

WindMaster / WindMaster Pro

3 Axis Ultrasonic Anemometer

WINDMASTER / WINDMASTER PRO



ALL WEATHER SENSING TECHNOLOGY

- METEOROLOGICAL SYSTEMS
- TRANSPORT SAFETY
- STRUCTURAL SAFETY
- MILITARY USE
- MARINE RESEARCH
- WIND TURBINE SITE SURVEY
- ULTRASONIC TECHNOLOGY
- MAINTENANCE FREE
- ROBUST CONSTRUCTION
- SPEED OF SOUND OUTPUT (PRO)
- ANALOGUE INPUTS
- NMEA OUTPUT FORMAT

WINDMASTER / WINDMASTER PRO - ULTRASONIC WIND SENSORS

The WindMaster range of speed and direction sensors provide the best solution on the market for serious 3 axis wind measurement. With a simplified mounting arrangement and fully software configurable operation, the anemometers are ideal for the measurement of wind turbulence and loading. The anemometers can be driven by the user's own software. The user can operate the anemometer in various modes to measure U, V and W vectors or wind speed & direction and W or NMEA configuration. Communication is via a RS422 bi-

directional link which allows up to 26 units to be networked and data to be logged on demand (polled).

The WindMaster has 4 analogue outputs and 3 analogue inputs. The WindMaster Pro has Speed of sound output and user selectable output rate up to 10Hz and up to eight single ended analogue input channels allowing synchronisation of analogue signals with wind data. The WindMaster range is suitable for use in a marine environment.

MEASUREMENT	WINDMASTER	WINDMASTER PRO
Ultrasonic sampling rate	39 Hz	39 Hz
Parameters / Units	UVW, Polar, NMEA, Tunnel / m/s, Knots, MPH, KPH	UVW, Polar, NMEA / m/s, Knots, MPH, KPH
Averaging	3 sec, 5 sec, 10 sec	3 sec, 5 sec, 10 sec
WINDSPEED		
Range / Resolution	0 - 60 m/s (0 - 134 mph) / 0.01 m/s	0 - 60 m/s (0 - 134 mph) / 0.01 m/s
Accuracy	1.5% RMS (0 - 20 m/s)	1.5% RMS (0 - 20 m/s)
Offset	±0.01 m/s	±0.01 m/s
DIRECTION		
Range / Resolution	0 - 359° / 1°	0 - 359° / 1°
Accuracy	<25 m/s ± 2°	<25 m/s ± 2°
POWER REQUIREMENT		
Anemometer only	9 - 30Vdc (150mA @ 12Vdc)	9 - 30Vdc (60mA @ 12Vdc)
DIGITAL OUTPUT		
Communication	RS422 full duplex, network up to 26 anemometers	RS422 full duplex, network up to 26 anemometers
Baud rates	1200, 2400, 4800, 9600, 19200, 38400	300, 1200, 2400, 4800, 9600, 19200, 38400
Output rates	1 Hz or 4 Hz	1, 2, 4, 5, 8 or 10 Hz
Formats	8 data, odd, even or no parity	7 or 8 data, odd, even or no parity
ANALOGUE OUTPUTS		
Quantity / Scale	4 / Multiples of ±10 m/s up to ±70 m/s	n/a
Type	±2.5V, 5V or 4 - 20mA (Impedance 470 Ohms)	n/a
ANALOGUE INPUTS		
Quantity	3	8 single ended or 4 differential
Range / Resolution	-2.5V to +5V / 11 bits over 5V	-5V to +5V / 14 bits over 5V
SPEED OF SOUND		
Range / Resolution	n/a	300 to 370 m/s / 0.01 m/s
Accuracy	n/a	<20 m/s 3% RMS
DIMENSIONS		
Size / Weight	750mm x 240mm / 1 kg	750mm x 240mm / 1 kg
ENVIRONMENTAL		
Ingress protection	IP65	IP65
Operating temperature	-40°C to +60°C	-40°C to +60°C
Humidity	5% to 100% RH	5% to 100% RH
Precipitation	Operation maintained to 300mm / hr	Operation maintained to 300mm / hr
EMC	BS EN 50081:1 1992 (Emissions class B) BS EN 50082:1 1992 (Immunity)	BS EN 50081:1 1992 (Emissions class B) BS EN 50082:1 1992 (Immunity)



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Accuracy specification applies between 5°C and 35°C and wind incidence ±10° to the horizontal in unobstructed air with respect to the anemometer. This range is in continuous development and therefore specifications may be subject to change without prior notice.

