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# Ambient Weather WeatherBridgePro for Ambient Weather Observer and Davis Instruments VantagePro2, VantageVue Weather Stations Quick Start Guide



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## 1. Introduction and Technical Assistance



**Note:** For technical issues, please email the developer: [info@meteohub.de](mailto:info@meteohub.de). You can also receive assistance online at <http://forum.meteobridge.com>

For email assistance, please reference Section 6.1.1 for instructions on providing remote access to the developer. Provide the URL and your password.

The Ambient Weather WeatherBridgePro communicates directly to the Ambient Weather Observer wireless sensor array and the Davis Instruments VantagePro2 and VantageVue series. No display console is required to receive the data from the sensor array.

The WeatherBridgePro includes an internal barometer, hygrometer and thermometer, and does not communicate to the thermo-hygrometer-barometer included with some of the Ambient Weather Observer packages.

The following quick start programming guide provides basic instructions for configuring your WeatherBridgePro. This is a supplement to the detailed information provided at [www.meteobridge.com](http://www.meteobridge.com).

**Note:** Ambient Weather uses the terms WeatherBridgePro, and MeteoBridgePro interchangeably. MeteoBridgePro was developed in Germany by smartbedded UG, on the web at [www.meteobridge.com](http://www.meteobridge.com).




The unit has been tested thoroughly before shipping.

## 2. Product Limitations

- The indoor temperature is measured inside the WeatherBridgePro, and subject to internal heating, and does not accurately reflect ambient temperature.
- The wireless range of the WeatherBridgePro receiver is approximately 300 feet.

### 3. Packing List

The packing list is as follows:

No	Description	Image
1	WeatherBridgePro	
2	AC Adapter (UL Rated) with USA, EU and UK connectors	
3	Ethernet Cable	

**Figure 1**

### 4. Getting Started

1. Place the four rubberized feet on the bottom of the WeatherBridgePro.
2. Connect the two rubber antennas (if not already connected).

Reference Figure 2. The plugs are different (the WiFi one has a hole in the middle or female, while the RF one has a pin in the middle, or male). Connect the RF antenna (male) to the left plug and the WiFi antenna (female) to the right plug on the back of the WeatherBridgePro.

3. Connect the WeatherBridgePro to your router with the Ethernet cable. Note: You can disconnect it later after configuring the WiFi settings.

\***Note:** Alternately, you can connect to the WeatherBridgePro via WiFi from your computer (if it supports WiFi) or mobile device, since the WeatherBridgePro operates as a WiFi access point if do not have easy access to a router. For details, refer to Section 4.1.

4. Connect the WeatherBridgePro to AC power.

Reference Figure 2. The power connector is on the left of the back panel.

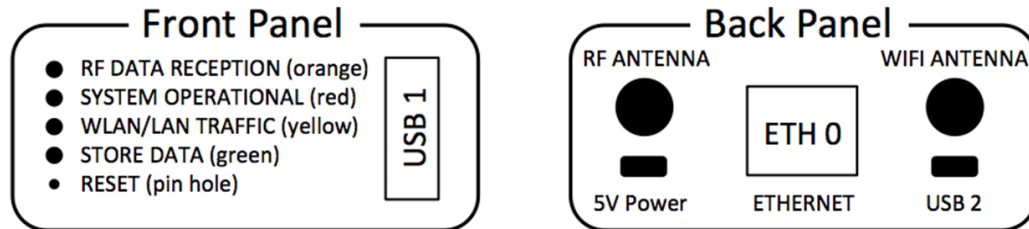


Figure 2

5. The power up sequence takes about 10 seconds. The red LED will blink rapidly. WeatherBridgePro is operational when the red LED is continuously on.

### 4.1 Accessing the WeatherBridgePro from a Wireless Access Point (optional)

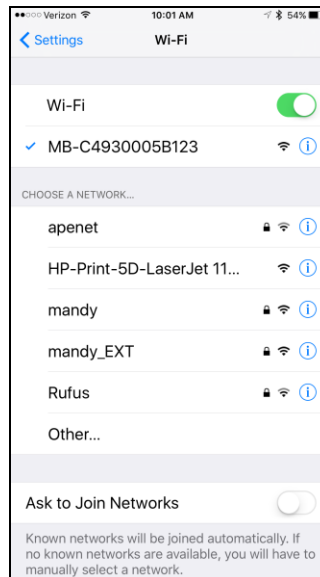
If you do not have easy access to a router for configuring the WeatherBridgePro, you can connect wirelessly. The WeatherBridgePro serves as a wireless access point, like your router.

To connect to the WeatherBridgePro wirelessly, perform the following operations:

1. Power up the WeatherBridgePro (without an Ethernet cable or LAN connection to a router).
2. After the WeatherBridgePro boot up sequence, it will display the access point, similar to this:

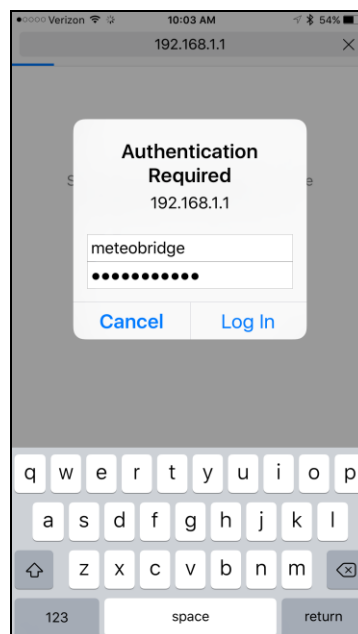
**MB-C4930005B123**

3. Connect to this access point, as shown in the example Figure 3 (this is an example screen for an iPhone, and your layout may vary).



**Figure 3**

4. Open the web browser on your computer or mobile, and type in the IP address shown on the WeatherBridgePro display. For example, if 192.168.1.1 is showing on the display, type this into the browser, as shown in Figure 4 (this is an example screen for an iPhone, and your layout may vary).



**Figure 4**

5. Proceed with Section 6.

When prompted for the default Username and Password, enter:

**Username: meteobridge**  
**Password: meteobridge**

6. Do not forget to return your WiFi enabled computer or mobile device to your default wireless access point or router when finished.

## 5. Browser Access

Enter the IP address displayed on the WeatherBridgePro's display into your web browser. An example is shown in Figure 5, and your IP address will likely be different.



Figure 5

When prompted for the default Username and Password, enter:

**Username: meteobridge**  
**Password: meteobridge**

## 6. License

From the Menu tab, select **License**, as shown in Figure 6, and agree to the license agreement. Record the **License Key** for warranty purposes:

**License Key (case sensitive):**

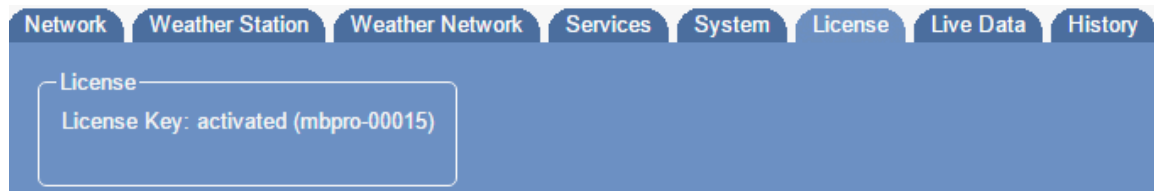


Figure 6  
License Key

### 6.1 Security (password)

The default username and password is **meteobridge** and **meteobridge**. There is likely no need to change this, but you can enter a new username and password. Record the changed username and password here for future reference:

**Username:** (default is meteobridge)

**Password:** (default is meteobridge)

To make the changes permanent, select **Save and Apply**.

### 6.1.1 Remote Login

To login remotely, from the System Tab, select the checkbox Allow login from the internet via [this URL](#).

Note: It can take up to one hour for this remote login URL to become active.



Security

New Password:

New Password:

Internet Login:  Allow login from the Internet via [this URL](#)

Figure 7

### 6.2 Localization


Enter the appropriate time zone, longitude and latitude, and select **Save and Apply**.

[Network](#)
[Weather Station](#)
[Weather Network](#)
[Services](#)
[System](#)
[License](#)
[Live Data](#)
[History](#)

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**System**

Platform: Meteobridge PRO  
 RAM: 61500 kB total, 24504 kB free (60% used)  
 Storage: 6800 MB total, 6786 MB free (0% used)  
 SWVersion: Meteobridge 2.6 (Dec 8 2015, build 8270), FW 1.4  
 Uptime: 18 hours, 7 minutes Buffer Usage: 0 items (0%)  
 Power Data: 5.51V 326mA 1.80W (Box Climate: 46.6°C 6%)



**Maintenance**

Version Control:  on next reboot  
 Configuration Data:  No file chosen    
 Meteostick:

**Security**

New Password:   
 Confirm New Password:   
 Internet Login:  Allow login from the Internet via [this URL](#)

**Localization**

IP-based Location: United States / Arizona / Phoenix  
 UTC: 2015-12-16 12:28  
 Local Time: 2015-12-16 05:28  
 Language:    
 Timezone:   
 Latitude:    
 Longitude:    
 Annual Rain: starts at

**Network**

MAC:	C4:93:00:05:B1:23		
LAN IP:	—	WLAN IP:	192.168.0.33
LAN Mask:	—	WLAN Mask:	255.255.255.0
Gateway:	192.168.0.1	TX Traffic:	20.9 MB
DNS:	192.168.0.1	RX Traffic:	33.7 MB
WAN IP:	174.17.174.55	Provider:	CenturyLink

**Messages**

```

[-700:1500]
logger (15.12.2015 14:11:32): Bad wind0(0) sensor data, "chill x10" (-999) out of range
[-700:1500]
logger (15.12.2015 14:11:41): Bad wind0(0) sensor data, "chill x10" (-999) out of range
[-700:1500]
logger (16.12.2015 01:35:57): child process received timeout signal (14).
logger (16.12.2015 01:35:57): disconnect station 0 (Meteostick Vantage): exit
logger (16.12.2015 01:35:57): disconnect station 9 (System Data): exit
logger (16.12.2015 01:35:57): data logger stopped.
logger (16.12.2015 01:35:57): database connected.
logger (16.12.2015 01:35:57): Historical data loaded (52 records).
logger (16.12.2015 01:35:57): data logger (version 5.01, build 8270) started.
logger (16.12.2015 01:35:58): connect station 0 (Meteostick Vantage via USB serial).
logger (16.12.2015 01:35:58): connect station 9 (System Data via Plug-in).
logger (16.12.2015 01:36:08): transmitter 1 registered as ISS
  
```

Figure 8

## 7. Setup Network and Configuring WiFi and 3G/4G Cellular

From the Menu tab, select **Setup Network**.

### 7.1 Type of Connection and Configuring WiFi

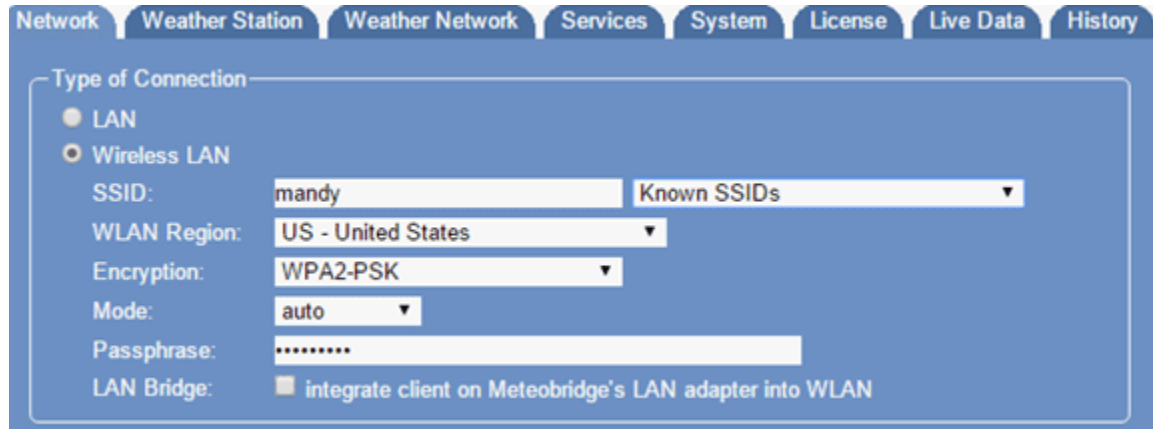
The default network connection setting is LAN (cabled to your router), and DHCP (dynamically

assigned IP address).

To connect to your wireless network, select the Wireless LAN option and enter the wireless network settings (an example is shown in Figure 10), and your router (SSID) settings will be different).

To convert from LAN (cabled) to Wireless LAN (WiFi), select **Save and Apply and Reboot**, and disconnect from your router.

The IP address may change. Refer to the WeatherBridgePro display to find the new IP address (if applicable).



The screenshot shows a web interface with a navigation bar at the top containing tabs for Network, Weather Station, Weather Network, Services, System, License, Live Data, and History. The 'Network' tab is active. Below the navigation bar, the 'Type of Connection' section is expanded. It contains two radio buttons: 'LAN' (unselected) and 'Wireless LAN' (selected). Under 'Wireless LAN', there are several fields: 'SSID' with the value 'mandy' and a dropdown menu for 'Known SSIDs'; 'WLAN Region' with a dropdown menu for 'US - United States'; 'Encryption' with a dropdown menu for 'WPA2-PSK'; 'Mode' with a dropdown menu for 'auto'; 'Passphrase' with a masked input field; and 'LAN Bridge' with a checkbox labeled 'integrate client on Meteobridge's LAN adapter into WLAN' which is currently unchecked.

Figure 9

## 7.2 IP Address

You can change from DHCP to manually assigning the IP address, as shown in Figure 10 (this is only an example, your network settings will be different). In most cases, you will not need to change the IP address to a static IP on your network.

To convert from DHCP to statically assigned IP address, select **Save and Apply and Reboot**.

The IP address can be accessed in a few minutes through your browser.

## 7.3 Restoring the default IP Address and Restoring to Factory Default

If you make changes to your network or you incorrectly configured the static IP address of the WeatherBridgePro, you may need to restore the WeatherBridgePro to factory default.

In the event the IP address cannot be accessed and the status light is blinking rapidly, plug the WeatherBridgePro into your router, and press the reset pinhole (reference Figure 2) with a sharp tool or open ended paperclip to restore to factory default.

You will be presented with various menu options. Keep pressing the factory reset pinhole to select the **FACTORY RESET** and wait for the WeatherBridgePro to reboot.

The WeatherBridgePro will reboot and wait until the red status light on the front of the WeatherBridgePro transitions from blinking rapidly to solid.

## 7.4 Advanced Network Settings

If you are having issues communicating over your Local Area Network (LAN) or Wireless Area Network (WLAN), we recommend reviewing the following guide:

[http://meteobridge.com/wiki/index.php/Setup\\_Network#Type\\_Of\\_Connection](http://meteobridge.com/wiki/index.php/Setup_Network#Type_Of_Connection)



Network Weather Station Weather Network Services System License Live Data History

Type of Connection

- LAN
- Wireless LAN

SSID:

WLAN Region:

Encryption:

Mode:

Passphrase:

LAN Bridge:  integrate client on Meteobridge's LAN adapter into WLAN

IP Addresses

- Receive automatically (DHCP)
- Set manually

IP:

Netmask:

Gateway:

DNS:

Advanced Settings

Use Proxy

Server:


Port:

Figure 10

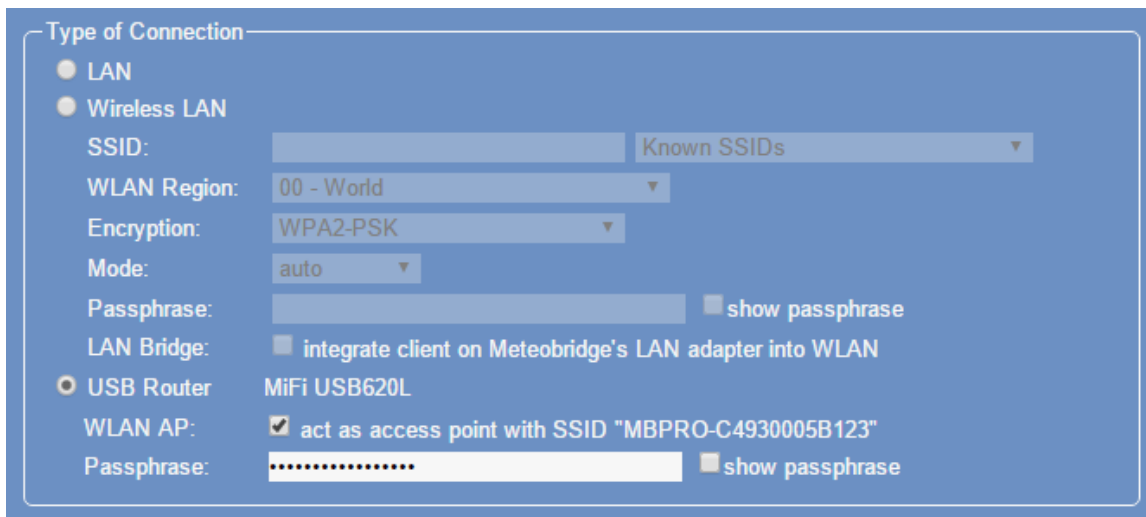
## 7.5 Configuring 3G/4G Cellular USB Router

The WeatherBridgePro can access the internet remotely with a USB cellular modem. Here are the required steps:

1. Obtain a MiFi USB Cellular Modem from Verizon:

Carrier	Description	Image	More Info
Verizon	MiFi® 4G LTE Global USB Modem U620L		<a href="#">More Info...</a>

2. With the WeatherBridgePro disconnected Plug the USB Modem into the USB port on the front of the WeatherBridgePro. No special programming is required.
3. Power down and up the WeatherBridgePro by removing and re-inserting the AC adapter.
4. Select USB Router, as shown in Figure 11.
5. Check **act as access point with SSID** to access the WeatherBridgePro from your mobile device, as described in Section 4.1. Enter a passphrase for WiFi access.



**Figure 11**

6. Select **Save and Apply and Reboot**. You will no longer be able to access the WeatherBridgePro from LAN or WLAN (WiFi). You can access the settings from MiFi or remotely (reference Section 6.1.1).
7. Confirm the station LED on the back of the USB Modem is solid green after several minutes. If reception is not available, move the WeatherBridgePro to a new location.

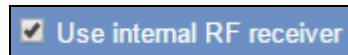
**Important Note:** Your USB modem allows you to program a PIN. Do not program a PIN into the USB modem, or it will fail to work with the WeatherBridgePro.

## 8. Select Station

### 8.1 Weather Station Type

Reference Figure 12. From the Menu tab, choose **Select Station**.

At the top of the page, Select Use Internal RF Sensor



At the bottom of the page, select and Metostick: WS1000 for Ambient Weather Observer Series or Meteostick: Vantage for Davis Instruments Vantage Series based on your type of weather station.



### 8.2 Frequency

Enter your weather station frequency (US or European).

### 8.3 Davis Instruments Vantage Rain Gain

For USA versions of the Davis Instruments Vantage Series, use 0.01 in. For EU versions, use 0.2 mm.

### 8.4 RF Sensitivity

The RF sensitivity setting provides a tradeoff between wireless sensitivity and noise rejection. The default setting is -90 db and should not be modified unless the reception is challenging. Consult technical support if you have a connection issue from the weather station to the WeatherBridgePro.

## 8.5 Local Settings

### 8.5.1 Station Altitude

Enter your station altitude in meters. The WeatherBridgePro will automatically calculate the sea-level corrected pressure (or relative pressure) from the measured pressure (or absolute pressure).

To convert feet to meters:

1 foot = 0.3048 meters

Example: I live at 1,000 feet. What is the altitude in meters?

Altitude (meters) = 1,000 feet x 0.3048 meters/feet = 304.8 meters.

**Note:** Your console relative pressure may be different than the WeatherBridgePro calculated pressure because of the difference in the methodology of calculating relative or sea-level corrected pressure.

### 8.5.2 Pressure Correction

It may be necessary to adjust the relative pressure (pressure relative to sea-level) after your station altitude is entered to compensate for any inaccuracies.

### **8.5.3 Temperature Offset**

The temperature offset allows you to adjust the outdoor temperature based on a calibrated source.

### **8.5.4 Rain Multiplier**

The rain gauge multiplier allows you to adjust the rain gauge based on a calibrated source.

### **8.5.5 Humidity Stretch**

The humidity stretch allows you to adjust the outdoor humidity range based on a calibrated source. Over time, your humidity sensor will drift due to contamination and may need recalibration.

[Network](#)
[Weather Station](#)
[Weather Network](#)
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Weather Station

Use internal RF receiver

- Davis: Vantage Pro2, Vue
- Davis: Envoy8x
- Oregon Scientific: WMR-100, WMR-88
- Oregon Scientific: WMR-200
- Oregon Scientific: WMR-300
- Oregon Scientific: WMRS-200
- Oregon Scientific: WMR-968, WMR-928
- Ambient Weather: WS-1090/2080/2090
- Fine Offset: WH-1080/2080/3080
- Meade TE923, TE827, TE821, DV928  
aka Hideki, Mebus, IROX
- Peet Bros: Ultimeter 100/800/2100
- Rainwise: Mk III (mk3cc)
- Rainwise: Mk III (cc-3000)
- Acurite: 1025/1035/1525 (use "USB Mode 3")
- Acurite: Internet-Bridge  unlink sensors
- La Crosse/ELV: WS-2300
- La Crosse/ELV: WS-300-PC
- La Crosse/ELV: WS-300-PC-2
- La Crosse/ELV: WS-300-PC-US
- La Crosse/ELV: WS-444
- La Crosse/ELV: WS-500
- La Crosse/ELV: WS-550-Technoline
- La Crosse/ELV: WS-550-US
- La Crosse/ELV: WS-550-2-US
- La Crosse/ELV: WS-777
- La Crosse/ELV: WS-888
- HomeMatic/ELV: WDC 7000
- ELV: WDE1
- Lufft: WS800
- product to be announced
- Ambient Weather: Observer-IP
- Meteostick: WS1000    unlink sensors
- Meteostick: Vantage ID  RF
- 

Meteobridge Weather Cam

- none
- Ubiquiti Cam IP:
- Version 1.1 Password:
- External Picture URL:

Local Settings

Station Altitude: <input type="text" value="1280"/> <input type="text" value="feet"/>	Pressure Correction: <input type="text" value="0.000"/> <input type="text" value="inHg"/>
Tolerated age of data: <input type="text" value="10 minutes"/>	Temperature Offset: <input type="text" value="0.0"/> <input type="text" value="°C"/>
Save historical data: <input type="text" value="every 10 minutes"/>	Rain Multiplier: <input type="text" value="1.00"/>
Wind Direction Adder: <input type="text" value="0"/>	Humidity Stretch: <input type="text" value="0.0"/> →0% <input type="text" value="100.0"/> →100%
Serial USB Switch: <input type="text" value="none"/>	Indoor Temp Offset: <input type="text" value="0.0"/> <input type="text" value="°C"/>

Figure 12

## 8.6 Connecting to the Weather Station Console USB Port

If you own a display console, you can alternately connect directly to the weather station console's USB port.

At the top of the page, unselect Use Internal RF Sensor and choose the type of weather station and data logger configuration (USB or IP).



Reboot the WeatherBridgePro if transitioning from RF receiver mode to USB communication (select the **System** tab and then the **Reboot** button).

## 9. Live Data

To view the live data from your weather station, select the Live Data tab. To refresh the data, select the refresh button from your web browser. Reference Figure 13 for the typical live data presentation.

If you are experiencing wireless reception issues, refer to the guide below, and the Troubleshooting Guide in Section 15.

### 9.1 Best Practices for Wireless Communication

Wireless communication is susceptible to interference, distance, walls and metal barriers. We recommend the following best practices for trouble free wireless communication.

1. **Electro-Magnetic Interference (EMI).** Keep the WeatherBridgePro several feet away from computer monitors and TVs.
2. **Radio Frequency Interference (RFI).** If you have other 915 MHz devices and communication is intermittent, try turning off these other devices for troubleshooting purposes. You may need to relocate the transmitters or receivers to avoid intermittent communication.
3. **Line of Sight Rating.** This device is rated at 300 feet line of sight (no interference, barriers or walls) but typically you will get 100 feet maximum under most real-world installations, which include passing through barriers or walls.
4. **Metal Barriers.** Radio frequency will not pass through metal barriers such as aluminum siding. If you have metal siding, align the remote and console through a window to get a clear line of sight.

The following is a table of reception loss vs. the transmission medium. Each “wall” or obstruction decreases the transmission range by the factor shown below.

Medium	RF Signal Strength Reduction
Glass (untreated)	5-15%
Plastics	10-15%
Wood	10-40%
Brick	10-40%
Concrete	40-80%
Metal	90-100%

Network Weather Station Weather Network Services System License Live Data History

Weather Network Status

✓ Weather Underground: 2015-12-16 05:40:24 Success!

Live Data

Sensor	Signal	Metric Data	Imperial Data
Indoor	2 sec	39.8°C 9% 1019.2hPa (973.3hPa)	103.6°F 9% 30.10inHg (28.74inHg)
Outdoor	1s -70db	-1.1°C 90% (dew -2.5°C, heat -1.1°C)	30.0°F 90% (dew 27.5°F, heat 30.0°F)
Wind	1s -70db	0.0m/s (avg 0.0m/s) 223° SW	0.0mph (avg 0.0mph) 223° SW
Rain	1s -70db	rate 0.0mm/h	rate 0.00in/h
Solar	1s -70db	0W/qm	0W/qm
UV	1s -70db	0.0uvindex	0.0uvindex

**Figure 13**  
**Live Data**

## 10. Weather Network

To upload the live data from your weather station, select the Weather Network tab.

### 10.1 Wunderground.com (Weather Underground)

To upload data to Wunderground.com, you must first register on the Wunderground.com website. Registration is free.

1. Visit <http://www.wunderground.com/> and select **Join** if you do not have an account.
2. Once registered with Wunderground.com you will need to sign up your station. To get started visit:  
<http://www.wunderground.com/weatherstation/setup.asp>
3. Once registered, enter your Station ID, Password and Upload Interval in the WeatherBridgePro fields.
4. Click on the wunderground.com logo to view your current data.

Setup Network Select Station Weather Network Push Services System License Live Data

Weather Underground

Upload Interval: every 5 seconds ▼ retry forever ▼

ID: ✓ KAZPHOEN210

Password: ✓ .....



Meteoplug Cloud Graphing

Upload Interval: every 10 minutes ▼

Live Interval: every 10 seconds ▼ [PC] [Mobile] [QR]

Station Name: \_\_\_\_\_

Display Mode:  Imperial



Add more Weather Networks ▼ Save

**Figure 14**

## 10.2 Other Web Hosting Services

To add more Weather Networks, select the pull down menu bar to select from the list.

Logo	Description	Website	Location
	Meteo Plug	<a href="http://www.meteoplug.com">www.meteoplug.com</a>	Germany
	AWEKAS Weather Map Reporting System	<a href="http://www.awekas.at">www.awekas.at</a>	Austria
	WeatherBug Backyard	<a href="http://www.weatherbug.com">www.weatherbug.com</a>	USA
	WeatherForYou	<a href="http://www.pwsweather.com">www.pwsweather.com</a>	USA
	UK Met Office	<a href="http://wow.metoffice.gov.uk">wow.metoffice.gov.uk</a>	UK
	Windfinder	<a href="http://www.windfinder.com">www.windfinder.com</a>	USA
	Citizen Weather Observation Program	<a href="http://www.wxqa.com">www.wxqa.com</a>	USA
	Open Weather Map	<a href="http://www.openweathermap.org">www.openweathermap.org</a>	USA

## 11. Push Services (Email, Twitter, http, ftp and mysql)

To upload the live data via email, twitter, http, ftp and mysql, select the Push Services tab.

WeatherBridgePro provides some additional "push services", which can send weather information via email, twitter, HTTP requests, FTP uploads, mysql queries or by implementing a user defined script.

All of these services can be triggered by certain alarm conditions, at a certain time of the day or in periodic intervals ranging from a few seconds to minutes or hours.

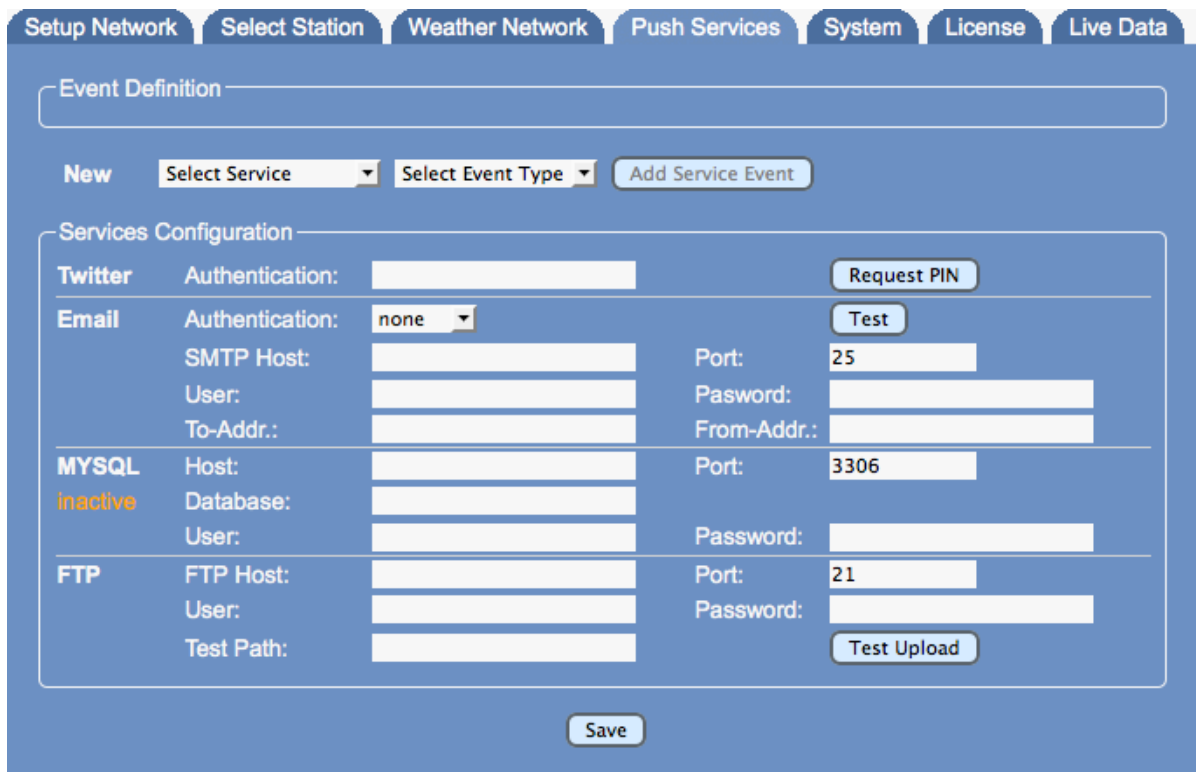
Configuring push services is done in two steps.

When you want to use a email, twitter, mysql or FTP you have to configure the basic authentication for these services fist.

Having configured the service, you can then define a specific event that uses of one of the services.

For additional information on Push Services, please visit:

[http://meteobridge.com/wiki/index.php/Push\\_Services](http://meteobridge.com/wiki/index.php/Push_Services)



The screenshot displays the 'Push Services' configuration page. At the top, there are navigation tabs: 'Setup Network', 'Select Station', 'Weather Network', 'Push Services', 'System', 'License', and 'Live Data'. Below the tabs is an 'Event Definition' section with a text input field. Underneath is a 'New' section with a 'Select Service' dropdown, a 'Select Event Type' dropdown, and an 'Add Service Event' button. The main area is titled 'Services Configuration' and contains four service configuration blocks:

- Twitter:** Authentication: [text input], Request PIN button.
- Email:** Authentication: none (dropdown), Test button, SMTP Host: [text input], Port: 25 (text input), User: [text input], Password: [text input], To-Addr.: [text input], From-Addr.: [text input].
- MYSQL:** Host: [text input], Port: 3306 (text input), Database: [text input], User: [text input], Password: [text input]. Status: inactive.
- FTP:** FTP Host: [text input], Port: 21 (text input), User: [text input], Password: [text input], Test Path: [text input], Test Upload button.

A 'Save' button is located at the bottom center of the configuration area.

Figure 15

## 12. AirCam Weather Camera (optional)

The WeatherBridgePro supports the Ubiquiti AirCam and uploads the images directly to

Wunderground.com.

The AirCam is available at Amazon.com:

<http://www.amazon.com/gp/product/B007TC89SC/>

The AirCam connects directly to your network (router or switch) and the WeatherBridgePro automatically sends the image to Wunderground.com on a schedule.

## 12.1 Registering your AirCam on Wunderground.com

1. Visit <http://www.wunderground.com/> and select **Join** if you do not have an account.
2. Once registered with Wunderground.com you will need to sign up your AirCam. To get started visit:  
<http://www.wunderground.com/webcams/signup.html>
3. Once registered, you will receive a Camera ID.
4. From the WeatherBridgePro toolbar, select the **Select Station** tab (Figure 16).
5. Enter the IP address and password defined in the AirCam user manual, and select **Initialize Cam** and **Save**.
6. From the WeatherBridgePro toolbar, select the **Weather Network** tab (Figure 17).
7. Enter the Camera ID and password from your Wunderground.com account.

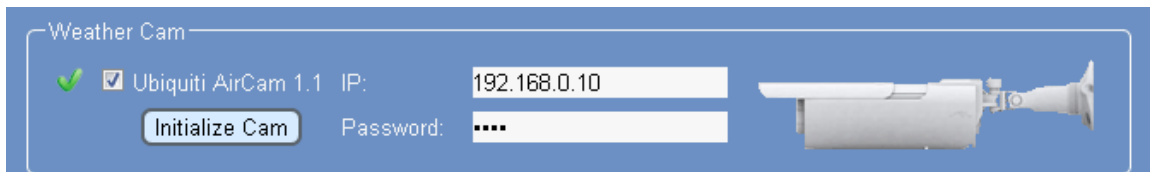


Figure 16



Figure 17

## 12.2 Connecting to GPRS 3G / 4G Cellular Network

## 13. More Information

MeteoBridgePro is a Copyright of smartbedded UG (haftungsbeschränkt), all rights reserved. Please visit [www.MeteoBridge.com](http://www.MeteoBridge.com) for online documentation which will give more detail on features and lately added functions.

Note: WeatherBridgePro can only handle one weather station at a time. Parallel use of multiple weather stations is not supported.

**Questions or comments about this manual?** We are always striving to improve our documentation.

## 13.1 Copyright

MeteoBridgePro (hardware and firmware) is copyright of smartbedded UG (a limited liability company in Germany). You are not allowed to make copies of the embedded MeteoBridgePro firmware or the hardware unless otherwise agreed to in writing.

## 13.2 Open Source Obligations

While being closed source, MeteoBridgePro is related to other Open Source publications:

1. MeteoBridgePro hardware is derived from a concept that Jean Claude Wippler (2012) has created as „JeeLink“ and published under Creative Commons license type „cc-by“ (<https://creativecommons.org/licenses/by/3.0/>). You can find more details about „JeeLink“ here: <http://jeelabs.net/projects/hardware/wiki/JeeLink>
2. MeteoBridgePro firmware makes use of BPM085 Arduino library from Jean Claude Wippler (2009) published under MIT license (<http://opensource.org/licenses/mit-license.php>). Link to code: <https://github.com/jcw/jeelib/blob/master/examples/Ports/bmp085demo/bmp085demo.ino>
3. MeteoBridgePro uses parts of the ATSHA204 library provided by Alessandro Chedini (2013) published under MIT license (<http://opensource.org/licenses/mit-license.php>). Link to code: <https://gist.github.com/ghedo/6751045>
4. MeteoBridgePro firmware uses the standard Arduino libraries provided under LGPL (<http://www.gnu.org/copyleft/lesser.html>), linked only, without modification.

## 14. WeatherBridgePro Specifications

- Dimensions: 57mm x 27mm x 95mm (2.24" x 1.06" x 3.74") without antennas
- Weight: 130g (0.29 lb) with antennas
- Operating temperature: 0 - 60°C (32 to 140 °F) , 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
- Other Specifications:
  - 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)

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## 15. Troubleshooting Guide

Problem	Solution
Outdoor sensor array does not communicate to the WeatherBridgePro.	<ul style="list-style-type: none"><li>• Reference the Ambient Weather Observer Series weather station manual or Davis Instruments Vantage Series for loss of communication instructions in the Troubleshooting guide.</li><li>• Move the WeatherBridgePro as close as possible to the weather station and reset the WeatherBridgePro by powering down and up the WeatherBridgePro.</li></ul>
Cannot communicate to the WeatherBridgePro, both LAN (cabled) and WLAN (wireless).	<ul style="list-style-type: none"><li>• Plug the WeatherBridgePro into your router and perform a factory default (Section 7.3).</li></ul>

## 16. Certifications

### 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

### 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

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.

## **17. Liability Disclaimer**

The electrical and electronic wastes contain hazardous substances. Disposal of electronic waste in wild country and/or in unauthorized grounds strongly damages the environment.

Reading the “User manual” is highly recommended. The manufacturer and supplier cannot accept any responsibility for any incorrect readings and any consequences that occur should an inaccurate reading take place.

This product is designed for personal use as indication of weather conditions. This product is not to be used for medical purposes or for public information.

The specifications of this product may change without prior notice.

This product is not a toy. Keep out of the reach of children.

No part of this manual may be reproduced without written authorization of the manufacturer.

Ambient, LLC WILL NOT ASSUME LIABILITY FOR INCIDENTAL, CONSEQUENTIAL, PUNITIVE, OR OTHER SIMILAR DAMAGES ASSOCIATED WITH THE OPERATION OR MALFUNCTION OF THIS PRODUCT.

## **18. Warranty Information**

Ambient, LLC provides a 1-year limited warranty on this product against manufacturing defects in materials and workmanship.

This limited warranty begins on the original date of purchase, is valid only on products purchased and only to the original purchaser of this product. To receive warranty service, the purchaser must contact Ambient, LLC for problem determination and service procedures.

Warranty service can only be performed by Ambient, LLC. The original dated bill of sale must be presented upon request as proof of purchase to Ambient, LLC.

Your Ambient, LLC warranty covers all defects in material and workmanship with the following specified exceptions: (1) damage caused by accident, unreasonable use or neglect (lack of reasonable and necessary maintenance); (2) damage resulting from failure to follow instructions contained in your owner’s manual; (3) damage resulting from the performance of repairs or alterations by someone other than an authorized Ambient, LLC authorized service center; (4) units used for other than home use (5) applications and uses that this product was not intended.

This warranty covers only actual defects within the product itself, and does not cover the cost of installation or removal from a fixed installation, normal set-up or adjustments, claims based on misrepresentation by the seller or performance variations resulting from installation-related

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circumstances.