



## 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](#)

Sensor power supply	5.5 V $\pm$ 10 % DC, max. 200 mA
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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 <sup>3</sup> 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 <sup>3</sup>
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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

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
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## Interface

USB	Cable and SmartGraph3 software included in delivery
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## Display

Definition of measured values	2 decimal places
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## 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: $\pm 0.15$ K -20 ... +80 °C: $\pm 0.25$ K