

# HD2301.0



## HD2301.0 HYGRO- THERMOMETER HANDHELD - READ ONLY

HD2301.0 is a portable instrument with LCD display. It measures relative humidity and temperature using 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 probes are fitted with an automatic detection module, with the factory calibration data already stored inside.

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 IP67 protection degree.



Technical specifications	
<b>Measurement of relative humidity</b>	
Measurement range	0...100%RH
Resolution	0.1%RH
Accuracy	±0.1%RH
Drift after 1 year	0.1%RH/year
<b>Measurement of temperature</b>	
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/m <sup>3</sup> - hPa
<b>Power</b>	
Batteries	3 1.5V type AA batteries
Autonomy	200 hours with 1800 mAh alkaline batteries
Power absorbed with instrument off	< 20µA
<b>Connections</b>	
Input module for the probes	8-pole male DIN45326 connector
<b>Operating conditions</b>	
Operating temperature	-5...50 °C
Storage temperature	-25...65°C
Working relative humidity	0...90%RH without condensation
Protection degree	IP67
<b>General characteristics</b>	
Dimensions (Length x Width x Height)	140x88x38mm
Weight	160g (complete with batteries)
Materials	ABS
Display	2 rows 4½ digits plus symbols Visible area: 52x42mm

### ORDERING CODES

**HD2301.0:** The kit is composed of the instrument HD2301.0, 3 1.5V alkaline batteries, operating manual, case. Probes must be ordered separately.

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			
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**

<b>Relative humidity</b>	
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
<b>Temperature with sensor Pt100</b>	
Temperature drift @20 °C	0.003%/°C
<b>Accuracy</b>	
%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 grid 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		