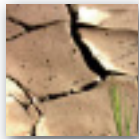




Measurement

OPUS20 Multiple Functions with Internal Sensors



Functions	THI 8120.00	THIP 8120.10	TCO 8120.20
Power supply battery	■	■	■
Power supply USB	■	■	■
Power supply LAN (POE)	optional	optional	optional
Measured data storage	3,200,000	3,200,000	3,200,000
Typical battery life	> 1 year	> 1 year	> 1 year
LC-display	■	■	■
One-button operation	■	■	■
1-point calibration by user/operator	■	■	■
°C/°F switchable	■	■	■
Optical/acoustical alarm	■	■	■
Date/time	■	■	■
Records Min/Max/Avg.	■	■	■
SmartGraph 3 evaluation software	■	■	■
Measurement Categories	THI 8120.00	THIP 8120.10	TCO 8120.20
Temperature			
Air temperature	■	■	■
Humidity			
Relative Humidity	■	■	■
Absolute humidity	■	■	■
Dew point temperature	■	■	■
Air pressure			
Barometric air pressure		■	
Relative air pressure		■	
CO₂ Concentration			
CO ₂ Concentration			■
Function Table Software	THI 8120.00	THIP 8120.10	TCO 8120.20
Graphical representation	■	■	■
Numerical data (measured value display)	■	■	■
Print function	■	■	■
Export function for measured values (e.g. Excel)	■	■	■
Gathered printouts of all measurement sites	■	■	■
User administration	■	■	■
Administration of up to 255 measuring devices	■	■	■

THI



THIP



TCO



OPUS20 THI

Temperature and rel. Humidity

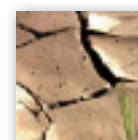


Measurement

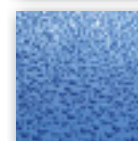
Opus20 Temperature and Relative Humidity		Order-No.
Opus20 Temperature / rel. Humidity (neutral without Lufft-Logo 8120.00N)		8120.00
Opus20 Temperature / rel. Humidity POE (neutral without Lufft-Logo 8120.01N)		8120.01
Technical data	Dimensions	length. 166 mm, width 78 mm, depth 32 mm
	Measurement rate	10/30s, 1/10/12/15/30min, 1/3/6/12/24h
	Construction	plastic housing
	Operation life (battery)	> 1 Year
	Data Storage	16 MB, 3,200,000 measured values
	LC-Display	size 90x64 mm
	Weight	approx. 250g
	Included in delivery	PC-Windows Software SmartGraph 3 for graphical and numerical representation of measured values / instruction manual / data cable / battery
	Interface	USB, LAN
	Storage rate	1/10/12/15/30min, 1/3/6/12/24h
	Power supply	4 x LRG AA Mignon, USB, (POE opt.)
	Max. operation temperature	-20...50°C
	Max. rel. humidity	0...95%r.h.<20g/m ³ (non condensing)
Temperature	Principle	NTC
	Measurement range	-20...50°C
	Accuracy	±0,3°C (0...40°C), otherwise 0,5°C
	Resolution	0,1°C
Rel. humidity	Principle	capacitive
	Measurement range	10...95%r.h.
	Accuracy	±2%r.h.,
	Resolution	0,5%r.h.
Accessories	4 x LRG AA Mignon	8120.SV1

For climate monitoring in buildings and the control of all climate-sensitive production processes: in electronic data-processing centres, control cabinets, wind turbines, storage rooms and museums.

The Opus20 runs on batteries or powered via USB. Alternatively, you have the possibility to power the device via POE (Power over Ethernet).



For high-precision temperature and humidity measurements



The only LAN datalogger with built-in sensors and the highest precision



Measurement

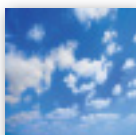
OPUS20 THIP Temperature, Rel. Humidity, Air Pressure

Finally available: Lufft's precise weather station for interior applications – an essential data collector for all calibration laboratories.

OPUS20 THIP Temperature, Relative Humidity, Air Pressure			Order-No.
OPUS20 THIP Temperature / Rel. Humidity / Air Pressure (neutral without Lufft-Logo 8120.10N)			8120.10
OPUS20 THIP Temperature / Rel. Humidity / Air Pressure POE (neutral without Lufft-Logo 8120.11N)			8120.11
Technical data	Dimensions	length. 166 mm, width 78 mm, depth 32mm	
	Measurement rate	10/30s, 1/10/12/15/30min, 1/3/6/12/24h	
	Construction	plastic housing	
	Operation life (battery)	> 1 Year	
	Data Storage	16 MB, 3,200,000 measured values	
	LC-Display	size 90x64 mm	
	Weight	approx. 250g	
	Included in delivery	PC-Windows Software SmartGraph 3 for graphical and numerical representation of measured values / instruction manual/ data cable / battery	
	Interface	USB, LAN	
	Storage rate	1/10/12/15/30min, 1/3/6/12/24h	
	Power supply	4 x LRG AA Mignon, USB, (POE opt.)	
	Max. operation temperature	-20...50°C	
	Max. rel. humidity	0...95%r.h.<20g/m ³ (non condensing)	
	Max. altitude	10,000 m above sea level	
Temperature	Principle	NTC	
	Measurement range	-20... 50 °C	
	Accuracy	±0,3°C (0...40°C), otherwise 0,5°C	
	Resolution	0,1°C	
Rel. humidity	Principle	capacitive	
	Measurement range	10...95%r.h.	
	Accuracy	±2%r.h.,	
	Resolution	0,5%r.h.,	
Air pressure	Measurement range	300 ... 1300 hPa abs.	
	Accuracy	700 ... 1100mbar at 25°C ±0,5 hPa	
	Resolution	0,1 hPa	
Accessories	4 x LRG AA Mignon		8120.SV1



For high-precision pressure measurements



Opus20 TCO

Temperature, Rel. Humidity, CO₂



Opus20 TCO / Temperature / Relative Humidity / CO ₂		Order-No.
Opus20 TCO / Temperature / Rel. Humidity / CO₂ (neutral without Lufft-Logo 8120.20N)		8120.20
Opus20 TCO / Temperature / Rel. Humidity / CO₂POE (neutral without Lufft-Logo 8120.21N)		8120.21
Technical data	Dimensions	length. 166 mm, width 78 mm, depth 32mm
	Measurement rate	10/30s, 1/10/12/15/30min, 1/3/6/12/24h
	Construction	plastic housing
	Operation life (battery)	> 1 Year
	Data Storage	16 MB, 3,200,000 measured values
	LC-Display	size 90x64 mm
	Weight	approx. 250g
	Included in delivery	PC-Windows Software SmartGraph 3 for graphical and numerical representation of measured values / instruction manual/ data cable / battery
	Interface	USB, LAN
	Storage rate	1/10/30min, 1/3/6/12/24h
	Power supply	4 x LRG AA Mignon, USB, (POE opt.)
	Max. operation temperature	-20...50°C
	Max. rel. humidity	0...95%r.F.<20g/m ³ (non condensing)
	Max. altitude	10,000m above sea level
Temperature	Principle	NTC
	Measurement range	-20 ... 50 °C
	Accuracy	±0,3°C (0...40°C), otherwise 0,5°C
	Resolution	0,1°C
Rel. Humidity	Principle	capacitive
	Measurement range	10...95%r.h.
	Accuracy	±2%r.h.,
	Resolution	0,5%r.h.,
CO₂	Principle	NDIR
	Measurement range	0 ... 5,000 ppm
	Accuracy	± 50 ppm +3 measured values at 20 °C and 1,013 mbar
	Resolution	1 ppm
	Long-term stability	20 ppm/a
Accessories	4 x LRG AA Mignon	8120.SV1

The amount of carbon dioxide had been virtually constant at 280 ppm (particles per million) – i.e 280 gas molecules per million air molecules – the last ten thousand years. However in recent years, this measured value has been increasing rapidly at approx. 2 % per year.

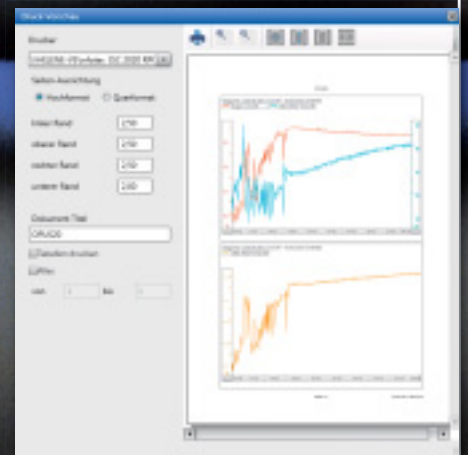
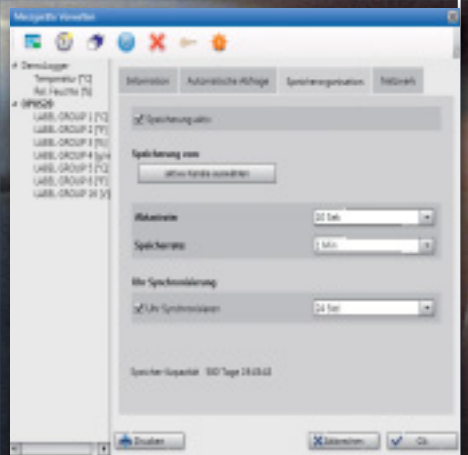
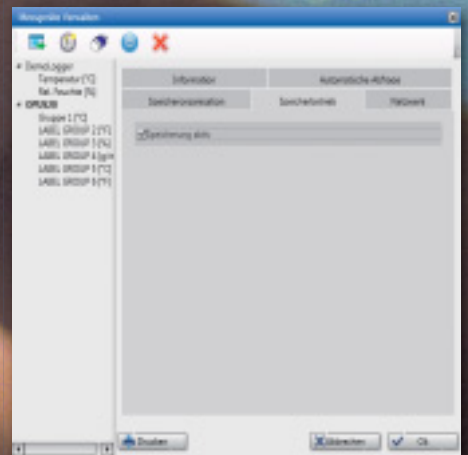
A high level of CO₂ in the air within a room causes headaches, tiredness and lack of concentration. The regulation on CO₂ concentration was established in order to evaluate IAQ (Indoor Air Quality). Normal atmospheric air in so-called ‘clean air areas’ has a level of 360 ppm and approx. 500 ppm in urban areas. The limit of 1,000 ppm (“Pettenkofer Figure”) is still seen as being adequate indoor-air quality, which is especially important when regarding all meetings and conference rooms, as well as schools and open-plan offices.

As a guideline for school rooms in the USA the limit of 1,000 ppm applies; for workplaces the occupational exposure limit is 5,000 ppm.



For high-precision CO₂ measurements

software



SmartGraph 3 Software



With SmartGraph 3 the gathering of measured data is simple and as intuitive as possible:

- An Opus20 datalogger is automatically recognised and added as a “network device”.
- In addition to its data-readout function, the software possesses a recording mode that enables parallel recording to be displayed on the computer.
- The data from any desired number of OPUS20 devices can be read out simultaneously.
- The zoom function allows for quick analysis of critical time periods.
- The exporting of measured data in csv format enables it to be imported into Excel.
- The device configuration can be printed out in order to check installation parameters.
- Alarm limits – like the measured data – are chronologically managed at various times so that when changes in alarm limits occur, they can be retraced.
- Automatic data readout of all measured data is supported.

