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 ± 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/m3** **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** **Specifi c Enthalpy (mass of air) kJ/kg** **Saturation vapour pressure above ice/water hPa** **Vapour particle pressure hPa** **Air density kg/m3**

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

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. ±0.8% rH 0 ... +50 °C: typ. ±1.0% rH -20 ... +80 °C: typ. ±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