

Operation results.

After 3 months of continuous operation I am happy to move from monitor to full operation.

I cannot give accuracy in terms of % as I do not have access to a wind tunnel. I can only compare it with my WMR-100 weather station and there is very good correlation. Below 5kph the ultrasonic is much more accurate because of the limitations of the eggcup sensors.

It has been through rain and strong wind gusts and always gives accurate results.

For my amateur requirements the sensor is a success.

Hardware changes.

The body of the anemometer is pvc and a good conductor of heat.

Cooling when there is moisture in the body will result in condensation. Over a period this can lead to failure of the electronics.

The solution is to ensure that the body is completely sealed from the air.

To be sure I have also used a 100 g sachet of moisture absorbing pellets in the base.

Software changes.

There are a couple of small changes.

One major change is in the running error calculation.

The phase shift is always an exact and robust measure of τ . So every 300 sample average is used to update the error. Before I only used the values close to a zero and this was not often enough in a real world wind situation.