

μSMART SERIES

Anemometer (Wind Speed Sensor)



Model AN2 (Long Arm)

Model AN3 (Short Arm)

Model AN4 (AN2 with std. deviation output)

Model AN5 (AN3 with std. deviation output)

These digital sensors combine robust design with accuracy and low starting threshold for sensitivity in a wide range of operating conditions. They can be used to monitor wind speed, wind run and wind gust. The three conical aluminium anemometer cups have been developed to provide a virtually linear relationship between rotational speed and actual wind speed. The internal microprocessor calculates wind speed by measuring the time between each change of state of the internal switch. The microprocessor can also mimic the old Monitor Sensors' anemometer and simulate the internal electronic "gear box" by providing a digital change of state output as a measure of wind run. One pulse represents 10 metres of wind run. However special orders can be supplied for progressions from 0.625 to 160 metres of wind run per pulse.

The Anemometer is designed for use with the Monitor Sensors Data Logger, but can also be linked to a wide variety of electromechanical and electronic counters or other data loggers. The AN2 (longer arm) version is for applications where the emphasis is on sensitivity - it has a starting threshold of 0.1 metres per second. The AN3 (shorter arm) version is intended for use in areas where higher wind speeds prevail.

All versions of the Anemometer are μSmart sensors with microprocessor control and thus have all the features of the μSmart family. The anemometer can provide dual signal outputs, alarm functions and/or control outputs, threshold settings and analogue outputs plus a range of other features. With the AN4 and AN5 models, the sensor calculates the standard deviation over a preset period that can be set in the sensor. The standard deviation is then available as an independent output from the sensor and is available when used with either the μSmart Data logger or other analogue loggers. The μSmart general specification will provide an excellent overview of the capabilities of the series and should be read in conjunction with this sheet.

Features

- Low Starting Threshold
- Mounting Options Available
- High Accuracy Relative to Cost
- Corrosion-Resistant Finish
- Low Friction Bearings for Long Life
- Water Resistant Design
- Excellent Dynamic Characteristics
- Wind speed alarms
- Awning/shutter controller

Applications

- Meteorology
- Wind Profiling
- Evaporation Monitoring
- Crop Studies and Agronomy
- Emergency Service
- Air Pollution and Plume Monitoring
- Building Construction Research

Quality Assurance

Monitor Sensors products are manufactured under a third party accredited ISO9002 System.

Specifications

Range:	Model AN2/AN4 – 0 to 55 metres/sec (0-200 kph) Model AN3/AN5 – 0 to 55 metres/sec (0-200 kph) Available with any wind speed unit of measurement. Available in extended ranges. Specify on order.
Starting Threshold:	Model AN2/4 - 0.1 metres/second Model AN3/5 - 0.2 metres/second
Standard Output:	Model AN2/3 - wind speed in m/s Model AN4/5 - wind speed in m/s. + Std Dev.
Resolution:	0.001 m/s
Accuracy:	<+/- 2 %
Temperature Range:	-20°C to +60°C (operating with heater) +1°C to +60°C non-heated
Humidity Range:	0-100%
Measurement Units:	Metres per second
Sensor Type:	Contactless inductive device.
Reliability:	With proper maintenance, an operating lifetime in excess of 1 billion revolutions is expected.
Output:	Serial data ASCII format. Plus, either Voltage 0-1 volt, 0-2.5, 0-4 volts or Frequency +5 volt pulse 2-10 Hz
Options:	4-20 ma Output RS232
Power Supply:	5-28 volts DC unregulated.
Current Drain:	<1 ma
Weight (unpacked):	Model AN2 - 225gm Model AN3 - 210gm
Dimensions:	Overall height including spigot: 195 mm Cup diameter: 65 mm Radius of arm: Model AN2 - 154 mm Radius of arm: Model AN3 - 91 mm
Mounting:	Designed to mount on Monitor Sensors standard cross arm (product code MK9). An ½ inch BSP adaptor or 10 mm bolt fitting is available as an alternative mounting option.
Cable Details:	Standard product has 150 mm of cable. Longer cable lengths may be ordered - allow \$3.50 per metre for additional cable.
Related Products:	WD2, WD3, WD4 Wind Direction Sensors ANL1 Wind Characteristics Measuring Station WR1 Windrose Software MK9 Standard Cross arm Mount SL(X) µSmart Data Logger. (SL1 to SL5)