

Термогигрометры DELTA OHM HD2101.1, HD2101.2

Технические характеристики

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HD2101.1 HD2101.2



HD2101.1, HD2101.2 HYGRO-THERMOMETER HANDHELD - COMMUNICATION / DATA LOGGING

HD2101.1 and HD2101.2 are portable instruments with LCD display. They measure relative humidity and temperature with combined probes. Temperature only is measured by Pt100 or Pt1000 immersion, penetration air or contact probes.

When the humidity/temperature combined probe is connected, the instrument calculates and displays the absolute humidity, the dew point, the partial vapour pressure, the wet bulb temperature, the mixing ratio, the enthalpy and the comfort indices.

The probes are fitted with an automatic detection module, with the factory calibration data already stored inside.

The instrument HD2101.2 is a **data logger**. It stores up to 38,000 samples which can be transferred into a PC connected to the serial ports RS232C and USB 2.0 or into a portable printer.

The storing interval, printing, and baud rate can be configured using the menu.

The Max, Min and Avg function calculate the maximum, minimum or average values.

Other functions include: the relative measurement REL, the HOLD function and the automatic turning off (excludable).

The instruments have IP66 protection degree.

Technical specifications	
Measurement of relative humidity	
Measurement range	0...100%RH
Resolution	0.1%RH
Accuracy	±0.1%RH
Drift after 1 year	0.1%RH/year
Measurement of temperature	
Pt100 measurement range	-200...+650 °C
Pt1000 measurement range	-200...+650 °C
Resolution	0.1°C
Accuracy	±0.1°C
Drift after 1 year	0.1°C/year
Measuring unit	°C - °F - %RH - g/kg - g/m ³ - hPa - J/g
Measured values storage - model HD2101.2	
Type	2000 pages containing 19 samples each
Quantity	Total of 38000 samples
Storage interval	1,5,10,15,30 s; 1,2,5,10,15,20,30 min; 1 hour
Security of stored data	Unlimited, independent of battery charge conditions
Power	
Batteries	4 1.5V type AA batteries
Autonomy	200 hours with 1800 mAh alkaline batteries
Power absorbed with instrument off	20µA
Mains	12Vdc / 1000 mA output mains adapter
Serial interface RS232C	
Type	RS232C electrically isolated
Baud rate	Can be set from 1200 to 38400 baud
Data bit	8
Parity	None
Stop bit	1
Flow Control	Xon/Xoff
Serial cable length	Max 15m
Print interval	Immediate or selectable among 1,5,10,15,30 s; 1,2,5,10,15,20,30 min; 1 hour
USB interface - model HD2101.2	
Type	1.1 - 2.0 electrically isolated

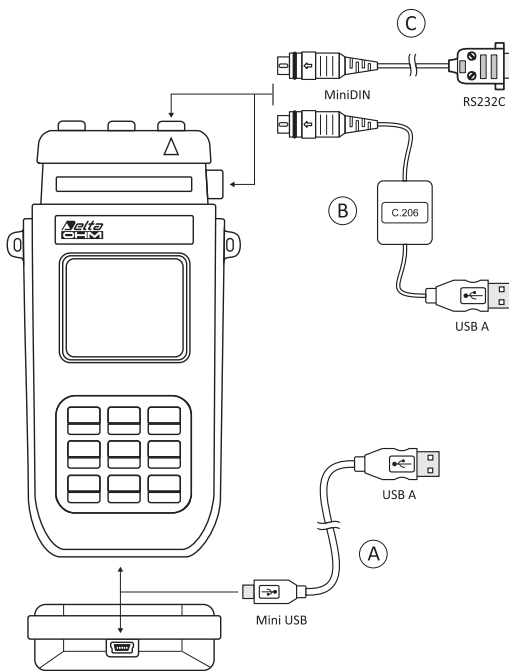


HD2101.2



CP23

Connections	
Input module for the probes	8-pole male DIN45326 connector
Serial interface	8-pole Mini-Din connector
USB Interface	Mini USB type B
Mains adapter	2-pole connector (positive at centre)
Operating conditions	
Operating temperature	-5...50 °C
Storage temperature	-25...65°C
Working relative humidity	0...90%RH without condensation
Protection degree	IP66
Instrument Technical Characteristics	
Dimensions (Length x Width x Height)	185x90x40mm
Weight	470g (complete with batteries)
Materials	ABS, rubber
Display	2 rows 4½ digits plus symbols Visible area: 52x42mm
Time	
Date and time	In real time
Accuracy	1min/month max drift



A The portable data loggers HD2101.2 are equipped with HID (Human Interface Device) type USB port with mini USB connector.

For the connection to a PC with the CP23 cable it is not necessary to load USB drivers.

B For the connection of the models HD2101.1 to the USB port of a PC, the C.206 USB/serial converter is necessary. The converter is supplied with its own drivers which must be installed before the connection of the converter to the PC.

C The port with the Mini-DIN connector is a serial port type RS232C. The serial port RS232C of a PC or the printer HD40.1 can be connected by the cable HD2110CSNM.

ORDERING CODES

HD2101.1: The kit is composed of the instrument HD2101.1, 4 1.5V alkaline batteries, operating manual, case and DeltaLog9 software downloadable from Delta OHM website. Probes and cable must be ordered separately.

HD2101.2: The kit is composed of the HD2101.2 **datalogger**, 4 1.5V alkaline batteries, operating manual, case, USB cable CP23 and DeltaLog9 software downloadable from Delta OHM website. The probes and cable must be ordered separately.

HD2110CSNM: 8-pole connection cable Mini-Din - Sub D 9-pole female for RS232C.

C.206: Cable for instruments series HD21..1 to connect directly to the USB Input of a PC.

SWD10: Stabilized 230Vac/12Vdc-1000 mA mains adapter.

HD40.1: Portable, serial input, 24 column thermal printer, 58mm paper width. It uses the cable HD2110 CSNM (optional).

For all suitable probes, see from pag.9 onwards

Accessories

HD75: Saturated solution at 75.4%RH@20 °C for calibration of relative humidity probes, fixing adapter M24x1.5, M12x1.

HD33: Saturated solution at 33.0%RH@20 °C for calibration of relative humidity probes, fixing adapter M24x1.5, M12x1.

HD11: Saturated solution at 11.0%RH@20 °C for calibration of relative humidity probes, fixing adapter M24x1.5, M12x1.

Protection for humidity probes Ø 26, thread M24x1,5

P1: Technopolymer and 34µm stainless steel grid protection. Operating temperature: -40...80 °C.

P2: Technopolymer and 20µm sintered PE protection. Operating temperature: -40...80 °C.

P3: 20µm sintered bronze protection. Operating temperature: -40...150 °C.

P4: 20µm sintered PE protection. Operating temperature: -40...80 °C.

Protection for humidity probes Ø 14, thread M12x1

P6: 10µm sintered stainless steel protection. Operating temperature: -40...180 °C.

P7: 20µm PTFE protection. Operating temperature: -40...150 °C.

P8: PBT and 10µm stainless steel grid protection. Operating temperature: -40...120 °C.



COMBINED DEW POINT AND TEMPERATURE PROBES WITH SICRAM MDODULE

CODE	SENSORS	RANGE RH - TEMP	DIMENSIONS	
HP472ACR	RH Pt100	0...100% RH -20 °C...+80 °C		
HP473ACR				
HP474ACR		0...100% RH -40 °C...+150 °C		
HP475ACR				
HP475AC1R			0...100% RH -40 °C...+180 °C	
HP477DCR			0...100% RH -40 °C...+100 °C	
HP478ACR		0...100% RH -40 °C...+150 °C		
HP480 / HP481		Pt100	0...100%RH -40...+60 °C	For the technical specifications of these probes please see page 12-13

PROBES COMMON CHARACTERISTICS

Relative humidity	
Sensor	Capacitive
Temperature drift @ 20 °C	Max 0.02%RH/°C
Response time %RH at constant temperature	10 sec (10÷80%RH; air speed=2m/s) at constant temperature
Temperature with sensor Pt100	
Temperature drift @20 °C	0.003%/°C
Accuracy	
%RH	±1.5% RH (0...90%RH) ±2.0% RH (90...100%) @ T=15...35°C ±(1.5 + 1.5% of the displayed value)% RH in the remaining temperature range
Temperature	± 0.3°C

PROBES PROTECTION

	P1	P2	P3	P4	P6	P7	P8
Operating Temperature	-40...80 °C	-40...80 °C	-40...150 °C.	-40...80 °C	-40...180 °C	-40...150 °C	-40...120 °C
Material	Technopolymer and 34µm stainless steel grid protection	Technopolymer and 20µm sintered PE protection	20µm sintered bronze protection	20µm sintered PE protection	10µm sintered stainless steel protection	20µm PTFE protection	PBT and 10µm stainless steel grid protection
View							
Technical Spec.	suitable for probes Ø 26 - thread M 24x1,5				suitable for probes Ø 14 - thread M 12x1		

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