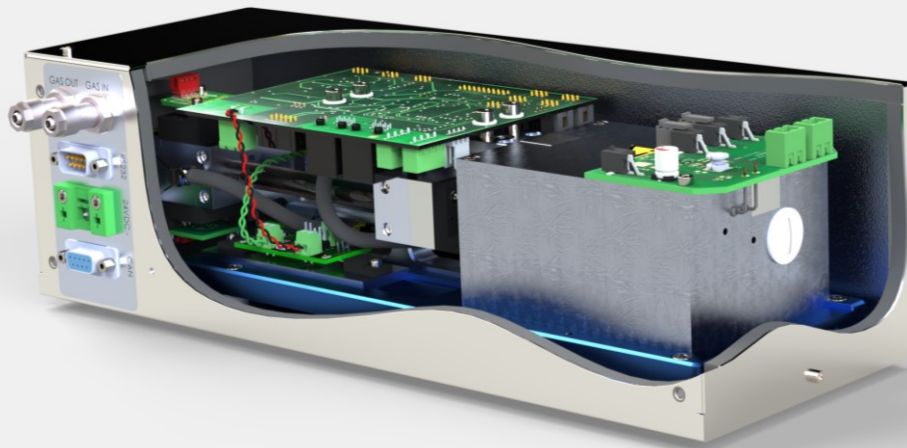


NO<sub>x</sub> / SO<sub>2</sub>



ULTRA.sens® AK100 TBH

### Applications

- > Exhaust gas monitoring (CEM)<sup>1</sup>
- > Laboratory area
- > Industrial gas analysis
- > Automotive test equipment
- > Portable gas analysis (PEMS)<sup>2</sup>

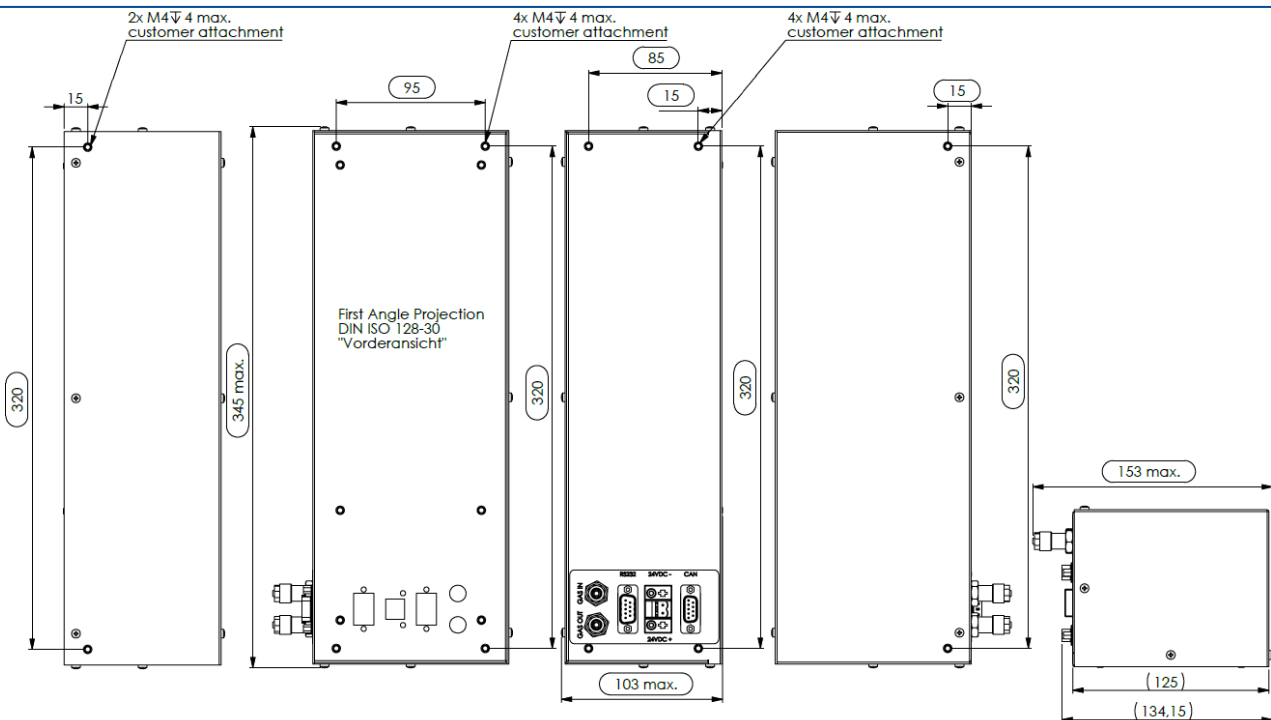
### Options

- > P.sens (Pressure sensor)
- > HUMI.sens® (Humidity sensor)
- > Analogboard (0-10V)
- > Auto-Zero-Function
- > Detector heater for min. warmup time

### Features & Benefits

- > Simultaneous NO<sub>x</sub> and SO<sub>2</sub> analysis
- > Temperature controlled to 50°C
- > Fast response time
- > No influence of gas humidity
- > No NO<sub>x</sub> converter required

### Dimensions



For more and most recent information please have a look on our website at [www.witec-sensorik.de/en/](http://www.witec-sensorik.de/en/)

<sup>1</sup> Continuous Emission Monitoring // <sup>2</sup> Portable Emission Monitoring System

# ULTRA.sens® AK100 TBH

NO<sub>x</sub> / SO<sub>2</sub>

	gas channel 1*	gas channel 2*	gas channel 3*	gas channel 4*	Option**	
<b>Single</b> Gas Module			NO		P	H
<b>Dual</b> Gas Module	NO		NO <sub>2</sub> / SO <sub>2</sub>		P	H
<b>Triple</b> Gas Module	NO		SO <sub>2</sub>	NO <sub>2</sub>	P	H

\* one gas per column selectable

\*\* P = pressure sensor, H = humidity sensor

## List of measurement ranges

Measurement range*	O <sub>3</sub>	Cl <sub>2</sub>	H <sub>2</sub> S	SO <sub>2</sub>	NO <sub>2</sub>	NO
100Vol.%						
50Vol.%						
30Vol.%						
20Vol.%						
10Vol.%						
5Vol.%						
1Vol.%						
5000ppm				✓	✓	✓
2000ppm				✓	✓	✓
1000ppm				✓	✓	✓
500ppm				✓	✓	✓
300ppm				✓	✓	✓
100ppm				✓	✓	
50ppm						
10ppm						

\* Full scale value (F.S.)

For other measuring ranges please refer to our further datasheets



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# ULTRA.sens® AK100 TBH

NO<sub>x</sub> / SO<sub>2</sub>

General features	
Measurement principle	Ultraviolet resonance absorption spectroscopy (UVRAS) / Non-dispersive ultraviolet (NDUV) ; dual beam
Measurement range	see list of measurement ranges
Gas flow	0.1 – 1.5l/min
Dimensions	345mm × 153mm × 103mm
Weight	3270g
Tube connector	4/6mm tube
Lifetime of UV radiation source	>20 000h [LED; NO <sub>2</sub> / SO <sub>2</sub> ] > 8 000h <sup>1</sup> [EDL; NO]
Measuring response <sup>2</sup>	
Warm-up time	≤ 45min (initial) <sup>3</sup>
Response time(t <sub>90</sub> )	1.5s – 15s <sup>4</sup>
Detection limit (3·σ)	≤ 1ppm <sup>5</sup>
Linearity error	≤ ± 1% F.S.
Repeatability	± 0.5% F.S.
Long term stability (zero)	< 3ppm / 24h <sup>3</sup>
Long term stability (span)	<± 1% F.S./month
Temp. Influence zero	< 0.5% F.S./10K
Temp. Influence span	< 0.5% F.S./10K
Cross sensitivity	100ppm SO <sub>2</sub> < 2ppm 500ppm NO <sub>2</sub> < 2ppm 20°C D.P. H <sub>2</sub> O < 10ppm 100ppm N <sub>2</sub> O < 10ppm <sup>6</sup>
Pressure influence	<1.5%/10hPa of reading <sup>7</sup>
Electrical inputs and outputs	
Supply voltage	24 (20 – 30) VDC
Supply current (peak)	1,5 A
Inrush current	0.2 – 0.7 A
Power consumption (peak)	36 W
Digital output signal	RS 232 (ASCII) or CAN bus
Climatic conditions	
Operating temperature	5 – 40 °C
Storage temperature	-20 – 60 °C
Air pressure	600 – 1200 hPa (mbar)
Ambient humidity	0 – 95% rel. humidity (not condensing)

F.S. full scale <sup>1</sup> EDL: 50% intensity drop <sup>2</sup> related to P<sub>a</sub> = 1020hPa ; T<sub>a</sub>= 45°C // flow = 1l/min <sup>3</sup> full specification after 6h, demands to environmental conditions <sup>4</sup> depends on digital filter settings <sup>5</sup> at zero point <sup>6</sup> other gases on request <sup>7</sup> without pressure compensation



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