

## **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 an approximately linear relationship between rotational speed and actual wind speed. An internal electronic “gear box” provides 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.

When used in conjunction with the SI1 μSmart interface board, the anemometer can offer all the features available on the μSmart range. The interface board also makes the unit compatible with the μSmart logger that offers automatic detection, set-up and logging when used with the μSmart series sensors. Interfaced with the SI1, the anemometer can provide dual signal outputs, alarm functions and/or control outputs, threshold settings 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

|                            |   |  |
|----------------------------|---|--|
| <b>Range:</b>              | Model AN2 - 0.2 to 50 metres/sec (0.72 to 180 km/h, can over-range)<br>Model AN3 - 0.5 to 50 metres/sec (1.8 to 180 km/h, can over-range)<br>Available in any wind speed unit of measurement. Specify on order. |  |
| <b>Starting Threshold:</b> | Model AN2 - 0.1 metres/second<br>Model AN3 - 0.2 metres/second  |  |
| <b>Standard Output:</b>    | Model AN2 - 10 metres wind run/pulse<br>Model AN3 - 10 metres wind run/pulse  |  |
| <b>Resolution:</b>         | 0.001 m/s   |  |
| <b>Accuracy:</b>           | +/- 2 %   |  |
| <b>Temperature Range:</b>  | +1°C to +60°C (operating).  |  |
| <b>Humidity Range:</b>     | 0-100%  |  |
| <b>Measurement Units:</b>  | Metres per second   |  |
| <b>Sensor Type:</b>        | Contactless inductive device.   |  |
| <b>Reliability:</b>        | With proper maintenance, an operating lifetime in excess of 1 billion revolutions is expected.  |  |
| <b>Output:</b>             | Serial data ASCII format. Plus, either<br>Voltage 0-1 volt, 0-2.5, 0-4 volts or<br>Frequency +5 volt pulse 2-10 Hz  |  |
| <b>Options:</b>            | 4-20 ma Output<br>RS232   |  |
| <b>Power Supply:</b>       | 5-28 volts DC unregulated.  |  |
| <b>Current Drain:</b>      | <1 ma   |  |
| <b>Weight (unpacked):</b>  | Model AN2 - 225gm<br>Model AN3 - 210gm  |  |
| <b>Dimensions:</b>         | Overall height including spigot: 195 mm<br>Cup diameter: 65 mm<br>Radius of arm: Model AN2 - 154 mm<br>Radius of arm: Model AN3 - 91 mm   |  |
| <b>Mounting:</b>           | Designed to mount on Monitor Sensors standard cross arm (P/N MK9)   |  |
| <b>Cable Details:</b>      | Standard product has 150 mm of cable. Longer cable lengths may be ordered - allow \$3.75 per metre for additional cable.  |  |
| <b>Related Products:</b>   | WD2 & WD3   | Wind Direction Sensors                 |
|                            | ANL1  | Wind Characteristics Measuring Station |
|                            | WR1   | Windrose Software                      |
|                            | M10   | Standard Cross arm Mount               |
|                            | SI1   | µSmart interface                       |
|                            | SL(X)   | µSmart Data Logger. (SL1 to SL5)       |