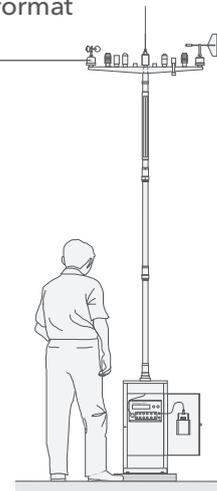# Wind Speed Sensor 2740/2740EX

A sensor for measuring the average and maximum wind speed (gust) during the sampling interval. The sensor is designed for use with Aanderaa Dataloggers 3634/3660 and the Aanderaa Automatic Weather Station 2700.

Features:
- Low power
- Low threshold speed
- High maximum speed
- User friendly
- SR10 output format

WIND SPEED SENSOR 2740
Serial No. 3999   Signal Type: SR10
Made by
AANDERAA INSTRUMENTS
5852 BERGEN, NORWAY TEL +47 55 10 9900

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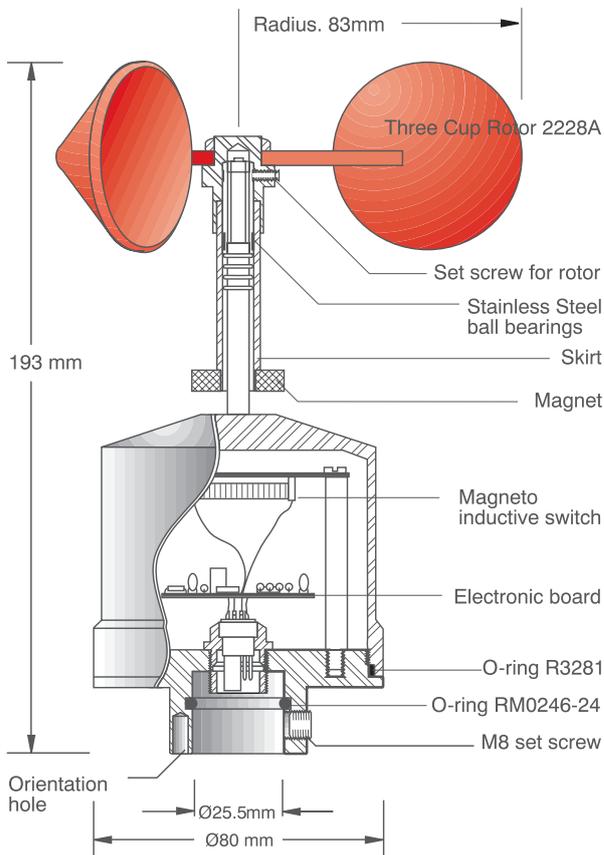
A micro controller reads the pulses from the magneto inductive switch sensing the rotor's rotation and uses the pulse count to calculate the wind speed. The sensor has two output signals; average wind speed and maximum wind speed (gust) during the sampling interval.

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.
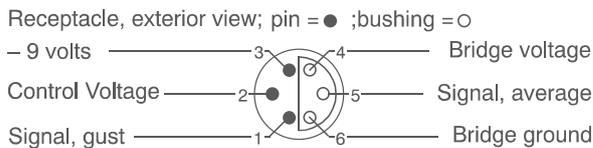
Radius. 83mm

Three Cup Rotor 2228A

Set screw for rotor

Stainless Steel ball bearings

Skirt

Magnet

193 mm

Magneto inductive switch

Electronic board

O-ring R3281

O-ring RM0246-24

M8 set screw

Orientation hole

Ø25.5mm

Ø80 mm

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, obtained from Datalogger
Calibration factor:	1.194 m wind way for each rev. 2 counts each rotor revolution
Operating temp.:	-40 to +65°C
Electrical connection:	Receptacle 2843 mating Sensor Cross Arms 3415/3435 or Watertight Plug 2828L
Material housing:	Al 6061-T6, anodized 10-15µ
Net weight:	500g
Packing:	Cardboard box, 385x290x235mm
Gross weight:	1.3 kg, (add 0.7 kg for 10m Connecting Cable 2842)
Approvals:	certified CE

The sensor is available as an ⟨Ex⟩ certified sensor; contact factory for prices

Accessories, not included:
Gust Adapter Cable 2911
Connecting Cable 2842
Sensor Cable 3321/3322/3323
Connecting Cable 3576
Sensor Bracket 2808/33314/3494

PIN CONFIGURATION

Receptacle, exterior view; pin = ● ; bushing = ○

− 9 volts	3	4	Bridge voltage
Control Voltage	2	5	Signal, average
Signal, gust	1	6	Bridge ground

CALIBRATION   Serial No:

The wind speed sensor has nominal calibration coefficients.
The coefficients are:

A	0	C	0
B	7.770E-02	D	0

The raw data readings (N) from the sensor are converted to engineering units by the following formula:
$$\text{Wind (m/s)} = A + BN + CN^2 + DN^3$$

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

xylem
Let's Solve Water

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www.aanderaa.com

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