Measuring devices with with high resolution display

(e)XC(lusiv) Series

XC250

- Precision of the xc200 combined with a high-precision pyrometer (+-0,5°C @ 0°C ... 50°C)
- Noncontact temperature measurement
- Continuous measurand output of the thermopile to the LCD
- Adjustable emmissivity, to adapt to different surfaces
- Pyrometer is laser assisted
- Configurable condensation/dew alarm with contact-free measurings (Application: e.g. detect molds)
- Two lines color display with large digits
- Accurate measurement of temperature and relative humidity
- Calculation of dew point temperature of the ambient air
- Calculation of mixed ratio
- Display of MAX, MIN, HOLD, AVG and ACT, easily selectable
- Easy-to-use touch operations (capacitive)
- USB interface for SmartGraph3 software
- Calibration certificate

Hand-held measuring device XC250
Pyrometer Temperature/Humidity

The powerful and compact handheld device with state-of-the-art and robust design. Excellent accuracy. The high-resolution color screen displays rel. humidity, temperature and dew point. Excellent readability. The calibration function (offset correction) guarantees the long-term use without compromising the accuracy.

Special features: Contact-free temperature measurement

Hand-held measuring device XC250			Order No.
Excellent accuracy of temperature and relative humidity. Contact-free temperature measurement. Display of calculations and statistical functions. Adjustment of local pressure and local height possible. Calibration function and offset correction. Including a calibration certificate. USB interface with SmartGraph3 software.			**5725.00**
Technical data	Dimensions	170 x 60 x 35 mm	
	Weight	Approx. 250g	
Temperature Sensor	Principle	NTC	
	Measurement range	-20…50°C	
	Accuracy	± 0.2°C (0…40°C) otherwise ± 0.4°C	
	Resolution	0.1°C	
Surface temperature	Principle	Thermopile	
	Measurement range	-70 ... 380 °C	
	Unit	°C	
	Accuracy	± 0.5°C (0...50°C) otherwise ± 4°C	
	Resolution	0.1	
Humidity Sensor	Principle	Capacitive	
	Measurement range	0…100% RH	
	Accuracy	± 2% RH	
	Resolution	0.1% RH	
	Calculations	Dew point temperature °C or °F Absolute humidity g/m³ Mixed ratio g/kg or gr/lb	
	Functions	Statistical calculations MAX, MIN, HOLD, AVG, ACT. Temperature correction and humidity correction factors (offset)	
Storage conditions	Permitted ambient temperature	-20...60°C	
	Permitted rel. humidity	<95% RH non-condensing	
Operating conditions	Permitted ambient temperature	-20°C…50°C	
	Permitted rel. humidity	<90% RH	
Power supply	Power consumption	5.5V ± 10% DC, max 200mA	
	Stromaufnahme aktiv	Approx. 70mA	
	Stromaufnahme passiv	Approx. 40µA	
	Batterielebensdauer	Approx. 24h (2.6Ah battery capacity)	
Warranty	12 months		
Accessories	Case for hand-held-measuring device Stainless steel sinter filter		**5800.BAG** **5120.212**

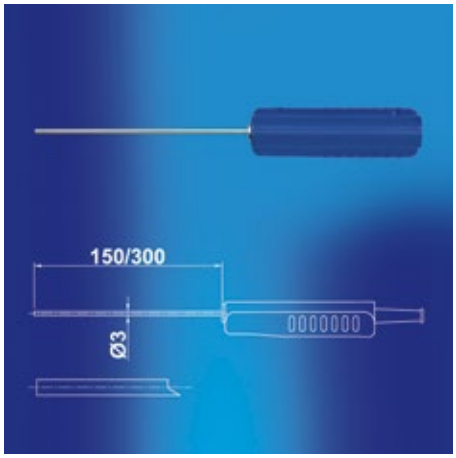
User-offset configuration menu

Emissivity configuration

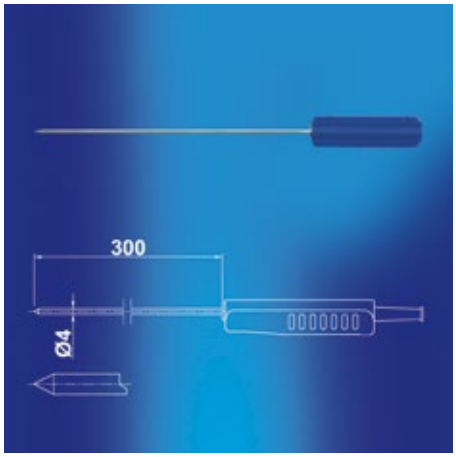
Dew point alarm configuration

More Information Lufft X-Series
www.lufft-xseries.com

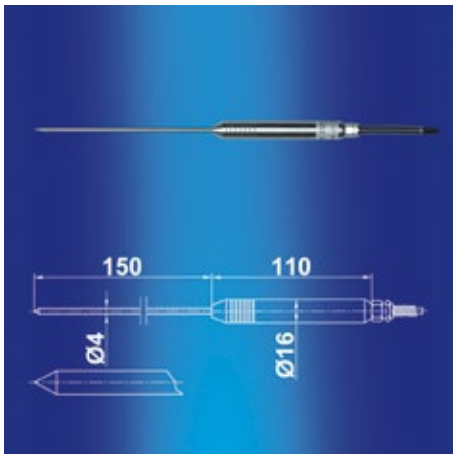
PT100 immersion probe



PT100 immersion probe			Order No.
The immersion probe is suitable for measurements in gaseous media, liquids and granular material, such as sand.			
Technical data	Dimensions, probe, short	150 x 3 mm	**3120.520**
	Dimensions, probe, long	300 x 3 mm	**3120.530**
	Dimensions, housing	119 x 27/35 mm	
	Weight	100g/120g	
	Protective housing	IP40	
	Max. permitted operating temperature	PUR cable and handle can be used up to 80°C	
	Storage temperature	-40 °C…60 °C	
Temperature	Measurement range	-40 … 400 °C	
	Accuracy	±0.15 +0.002 x t	
	Measuring technique	4 wire sensing	
	Reaction time	10 s	
Compatibility	XP100		
Accessories	Extension cable for sensor, 2m		**8120.KAB2**



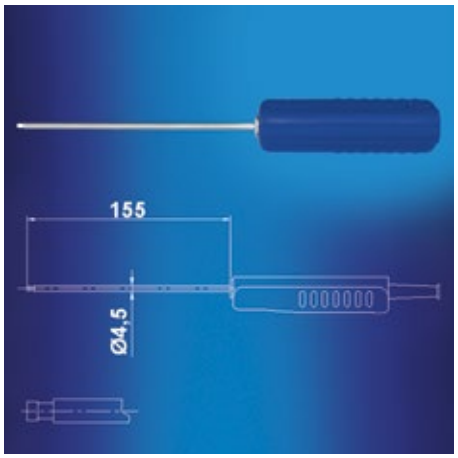
PT100 (immersion) probe, long			Order No.
This high-precision immersion probe in stainless steel protective housing can also be used as a reference sensor for calibration and testing systems.			**3120.540**
Technical data	Dimensions, probe	300 x 4 mm	
	Dimensions, housing	119 x 27/35 mm	
	Weight	120g	
	Protective housing	IP40	
	Max. permitted operating temperature	PUR cable and handle can be used up to 80°C	
Temperature	Measurement range	-40 … 400 °C	
	Accuracy	±0,03 + 0,002 x t	
	Measuring technique	Four terminal sensing	
	Reaction time	10 s	
Compatibility	XP100		
Accessories	Extension and/or connecting cable for digital sensor, 2m		**8120.KAB2**



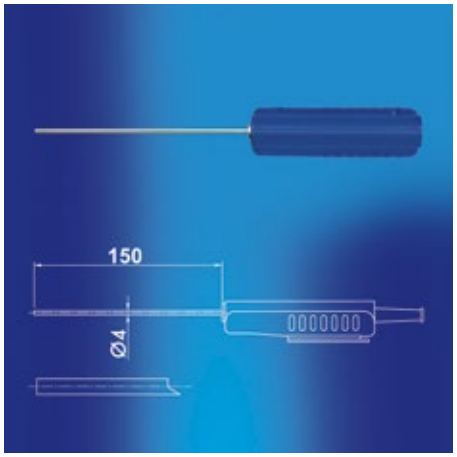
PT100 stainless steel food probe			Order No.
Food probe in stainless steel protective casing for precise temperature measurements (PT100 1/10 class B).			**3120.550**
Technical data	Dimensions, probe	150 x 4 mm	
	Dimensions, housing	110 x 16 mm	
	Weight	220g	
	Protective housing	IP65	
	Max. permitted operating temperature	PUR cable and handle can be used up to 80°C	
	Lagertemperatur	-40 °C…60 °C	
Temperature	Measurement range	-40 … 400 °C	
	Accuracy	±0,03 + 0,002 x t	
	Measuring technique	Four terminal sensing	
	Reaction time	10 s	
	Cable length	Approx. 1m	
Compatibility	XP100		

PT100 surface probe

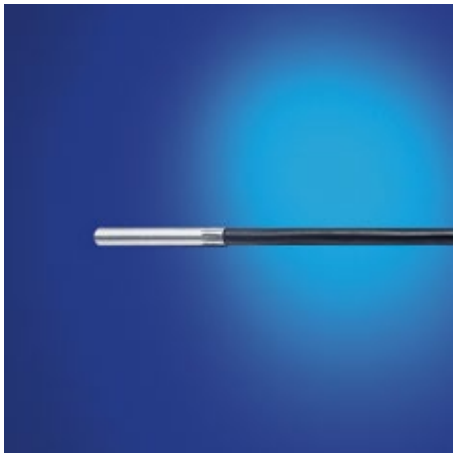
PT100 surface probe			Order No.
At the head of the surface temperature probe is a spring-loaded sensor which takes the temperature. Can be used on flat, matt and metallic surfaces			**3120.600**
Technical data	Dimensions, probe	150 x 4,5 mm	
	Dimensions, housing	119 x 27/35 mm	
	Weight	120g	
	Protective housing	IP40	
	Max. permitted operating temperature	PUR cable and handle can be used up to 80°C	
Temperature	Measurement range	-50 … 400 °C	
	Accuracy	±0.3 + 0.005 x t	
	Reaction time t90	Approx. 30s	
	Measuring technique	Four terminal sensing	
Compatibility	XP100		
Accessories	Extension and/or connecting cable for digital sensor, 2m		**8120.KAB2**



Immersion probe			Order No.
Accuracy with PT100 1/10 DIN 8 in stainless steel protective casing, mineralized sleeve.			**3120.560**
Technical data	Dimensions, probe	150 x 4 mm	
	Dimensions, housing	119 x 27/35 mm	
	Weight	120g	
	Protective housing	IP40	
	Max. permitted operating temperature	PUR cable and handle can be used up to 80°C	
	Storage temperature	-40 … 60 °C	
Temperature	Measurement range	-40 … 400 °C	
	Accuracy	±0,03 + 0,002 x t	
	Reaction time	10 s	
	Measuring technique	4 wire sensing	
Compatibility	XP100		
Accessories	Extension and/or connecting cable for digital sensor, 2m		**8120.KAB2**

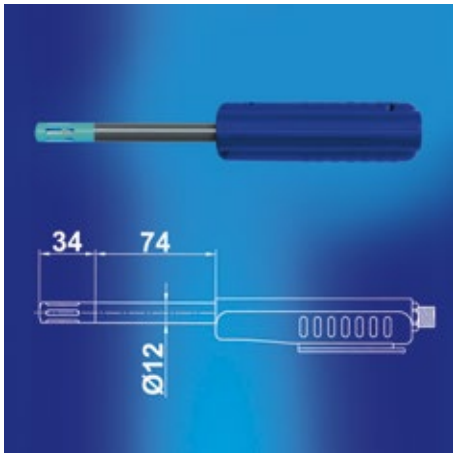


Temperature probe			Order No.
Temperature sensor 10m cable			**8160.TF**
Technical data	Dimensions	Length 50mm, Ø 6mm	
	Output signal	Resistance	
	Weight	370g	
	Cable length	50m	
	Protection type	IP68	
	Connector	COMBICON Phönix	
	Operating temp.	-50...150°C	
	Operating rel. humidity	0...100% RH	
	Accuracy	Class A	
Temperature	Principle	PT100	
	Measuring range	-50 ... 150 °C	
	Accuracy	±0,2K@0°C	



Temperature/Humidity Sensor

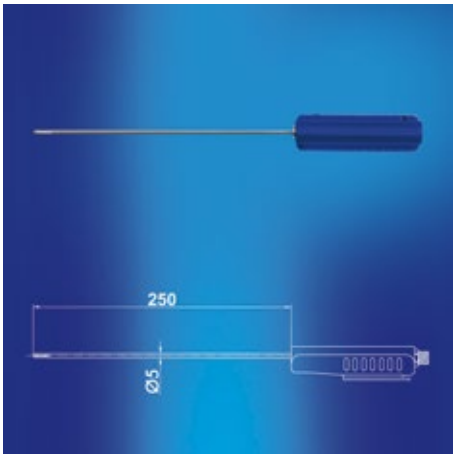
Digital TFF20			Order No.
Reference measurement in service and maintenance, suitable for measurements in air conditioning and heating industry segmetnts.			**8120.TFF**
Technical Data	Dimensions	Length 85 mm, Ø 12 mm	
	Weight	Approx. 50g	
	Protection	Polycarbonate / IP65	
	Permitted operation temp.	0...50°C	
	Permitted humidity	0...100% RH	
	Storage temperature	-20...60°C	
	Storage humidity	20...80% RH	
Relative Humidity	Measurement range	0… 100% RH	
	Accuracy	±2 % (0…90 %), ±3 % (90…100 %) RH	
	Resolution	0.01% RH	
	Principle	Capacitive	
Temperature	Measurement range	-40…80 °C	
	Accuracy (20°C)	±0.1°C	
	Accuracy (0...40°C)	±0.2°C otherwise ±0.5°C	
	Resolution	0.01°C	
	Principle	PT1000, Class A, DIN EN 60751	
Absolute Humidity	Measurement range	0...300g/m³	
	Unit	g/m³	
Dew Point Temp.	Measurement range	-40...80°C	
Mixing Ratio	Measurement range	0...550g/kg	
Compatibility	XA1000, XP200, OPUS20E		
Accessories	Stainless steel sinter cap		**5120.212**
	Calibration salt 11,3% RH		**5700.113**
	Calibration salt 32,8% RH		**5700.328**
	Calibration salt 52,9% RH		**5700.529**
	Calibration salt 75,3% RH		**5700.753**
	Calibration salt 90,1% RH		**5700.901**
	Calibration adapter		**8120.ADAP**



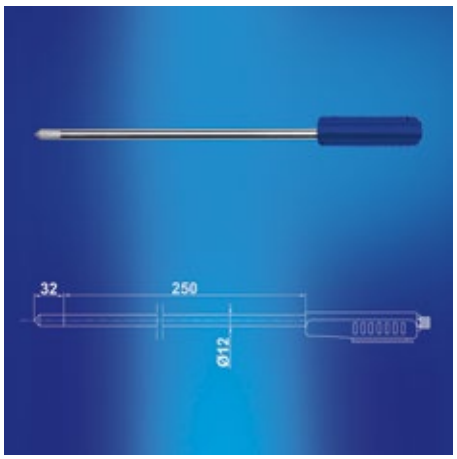
Allround SDI Temperature/Humidity Sensor			Order No.
Compact temperature-/humidity sensor, in stainless steel tube. Application in HVAC field, reference measurement in accordance with ISO9000 Quality Assurance			**9130.540**
Technical Data	Dimensions Sensor	Length 74 mm, Ø 12 mm	
	Dimensions Housing	117 x 38 mm	
	Weight	Approx. 80g	
	Protection	Housing/Sensor IP40 Sensor head plastic mesh	
	Permitted operation temp.	0...50°C	
	Permitted humidity	0...100% RH	
	Storage temperature	-20...60 °C	
	Storage humidity	20...80% RH	
Relative Humidity	Measurement range	0… 100% RH	
	Accuracy	±2 % (0…90 %), ±3 % (90…100 %) RH	
	Resolution	0.1% RH	
	Principle	Capacitive	
Temperature	Measurement range	-20…70 °C	
	Accuracy (20°C)	±0.2 °C	
	Accuracy (-10...50°C)	±0.4 °C otherwise ±0.5 °C	
	Resolution	0.1°C	
	Principle	NTC	
Compatibility	XA1000, XP200		
Accessories	Stainless steel sinter cap		**5120.212**
	Extension and/or connecting cable for digital sensor, 2m		**8120.KAB2**
	Calibration salt 11,3% RH		**5700.113**
	Calibration salt 32,8% RH		**5700.328**
	Calibration salt 52,9% RH		**5700.529**
	Calibration salt 75,3% RH		**5700.753**
	Calibration salt 90,1% RH		**5700.901**
	Calibration adapter		**8120.ADAP**

Temperature/Humidity Sensor

SDI Temperature-/Humidity Sensor with 5mm Diameter			Order No.
Compact, slim temperature-/humidity sensor in stainless steel protective tube. With a diameter of only 5mm, the sensor is suitable for applications in measurement areas that are difficult to access.			**9130.520**
Technical Data	Dimensions sensor tube	Length 250mm, Ø 5mm	
	Dimensions housing	117 x 38 mm	
	Weight	Approx. 85g	
	Protection	Housing/sensor IP40 sensor head: screwable, stainless steel cap, PTFE filter	
	Permitted operation temp.	0...50°C	
	Permitted humidity	0...100% RH	
	Storage temperature	-20...60°C	
	Storage humidity	20...80% RH	
Relative Humidity	Measurement range	0…100% RH	
	Accuracy	±2 % (0…90 %), ±3 % (90…100 %) RH	
	Resolution	0.1% RH	
	Principle	Capacitive	
Temperature	Measurement range	-40…100 °C	
	Accuracy	±0.2°C at 20 °C otherwise ±0.7°C	
	Resolution	0.1°C	
	Principle	PT1000 (tolerance class B, DIN EN 60751)	
Compatibility	XA1000, XP200		
Accessories	Extension and/or connecting cable for digital sensor, 2m		**8120.KAB2**
	Calibration salt 11,3% RH		**5700.113**
	Calibration salt 32,8% RH		**5700.328**
	Calibration salt 52,9% RH		**5700.529**
	Calibration salt 75,3% RH		**5700.753**
	Calibration salt 90,1% RH		**5700.901**
	Calibration adapter		**5700.A06**



SDI High Temperature-/Humidity Sensor			Order No.
Stainless steel sensor equipped with a Teflon probe is especially suitable for high temperature/humidity measurements.			**9130.530**
Technical Data	Dimensions sensor tube	Length 250mm, Ø 12mm	
	Dimensions housing	117 x 38 mm	
	Weight	Approx. 200g	
	Protection	Housing/sensor IP40 sensor head: stainless steel sinter filter	
	Permitted operation temp.	0...50°C	
	Permitted humidity	0...100% RH	
	Storage temperature	-20...60°C	
	Storage humidity	20...80% RH	
Relative Humidity	Measurement range	0…100% RH	
	Accuracy	±2 % (0…90 %), ±3 % (90…100 %) RH	
	Resolution	0.1% RH	
	Principle	Capacitive	
Temperature	Measurement range	-40...180°C (grip of sensing probe up to 80°C)	
	Accuracy	±0.2°C at 20 °C otherwise ±0.7°C	
	Resolution	0.1°C	
	Principle	PT1000 (tolerance class B, DIN EN 60751)	
Compatibility	XA1000, XP200		
Accessories	Extension and/or connecting cable for digital sensor, 2m		**8120.KAB2**
	Calibration salt 11,3% RH		**5700.113**
	Calibration salt 32,8% RH		**5700.328**
	Calibration salt 52,9% RH		**5700.529**
	Calibration salt 75,3% RH		**5700.753**
	Calibration salt 90,1% RH		**5700.901**
	Calibration adapter		**8120.ADAP**



More Information Lufft X-Series
www.lufft-xseries.com

Temperature/Humidity Sensor

High-precision Temperature/Humidity Sensor			Order No.
High-precision Temperature/Humidity Sensor			**8130.TFF**
Technical data	Measurement accuracy incl. reproducibility and hysteresis	Humidity*: 15...30°C, ±0,5% RH 0...50°C, ±0,8% RH -20...80°C, ±2,5% RH	
Temperature	Measuring range	-20...80°C	
	Operating temperature	-20...80°C	
	Storage temperature	-10...60°C (non-condensing)	
	Principle	NTC	
	Accuracy	0,15°C between 0…+70°C, otherwise 0,25°C	
Relative humidity	Principle	Resistive-electrolytic	
	Measuring range	0 ... 100 %	
Housing	Material	PVDF black	
	Mechanical sensor protection	Standard polyethylene dust filter	
Compatibility	XA1000, XP200, OPUS20E		
Accessories	Calibration salt 11,3% RH		**5700.113**
	Calibration salt 32,8% RH		**5700.328**
	Calibration salt 52,9% RH		**5700.529**
	Calibration salt 75,3% RH		**5700.753**
	Calibration salt 90,1% RH		**5700.901**
	Calibration adapter		**5700.A13**

* The humidity accuracy refers to the nominal values of Novasina humidity standards, which refer to the Greenspan Report.

CO_2 Sensor

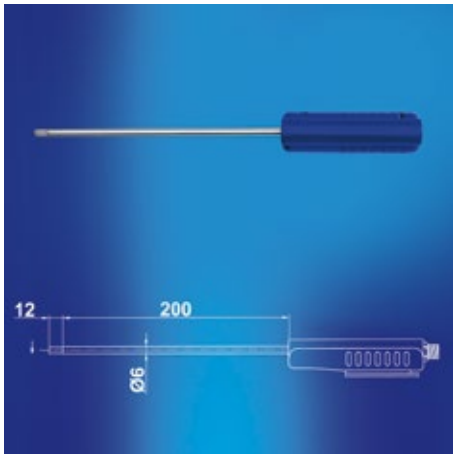
CO_2 Sensor			Order No.
CO_2 Sensor			**7120.CO2**
Technical data	Dimensions	Length 96 mm, Ø 18.5 mm	
	Operating temp.	-40...60°C	
	Operating humidity range	0...100% RH (non-condensing)	
	Admissible air pressure	850...1100hPa	
	Storage temp.	-40...60°C	
	Storage humidity	0...100% RH (non-condensing)	
	Storage pressure	700...1100hPa	
	Temperature dependency	typ. 1ppm CO2 | °C (-20...45°C)	
	Outputs	Digital RS485-BUS	
	Power supply	4,75...7,5V DC, max. 350mA for 0.05s	
	Electrical connection	Connector M12	
	Electromagnetic compatibility (Industrial environment)	EN61326-1 EN61326-2-3	
CO_2	Principle	Dual wavelength, non-dispersive infrared technology (NDIR)	
	Measuring range	0 ... 5000 ppm	
	Accuracy	at 25°C and 1013mbar: < ±50ppm +3% of measuring value (for averaging output)	
Housing	Material	Plastic PC	
	Protection level	IP65	
Compatibility	XA1000, XP200		
Accessories	Y Connector for Temperature/Humidity and CO_2 sensor (IAQ-Indoor Air Quality Measurement)		**8120.STY**

The CO_2 probe is designed for use in harsh, demanding OEM applications. A multiple point CO_2 and temperature adjustment procedure leads to excellent CO_2 measurement accuracy over the entire temperature working range, ideal for use in agriculture or outdoors for instance.
The probe incorporates the dual wavelength NDIR CO_2 sensor, which compensates for ageing effects, is highly insensitive to pollution and stands for outstanding long term stability.
The measured data range of up to 10000ppm is available on the Modbus or on the E2 digital interface.
An optional kit facilitates easy configuration and adjustment. The measurement interval can be set according to the application requirements, by this the average current consumption can be reduced to 120µA for battery-operated devices.

More Information Lufft X-Series

SDI Airflow-/Temperature Sensor (0...2m/s) (0…20m/s)

SDI Airflow-/Temperature Sensor (0…2m/s)			Order No.
Reference device for airflow and temperature measurements in service and maintenance. Proof of air tightness of buildings and rooms.			**6120.510**
Technical data	Dimensions sensor tube	Length 200mm, Ø 6mm	
	Dimensions housing	117 x 38 mm	
	Weight	Approx. 200g	
	Protection	Housing: plastic (ABS) IP40 sensor head: stainless steel	
	Permitted operation temp.	0...50°C	
	Permitted humidity	0...95% RH	
	Storage tempe-rature	-20...60°C	
	Storage humidity	20...80% RH	
Airflow	Measurement range	0…2m/s	
	Accuracy	±(0.08m/s + 1% of measured value)	
	Resolution	0.01 m/s	
	Principle	Hot film anemometer	
Temperature	Measurement range	-20…70°C	
	Accuracy	±0.7°C in the range 0…+50°C	
	Resolution	0.1°C	
	Principle	NTC	
Compatibility	XA1000		
Accessories	Extension and/or connecting cable for digital sensor, 2m		**8120.KAB2**



SDI Airflow-/Temperature Sensor (0…20m/s)			Order No.
Application: airflow and temperature measurements in climate measurement technology			**6120.520**
Technical data	Dimensions sensor tube	Length 200mm, Ø 6mm	
	Dimensions housing	117 x 38 mm	
	Weight	Approx. 200g	
	Protection	Housing: plastic (ABS) IP40 sensor head: stainless steel	
	Permitted operation temp.	0...50°C	
	Permitted humidity	0...95% RH	
	Storage tempe-rature	-20...60°C	
	Storage humidity	20...80% RH	
Airflow	Measurement range	0…20m/s	
	Accuracy	±(0.2m/s + 2% of measured value)	
	Resolution	0.01 m/s	
	Principle	Hot film anemometer	
Temperature	Measurement range	-20…70°C	
	Accuracy	±0.7°C in the range 0…+50°C	
	Resolution	0.1°C	
	Principle	NTC	
Compatibility	XA1000		
Accessories	Extension and/or connecting cable for digital sensor, 2m		**8120.KAB2**