The Wind Speed Sensor 2740 consists of a three cup rotor on top of an aluminium housing. The sensor can be fitted directly onto the Sensor Cross Arms 3415/3435 of an Aanderaa automatic weather station or used separately if a connecting cable is used. The sensor foot will fit onto a 25 mm vertical tube.

The rotor bearing assembly consist of two stainless steel ball bearings in an assembly protected by a surrounding skirt. The lower end of the skirt is furnished with a magnet, and the magnet’s rotation is sensed by a magneto inductive switch located inside the housing.

A micro controller reads the pulses from the magneto inductive switch sensing the rotor’s rotation and uses the pulse count to calculate the wind speed. The sensor has two output signals; average wind speed and maximum wind speed (gust) during the sampling interval.

The average wind speed is obtained as the arithmetic mean of the wind regardless of the sampling interval, provided that the sampling interval is between four seconds and three hours.

The maximum wind speed is the highest speed occurring over a two-second period at any time during the sampling interval.

The micro controller also provides the Aanderaa SR10 output signals for wind speed and gust. Both output signals will have the same conversion factor for calculation of wind speed in engineering units from the ten-bit output data. This factor is independent of the sampling interval used.

From august 1998 the sensor has been supplied with a new and more rugged three-cup rotor designated 2228A.
Specifications 2740

Range: Up to 79m/s
Threshold speed: Less than 0.3m/s
Distance constant: 1.5 m
Accuracy: ±2% or ±0.2m/s, whichever is greater
Output signals: 1. Average wind speed, SR10
2. Wind gust, SR10
Current consumption: 300 µA
Operating voltage: 7 to 14V DC
Calibration factor: 1.194 m wind way for each rev.
Operating temp.: -40 to +65°C
Electrical connection: Automatic Weather Station (AWS)/SmartGuard, Sensor Arm or Sensor Cable
Material housing: Aluminum 6061-T6, anodized 10-15µ, Stainless steel
Net weight: 500g
Packing: Cardboard box, 385x290x235mm
Gross weight: 1.3 kg
Warranty: See Terms & Conditions, min. one year against faulty material and workmanship

Accessories, not included:
Sensor Cable 5327, 5241, 5242, 5243, 5244
Mast Cable 5235
Sensor Bracket 2808/3494/3314
Maintenance Kit, Wind Sensor 3805

PIN CONFIGURATION
Receptacle, exterior view: pin = ●; bushing = ○
– 9 volts Bridge voltage
Control Voltage Signal, average
Signal, gust Bridge ground

CALIBRATION
The wind speed sensor has nominal calibration coefficients.
The coefficients are:
The raw data readings (N) from the sensor are converted to engineering units by the following formula:
Wind (m/s) = A + BN + CN² + DN³

For previously supplied wind speed sensors with the old Three-Cup Rotor 2228 the coefficients are:
A = 4.000 E-01  B = 7.460 E-02  C and D = 0

Visit our Web site for the latest version of this document and more information
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