

## HAND-HELD MEASURING INSTRUMENTS

PRECISION TECHNOLOGY IN ELEGANT DESIGN  
FOR THE DEMANDING PROFESSIONAL

FOR YOUR MEASUREMENT APPLICATIONS:

TEMPERATURE / RELATIVE HUMIDITY /  
AIR PRESSURE / DIFFERENTIAL PRESSURE /  
ABSOLUTE PRESSURE / FLOW /  
CURRENT / VOLTAGE



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 **Lufft**

## A variety of instrument ranges

- What makes them unique
- What binds them together
- What makes them stand out

The compact "**E(economy)-Series**" offers the most simple, intuitive handling and reliable measurement technology for the small budget.

Variants of the "**E-Series**" available to date:

**E200:** Combined sensor for temperature and relative humidity

**E200IR:** Combined sensor for air temperature, infrared surface temperature and relative humidity. The E200IR's special combination of sensor technology and software

makes detecting heat bridges in buildings child's play.

This turns the E200IR into an indispensable aid for architects, valuers, surveyors and landlords.

**Picture:**  
**E200IR**  
**Order No.: 5240.00**



The "**C(omfort)-Series**" is the ideal hand-held measuring instrument for industry and air conditioning. The robust design of housing and sensor technology make the device suitable for everyday use. The large, illuminated display provides the best possible readability, even in dark rooms.

Variants of the "**C-Series**" available to date:

**C1xx:** Temperature (PT100 and thermocouples)  
**C2xx:** Combined sensor for temperature and relative humidity  
**C3xx:** Differential and



**All instrument series are equipped with the innovative "Thumb-Wheel". This makes setting and calibration functions clear and easy to select.**

absolute pressure  
**C4xx:** Air flow  
**C9xx:** Display for standard signals  
(0/4...20mA; 0...10V)

**The C101 reference thermometer** is unique in its class with an accuracy of 0.02°C.

This is achieved by means of specially pre-aged sensors combined with precision electronics.

**Picture:**  
**C101 - Reference thermometer**  
**Order No.: 3120.SET**



The "**A(advanced)-Series**" is the multi-talented measuring instrument.

The display device has a PT100 input for temperature measurement and a digital input (SDI).

The SDI-interface opens up a new dimension in flexibility for measurement applications.

**Instead of several measurement devices for individual tasks, with the A1-SDI you now need only one measurement device for many tasks!**

The A1-SDI sensor library offers the widest variety of sensors for temperature, relative humidity

and flow. Additional sensors are already under development for analytics and gas measurement.

The A1-SDI is the ideal measuring instrument for professionals.

**Picture:**  
**A1-SDI**  
**Order No.: 9130.00**



## Useful, indispensable functions

- What the measurement devices deliver
- What the competition can't offer

Functions	E200	E200IR	C1xx	C2xx	C3xx	C4xx	C9xx	A1-SDI
Thumb-wheel	x	x	x	x	x	x	x	x
Illuminated display			x	x	x	x	x	x
Universal analog inputs						x		
1 point calibration	x	x	x	x	x	x	x	x
1 and 2 point calibration			x	x	x			x
°C/°F switchover	x	x	x	x				x
Acoustic alarms		x						
Date/time			x	x	x	x	x	x
MIN/MAX/HOLD/Measurement v	x	x	x	x	x	x	x	x



# A variety of physical measurements

- What we can measure
- Now and in the future

Physical measurements	E200	E200IR	C1xx	C2xx	C3xx	C4xx	C9xx	A1-SDI
<b>Temperature</b>								
Air temperature	X	X	X	X		X		X
Surface temperature		X	X					X
Infrared temperature (non-contact)		X						
Dewpoint temperature of the air	X	X		X				X
Dewpoint temperature on walls		X						
<b>Humidity</b>								
Air humidity	X	X		X				X
Absolute humidity	X	X		X				X
Humidity measurement in oil								X
<b>Flow</b>								
Flow						X		X
<b>Pressure</b>								
Absolute pressure					X			
Differential pressure					X			
Air pressure					X			
<b>Standard signals</b>								
Current (0/4 ...20mA )							X	
Voltage (0...10V)							X	
<b>Analytics (in preparation)</b>								
Conductivity								X
ph value								X
Oxygen								X



# E200 - Portable Thermo-Hygrometer with fixed probe - smallest device in its class

Climate monitoring in buildings  
Climate monitoring in control cabinets  
Climate control in museums  
and storerooms  
Dewpoint calculation  
Calculation of absolute humidity  
Hold, Max, Min, Average value  
Single point calibration  
°C/°F switchable  
5...95% RH

Technical Data	Order No.
<b>E200 Hand-Held Measuring Instrument</b>	<b>5220.00</b>
Battery type	9V battery
Dimensions	175x48x25mm
Weight	approx. 200g
Functions	HOLD / MAX / MIN / AVG / Unit1 / Unit2 / CAL1 / CAL2
Storage temperature	-30...60°C
Operation time	typically >150h
<b>Temperature</b>	
Principle	NTC
Measuring range	-20 ... 50 °C
Accuracy	±0.4°C (0...40°C), otherwise ± 0.7°C, + 1 digit
Resolution	0,1 °C
<b>Relative Humidity</b>	
Principle	Capacitive
Measuring range	5 ... 95 % RH
Accuracy	±3% RH, + 1 Digit
Resolution	0,1 % RH
<b>Accessories</b>	
	<b>Order No.</b>
Calibration liquid 35% RH	<b>5120.035</b>
Calibration liquid 50% RH	<b>5120.050</b>
Calibration liquid 80% RH	<b>5120.080</b>
Metal grid filter for medium dirt protection	<b>5120.210</b>
Stainless steel sinter filter for high dirt protection	<b>5120.211</b>
Robust calibration block	<b>5120.KAL</b>
Case for E200 instrument	<b>5220.BAG</b>



# E200IR - Thermo-hygrometer with additional infrared thermometer (laser pyrometer) for easy detection of thermal bridges in buildings.

## A must for all building professionals.

You can use the E200 IR as a thermo-hygrometer or laser pyrometer, depending on the application mode.

In TH-mode the measuring instrument operates as the E200 and offers you all the functions of this thermo-hygrometer.

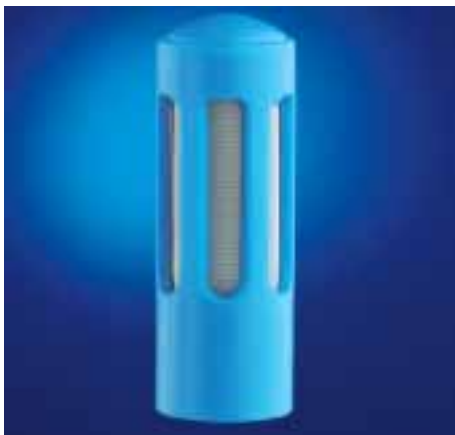
In IR-mode you can use the E200 IR as a laser pyrometer for contact-free measurement of surface temperatures, including measurement position marking.

In DP-mode, dew-point temperature and surface temperature are displayed simultaneously on the easy-to-read display.

Wall surfaces can be checked and thermal bridges detected quickly with the aid of the alarm function. The alarm thresholds can be configured individually.

The alarm thresholds can be configured individually.

Technical Data	Order No.
<b>E200 IR Hand-Held Measuring Instrument</b>	<b>5240.00</b>
Dimensions	175x48x25 mm
Battery type	9V battery
Operating temperature	0...50°C
Functions	HOLD / MAX / MIN / AVG / Unit1 / Unit2 / CAL1 / CAL2
Weight	approx 200g
Storage temperature	-30...60°C
Operation time	max. 200h in TH mode, 10h im IR/DP-mode
Optical measurement	8:1
<b>Temperature</b>	
Principle	NTC
Measuring range	-20 ... 50 °C
Accuracy	±0.4°C (0...40°C), otherwise ± 0.7°C
Resolution	0,1 °C
<b>Relative Humidity</b>	
Prinzip	Capacitive
Measuring range	5 ... 95 % r.F.
Accuracy	±2% RH
Resolution	0,5 % RH
<b>Surface Temperature</b>	
Principle	Thermopile
Measuring range	-20 ... 60 °C
Accuracy	±2°C (Tobj>0°C, Tamb>10°C)
Resolution	0,1 °C
<b>Accessories</b>	
Metal grid filter for medium dirt protection	<b>5120.210</b>
Stainless steel sinter filter for high dirt protection	<b>5120.211</b>
Calibration liquid 35% RH	<b>5120.035</b>
Calibration liquid 50% RH.	<b>5120.050</b>
Calibration liquid 80% RH.	<b>5120.080</b>
Robust calibration block	<b>5120.KAL</b>
Case for E200 instrument	<b>5240.BAG</b>



# A1-SDI: Multi-talented measurement technology with digital sensor interface and PT100 input for temperature measurement

Instead of many measuring instruments for individual tasks, with the A1-SDI you now need only one measuring instrument for many tasks!

- Excellent readability
- Illuminated display
- Hold, MAX, MIN, Average value
- Automatic switch-off function
- Single point calibration
- PT100 Input
- THUMB-WHEEL operation
- Real time clock
- °C/°F switchable

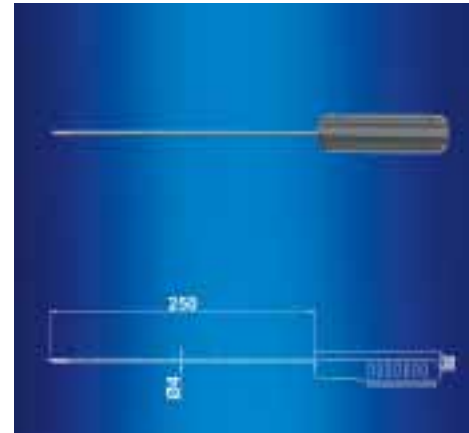
Technical Data	Order No.
<b>A1-SDI Measuring Instrument</b>	<b>9130.00</b>
Power supply	4 x 1.5V AA cells
Battery	various manufacturers
Service life	190h (without sensors)
<b>Storage conditions</b>	
Permissible operating temperature	0°C...50°C
Permissible relative humidity	< 95 % relative humidity non-condensing
Permissible altitude above NN	5000m
<b>Operating conditions</b>	
Permissible ambient temperature	-20°C...60°C
Permissible relative humidity	< 90 % relative humidity or < 20 g/m <sup>3</sup> the lower value applies
Permissible altitude above sea level	5000m
<b>Temperature</b>	
Principle	Pt100 (3 wire)
Measurement range	-200 ... 500°C
Accuracy	±0,5°C (without sensor)
Resolution	0,1°C
<b>Accessories</b>	
Connector for PT100 4-pin external sensors with screw connection	<b>3120.50</b>
Connection cable A1-SDI/sensors	<b>8152.KAB</b>
Case for A1-SDI and 2 sensors	<b>9130.CAS</b>
Calibration liquid 35% RH (for 9130.53/54)	<b>5120.035</b>
Calibration liquid 50% RH (for 9130.53/54)	<b>5120.050</b>
Calibration liquid 80% RH (for 9130.53/54)	<b>5120.080</b>
Solid calibration block	<b>5120.KAL</b>



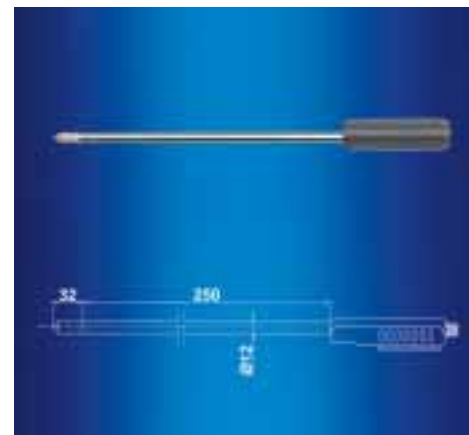


# Combined Temperature/Humidity Sensor for the A1-SDI

Technical Data	Order No.
<b>Temperature/humidity sensor with 4mm diameter</b>	<b>9130.52</b>
Dimensions	Length 250mm, Ø 4mm
Weight	approx. 85g
Protection class	Housing IP40 / sensor IP40 Sensor head: Screw-on type, stainless steel cap, PTFE filter
Permissible operating temperature and humidity	0...50°C / 0...95% RH
Storage temperature and humidity	-20...60°C / 20...80% RH.
<b>Relative humidity</b>	
Measurement range	0...100% RH
Resolution	0,1% H
Accuracy	±2% RH. (0...90% RH) ±3% RH. (90...100% RH.)
<b>Temperature</b>	
Sensor	PT1000 (tolerance class B, DIN EN 60751)
Measurement range	-40 ... 100 °C
Resolution	0,1°C
Accuracy	±0,2°C at 20°C, otherwise ± 0,7°C



Technical Data	Order No.
<b>High temperature temperature/humidity sensor</b>	<b>9130.53</b>
Dimensions	Length 250mm, Ø 12mm
Weight	approx. 200g
Protection class	Housing IP40 / sensor IP40 Sensor head: Stainless steel sinter filter
Permissible operating temperature and humidity	0...50°C / 0...95% RH
Storage temperature and humidity	-20...60°C / 20...80% RH
<b>Relative humidity</b>	
Measurement range	0...100% RH
Resolution	0,1% r.F.
Accuracy	±2% r.F. (0...90% RH) ±3% RH. (90...100% RH)
<b>Temperature</b>	
Sensor	PT1000 (tolerance class A, DIN EN 60751)
Measurement range	-40...180°C
Resolution	0,1°C
Accuracy	±0,2°C at 20°C, otherwise ± 0,7°C

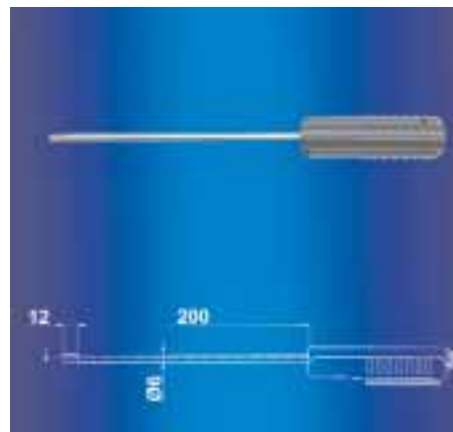


Technical Data	Order No.
<b>inexpensive temperature/humidity sensor</b>	<b>9130.54</b>
Dimensions	Length 74mm, Ø 12mm
Weight	approx. 80g
Protection class	Housing IP40 / sensor IP40 / sensor head plastic grille
Permissible operating temperature and humidity	0...50°C / 0...95%RH
Storage temperature and humidity	-20...60°C / 20...80% RH
<b>Relative humidity</b>	
Measurement range	0...100% RH
Resolution	0,1% RH
Accuracy	±2% RH (0...90% RH) ±3% RH (90...100% RH)
<b>Temperature</b>	
Sensor	NTC
Measurement range	-20...70°C
Resolution	0,1°C
Accuracy	±0,2°C at 20°C

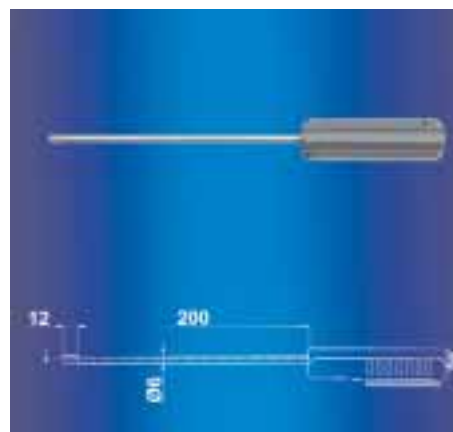


# Flow Sensors for the A1-SDI

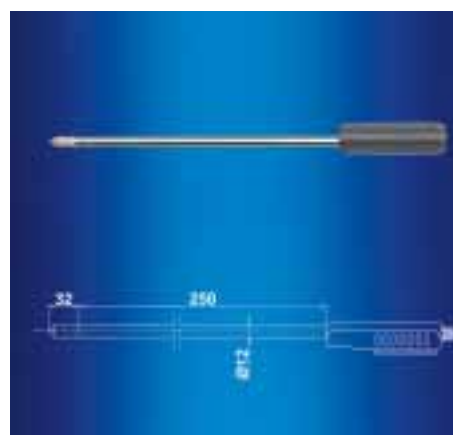
Technical Data	Order No.
<b>Flow/temperature sensor 0...2 m/s</b>	<b>6120.51</b>
Dimensions	Length approx. 200mm, Ø 6mm
Operating temperature Housing	0...50°C
Operating temperature Sensor	-20...70°C
Housing design	Plastic (ABS)
Sensor design	Stainless steel
Protection class	Housing: IP40, sensor: IP40 excluding sensor head
<b>Flow</b>	
Measurement range	0 ... 2 m/s
Sampling rate	0,5s
Accuracy (20°C, 45% r.h., 1013hPa)	±(0,04m/s + 1% of measurement)
Resolution	0,01 m/s
Response time	<1,5s
<b>Temperature</b>	
Measurement range	-20...70 °C
Resolution	0,1°C
Accuracy	±0,7°C in range 0...50°C



Technical Data	Order No.
<b>Flow/temperature sensor 0...20 m/s</b>	<b>6120.52</b>
Dimensions	Length approx. . 200mm, Ø 6mm
Operating temperature Housing	0...50°C
Operating temperature Sensor	-20...70°C
Housing design	Plastic (ABS)
Sensor design	Stainless steel
Protection class	Housing: IP40 Sensor: IP40 excluding sensor head
<b>Flow</b>	
Measurement range	0 ... 20 m/s
Sampling rate	0,5s
Accuracy (20°C, 45% r.h., 1013hPa)	±(0,2m/s + 2% of measurement )
Resolution	0,01 m/s
Response time	<1,5s
<b>Temperature</b>	
Measurement range	-20 ... 70 °C
Resolution	0,1°C
Accuracy	±0,7°C in range 0...50°C



Technical Data	Order No.
<b>Low cost flow/temperature sensor 0...20 m/s</b>	<b>6120.53</b>
Dimensions	Length approx. . 200mm, Ø 12mm
Operating temperature Housing	0...50°C
Operating temperature Sensor	-20...70°C
Housing design	Plastic (ABS)
Sensor design	Plastic
Protection class	Housing: IP40 Sensor: IP40 excluding sensor head
<b>Flow</b>	
Measurement range	0 ... 20 m/s
Sampling rate	0,5s
Accuracy (20°C, 45% r.h., 1013hPa)	±(0,2m/s + 3% of measurement)
Resolution	0,01 m/s
Response time	<1,5s
<b>Temperature</b>	
Measurement range	-20 ... 70 °C
Resolution	0,1°C
Accuracy	±1°C in range 0...50°C



# Moisture measurement in oil with the A1-SDI

Moisture measurement in lubricating and insulation oils makes an important contribution to the long-term maintenance functionality of plant and equipment.

For example, the water content of transformer oil has a significant influence on its insulation properties.

Moisture monitoring is therefore of essential importance to daily operations.

In the same way as gas moisture, the moisture content of oil can be stated absolutely in ppm or relatively as the water content aw:

-ppm (water quantity/oil quantity)  
 -aw (actual water content in relation to the water content of a saturated probe)

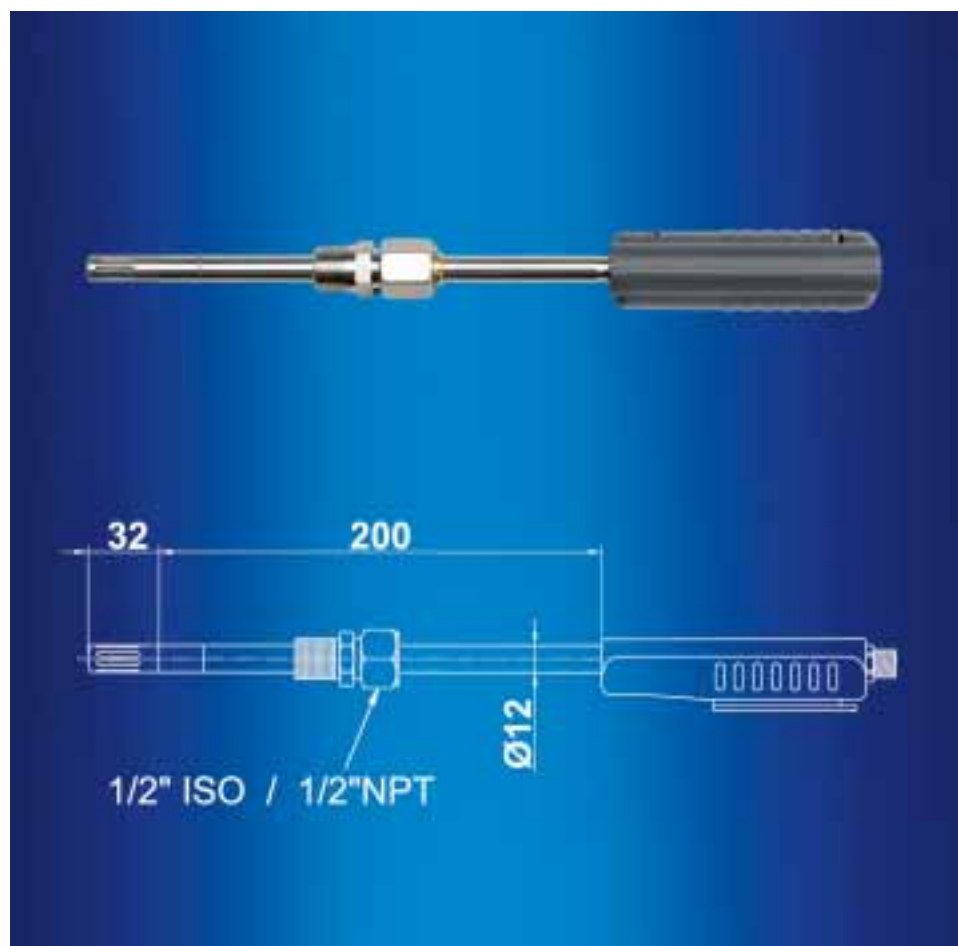
Oil that is completely free of water has an aw value of 0;  
 completely saturated oil has an aw value of 1.

The moisture sensor is based on a long-term stable, chemically-resistant capacitive sensor.

The measurement values that can be selected are water activity (aw), temperature (T) and the calculated water content in ppm for mineral transformer oil.

For non-mineral transformer oils, the device can be adapted by inputting the oil-specific parameters of the respective oil.

Technical Data	Order No.
<b>Water-in-oil sensor</b>	<b>9130.60</b>
<b>Water activity</b>	
Measurement range	0...1aw
Accuracy	±0,02aw (0...0,9aw)
Temperature dependence of the sensor	±0,0005/°C
Response time (20°C/t90)	typically 10 minutes with still oil
<b>Temperature</b>	
Temperature sensor	PT1000 (Tolerance class A, DIN EN 60751)
Measurement range	-40...180°C
Resolution	0,1°C
Accuracy	±0,2°C at 20°C,
Dimensions	Length approx. . 200mm, Ø 12mm
Weight	approx. 300g
Temperature dependence of the electronics	±0,0005°C/°C
Material	Housing: Plastic (ABS). Sensor: Stainless steel
Protection class	Housing: IP40 / Sensor: IP40, excluding sensor head
Sensor protection	Stainless steel filter
Permissible operating temperature	-40...60°C
Storage temperature	-20...60°C





# C1XX Digital Thermometers

**C100 - for PT100 sensors with 0.01°C resolution**

**C110 - for PT100 and thermocouple sensors (2 channels)**

**C120 - for thermocouple sensors (2 channels)**

Technical Data C100 Hand-Held Measuring Instrument Order No. 3120.00	
Operating temperature	0...50°C
Battery type	4 x 1.5V (AA), alkaline-manganese
Operation time	typically >500h
Dimensions	147x85x37mm
Weight	approx. 400g
Included in delivery	Battery
Functions	HOLD / MAX / MIN / AVG / DATE / TIME / AutoOFF, CAL, POLY-CAL / °C, °F / Display Illumination
<b>Temperature</b>	
Principle	PT100 (4 wire)
Measuring range	-200...500 °C
Accuracy	±0,1°C (-100...+200°C), otherwise ±0.2°C (without probe)
Resolution	0,01 °C
Technical Data Hand-Held Measuring Instrument C110 Order No. 3120.10	
Operating temperature	0...50°C
Battery type	4 x 1.5V (AA), alkaline-manganese
Operation time	typically >500h
Dimensions	147x85x37mm
Weight	approx. 400g
Included in delivery	Battery
Functions	HOLD / MAX / MIN / AVG / DATE / TIME / AutoOFF, CAL, POLY-CAL / °C, °F / Display Illumination
<b>Temperature Channel 1</b>	
Principle	PT100 (4 wire)
Measuring range	-200...500 °C
Accuracy	±0,1°C (-100...+200°C), otherwise ±0.2°C (without probe)
Resolution	0,01 °C
<b>Temperature Channel 2, typ: K/J/N</b>	
Principle	Thermocouple
Measuring range	-200...1200 °C
Accuracy	±(0,5°C ± 0,2% of measurement) (without probe)
Resolution	0,1 °C
<b>Temperature Channel 2, type: E</b>	
Principle	Thermocouple
Measuring range	-270 ... 1000 °C
Accuracy	±(0,5°C ± 0,2% of measurement) (without probe)
Resolution	0,1 °C
<b>Temperature Channel 2, type: R/S</b>	
Principle	Thermocouple
Measuring range	-50 ... 1770 °C
Accuracy	±(0,5°C ± 0,3% of measurement) (without probe)
Resolution	0,1 °C
<b>Temperature Channel 2, type: T</b>	
Principle	Thermocouple
Measuring range	-270 ... 400 °C
Accuracy	±(0,5°C ± 0,3% of measurement) (without probe)
Resolution	0,1 °C
Technical Data Hand-Held Measuring Instrument C120 Order No. 3120.20	
Operating temperature	0...50°C
Battery type	4 x 1.5V (AA), alkaline-manganese
Operation time	typically .>500h
Dimensions	147x85x37mm
Weight	approx. 400g
Included in delivery	Battery
Functions	HOLD / MAX / MIN / AVG / DATE / TIME / AutoOFF, CAL, °C, °F / Display Illumination
<b>Temperature Channel 1 and 2, type: K/J/N</b>	
Principle	Thermocouple
Measuring range	-200...1200 °C
Accuracy	±(0,5°C ± 0,2% of measurement) (without probe)
Resolution	0,1 °C
<b>Temperature Channel 1 und 2, type: E</b>	
Principle	Thermocouple
Measuring range	-270...1000 °C
Accuracy	±(0,5°C ± 0,2% of measurement) (without probe)
Resolution	0,1 °C
<b>Temperature Channel 1 und 2, type: R/S</b>	
Principle	Thermocouple
Measuring range	-50...1770 °C
Accuracy	±(0,5°C ± 0,3% of measurement) (without probe)
Resolution	0,1 °C
<b>Temperature Channel 1 und 2, type: T</b>	
Principle	Thermocouple
Measuring range	-270...400 °C
Accuracy	±(0,5°C ± 0,3% of measurement) (without probe)
Resolution	0,1 °C
Accessories C100/C110/C120 Order No.	
PT100 and thermocouple probe	
Carrying case (plastic) for instrument and accessories	3120.CAS



C100, 1 Channel, PT100



C110, 2 Channels, PT100+TC (thermocouple)



C120, 2 Channels, 2xTC (thermocouple)

# Technical Information

Thermocouples offer a large measurement range in combination with a fast reaction time. Resistance sensors (PT100) are more accurate than thermocouples, but also slower.

## Thermocouples

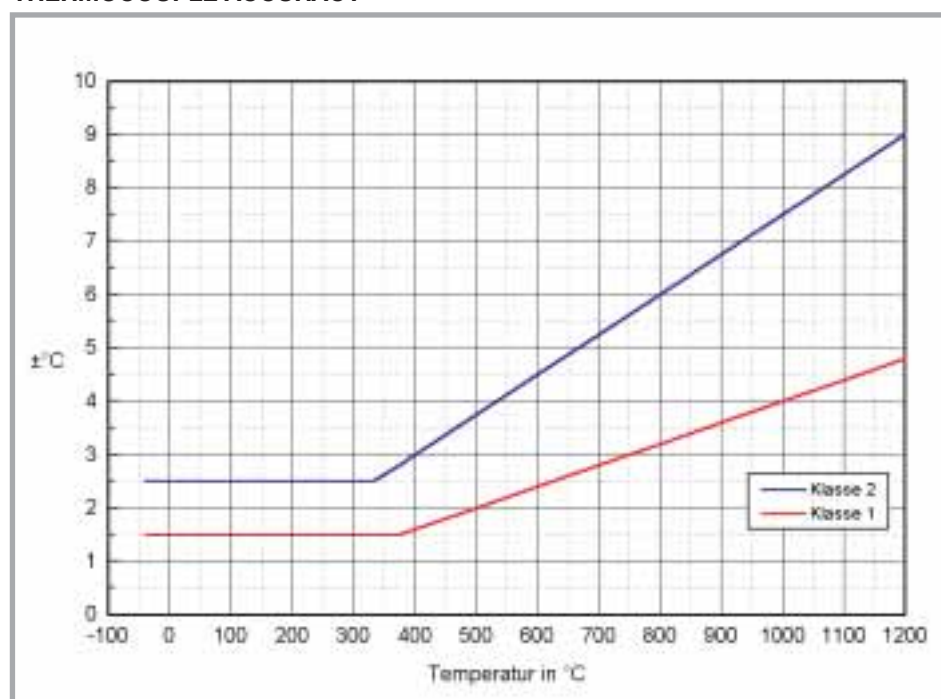
The measurement principle of the thermocouple is based on the effect discovered by Seebeck, whereby a voltage arises at the ends of two wires of different materials when the temperature at the junction point of the two materials is different to the temperature of the measuring instrument terminals.

The PT100 resistance thermometer is divided into two accuracy classes:

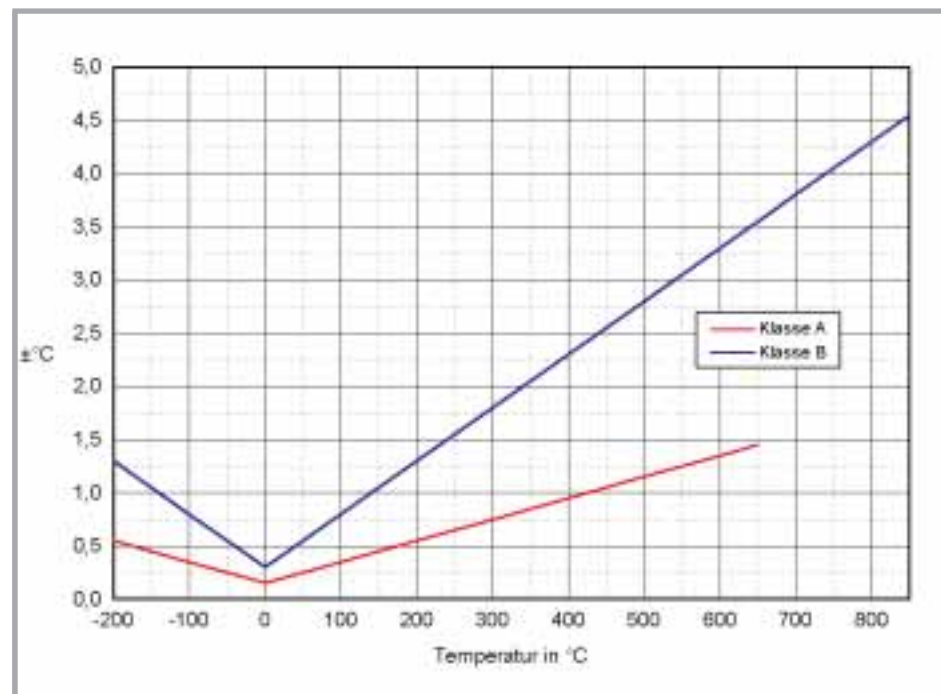
Class A:  $(0.15 + 0.002 |t|) \text{ } ^\circ\text{C}$

Class B:  $(0.30 + 0.005 |t|) \text{ } ^\circ\text{C}$

## THERMOCOUPLE ACCURACY



## PT100 ACCURACY



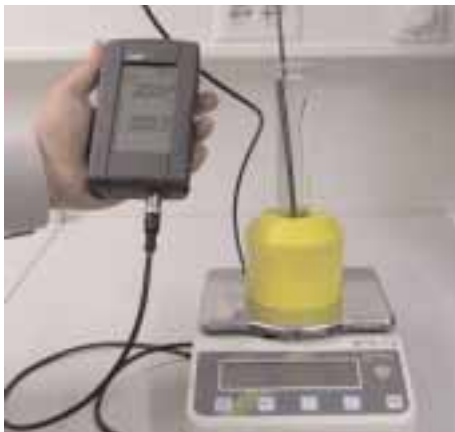






# Reference Thermometer C101 (Accuracy of 0.02°C)

The C101 Reference Thermometer is unique in its class with an accuracy of 0.02°C in the range from -40°C...200°C. This is achieved by means of high-quality, coiled, glass-sealed PT100 sensors and precision electronics with a 24 bit analog/digital converter. Both the sensor and the electronics are pre-aged in an intricate process and in this way achieve excellent long-term stability.



Technical Data	Order No.
<b>Reference Thermometer C101</b>	<b>3120.SET</b>
<b>qualified, complete with sensor and case</b>	
Operating temperature	0...50°C
Battery type	4x1,5V (AA), alkaline-manganese
Service life	Typically < 500h
Included in the scope of supply	Sensor, case, battery, factory certificate
Functions	HOLD/MAX/MIN/AVG/DATE/TIME/AutoOFF/CAL, POLY-CAL/°C, °F/Display lighting
Weight (C101)	approx. 400g
Dimensions (C101)	147x85x37mm
Dimensions (sensor)	300x4mm
Cable length	approx. 2m, PUR cable and handle can be used up to 80°C
Application range	Gaseous, liquid and powdery media
<b>Temperature</b>	
Principle	PT100 (4 wire)
Measurement range (instrument)	-200...500°C
Measurement range (sensor)	-150...450°C
Accuracy (instrument with sensor at 20°C)	±0.01°C (at 0°C), ±0.02°C (-40...200°C), +1 digit
Temperature coefficient, electronics	±1 mK/K
Resolution	0.01°C (-100...200°C), otherwise 0.1°C
Response time	10s
<b>Accessories</b>	
DKD certificate with 5 temperature points	<b>DKD.1T204</b>



# C200 - Thermo-hygrometer with fixed probe

# C210 - Thermo-hygrometer with flexible probe

Climate monitoring in buildings, ventilation ducts, control cabinets, storerooms and museums, calculation of dewpoint and absolute humidity, excellent readability, illuminated display, Hold, MAX, MIN, Average value, automatic switch-off function, single point calibration (temperature), two point calibration (RH), THUMB-WHEEL operation, real-time clock, °C/°F switchable

Technical Data	Order No.
<b>Hand-Held Measuring Instrument C200</b>	<b>5120.00</b>
Operating temperature	0...50°C
Battery type	4 x 1.5V (AA), alkaline-manganese
Operation time	typically > 500 h
Dimensions	147x85x37mm
Weight	approx. 400 g
Included in delivery	Battery, factory test certificate
Sensor protection	Plastic grid
Functions	HOLD / MAX / MIN / AVG / DATE / TIME / AutoOFF, CAL1P/2P / °C, °F / Dewpoint (°C,°F) / Absolute Humidity (g/m3) / Relative Humidity (%) / Display Illumination
Response time	t90<10s
<b>Temperature</b>	
Principle	NTC
Measuring range	-20...50 °C
Accuracy	±0.3°C (0...40°C), otherwise ± 0.5°C, ±1 digit
Resolution	0,1 °C
<b>Relative Humidity</b>	
Principle	Capacitive
Measuring range	0...98 % RH
Accuracy	±2% RH
Resolution	0,1 % RH
<b>Dewpoint</b>	
Measuring range	-50 ... 50 °C
<b>Technical Data</b>	<b>Order No.</b>
<b>Hand-Held Measuring Instrument C210</b>	<b>5120.10</b>
Operating temperature	0...50°C
Battery type	4 x 1.5V (AA), alkaline-manganese
Operation time	typically >500h
Dimensions	147x85x37mm
Weight	approx. 400 g
Included in delivery	Battery, factory test certificate
Sensor protection	Plastic grid
Functions	HOLD / MAX / MIN / AVG / DATE / TIME / AutoOFF, CAL1P/2P / °C, °F / Dewpoint (°C,°F) / Absolute Humidity (g/m3) / Relative Humidity (%) / Display Illumination
Cable length	approx. 1m
Response time	t90<10s
<b>Temperatuer</b>	
Principle	NTC
Measuring range	-20 ... 50 °C
Accuracy	±0.3°C (0...40°C), otherwise ± 0.5°C, ±1 digit
Resolution	0,1 °C
<b>Rel. Feuchte</b>	
Principle	Capacitive
Measuring range	0 ... 98 % RH
Accuracy	±2% RH
Resolution	0,1 % RH
<b>Dewpoint</b>	
Measuring range	-50 ... 50 °C
<b>Accessories:5120.00/5120.10</b>	<b>Order No.</b>
Carrying case (plastic) for instrument and accessories	<b>3120.CAS</b>
Calibration liquid 35% RH	<b>5120.035</b>
Calibration liquid 50% RH	<b>5120.050</b>
Calibration liquid 80% RH	<b>5120.080</b>
Metal grid filter for medium dirt protection	<b>5120.210</b>
Stainless steel sinter filter for high dirt protection	<b>5120.211</b>
Robust calibration block	<b>5120.KAL</b>



C200 with fixed probe



C210 with flexible probe



# C400 - Precision Digital Anemometer

For flow measurement in ducts and clean rooms

Excellent readability  
Illuminated display  
Hold, MAX, MIN, Average value  
Automatic switch-off function  
Single point calibration (temperature)  
THUMB-WHEEL operation  
Real-time clock  
°C/°F switchable

Technical Data	Order No.
Hand-held measuring instrument C400	6120.00
Flow/Temperature probe (0...2m/s)	6120.51
Flow/Temperature probe (0...20m/s)	6120.52
Dimensions Hand-held measuring instrument	147x85x37mm
Dimensions Probe	200mm, Ø 6mm
Battery type	4 x 1,5V (AA), alkaline-manganese
Operating temperature instrument	0...50°C
Operating temperature Probe	-20...70°C
Functions	HOLD / MAX / MIN / AVG / DATE / TIME / AutoOFF, CAL, °C, °F / Display Illumination / fpm / Pabs
Weight	approx. 400g
Operation time	typically>40h
<b>Flow:</b>	
Measuring range	<b>6120.51:</b> 0...2 m/s <b>6120.52:</b> 0...20 m/s
Accuracy	<b>6120.51:</b> ±(0,04m/s + 1% of measurement) 20°C, 45%r.F., 1013 hPa <b>6120.52:</b> ±(0,2m/s + 2% of measurement) 20°C, 45%r.h., 1013 hPa
Resolution	0,01 m/s
Response time	<1,5s
<b>Temperature</b>	
Measuring range	0...50 °C
Accuracy	±0,7°C in range 0...50°C
Resolution	0,1 °C
Response time	<1,5s
<b>Accessories</b>	
Carrying case (plastic) for instrument and Accessories	6120.CAS
Data / extension cable 2m	8152.KAB



# C900 - - Precision Display Instrument for all 0/4...20mA and 0...10V Sensors

Precision display instrument for 0/4...20mA / 0...10V with built-in sensor feed and peak value recording in 'Fast' mode:

- For 0/4...20mA and 0...10V measurement in 2/3-wire
- Built-in 20V feed for 4...20mA sensors
- Fast mode with 1 ms sampling rate, display MAX/Min value
- Free sensor scaling
- Excellent readability (illuminated display)
- Adjustable automatic switch-off function
- Built-in real-time clock (date/time)
- Functions: Hold / MAX / MIN / Average value
- Unique THUMB-WHEEL operation, select and adjust all functions with the thumb
- Single point calibration

## MIDAS Pressure-Transmitter

This pressure transmitter can be used for measuring the relative (gauge) and absolute

pressures in liquids and gases.

The pressure transmitter operates on the piezoresistive measuring principle.

The pressure is converted into an electrical signal.

Output 4-20 mA, 2-wire

Hysteresis d 0.1% of full scale

Response time d 3 msec max.

Stability over 1 year d 1% of full scale

Supply 10-30 V DC

Permissible ambient temperature

-20 to +100°C

Storage temperature -40 to +125°C

Protection type IP65

Housing stainless steel

Weight 120 g

Technical Data	Order No.
<b>Hand-held measuring instrument C900</b>	<b>9120.00</b>
Dimensions	147x85x37mm
Sampling rate (Fast Mode)	1ms (1000Hz) (Measuring range 1)
Sampling rate (Normal Mode)	0,5s (2Hz)
Resolution (Fast Mode)	0,3% of final value
Resolution (Normal Mode)	0,005% of final value
Battery type	4 x 1,5V (AA), alkaline-manganese
Operating temperature	0...50°C
Eingangswiderstand (0...10V)	1MΩ ±10%
Functions	HOLD / MAX / MIN / AVG / DATE / TIME / AutoOFF MODE / SCALE / Display illumination
Accuracy (Fast Mode)	1,0% of final value / ± 2 Digits
Accuracy (Normal Mode)	0,05% of final value ± 2 Digits
Weight	approx. 400g
Included in delivery	Battery
Measuring range 1	0/4...20mA
Measuring range 2	0...10V
Sensor feed	20V ±10%
Shunt voltage	1V ±10%
Operation time	typically >20h
Accessories	Order No.
Carrying case (plastic) for instrument and access.	<b>6120.CAS</b>
Sensor connector, 5-pin with screw connection	<b>9120.50</b>
Connection cable with DIN 43650 plug for sensor	<b>9120.51</b>
Connection cable for MIDAS pressure sensors	<b>8152.KAB</b>
JUMO MIDAS SI Pressure sensor 0...2,5 bar, G1/4	<b>9121.002</b>
JUMO MIDAS SI Pressure sensor 0...6 bar, G1/4	<b>9121.006</b>
JUMO MIDAS SI Pressure sensor 0...10 bar, G1/4	<b>9121.010</b>
JUMO MIDAS SI Pressure sensor 0...16 bar, G1/4	<b>9121.016</b>
JUMO MIDAS SI Pressure sensor 0...25 bar, G1/4	<b>9121.025</b>
JUMO MIDAS HP Pressure sensor 0...100 bar, G1/4	<b>9121.100</b>
JUMO MIDAS HP Pressure sensor 0...160 bar, G1/4	<b>9121.160</b>
JUMO MIDAS HP Pressure sensor 0...250 bar, G1/4	<b>9121.250</b>
JUMO MIDAS HP Pressure sensor 0...400 bar, G1/4	<b>9121.400</b>



# And for your stationary application: Opus10 datalogger electronic thermo-hygrograph

For climate monitoring in buildings, climate monitoring and control in air conditioning units, storerooms and museums, alarm indication (current or historical since the last data transmission), conversion of the display from % RH to absolute humidity or dew-point with SmartGraph professional software, C and F adjustable.

120,000 measurements  
 Typical battery life 2 years  
 incl. SmartGraph 2 evaluation software  
 -20..+50°C

Technical data	Ref.No.
<b>OPUS 10 THI</b>	<b>8152.00</b>
Construction	Plastic housing
Data storage	120,000 measurements
Dimensions	115x110x25mm
Display	Size 65x40mm
Included in delivery	PC-Windows™-Software SmartGraph™ 2 for graphic and numeric printout and data evaluation / manual / RS232 connection cable / mono-cell
Interface	RS232
Max. height	5000m above sea level
Measuring interval	1/10/30/60s, 1/10/30min, 1/3/6/12/24h
Operating rel. humidity	0...95% RH, < 30g/m <sup>3</sup> (non condensing)
Operating temperature	-20...50°C
Operating time with battery	Typical: 2 years
Power supply	Lithium battery 3.6V
Storage interval	1/10/30min, 1/3/6/12/24h
Weight	250g
<b>Temperature</b>	
Principle	NTC
Measuring range	-20 ... 50 °C
Accuracy	±0.3°C (0...40°C), otherwise 0.5°C + 1 digit
Resolution	0.1 °C
<b>Relative humidity</b>	
Principle	Capacitive
Measuring range	10 ... 95 % RH
Accuracy	±2% RH, + 1 digit
Resolution	0.5 % RH

**OPUS10 THI**  
**Temperature / RH**  
**with internal sensor**



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