

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: <u>info@meteohub.de</u>. You can also receive assistance online at <u>http://forum.meteobridge.com</u>

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 seriers. 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 <u>www.meteobridge.com</u>.

Note: Ambient Weather uses the terms WeatherBridgePro, and MeteoBridgePro interchangeably. MeteoBridgePro was developed in Germany by smartbedded UG, on the web at <u>www.meteobridge.com</u>.

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	



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.



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 configuration purposes, you can connect to the WeatherBridgePro wirelessly, since it serves as a wireless access point, like a router does.

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).

●●○○○ Verizon 🗢	10:01 AM	1 🕏 54% 🔳
Settings	Wi-Fi	
Wi-Fi		
✓ MB-C493	0005B123	∻ (i)
CHOOSE A NETWOR	K	
apenet		a ≎ (j)
HP-Print-	5D-LaserJet 11	∻ (i)
mandy		a ≈ (j)
mandy_E>	ΚT	∎ ? ()
Rufus		≜ ≈ (j)
Other		
Ask to Join N	letworks	\bigcirc
Known network no known netwo manually select	s will be joined automa orks are available, you a network.	tically. If will have to

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 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).



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.



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. Each WEATHERBRIDGE license comes with 2 years of initial update support. When 2 years have passed and you still want to have access to the most recent updates, this update license gives you additional 2 years access to updates.

License Key (case sensitive):	
Network Weather Station Weather Network Services System License License Key: activated (mbpro-00015)	License Live Data History
Figure 6	

License Key

For additional firmware update support –

https://order.shareit.com/cart/new?vendorid=200281929&PRODUCT[300915163]=1

Firmware Release Log - https://www.meteobridge.com/wiki/index.php/Forum

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.

C 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 S	Station Weather Network Services System License Live Data History
- System	
Platform: RAMt (Storage: (SWVersion: Uptime: Power Data: {	Meteobridge PRO 81500 kB total, 24504 kB free (60% used) 3809 MB total, 6786 MB free (0% used) Meteobridge 2.6 (Dec 8 2015, build 8270), FW 1.4 18 hours, 7 minutes Buffer Usage: 0 items (0%) 5.51V 326mA 1.80W (Box Climate: 46.6°C 6%)
- Maintenance Version Control: Configuration Data	newest on next reboot Choose File No file chosen Restore Backup
Meteostick:	Update Firmware
Security New Password: Confirm New Password: Internet Login:	Allow login from the Internet via this URL
- Localization	
IP-based Location: UTC: Local Time:	United States / Arizona / Phoenix 2015-12-16 12:28 2015-12-18 05:28
Language:	English 🔻 Download Language File
Timezone:	America/Phoenix T
Latitude:	33.4484
Longitude:	-112.074
Annual Rain:	starts at January 🔻
~ Network	
MAC: C4 LAN IP: – LAN Mask: – Gateway: 19 DNS: 19 WAN IP: 17	E93:00:05:B1:23 WLAN IP: 192:168.0.33 WLAN Mask: 255:255:255.0 2:168.0.1 TX Traffic: 20.9 MB 12:168.0.1 RX Traffic: 33.7 MB 4.17:174:55 Provider: CenturyLink
Messages [-700:1500] logger (15.12.2015 [-700:1500] logger (15.12.2015 logger (15.12.2015 logger (16.12.2015 logger (16.12.2015) logger (1	14:11:32): Bad wind0(0) sensor data, "chill x10" (-999) out of range 14:11:41): Bad wind0(0) sensor data, "chill x10" (-999) out of range 01:35:57): child process received timeout signal (14). 01:35:57): disconnect station 0 (Meteostick Vantage): exit 01:35:57): disconnect station 9 (System Data): exit 01:35:57): database connected. 01:35:57): database connected. 01:35:57): datalogger (version 5.0.1, build 8270) startod. 01:35:58): connect station 0 (Meteostick Vantage via USB serial). 01:35:58): connect station 0 (Meteostick Vantage Via USB serial). 01:35:68): transmitter i registered as ISS 01:35:08): transmitter i registered as ISS
	Save and Apply Reboot

Figure 8

7. Setup Network and Configuring WiFi

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 9, 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).

7.2 IP Address

You can change from DHCP to manually assigning the IP address, as shown in Figure 9 (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

ambient weather

letwork Weather St	ation Weather Network	Services S	System License	Live Data Hi	istor
-Type of Connection-					
LAN					
Wireless LAN					
SSID:	mandy	Know	n SSIDs	•	
WLAN Region:	US - United States	•			
Encryption:	WPA2-PSK	•			
Mode:	auto 🔻				
Passphrase:					
LAN Bridge:	integrate client on Me	teobridge's LAN a	dapter into WLAN		
Netmask: Gateway: DNS ⁻					
-Advanced Settings - ■ Use Proxy Server: Port:	http:// 3128				
Save	Save and Apply a	and Reboot	Expert Mode (Ope	nWrt)	
		Figure 9			

5

8. Select Station

8.1 Weather Station Type

Reference Figure 10. From the Menu tab, choose Select Station.

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

Use internal RF receiver

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.

V	Meteostick: WS1000	US 915MHz 🔻	RF Sens.	-90db ▼	unlink sensors
V	Meteostick: Vantage	US 915MHz 🔻	ID 1 🔹 I	RF -90db	small TRain 0.01 in T
	more Davis Sensors	•			



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 Services System License Live Data History
C Weather Station
Use internal RF receiver
💥 🌻 Davis: Vantage Pro2, Vue 🛛 USB 👘 👘 👘 👘 👘
🐕 🔍 Davis: Envoy8x 🛛 USB 👘 👘 📭
🌿 🍳 Oregon Scientific: WMR-100, WMR-88
🐕 🖲 Oregon Scientific: WMR-200
🗱 🔮 Oregon Scientific: WMR-300 🛛 🛛 🚺
Cregon Scientific: WMRS-200
Ambient Weather: WS-1000/2080/2000
Fine Offset WH-1080/2080/3080
Meade TE923, TE827, TE821, DV928
aka Hideki, Mebus, IROX
Peet Bros: Ultimeter 100/800/2100
Kainwise: Mk III (mk3cc)
Kallinnise: Mix III (00-5000) Kallinnise: 1025/1025/1525 (use "USB Mode 3")
Acurite: Internet-Bridge III 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. VIG-500
La Crosse/ELV: WS-550-US
🗴 🖲 La Crosse/ELV: WS-550-2-US
💃 🔍 La Crosse/ELV: WS-777
La Crosse/ELV: WS-888
HomeMaticELV: WDC 7000
ELV: WDE1
g oroduct to be announced
Manual Meather Observer-IP
V Meteostick WS1000 UB015MHz V RF Sens 200th V unlink sensors
Matanetin's Vantana ID 1 V RE "Oldh V small V Rain
US 915MHz V 001 in V
more Davis Sensors
- Meteobridge Weather Cam
0 none
Ubiquiti Cam IP:
Version 1.1 Password:
External Picture URL:
Local Settings
Station Altitude: 1280 feet V Pressure Correction: 0.000 inHg V
Tolerated age of data: 10 minutes ▼ Temperature Offset 0.0 °C ▼
Save historical data: every 10 minutes V Rain Multiplier: 1.00
Wind Direction Adder: 0 Pure Humidity Stretch: 0.0 →0% 100.0 →100%
Serial USB Switch: none 🔻 Indoor Temp Offset: 0.0 °C 🔻
Save
Figure 10

Figure 10

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).

Use internal RF receiver		
Davis: Vantage Pro2, Vue	USB	T 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 11 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%

ork Y W	eather Statior	Weather Network Services	System License Live Data
eather N	etwork Status		
Weathe	r Underground	d: 2015-12-16 05:40:24 Success	
ive Data-			
	Signal	Metric Data	Imperial Data
sensor	Jigilai		
sensor ndoor	2 sec	39.8°C 9% 1019.2hPa (973.3hPa)	103.6°F 9% 30.10inHg (28.74inHg)
sensor ndoor Dutdoor	2 sec 1s -70db	39.8°C 9% 1019.2hPa (973.3hPa) -1.1°C 90% (dew -2.5°C, heat -1.1°C)	103.6°F 9% 30.10inHg (28.74inHg) 30.0°F 90% (dew 27.5°F, heat 30.0°F)
sensor Indoor Outdoor Wind	2 sec 1s -70db 1s -70db	39.8°C 9% 1019.2hPa (973.3hPa) -1.1°C 90% (dew -2.5°C, heat -1.1°C) 0.0m/s (avg 0.0m/s) 223° SW	103.6°F 9% 30.10inHg (28.74inHg) 30.0°F 90% (dew 27.5°F, heat 30.0°F) 0.0mph (avg 0.0mph) 223° SW
sensor ndoor Dutdoor Vind Rain	2 sec 1s -70db 1s -70db 1s -70db	39.8°C 9% 1019.2hPa (973.3hPa) -1.1°C 90% (dew -2.5°C, heat -1.1°C) 0.0m/s (avg 0.0m/s) 223° SW rate 0.0mm/h	103.6°F 9% 30.10inHg (28.74inHg) 30.0°F 90% (dew 27.5°F, heat 30.0°F) 0.0mph (avg 0.0mph) 223° SW rate 0.00in/h
sensor ndoor Dutdoor Wind Rain Bolar	2 sec 1s -70db 1s -70db 1s -70db 1s -70db 1s -70db	39.8°C 9% 1019.2hPa (973.3hPa) -1.1°C 90% (dew -2.5°C, heat -1.1°C) 0.0m/s (avg 0.0m/s) 223° SW rate 0.0mm/h 0W/gm	103.6°F 9% 30.10inHg (28.74inHg) 30.0°F 90% (dew 27.5°F, heat 30.0°F) 0.0mph (avg 0.0mph) 223° SW rate 0.00in/h 0W/gm

Figure 11 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 <u>http://www.wunderground.com/</u> 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.

Upioad intervai:	every 5 seconds retry forever	
Password:	✓ ••••••	
Meteoplug Cloud (Graphing	
Unload Interval:	every 10 minutes 🔻	
opioda interval.		
Live Interval:	every 10 seconds 🔹 🗳 🚨 🔍 🔍	Meteo
Live Interval: Station Name:	every 10 seconds 🔻 💻 🚨 🔍 QR	& Plug



Figure 12

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	Meteo Plug	www.meteoplug.com	Germany
AN EXAS	AWEKAS Weather Map Reporting System	www.awekas.at	Austria
WeatherBug Backyard		www.weatherbug.com	USA
WeatherForYou		www.pwsweather.com	USA
Met Office	UK Met Office	wow.metoffice.gov.uk	UK
R	Windfinder	www.windfinder.com	USA
Citizen Weather Observation Program		www.wxqa.com	USA
Open Weather Map	Open Weather Map	www.openweathermap.org	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

New	Select Service	Select Event Type	Add Service Event)
Services	Configuration ——			
Twitter	Authentication:			Request PIN
Email	Authentication:	none 💌		Test
	SMTP Host:		Port:	25
	User:		Pasword:	
	To-Addr.:		From-Addr.	:
MYSQL	Host:		Port:	3306
	Database:			
	User:		Password:	
FTP	FTP Host:		Port:	21
	User:		Password:	
	Test Path:			Test Upload

Figure 13

12. AirCam Weather Camera (optional)

The WeatherBridgePro supports the Ubiquoti 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 <u>http://www.wunderground.com/</u> 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 14).
- 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 15).
- 7. Enter the Camera ID and password from your Wunderground.com account.

(Weather Cam-			
🛛 🕜 🗹 Ubiquiti AirCam 1.1	IP:	192.168.0.10	
Initialize Cam	Password:		
		Figure 14	

-Weather Undergr	ound	Camera	
Upload Interval:		every 10 minutes 💌	
Camera ID: Password:	3	AmbientCAM1	wunderground.com

Figure 15

13. More Information

MeteoBridgePro is a Copyright of smartbedded UG (haftungsbeschränkt), all rights reserved. Please visit <u>www.MeteoBridge.com</u> 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. Please send your comments to support@ambientweather.com.



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:

- 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
- 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
- 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)



8	
Problem	Solution
Outdoor sensor array does not communicate to the WeatherBridgePro.	 Reference the Ambient Weather Observer Series weather station manual or Davis Instruments Vantage Series for loss of communication instructions in the Troubleshooting guide. Move the WeatherBridgePro as close as possible to the weather station and reset the WeatherBridgePro by powering down and up the WeatherBridgePro.
Cannot communicate to the WeatherBridgePro, both LAN (cabled) and WLAN (wireless).	• Plug the WeatherBridgePro into your router and perform a factory default (Section 7.3).

15. Troubleshooting Guide



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,.

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 Lentföhrden, 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 :

Exille Rontation

Name (in writing): Anke Pasternak Title: CEO Place and date of issue: Lentföhrden, 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



circumstances.