User guide for IP Weather Station WARIO ME13 (for firmware ME220005)
11. **Section – Security**  
   - Secured ModBus access  
   - IP address  
   - Require login upon start up  
   - Shared key

12. **Section – Sensors**  
   - Tab – sensor management  
   - ModBus table  
   - Add sensor  
   - Ping  
   - Label  
   - IP address  
   - Tab – measurement settings  
   - Temperature and humidity measurement  
   - Current values  
   - Trend  
   - Tab Units  
   - Unit settings

13. **Section – Extensions**  
   - Tab – Weather station sensors  
   - Update sensors  
   - Tab – Heated rain gauge  
   - Enable heated rain gauge  
   - Tab - Device  
   - Search devices  
   - List of connected devices

14. **Section – Location**  
   - Location  
   - Elevation  
   - Geographical coordinates (GPS)  
   - Latitude (N)  
   - Longitude (E)

15. **Section – Display**  
   - Tab – Meteo  
   - Default view configuration  
   - Tab – View  
   - Reset to default view

16. **Section – Email**  
   - Sending emails  
   - Server  
   - Port  
   - From  
   - Server authorization required  
   - User name  
   - Password

17. **Section – Synchronization**  
   - Enable synchronization  
   - Enable synchronization with www.meteo-pocasi.cz  
   - Synchronization code  
   - Synchronization with www.meteo-pocasi.cz - disabled  
   - Server  
   - Port  
   - Address
18. Section – Language
   System language
   Name day specification

19. Section – Date and Time
   Time zone
   Automatic DST
   Automatic date and time synchronization
   Primary NTP server
   NTP port
   Secondary NTP server
   Date
   Time
   Use PC time
   Time format
   Date format

20. Section – System
    Serial Number
    Model
    Firmware
    Runtime
    DB creation date
    Firmware update
    Factory default
    Control unit restart
    Database reset
    Technical support
    Status LED diode setting
    Information

    strana 18

22. Description of the individual tabs in the „Meteo“ section
    strana 18

23. Viewing history data – section „Overviews“
    strana 18

24. Section „Conditions“
    strana 18

25. Section „List of conditions“
    New condition
    Field – Condition name
    Field – Condition
    Field – Editor mode
    strana 18

26. Creating conditions in Conditions editor
    Creating a condition is divided into three parts.
    strana 18

27. Tab „Events“
    strana 19

28. Section – Date and Time
    Date
    Day of the week
    Month
    Time
    Day/night
    strana 19

29. Section events – Sensors
    Ping
    Temperature
    Pressure
    Humidity
    Dew point
    Solar Radiation
    Wind direction
    Wind speed
    strana 19
Precipitation
Output
Wind gust
Apparent temperature

30. Section events – Mathematical functions

31. Section events – Condition met / not met

32. Section events – Action condition met / not met
   Action – Output setting
   Set output to:
   Action – Output timing
   Select output
   State:
   Maintain a particular state for a defined time period:
   Action – Email
   To
   Cc
   Subject
   Date
   Sensor
   Message

33. Weather station configuration for Internet display
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 ME13 weather station consists of a control unit and a set of outdoor sensors. It can be further extended with additional sensors and devices, with the possibility of controlling the device based on integrated weather conditions. 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.meteo-pocasi.cz 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.meteo-pocasi.cz 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.meteo-pocasi.cz 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).

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 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

- 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 multifunctional 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 at the bottom part and those that are not used must be covered with rubber plugs, which are also supplied with the station. The weather station is equipped with locking connectors RJ11 and RJ45 for connecting the sensors and the data cable. OUT1 and OUT2 connectors use the RJ11 connector and close attention must be paid to ensure it is connected properly using pliers.

Unpacking

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

Package contents:

- 2pcs telescopic sections of the mounting pole
- 1pc plastic mounting arm for the wind speed and wind direction sensor
- 1pc wind direction sensor
- 1pc wind speed sensor
- 1pc rain gauge arm
- 1pc rain gauge
- 1pc box with the control unit, radiation shield for the combined sensors and metal arm
- 1pc arm for attachment of the weather station to the console with a U screw
- 5pcs connection screws
- 2pcs installation clips for the console and telescopic part of the mounting pole
- 4pcs tightening belts
- 1pc power supply (PoE)
- 2pcs LAN data cables

Some of the components such as the install openings or the number of components connecting the station may be slightly different 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. Apart from the replacement of the combined sensor radiation shield as part of service, it is not permitted to manipulate with the control electronics of the weather station in any way. Non-compliance with this will void the warranty. 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).

Step 4

Attach the entire plastic arm and rain gauge to the main telescoping mounting pole. Then also attach the metal arm with the control unit and the combined sensor to the main mounting pole, facing upwards. 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 5

The actual installation of the weather station, i.e. the attachment of the main telescopic mounting pole 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.

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”.
- Connect the optional temperature or temperature/humidity sensors to the receptacles labeled “S1 or S2”.
- Connect the relay outputs to receptacles “OUT1 or OUT2”.
- Connect the WBUS interface data cable to the receptacle labeled “WBUS”.

Step 8
Step 9

It is possible to remove the plastic radiation shield of the combined sensors (part 8) for service purposes. This shield also functions as a cover for the weather station. The radiation shield connection is mediated by the connector number “1” to the receptacle at the weather station, also labeled as “1”. Incorrect connection can damage the control unit or the actual sensors. When installing the cover for the weather station always check that it is properly fixed and the screws are tighten to prevent moisture from entering the unit.

Step 10

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. 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
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.
- Blue light flashing on its own or with any other color – LAN connection detection.

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 and if red LED diode flashes, release the button and the weather station should 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.

Press and hold the reset button at the bottom side of the weather station while it is turned on. When the red LED diode lights up for 2.5 s, then the green LED diode for 2.5 s and finally the red LED diode again for 2.5 s you can release the button and the
Weather station will reset to defaults. If the system boots correctly, the green LED diode will flash on the control unit.

If the device is on, but the control unit is unresponsive, use the second option of resetting the device. Turn the station off, press and hold the reset key and then plug it in. The red LED should now be on. Release the button after 3 s and the station should now be in the default configuration.

Sensor range and resolution

<table>
<thead>
<tr>
<th>Sensor Type</th>
<th>Range</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outdoor temperature</td>
<td>-55 to +125 °C</td>
<td>± 0.5 °C (-10 to +85 °C)</td>
</tr>
<tr>
<td>Atmospheric pressure</td>
<td>150 to 1150 hPa</td>
<td>± 1.5% (at 25 °C)</td>
</tr>
<tr>
<td>Outdoor humidity</td>
<td>0 to 100 %</td>
<td>± 5% (10 to 60%, at 25 °C)</td>
</tr>
<tr>
<td>Precipitation</td>
<td>0 to 9999 mm</td>
<td>tipping bucket capacity: 0.3 mm</td>
</tr>
<tr>
<td>Wind speed</td>
<td>0 to 45 m/s (160 km/h)</td>
<td>threshold 0.5 m/s</td>
</tr>
<tr>
<td>Wind direction</td>
<td>0 to 360°</td>
<td></td>
</tr>
<tr>
<td>Solar radiation</td>
<td>0 to 1250 W/m²</td>
<td>± 10%</td>
</tr>
</tbody>
</table>

Relay outputs OUT1 and OUT2 have a maximum current of 0.25 A and voltage of 30 V.

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.
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 (image) along with an error message. Unless the value is corrected, no changes can be saved.

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”.

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.

Section – Users

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.

Section – Security

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.

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 settings
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)
**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 S1 and S2 inputs.

**Update sensors**

This option will search for new sensors in S1 and S2 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 - 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.

---

**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.meteo-pocasi.cz/geograficke-informace/](http://www.meteo-pocasi.cz/geograficke-informace/), 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).

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**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.

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**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.

### 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.meteo-pocasi.cz**
Enabling or disabling automatic synchronization of measured data with the server at www.meteo-pocasi.cz.

**Synchronization code**
Insert the synchronization code you received after registering your station at www.meteo-pocasi.cz.

**Synchronization with www.meteo-pocasi.cz - 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.

### 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.

### 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.

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.

Status LED diode setting
Option to configure the LED diode flashing mode.

Information
General information about the weather station.

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.

Description of the individual tabs in the „Meteo“ section

- **Sunny**
- **Almost sunny**
- **Partly cloudy**
- **Partly cloudy with rain**
- **Overcast**
- **Rain**
- **Heavy rain**
- **Night and current Moon phase**
- **Night rain**

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.

Section „Conditions“

The weather station is equipped with two independent relay outputs. Keep in mind that these relay outputs are intended for low voltages of up to 30 V and maximum current of 0.25 A. If you want to control voltage, you must make sure that the corresponding device uses relay or contactor intended for the appropriate voltage and electrical current. All control conditions are set in the conditions editor. The manufacturers carries no responsibility for consequences of incorrectly set parameters or using inappropriate devices.

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. Actions in the expert mode can use up to 8 time outputs. 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

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. If you select the output condition on the “Met” tab to ON, the “Not met” output will automatically be set to OFF.

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. Just like in case of the Basic mode, the rules for events are not continued when met or not met.

It is important to always set the actions so that after the state of the output changes to ON, after change of the state it does not remain ON. Various states can be specified for each condition and this includes for example even turning of output when different conditions are met than those that activated it.
Creating conditions in Conditions editor

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)
- \( \leq \) (is less than or equal to)
- \( \geq \) (is greater than or equal to)
- \( <> \) (is between)

On each tab for the particular event 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.
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.

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.

Section events – Sensors

If 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.

Output
Setting a condition based on output status.

Wind gust
Setting a condition based on wind gust.

Apparent temperature
Setting a condition based on apparent temperature.

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.

The differences between the Basic and Expert mode are:
Basic mode – the output state can only be specified as ON or OFF, valid for both “Fulfilled” and “Not fulfilled” state.
Expert mode – same as in case of the Basic mode, but with the possibility to set a particular time delay.

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.

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.

Action – Output setting
Setting condition based on relay output.

Set output to:
Enabling or disabling the output.

Action – Output timing
Selection of output timing.

Select output
Selection of particular output.

State:
Configuration of output state.
Maintain a particular state for a defined time period:
Option to specify the duration of a particular state in seconds, minutes or hours. The maximum allowed duration is 40 000s, 1080 min or 18 h. Based on this value it is possible to specify a delay, for example leaving a particular device ON for a defined time period before turning it off when the condition is fulfilled, or it is also possible to set the opposite, i.e. a delay in turning on after a 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.

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.meteo-pocasi.cz 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.meteo-pocasi.cz, 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.meteo-pocasi.cz.

We wish you nice weather!