



**HD 52.3D**

▶ [ GB ] 2 axes ultrasonic anemometer

**HD 52.3D**

Wind speed and direction

**HD 52.3D4**

Wind speed, wind direction and barometric pressure

**HD 52.3DP**

Wind speed, wind direction and solar radiation

**HD 52.3DP4**

Wind speed, wind direction, solar radiation and barometric pressure

**HD 52.3D17**

Wind speed, wind direction, temperature and relative humidity

**HD 52.3D147**

Wind speed, wind direction, temperature, relative humidity and barometric pressure

**HD 52.3DP17**

Wind speed, wind direction, solar radiation, temperature and relative humidity

**HD 52.3DP147**

Wind speed, wind direction, solar radiation, temperature, relative humidity and barometric pressure



## ◉ [ GB ] HD 52.3D

### 2 axes ultrasonic Anemometers series HD 52.3D....

The instruments of the series HD52.3D... are 2 axes ultrasonic static anemometers for measuring:

- Wind speed and direction, U-V Cartesian components of wind speed,
- Relative Humidity and Temperature (**option, code "17"**),
- Diffuse Solar Radiation (**option, code "P"**),
- Barometric pressure (**option, code "4"**).

All models are equipped with compass.

RS232, RS485 and SDI-12 serial interfaces are available with **NMEA, MODBUS-RTU** and **SDI-12** communication protocols.

All versions have two analogical outputs, both for wind speed and for direction, factory configurable among 4÷20mA (**standard**), 0÷1V, 0÷5V, 0÷10V (**to be specified when ordering**).

The **heater** option prevents the accumulation of snow and ice from forming, allowing accurate measurements in all environmental conditions.

Optionally available, **ILAC-MRA (ACCREDIA)** traceable factory calibration.

#### Advantages:

- The absence of moving parts minimizes maintenance;
- High sensitivity for detecting very low speeds, which are not detectable by traditional methods;
- The low power of the instrument allows installation in remote sites, with power from solar panel and battery;
- The heating option "R" prevents the accumulation of snow and ice from forming, allowing accurate measurements in all environmental conditions;
- Fast and easy installation (on 40mm diameter pole, optional installation kit HD2004.20), alignment facilitated by built-in compass;
- The available measurement options join together in one single, compact and light-weight instrument, the main variables of interest in weather stations;
- MODBUS RTU output allows instrument networking.

#### Typical applications:

- Weather stations
- Environmental monitoring
- Agriculture
- Sports
- Marine and Harbour applications
- Airports
- HVAC
- Construction/Crane safety
- Renewable energy
- Building automation

#### Technical specifications:

Wind speed	
Employed sensor type	Ultrasonic
Measuring Range	0...60 m/s
Resolution	0.01 m/s
Accuracy	Whichever is greater $\pm 0,3$ m/s or $\pm 2\%$ , (0...35 m/s) $\pm 3\%$ (> 35 m/s)
Wind direction	
Employed sensor type	Ultrasonic
Measuring Range	0...360°
Resolution	0.1°
Accuracy	$\pm 2^\circ$ RMSE from 1.0 m/s
Compass	
Employed sensor type	Magnetic
Measuring Range	0...360°
Resolution	0.1°
Accuracy	$\pm 1^\circ$
Air temperature (option 17 is requested)	
Employed sensor type	Pt100
Measuring Range	-40...+60 °C
Resolution	0.1 °C
Accuracy	$\pm 0,15^\circ\text{C} \pm 0,1\%$ of the measure
Relative Humidity (option 17 is requested)	
Employed sensor type	Capacitive
Measuring Range	0...100%RH
Resolution	0.1%
Accuracy (@ T = 15...35 °C)	$\pm 1,5\%$ UR (0..90%RH), $\pm 2\%$ RH (remaining field)
Accuracy (@ T = -40...+60 °C)	$\pm (1,5 + 1,5\%$ of the measure)%RH
Barometric Pressure (option 4 is requested)	
Principle	Piezoresistive

Measuring Range	600...1100 hPa
Resolution	0.1 hPa
Accuracy	$\pm 0,5$ hPa @ 20°C
Solar Radiation (option P is requested)	
Employed sensor type	Thermopile
Measuring Range	0...2000 W/m <sup>2</sup>
Resolution	1 W/m <sup>2</sup>
Accuracy	2 <sup>nd</sup> class Pyranometer
General features	
Power supply	10...30 Vdc
Power Consumption	26mA @ 12Vdc without heater, 6W with heater
Serial Outputs	RS232, RS485, RS422 and SDI-12
Communication Protocols	NMEA, MODBUS-RTU, SDI-12
Analog Outputs	2 analog outputs for wind speed and direction. Output type to be specified when ordering among 4...20mA ( <b>standard</b> ), 0...1V, 0...5V and 0...10V ( <b>option 0...10V requires power supply 15...30Vdc</b> )
Electrical connection	male connector M23 19 poles
Working temperature	-40...+60 °C
Dimensions	H=179mm, Ø=150mm (HD52.3D, HD52.3D4) H=200mm, Ø=150mm (HD52.3DP, HD52.3DP4) H=336mm, Ø=150mm (HD52.3D17, HD52.3D147) H=357mm, Ø=150mm (HD52.3DP17, HD52.3DP147)
Weight	about 1 Kg (full version, HD52.3DP147)
Housing	Plastic material: LURAN®S (ASA) Metallic parts made of AISI 316
Protection degree	IP66

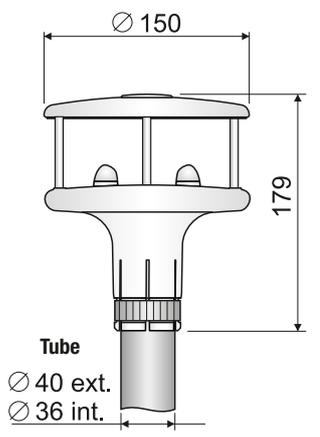
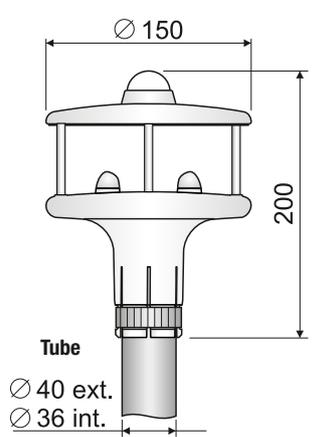
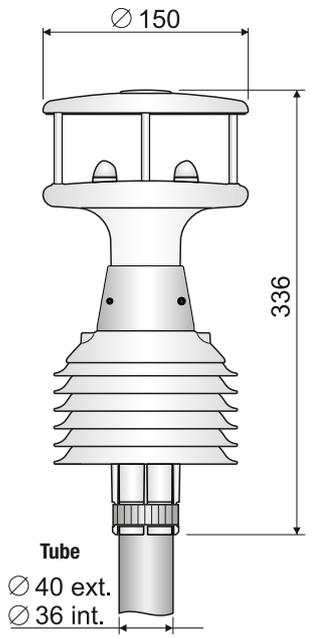
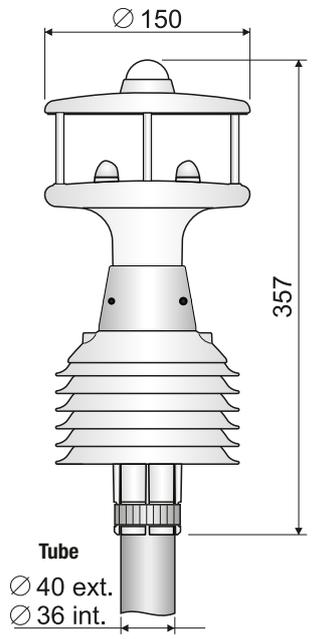


HD 32.35FP



HD 32.35

## DIMENSIONS (mm)

 <p><b>HD 52.3D</b> Wind speed and direction.</p> <p><b>HD 52.3D4</b> Wind speed, wind direction and barometric pressure.</p>	 <p><b>HD 52.3DP</b> Wind speed, wind direction and solar radiation.</p> <p><b>HD 52.3DP4</b> Wind speed, wind direction, solar radiation and barometric pressure.</p>
 <p><b>HD 52.3D17</b> Wind speed, wind direction, temperature and relative humidity.</p> <p><b>HD 52.3D147</b> Wind speed, wind direction, temperature, relative humidity and barometric pressure.</p>	 <p><b>HD 52.3DP17</b> Wind speed and direction, solar radiation, temperature, relative humidity.</p> <p><b>HD 52.3DP147</b> Wind speed, wind direction, solar radiation, temperature, relative humidity and barometric pressure.</p>

## PURCHASING CODES

**HD 52.3D**

**R** = heater option  
**Blank** = not heated

**P** = solar radiation option (pyranometer)  
**4** = barometric pressure option  
**17** = relative humidity and temperature option  
**P4** = solar radiation and barometric pressure option  
**P17** = solar radiation, relative humidity and temperature option  
**147** = barometric pressure, relative humidity and temperature option  
**P147** = solar radiation, barometric pressure, relative humidity and temperature option  
**No characters** = basic version: wind speed and direction

Analog outputs for wind speed and direction: 4...20mA standard; to be requested: 0...1V, 0...5V or 0...10V (0...10V option requires power 15...30Vdc).

**HD52.3D...**: 2 axes ultrasonic static anemometers for the measure of wind speed and direction, U-V Cartesian components of wind speed, relative humidity and temperature (**optional**), diffuse solar radiation (**optional**) and barometric pressure (**optional**). A compass is supplied. RS232, RS485 and SDI-12 serial outputs, **NMEA, MODBUS-RTU** and **SDI-12** communication protocols. Two analogical outputs, for wind speed and direction, factory among 4÷20mA (**standard**), 0÷1V, 0÷5V or 0÷10V (**to be specified when ordering**). **Heater option** is available. Power supply: 10...30Vdc (15...30Vdc for 0÷10V analog outputs). Installation on a pole: external Ø40mm and internal Ø36mm. Input with M23 19-pin male connector and M23 19-pin steering female connector. **Optional 5m or 10m cable with a connector on one side and open wires on the other.**

## ACCESSORIES

**CP52.5**: Connection cable with M23 19-pin steering female connector on one side, free wires on the other. 5m long.

**CP52.10**: Connection cable with M23 19-pin steering female connector on one side, free wires on the other. 10m long.

**CP52.C**: Further M23 19-pin steering female connector.

**HD2004.20**: Tripod kit for installing anemometers on a flat base. Height 3m.

**HD2004.22**: 1200x530x34mm Solar panel mounting kit to a Ø40÷50mm pole. AISI 304 stainless steel.

**HD2004.30**: 80W monocrystalline solar panel. Dimensions 1200 x 530 x 34 mm. Model MD5000080 – CS EVOLUTION.

**HD32.35**: Outdoor housing complete with acquisition system for weather stations.

**Material: AISI 304 stainless steel.** Screen to protect the housing from solar radiation. Powder-coated white. Double locking one of which is a key. Dimensions 450 x 300 x 210 mm. Degree of protection IP66. Supplied with accessories for attachment to the pole diameter 36 ÷ 52 mm. Provided for 100 ÷ 240Vac mains power supply, includes: HD32MT.1 datalogger, AC/DC power supply unit with integrated battery charger, 12V rechargeable backup battery, surge protectors, disconnectors, terminal block for power supply distribution and connectors for connecting the external sensors.

**HD32.35FP**: Outdoor housing complete with acquisition system for weather stations.

**Material: AISI 304 stainless steel.** Screen to protect the housing from solar radiation. Powder-coated white. Double locking one of which is a key. Dimensions 450 x 300 x 210 mm. Degree of protection IP66. Supplied with accessories for attachment to the pole diameter 36 ÷ 52 mm. Provided for power supply from solar panel, includes: HD32MT.1 datalogger, solar charge controller, terminal block for power supply distribution and connectors for connecting the external sensors.

**HD32.36**: Outdoor housing complete with acquisition system for weather stations.

**Material: Polyester with fiberglass-reinforced hot-pressed.** Screen to protect the housing from solar radiation, powder-coated anodized aluminum. White. Key lock. Dimensions 415 x 310 x 170 mm. Degree of protection IP66. Supplied with accessories for attachment to the stainless steel pole diameter 36 ÷ 52 mm. Provided for 100 ÷ 240Vac mains power supply, includes: HD32MT.1 datalogger, AC/DC power supply unit with integrated battery charger, 12V rechargeable backup battery, surge protectors, disconnectors, terminal block for power supply distribution and connectors for connecting the external sensors.

**HD32.36FP**: Outdoor housing complete with acquisition system for weather stations.

**Material: Polyester with fiberglass-reinforced hot-pressed.** Screen to protect the housing from solar radiation, powder-coated anodized aluminum. White. Key lock. Dimensions 415 x 310 x 170 mm. Degree of protection IP66. Supplied with accessories for attachment to the stainless steel pole diameter 36 ÷ 52 mm. Provided for power supply from solar panel, includes: HD32MT.1 datalogger, solar charge controller, terminal block for power supply distribution and connectors for connecting the external sensors.



Manufacture of portable and bench top scientific instruments  
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pH - Conductivity - Dissolved Oxygen - Turbidity  
Elements for weather stations - Thermal Microclimate



LAT N° 124 Signatory of EA, IAF and ILAC Mutual Recognition Agreements  
Temperature - Humidity - Pressure - Air speed  
Photometry/Radiometry - Acoustics

#### CE CONFORMITY

- **Safety:** EN61000-4-2, EN61010-1 Level 3
- **Electrostatic discharge:** EN61000-4-2 Level 3
- **Electric fast transients:** EN61000-4-4 Level 3, EN61000-4-5 Level 3
- **Voltage variations:** EN61000-4-11
- **Electromagnetic interference susceptibility:** IEC1000-4-3
- **Electromagnetic interference emission:** EN55022 class B

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