

Davis sensors are designed to provide many years of service in the field. Maintenance will assure that they continue to perform at their highest accuracy.

Vantage PRO²

ANEMOMETER: WIND CUPS

Issue: Spiders and other insects can interfere with the rotation of the cups.

Solution: If wind speed seems low, use an Allen wrench to loosen the setscrew on the side of the wind cups. Remove the wind cups, and clean the exposed portion of the shaft with a damp cloth or cotton swab. Clean the wind cups with water and a mild liquid detergent. Rinse thoroughly before replacing.

After replacing the wind cups and tightening the setscrew, check to make sure that the wind cups spin freely. If they do not, the bearings may be worn and need factory repair.

Caution: Do not use or add grease, oil, or a spray lubricant of any kind.

ANEMOMETER: WIND VANE

Issue: Anemometer arm may have rotated out of proper orientation.

Solution: Check the orientation of the anemometer annually. The console is factory-calibrated to report accurate wind direction when the anemometer arm is pointed due north. (See your User Manual for details on how to calibrate your console's wind direction if the arm cannot be mounted pointing north.)

INTEGRATED SENSOR SUITE (ISS)

Issue: Console shows the message: "LOW TX BATTERY" (wireless stations only).

Solution: Replace the 3-volt lithium battery inside the transmitter shelter.

Note: The message "LOW CONSOLE BATTERIES" indicates that the C-cell batteries in the console need to be replaced.

Issue: Solar panels look hazy.

Solution: Sunlight can make the solar panels look hazy or cloudy. However, this haziness will **not** affect performance and needs no maintenance. You should just keep the solar panels clear of snow, dust or debris for best charging.

EXTERNAL TEMPERATURE SENSOR (optional add-on)

Your temperature sensor requires no on-going maintenance.

RADIATION SHIELD

Issue: Excessive dirt and build-up on the plating can hamper air flow.

Solution: Wipe the outer edge of each ring with a damp cloth.

Issue: Debris or insect nests can be caught inside the shield.

Solution: Check the radiation shield at least once a year for debris or insect nests and clean when necessary. You should disassemble and thoroughly clean your radiation shield at least once a year. See your ISS User Manual for detailed instructions.

Note: If you have a 24-Hour Fan-Aspirated Radiation Shield, it is a good idea to replace the NiCad C-cell batteries when you clean the shield.

OUTSIDE TEMPERATURE/HUMIDITY SENSOR

This sensor is located inside the radiation shield. While the temperature/humidity sensor does not need on-going maintenance, you should remove dust when you have access to it while performing a thorough cleaning of the radiation shield.

Issue: Dust build-up can interfere with air flow over the sensor.

Solution: When you remove the plate in the radiation shield on which the temp-hum board is installed, you will see a small, white, vented cover lined with gold-colored mesh. Using a clean, dry toothbrush, gently remove any dust from the cover. You can remove the cover from the board and take out the mesh to do a more thorough cleaning if necessary.

LEAF WETNESS SENSOR (optional add-on)

Issue: Dirt and debris on the surface of the sensor can affect accuracy.

Solution: Clean the sensor by scrubbing its surface with a clean toothbrush, using water and a mild liquid detergent. Rinse well.

SOIL MOISTURE SENSOR (optional add-on)

Your soil moisture sensor requires no on-going maintenance.

RAIN COLLECTOR

You should clean your rain collector as often as necessary, but at least once a year. For greatest accuracy, clean several times a year.

Issue: Dust, debris such as leaves, insects, and bird droppings can block the rain collector. Insect nests and webs can prevent the tipping spoons from tipping.

Solution: Separate the cone from the base by turning it counter-clockwise. Remove and clean the debris screen. Use a soft, damp cloth to remove any debris from the cone and tipping spoons. Be careful not to scratch the silver-colored coating on the spoons. Use pipe cleaners to clean the funnel hole in the cone and drain screens in the base. When all parts are clean, rinse with clear water, and replace the cone and debris screen.

Note: *Cleaning the tipping spoons may cause false rain readings. You can either unplug the rain sensor from the sensor interface inside the transmitter shelter before cleaning or clear the false data in the console after cleaning.*

SOLAR RADIATION AND UV SENSORS

Issue: Dirt, dust or oil on the diffuser at the top of the sensor can affect its accuracy.

Solution: As often as is practical, remove the dust from the black plastic sensor housing with a soft dry brush. Clean the white diffuser with a cloth or cotton swab dampened with ethyl alcohol.

Note: *Do not touch the small white diffusers on top of the sensors with your fingers. Oil from skin reduces their sensitivity. If you are concerned that you have touched the diffusers at any time, clean the diffuser using ethyl alcohol with a soft cloth. DO NOT use rubbing or denatured alcohols because they can affect accuracy of the sensor readings. Ethyl alcohol can be found at industrial or laboratory supply stores.*

Issue: Accuracy may drift.

Solution: Due to the sensitivity of ultraviolet and solar radiation sensors it is common practice for manufacturers to recommend re-calibration after a period of time. Users demanding high accuracy typically recalibrate their sensors annually. Here at Davis Instruments, we have seen less than 2% drift per year on the readings from these sensors. Contact Technical Support about returning your sensor for calibration.

Caution: *Never spray your sensor suite or any sensor with insecticides. Insecticides can damage the sensors or even the radiation shield.*

SENSOR RECALIBRATION

Sensor readings should remain accurate within specifications for several years. However, there may be some drift over time. We expect that recalibration will be needed as follows:

- Outside Temp/HumSensor: every five years
- Solar Radiation Sensor: every four years
- UV Sensor: every three years

CONTACTING DAVIS TECHNICAL SUPPORT

Online	www.davisnet.com
E-Mail	support@davisnet.com
Telephone	(510) 732-7814 Monday- Friday 7:00 A.M. to 5:30 P.M. Pacific Time

ANEMOMETER

Issues: Spiders and other insects can interfere with the rotation of the cups or vane.

Solution: If wind speed seems low or if wind direction seems unusually static, use an Allen wrench to loosen the setscrew on the side of the cups or vane. Remove the cups or vane, and clean the exposed portion of the shaft with a damp cloth or cotton swab. Clean the cups or vane with water and a mild liquid detergent. Rinse thoroughly before replacing.

After replacing the wind cups or vane and tightening the set screw, check to make sure that the cups or vane spin freely. If they do not, the bearings may be worn and need factory repair.

Caution: Do not use or add grease, oil, or a spray lubricant of any kind.

INTEGRATED SENSOR SUITE (ISS)

Issue: Console shows the message: LOW TX BATTERY
Solution: Replace the 3-volt lithium battery inside the battery compartment on the underside of the ISS.

Note: The message LOW CONSOLE BATTERIES indicates that the C-cell batteries in the console need to be replaced.

Issue: Solar panels look hazy

Solution: Sunlight can make the solar panels look hazy or cloudy. However, this haziness will not affect performance. Keep the solar panels clear of snow, dust or debris for best charging.

RADIATION SHIELD

Issue: Excessive dirt and build-up on the plating can hamper air flow.

Solution: Wipe the edge of each ring with a damp cloth.

Issue: Debris or insect nests can be caught inside the shield

Solution: Check the radiation shield often for debris or insect nests and clean when necessary. Disassemble and thoroughly clean your radiation shield at least once a year. See your ISS User Manual for detailed instructions.

OUTSIDE TEMPERATURE/HUMIDITY SENSOR

This sensor is located inside the radiation shield. While the temperature/humidity sensor does not need on-going maintenance, it is a good idea to remove dust when you have access to it while performing a thorough cleaning of the radiation shield

Issue: Dust build up can interfere with air flow over the sensor

Solution: When you remove the plates of the radiation shield, you will see a small white vented cover lined with gold-covered mesh on the underside of the ISS. Using a clean, dry toothbrush, gently remove any dust from the cover. You can take off the cover and remove the mesh to do a more thorough cleaning if necessary.

RAIN COLLECTOR

Issue: Dust, debris such as leaves, insects, and bird droppings can block the rain collector. Insect nests and webs can prevent the tipping spoon from tipping. You should clean the rain collector as often as needed, but at least once a year.

Solution: Remove and clean the debris screen. Use a soft, damp cloth to remove any debris from the cone. Remove the tipping spoon assembly on the underside of the ISS below the rain cone by loosening the thumbscrew. Use a damp, soft cloth to gently remove any debris, being careful not to damage any moving parts or scratch the spoon. When all parts are clean, rinse with clear water, and replace tipping spoon assembly and debris screen.

Note: Cleaning the tipping spoon may cause false rain readings. You should clear the false data in the console after cleaning

Caution: Never spray your sensor suite or any sensor with insecticides. Insecticides can damage the sensors or even the radiation shield.

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