

2-Axis Ultrasonic Anemometer

HD52.3D SERIES...

INTRODUCTION

The HD52.3D... series is your all-in-one solution for meteorological monitoring! These 2-axis ultrasonic static anemometers are very powerful and deliver unparalleled precision and versatility in a sleek, compact design.

Imagine having a meteorological station at your fingertips - that's exactly what you get with the HD52.3D series.

Measure key meteorological parameters with ease: wind speed and direction, U-V Cartesian components of wind speed and wind gust. Optional features like global solar radiation, temperature, relative humidity, barometric pressure, take your measurements to the next level, ensuring you have all the data you need at your disposal.

But that's not all - we understand flexibility is key. Choose between rainfall or global solar radiation options to suit your specific needs. Plus, with the ability to calculate averages over configurable periods, you have complete control over your data.

FEATURES

Magnetic compass

Equipped with a magnetic compass, and wind speed and direction measurements are automatically compensated and referred to magnetic North, even if alignment to North is not performed. This allows obtaining accurate measurements even in case of mobile installations.

Low power consumption

The low power consumption of the instrument allows installation in remote sites, with power supplied by photovoltaic panel and backup battery.

Low maintenance

The HD52.3D series boasts minimal upkeep thanks to its innovative design with no moving parts. Don't let environmental conditions hold you back - our optional heater ensures reliable operation in all environmental conditions.

CONFIGURATION & MEASUREMENT

Easy intergration in any system

RS232, RS485, RS422 and SDI-12 serial interfaces are available with ASCII proprietary or NMEA, MODBUS-RTU and SDI-12 standard communication protocols. Moreover, all versions have two analog outputs, for wind speed and direction. With multiple serial interfaces and communication protocols available, integration into your existing systems is seamless.

Easy configuration

PC application software free of charge to configure the instrument and view the real time measurements.

Calibration report

All instrument sensors are factory-calibrated and do not require additional interventions of the user. ISO 17025 calibration available upon request.

www.senseca.com



ALL-IN-ONE COMPACT AND LIGHT All main quantities of meteorological interest combined in a single instrument

EASY TO SET UP & QUICK TO INSTALL Easy mounting & alignment facilitated by built-in compass. Configuration and real time data monitoring via software.



ACCURATE & RELIABLE All instrument sensors are factorycalibrated and do not require additional interventions of the user.

~

LOW POWER CONSUMPTION Ideal for installation in remote sites it can be powered by photovoltaic panel and backup battery

←T→ GREAT FLEXIBILITY Wide variety of outputs choice.

Measurement specifications

Wind speed	Sensor	Ultrasound	
	Measuring range	060 m/s (050 m/s with rain gauge option)	
	Resolution	0.01 m/s	
	Accuracy	± 0.2 m/s or ± 2%, the greatest (035 m/s), ± 3% (> 35 m/s)	
Wind direction	Sensor	Ultrasound	
	Measuring range	0359.9°	
	Resolution	0.1°	
	Accuracy	± 2° RMSE from 1.0 m/s	
Compass	Sensor	Magneric	
	Measuring range	0360°	
	Resolution	0.1°	
	Accuracy	± 1°	
Temperature	Sensor	Pt100	
	Measuring range	-40+70 °C	
	Resolution	0.1°C	
	Accuracy	± 0.15 °C $\pm 0.1\%$ of measurement	
Relative Humi- dity	Sensor	Capacitive	
	Measuring range	0100 %RH	
	Resolution	0.1 %RH	
	Accuracy (@ T = 1535 °C)	± 1.5% RH (090% RH), ± 2% RH (remaining range)	
	Accuracy (@ T = -40+70 °C)	± (1.5 + 1.5% of measurement) % RH	
Barometric Pressure	Sensor	Piezoresistive	
	Measuring range	3001100 hPa	
	Resolution	0.1 hPa	
	Accuracy	± 0.5 hPa @ 20 °C	
Solar Radiation	Sensor	Thermopile	
	Measuring range 02000 W/m ²	02000 W/m ²	
	Resolution	1 W/m²	
	Accuracy	Spectrally Flat Class C	
Rainfall	Sensor	Tipping bucket	
	Resolution	0.2 mm	
	Accuracy	98% @ 20 mm/h 96% @ 50 mm/h 95% @ 120 mm/h	
	Maximum rainfall rate	2000 mm/h	
	Collector area	127 cm ²	

General specifications

Power supply	1030 Vdc		
Power consumption	26 mA @ 24 Vdc without heater 8 W @ 24 Vdc with heater		
Serial outputs	RS232, RS485 (¼ Unit Load), RS422 and SDI-12		
Communication protocols	NMEA, MODBUS-RTU, SDI-12, proprietary RS232 and RS485		
Analog outputs	2 analog outputs, for wind speed and direction. Output at choice among 420 mA (standard), 01, 05 and 010 V (option 010 V needs 1530 Vdc power supply)		
Wind speed averaging interval	Configurable from 1 s to 10 min		
Electrical con- nection	19-pole M23 male connector		
Operating temperature	-40+70 °C Minimum temperature for the rainfall sensor 1 °C		
Protection degree	IP66		
Survival speed	90 m/s (60 m/s with rain gauge option)		
Weight	About 1 kg (version HD52.3DP147) About 1.5 kg (version HD52.3DT147)		
Case	Plastic material. Metal parts: AISI 316		







Dimensions



Air speed Air direction Pressure (optionally)



Air speed Air direction Temperature Relative Humidity Pressure (optionally)



Air speed Air direction Solar radiation Pressure (optionally)

 \oslash 150

Air speed

Air direction

Temperature

Relative Humidity

Solar radiation

Pressure (optionally)

 \oslash 40 ext.

 \oslash 36 int.

357



View of the bottom of the case



Air speed Air direction Temperature Relative Humidity Precipitation Pressure



PC application software

🕴 HD52.3D-S							
File Tools View Help							
🆓 🙀 🍙	. 🍾			🔇 💥 . 🛛 🖓			
Disconnect View Data Mon	tor Instrument settings			Refresh Language Help Exit			
Tree view of the directory 😽	Name Dimensions	Type Date last modified					
HD52.3D-S	300000009 180619_110337.d32 4 KB	File D 32 19/06/2018 11.05.48					
C:\DeltaDhm\HD52.3D-S\Monitor\00000009	18/06/19 11:10:40		• INS	● AVG2 ● AVG10 💐			
Mod.: HD51.3D4R		Wind Spe	ed (m/s)				
SN: 00000009		Wind Oper		NOR NOR NOR NOR NOR NOR			
FW: 00.10	N		5. 8. 8. U. 21 U .	101. 101. 101. 101. 101. 171.			
UC: User Code	<u>с</u> . П	2min W/S	WD				
From: 18/06/19 11:03:37		NE					
To: 10/06/1311:03:40		MNM	0.06 329.5				
100 27			012 2296	123 RA RA RA RA 124			
		MAA EL EL E	연극도 골도 관리				
		AVG	0.09 328.6				
	vvina Directi	on 📶					
	ା ∾⊣ ସ୍ମସ୍ପ	5 9 = E					
		L		124 (B); (B); (B); (B); (B);			
	-	/~		Atm. Pressure (hPa)			
		OFE (hPa)	a n p n p				
	sw M	SE	100.0				
		QNH (hPa)	99529				
	S			573 573 573 573 573 573			
		Heating	OFF	8. 6. 6. 6. 6. 6.			
COM27 115200-8N2 HD513D4R 4.2NnA Us.Code: User Code, Goes "Here!"1 Sn: 0000000 Fw:VP00.10							

The PC software HD52.3D-S allows configuring the instrument, viewing the real time measurements both graphically and numerically, managing graphical presentation, printing and export in Excel® format of the data acquired with the Monitor function.

Ordering codes

)



