

INTEGRATED SENSOR SUITE

INSTALLATION MANUAL

The Integrated Sensor Suite (ISS) is an integrated, basically pre-assembled field station that collects data from attached sensors and then transmits it wirelessly, or via cable, to a console. The ISS standard complement of sensors includes:

- ◆ **Wind Speed**
- ◆ **Wind Direction**
- ◆ **Rainfall**
- ◆ **Outside Temperature**
- ◆ **Outside Humidity**

The Wireless ISS is user-configurable to communicate on one of 8 different ID codes. This allows multiple systems to coexist in the same geographical area.

Note: *The ISS operates on a low power frequency that does not require you to obtain an FCC license.*

TOOLS AND MATERIALS NEEDED

In addition to the components listed above, you may need some of the following tools and materials.

- ◆ **Phillips Screwdriver**
- ◆ **Pencil or Other Pointed Object**

ASSEMBLING THE ISS

To assemble the ISS, attach the anemometer arm to the field station assembly.

Note: *Alternatively, you can choose mount the anemometer separately from the ISS base. This option allows you to ensure clearance from possible airflow obstructions.*

INSTALLING THE ISS

The instructions below will take you through the process required to install the wireless and wired sensor suite.

Choosing a Location

As you position your sensor suite, try to avoid possible obstructions of rain and wind—look out for trees and nearby buildings. If you have the wireless, solar-powered ISS look for spots with good exposure to the sun throughout the day.

For roof mounting, and for ease of installation in other locations, we recommend using the optional Mounting Tripod (contact Davis for more information).

Configuring the ISS

- ◆ **If you have a wired ISS, no configuration is necessary.**
- ◆ **If you have a wireless ISS, the ISS's transmitter must be setup so that it uses the same ID code as your console/receiver.**
For details on configuring the wireless ISS, see page 3.

Applying Power to the ISS

Apply power to the transmitter using one of the options indicated below. For all power options, Davis recommends using a backup battery to ensure power during storms. Insert a CR-123 3-volt lithium cell as a backup.

- ◆ **If you have a wireless system, plug the solar panel cord into the power jack on the board.**
The unit will operate off the day's collected energy for up to 8 hours into the night. The remainder of the night, the unit will tap into the backup battery as a power source. Even so, the battery should last several years.
- ◆ **If you have a wired system, simply plug the ISS cable into the console.**
The console will provide any power needed by the ISS.

CONFIGURING THE WIRELESS ISS

Both the transmitter in the ISS and the receiver in the console have ID codes. These ID codes enable a specific transmitter to “talk to” a specific receiver, even if many transmitters are operating in the same area.

Setting the ID Code

The ISS may be set to use any of eight selectable ID codes (the default is ID Code #1). The ISS and console/receiver will only communicate with each other if they are both set to the same ID code. Use the default setting unless you have another Davis wireless weather station operating nearby which you want to work separately from the new system. The dip switch settings for the eight possible codes are shown below.

ID CODE	DIP SWITCH 1	DIP SWITCH 2	DIP SWITCH 3
#1 (default)	off	off	off
#2	off	off	ON
#3	off	ON	off
#4	off	ON	ON
#5	ON	off	off
#6	ON	off	ON
#7	ON	ON	off
#8	ON	ON	ON

To change to another ID, toggle dip switches 1, 2, and /or 3 on the ISS and then set the console/receiver’s ID code to match. Remember that the ISS and console/receiver must use the same ID code in order to communicate.

Note: Dip switch #4 is used for testing only, not for ID codes. See details below.

Test Mode

Dip switch #4 on the ISS allows you to configure the Test LED to flash whenever a data packet is transmitted. This feature allows you to more easily set up and test your transmitting system. When you are done setting up or testing, however, make sure you *turn dip switch #4 to OFF so that the LED does not flash and waste significant amounts of power unnecessarily.*

SPECIFICATIONS

Transmit frequency: 916.5 MHz

ID codes: 8 user-selectable

License: Low power (less than 1 mW), no license required

Temperature range: -40 to 60 °C

Primary Power Input Options

Console Power: Cable running from Vanguard Pro console

Solar Power: Davis solar charger

Secondary (Backup) Power: CR-123 3- volt lithium battery or equal

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: 6150, 6150W, 6320

Davis Instruments Part Number: 7395
Integrated Sensor Suite Installation Manual
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Controlled Online: Weather Manuals: DavisTalk: ISS

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