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Meteobridge PRO - Datasheet

Meteobridge PRO is the first Meteobridge product that consists of software and specially for the purpose designed hardware, in order to establish a whole new product class, the *Personal Weather Server*. Meteobridge PRO comes in a tiny package (about the size of a cigarette box), a power footprint of 1-2 Watts, internal data storage of up to 8GB, LAN and WiFi capabilities, a graphical OLED display, 2 external USB ports and integrated RF capability to receive data from Davis Instruments sensors directly. Beside the version with included RF capabilities (red caps) there is also a model with black caps that is missing the RF feature.

Autonomous - Meteobridge PRO is operated by your browser, so you don't have to install anything on your PC and you can use it with any desktop, laptop, tablet. With the browser you configure the Meteobridge PRO initially. Once configured to your needs the Meteobridge PRO works totally independent from your PC, which takes the burden of having a PC up and running all the time to monitor weather data away from you. It is an autonomous, low power solution that takes care of your weather stations data.

Weather Stations - Meteobridge PRO supports these weather stations:

- Davis Instruments® Vantage Pro2™, Vue™ (red capped model can read RF sensor data directly, no console or envoy or data logger needed)
- Oregon Scientific® WMR-88, WMR-100, WMRS-200, WMR-300, RMS-200, WMR-928, WMR-968
- Meade/Irox/Mebus/Honeywell/Nexus TE-923, TE-827, TE-821, DV-928
- FineOffset/Ambientweather WH-1080, WH-2080, WH-3080, Observer-IP
- PeetBros Ultimeter 100, 800, 2100
- Rainwise MkIII (MkIIICC and CC-3000 interfaces are supported)
- Lufft WS600/601
- Acurite 1025, 1035, 1525, AcuLink Bridge
- LaCrosse/ELV WS2300, WS550, WS777, WS888, WDC7000

Weather Networks - Being connected to one of the above weather stations Meteobridge PRO can upload your weather station's data to the following Internet weather networks, where you are part of a weather community and get your data visualized in various ways:

- Weather Underground
- Weather Underground CAM
- AWEKAS
- CWOP
- WeatherBug Backyard
- WeatherForYou
- UK MetOffice WOW
- Open Weather Map
- Weather Cloud
- Windfinder
- Windguru
- Idoep
- Weatherflow
- Wetter.com
- Previmeteo
- Anything Weather
- Meteonews
- Meteoplug Cloud Graphing
- Meteobridge Weather CAM

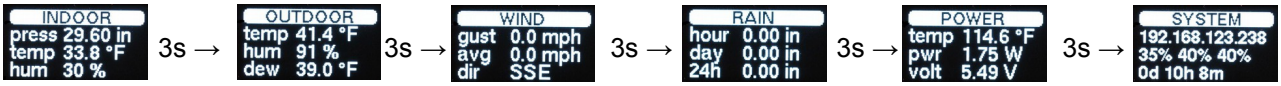
Uploads/Sending - Beside feeding weather networks Meteobridge PRO allows you to pull your weather data in short intervals to your own server in the Internet. This can be done by FTP, HTTP or even by mySQL requests. You also can send weather data by email or can twitter your data. Which data to send or upload and at which intervals is completely under your control.

Conditions - Meteobridge PRO can even act on user-defined sensor data conditions and initiate any of the actions mentioned above (like email) when sensor data matches conditions defined by you. Having multiple ways to upload and send data, controlled by user-defined conditions gives you an extremely flexible tool to make things happen based on sensor data.

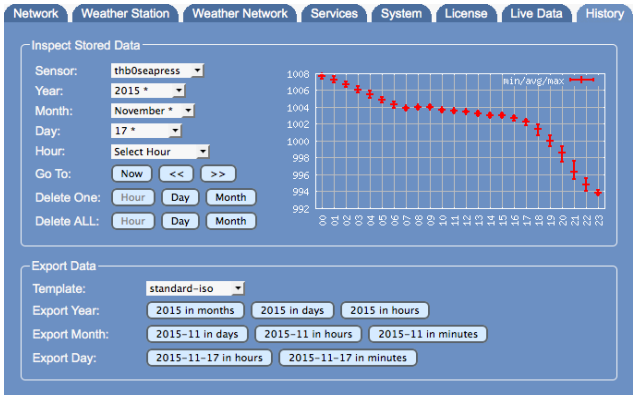
Remote Access - Meteobridge PRO offers the ability to be reached from the Internet by simply setting a mark on the web interface. Doing so you are provided with an Internet URL where you can reach your Meteobridge PRO. No changes at your firewall and router are needed. It just works, unless you are in a

company-grade LAN where packet filtering is applied or other special measures are taken. This feature is extremely helpful when you are on travel or the Meteobridge is located in a remote location and you want to check things or change settings. Your Meteobridge remains protected by the password you gave it.

Display - Meteobridge PRO has a 128x64 pixel black/white display at the front, which is used during boot to show boot progress and the IP address it has been given by the router. This display is user programmable and can also be used to show data of station sensors. You can define distinct pages to show up on the display. These pages can have text in various fonts and sizes and will typically show sensor data. You can arrange these pages into a flow so that information to be displayed will change at a frequency defined by you. Example below shows a typical cascade of pages.



Storage - Meteobridge PRO comes with an internal database that can store up to 8 GB of weather station data, which allows to hold data of many years. Data can be inspected, edited and deleted via the Meteobridge PRO web interface, which also gives a graphical overview about data of a specified sensor in a year's, month's, day's or hour's time range. Meteobridge PRO can directly make use of stored data when uploading information, so this can feed your web server with any kind of sensor data for any period in time. Therefore, you are not stuck to predefined templates but can design your internet weather presence as you like.



Sharing - Meteobridge PRO allows to export stored weather data in a CSV like notation. Which data to export and for what period in time is user-defined. This allows you to export data for various follow-on processes. Meteobridge PRO makes data exports accessible by providing a samba share (windows network folder) that every PC in your LAN can easily mount as a network folder.

Monitoring - Meteobridge PRO has an internal power monitoring that measures support voltage and power usage of the Meteobridge PRO itself and all connected USB devices. This is extremely handy, when Meteobridge PRO is running in a battery powered environment, as it can monitor and even act on power conditions. It also allows you to check if your setup is doing “as green” as expected.

More to come - Future updates of Meteobridge PRO will allow to plot graphs on weather data and to upload those to servers in the Internet. There is more to come as the hardware platform is still not even close to its limits. As with the other Meteobridge product we are keen to improve this platform ongoing.

Hardware Specification

- Size: 57mm x 27mm x 95mm (width x height x depth) without antennas
- weight: 130g (with antennas)
- operating temperatures: 0 - 40°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
- black/white OLED with 128 x 64 pixels to display status information and user defined data
- reset pin hole
- 4 LEDs on front panel, indicating
  - RF sensor reception (orange)
  - system operational (red)
  - network traffic (yellow)
  - sensor data stored (green)
- internal components
  - Carambola 2 computing module (AR9331 SoC, 16 MB Flash, 64 MB RAM)
  - 4 port USB hub
  - voltage / power monitoring IC (INA220)
  - barometer IC (BMP180)
  - temperature / humidity IC (SHT21)
  - low volume signaling buzzer
  - 8 GB USB connected permanent storage (THNU08SIPBLACK)

Compliance

Meteobridge PRO

- is CE and is RoHS conform and is FCC compliant (contains FCC ID Z9W-CM2)
- fulfills Open Source obligations of included SW components (www.meteobridge.com gives details)