple conditions that consist of a single event and automatically end when it is met or not met.

Expert mode – more detailed specification of conditions with the possibility to define variable states to the "Not met" and "Met" sections and also variable subsequent states of events and conditions.

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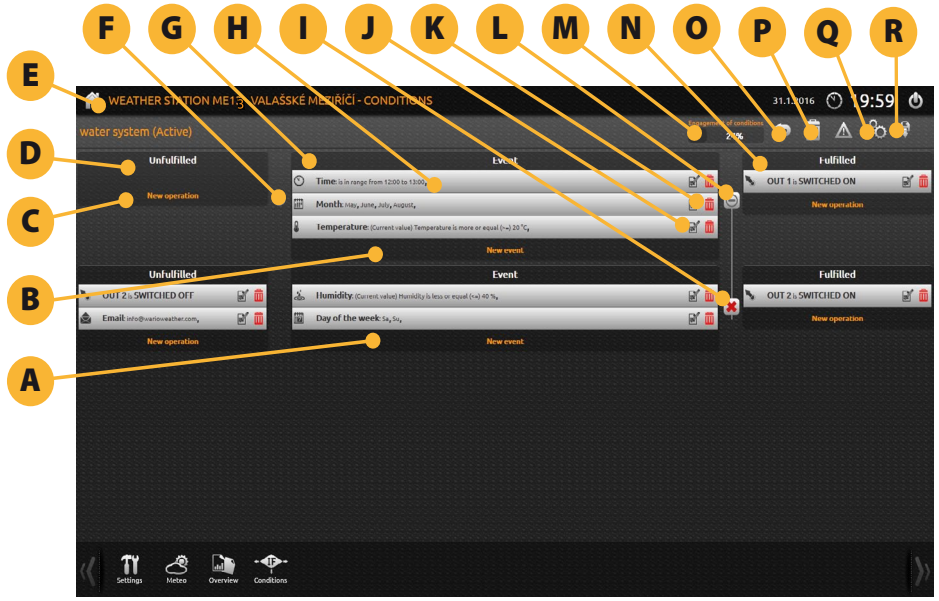
Creating conditions in Conditions editor



A: Subsequent events (executed after previous event is finished – only for Expert mode); B: Click here to add new event; C: Click here to add new action; D: Container for adding actions when events are not fulfilled; E: Home button, which always takes you back to the home screen F: Button for creating subsequent events (only for Expert mode) G: Container for adding events for evaluation; H: Individual events/actions defined by its icon and label; I: Button for removing subsequent events J: Edit button for events/actions; K: Button for removing event/action; L: Button for hiding/showing subsequent events (only for Expert mode); M: Indicator of number of used conditions; N: Container for adding actions when condition is fulfilled; O: Back button for returning to the conditions setting; P: Button for deleting a condition; Q: Button for condition configuration; R: Save button;

Creating a condition is divided into three parts.

- Events
- Actions when not fulfilled
- Actions when fulfilled

Conditions editor uses standard logical operators, which define the relationship between the corresponding value and condition state.

=	**(is equal to)**
<	**(is less than)**
>	**(is greater than)**
<=	**(is less than or equal to)**
>=	**(is greater than or equal to)**
<>	**(is between)**

On each tab for the particular even type you specify the value, logical operator and add it to the window with the list of events by clicking the "Add" button. The defined events are listed in the order in which they were created. Particular events can be removed simply by clicking the "Bin" icon on each row. Already existing value cannot be added again to the list. The tabs for the "Not fulfilled" state define the list of events that result in not fulfilling the condition. The tabs for the "Fulfilled" state define the list of events that result when the condition is fulfilled.

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Tab „Events"

The Events tab shows a toolbar that is divided into several main parts with the possibility to create conditions based on date and time, sensor or mathematical functions. All the events specified on one tab must be fulfilled simultaneously for the condition to be evaluated as fulfilled (AND relationship). Event of one particular type can only be inserted once. If a particular event type has already been used, a window for editing the event is displayed.

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Section – Date and Time

Date

Setting a condition based on a particular date.

Day of the week

Setting a condition based on a particular day of the week.

Month

Setting a condition based on a particular month.

Time

Setting a condition based on a particular time.

Day/night

Setting a condition based on whether it is day or night.

30

Section events – Sensors

PIf more than one state is assigned to a sensor you can configure if this event should be evaluated as fulfilled for one sensor or all sensors defined in the list of conditions. It is also possible to set whether the current values should be used or minimum or maximum for the current day. Daily minimum and maximum is always calculated since midnight of that day.

Ping

Setting a condition based on network device availability (PING).

Temperature

Setting a condition based on temperature.

Pressure

Setting a condition based on atmospheric pressure.

Humidity

Setting a condition based on relative humidity.

Dew point

Setting a condition based on dew point.

Solar Radiation

Setting a condition based on solar radiation.

Wind direction

Setting a condition based on wind direction.

Wind speed

Setting a condition based on wind speed.

Precipitation

Setting a condition based on precipitation.

Wind gust

Setting a condition based on wind gust.

Apparent temperature

Setting a condition based on apparent temperature.

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Section events – Mathematical functions

Mathematical functions allow evaluating mathematical functions and binding those to the condition states. The values from the sensors are multiplied by ten so have no decimal places. Most recent values are always shown in brackets next to the sensor values.

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Section events – Condition met / not met

The tab "Not fulfilled" lists the events that result in not fulfilling a condition. The tab "Fulfilled" lists the events that result when a condition is fulfilled.

In Expert mode it is possible to set subsequent actions and conditions once the previous condition is fulfilled. This allows creating chains of specific actions to be taken for various scenarios.

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Section events – Action condition met / not met

If the event for a particular condition is already defined, it is necessary to specify what should be the action taken when the condition is fulfilled or not fulfilled.

Action – Email

To

Recipient email address.

Cc

Add Cc recipients.

Subject

Email subject.

Date

Option to select a particular date to be reported along with the current value when a condition is fulfilled or not fulfilled. These can be freely entered into the email message.

Sensor

Option to select a particular text for a given sensor along with its current value when a condition is fulfilled or not fulfilled. These can be freely entered into the email message.

Message

Email message.

34 Weather station configuration for Internet display

In order to be able to view the data from the weather station on the Internet using your computer, tablet or smartphone, it is necessary to configure the access point which will enable connection with your home network. The exact procedure to follow is dependent on the particular devices and operating systems you use and so should be performed by a person with the appropriate skills and knowledge.

If you want to view or share the data from the weather station, it is possible to use the XML format. The station generates a standardized XML document that can be accessed at http://<your weather station address>/xml.xml. More information about data communication with the station including XML or ModBus, is available in a separate user guide at www.warioweather.com in the Download section.

It is not recommended to share the data from the weather station at a publicly available link or a source with higher traffic, or using an iframe. If you want to share the measured values, use either queries to the server using XML (see above) or set the station to send the XML to some remote address (see section Synchronization).

You can also easily share your data and weather conditions by registering at www.wariowearther.com, which will give you access to many additional features such as simple overview of the weather conditions, possibility to export the measured values into various formats, option to create a banner for your own weather website, a small application for Windows that will show you current values etc. If you own more than one weather station, you can view data from all of them at one place.

All up-to-date manuals and programs are available in the Download section at www.wariowearther.com.

We wish you nice weather!

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WANET s.r.o.

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118 00, Prague 1

Czech Republic

Service:

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