

Ultrasonic Anemometer 3D



Description

Sensor for the inertia-free measurement of all three components of the wind speed and of the sonic temperature. As the sensor contains no moving parts, it is maintenance-free.

Three opposite pairs of ultrasonic transducers measure both the horizontal and the vertical components of the wind vector. A built-in processing unit converts the raw signals into analog signals. Additional serial RS232 and RS485 ports allow the direct connection to a PC or an industrial controller.

Technical Data

Sensor

Sensing element..... Ultrasonic transducers
Data processing Microprocessor

Outputs

Analog	0..40 m/s	= 0..4 V (u, v, w)
	0..360°	= 0..4 V (wind direction)
	0..60°	= 0..4 V (elevation angle)
	-50..+50 °C	= 0..4 V (sonic temperature)
Digital	RS232 or RS485, 1200..38400 baud	

Resolution

Wind speed	0.01 m/s
Wind direction	0.1°
Sonic temperature.....	0.01 °C

Accuracy

Wind speed	0..30 m/s	± (1% of reading ± 0.05 m/s)
	30..40 m/s	± (3% of reading ± 0.05 m/s)
Wind direction	1..30 m/s	± 2°
	30..40 m/s	± 5°
Sonic temperature.....	0..30 m/s	± 2 °C
Starting threshold	0.01 m/s	
Internal sampling rate	160 Hz	

Output Rate

Analog signals.....	4..32 Hz, user selectable
Digital	4..32 Hz, user selectable

Power Supply

Supply voltage	12..30 VDC
Power consumption	4 W

Heating

Heating power	No heating available
---------------------	----------------------

Casing

Material.....	Anodized aluminium / stainless steel / plastic
Protection class	IP 65
Dimensions	ø340 x 560 mm
Weight	1.7 kg
Mounting	The sensor mounts on a standard one inches pipe with ø34 mm outside diameter

Electrical Connection

Junction box.....	Terminal strips
-------------------	-----------------

Environmental Conditions

Operating temperature	-50..+50 °C
Relative humidity	0..100%



Hirschgraben 24
D-22089 Hamburg • Germany
phone: +49(0)40-75 66 08 98
fax: +49(0)40-75 66 08 99
eMail: info@wilmers.com
www.wilmers.com