



Vantage Pro® ISS Retrofit Kit

INSTRUCTIONS

Estimated Time Required: 30 Minutes

This Instruction Sheet describes how to install the ISS Retrofit Kit for a Vantage Pro® or Vantage Pro Plus Integrated Sensor Suite (ISS).

Components

The ISS Retrofit Kit includes the following components and hardware:

- New Sensor Interface Module (SIM) preinstalled in a SIM housing, attached to a new bottom radiation shield plate along with a new separate Temp/Hum sensor module
- Three long screws with nuts, flat washers, and lock washers
- One 3-volt CR-123A lithium battery

Tools for Setup

In addition to the kit, you will need the following tools:

- 7/16" (12mm) wrench or adjustable wrench
- Phillips screw driver
- Hammer
- Pliers

Overview of Kit Installation

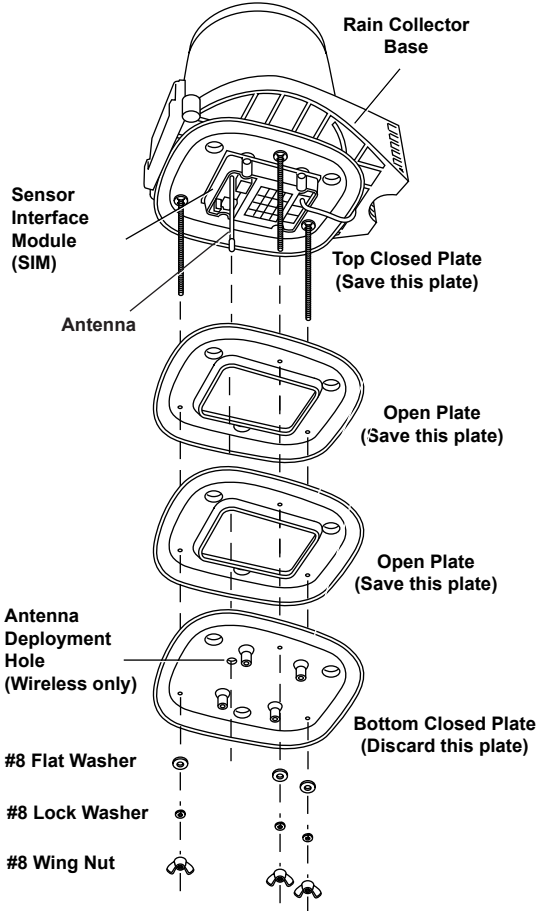
1. Remove the ISS from its Mounted Position
2. Dissassemble the ISS Radiation Shield
3. Install the Retrofit Kit components
4. Connect Cables and Power the New SIM
5. Verify Communications - Wireless Models
6. Mount the ISS
7. Return the Old SIM to Davis

Remove the ISS from its Mounted Position

In order to take down your ISS you will first need to disconnect the anemometer cable. If you have a Cabled Vantage Pro station, you will also need to disconnect the console cable from the ISS.

CAUTION: Please work on your Vantage Pro ISS in a safe place.

1. At your Vantage Pro console, press and hold the DONE key and then press the “-” (down arrow) key to put the console in Setup Mode. This will prevent the reception of erroneous rain counts from the rain collector.
2. At the ISS, remove and discard the three (3) wing nuts from the bottom of the radiation shield.
3. Remove the three (3) bottom plates from the shield.
4. Set aside the two open (middle) plates.
5. Discard the bottom closed plate.
6. Disconnect the WIND sensor (anemometer) cable.
7. Cabled Stations Only: Disconnect the Console cable from the SIM.
8. You can now remove the ISS from its mounted position. Move it to a safe place to install the kit components.

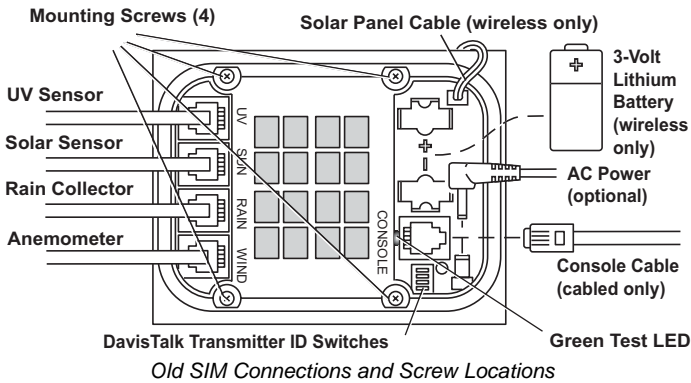


Opening the Radiation Shield

Dissassemble the ISS Radiation Shield

Note: We recommend using a workbench or equivalent flat surface for the following procedures.

1. With the rain collector cone in place, turn the ISS over so it rests on the top of the cone.
2. Disconnect the rain collector cable and (if present) the solar panel cable, and the SUN (solar radiation) and UV sensor cables.



3. The SIM transmitter board, dust cover, and small rear cover plate (not shown) are attached to the top radiation shield plate by 4 screws. Unscrew these screws and remove the front dust cover along with the SIM and the rear cover plate.
4. Make a note of the transmitter ID switch settings. You will use these settings in the new replacement SIM.

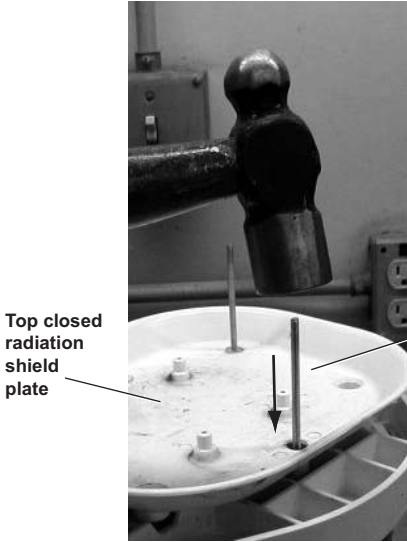
Switch Position	1	2	3	4
Switch Setting				OFF

5. Remove the battery from the circuit board and set all ID code positions ON. With all the transmitter ID switches set to ON, the power stored in the old SIM's super capacitor should dissipate within one hour.

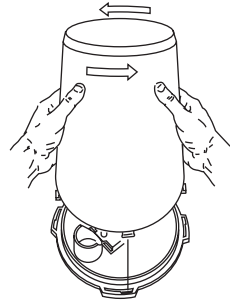
Note: Setting the #1, 2 and 3 ID switches to ON will set your transmitter ID to "8". Setting the #4 ID switch will turn on the ISS test mode. Set the #1, 2 and 3 switches differently if you are using Station 8 in your weather station. Refer to Appendix A, "Wireless Transmitter Settings" in your ISS Installation Manual for more information.

6. Save the battery as a back-up and set aside the SIM board for return to Davis.

7. Hammer the three (3) long radiation shield screws down into the base. The screws should move fairly easily with light taps from a hammer.
8. Remove the rain collector cone.

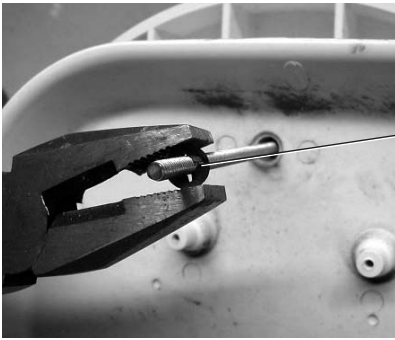


Pound the 3 long screws down into the base.



Twist off the rain collector cone.

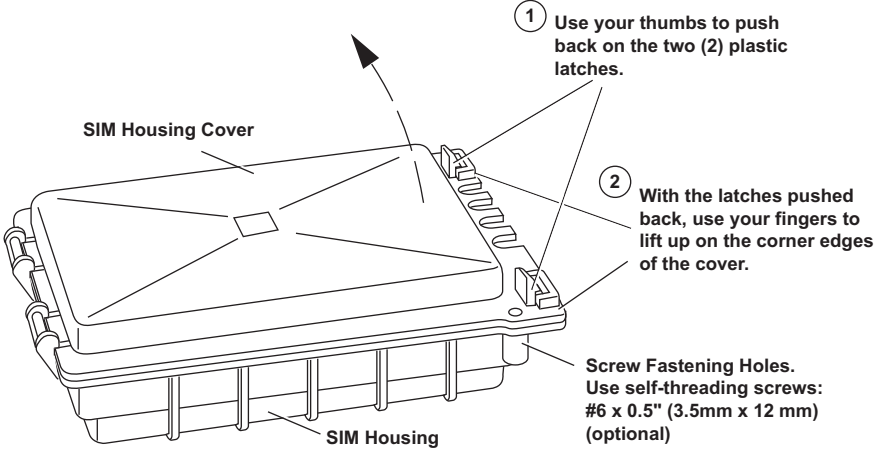
9. Pull the top closed radiation shield plate off or use pliers to hold the push-nuts while you unscrew the screws, then discard the old screws, push-nuts and washers.



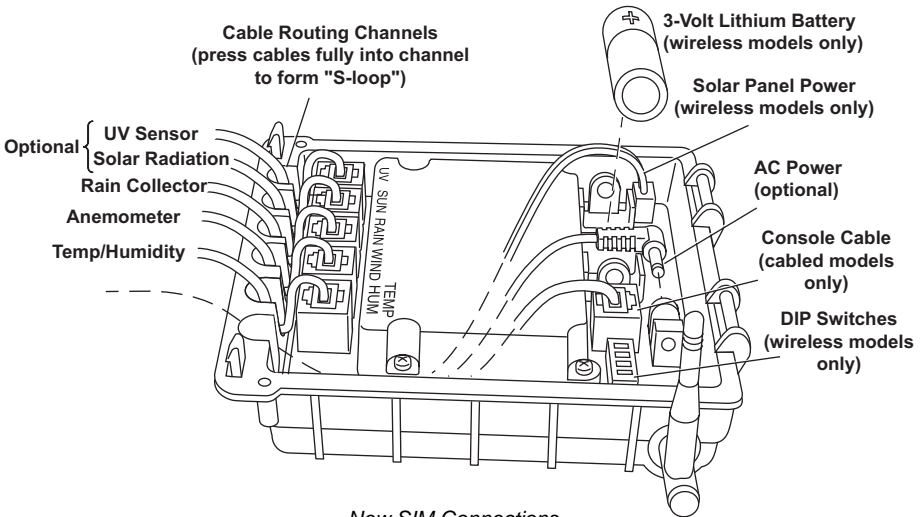
10. Save the top closed radiation shield plate for later use.

Install the Retrofit Kit Components

1. Open the SIM housing cover. Note the "S-loop" in which the TEMP-HUM cable is formed.
2. Disconnect the TEMP-HUM cable and close the SIM housing cover.



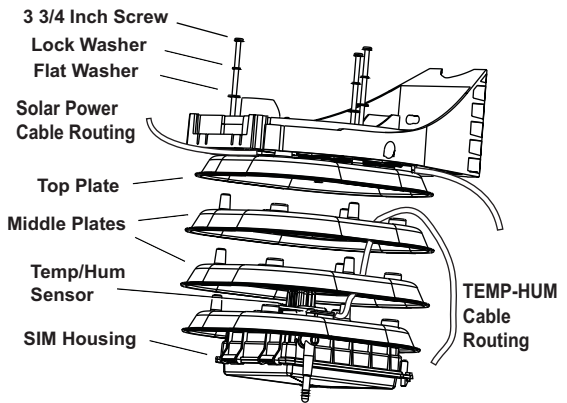
Opening the SIM Housing Cover



New SIM Connections

3. Place the new SIM housing, radiation sensor plate and Temp/Hum sensor assembly on the work surface with the SIM housing on the bottom.
4. Place the two open plates on the Assembly, feeding the TEMP-HUM cable through the opening in the plates. Be sure that the three screw holes line up.

- Place the top closed radiation shield plate that you saved during disassembly on top of the stack. The TEMP-HUM cable should exit between the upper of the two open plates and the top closed plate, in the direction towards the SIM housing cable channels.



- Holding the rain collector base above the stack of plates, place the SOLAR PANEL cable, if present, across the top of the plates so that it runs between the top plate and the base, and from the front to back of the base.
- Place the rain collector base down on top of the stack of plates.
- Insert the 3 screws, with lock washers and flat washers, through the rain collector base and radiation shield plates into the threaded inserts in the bottom plate (see figure). Use the screws to fasten the radiation shield to the base.
- Install the Rain Collector cone.

Connect Cables and Power the New Sim

- Turn the assembly upside-down (SIM housing on top) and open the SIM housing cover.
- Plug in the TEMP-HUM sensor and the RAIN cable, and if present, plug in the solar panel power cable and the SUN and UV sensor cables.

Note: Be sure to push the cables deep into the cable channels to form S-loops (see figure).

- Wireless Models Only: Install the battery. Be careful to observe the battery polarity markings on the battery holder.
- Wireless Models Only: Set the transmitter ID code to match the settings used on the old SIM.

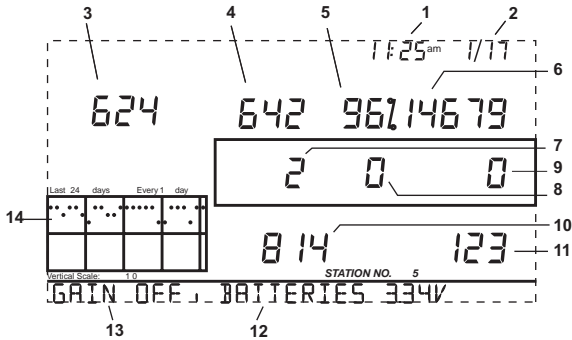
Note: Make sure the transmitter DIP switch #4 on the new SIM is in the OFF position.

- Close the SIM housing cover.

Verify Communications - Wireless Models

- If your console is in Setup Mode, you will need to exit Setup Mode to perform this test. You can exit Setup Mode by pressing and holding the DONE key.
- Press and hold the TEMP key and then press TIME key on the console to display the Diagnostic Screen.

3. Press the 2nd key then press and hold the CLEAR key until all transmission diagnostic counters are reset to zero.
4. View the Percentage of Packets Received, #5 in the illustration below, to verify communication with the ISS.



5. If you are not receiving data from the ISS, check that the battery was installed correctly and that the transmitter ID switches are set correctly. If you are still not receiving data please contact Davis Technical Support.
6. If you are successfully receiving data, press and hold the DONE key and then press the “-” (down arrow) key to put the console back into Setup Mode. This will prevent the reception of erroneous rain counts from the rain collector while you mount the ISS.

Mount the ISS

1. Mount the ISS in its previous location.
2. All Stations: Plug the WIND sensor cable into the SIM.
3. Cabled Stations Only: Plug the Console cable into the SIM.
4. Close the SIM housing cover.

Note: *If desired, you can more securely fasten the SIM housing cover by using self-threading screws in the holes provided for that purpose. See the SIM Housing Cover illustration for details.*

5. At your Vantage Pro console: Press and hold the DONE key on the console to exit Setup Mode.
6. Cabled Models Only: Verify the reception of data from the ISS at your Vantage Pro console. If you are not receiving weather data at the console double-check the console cable connections.

Return the Old SIM to Davis

1. Return the old SIM in the ISS Retrofit Kit shipping box.
2. Include the shipping paperwork you received with the Retrofit Kit.

Note: *Wireless Models Only: Please be sure to remove the battery before shipping the old SIM.*

3. Ship to: Davis Instruments
Attn: Returns
3465 Diablo Ave.
Hayward, CA 94545

Troubleshooting

Please contact Davis Technical Support if you have any questions or problems installing the ISS Retrofit Kit.

Contacting Davis Technical Support

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

(510) 670-0589 Fax to Technical Support.

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

www.davisnet.com Copies of User Manuals are available from the Weather Support page. Watch for FAQs and updates. Subscribe to the e-newsletter.

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 off and on, 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 modifications not expressly approved in writing by Davis Instruments may void the user's authority to operate this equipment.

Product Numbers: 6920, 6920C

Davis Instruments Part Number: 7395.307
ISS Retrofit Kit
Rev. B Manual (02/19/03)

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