

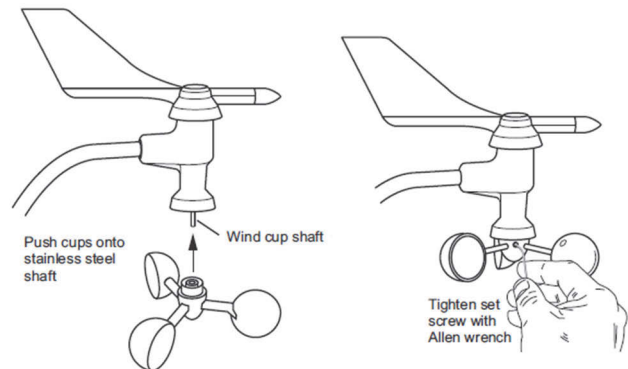
Davis® Wind Speed & Direction Smart Sensor (S-WCF-M003) Quick Start

Connecting to a Station

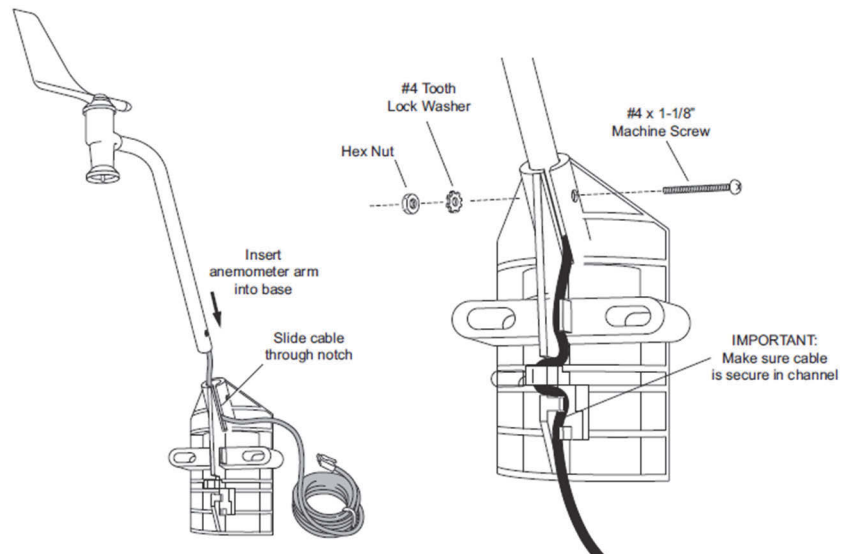
1. Stop the station if it is logging
2. Plug the smart sensor jack into an open smart sensor port on the station.
3. Start logging.

Assembling the Smart Sensor

1. Slide the wind vane onto the wind vane shaft. The shaft's cross-section is D-shaped to ensure that the anemometer is installed correctly. The wind direction has been calibrated in the factory so that the wind direction will be correct when the arm is installed pointing north and the vane is installed correctly.
2. Tighten the set screw in the wind vane with the Allen wrench.
3. Push the wind cups onto the anemometer's stainless steel wind cup shaft.
4. Slide the wind cups up the shaft as far as possible.
5. Use the Allen wrench provided to tighten the set screw on the side of the wind cups. The wind cups should drop slightly when you let go.
6. Ensure the set screw is screwed in fully and very tight. Failure to do so will cause the anemometer to function improperly.
7. Spin the wind cups; they should spin freely. If they do not spin freely, take them off and repeat these steps.



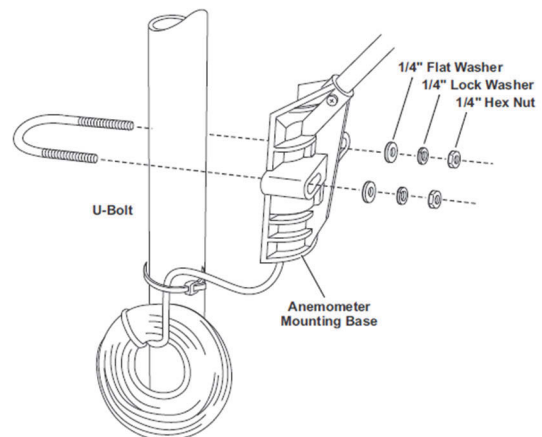
8. Insert the anemometer arm into the base, sliding the cable through the notch in the base as shown below. Be sure to line up the small hole in the arm with the holes in the base.
9. Insert the machine screw through the holes in the base and arm.
10. Slide the tooth-lock washer and hex nut onto the machine screw. Tighten the hex nut while holding the screw with a Phillips head screwdriver to prevent it from turning.
11. Press the sensor cable firmly and completely into the zig-zagging channel in the base, starting from the arm and progressing downward to the bottom of the base.



Mounting the Smart Sensor

Follow these instructions for mounting the sensor on a tripod or mast.

1. To mount the sensor on a tripod or mast, place the U-bolt around the pole so that its two ends extend through the holes in the mounting base. Loosely secure with the flat washers, lock washers, and hex nuts.
2. Raise the anemometer to the desired height on the pole and swivel it so the anemometer arm is pointing north.
3. Using an adjustable wrench or 7/16 inch wrench, tighten the hex nuts until the anemometer is firmly fastened on the pole.



Deployment Guidelines

- The sensor can be damaged with improper handling. Store it in the shipping box until you are ready to install it.
- To ensure correct orientation of the wind vane, the smart sensor must be mounted so that the anemometer arm points north.
- For the most accurate readings, the smart sensor should be mounted 2 m (7 ft) or more above the ground and consistent with meteorological standards for the application. The smart sensor should be mounted at least 2.1 m (7 ft) above the roof line if mounted on a roof and mounted at a distance of at least five times the height of the nearest tree, building, or other obstruction. You may do this by mounting the smart sensor on an Onset tripod or mast, or a metal pipe. You may mount the smart sensor on a wooden post if it has a side facing due north for mounting.
- The sensor should be mounted vertically in a location free of wind shadows.
- For accurate wind speed measurements, mount the sensor at a distance of at least five times the height of the nearest tree, building, or other obstruction.
- Secure the sensor cable with cable ties to protect it from damage.
- The tripod or mounting mast must be properly grounded. Use the grounding kit (M-GKA).
- If you live in an area subject to frequent thunderstorms, installing a lightning rod nearby can reduce the risk of damage.
- Use the guy wire kit (M-GWA) to secure the mast where the wind sensor is mounted so that it does not vibrate.
- To minimize measurement errors due to ambient RF, keep the probe cable as far as possible from other cables carrying high frequency or high-current signals.
- To provide long-term protection from moisture entry, the smart sensor adapter must be mounted horizontally and with the cable wires routed with drip loops so that water drains away from the cable entry point as shown in the example at right. When mounted properly, the housing is weatherproof (but not waterproof).

