

# Hygro - Thermometer

## Measuring Parameter :

- Temperature
- Relative Humidity
- Absolute Humidity
- Dew point
- Partial Vapor Pressure



The HD2101.2 is a **datalogger**. It stores up to 38,000 samples which can be transferred from the instrument connected to a PC via the multi-standard RS232C serial port and USB 2.0. The storing interval, printing, and baud rate can be configured using the menu.

The HD2101.1 & HD2101.2 models are fitted with an RS232C serial port & can transfer the acquired measurements in real time to a PC or to a portable printer. The Max, Min & Avg function calculate the maximum, minimum or average values.

Other functions include: the relative measurement REL, the HOLD function, & the automatic turning off that can also be disabled.



## Instrument Technical Characteristics

### Measuring Unit

°C - °F - %RH - g/kg - g/m<sup>3</sup> - hPa - J/g - Td  
Tw - DI - NET

Display	2×4½ digits plus symbols Visible area : 52×42mm
Dimensions (Length × Width × Height)	185 × 90 × 40mm
Weight	470g (complete with batteries)
Materials	ABS, rubber

### Measurement of relative humidity by Instrument

Measurement range	0...100%RH
Resolution	0.1%RH
Accuracy	± 0.1%RH (excluding probe)
Drift after 1 year	0.1%RH / year

### Measurement of temperature by Instrument

Pt100 measurement range	-200...+ 650°C
Pt1000 measurement range	-200...+ 650°C
Ni 1000 measurement range	-50...+ 250°C
Resolution	0.1°C
Accuracy	± 0.1°C (excluding probe)
Drift after 1 year	0.1°C / year
Operating temperature	-5...50°C
Storing temperature	-25...65°C
Working relative humidity	0...90%RH without condensation
Protection degree	IP67

## HD2101.1 & HD2101.2

Batteries	4 1.5V type AA batteries
Power absorbed with instrument off	20µA
Mains	Output mains adapter 9Vdc / 250mA

Security of stored data	Unlimited, independent of battery charge Conditions
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### Measured values storage - model HD2101.2

Type	2000 pages containing 19 samples each
Quantity	Total of 38000 samples
Storage interval	1s....3600s (1 hour)

### Serial interface RS232C

Type	RS232C electrically isolated
Baud rate	Can be set from 1200 to 38400 baud
Serial cable length	Max 15m
Immediate print interval	1s...36000s (1 hour)

### Connections

Input module for the probes	8-pole male DIN45326 connector
Serial interface & USB	8-pole MiniDin connector
Mains adapter	2-pole connector (positive at centre)



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## Relative humidity and temperature probes

Model	Temperature Sensor	Working range		Accuracy	
		%RH	Temperature	%RH	Temp.
HP472AC	Pt100	5...98%RH	-20°C...+80°C	±2% (5...95%RH) ±3% (95...99%RH)	±0.3°C
HP572AC	Thermocouple K	5...98%RH	-20°C...+80°C		±0.5°C
HP473AC	Pt100	5...98%RH	-20°C...+80°C		±0.3°C
HP474AC	Pt100	5...98%RH	-40°C...+150°C	±2.5% (5...95%RH) ±3.5% (95...99%RH)	±0.3°C
HP475DC	Pt100	5...98%RH	-40°C...+150°C		±0.3°C
HP477DC	Pt100	5...98%RH	-40°C...+150°C		±0.3°C

## Common characteristics of Relative Humidity & Temperature Probes

### Relative humidity

Sensor	Capacitive
Typical capacity @ 30%RH	300pF ± 40pF
Resolution	0.1%RH
Temperature drift @ 20°C	0.02%RH/°C
Response time %RH at constant temperature	10 sec (10 ÷ 80HR; air speed=2m/S)

### Temperature with sensor Pt100

Resolution	0.1°C
Temperature drift @ 20°C	0.003%/°C

### Temperature with thermocouple K - HP 572AC

Resolution	0.1°C
Temperature drift @ 20°C	0.02%/°C

## ORDER CODES

- HD2101.1K** : The kit is composed of the instrument HD2101.1, combined probe HP472AC, connection cable for serial output HD2110CSNM, 4 × 1.5V alkaline batteries, operating manual, case and DeltaLog9 software.
- HD2101.2K** : The kit is composed of the HD2101.2 datalogger, combined probe HP472AC, connection cable HD2101/USB, 4 × 1.5V alkaline batteries, operating manual, case and DeltaLog9 software.
- HD2110CSNM** : 8-pole connection cable MiniDIn - Sub D 9-pole female for RS232C.
- HD2101/USB** : Connection cable USB 2.0 connector type A - 8-pole MiniDIn DeltaLogg: Software for download and management of the data on PC using Windows 98 to XP operating systems.
- AF209.60** : Stabilized power supply at 230 Vac/9Vdc-300mA mains voltage.
- S' print-BT** : On request, portable, serial input, 24 column thermal printer, 58mm paper width.

## RELATIVE HUMIDITY & TEMPERATURE PROBES :

- HP472AC** : Combined probe %RH and temperature, dimensions 26 × 170mm. Connection cable length 2 meters.
- HP572AC** : Combined probe %RH and temperature - thermocouple K sensor Dimension φ 26×170mm. Connection cable length 2 meters.
- HP473AC** : Combined probe %RH and temperature. Handle dimensions 26×130mm. probe 14×110mm. Connection cable length 2 meters.
- HP474AC** : Combined probe %RH and temperature. Handle dimensions 26×130mm. probe 14×210mm. Connection cable length 2 meters.
- HP475AC** : Combined probe %RH and temperature. Connection cable length 2 meters. Handle 26×110mm. Stainless steel stem 12×560mm. Point 13.5×75mm.
- HP477DC** : Combined sword probe %RH and temperature. Connection cable length 2 meters. Handle 26×110mm. Probe's stem 18×4mm, length 520mm.