

Weatherproofing Advisors Ltd

Davis Instruments Weather Station Guide

FOR USE ONLY BY CMs & SMs



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Introduction

In May 2026, Weatherproofing Advisors (referred to as WPA) purchased a weather station for use on work sites. The purpose of the weather station was to facilitate better site safeguarding by aiding in prediction of the weather. High wind speeds or heavy rainfall could prevent work from occurring, so this is a countermeasure to be able to postpone work on a site until the environment is suitable.

The Company has since decided to deploy these weather stations across our sites. This installation guide covers these systems in regard to their on-site configuration, monitoring & eventual disassembly.

Pre-start Guide

Pre-start activities must include identification of a suitable scaffolded area in a work zone. It's recommended to pre-select the location before arriving on-site. Equipped with a sensor suite and a cellular gateway (solar power), wind and rainfall measurements are transmitted to a target location such as a handheld console/reader or contactable server. In this scenario, we have leveraged a server-based approach where no third-party readers are required to assess weather conditions.

Sensor Suite

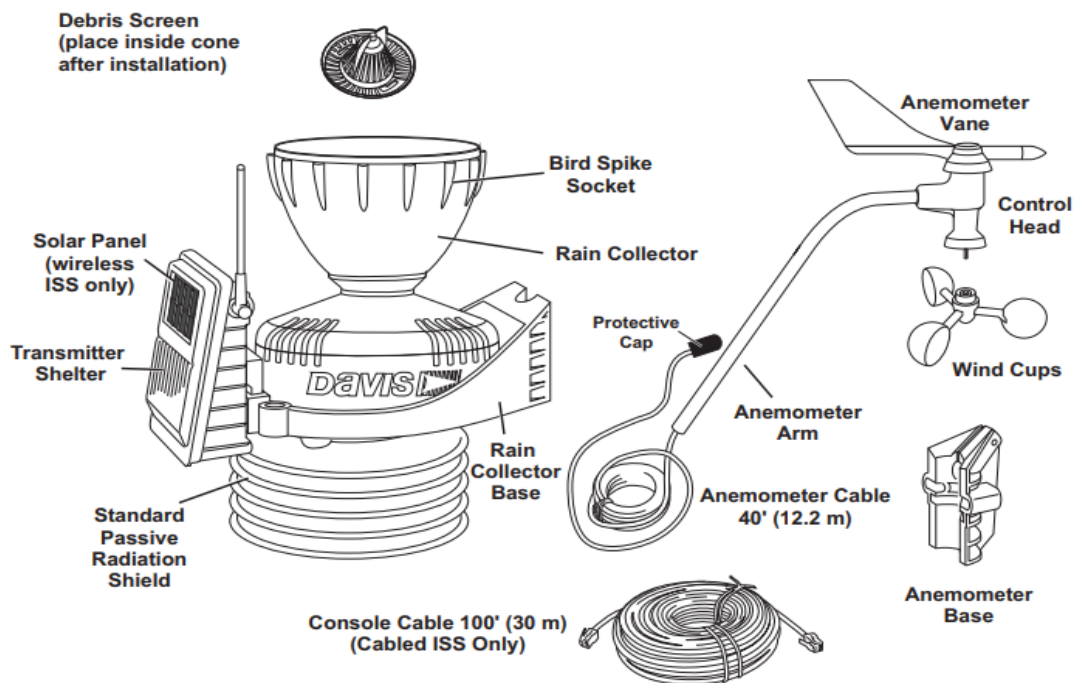


Figure 1- Sensor Suite (Wind Cups/Fin & Rain Bucket)

The sensor suite contains three main parts:

- Wind cups for wind speed, uses a trio of horizontal spinning cups.
- Wind fin for detecting wind direction using a flat but wide & horizontally rotatable fin.
- Rainfall bucket for measuring the precipitation level using a tipping mechanism.

EnviroMonitor Gateway

The sensors communicate with a small transmitter component in the suite's main panel. The suite transmits further to a gateway device, which wirelessly uploads the collected data to a server. This "gateway" is referred to as an EnviroMonitor system. The EnviroMonitor system reports weather data to an external service not owned by WPA viewable via web interface or smartphone application.

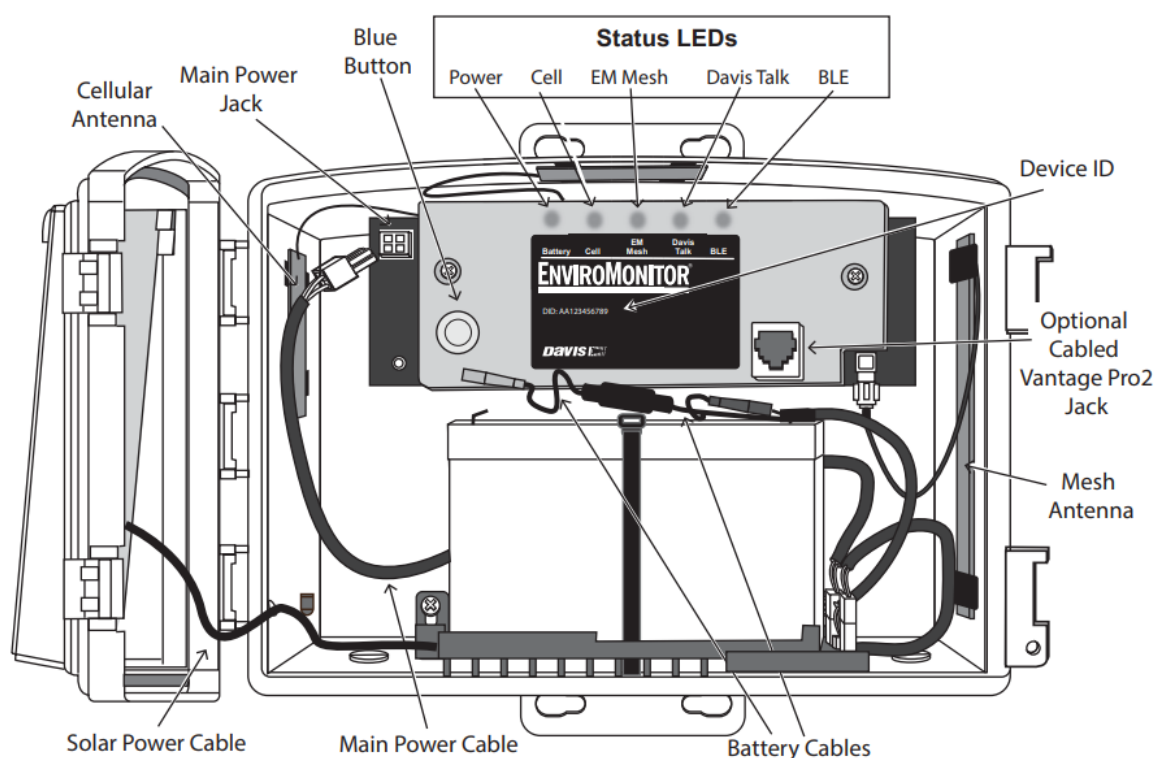


Figure 2 - EnviroMonitor Gateway (Wireless)

Site Installation

Please ensure that the following parts are already installed to the mounting pole:

- Sensor suite (Figure 1).
- EnviroMonitor gateway (Figure 2).



If the kit arrives and the Sensor Suite & Gateway are not already affixed to a mounting pole please contact IT on 01698 536 100.

It is crucial that the weather station is positioned on the highest part of the scaffolding and in open space to facilitate accurate scaffolding weather resistance, weather readings and wireless communications to/from WeatherLink servers.

ENSURE YOU HAVE THE FOLLOWING PARTS FOR AFFIXING THE MOUNTING POLE TO SCAFFOLDING

- **2X JUBILEE CLIPS**

DO NOT PROCEED IF MULTIPLE JUBILEE CLIPS CANNOT BE USED FOR SECURING THE UNIT TO SCAFFOLDING. ONE CLIP WILL NOT SUPPORT THE OVERALL UNIT WEIGHT.

Either the responsible Site Manager (SM) or Contracts Manager (CM) hands delegation of installation to a trusted operative. Using a two-man system (if available) to safely install the unit to scaffolding.

Additionally, a small pouch of anti-bird nesting spikes will be situated inside the EnviroMonitor gateway unit's casing. Please mount these to the multiple holes around the rain bucket's rim then put the empty pouch back in the gateway unit. This prevents wildlife from nesting on the unit.

Configuration

Once installed to scaffolding, open the front-facing door of the gateway unit. You are presented with an EnviroMonitor device with five labelled LEDs: Power, Cell, Mesh, Sensor Suite & Bluetooth Low Energy (BLE). Figure 2 shows an EnviroMonitor system with a Davis Talk LED, this is not present on our model of EnviroMonitor.

The EnviroMonitor system's internal battery comes disconnected to conserve power during transport/storage. Please reconnect the battery to the EnviroMonitor system by connecting the red-ended and black-ended battery cable to their clips, which can be found molded into the positive and negative position of the battery, respectively. After the battery is connected, press the blue power button situated on the left side of the EnviroMonitor to power it up if it did not already do so when you connected the battery cables. Wait a few moments for functionalities to come online.

The Sensor Suite LED indicates the gateway's wireless connectivity to the sensor suite. At this point, you should see a solid Power, flashing Cell and solid Sensor Suite LEDs. The Cell LED is expected to turn a solid green once a cellular connection has been established to WeatherLink servers. If the Power or Cell LEDs do not turn solid green



then there is insufficient power or cellular reception for the station to effectively operate. If this is still the case after leaving the station running for 10-15 minutes, please contact IT on the number at the top of this page.

The BLE LED on the far-right should begin flashing blue, please ignore this as it is only relevant for maintenance access. In the event a member of site staff needs to connect to the EnviroMonitor via BLE, they can be instructed on how to do so by IT staff.

Monitoring

Measurements are recorded at fifteen-minute intervals. This data is then uploaded to WeatherLink services for viewing on their web portal or smartphone application.

Weather stations are pre-registered on WeatherLink servers before arriving at site and only need to be physically installed then turned on. Once confirmed to be transmitting weather data successfully, site installation can be considered a success.

SMs and CMs may actively monitor wind speed, wind direction and rainfall to react to changes in weather. There are also alerts set up to notify WPA whenever weather becomes severe enough to warrant unsafe conditions. This would then be passed down to relevant staff and work halted for the meantime.

Location/project and asset information are set for each weather station. Weather stations will be moved between sites as they are required, so it is important that location and project information tied to them is updated by relevant staff. Location and notes can be updated in device settings, but are only editable by administrator. CMs and SMs will see a view-only version. Again, it is up to the CM moving the weather station between sites to inform IT so they may update the unit's details and a separate weather station tracker spreadsheet.

Download the Davis Instruments Weather App (**Site Managers/Contract Managers ONLY**):

Android:

<https://play.google.com/store/apps/details?id=com.davisinstruments.weatherlink>

Apple/iPhone: <https://apps.apple.com/gb/app/weatherlink/id1304504954>

Once installed, open the app and if prompted log in (speak to your Contract Manager/SCH for login details). Our weather stations are not publicly listed and access must be requested from an administrator. Once shared, the weather station will appear on your dashboard. The CM/SM should state the site, which allows IT to share your designated weather station.



In summary: this is a hands-off approach.

After the station has been installed on-site, it should not have to be physically interacted with until disassembly stage.

Disassembly

When a weather station has concluded its purpose on site, it is to be detached from scaffolding and either moved onto another site or returned to IT. Disassembly required is:

- Disconnection of the EnviroMonitor's power cables from the internal battery (red/positive and black/negative).
- Removal of anti-bird nesting spikes, stored inside the gateway unit.
- Removal of Jubilee clips.
- Detachment of mounting pole from scaffolding.

Once the mounting has been disconnected from the scaffolding, EnviroMonitor battery disconnected and spikes removed, the weather station can be returned to its original packaging. Please inform your CM/SCH once the unit is packaged and ready for transit.

It is crucial that the anti-bird nesting spikes are removed from the rainfall bucket's rim during disassembly, failing to do can result in damage to sensors during transit. Return the spikes to the empty pouch inside the EnviroMonitor gateway unit before packing for transit.