

HD51.3D4R-AL



HD51.3D4R



Mounting on \varnothing 40 mm mast. The electric connection is performed through the M23 connector situated at the bottom of the instrument. Power supply of the instrument (excluding heater) 12...30 Vdc. Power supply of the heater 24 Vdc.

All instrument sensors are factory-calibrated and do not require additional interventions of the user (field calibration is not required).

The absence of moving parts minimizes the instrument maintenance.

Main applications:

- Wind farms monitoring
- Remote weather stations
- Buildings, constructions and bridges control
- Ports, airports and heliports
- Road and railway tunnels

PC application software

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.

HD51.3D4R e HD51.3D4R-AL are 2-axes ultrasonic static anemometers with integrated heater. The heater prevents the accumulation of snow and ice formation, allowing accurate measurements in all environmental conditions.

HD51.3D4R-AL is equipped with an enhanced heater, for rapid defrosting, and an anodized aluminum alloy housing with anti-corrosion coating that makes it possible to use the instrument even in a particularly aggressive atmosphere (e.g., marine environment).

The anemometer satisfies the requirements of the MIL-STD-810G Method 509.6 standard (salt fog anti-corrosion test). The high immunity to electromagnetic disturbances makes the anemometer suitable for measurements in electrically noisy environments (e.g., industrial environments, wind farms, etc.).

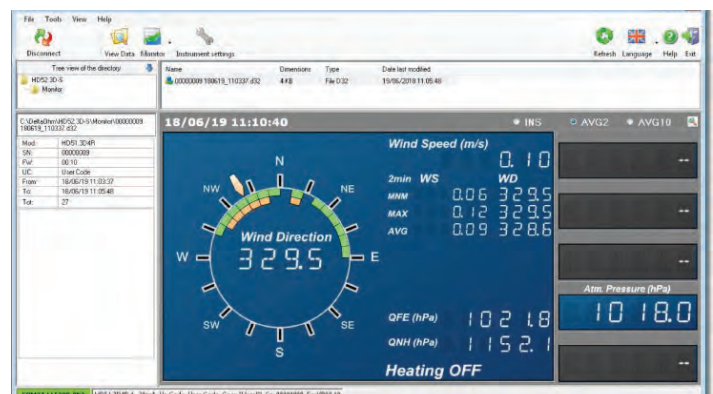
The anemometers measure:

- Wind speed up to 80 m/s (HD51.3D4R-AL) or 85 m/s (HD51.3D4R).
- Wind direction.
- Wind Gust.
- Atmospheric pressure (with internal sensor).

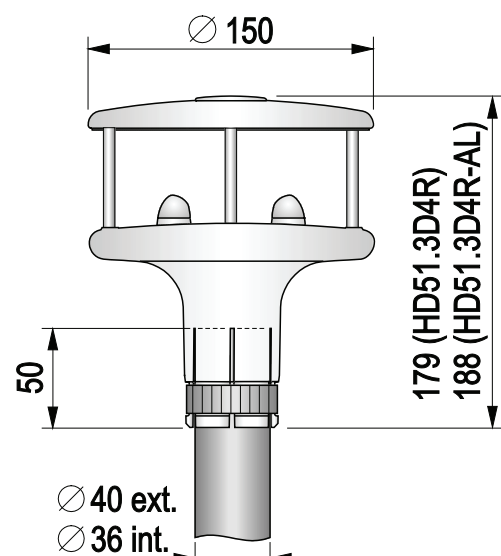
The average of wind speed and direction over a period configurable up to 10 minutes is calculated.

Available outputs:

- RS232, RS485 and RS422 isolated serial outputs with NMEA and MODBUS-RTU standard protocols and ASCII proprietary protocol.
- Two analog outputs, for wind speed and direction or for velocity U-V cartesian components, which are factory-configurable within 4 ± 20 mA (standard), 0 ± 1 V, 0 ± 5 V or 0 ± 10 V (to be specified when ordering).



HD52.3D -S software: viewing the real time measurements



| | HD51.3D4R | HD51.3D4R-AL |
|---|---|--------------------------------------|
| Wind speed | | |
| Used sensor | Ultrasounds | |
| Measuring range | 0...85 m/s | 0...80 m/s |
| Resolution | 0.01 m/s | |
| Accuracy | ± 0.2 m/s or ± 2%, the greatest (0...60 m/s), ± 3% (> 60 m/s) | |
| Wind direction | | |
| Used sensor | Ultrasounds | |
| Measuring range | 0...359.9°. In order to avoid oscillations of the analog output around 0°, the extended range 0...539.9° can be set. | |
| Resolution | 0.1° | |
| Accuracy | ± 2° RMSE (wind speed > 2 m/s) | |
| Atmospheric Pressure | | |
| Used sensor | Piezoresistive | |
| Measuring range | 300...1100 hPa | |
| Resolution | 0.1 hPa | |
| Accuracy | ± 0.5 hPa @ 20 °C | |
| General features | | |
| Instrument power supply (excluding heater) | 12...30 Vdc | |
| Heater power supply | 24 Vdc ± 10% | |
| Instrument power consumption (excluding heater) | 60 mA @ 24 Vdc | |
| Heater power consumption | 15 W @ 24 Vdc | 80 W @ 24 Vdc |
| Serial outputs | Isolated RS232, RS485 and RS422 | |
| Communication protocols | NMEA, MODBUS-RTU, ASCII proprietary | |
| Analog outputs | 2 analog outputs, for wind speed and direction or for velocity U-V cartesian components. Output at choice among 4...20 mA (standard, max. load 500 Ω), 0...1 V, 0...5 V and 0...10 V. | |
| Measurement interval | The outputs are isolated from the power supply. | |
| Wind speed average interval | Configurable from 1 s to 10 min | |
| Wind Gust calculation interval | Configurable from 1 s to 10 min | |
| Electrical connection | 19-pole M23 male connector | |
| Operating temperature | -40...+60 °C | |
| Protection degree | IP 66 | |
| Anti-corrosion test | According to MIL-STD-810G Method 509.6 (48 hours of exposure + 48 hours of drying) | |
| Survival speed | 90 m/s | 100 m/s |
| Weight | 640 g approx. | 1.4 kg approx. |
| Housing | ASA with aluminum and AISI 316 metal parts | Anodized aluminum alloy and AISI 316 |
| Installation | on mast Ø40 mm external and Ø36 mm internal | |

ORDERING CODES:

HD51.3D4R: 2-axis ultrasonic static anemometer. Measurement of wind speed and direction, U-V Cartesian components of wind speed, Wind Gust and barometric pressure. Isolated RS232, RS485, and RS422 serial outputs. NMEA, MOD-BUS-RTU and ASCII proprietary communication protocols. Two analog outputs for wind speed and direction, factory-configurable within 4÷20 mA (standard), 0...1 V, 0...5 V or 0...10 V (to be specified when ordering). Equipped with heater. Operating temperature -40...+60 °C. Instrument power supply 12...30 Vdc. Heater power supply 24 Vdc. Housing in ASA. Installation on mast Ø 40 mm external and Ø 36 mm internal. Input with 19-pole M23 male connector and 19-pole M23 female free connector. The **HD52.3D-S software**, for instrument configuration and monitor, downloadable from website is included. CP51... cable on request.

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