DP2000 3-In-1 WiFi Gateway

Manual EN



Support/updates/manuals/spare parts: www.froggit.de

The following optional sensors (purchased separately) can be used with DP2000 console display.

If you have purchase extra sensors, just simple power up, the display console will receives the data automatically. If sensor not reporting in to console, the display console will research the data after one hour or restart the console to search the data. Please refer to the sensor manual (provided separately with sensor) for details.

This table shows the maximum number of each type of sensor that can be worked with console display

Sensor	Image	Maximum Number
DP50 Multi-channel temperature and humidity sensor	(2) (3)	8
DP100 Soil moisture sensor		8
DP200 PM2.5 air quality sensor		1
DP70 Water leak alarm		4
DP60 Thunder and lightning	Ŧ	1
DP250 Indoor PM2.5/PM10 CO2 air quality sensor temperature/humidty		1
DP10 Leaf wetness sensor * the data won't be displayed on the main screen, it will show its data on the Channel Data page.	- S	8
Sensor	Image	Maximum Number
DP35 stainless-steel probe thermometer for soil and water DP150 wire probe thermometer for water DP35 and DP150 share the 8 channels		8

Overview

WiFi/Lan Gateway

7	Server LED
6	Sensor Link LED
5	Temp. &Humidity Sensor
4	Network LED
3	Ethernet socket
2	DC Socket
1	Reset button
No	Description

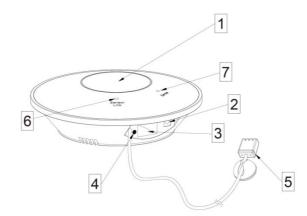


Figure 1: Wi-Fi Gateway

	1	T
Ref.	LED	Description
1	Sensor Link (blue)	On: flash when one packet of wireless sensor data was received
	(oluc)	Off: No wireless sensor data is received. Please check whether the wireless sensor is working normally, and make sure that the sensor can connect to the device hotspot "GW2000-WIFIXXXX" with a mobile phone/PC, open the browser, and log in to the webpage 192.168. 4.1 (the initial password is empty), enter the Sensors ID interface to re-register the corresponding wireless Sensor.
2	Server (red)	On (steady): network communication normal and data uploaded to configured weather service(s) successfully. Flash (faster): Wi-Fi configuration mode is active. Use the WS View Plus app to complete the configuration. Flash (slow): network communication normal, but upload to one or more configured weather services failed. First confirm Internet access through your router is functioning, and then check whether the upload server account and password are correct (use WS View application). Off: Wi-Fi connection failed

Table 2: LED Indicators

Wi-Fi Configuration

5.1 Before Setup

Connect the Gateway console power jack to AC power with the power adapter (included). When powered up the Gateway, the Sever LED will flashes quickly. It means that the gateway is in the Wi-Fi configuration mode. If it does not flash quickly, press and hold the top RESET button for 5S to enter the Wi-Fi configuration state

The Gateway console can connect to your network via Wi-Fi or directly connected to your router using the included Ethernet cable.

Place the powered sensors array about 2 to 3 meter from the Gateway console receiver and wait several minutes for the remote sensors to synchronize with the receiver.

5.2 Setup Method

5.2.1 Method A: Setup via app

Install WS View Plus app. Then follow up the instruction as the App will walk you through the SETUP Process

Remark: We recommend method A to be used in the first place. Please follow the App's instruction to complete account registration and device provision. If method A is not working for you, please follow method B to start













ECOWITT Dashboard vs WU Dashboard vs Live Data

Here is a short explanation showing data difference:

Live Data is obtained by the mobile app by connecting directly to the gateway. This can only happen when your mobile device and gateway are connected to the same Wi-Fi network. It will then show up after you select "Device List" from the main settings menu. If your mobile device is in another network, no device(s) will show up in this list and you will not be able to select a device for displaying the "Live Data" screen.

ECOWITT Dashboard shows the data obtained from ECOWITT server. This requires that your mobile device can reach the Internet and therefore this is possible even when you are not on your home Wi-Fi network, such as when using cellular data.

WU Dashboard shows the data obtained from WU server. This requires that your mobile device can reach the Internet and therefore this is possible even when you are not on your home Wi-Fi network, such as when using cellular data.

5.2.2 Method B: Setup via Embedded Webpage

1. Find the Gateway GW2000X-WIFIXXXX from your device (computer, smart phone, or tablet with a browser) as Figure 7

Or

Plug in Ethernet cable to connect this gateway to WiFi router, find its' assigned IP address via DHCP

2. Open a browser, navigate to the following IP address 192.168.4.1 as Figure 8

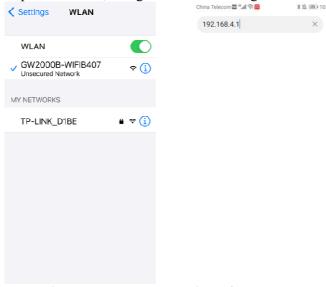


Figure 7 Figure 8

3. Enter Login web page as Figure 10.

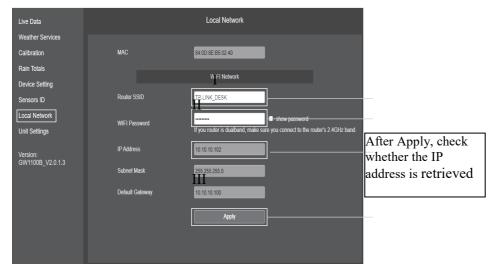
There is no need to enter the password when you are login for the first time. Press Login button to enter webpage interface.



Figure 10 Login screen

4. Local Network

Upload data to the weather services, start from here, complete below I to III steps.



5. Weather Services

Finished Registration in the weather server you want to upload the data and get the Station ID and Password in the weather Server. Enter it in the below "Weather Server" screen.



Figure 13 Weather Server screen

The supported services are shown in the table below:

Hosting Website	Description
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Service		
Ecowitt Weather	https://www.ecowitt.net	Ecowitt is a new weather server that can host a bunch of sensors that other services don't support.
Weather Undergound	https://www.wunderground.com	Weather Underground is a free weather hosting service that allows you to send and view your weather station data real-time, view graphs and gauges, import text data for more detailed analysis and use iPhone, iPad and Android applications available at Wunderground.com. Weather Underground is a subsidiary of The Weather Channel and IBM.
Weather Cloud	https://weathercloud.net	Weather cloud is a real-time weather social network formed by observers from around the world.
Weather Observation Website (WOW)	http://wow.metoffice.gov .uk/	WOW is a UK based weather observation website. WOW allows anyone to submit their own weather data, anywhere in the world.
Customized Website		Supports uploading to your customized website, if the website has the same protocol with Wunderground or Ecowitt

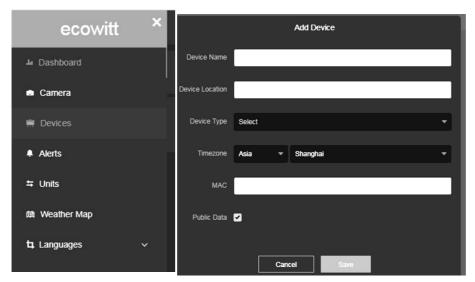
Table 4: Supported Weather Servers

5.3 Registering Ecowitt Weather Server

It's recommended to use the Ecowitt Weather server to monitor and record your sensors' data.

To register with Ecowitt follow these steps:

- 1) On the Weather Server page, set the reporting interval time (default: 1 minute).
- 2) Visit the website: https://www.ecowitt.net on your computer and finish the registration on the page.
 - Press the upper left menu button and select Devices.
 - Press Add Device and input all the information needed (The MAC address can be found on the Weather Server page).
 - Press Save.
 - Press Dashboard on the menu. Your sensor data would be available on the dashboard within several minutes.



Note: When select device address on map, please wait till the map display before select your address.

Note: Please put in the correct time zone to get the correct time. Because the time will be updated to internet time automatically while WIFI connection.

You may add a shortcut to the ecowitt.net website on the home page of your phone so that you can visit it just like opening an app.

5.3.1 Viewing data on ecowitt.net

You can observe your sensor's data by using the ecowitt.net web site. You will use a URL like this one, where your station ID replaces the text "STATIONID".

https://www.ecowitt.net/home/index?id=STATIONID

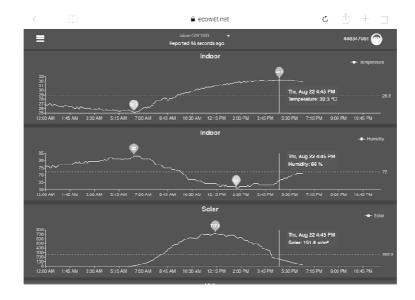
Note: If you want to share your station data with other users, you'll need to set your data to be public. Other users need to log in the ecowitt.net first to view your data.

It will show a page such as this, where you can look at today's data and historical data as well.

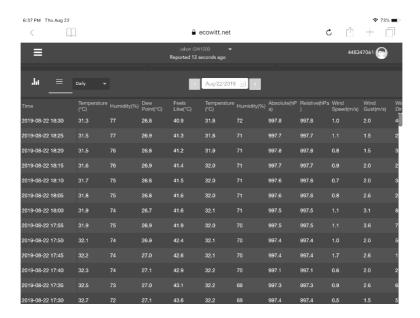
Dashboard



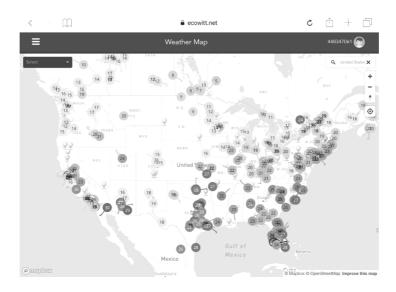
Graph display



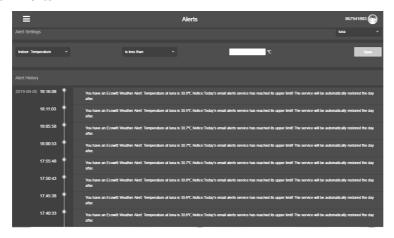
List display



Weather Map



Email Alerts

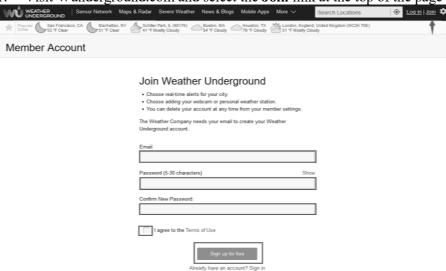


Ecowitt.net is a responsive design and mobile friendly. Simply open your mobile devices web browser, browse to ecowitt.net, and bookmark your dashboard for quick access.

5.4 Registering Weather Undergound

Perform the following steps to get the Station ID and Password on wunderground.com:

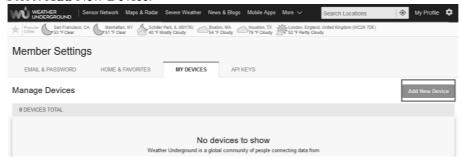
1. Visit Wunderground.com and select the **Join** link at the top of the page and sign up.



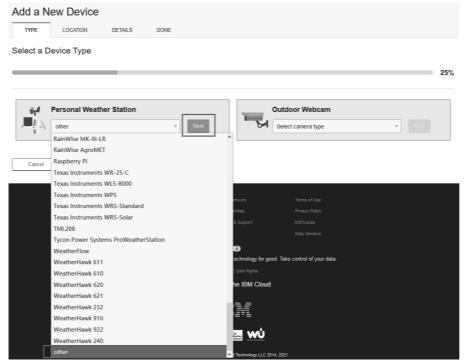
2. Click My Profile and select My Devices to register your station



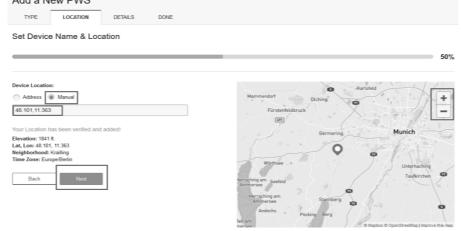
3. Select Add New Device.



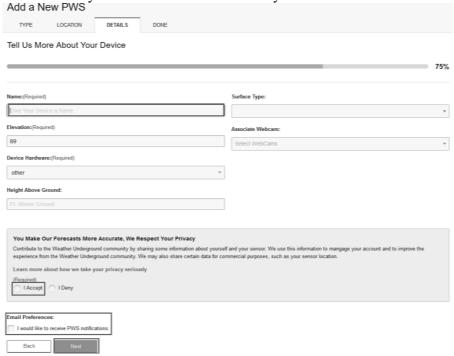
4. Find Personal Weather Station. Select 'other' and click 'Next'.



5. Select 'Address' or 'Manual' option, and find your local position. Press 'Next'. Add a New PWS



6. This time you will be asked details about your weather station. Go ahead and fill out the form.



7. After completing the weather station, you will see station ID and key/password.

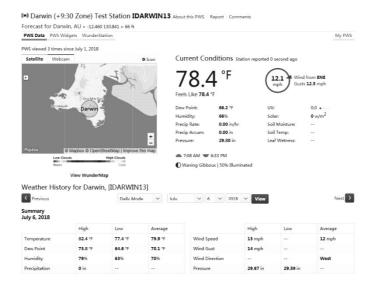


- 8. Take note of the station ID and key/password.
- 9. Back to the "Weather Service" screen and input the Station ID and Key.

5.4.1 Viewing data on wunderground.com

The most basic way to observe your weather station's data is by using the wunderground.com web site. You will use a URL like this one, where your station ID replaces the text "STATIONID": http://www.wunderground.com/personal-weather-station/dashboard?ID=STATIONID

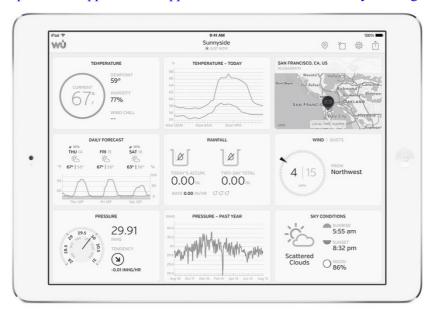
It will show a page such as this, where you can look at today's data and historical data as well:



There are also some very useful mobile apps. The URLs provided here go to the Web version of the application pages. You can also find them directly from the iOS or Google Play stores:

WunderStation: iPad application for viewing your station's data and graphs:

https://itunes.apple.com/us/app/wunderstation-weather-from-your-neighborhood/id906099986



Weather Underground: Forecast: iOS and Android application for forecasts https://itunes.apple.com/us/app/weather-underground-forecast/id486154808

https://play.google.com/store/apps/details?id=com.wunderground.android.weather&hl=en



PWS Weather Station Monitor: View weather conditions in your neighborhood, or even right in your own backyard. Connects to wunderground.com:

https://itunes.apple.com/us/app/pws-weather-station-monitor/id713705929



5.5 Registering WeatherCloud

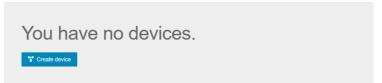
To register with Weathercloud follow these steps:

1) Visit weathercloud.net and enter a Username, Email and Password to sign up.



2) Respond to the validation email from Weathercloud (it may take a few minutes).

3) You will then be prompted to add a device/ Select "Create device" and enter your station's information:



- 4) After registering your station, take note of the "Weathercloud ID" and "Key" presented to you.
- 5) Back to the "Weather Service" screen and input the Station ID and Key.

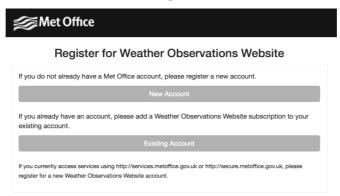
5.6 Weather Observations Website (WOW)

To have your weather station upload data to the Met Office's WOW site you will need to complete the following steps:

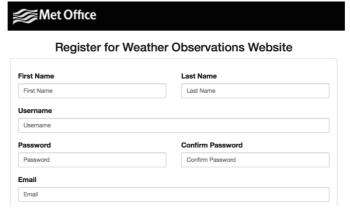
1) Sign Up with WOW

Navigate your browser to http://wow.metoffice.gov.uk. On the top-right side of the resulting page you will see menu options. Click "Sign Up"

You will be presented with the screen below where you will choose to either create a new account or use an already existing account. Click the desired option.



If you chose "New Account" you will be presented with a form to fill out:



The actual form is longer, but all questions should be self-explanatory. Complete and submit the form. You will receive the following notice on completion:



Registration Successful

You will shortly receive an email with instructions on how to login.

2) Confirm your email with WOW

Respond to the validation email from WOW(it may take a few minutes).

3) Login to WOW

Follow instructions on the screen and login to the site.

4) Create/Set up a new WOW site

Once you are logged in you will need to create a new WOW site. "Sites" are the means by which WOW organizes weather data the you contribute. Basically, WOW builds a personal web site for your weather station. Associated with the web site is two items you will need to allow uploading of data:

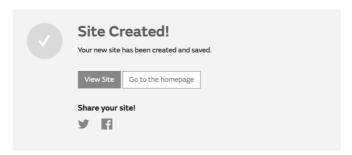
Site ID: This is an arbitrary number that is used to distinguish your site from another. This number appears (in brackets) next to or underneath the name of your site on the site information page, for example: 6a571450-df53-e611-9401-0003ff5987fd

Authentication Key: This is a 6-digit number that is used to ensure data is coming from you and not another user.

Begin setting up a new site by clicking "Enter a Site":



You will be presented with a form where you detail your station's location and a bunch of other settings related to how you wish the site to operate. After you complete the setup, you should see:



Make sure you are (still) logged in to the WOW site. Login as necessary. Now click on "My Sites" in the navigation bar at the top. If you have only 1 site, you will now be shown its page. If you have multiple, you will have to choose the correct one first. On this page, on the right side you will find the site id just below the map:



You will also need to establish a unique 6 digits PIN code that you should keep secret. It is the "Authentication Key." Setup this number by clicking on "Edit Site") and filling out the with a 6-digit number of your choice:

Authentication Key

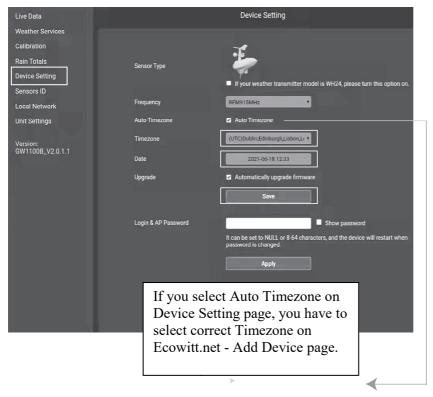
123456

5) Back to the "Weather Service" screen and input the Site ID and Authentication Key.

5.7 Embedded Webpage other funcitons

1. Device Setting

Set Timezone and Date from here



2. Live Date

The "Live Data" screen provides a read-out of your sensors and the rename function for the multi-channel sensors.



Figure 11 Live Data Screen

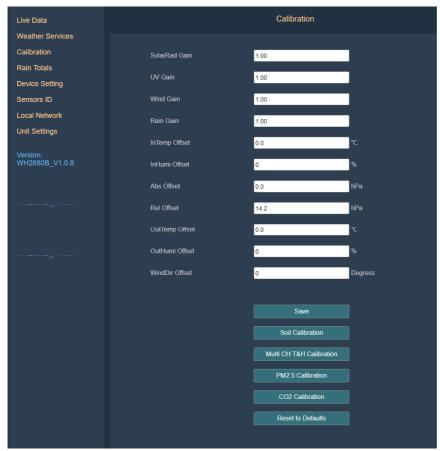
Press the pencil icon and a pop-up window will appear for editing the name of the current channel sensor. For example, rename the received CH1 temperature and humidity to bedroom temperature. After that, this channel will be exposed to bedroom temperature.



Figure 12 Live Data Screen

3. Calibration

The purpose of calibration is to fine tune or correct for any sensor error associated with the devices margin of error.



Calibration is only useful if you have a known calibrated source you can compare it against, and is optional. This section discusses practices, procedures and sources for sensor calibration to reduce manufacturing and degradation errors. Do not compare your readings obtained from sources such as the internet, radio, television or newspapers. The purpose of your weather station is to measure conditions of your surroundings, which vary significantly from location to location.

Parameter	Type of Calibration	Default
Solar Radiation	Gain	1.0
UV	Gain	1.0
Wind	Gain	1.0
Rain	Gain	1.0
Temp	Offset	Current Value
Humidity	Offset	Current Value
ABS Barometer	Offset	Current Value
REL Barometer	Offset	Current Value
Wind Direction	Offset	Current Value

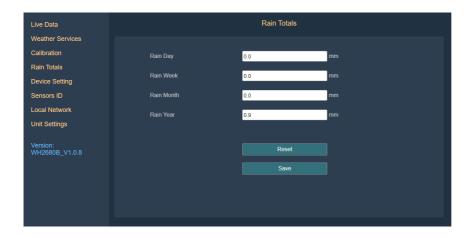
Table 5: Type of Calibration and default value

The calibration sub-page below is dynamic, and only after receiving the relevant Sensor transmitter, can you go to view, modify and set it.

- Soil Moisture Calibration
- Multi-Channel T&H Calibration
- PM2.5 Calibration
- CO2 Calibration

4. Rain Totals

You can edit the rain total for the current day, week, month, or year. This is useful when you start using this system instead of another one that has accumulated data, or simply if you know the values to be incorrect.



5. Sensor ID

On Sensor ID screen to set the following:

View sensor ID, signal strengthen and battery status

Register the sensor when offline

Enable or disable the sensor

Input the Sensor ID when offline



Caution!

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We disclaim any responsibility for any printing error, or their consequences.

The specification of this product may change without prior notice.

General safety instructions

Danger of asphyxiation:

Keep all packaging materials (plastic bags, rubber bands, etc.) away from children. There is a danger of suffocation!

Danger of burns:

Caution! Leaking / leaking battery acid can lead to burns! Avoid contact of battery acid with eyes, mucous membranes and skin. In case of contact, rinse the affected areas immediately with clear water and consult a doctor.

Risk of electric shock:

Children must not be unattended with the device, because the device contains electronic parts which are operated by means of a power source. The device may only be used as described in the instructions. If not, there is a risk of electric shock.

Danger of fire & explosion:

Use only recommended batteries. Never short-circuit the unit or batteries. Never throw the device or batteries into a fire! Overheating and improper handling may result in short circuits which can cause fires and explosions.

Important:

If there is a defect, contact your dealer immediately. Never disassemble the device! The dealer will contact the service department. Never expose the device to water! Protect the device from vibrations. Only use recommended batteries. Never mix batteries - Always replace empty batteries with a complete set of full power batteries. If the unit is not powered for a longer period of time or is not in use, remove the batteries from the unit. The manufacturer accepts no liability for incorrectly inserted batteries!



Notes on the return of batteries according to §12 BatterieVO: Batteries do not belong in the household waste. Please dispose of all batteries as required by law, disposal in domestic waste is expressly prohibited. Batteries and rechargeable batteries can be dispensed free of charge at municipal collection points or in the shops on the spot.

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declaration of conformity

Hereby we declare, HS-Group GmbH & Co.KG, Escherstr. 31, 50733 D-Cologne, that this product is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.

The declaation of conformity for this product can be found at: www.froggit.de or on request.