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LAVORI DI COMPLETAMENTO DELLA DIRETTRICE PERUGIA ANCONA:
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"PEDEMONTANA DELLE MARCHE", TRATTO FABRIANO – MUCCIA – SFERCIA

CONTRAENTE GENERALE:	*Il responsabile del Contraente Generale:*	*Il responsabile Integrazioni delle Prestazioni Specialistiche:*
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	Ing. Federico Montanari	*Ing. Salvatore Lieto*

PROGETTAZIONE: Associazione Temporanea di Imprese

Mandataria: PROGETTAZIONE GRANDI INFRASTRUTTURE PROGIN S.p.A.

Mandanti: LOMBARDI SA INGEGNERI CONSULENTI; LOMBARDI-REICO INGEGNERIA S.r.l.; SGAI s.r.l. di E.Forlani & C. Studio di Ingegneria e Geologia Applicata www.sgai.com

RESPONSABILE DELLA PROGETTAZIONE PER l'ATI	
Ing. Antonio Grimaldi	Firmato da:GRIMALDI ANTONIO Data: 03/02/2020 18:15:55

VISTO: IL RESPONSABILE DEL PROCEDIMENTO	IL COORDINATORE DELLA SICUREZZA IN FASE DI ESECUZIONE	IL DIRETTORE DEI LAVORI
Ing. Iginio Farotti	Ing. Vincenzo Pardo	Ing. Peppino Marascio

2.1.1 – PEDEMONTANA DELLE MARCHE I, II, III e IV Stralcio Funzionale

Movimenti di materia

Trattamento a calce delle terre

Stazioni meteo per rilievi anemotrici e pluviometrici

SCALA:

DATA:

Gennaio 2020

Codice Unico di Progetto (CUP) **F12C03000050021** (Assegnato CIPE 20-04-2015)

Codice elaborato:	Opera	Tratto	Settore	CEE	WBS	Id. doc.	N. progr.	Rev.
	L0703	211	E	01	000000	REL	22	A

REV.	DATA	DESCRIZIONE	Redatto		Controllato	Approvato
A	Gennaio 2020	Emissione PED	PROGIN	PROGIN	S. Lieto	A. Grimaldi

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2. GRUPPO SENSORI 3
3. SISTEMA METEOBRIDGE 4
4. GESTIONE DEL SISTEMA DI ARCHIVIAZIONE DATI. 5

ALLEGATI

1. **Manuale e specifiche tecniche ISS Vantage VUE**
2. **Scheda tecnica Meteobridge PRO**

1. PREMESSA

Le stazioni meteo per i rilievi anemometrici e pluviometrici in riferimento alla procedura per il trattamento a calce delle terre nella realizzazione dei rilevati (cod Elab. LO703211E01000000REL21A), utilizzati come misure di mitigazione degli effetti del trattamento a calce sull'ambiente. Compatibilmente con le dimensioni e le caratteristiche dei cantieri mobili, le stazioni saranno posizionate nell'ambito o in prossimità delle aree di cantiere, su terreno possibilmente piano, senza ostacoli fissi di altezza superiore a 3m in un intorno di almeno 20m, al di fuori delle aree di lavorazione e di movimentazione dei mezzi di cantiere.

Gli anemometri e i pluviometri saranno installati ad una quota pari ad 1 m da terra, in prossimità del cantiere di attività e, compatibilmente con la peculiarità dei luoghi, facendo attenzione a che non vi siano ostacoli rilevanti (ovvero con dimensioni in pianta maggiori di 4 m x 4 m ed aventi altezza superiore alla quota di installazione degli anemometri) per un raggio di circa 50 m intorno.

Gli anemometri e i pluviometri saranno ricollocati in base all'avanzamento dei lavori e all'eventuale interessamento di ambiti territoriali diversi.

Le stazioni avranno le caratteristiche di seguito descritte.

2. GRUPPO SENSORI

Il gruppo sensori ISS DAVIS Vantage VUE wireless (vedi Fig. 1) è composto da:

- Sensore termo-igrometrico con schermo solare passivo
- Pluviometro (risoluzione 0,2 mm)
- Anemometro (velocità/direzione vento)
- Trasmettitore wireless integrato (range fino a 300 metri)
- Pannello solare
- Batteria al litio



FIg.1: Gruppo sensori

3. SISTEMA METEOBRIDGE

Sistema Meteobridge PRO-RF per l'invio dei dati meteo sul web senza PC acceso (vedi Fig 2).

La versione PRO-RF (case Rosso) include un ricevitore RF integrato e può ricevere i dati direttamente dai sensori esterni wireless delle stazione DAVIS Vantage VUE.

Il sistema Meteobridge (di seguito illustrato), ha le seguenti caratteristiche aggiuntive:

- Realizzazione su hardware dedicato
- Possibilità di archiviare i dati direttamente nella memoria interna del Meteobridge PRO con memorizzazione dei dati ogni ora (ogni minuto per le ultime 36 ore per il calcolo delle medie/MIN/MAX e per gli export giornalieri).
- Backup automatico dei dati storici su USB
- Permette la modifica dei dati storici archiviati nella memoria interna
- Possiede un display con visualizzazione dei dati della stazione meteo o dei parametri di sistema con schermate completamente personalizzabili, qui di seguito alcune schermate di esempio:



Fig. 2: Meteobridge

- Possibilità di esportare i dati con formati personalizzabili
- Possibilità di generare grafici dal menu interno del Meteobridge PRO e di inviare i file clientraw su FTP per l'aggiornamento automatico dei dati nel template weather display live.
- Accesso ai file dei dati memorizzati tramite cartella di rete condivisa direttamente dal Meteobridge PRO
- Possibilità di monitorare i parametri di sistema come il consumo e la temperatura all'interno del box.
- Include un sensore di temperatura, umidità e un barometro.

La versione PRO-RF del meteobridge sarà abbinata ad una chiavetta GSM/UMTS per la connessione WEB anche in assenza di linea fissa ADSL. Con meteobridge pro sarà possibile inoltre fare l'upload automatico ad intervalli regolari sul proprio sito dedicato.

Il Meteobridge è compatibile con Meteotemplate, un template che effettuerà l'archiviazione dei dati su MySql e la realizzazione di grafici ed export in PDF e CSV. Il caricamento di un template già realizzato sul server (consultabile con chiave di accesso al seguente indirizzo stazioni2.meteosoluzionimeteo.it/) con un servizio di archiviazione su MySql incluso. Il template.

4. GESTIONE DEL SISTEMA DI ARCHIVIAZIONE DATI.

Il sistema di supporto alla stazione meteo sarà impostato per il campionamento dei dati anemologici con una frequenza pari 1 dato ogni 10 s, ovvero almeno 6 campioni al minuto. I dati anemometrici saranno archiviati in forma di valore medio relativo ad un periodo di 15' (pari a 900 s, in cui quindi dovranno essere raccolti almeno 90 campioni). Lo storico dei dati anemometrici e pluviometrici archiviati saranno resi disponibili agli Enti di controllo, DL, AS, CG e Appaltatore su apposita pagina web accessibile (da pc, cellulare o tablet) ai seguenti indirizzi:

http://stazioni2.soluzionimeteo.it/as1

http.//stazioni2.soluzionimeteo.it/as2

Le PW di accesso saranno fornite dal CG a mezzo e-mail alle figure preposte al controllo segnalate dai succitati enti (Enti di controllo, DL, AS, CG e Appaltatore).

Le stazioni funzioneranno con i medesimi criteri e potranno essere attivate contemporaneamente in funzione del numero di cantieri in attività in ambiti territoriali differenti.

Le stazioni saranno attivate negli orari e periodi di lavoro attinenti le attività di trattamento a calce.

L'accesso alla pagina WEB fornisce, inoltre, la possibilità di consultare affidabili previsioni meteo su scala nazionale a tre o più giorni giorni, utili alla programmazione delle attività di trattamento a calce.

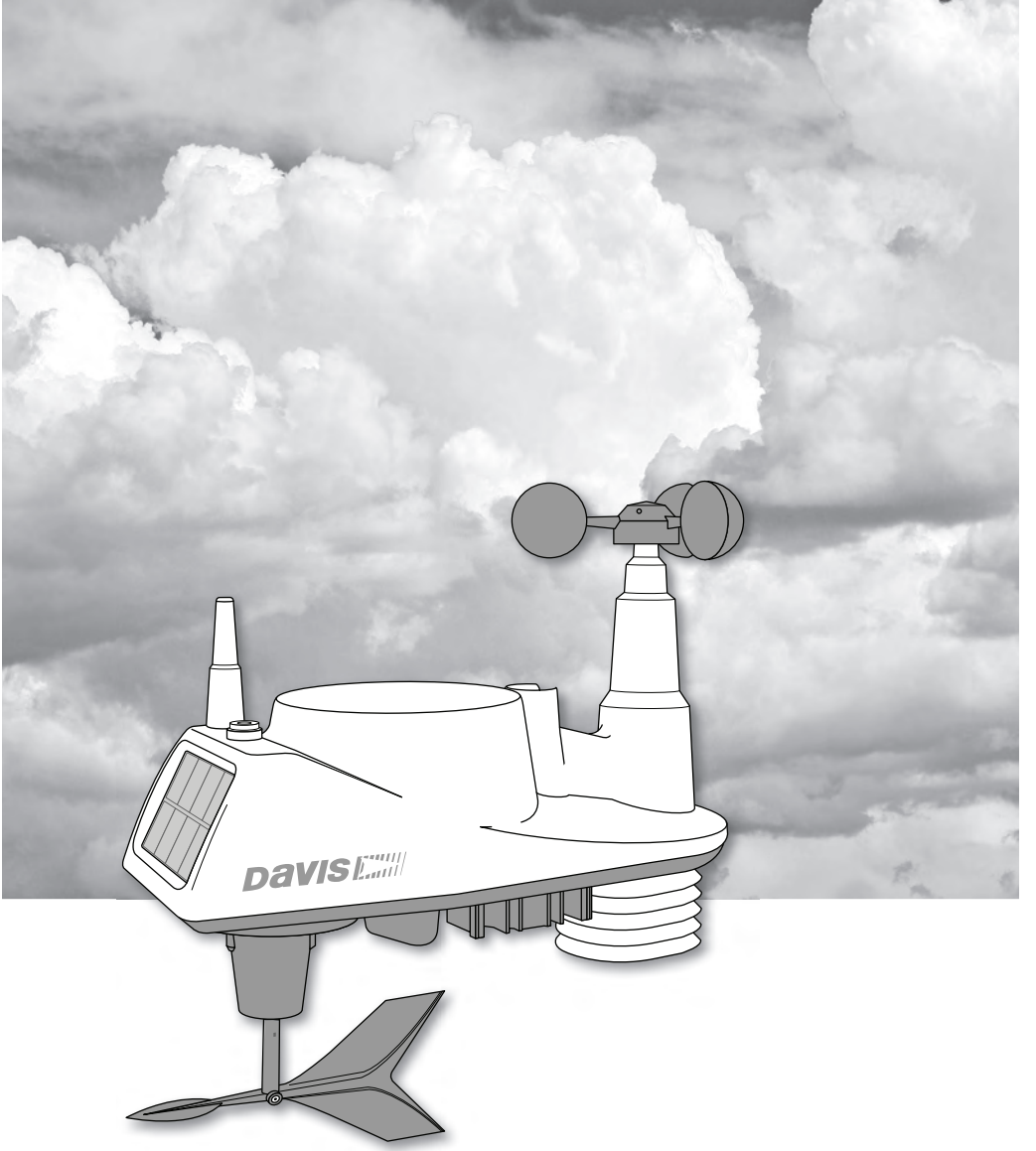
Il Sistema sarà impostato per inviare un messaggio e-mail indicante il superamento delle soglie o il ripristino delle condizioni di sotto soglia previste nella procedura per il trattamento a calce, nello specifico:

- al raggiungimento di una soglia di velocità del vento pari a **40 km/h (≥11 m/s) (**sospensione delle attività di preparazione e stesa del terreno naturale, stesa della calce, miscelamento terra calce e fresatura);
- al ripristino delle condizioni anemologiche ordinarie, vale a dire a seguito di un intervallo osservazionale pari a 15' nel quale si verifichi un valore della media della velocità del vento nuovamente inferiore alla soglia sopra indicata **(< 11 m/s)**.
- al superamento dell'intensità di pioggia moderata**(≥3mm/h) (**sospensione delle attività di preparazione e stesa del terrreno naturale, stesa della calce, miscelamento terra calce e fresatura)**;**
- Ripristino delle condizioni di pioggia moderata **(<3 mm/h)**

(I valori della velocità del vento si riferiscono a misurazioni sui periodi osservazionali e frequenze di campionamento per come sopra indicati e previsti nelle stesse linee guida SNPA)

Le suddette e-mail saranno inviate alle figure preposte al controllo delle attività e segnalate preventivamnete dagli Enti di controllo, DL, AS, CG e Appaltatore..

Il sistema è provvisto, inoltre, di un allarme visivo (lampeggiante) che sarà posizionato in cantiere in corrispondenza della stazione meteo che si attiverà automaticamente al superamento delle soglie sopra indicate in concomitanza con l'invio della e-mail.



Vantage VUE®

Integrated Sensor Suite Installation Manual

Model #6357

3465 Diablo Ave., Hayward, CA 94545 USA
510.732.9229 • www.davisnet.com

DAVIS® Davis Instruments

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FCC Part 15 Class B Registration Warning

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 on and off, the user is encouraged to try to correct the interference by one or more 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.

Changes or modification not expressly approved in writing by Davis Instruments may void the warranty and void the user's authority to operate this equipment.

FCC ID: IR2DWW6357 IC: 3788A-6357

EC EMC Compliance: This product complies with the essential protection requirements of the EC EMC Directive 2004/108/EC; Low Voltage Directive 2006/95/EC; and Eco-Design Directive 2005/32/EC >.5 watt no-load adaptor. RoHS Compliant

Integrated Sensor Suite Installation Manual.
Rev. D, June 1, 2011
Document Part Number: 07395.262
For Vantage Vue Weather Stations and Systems

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Introduction

The Vantage Vue® wireless Integrated Sensor Suite (ISS) collects outside weather data and sends the data wirelessly to a Vantage Vue console via a low-power radio. The ISS is solar powered and includes a battery back-up.

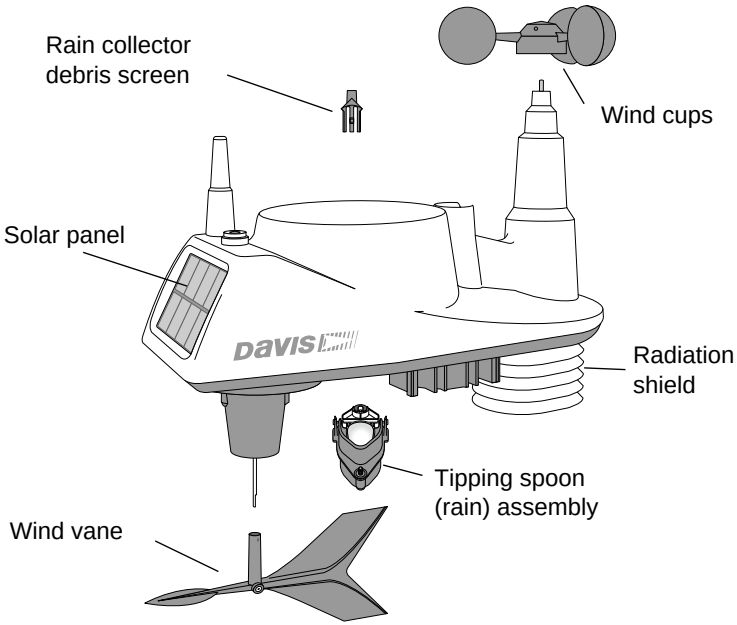
The Vantage Vue ISS contains a rain collector, temperature/humidity sensor, anemometer, and wind vane. The temperature/humidity sensor is mounted in a passive radiation shield to minimize the impact of solar radiation on sensor readings. The anemometer measures wind speed, and the wind vane measures wind direction.

The Sensor Interface Module (SIM) is housed within the ISS and comprises the "brains" of the Vantage Vue system and the radio transmitter. The SIM collects outside weather data from the ISS sensors and transmits that data to your Vantage Vue console.

Note: Your Vantage Vue ISS can transmit to an unlimited number of consoles, so you can purchase additional consoles to use in different rooms. It can also transmit to Davis Vantage Pro2 consoles and Davis Weather Envoys as well as Vantage Vue consoles.

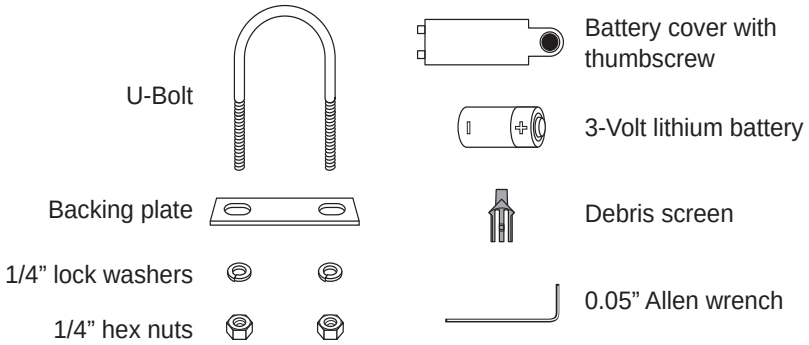
Included Components and Hardware

Vantage Vue ISS Components



Hardware

Hardware included with the Vantage Vue ISS:



Note: If any of the hardware components are missing or not included, contact Customer Service toll free at 1-800-678-3669 about receiving replacement hardware or other components.

Tools Needed

- Adjustable wrench or 7/16” (11 mm) wrench
- Compass or local area map

Preparing the ISS for Installation

Follow the steps in the order; each builds on tasks completed in previous steps.

Note: Use a clean, well-lit work table or work area to prepare the ISS for installation.

1. Attach the wind cups to the anemometer
2. Attach the wind vane
3. Install the rain collector tipping spoon assembly
4. Install the debris screen in the rain collector
5. Install the ISS battery to apply power

Note: At this point, we recommend that you set up your console, and then come back to finish the installation of the ISS. See your *Vantage Vue Console Manual*.

Additional steps for advanced set up:

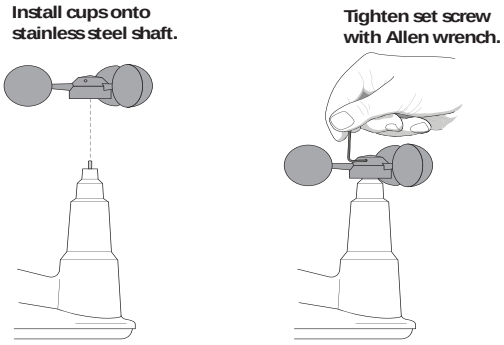
- Verify transmitter ID
- Change the transmitter ID for wireless communication, if necessary

6. Verify data from the ISS

Attach the Wind Cups to the Anemometer

The Vantage Vue anemometer measures wind speed. The wind cups are mounted on the anemometer shaft on the top of the ISS assembly.

1. Gently slide the wind cup assembly down onto the anemometer's stainless steel shaft as far as it will go, as shown.
2. Use the Allen wrench provided to tighten the set screw near the top of the "hub" section of the wind cups, as shown. Ensure that the set screw is screwed in fully and is tight.
3. Pull gently on the hub to ensure that the anemometer is securely fastened to the shaft.
4. Spin the wind cups to make sure they spin freely.

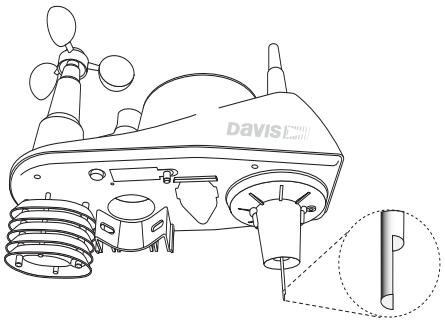


Note: If the wind cups don't spin freely, loosen the set screw, remove them from the shaft, and repeat the wind cup installation process.

Attach the Wind Vane

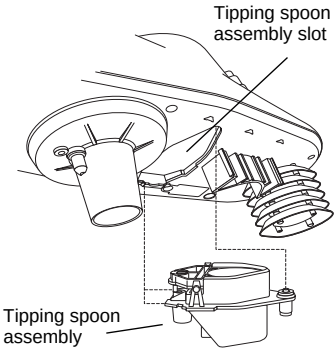
The Vantage Vue wind vane measures wind direction. The wind vane is mounted on a stainless steel shaft on the opposite side of the ISS assembly from the wind cups.

1. Hold the ISS assembly on its side with the anemometer and radiation shields on your left, the wind vane shaft on your right and the wind cups away from you.
2. When the ISS is held in this manner, the wind vane shaft is horizontal, and will orient itself so that its flat side will be facing *to the right*, as shown.
3. Holding the ISS assembly with your left hand, grasp the wind vane with your right hand so that the "arrow-head" end *is pointed down*.



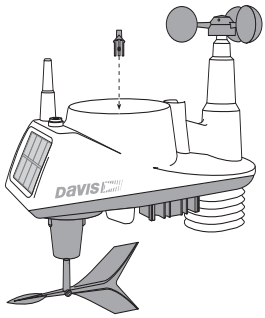
4. Gently slide the wind vane onto the wind vane shaft, rotating the wind vane slightly left and right if necessary, until the end of the shaft is visible and protrudes slightly from the bottom surface of the wind vane.
5. Secure the wind vane to the shaft by firmly tightening the wind vane set screw with the Allen wrench provided.

Install the Rain Collector Tipping Spoon Assembly



1. Locate the tipping spoon assembly slot on the underside of the ISS Base.
2. Insert the wider end of the tipping spoon assembly into the slot first, sliding it under the raised lip of the slot.
3. Fit the narrow end into the slot and tighten the thumbscrew securely.

Install the Debris Screen



The Vantage Vue ISS rain collector debris screen captures debris that may otherwise clog your rain collector.

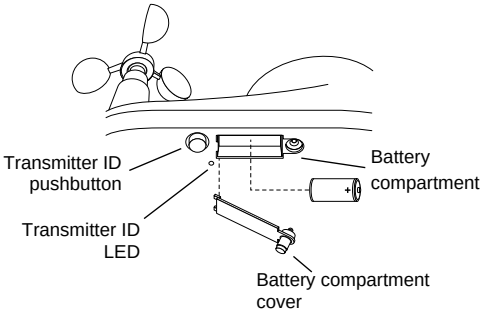
1. Locate the small black plastic ISS debris screen in your hardware package.

   The debris screen has four small tabs that hold it in place in the base of the rain collector.
2. Holding the ISS assembly with one hand, and holding the debris screen by the top, press it into the opening in the rain collector until the tabs snap into the opening.

Install the Battery

The Vantage Vue ISS SIM board stores energy from the solar panel for power at night. A 3-volt lithium battery provides a backup power source. The battery compartment is located on the underside of the ISS base. The compartment cover is included in the hardware packet.

To install the ISS backup battery.



1. Insert the 3-volt lithium battery into the ISS battery compartment, being sure to match the “+” sign on the battery with the “+” sign embossed on the inside of the battery compartment.
2. Ensure that the battery is properly in place, install the battery compartment cover, and tighten the thumbscrew.

   To verify power, wait 30 seconds then push and release the white transmitter ID pushbutton next to the battery compartment. The green transmitter ID LED next to the battery compartment will illuminate when you press the pushbutton.

Note: Press the pushbutton once and release it. Do not press it multiple times or hold it down.

When you release the pushbutton, the LED will blink once (indicating transmitter ID 1), then begin to flash every 2.5 seconds to show transmission of a data packet. This flashing will stop within a few minutes to conserve battery life.

Note: If you have not already set up and powered your Vantage Vue console, do so before continuing with the ISS installation. For best reception, the console and ISS should be at least 10 feet (3 meters) apart.

3. The console acquires the radio signal and populates data fields. This usually occurs quickly, but in some enviromental conditions it can take up to 10 minutes.

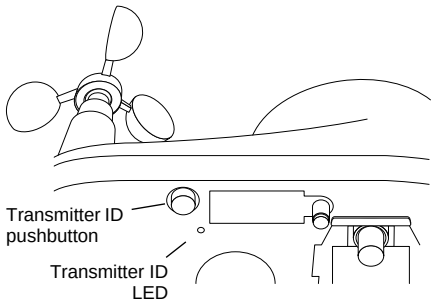
Advanced Installations: Confirm the Transmitter ID of the ISS

Your Vantage Vue console can be used to listen to a Vantage Pro2 ISS instead of a Vantage Vue ISS, and an optional anemometer transmitter kit.

Note: If you are using only the Vantage Vue console and ISS, and there are no other Davis weather stations nearby, you can skip to "Verify Data from the ISS" on page 6.

In order to communicate, the console and ISS must have the same transmitter ID. At the factory, both IDs are set to a default of number 1. To confirm the transmitter ID of your Vantage Vue ISS:

1. Push and release the transmitter ID pushbutton once. It will illuminate and go off when you release it.
2. After a short pause, it will blink one or more (up to 8) times. Note the number of times the transmitter ID LED blinks, indicating its transmitter ID.



Unless you have intentionally changed your transmitter ID, the LED should blink *one time* because the default transmitter ID for the ISS is "1." If you have changed the ID, the LED should blink the number of times equal to the ID you have set (i.e., twice for an ID of '2,' three times for an ID of '3,' etc.).

After blinking the transmitter ID, the light will begin to flash every 2.5 seconds, indicating packet transmission.

Note: The transmitter on the ISS and receiver on the console will communicate with each other only when both are set to the same transmitter ID.

Note: If you hold the pushbutton too long and accidentally enter the "set new transmitter ID" mode when you did not want to, simply release the pushbutton and wait four seconds. As long as you do not press the pushbutton again, the original transmitter ID will remain in effect.

Advanced Installations: Set a New Transmitter ID on the ISS

Note: In most cases, it will not be necessary to change the transmitter ID. If it is necessary to change the transmitter ID, **you must use the same ID for the ISS and console**.

The Vantage Vue ISS transmits weather information to the Vantage Vue console using one of eight selectable transmitter IDs. The default transmitter ID for both the ISS and the Vantage Vue console is 1. Change the transmitter ID if another Davis Instruments wireless weather station is operating nearby and already uses transmitter ID 1, or if you have an optional Ane-

mometer Transmitter Kit with ID 1.
To set a new transmitter ID:

1. Push and hold the transmitter ID pushbutton until the LED begins flashing quickly. This indicates it is in the setup mode.
2. Release the pushbutton, and the LED will go dark.
3. Push the pushbutton the number of times equal to your desired new transmitter ID. That is, if you want to change the ID to "3," push the pushbutton three times; for a desired ID of "4," push the pushbutton four times.

   After four seconds have elapsed with no further presses, the LED will blink the same number of times as the new transmitter ID. (After blinking the transmitter ID number, the light will begin to flash each time a packet is transmitted, about every 2.5 seconds.)

Verify Data from the ISS

To verify reception of ISS data by the Vantage Vue console, you will need your powered-up console and the ISS. For best reception, the console and ISS should be at least 10 feet (3 meters) apart.

1. If the console is in Setup Mode, press and hold **DONE** until the Current Weather screen displays. The antenna icon appears under the wind compass rose. Watch this icon to see that "transmission waves" appear, indicating reception of a packet.
   Sensor readings from the ISS should display on the screen within a few minutes.
2. At the top right corner of the screen, look for the outside temperature.
3. Gently spin the wind cups to check wind speed, pressing the **WIND** button on the console to alternate between speed and direction in the windcompass rose.
4. Gently turn the wind vane, and allow 5 seconds for the wind direction display to stabilize before moving it again.

Note: A good way to ensure that your console is listening to your ISS and not another Davis station nearby, is to make sure the wind values displayed match your wind vane's direction in reference to the solar panels, which are assumed to be facing south. For example, if you move the vane to point directly away from the ISS, the console should show a wind direction of south; if you then turn the vane 180° so it is pointed back at the radiation shield, the wind direction on the console should change to north.

5. Approximately one minute after acquisition of the signal, the outside relative humidity reading should be displayed on the console, below the outside temperature display.
6. Confirm rain display. On your console screen, select the RAIN DAY display. (See *Vantage Vue Console Manual*.). Carefully hold your ISS over a sink and, while watching the RAIN DAY display on your console, slowly pour one-half cup of water into the Rain Collector. Wait two seconds to see if the display registers a rain reading.

Note: This method confirms that the rain display is functioning. It **cannot** be used to verify accuracy.

7. Current data displayed on the console confirms successful communication.

Note: In some cases it may take as long as ten minutes for a reading to register on your console.

If communication problems exist between the wireless ISS and the console, see "Troubleshooting ISS Reception" on page 12.

Installing the ISS

Choosing a Location for the ISS

The ISS assembly includes the rain collector, wind vane, anemometer, temperature and humidity sensors, radiation shield, and SIM housing. You will use the U-bolt and associated nuts and washers that are included with your ISS mounting hardware package to install the ISS on a pole. (See “Hardware” on page 2.)

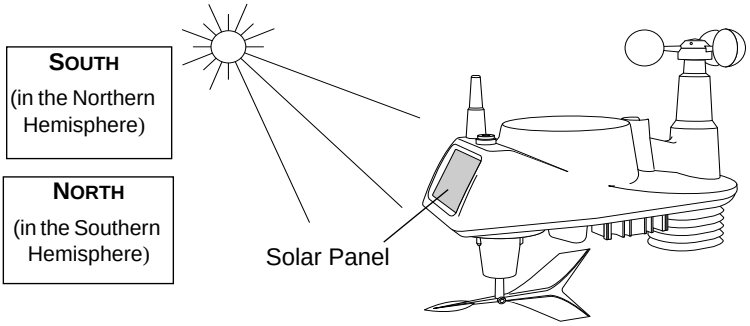
To ensure that the Vantage Vue weather station performs at its best, use these guidelines to select the optimum mounting location for the ISS. Be sure to take into consideration ease of access for maintenance and wireless transmission range when siting the station.

Note: When selecting a location for installing your ISS, especially on a rooftop, make sure it is a location far from power lines. Seek professional help if you are uncertain about the safety of your installation.

ISS Installation Guidelines

Note: These siting guidelines reflect an ideal condition. Rarely is it possible to create the perfect installation. The better the siting, the more accurate your data will be.

- Place the ISS away from sources of heat such as chimneys, heaters, air conditioners and exhaust vents.
- Place the ISS at least 100' (30 m) away from any asphalt or concrete roadway that readily absorbs and radiates heat from the sun. Avoid installations near fences or sides of buildings that receive a lot of sun during the day.
- Install the ISS as level as possible to ensure accurate rain and wind measurements. Use the built in bubble level on the top of the ISS, just above the solar panel, to make sure the ISS is level.
- In the Northern Hemisphere, the solar panel should face south for maximum sun exposure.
- In the Southern Hemisphere, the solar panel should face north for maximum sun exposure.



Note: If you install the ISS with the solar panel pointing in a direction other than south, you will need to use the wind direction calibration function in the Vantage Vue console in order to obtain accurate wind direction readings. See *Vantage Vue Console Manual* for more information.

- Ideally, mount the ISS so that it is between 5’ (1.5 m) and 7’ (2.1 m) above the ground in the middle of a gently sloping or flat, regularly mowed grassy or naturally landscaped area that drains well when it rains. You can also mount the ISS on the roof, between 5’ (1.5 m) and 7’ (2.1 m) above the roof surface. For areas with average maximum yearly snow depths over 3’ (0.9 m), mount the ISS at least 2’ (0.6 m) above this depth.
- Never install the ISS where it will be directly sprayed by a sprinkler system.
- Avoid installations near bodies of water such as swimming pools or ponds.
- Do not locate the ISS under tree canopies or near the sides of buildings that create “rain shadows.” For heavily forested areas, site the ISS in a clearing or meadow.
- Site the ISS in a location with good sun exposure throughout the day.
- *For agricultural applications:*
  - Install the ISS so that it is between 5’ (1.5 m) and 7’ (2.1 m) above the ground and in the middle of the farm between similar crop types (ie. two orchards, two vineyards, or two row crops), if possible.
  - Avoid areas exposed to extensive or frequent applications of agricultural chemicals (which can degrade the sensors).
  - Avoid installation over bare soils. The ISS performs best when installed over well-irrigated, regularly mowed grass
  - If the last three guidelines cannot be met, install the ISS at the edge of the primary crop of interest.

Siting guidelines that may affect the anemometer

- For optimal wind data, mount the ISS so that the wind cups are at least 7’ (2.1 m) above obstructions such as trees or buildings that may obstruct wind flow.
- For optimal wind data, you may mount the ISS on a roof, keeping in mind ease of access to the ISS for maintenance and safety considerations. Ideally, mount it so that the wind cups are at least 7’ (2.1 m) above the roof apex.
- The standard for meteorological and aviation applications is to place the anemometer 33’ (10 m) above the ground. Seek professional help for this such installation.
- The standard for *agricultural applications* is to place the wind cups 6’ (2 m) above the ground. This is important for evapotranspiration (ET) calculations.

Note: For roof mounting, and ease of installation, we recommend using the optional tripod (#7716). For other installations, use the Mounting Pole Kit (#7717).

Note: For more detailed siting suggestions, see Application Note #30 on the Davis Support website (http://www.davisnet.com/support/weather).

Mounting the ISS

The Vantage Vue ISS can only be mounted on the top of a pole or rod.

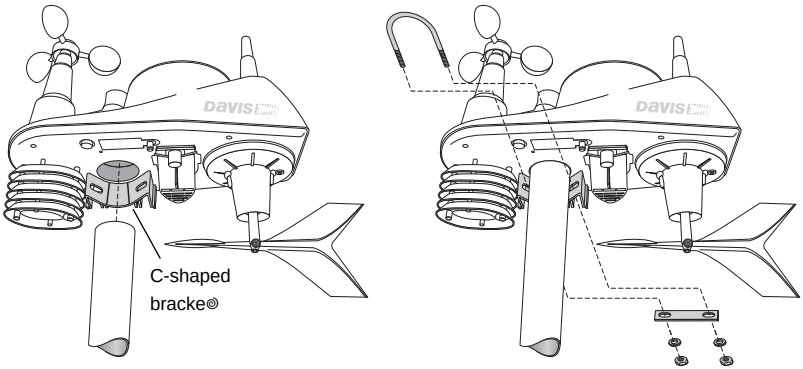
Note: A mounting pole is not included with your Vantage Vue ISS and must be purchased separately, either from Davis Instruments or from your local hardware retailer.

Recommended Accessories for Pole Mounting

- Use the Mounting Tripod (#7716) for easiest mounting.
- Use the Mounting Pole Kit (#7717) to raise the installation height of the ISS by up to 37.5" (0.95 m).

General Guidelines for Installing on a Pole

- With the supplied U-bolt, the ISS can be mounted on a pole or rod having an outside diameter ranging from 1" to 1.75" (25 – 44 mm).
- To mount on a smaller pole, obtain a U-bolt that fits the base openings but that has a longer threaded section. If mounting the ISS on a smaller pole with the included U-bolt, the threaded sections of the U-bolt will be too short to securely mount the ISS.



Installing the ISS on a Pole

1. If you are mounting your ISS on a Davis Mounting Tripod or the pole included with a Davis Mounting Pole Kit, follow the instructions included with those Davis products for proper installation.

   If you are not using one of these Davis products, mount on a galvanized steel pole having an outside diameter ranging from 1" to 1.75" (25 – 44 mm).

Note: It is important that the mounting pole be plumb. You may wish to use a level such as a magnetic "torpedo level" to assure that the ISS, when mounted on top of the pole, will be level.

2. Using the illustration above as a guide, hold the ISS so that the wind cups and radiation shield are on the left and gently place the ISS on top of the pole.
3. While holding the mounting base of the ISS against the pole, place the two ends of the U-bolt around the pole and through the two holes in the C-shaped bracket on the base.
4. Slide the metal backing plate over the bolt ends where they extend out from the far side of the bracket.
5. Secure the backing plate with a lock washer and hex nut on each of the bolt ends, as shown in the illustration.
6. Tighten the hex nuts **with your fingers only** so that the ISS is just secure enough on the pole for you to release your grip.

7. If you are in the Northern Hemisphere, rotate the ISS on the pole so that the solar panel is facing south; if you are in the Southern Hemisphere, rotate the ISS so that the solar panel is facing north. The more precisely the solar panels face due south or north, the more accurate your wind direction readings will be.

Note: Do not rely on a compass unless it is properly calibrated. In North America there can be up to 15° variation between true north and a raw compass reading.

8. When the ISS is properly oriented, tighten the hex nuts with a wrench. Do not exceed 96 inch-pounds (10.8 newton-meters) of torque.

Note: You can refer to the bubble level on the top of the ISS to make sure it is as level as possible.

Finishing the Installation

The wind vane is calibrated at the factory to be accurate when the solar panel is pointing south. If your solar panel does not point south, you must calibrate your console so that it displays accurate wind direction readings. In any case, you can also calibrate your console to fine-tune your station for greatest accuracy. Refer to your *Vantage Vue Console Manual* to calibrate your console.

Note: Calibration **must** be done if you are in the Southern Hemisphere, or if you are in the Northern Hemisphere and cannot install your ISS with the solar panel facing south.

Clearing Data Collected During Testing and Installation

Now that the ISS is mounted outside, any data that was collected and stored in the console during testing and mounting should be cleared.

To clear all the collected data on the console:

- On the console, press **WIND** so that selection arrow appears adjacent to the wind data on the display. Confirm that wind speed is displayed on the compass rose.
- Press **2ND**, then press and hold **CLEAR** for at least six seconds and until you see "CLEARING NOW" in the weather center.

Maintenance and Troubleshooting

Maintenance

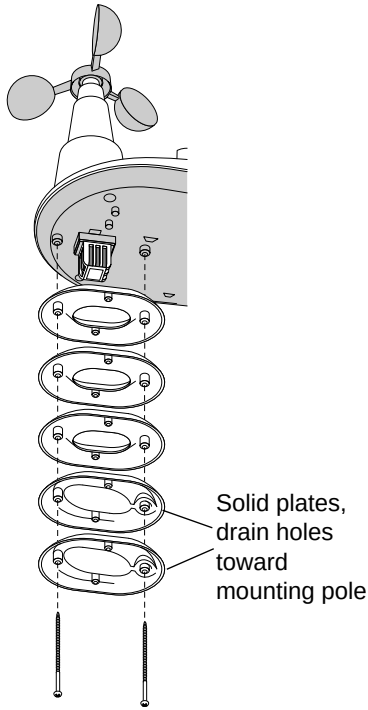
Cleaning the Radiation Shield

The outer surface of the radiation shield should be cleaned when there is excessive dirt and build-up on the plates. Use a damp cloth to clean the outer edge of each ring.

Note: Spraying down or using water excessively to clean the radiation shield can damage the sensitive sensors or alter the data the ISS is transmitting.

Check the radiation shield for debris or insect nests at least once a year and clean when necessary. A buildup of material inside the shield reduces its effectiveness and may cause inaccurate temperature and humidity readings.

1. Using a Phillips head screwdriver, loosen the two #6 x 2 $^1/_2$" screws holding the five radiation shield plates together, as shown.
2. Taking care to maintain the order in which the five plates are assembled, separate the plates as shown and remove all debris from inside the shield.
3. Reassemble the plates in the same order in which they were disassembled, and fasten them together using a Phillips head screwdriver to tighten the #6 x 2 $^1/_2$" screws, as shown.



Cleaning the Rain Collector, Debris Screen, and Tipping Spoon Module

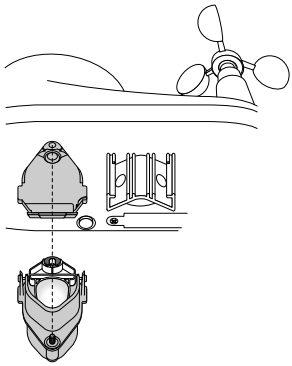
To maintain accuracy, thoroughly clean the rain collector cone and debris screen as needed or at least once a year.

Note: Cleaning the rain collector and tipping spoon may cause false rain readings. See "Clearing Data Collected During Testing and Installation" on page 10.

1. Use a damp, soft cloth to remove any debris from the rain collector and debris screen.
2. Use pipe cleaners to clear any debris remaining in the screen.
3. When all parts are clean, rinse with clear water.

To clean the tipping spoon assembly, it must first be removed from the ISS base.

1. Unscrew the thumbscrew securing the tipping spoon assembly to the ISS base. Slide the assembly down and away from the base.
2. Use a damp, soft cloth to gently remove any debris from the tipping spoon assembly, being careful not to damage any moving parts or scratch the spoon.
3. When all parts are clean, rinse with clear water, and replace the assembly. (See “Install the Rain Collector Tipping Spoon Assembly” on page 4.)



Troubleshooting

Troubleshooting ISS Reception

If the console isn’t displaying data from the ISS:

1. Verify that the ISS and console are powered and that the console is not in Setup Mode. (See *Vantage Vue Console Manual*.)
2. Make sure that the ISS battery is properly installed.
3. Walk around the room with the console, standing for a few moments in various locations, to see if you are picking up signals from the ISS. Look on the screen below the wind compass rose for the small graphic of a radio antenna.

Note: If you do not see the antenna icon, press 2ND and SETUP to enter Setup Mode, then press DONE to return to the Current Weather Screen. The icon should appear.

4. Small “transmission waves” display above the antenna icon and toggle on and off when the console receives a transmission.

   If you do not see the antenna’s transmission wave graphic slowly blinking, regardless of where you stand with the console, you should call Technical Support.
5. If the Transmitter ID LED does not light after pressing the Transmitter Pushbutton, there is a problem with the ISS transmitter. Call Technical Support.
6. If, after pressing the Transmitter Pushbutton, the Transmitter ID LED flashes every 2.5 seconds (indicating transmission) but your console isn’t picking up a signal anywhere in the room, it could be related to one of the following causes:
   - You changed the ISS Transmitter ID at the ISS or console, but not at both.
   - Reception is being disrupted by frequency interference from outside sources, or the distance and barriers are too great.

Note: Interference has to be strong to prevent the console from receiving a signal while in the same room as the ISS.

   - There is a problem with the Vantage Vue console.
7. If a problem with receiving the wireless transmission still exists, please contact Technical Support.

Note: See “Contacting Davis Instruments” on page 12.

Problems Using Two Transmitting Stations

A single Vantage Vue console can receive signals from one ISS, either a Vantage Vue or a Vantage Pro2 ISS, and an optional anemometer transmitter kit. Make sure the transmitter IDs are configured correctly. See your *Vantage Vue Console Manual* for information on configuring transmitter IDs.

Most Common Rain Collector Problem

"My rain data seems too low."

If the rain collector seems to be under-reporting rainfall, clean the debris screen and tipping spoon module to clear out any debris.

Most Common Anemometer Problems

"The wind cups are spinning but my console displays 0 mph."

The wind cups may not be turning the shaft. Remove the cups from the anemometer by loosening the set screw. Put the cups back onto the shaft and make sure to slide them down the shaft as far as possible. Retighten the set screw.

"The wind cups don't spin or don't spin as fast as they should."

The anemometer may be located where wind is blocked by something, or there may be friction interfering with the cups' rotation. Remove the wind cups by loosening the set screw, and clear out any insects or debris which may be interfering with the cup rotation. Turn the shaft the cups rotate on. If it feels gritty or stiff, contact Davis Technical Support.

Note: Do not lubricate the shaft or bearings in any way.

"Readings aren't what I expected them to be."

Comparing data from your ISS to measurements from TV, radio, newspapers, or a neighbor is NOT a valid method of verifying your readings. Readings can vary considerably over short distances. How you site the ISS and anemometer can also make a big difference. If you have questions, contact Davis Technical Support.

Contacting Davis Instruments

If you have questions about the ISS or Vantage Vue system, or encounter problems installing or operating the weather station, please contact Davis Technical Support.

Note: Please do not return items to the factory for repair without prior authorization.

(510) 732-7814 – Technical Support phone, Monday – Friday, 7:00 a.m. – 5:30 p.m. Pacific Time.

(510) 670-0589 – Technical Support Fax.

support@davisnet.com – E-mail to Technical Support.

info@davisnet.com – General e-mail.

www.davisnet.com – Download manuals and specifications from the Support section. Watch for FAQs and other updates. Subscribe to the e-newsletter.

Appendix A: Specifications

See complete specifications for your Vantage Vue station on our website: www.davisnet.com

Integrated Sensor Suite (ISS) Specifications

Operating Temperature	-40° to +150°F (-40° to +65°C)
Non-operating (Storage) Temperature	-40° to +158°F (-40° to +70°C)
Current Draw (ISS SIM only)	0.20 mA (average), 30 mA (peak) at 3.3 VDC
Solar Power Panel (ISS SIM)	0.5 Watts
Battery (ISS SIM)	CR-123 3-Volt Lithium cell
Battery Life (3-Volt Lithium cell)	8 months without sunlight - greater than 2 years depending on solar charging
Connectors, Sensor	Pogo Pins
Cable Type	6-conductor, 28 AWG
Wind Speed Sensor	Wind cups with magnetic switch
Wind Direction Sensor	Wind vane with magnetic encoder
Rain Collector Type	Tipping spoon, 0.01" per tip (0.2 mm with metric rain cartridge, Part No. 7345.319), 18.0 in^2 (116 cm^2) collection area
Temperature Sensor Type	PN Junction Silicon Diode
Relative Humidity Sensor Type	Film capacitor element
Housing Material	UV-resistant ABS & ASA plastic

Update Interval by Sensor		
BAR	Barometric Pressure	1 min.
HUMIDITY	Inside Humidity	1 min.
	Outside Humidity	50 sec.
	Dew Point	10 sec.
RAIN	Rainfall Amount	20 sec.
	Rain Storm Amount	20 sec.
	Rain Rate	20 sec.
TEMPERATURE	Inside Temperature	1 min.
	Outside Temperature	10 sec.
	Heat Index	10 sec.
	Wind Chill	10 sec.
WIND	Wind Speed	2.5 sec.
	Wind Direction	2.5 sec.
	Direction of High Speed	2.5 sec.

Quality Assurance Statement

This certifies that the enclosed weather station was manufactured and individually tested at:

Davis Instruments, 3465 Diablo Ave., Hayward, CA 94545, USA

All Davis Weather Stations are assembled in our California factory using rigorous production controls and a quality management system that is certified by Perry Johnson Registrars, Inc. to be in conformance with ISO 9001:2015 standards. Each unit is individually tested for accuracy, consistency and overall product quality. Out goal is to have all units perform to the specifications as printed in our Weather Catalog.

Before shipment, every Davis Weather Station undergoes the following tests:

Electronic Testing:	A variety of tests are performed to verify that the station manages power efficiently and conserves battery life.
Radio Testing:	Wireless components are tested to verify proper function; FCC and EMC conformance and range verification.
Burn In:	Consoles are tested to check for any defects or malfunctions.
Final Test:	Davis performs a thorough check of all system functions and sensors.

Along with individual station testing, Davis Weather Stations undergo numerous ongoing tests that are performed regularly during the development and manufacturing process to ensure continuous product improvement. These tests include:

Corrosion Testing:	Davis utilizes accelerated corrosion chamber testing to verify the durability of the mechanical and electronic components.
Reliability Testing:	Stations are tested in various remote, harsh weather sites throughout the world to ensure reliability in any climate condition.
Wind tunnel Testing:	Extensive wind tunnel testing is conducted to verify starting threshold, accuracy over range and survivability over range.
UV Testing:	Accelerated UV chamber testing allows us to verify that components will have a long outdoor life. This includes specific verification that solar panels maintain function after prolonged UV exposure.
Mechanical Testing:	Various tests are performed to ensure functionality after vigorous vibration.
Moisture Testing:	Davis performs a series of tests to verify stations function well in wet and damp environments and ensure viability in freezing (wet and dry) conditions.
Life Testing:	Various tests are performed to ensure the station still functions after thousands of button pushes and millions of bearing revolutions.
Quality Assurance Program:	Davis inspects all incoming parts and components to verify they meet our quality specifications.
Sensor Testing:	Regular evaluations are performed on all sensors to determine environmental effects on long-term accuracy.

NIST calibration compares sensor performance to a verified national standard of measurement. Davis Instruments can provide calibration against NIST traceable standards upon request in our California factory for an additional fee.

Davis Instruments
3465 Diablo Avenue, Hayward, CA 94545-2778

DECLARATION OF CONFORMITY

The following products have been tested by us and found to be in compliance with the essential protection requirements of the Radio Equipment Directive 2014/53/EU. Davis Instruments' radio compliance is unaffected by software or firmware version.

Manufacturer: Davis Instruments Corp., 3465 Diablo Ave., Hayward, CA 94545, USA

Model Numbers:
6152EU, 6152UK, 6153EU, 6153UK
6162EU, 6162UK, 6163EU, 6163UK
6312EU, 6312UK, 6316EU, 6316UK, 6318EU, 6318UK
6250EU, 6250UK
6322OV, 6322C, 6323OV, 6327OV, 6328OV, 6332OV, 6334OV
6345OV, 6345CSOV
6351EU, 6351UK, 6357EU, 6357UK, 6357OV
6372OV, 6382OV, 6820OV, 6825OV
7626EU, 7626UK, 7627OV
7653EU, 7653UK, 7654OV

Product Description: The Vantage Pro2 and Vantage Vue product line is a set of weather monitoring devices that transmit and receive weather data via a frequency hopping spread spectrum radio using FSK (frequency shift key) technology. The various models measure different combinations of the following weather variables: temperature, pressure, humidity, wind speed, wind direction, solar radiation and UV radiation.

Declared Frequency 868.0 – 868.6 MHz FHSS. Power output less than 10 mW.

Issued: November 6, 2017

Standard	Description
EN 300 220-1 V3.1.1	Short Range Devices (SRD) operating in the frequency range 25 MHz to 1 000 MHz; Part 1: Technical characteristics and methods of measurement
EN 300 220-2 V3.1.1	Harmonized Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU for non-specific radio equipment
EN 301 489-1 V2.1.1	Electromagnetic Compatibility (EMC) standard for radio equipment and services;
EN 301 489-3 V2.1.1	Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services
EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013	Safety of Information technology equipment
EN 55022:2006 + A1: 2007 Class B	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement
EN 61000-3-2:2014	Electromagnetic compatibility (EMC)—Part 3-2: Limits – Limits for harmonic current emissions (equipment input current up to and including 16 A per phase)
EN 61000-3-3:2013	Electromagnetic compatibility (EMC)— Part 3-2: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rate current ≤ 16A per phase and not subject to conditional connection
EN 55024:2010 + A1:2015	Information technology equipment-Immunity characteristics limits and methods of measurement
RoHS2 2011/65/EU	Restriction of the use of certain hazardous substances in electrical and electronic equipment
EN 55032:2015	Electromagnetic compatibility of multimedia equipment – Emissions requirement

I, the undersigned, declare that the equipment specified above complies with the essential protection requirements of the Radio Equipment Directive 2014/53/EU.

Signature: P. Dillon Date: November 6, 2017
Perry Dillon, Compliance Engineer

Declaration of Conformity

Davis Instruments
3465 Diablo Avenue, Hayward, CA 94545-2778

Directive:	2006/95/EC Low Voltage Directive 2004/108/EC Electrical Equipment EMC Compatibility
Standards:	ETSI EN300–220 V1.1.1 (2000-09): Electromagnetic Compatibility and Radio Spectrum Matters (ERM); short range devices; technical characteristics and test methods for radio equipment to be used in the 25 MHz to 1000 MHz frequency range with power levels ranging up to 500 mW. EN 301 489-3 V1.4.1 (2002-08): Electro Magnetic Compatibility Standard for Radio Equipment and Services
Issued:	12 April 2017
Manufacturer:	Davis Instruments Corp., 3465 Diablo Avenue, Hayward, CA 94545, USA
Responsible Person:	Perry Dillon Compliance Engineer Davis Instruments Corp., 3465 Diablo Avenue, Hayward, CA 94545, USA
Model Numbers:	6152EU, 6152UK, 6153EU, 6153UK 6162EU, 6162UK, 6163EU, 6163UK 6312EU, 6312UK, 6316EU, 6316UK, 6318EU, 6318UK 6250EU, 6250UK 6322OV, 6322C, 6323OV, 6327OV, 6328OV, 6332OV, 6334OV 6345OV, 6345CSOV 6351EU, 6351UK, 6357EU, 6357UK, 6357OV 6372OV, 6382OV 6820OV, 6825OV 7626EU, 7626UK, 7627OV 7653EU, 7653UK, 7654OV
Product Description:	The Vantage Pro2 and Vantage Vue product line is a set of weather monitoring devices that transmit and receive weather data via a frequency hopping spread spectrum radio using FSK (frequency shift key) technology. The various models measure different combinations of the following weather variables: temperature, pressure, humidity, wind speed, wind direction, solar radiation and UV radiation.
Declared Frequency:	868.0 – 868.6 MHz FHSS. Power output less than 10 mW.

I, the undersigned, declare that the equipment specified above complies with the essential protection requirements of the Radio Equipment Directive 2014/53/EU.

Signature: P. Dillon Date: 12 April 2017

Perry Dillon, Compliance Engineer

7395.297 Rev. B 5/24/17

smartbedded UG (haftungsbeschränkt)
Querweg 35, 24632 Lentföhrden, Germany
email: info@smartbedded.com

Meteobridge PRO - Datasheet



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



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

Weather Stations - Meteobridge PRO supports these weather stations:

- Davis Instruments® Vantage Pro2™, Vue™ (red capped model can read RF sensor data directly, no console or envoy or data logger needed)
- Davis Instruments® Envoy 8x
- Oregon Scientific® WMR-88, WMR-100, WMRS-200, WMR-300, RMS-200, WMR-928, WMR-968
- Meade/Irox/Mebus/Honeywell/Nexus TE-923, TE-827, TE-821, DV-928
- FineOffset/Ambientweather WH-1080, WH-2080, WH-3080, Observer-IP
- FineOffset WH-2310/2308, WH-4000
- PeetBros Ultimeter 100, 800, 2100
- Rainwise MkIII (MkIIICC and CC-3000 interfaces are supported)
- Lufft WS600/601
- Acurite 1025, 1035, 1525, AcuLink Bridge
- LaCrosse/ELV WS2300, WS550, WS777, WS888, WDC7000

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

- WWeather Underground
- Weather Underground Camera
- AWEKAS
- CWOP / APRS
- WeatherBug Backyard
- WeatherForYou
- UK MetOffice WOW / WOW NL
- Teere-Net
- Open Weather Map
- Weather Cloud
- Windfinder
- Windguru
- Idokep
- Weatherflow
- Wetter.com
- Previmeteo
- Anything Weather
- Meteonews
- Meteoplug Cloud Graphing
- Meteobridge Weather CAM
- Wetterring
- Weathercloud
- Ambientweather Network
- Agroclima

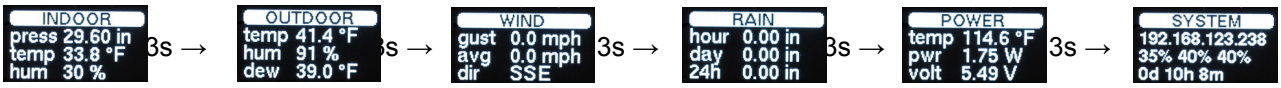
Uploads / Sending - Beside feeding weather networks Meteobridge PRO allows you to pull your weather data in short intervals to your own server in the Internet. This can be done by FTP, SFTP, HTTP, HTTPS or even by mySQL requests. You also can send weather data by email or can twitter your data. Which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

Web-Templates - Meteobridge PRO can feed the most popular webpage templates („Leuven“, „Saratoga“, „Home Weather Station“, „Meteotemplate“ and „WD-Live“) and makes it easy to set up your individual Internet weather web page easy.

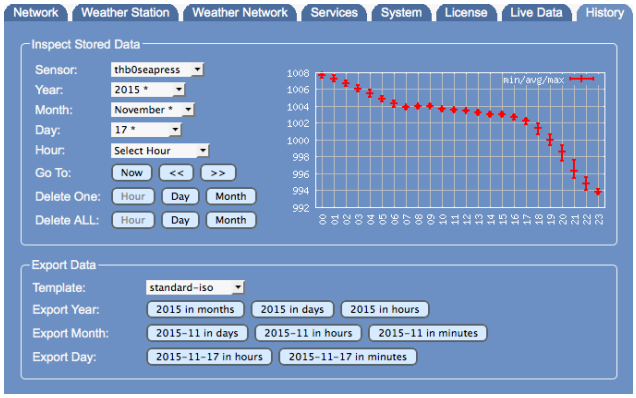
Conditions - Meteobridge PRO can even act on user-defined sensor data conditions and initiate any of the actions mentioned above (like email) when sensor data matches conditions defined by you. Having multiple ways to upload and send data, controlled by user-defined conditions gives you an extremely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

Remote Access - Meteobridge PRO offers the ability to be reached from the Internet by simply setting a mark on the web interface. Doing so you are provided with an Internet URL where you can reach your Meteobridge PRO. No changes at your firewall and router are needed. It just works, unless you are in a company-grade LAN where packet filtering is applied or other special measures are taken. This feature is extremely helpful when you are on travel or the Meteobridge is located in a remote location and you want to check things or change settings. Your Meteobridge remains protected by the password you gave it.

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



Storage - Meteobridge PRO comes with an internal database that can store up to 1 GB of weather station data, which allows to hold data of more than a decade. Data can be inspected, edited and deleted via the Meteobridge PRO web interface, which also gives a graphical overview about data of a specified sensor in a year's, month's or day's time range. Meteobridge PRO can directly make use of stored data when uploading information, so this can feed your web server with any kind of sensor data for any period in time. Therefore, you are not stuck to predefined templates but can design your internet weather presence as you like.

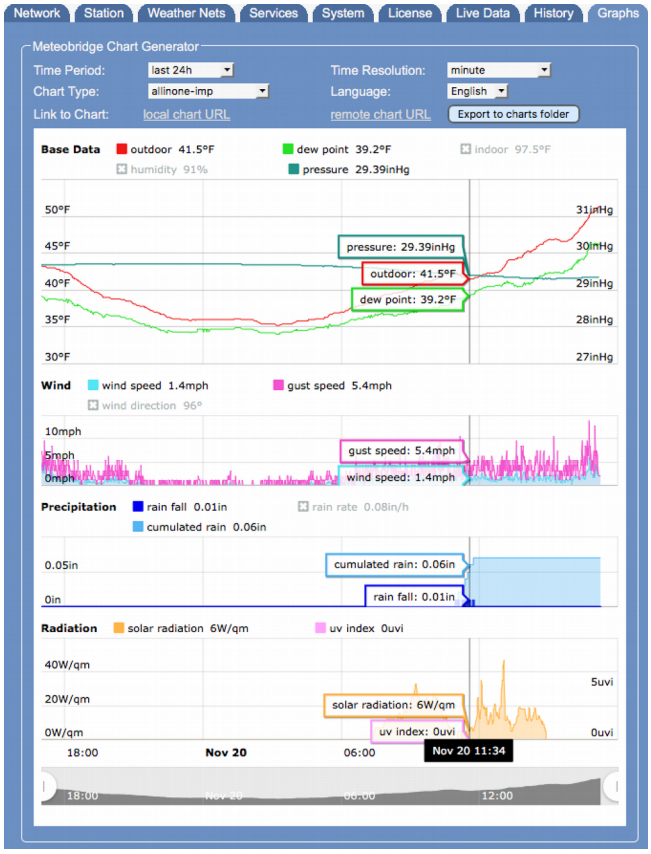


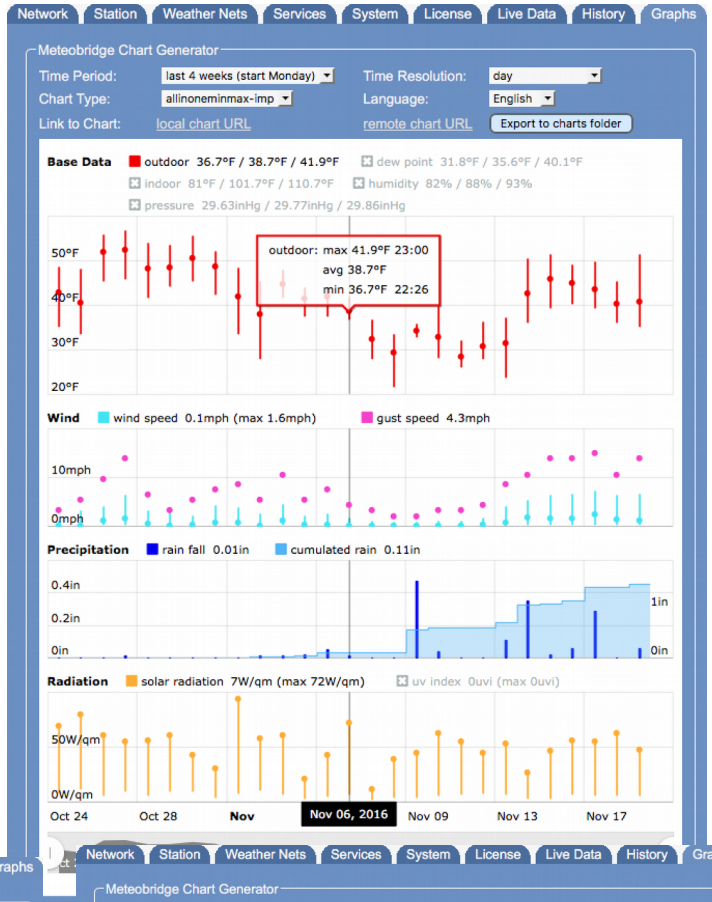
Sharing - Meteobridge PRO allows to export stored weather data in a CSV like notation. Which data to export and for what period in time is user-defined. This allows you to export data for various follow-on processes. Meteobridge PRO makes data exports accessible by providing a samba share (windows network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

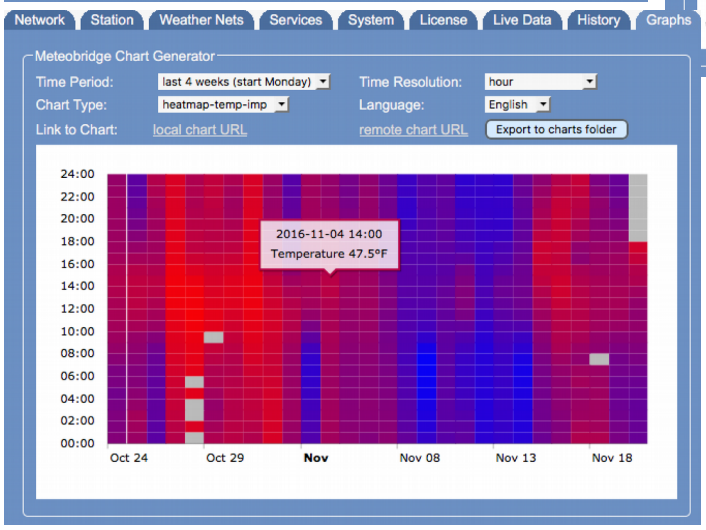
Monitoring - Meteobridge PRO has an internal power monitoring that measures support voltage and power usage of the Meteobridge PRO itself and all connected USB devices. This is extremely handy, when Meteobridge PRO is running in a battery powered environment, as it can monitor and even act on power conditions.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

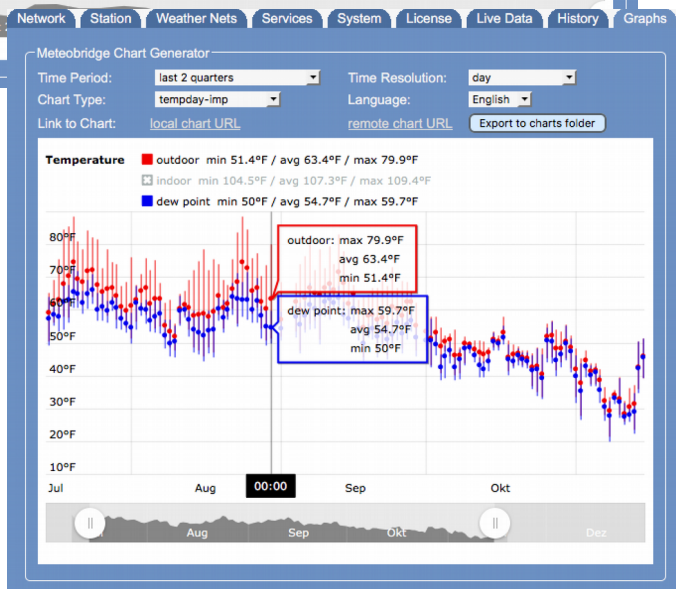
SMS / Twitter – Meteobridge PRO can send SMS via service provider „messagebird“. This can be done in regular intervals or triggered by user-defined events. Content of the SMS can include weather data. Meteobridge PRO is not limited to SMS but can also send weather information via twitter.

Graphs – Meteobridge PRO can show line graphs of the recorded weather data. Engine used for this is the class-leading chart engine from “amcharts”. This graphs are fully interactive. You can touch the timeline to expand or shrink the time period to be displayed. When the cursor moves over the graph textual data pops up. Data can be shown or hidden by clicking on the items in the legend. Different kind of information can be shown in vertically stacked panels that share the same time line. You can inspect the graphs from within the Meteobridge PRO web interface or you can upload the graphs via FTP to your web server. Integration into your home page is most easy as the graphs are self-contained, you don’t have to install additional libs on your web server. Furthermore you can also reach out to the graphs on your Meteobridge PRO from the internet, when you have remote access enabled on your Meteobridge PRO. Graphs are not password protected, so you don’t have to compromise your password for Meteobridge PRO administration for allow access to the graphs. While Meteobridge PRO comes with a set of standard graph definitions (both, with ISO and imperial units) you can also define new graph definitions based on the “amchart” chart engine capabilities. This way Meteobridge PRO gives more options to visualize weather data than most PC programs while having an unmatched small form factor and asking for an extremely small amount of energy.









Hardware Specification

- Size: 57mm x 27mm x 95mm (width x height x depth) without antennas
- weight: 130g (with antennas)
- operating temperatures: 0 - 40°C, non-condensing
- 100/10 Mbit Ethernet port
- WiFi 2.4 GHz, 802.11g/n (right SMA male connector on back panel)
- RF-Sensor reception in 868-915 MHz band (left SMA female connector on back panel)
- external power supply (incl. plugs for US, EU, UK) with micro USB connector
- full size USB female connector on front panel
- micro USB female connector on back panel
- black/white OLED with 128 x 64 pixels to display status information and user defined data
- reset pin hole
- 4 LEDs on front panel, indicating
  - RF sensor reception (red / orange)
  - system operational (red)
  - network traffic (yellow)
  - sensor data stored (green)
- internal components
  - Carambola 2 computing module (AR9331 SoC, 16 MB Flash, 64 MB RAM)
  - 4 port USB hub
  - voltage / power monitoring IC (INA220)
  - barometer IC (BMP180)
  - temperature / humidity IC (SHT21)
  - low volume signaling buzzer
  - 1 GB USB connected permanent storage (industrial grade ATP SLC NANODURA USB stick)

Compliance

Meteobridge PRO

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

    - 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
- internals
    - 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
    - 1 GB USB connected permanent storage (ATP Nanodura SLC)

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 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.

Declaration of Conformity

CE

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 :

Name (in writing): Anke Pasternak
Title: CEO
Place and date of issue: Lentföhrden, November 7, 2015