



μSMART SERIES

Vertical Anemometer **(Vertical Wind Speed Sensor)**

Model AN7 **Model AN7A (with std. deviation output)**

These microprocessor-controlled 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 vertical wind speed where the flow of air is either unidirectional or bi-directional. The three bladed aluminium propeller has been developed to provide a virtually linear relationship between rotational speed and actual wind speed. The lightweight blade also responds quickly to changes in wind flow for stack or other applications where airflow is bi-directional. The internal microprocessor makes multiple readings as the sensor rotates and the precise timing of the microprocessor is used to compute wind speed. A change of direction in the blades is instantaneously interpreted by the microprocessor and is noted in the μSmart system by a change in sign to (-) in front of the reading.

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. When used in conjunction with the 4-20 ma output module, the zero point is 12 ma. This then allows the range to show positive or negative flow in the stack or other application. The AN7 has all the attributes of the μSmart series sensors. The anemometer when provided as a "Gold Line" sensor can provide dual signal outputs, alarm functions and/or control outputs, threshold settings plus a range of other features. As with the AN4 and AN5 models, the AN7A 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. Note that an additional module is required to provide the second analogue output channel. The μSmart general specification will provide an excellent overview of the capabilities of the series and should be read in conjunction with this sheet.

The AN7 is available with additional features such as air purge and air cooling for harsh applications. Discuss these applications with your local agent or Monitor Sensors.

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
- Stack Gas
- Flue monitoring

Quality Assurance

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

Specifications

Range:	0-35 m/s bi-directional
Starting Threshold:	<0.1 m/s
Standard Output:	Model AN7 - wind speed in m/s Model AN7A - 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 Other heating ranges available. Discuss application with your agent or Monitor Sensors
Humidity Range:	0-100%
Measurement Units:	Metres per second. Others units available
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 AN7 - 225gm
Dimensions:	Overall height including spigot: 195 mm Blade radius: 107.5 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)