



High-precision reference measurement standard for industrial humidity calibrations

- **Parameters measured**
Relative humidity, temperature and air pressure
- **Measurement technology**
resistive-electrolytic / Humidity
- **Product highlights**
High-precision measurement of temperature and relative humidity (0.8 % accuracy), display of calculations and statistical functions, high-quality case, resistive-electrolytic humidity sensor, 2m cable, batteries and DAkks calibration certificate included in delivery
- **Interfaces**
USB (Cable and SmartGraph3 software included)
- **Article number**
5810.20

High-precision reference measurement standard for industrial humidity calibrations. Suitable as humidity reference in climate chambers or humidity generators. Mini USB interface with software, online data collection.

IMPORTANT: Hand-held measuring device XP201 is discontinued

Please check the alternative: [All-in-One Handheld Device XA1000](#)

Technical Data

Hand-held measuring device XP201 for reference humidity - discontinued



Sensor power supply	5.5 V \pm 10 % DC, max. 200 mA
---------------------	----------------------------------

Integrated air pressure sensor	
Measuring range	800 ... 1100 mbar
Accuracy at 25°C, 1013.25mbar	0.5 mbar
Long-term stability	typ. 1 mbar/year
Measurement resolution	0.024 mbar
Measuring principle	Piezoresistive

Calculated measurement categories for external temperature/humidity sensors	
Mathematical:	MIN/MAX/AVG/HOLD
Temperature	°C/°F
Rel. humidity	%r.h
Rel. humidity of ice	%r.h
Water vapour density (absolute humidity)	g/m ³
Dew point temperature	°C/°F
Frost point temperature	°C/°F
Mixing ratio at saturation (100%)	g/kg
Volume fraction of water vapour /mass fraction of water vapour	%
Wet-bulb temperature	°C/°F
Ice-bulb temperature	°C/°F
Specific Enthalpy (mass of air)	kJ/kg
Saturation vapour pressure above ice/water	hPa
Vapour particle pressure	hPa
Air density	kg/m ³

General	
Dimensions	170 x 62 x 34 mm
Weight	Approx. 205 g
Housing material sensor	PVDF black
Mechanical sensor protection sensor	Standard polyethylene dust filter

Storage conditions	
Permissible ambient temperature	-10 ... 60 °C
Operating rel. humidity	<90 % RH non - condensing

Operating conditions	
Operating rel. humidity	<90 % RH non - condensing
Operating temperature	-20 ... 80 °C
Admissible height above absolute altitude	4000 m

Power supply	
Power supply	4 Alkaline LR6 AA 1.5 V/USB 5 V
Active power consumption	Approx. 400 mW

Technical Data

Hand-held measuring device XP201 for reference humidity - discontinued



Battery life passive	Approx. 1 year
Battery life active	min. 24 hours

Data storage

Integrated data storage	Up to 200 gauges taking approx. 1 mill. values
-------------------------	------------------------------------------------

Interface

USB	Cable and SmartGraph3 software included in delivery
-----	-----------------------------------------------------

Display

Definition of measured values	2 decimal places
-------------------------------	------------------

Display

Control	Touch screen, capacitive
Technology	TFT, resolution 240 x 320, 65 k colours, very good contrast due to Piezoresistive technology
Surface, toughened glass	Degree of hardness: 7, scratch - resistant

Relative Humidity

Principle	Resistive - electrolytic
Measuring range	0 ... 100 %
Unit	%
Measurement accuracy incl. reproducibility and hysteresis	+15 ... +30 °C: typ. $\pm 0.8\%$ rH 0 ... +50 °C: typ. $\pm 1.0\%$ rH -20 ... +80 °C: typ. $\pm 2.5\%$ rH additional uncertainty of the reference system of 0.2 ... 0.8%
Number of calibration points	:Humidity: 13 points over full measurement range Temperature: 2 points over full measurement range

Temperature

Principle	NTC
Measuring range	-20 ... 80 °C
Unit	°C
Accuracy	0 ... +70 °C: ± 0.15 K -20 ... +80 °C: ± 0.25 K