

# Meteobridge PRO - Manual

Thank you for having purchased a Meteobridge PRO, which is a powerful but still easy to use weather server in a tiny package and a stunning low power consumption of 1-2 watts. We hope you will enjoy this unit. When you get stuck with any issue setting it up or operating it, please reach out for help at the Meteobridge forum (<http://forum.meteobridge.com>).

This instruction manual mainly focusses on initial setup of the unit. To get a more deep inside in all the functions it provides, please browse to „[www.meteobridge.com](http://www.meteobridge.com)“, where operation is explained in much more detail. As we are still improving the software of the unit, you will also read there about what we are developing right now and about bugs we have fixed. With each reboot your unit is updated with most recent software (unless you tell your Meteobridge PRO to stick to a certain application version). Automatic updates on reboot take the burden from you to mess around with installing updates yourself.

## Unboxing

When you open the Meteobridge PRO package you find these items:

- this instruction manual
- Meteobridge PRO unit itself (in non-static bubble wrap)
- box with power supply, including headers for EU, UK and US type main connects
- bag with
  - 1 rectangular rubber antenna for WiFi operation (connector has male pin)
  - 1 rectangular rubber antenna for RF sensor reception (connector has hole in the middle)
  - converter cable to allow normal USB plug to be connected with micro USB socket on back panel of Meteobridge PRO
  - 1 meter flat Ethernet cable



## Connecting

1. Before powering up the unit, please mount the two rubber antennas (if the unit does not come already mounted with those). Their plugs are different (the WiFi one has a hole in the middle, while the RF one has a pin in the middle). Please screw the RF antenna (pin in the middle) onto the left SMA plug on the back and the WiFi antenna (hole in the middle) onto the right SMA plug.
2. When you plan to use the Meteobridge PRO wired in your LAN, please connect LAN connector on the back panel of Meteobridge PRO to your LAN router or switch.
3. When you don't plan to use internal RF modules for sensor data reception, please connect your weather station console's USB cable with the Meteobridge PRO. In order not to block the view to the display of your Meteobridge PRO from certain directions, you might consider to plug the USB

cable into the back panel with the help of the USB converter cable.

4. Last step is to power on the Meteobridge PRO with the included power supply. Please insert the micro USB plug from the power supply into the LEFT micro USB socket. When the Meteobridge PRO is powered up, the yellow LED gives a short burst. Then it takes about 10 seconds and the display on the front panel will light up and shows the start logo. After a while the red LED will start fast blinking. Meteobridge PRO is operational when red LED switches to steady on.

## First Login

Red LED shining constantly indicates that Meteobridge PRO is up and running and ready to take your commands on its web interface. When asked for user name and password, please enter „meteobridge“ as user and also „meteobridge“ as password (you can change the password later on).

When you started the unit first time with a LAN cable connected, it will try to receive an IP address via DHCP from your router. If this is successful the IP will be displayed on the front panel. In this case you simply direct your browser to this IP and you can start setting up the unit.

When you started the unit first time without cable connection it comes up as a WiFi access point to allow you easy login with your smartphone, tablet or laptop. SSID to look for with your mobile device is given on the front panel of the Meteobridge PRO. Once you successfully directed your mobile device to connect to this temporary SSID all you have to do is to direct the browser on your device to IP 192.168.1.1. There you find the network configuration page of Meteobridge PRO. Please define network settings Meteobridge should use from now on and press „Save and Apply and Reboot“. Having done this, Meteobridge PRO will reboot and will try to connect with the given network credentials. If this works fine, IP of the unit will be displayed on front panel and fast blinking red LED will switch to steady on after a while. Now you are ready to login with your browser to the displayed IP and can start setting up the unit.

## Basic Setup

On first login Meteobridge PRO asks you to read the license terms. Please read those and set the acceptance mark and press „Save and Apply“. When IP changes, this screen will pop up later again as Meteobridge assumes that the owner of the system might have changed.

Next tab to visit should be „System“ where you should set timezone, geo location, and interface language (default is English). When done please press „Save and Apply“.

Next tab is „Station“ where you select the station your Meteobridge PRO is connected to. When your Meteobridge PRO is equipped with the RF circuitry to receive Davis sensor data directly, you should select „Use internal RF receiver“ and select „Meteostick: Vantage“ at the bottom of the list. Frequency range (US/EU/AU) needs to reflect the geography you are in, „ID“ is the transmitter ID your outdoor sensors are assigned to. Rain bucket size also needs adaption according to the one you have. In EU 0.2mm is standard, while 0.01 inch is standard for the US. The other weather station settings can stay at default values for the moment. Please also set altitude of your station at the bottom of the page, to have sea level pressure computed correctly. When done, please press “Save”.

Next tab is „Network“. Please select if you are on wired LAN or WiFi and if you want to use DHCP for automatic configuration or if you prefer to manually specify all the network parameters for your Meteobridge PRO. „Known SSIDs“ select box helps you to pick the WLAN SSID from the list of Access Points in your reach. Numbers in brackets indicate signal strength in db. While -50db or -60db are pretty good to work with, networks with signal strengths below -80db might not be stable in operation. When done please press „Save and Apply and Reboot“ to make network changes operational.

Meteobridge PRO will reboot. When it gets stuck at fast blinking, your network settings are not working and Meteobridge PRO cannot connect to the Internet. In that situation it is recommended to reset the network config to default and to start over again as initially done.

## Recovering from Connection Issues

Network connection issues are the most prominent issues that block your Meteobridge PRO from starting correctly. Normally the Meteobridge PRO connects to the Internet to load most current application software from the Meteobridge server during start up. This needs the Meteobridge PRO to reach the internet, which needs it to be configured correctly according to your LAN / WiFi credentials. Typical situations, when this fails are:

- Meteobridge is on WiFi and you change the WiFi router. New router will presumably have new SSID and new password with the result, that Meteobridge PRO cannot login to the WiFi anymore
- Meteobridge is on wired LAN, configured manually/statically, and you change the router. New router defines a new class C network (192.168.0.x instead of 192.168.1.x) and now your browser can no longer reach the Meteobridge PRO (outside current class C network) and the Meteobridge PRO can no longer reach out to the Internet as the IP of the gateway has also changed, it is now part of the new class C network.

Whenever you lost connectivity the red LED keeps blinking fast. To get out of this situation, wait until red LED is in fast blinking mode and then press the button behind the pinhole on the front with an unfolded paper clip or a needle. Having done that the display will show you options to choose from. Each time you press the button the cursor moves to the next item. To activate an item you just have to wait until the progress bar on the right has been running out. These are the options to choose from:

- SHOW DETAILS does nothing special but shows MAC, IP, Gateway IP, power consumption and temperature/humidity in the Meteobridge PRO.
- REBOOT LAN CLIENT reboots Meteobridge PRO as a client for your wired LAN. Meteobridge expects a DHCP server in the LAN (mostly your router) to provide IP, network mask, gateway IP and DNS IP. This is the default configuration Meteobridge is shipped with.
- REBOOT WIFI AP reboots Meteobridge PRO as a WiFi access point. When the reboot is done Meteobridge PRO will show the SSID on the display and will ask you to connect with your mobile device to this WLAN and to browse to 192.168.1.1 where you will find the network configuration page of Meteobridge PRO. Being there you can do needed network settings of your Meteobridge PRO to have it operational. „WiFi access point“ setting is just a temporary measure to allow you to reach network configuration without having the Meteobridge PRO connected to a wired LAN.
- RESET PASSWORD resets Meteobridge PRO's HTTP (and SSH) password back to „meteobridge“.
- FACTORY RESET deletes all individual settings and reboots the Meteobridge PRO. Data stored on the internal USB storage (like logged historical data) will not be touched.

## Hardware Features

- Size: 57mm x 27mm x 95mm (width x height x depth) without antennas
- weight: 130g (with antennas)
- operating temperatures: 0 - 60°C, non-condensing
- 100/10 Mbit Ethernet port
- WiFi 2.4 Ghz, 802.11g/n (right SMA male connector on back panel)
- RF-Sensor reception in 868-915 Mhz band (left SMA female connector on back panel)
- external power supply (incl. plugs for US, EU, UK) with micro USB connector
- full size USB female connector on front panel
- micro USB female connector on back panel
- 4 LEDs on front panel, indicating
  - RF sensor reception (orange)
  - system operational (red)

- network traffic (yellow)
- sensor data stored (green)
- black/white OLED with 128 x 64 pixels to display status information and user defined data
- reset pin hole
- internals
  - Carambola 2 computing module (AR9331 SoC, 16 MB Flash, 64 MB RAM)
  - 4 port USB hub (FE1.1s)
  - voltage / power monitoring IC (INA220)
  - barometer IC (BMP180)
  - temperature / humidity IC (SHT21)
  - low volume signaling buzzer
  - 8 GB USB connected permanent storage (Toshiba THNU08SIPBLACK)

**FCC Statement: Contains FCC ID Z9W-CM2**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For detailed warranty information applicable to products purchased outside the United States, please contact [info@smartbedded.com](mailto:info@smartbedded.com).

**FCC Caution:**

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:  
 (1) This device may not cause harmful interference, and  
 (2) this device must accept any interference received, including interference that may cause undesired operation.

**FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

**CE Mark Warning:**

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

**Declaration of Conformity**



We, smartbedded UG (haftungsbeschränkt)  
 Querweg 35, 24632 Lentförden, Germany

Declare under our sole responsibility that the product:

Product name:	Meteobridge Pro
Trade name:	Meteobridge Pro
Type of model:	1.0

Is in conformity with the applicable requirements of the following documents:

- DIRECTIVE 1999/5/EC on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity
- DIRECTIVE 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC
- DIRECTIVE 2009/125/EC on establishing a framework for the setting of eco design requirements for energy-related products
- DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment

I hereby declare that the equipment named above has been designed with the relevant sections of the above referenced specifications. The unit complies with all applicable essential requirements of the directives.

Signed by or for the manufacturer :

Name (in writing): Anke Pasternak  
 Title: CEO

Place and date of issue: Lentförden, November 7, 2015