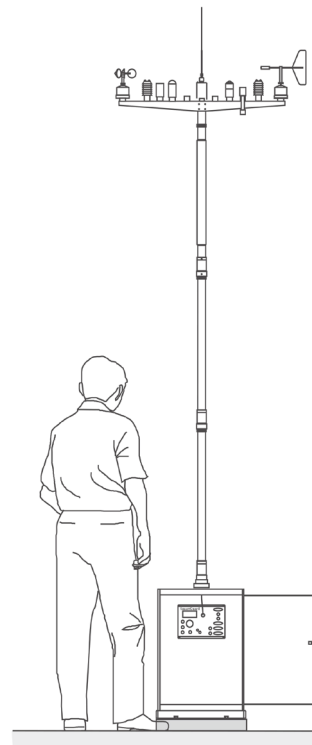




Wind Direction Sensor 3590S (averaging)

A sensor for measuring average wind direction in a sampling interval. It is designed to be used with Aanderaa Sensor Scanning Units, Dataloggers or Display units.



This sensor consists of a light wind vane pivoted on top of a housing. Inside the housing a compass is magnetically coupled to the vane.

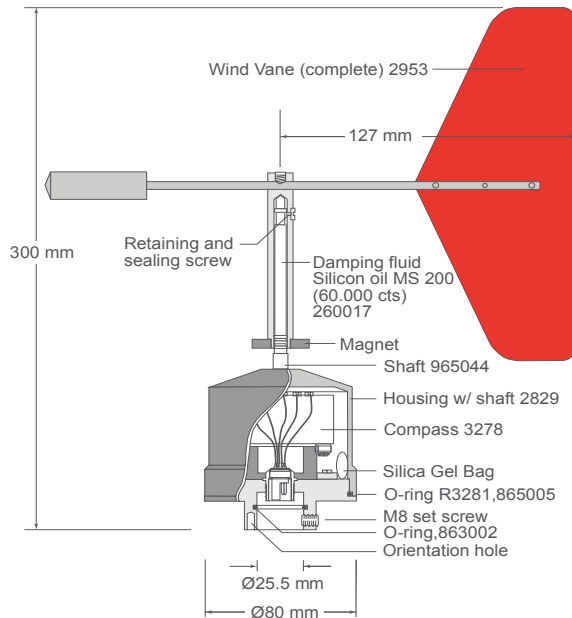
The sensor can be mounted directly on the Sensor Arm of the Automatic Weather Station 2700, Road Weather station 4030, or on different types of sensor brackets from Aanderaa Instruments and on a 25mm O.D. vertical aluminum tube. When installed on brackets or tubes, the sensor must then be connected to the Sensor Scanning or Display Unit by a separate cable.

When direction is to be read, the compass will read out the average reading since the last reading was taken. The compass consists of a sensing element mounted on an electronic card. In the sensing element is a follower magnet which follows the

magnet on the wind vane. Four Hall elements measure the direction every second and a micro controller on the electronic card calculates the average direction in the measuring period.

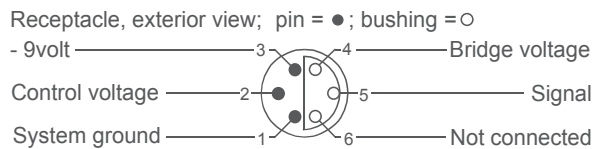
The housing is furnished with an N mark that must be orientated towards North or to a reference point like a ships center-line for an ordinary degrees indication. When properly orientated this sensor will cause the data-logging system to give a raw data reading of 0, 256, 512 and 768 for wind blowing from the North, East, South and West respectively.

A non-averaging version designated 3590B is also available. This sensor will only give a momentary value every time the sensor is read. To avoid galvanic corrosion do not fasten the sensor to other metals than aluminum.



Range: 0 to 360 degrees Magnetic
Threshold Speed: Less than 0.3m/s
Accuracy: Better than ±3 degrees Magnetic
Output Signal: Aanderaa SR10
Damping Ratio: 0.7
Operating Temp.: -40 to +50°C
Current Consumption: 200µA
Operating Voltage: 7 to 14VDC
Electrical Connection: Directly plug-on to Sensor Arm or by Sensor Cable 2842
Mounting: Directly on AWS 2700 and RWS 4030 Sensor Arm, Brackets 2808, 3494 and 2988 or on a vertical 25mm O.D. tube.
Material Housing: Aluminum 6061T6, anodized 10-15µ. Stainless steel
Weight: 620 grams
Packing: Cardboard box: 385x290x235 mm
Gross Weight: 1.2kg (add 0.7kg for Sensor Cable 2842)
Warranty: Two years against faulty materials and workmanship

PIN CONFIGURATION



Connecting Cable 2842 (10 meter cable with Watertight Plugs), is available for connecting this sensor directly to Aanderaa Sensor Scanning Units. Other lengths, or separate plugs and cables, are available on request.

CALIBRATION

Provided that the orientation mark on this sensor is orientated towards North or to a reference point, the standard calibration formula, $Direction(Degrees\ magnetic.) = A + BN + CN^2 + DN^3$ is valid. N is the raw data reading and the nominal calibration coefficients are:

A	0	C	0
B	3.516E-01	D	0


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