

HD33[L]MT.GSM

HD33[L]MT.3G

GSM/3G data loggers for weather stations



Member of GHM GROUP



- Possibility of connecting many sensor types thanks to the 4 analog inputs, the 2 contact inputs and the RS485 MODBUS-RTU and SDI-12 digital inputs
- GSM/GPRS or 3G module for the remote monitoring
- Sending of data via e-mail, FTP and to an HTTP server (for example the Delta OHM Cloud)
- PC software for configuration, monitor and data download in a database
- Software option available for compliance to **FDA 21 CFR part 11** recommendations
- 2 contact alarm outputs and alarm notification via e-mail and SMS when configurable measurement thresholds are exceeded
- **IP 65** housing
- Optimal custom LCD
- It can be powered by mains (with optional external power supply unit) or by a solar panel
- **Low power**, it can operate for weeks even in absence of recharging of the internal battery
- Internal clock of high accuracy and stability, with possibility of **automatic time synchronization** with an HTTP or NTP reference server

DESCRIPTIONS

The **HD33[L]MT.GSM** (with GSM/GPRS module) and **HD33[L]MT.3G** (with 3G module) data loggers allow several physical quantities to be monitored remotely in a large variety of application fields. You can monitor, for example, temperature, humidity, atmospheric pressure, solar radiation, rainfall quantity, wind speed and direction, etc.

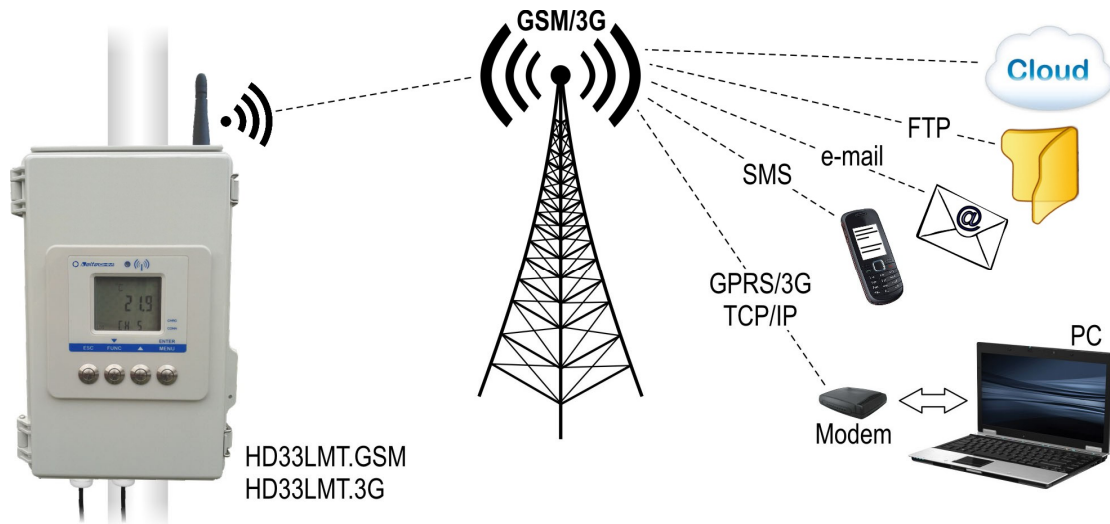
The data loggers are equipped with:

- 4 analog independently configurable inputs (0...50 mV, -50...+50 mV, 0...1 V, 0...10 V, 0...20 mA or 4...20 mA, Pt100, Pt1000, thermocouple, potentiometer, pyrogeometer).
- 2 voltage-free counting contact inputs (e.g. a tipping bucket rain gauge and a cup anemometer can be connected).
- One RS485 "Master" port with Modbus-RTU protocol.
- One SDI-12 "Master" port compatible with version 1.3 of SDI-12 protocol.
- 2 voltage-free contact alarm outputs.

On request, input with M12 connector for relative humidity and temperature with NTC sensor combined probe or, alternatively, for temperature only probe with NTC sensor. If a relative humidity and temperature probe is connected, the dew point temperature is calculated.

The atmospheric pressure is detected by means of an **optional** internal sensor.

Thanks to **GSM/GPRS** or **3G** transmission, the user will not have to remove the data logger from its position or reach the place where the data logger is installed to download the data measured with the PC: the instrument can send the data via **e-mail** or **FTP** and can upload the data on an **HTTP** server (for example the Delta OHM portal "**www.deltaohm.cloud**"). You can also make a direct GPRS/3G TCP/IP connection with a remote PC which has an Internet connection.



The data logger GSM functions can be remotely controlled by sending SMS messages.

For each detected quantity, the user can set two alarm thresholds (high threshold and low threshold), the alarm hysteresis and a delay in the generation of the alarm. The overrun of the thresholds can be signaled by alarm e-mails or SMS messages. Two voltage-free contact alarm outputs are also available.

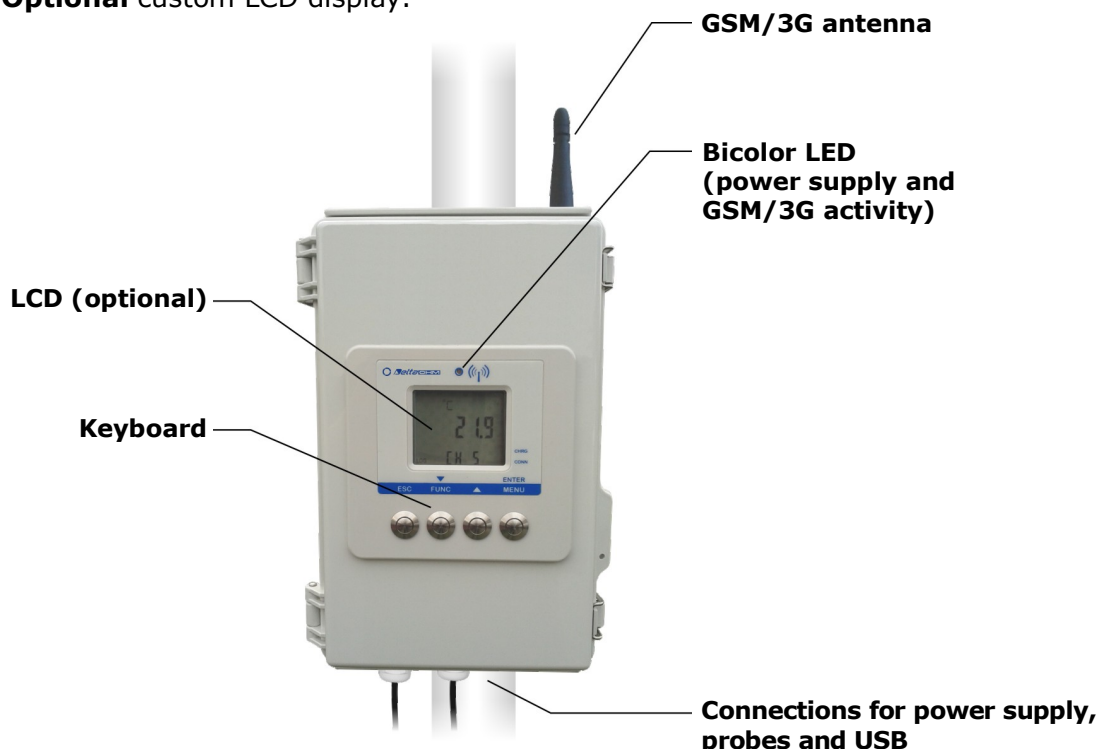
HD35AP-S PC software, downloadable free of charge from the Delta OHM website, allows configuration of data logger, displaying measurements in real time both in graphical and numerical format, data download. The data transferred to the PC are entered into a database.

The internal clock of the data logger has high accuracy and is extremely stable in the whole operating temperature range of the instrument. It supports the **automatic time synchronization** with an HTTP or NTP reference server.

The **optional** 12 V / 3.4 Ah rechargeable backup battery to be installed inside the case prevents the loss of recordings in case of no external power supply. The battery charger is integrated in the instrument. The data logger can be powered by a solar panel and is designed to be **low power**: can operate for weeks even in absence of battery recharging from the solar panel. Power supply 18...28 Vdc if the rechargeable battery is used or 7...28 Vdc if the rechargeable battery is not used.

A switched power supply output allows powering the sensors only when measurements have to be taken.

IP 65 housing. **Optional** custom LCD display.



CLOUD

The data logger can automatically send, at regular intervals, the data to an HTTP server, and in particular to the Delta OHM portal "www.deltaohm.cloud". This allows you to view the data from anywhere in the world, even by using mobile devices (tablet, smartphone, notebook), simply having an Internet connection and using a web browser. The data sending interval is configurable.



PC APPLICATION SOFTWARE

The PC software **HD35AP-S** allows configuring the data logger, viewing the real time measurements both graphically and numerically, downloading the data in a database. The data can be downloaded automatically, at regular intervals, or upon user request.

The screenshot shows the HD35AP-S PC software interface. A blue circle with the text "HD35AP-S SOFTWARE" is overlaid on the top right. The interface is divided into several sections:

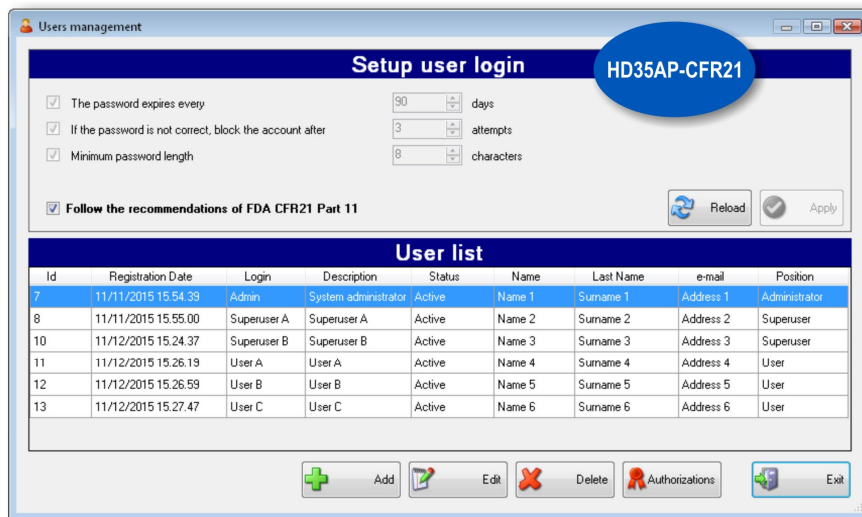
- Real time measurements:** A panel on the left shows numerical values for Temperature (25.5), Relative humidity (33.0), Dew point (8.1), and Atm pressure (1018.0).
- Selection of devices and quantities:** A table at the top lists devices with columns for RF address, Net address, Type, Type img, Model, SN, RF address, Group, User code, and Connection stat.
- Database:** A central window titled "View data from database" shows a search date range (19/07/2013 to 21/07/2013) and a list of data points.
- Graph of measurements:** A line graph at the bottom shows Relative humidity (%) over time, with a blue arrow pointing to it from the label "DATABASE".
- Table of measurements:** A table on the right shows a list of measurements with columns for Date Time and Relative humidity [%].

The database functions allow viewing the data coming from multiple data loggers simultaneously. The connection to the database is **multi-client**: it is possible to store the data in a remote database

on the local network to which the PC is connected, and the data can be viewed from any PC on the network via the HD35AP-S software.

The **HD35AP-CFR21** option (enabled by a USB hardware key to be connected to any PC connected to the same local network of the PC in which the HD35AP-S software is installed) allows, in addition to the features of the basic software, the protection of recorded data and configuration in response to **FDA 21 CFR part 11** recommendations. In particular become available:

- The traceability of activities (audit trail) performed with the software; for example, which users connected and what changes were possibly made to the configuration of the data logger.
- The management of users access for the data logger configuration and viewing of data in the database. Each user can be assigned a different password for using the software. There are also three levels of access (Administrator, Super-user and standard User); for each level, the allowed operations can be defined.



TECHNICAL SPECIFICATIONS

<i>Power supply</i>	If the rechargeable battery is used: 18...28 Vdc (from a 12 V solar panel or from a DC power supply) If the rechargeable battery is not used: 7...28 Vdc (from a DC power supply)
<i>Power consumption</i>	< 3 mA during measurement / < 1 A peak during GSM/3G activity
<i>Battery</i>	Optional internal lead 12 V / 3.4 Ah. Maximum charge current 1 A. The autonomy depends on the number and type of sensors connected.
<i>Switched power supply output</i>	If the data logger is powered by a solar panel (+Vpanel input), the output is equal to the voltage of the internal lead battery (nominal 12 V). If the data logger is powered by the +Vdc input, the output is equal to the voltage of the +Vdc input. The output is active only when the external sensors have to be powered.
<i>Antenna</i>	External
<i>Measuring interval</i>	1, 2, 5, 10, 15, 30 s / 1, 2, 5, 10, 15, 30, 60 min
<i>Logging interval</i>	1, 2, 5, 10, 15, 30 s / 1, 2, 5, 10, 15, 30, 60 min
<i>Internal memory</i>	Circular management or stop logging if memory is full. Number of samples: from 242,850 to 858,070 depending on the number of detected quantities.
<i>Alarm</i>	Sending of alarm e-mail and SMS. Two voltage-free normally open (NO) contact alarm outputs. Max 300 mA @ 30 Vdc resistive charge.
<i>Display</i>	Optional custom LCD
<i>LED indicator</i>	2-color LED: power on (blinks red), GSM/3G activity (blinks green)
<i>Connection to PC</i>	USB port with mini-USB connector
<i>Internal clock drift</i>	± 2 ppm (0...+40 °C) / ± 5 ppm (-40...+70 °C)
<i>Operating conditions</i>	-40...+70 °C / 0...100 %RH for the version without LCD -20...+70 °C / 0...100 %RH for the version with LCD
<i>Weight</i>	1 kg approx.
<i>Housing</i>	Dimensions: 270 x 170 x 110 mm (excluding external antenna) Material: Polycarbonate (PC) Protection degree: IP 65 (with protective cap on the USB connector)
<i>Installation</i>	Fixing to a 40 mm diameter mast.

Measurement characteristics:

Temperature (<i>instrument in line with the probe HP3517TC... or TP350NTC...</i>)	
<i>Sensor</i>	NTC 10 kΩ @ 25 °C
<i>Measuring range</i>	-40...+105 °C
<i>Resolution (of instrument)</i>	0.1 °C
<i>Accuracy</i>	± 0.3 °C in the range 0...+70 °C / ± 0.4 °C outside
<i>Stability</i>	0.1 °C / year
Relative Humidity (<i>instrument in line with the probe HP3517TC ...</i>)	
<i>Sensor</i>	Capacitive
<i>Measuring range</i>	0...100 %RH
<i>Resolution (of instrument)</i>	0.1 %
<i>Accuracy</i>	± 1.8 %RH (0...85 %RH) / ± 2.5 %RH (85...100 %RH) @ T=15...35 °C ± (2 + 1.5% measure)% @ T=remaining range
<i>Sensor operating temperature</i>	-40...+80 °C
<i>Response time</i>	T ₉₀ < 20 s (air speed = 2 m/s, without filter)
<i>Temperature drift</i>	±2% over the whole operation temperature range
<i>Stability</i>	1% / year
Calculated quantities	Dew Point

Atmospheric pressure	
<i>Sensor</i>	Piezoresistive
<i>Measuring range</i>	300...1100 hPa
<i>Resolution (of instrument)</i>	0.1 hPa
<i>Accuracy</i>	± 0.5 hPa (800...1100 hPa) @ T=25°C ± 1 hPa (300...1100 hPa) @ T=0...50°C
<i>Stability</i>	1 hPa / year
<i>Temperature drift</i>	±3 hPa tra -20...+60 °C
Pt100/Pt1000	
<i>Measuring range</i>	-200...+650 °C
<i>Resolution</i>	0.1 °C
<i>Accuracy</i>	± 0.1 °C (excluding probe error)
<i>Sensor coefficient</i>	$\alpha=0.00385 \text{ } ^\circ\text{C}^{-1}$
<i>Connection</i>	2, 3 or 4 wires
Thermocouple	
<i>Thermocouple type</i>	K, J, T, N, E. The inputs are not isolated, use thermocouples with isolated hot junction.
<i>Measuring range</i>	type K : -200...+1370 °C type J : -100...+750 °C type E : -200...+750 °C type T : -200...+400 °C type N : -200...+1300 °C
<i>Resolution</i>	0.1 °C
<i>Accuracy (excluding probe error)</i>	type K : ± 0.1 °C (< 600 °C) type E : ± 0.1 °C (< 300 °C) ± 0.2 °C (> 600 °C) ± 0.2 °C (> 300 °C) type N : ± 0.1 °C (< 600 °C) type J : ± 0.1 °C ± 0.2 °C (> 600 °C) type T : ± 0.1 °C
0/4...20 mA input	
<i>Shunt resistance</i>	Internal (50 Ω)
<i>Resolution</i>	16 bit
<i>Accuracy</i>	± 2 μA
Inputs 0...50 mV / -50...50 mV / 0...1 V / 0...10 V	
<i>Input Resistance</i>	100 MΩ
<i>Resolution</i>	16 bit
<i>Accuracy</i>	± 0.01% f.s.
Inputs for counting the switchings of a voltage-free contact	
<i>Switching frequency</i>	50 Hz max.
<i>Hold Time</i>	10 ms min.
Potentiometer input	
<i>Potentiometer</i>	Typically 10 kΩ
<i>Resolution</i>	16 bit
<i>Accuracy</i>	± 0.01% f.s.
Rainfall measurement	
<p>The data logger can record:</p> <ul style="list-style-type: none"> • Maximum rainfall rate • Daily rainfall • Total rainfall • Amount of rainfall which has fallen in the logging interval 	

ORDERING CODES

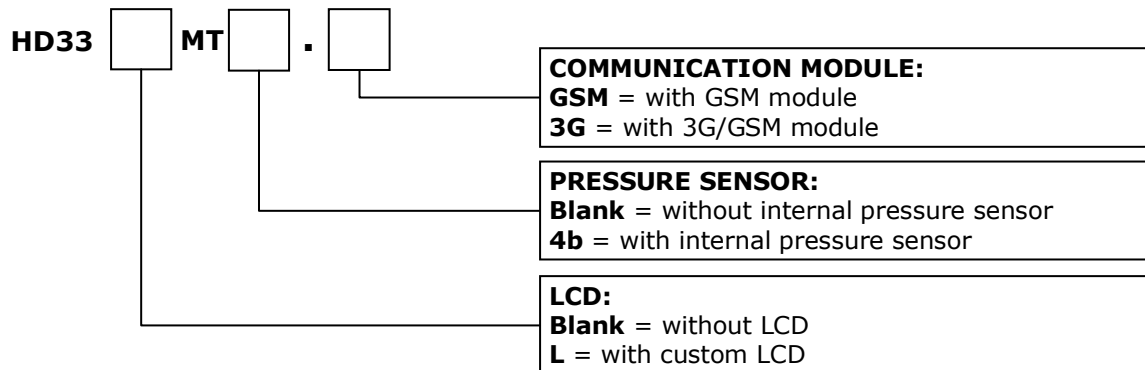
HD33MT.GSM GSM data logger. Stores measurements in the internal memory. Transmits the acquired data via FTP, via e-mail or to an HTTP server (Cloud). **Optional** LCD Display. Alarm functions. Power supply: 18...28 Vdc if the rechargeable battery is used or 7...28 Vdc if the rechargeable battery is not used. It includes **HD35AP-S** software downloadable from Delta OHM web site.

The battery, the probes and the USB cable CP23 have to be ordered separately. SIM card not included.

HD33MT4b.GSM HD33MT.GSM data logger equipped with an internal barometric sensor.

HD33MT.3G Like HD33MT.GSM but with 3G/GSM module.

HD33MT4b.3G HD33MT.3G data logger equipped with an internal barometric sensor.



RELATIVE HUMIDITY AND TEMPERATURE PROBES

HP3517TC2... Relative humidity and temperature combined probe. R.H. measuring range: 0...100%. Temperature sensor: NTC 10KΩ. Temperature measuring range: -40...+105 °C. R.H. sensor operating temperature: -20...+80 °C. Probe stem: AISI 304, Ø 14 mm, length 150 mm. Cable length 2, 5 or 10 m standard. 4-pole M12 female connector.

HP3517TC2. **CABLE LENGTH:**
2 = 2 m , **5** = 5 m , **10** = 10 m

TP350NTC2... NTC10KΩ sensor temperature probe. Measuring range: -40...+105 °C. Probe stem: AISI 304, Ø 14 mm, length 150 mm. Cable length 2, 5 or 10 m standard. 4-pole M12 female connector.

TP350NTC2. **CABLE LENGTH:**
2 = 2 m , **5** = 5 m , **10** = 10 m

HD9817TVS Relative humidity and temperature transmitter, Pt100 sensor. RS485 MODBUS-RTU output. Temperature measuring range: -40...+60 °C. Relative humidity measuring range: 0...100%. Power supply 5...30 Vdc. AISI 304 housing. IP 65 probe protection degree. Dimensions Ø14 x 155 mm. Output with 8-pole M12 male connector. Supplied with CP9817.3 cable, length 3 m.

HD9007A-1 12-ring protection against solar radiations. Includes support bracket.

HD9007A-2 16-ring protection against solar radiations. Includes support bracket.

HD9007T26.2 Adapter for Ø 14 mm probes for protections against solar radiations HD9007A-1 and HD9007A-2.

TP32MTT.03 Temperature probe with seven Pt100 1/3 DIN sensors for temperature measurement to a depth of: 0, -5 cm, -10 cm, -20 cm, -50 cm, -1 m with respect to ground level, according to OMM indications. RS485 MODBUS-RTU output. 8-pole M12 male connector. 5...30 Vdc power supply. CPM12 AA8... cable has to be ordered separately.

- TP32MTT.03.1** Temperature probe with seven Pt100 1/3 DIN sensors for temperature measurement to a depth of: +5 cm, 0, -5 cm, -10 cm, -20 cm, -50 cm with respect to ground level, according to OMM indications. RS485 MODBUS-RTU output. 8-pole M12 male connector. 5...30 Vdc power supply. CPM12 AA8... cable has to be ordered separately.
- HD3910.1** 2-electrode probe for the measurement of the soil volumetric water content. With integrated NTC 10 k Ω temperature sensor. RS485 MODBUS-RTU output. Cable length 5 or 10 m.
- HD3910.2** 3-electrode probe for the measurement of the soil volumetric water content in restricted volumes. With integrated NTC 10 k Ω temperature sensor. RS485 MODBUS-RTU output. Cable length 5 or 10 m.

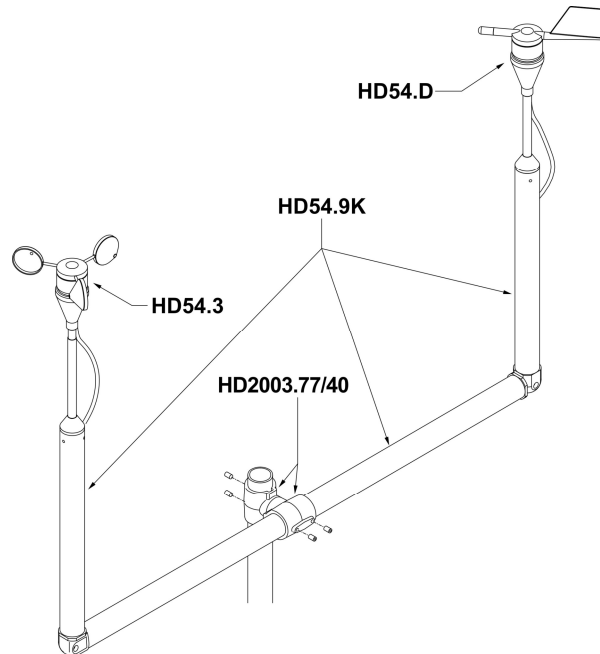
SOLAR RADIATION SENSORS

- LPPYRA02...** First Class pyranometer according to ISO 9060. Output in $\mu\text{V}/(\text{Wm}^{-2})$. Supplied with: shade disk, cartridge with silica-gel crystals, 2 spare sachets, levelling device, connector and Calibration Report. On request 5 or 10m cables with connector.
The pyranometer is available with mV output (LPPYRA02), 4...20 mA output (LPPYRA02AC), 0...1/10 V output (LPPYRA02AV), RS485 Modbus-RTU output (LPPYRA02S) or SDI-12 output (LPPYRA02S12).
- LPPYRA03...** Second Class pyranometer according to ISO 9060. Output in $\mu\text{V}/(\text{Wm}^{-2})$. Supplied with levelling device, connector and Calibration Report. On request 5 or 10m cables with connector and shade disk.
The pyranometer is available with mV output (LPPYRA03), 4...20 mA output (LPPYRA03AC), 0...1/10 V output (LPPYRA03AV), RS485 Modbus-RTU output (LPPYRA03S) or SDI-12 output (LPPYRA03S12).
- LPPYRA10...** "Secondary standard" pyranometer according to ISO 9060. Output in $\mu\text{V}/(\text{Wm}^{-2})$. Supplied with protection shield, cartridge for silica gel crystals, 2 spare charges, bubble level for alignment, connector and Calibration Report. On request 5 or 10 m cables with connector.
The pyranometer is available with mV output (LPPYRA10), 4...20 mA output (LPPYRA10AC), 0...1/10 V output (LPPYRA10AV), RS485 Modbus-RTU output (LPPYRA10S) or SDI-12 output (LPPYRA10S12).
- LPSILICON-PYRA 04** Pyranometer with silicon photodiode for measuring the global solar irradiance, diffuser for cosine correction. Spectral range 350...1100 nm. Typical sensitivity: 10 $\mu\text{V}/\text{W m}^{-2}$. Measuring range: 0...2000 W/m^2 . Fixed cable 5 m long, terminated with open wires.
- LPSP2** Shade disk for LPPYRA03....
- LPS1** Attachment bracket for LPPYRA02... and LPPYRA10..., suitable for mast \varnothing 40 ÷ 50 mm.
- LPS3** Attachment bracket for LPPYRA03..., suitable for mast \varnothing 40 ÷ 50 mm.
- LPSD18.1** Sensor for the measurement of the solar radiation duration, referred to the 120 W/m^2 threshold of direct radiation, according to OMM indications. The sensor has no moving parts. RS485 MODBUS-RTU output and free-potential contact output. 7...30 Vdc power supply. It can be fastened to a rod with a proper accessory, or installed on a horizontal surface by means of the optional fixing base. Integrated bubble level for alignment. It doesn't require position adjustments during the year. Equipped with anti-condensation system (1W @ 12 Vdc if connected). 8-pole M12 connector. Upon request, standard 2, 5 or 10 m cables with female connector. Heating option available.
- LPSD18.0** Base for installation of the sunshine duration sensor on a horizontal surface. Two adjustable feet and one fixed foot. Allows sensor inclination up to 80° to the vertical, in order to adapt it to the sun position at the latitude of the installation site.
- LPSD18.V1** Support for installation of the sunshine duration sensor on a \varnothing 40 mm rod. Allows sensor inclination up to 80° to the vertical, in order to adapt it to the sun position at the latitude of the installation site.

- LPSD18.19K** Basic support for installation of the LPSD18... sensor on a flat base. The Sunshine Duration Sensor has a fixed inclination of 45° with respect to the fixing plane.
- LPPYRHE16S** First Class Pyrheliometer according to ISO 9060. Supplied with: light shade, cartridge with silica-gel crystals, 3 spare sachets, 8-pole M12 movable connector and Calibration Report. RS485 MODBUS-RTU serial output. Power supply 5...30 Vdc. On request 5 or 10 m CPM12-8D... cables with connector.
- RAIN GAUGES**
- HD2013** Tipping bucket rain gauge, 400cm² area, for temperature ranging from 4 °C to +60 °C. Standard resolution 0.2 mm. 0.1 or 0.5 mm on request with order. Normally closed output contact.
- HD2013R** Tipping bucket rain gauge, 400cm² area, with heater for temperature ranging from -20 to +60 °C. Standard resolution 0.2 mm. 0.1 or 0.5 mm on request with order. Normally closed output contact. Power supply: 12 Vdc or 24 Vdc ± 10% / absorbed power 165 W.
- HD2015** Tipping bucket rain gauge, 200cm² area, for temperature ranging from 4 °C to +60 °C. Standard resolution 0.2 mm. 0.1 or 0.5 mm on request with order. Normally closed output contact.
- HD2015R** Tipping bucket rain gauge, 200cm² area, with heater for temperature ranging from -20 to +60 °C. Standard resolution 0.2 mm. 0.1 or 0.5 mm on request with order. Normally closed output contact. Power supply: 12 Vdc or 24 Vdc ± 10% / absorbed power 50 W.
- HD2016** Weighing rain gauge, area 400 cm². 3000 cc collecting reservoir. Automatic water discharge when the amount of water collected exceeds a configurable percentage of the reservoir capacity (by default 10%, corresponding to 300 cc). Operating temperature from +4 °C to +60 °C. RS485 Modbus-RTU or SDI-12 output. Voltage-free output contact (NO). Power supply: 10...15 Vdc. Adjustable feet for ground installation included in the kit.
- HD2016R** Weighing rain gauge, area 400 cm². 3000 cc collecting reservoir. Automatic water discharge when the amount of water collected exceeds a configurable percentage of the reservoir capacity (by default 10%, corresponding to 300 cc). Operating temperature from -20 °C to +60 °C. RS485 Modbus-RTU or SDI-12 output. Voltage-free output contact (NO). Power supply: 10...15 Vdc for the measuring circuit, 12 Vdc / 90 W for the heater. Adjustable feet for ground installation included in the kit.
- HD2013.18** Bird dissuader.
- HD2013.5K** Kit of accessories for the installation of the HD2013 rain gauge raised 500 mm from the ground and the levelling.
- HD2013.5K.1** Kit of accessories for the installation of the HD2013 rain gauge raised 1 m from the ground and the levelling.
- HD2015.5K** Kit of accessories for the installation of the HD2015 rain gauge raised 500 mm from the ground and the levelling.
- HD2015.5K.1** Kit of accessories for the installation of the HD2015 rain gauge raised 1 m from the ground and the levelling.
- HD2016.33K** Kit of accessories for the installation of the HD2016 rain gauge raised 500 mm from ground and the levelling.
- HD2016.33K.1** Kit of accessories for the installation of the HD2016 rain gauge raised 1 m from ground and the levelling.
- HD2003.75** Base for 40 mm diameter mast, with tip to be driven into the ground (only for HD2013 and HD2015).
- HD2003.78** Base for 40 mm diameter mast, to be fixed to the floor.

WIND SPEED AND DIRECTION SENSORS

- HD54.3** Passive cup anemometer. Measuring range: 1...75 m/s. Operating conditions: -45...+60 °C / 0...100% RH. Rod mounting. Height 81 mm assembled.
- HD54.D** Wind direction vane probe. Measuring range: 0...360°. Dead band: typical 4°, maximum 8°. Threshold: 1 m/s. Operating conditions: -40...+60 °C / 0...100% RH. Rod mounting. Dimensions: 210 x 120 mm.
- HD54.9K** Transverse mast kit including: transverse mast \varnothing 40 mm and L=1500 mm, two extension bars \varnothing 40 mm and accessories.



- HD2003** 3-axes static ultrasonic anemometer for the measurement of wind speed and direction, air temperature, relative humidity and barometric pressure. wind speed U-V-W cartesian components, sonic temperature. Interfaces available RS232, RS485 MODBUS-RTU, RS422. Power supply: 12...30 Vdc. To be mounted on a mast. Free connector included.
- HD2003R** HD2003 with heating option.
- HD2003.1** 3-axes static ultrasonic anemometer for the measurement of wind speed and direction. wind speed U-V-W cartesian components, sonic temperature. Interfaces available RS232, RS485 MODBUS-RTU, RS422. Power supply: 12...30 Vdc. To be mounted on a mast. Free connector included.
- HD2003.1R** HD2003.1 with heating option.
- CP2003/5** 26-pole connection cable with watertight connector on one side, free wires on the other. L = 5 m. For HD2003...
- CP2003/10** 26-pole connection cable with watertight connector on one side, free wires on the other. L = 10 m. For HD2003...
- HD52.3D...** 2-axes static ultrasonic anemometer for the measurement of wind speed and direction, relative humidity and temperature (**optional**), diffuse solar radiation (**optional**) and barometric pressure (**optional**). RS232, RS485, RS422 and SDI-12 serial outputs, NMEA, MODBUS-RTU and SDI-12 communication protocols. **Heating option** available. Power supply: 10...30 Vdc. Installation on \varnothing 40 mm external and \varnothing 36 mm internal mast. Input with 19-pole M23 male connector and 19-pole M23 free female connector.
- CP52.5** 12-wire connection cable with 19-pole M23 free female connector on one side, free wires on the other. L = 5 m. For HD52.3D...
- CP52.10** 12-wire connection cable with 19-pole M23 free female connector on one side, free wires on the other. L = 10 m. For HD52.3D...

ACCESSORIES

- HD35AP-CFR21** Advanced version of the HD35AP-S software for the management of the data logging system in accordance with the **FDA 21 CFR part 11 recommendations.**
- CP23** Direct USB connection cable with mini-USB male connector on the instrument side and A-type USB male connector on the PC side.
- HD32MT.SWD** 100...240 Vac / 24 Vdc (adjustable) power supply unit with switch. IP 65 housing. Suitable for fastening to a rod. Includes fastening accessories.
- BAT12V-3.4A** 12 V / 3.4 Ah lead-acid rechargeable battery.
- HD2003.2.14** Three sectors flange for Ø 40 mm tube, 6 inputs Ø 16 mm.
- HD2005.20** Tripod kit with adjustable legs for installing environmental sensors (pyranometers, temperature and humidity, etc.). Material: anodized aluminum. Max. height 2 m. It can be fixed on a flat base with screws or to the ground with pegs. Foldable legs for the transport.
- HD2005.20.1** Tripod kit with adjustable legs for installing environmental sensors (pyranometers, temperature and humidity, etc.). Material: anodized aluminum. Max. height 3 m. It can be fixed on a flat base with screws or to the ground with pegs. Foldable legs for the transport.

10/10/2018

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