



# Lufft OPUS20 TCO

## Temperature, Rel. Humidity, CO<sub>2</sub>

The amount of carbon dioxide has been virtually constant at 280 ppm (parts 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 CO<sub>2</sub> in the air within a room causes headaches, tiredness and lack of concentration. The regulation on CO<sub>2</sub> 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.

Lufft OPUS20 TCO / Temperature / Relative Humidity / CO <sub>2</sub>			Order-No.
Lufft OPUS20 TCO / Temperature / Rel. Humidity / CO <sub>2</sub> (neutral without Lufft-Logo 8120.20N)			8120.20
Lufft OPUS20 TCO / Temperature / Rel. Humidity / CO <sub>2</sub> POE (neutral without Lufft-Logo 8120.21N)			8120.21
<b>Technical data</b>	Dimensions	length 166 mm, width 78 mm, depth 32mm	
	Measurement rate	10/30s, 1/10/12/15/30min, 1/3/6/12/24h	
	Storage rate	1/10/30min, 1/3/6/12/24h	
	Construction	plastic housing	
	Operation life (battery)	> 4 month	
	Data storage	16 MB, 3,200,000 measured values	
	LC-Display	size 90x64 mm	
	Weight	approx. 250g	
	Included in delivery	PC-Windows Software SmartGraph3 for graphical and numerical representation of measured values / instruction manual/ data cable / battery	
	Interface	USB, LAN	
	Power supply	4 x LR6 AA Mignon, USB, (POE opt.)	
	Max. operation temp.	-20...50°C	
	Max. rel. humidity	0...95% RH<20g/m <sup>3</sup> (non condensing)	
	Max. altitude	10,000m above sea level	
<b>Temperature</b>	Principle	NTC	
	Measurement range	-20... 50 °C	
	Accuracy	±0.3°C (0...40°C), otherwise 0.5°C	
	Resolution	0.1°C	
<b>Rel. Humidity</b>	Principle	capacitive	
	Measurement range	0...100% RH	
	Accuracy	±2% RH,	
	Resolution	0.1% RH,	
<b>CO<sub>2</sub></b>	Principle	NDIR	
	Measurement range	0... 5,000 ppm	
	Accuracy	± 50 ppm +3% of measured value (at 20 ° C and 1,013 mbar)	
	Resolution	1 ppm	
	Long-term stability	20 ppm/a	
<b>Accessories</b>	4 x LR6 AA Mignon		8120.SV1
	Power supply adapter		8120.NT

