



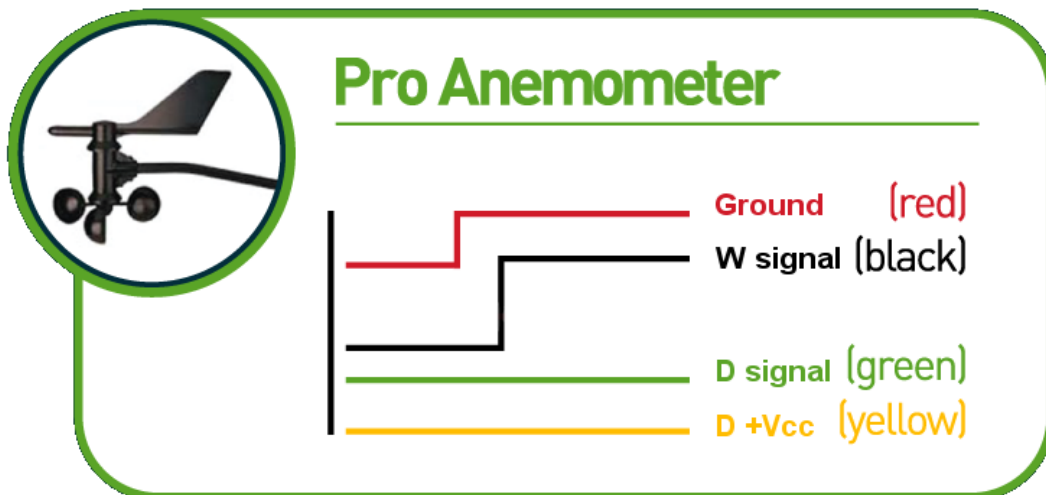
Logic Energy Limited

Pro-D ANEMOMETER

Pro-D Anemometer



WIRING



Red	:	Ground
Black	:	Anemometer signal
Green	:	Wind direction signal
Yellow	:	Wind direction supply

General information

The anemometer converts the wind speed into electrical signals. These signals are induced by a Reed-contact, which closes through the effect of one magnet.

The magnet, situated on the cup-star, passes the Reed-contact thus forming a frequency dependent on the number of cup-star revolutions, which corresponds to the wind speed.

The wind vane uses a 20kOhm potentiometer

Material

Wind Vane and Control Head.	UV-resistant ABS
Wind Cups	Polycarbonate
Anemometer Arm.	Black-anodized aluminium
Dimensions	470 mm x 191 mm x 121 mm
Weight	1.332 kg

Technical Data - Anemometer

Measuring Range	:	1...67m/s
Accuracy	:	Expected 2%, guarantee $\pm 5\%$
Electronic Output	:	0...100Hz at 100.6m/s
Resolution	:	0.1m/s – wind run
Type of Contact	:	1 Reed-contact
Load	:	max. 40m/s
Contact Load	:	max. 12V DC, max 0.1A

Technical Data - Wind vane

Wind Direction	:	0° to 360°, 360° = 20kOhm
Accuracy	:	Wind Direction $\pm 7^\circ$
Wind Direction	:	1° (0° to 355°), 22.5° between compasses

Selecting Your Site

In general wind instruments should be able to detect the wind conditions of large areas. In order to obtain comparable values when determining the surface wind, measurements should be taken at a height of 10m over an even area with no obstacles.

What do we mean by an area with no obstacles?

An area with no obstacles means that the distance between the anemometer and the obstacle should be at least 10 times the height of the obstacle.

If in the area it is not possible to fulfil this condition, then the anemometer should be set up at a height where local obstacles do not influence the measured values to any significant extent. (approx 6-10m above the obstacle)

If the anemometer is to be sited on a roof, it should be set up in the centre of a flat roof and not on the roof side in order to avoid bias in the direction

Installation

Warning: The anemometer must be installed, mounted and operated in a vertical position, to ensure that no water is able to penetrate it

The anemometer is attached to a mast using a mounting arm.

To avoid any cable damage that may be caused by high wind speeds, the cable should be fixed tightly on to the mast by means of clamps, cable ties or similar fastenings.

Please see diagram below:

Point wind sensor arm to North



Pro-D kit assembly instructions

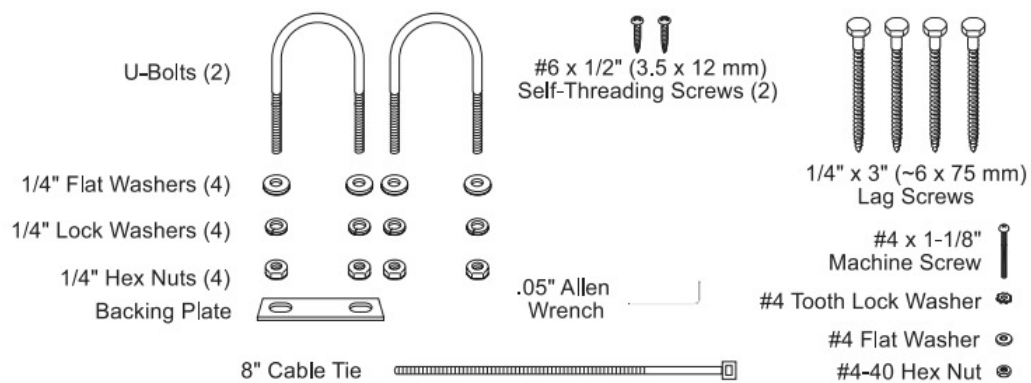
Assemble the Anemometer

The anemometer measures wind direction and speed. The wind vane is already attached to the anemometer arm, but you will need to install the wind cups and attach the arm to the base.

Please locate the following parts to prepare the anemometer:

- Anemometer arm (wind vane and cable already attached)
- Anemometer base
- Wind cups
- Drip ring
- Allen wrench (0.05")
- #4 machine screw, #4 tooth-lock washer, #4 flat washer, #4 hex nut

Hardware



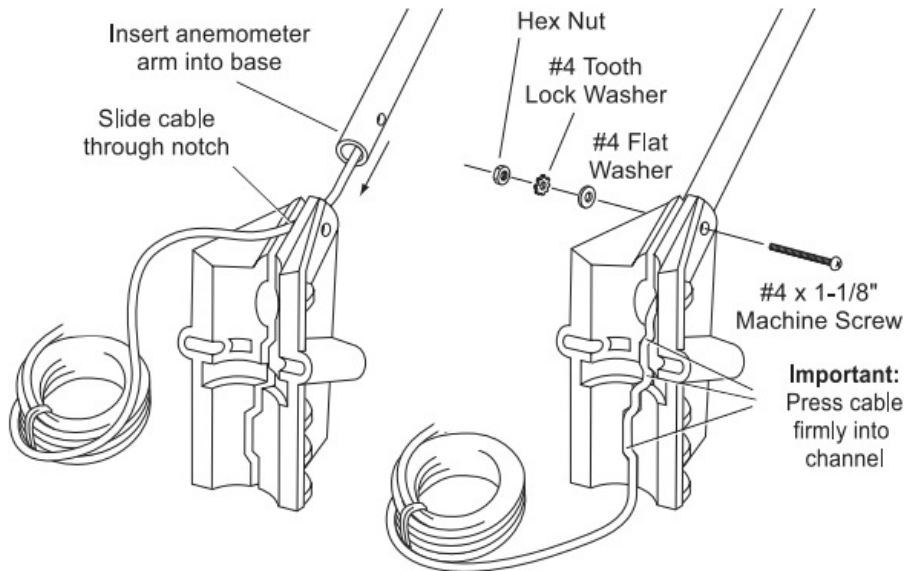
Tools for Setup

- Small Phillips-head screwdriver
- Scissors or wire-cutters
- Adjustable wrench or 7/16" wrench
- Compass or local area map
- Ballpoint pen or paper clip (small pointed object of some kind)
- Drill and 3/16" (5 mm) drill bit (if mounting on a vertical surface)

Attaching Anemometer Arm to Base

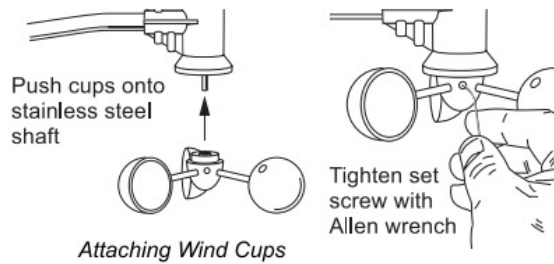
1. Insert the anemometer arm into the base, sliding the cable through the notch in the base as shown in illustration.

Be sure to line up the small hole in the arm with the holes in the base.



2. Insert the machine screw through the holes in the base and arm.
3. Slide the flat washer, tooth-lock washer and hex nut onto the machine screw. Tighten the hex nut while holding the screw with a Phillips screwdriver to prevent it from turning.
4. **PRESS** the sensor cable firmly and completely into the zig-zagging channel in the base, taking up any slack between arm and base.

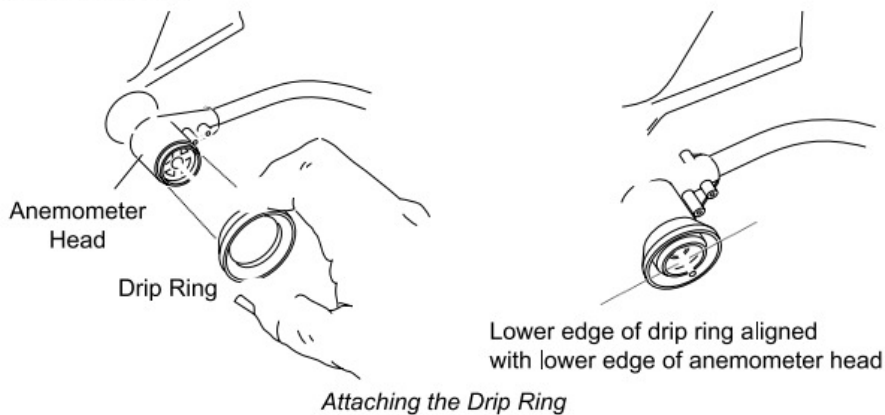
3. Push the wind cups up onto the anemometer's stainless steel shaft.
4. Slide the wind cups up the shaft as far as possible.
5. Use the Allen wrench provided to tighten the set screw on the side of the wind cups. When you let go of the wind cups, they should drop slightly.
6. Spin the wind cups.
7. If the wind cups spin freely, the anemometer is ready and can be set aside while you prepare the rest of the ISS for installation.
8. If the wind cups don't spin freely, repeat steps 1, 2 and 3.



Attaching the Drip Ring and Wind Cups

The drip ring attaches to the bottom edge of the anemometer head to help protect the wind cups from icing over. Install the drip ring first, then install the wind cups.

1. Place the black plastic drip ring on the bottom edge of the anemometer head. Gently push the drip ring onto the head until it clicks into place.
2. Make sure the lower edge of the drip ring is aligned with the lower edge of the anemometer head.



Note: When using fixing brackets please take into account the possible effects of turbulence

Specification Report

Name : Pro-D Anemometer
Type No : Reed Switch
Instrument Number : 1446101
Order No :
Measuring Range : 4, 6, 8, 10, 12, 14 m/s

We hereby confirm that the above mentioned instrument was manufactured and tested according to:

DIN EN ISO 9001, under the observation of a certified quality assurance system.

The measuring installations used for calibration are regularly calibrated and are based on the national or international standards.

Should no national standards exist, the measuring procedure corresponds with the technical regulations and norms valid at the time of measurement.

Confirmation

The standard reaction of the cup-stars is caused by the standardised type of the anemometer as well as narrow tolerance of production.

Accuracy

1...10m/s: +/- 0.5m/s
4...14m/s: resp.+/- 5%of mv.

Further more each anemometer has been checked in a specific test for the whole range about: Output frequency of the reed contact.