

# ecom-EN3<sup>Tech</sup>

Compact UV-based gas analyser for accurate NO<sub>x</sub>/SO<sub>2</sub> measurements at industrial furnaces even at low concentrations.

An analyser starting duty long before its operator does



## MOBILE FLUE GAS ANALYSER

Made in Germany

- ✓ **Time-saving**  
Pre-heating function providing immediate system operability at measurement site - noticeably reducing the total intervention time
- ✓ **Exact**  
Cross-interference-free emission measurements even at very low NO<sub>x</sub> / SO<sub>2</sub> concentrations thanks to UV technology.
- ✓ **Efficient**  
Immediate update of the displayed measurement values in the event of fluctuating gas concentrations thanks to the powerful sampling pump.



ecom GmbH  
Am Großen Teich 2  
58640 Iserlohn  
info@ecom.de

**ecom**<sup>®</sup>  
Measurement Technology

# HIGH-TECH ANALYSER IN A PRACTICAL CASE

## For environmental emission measurement



- Analysis of 5 gas components on electro-chemical or ultraviolet measurement principle
- High accuracy of NO<sub>x</sub> / SO<sub>2</sub> readings thanks to UV module
- CO overload protection and fresh air purging without measurement interruption
- Gas cooler incl. electronic condensate monitoring with automatic draining
- Backlit colour display
- Data: printout via integrated thermal quick-printer, or storage on optional SD card
- Robust case with adjustable straps for hands-free transport

● = Basis EC ● = Basis UV



Technical data		✓ Standard • Option		
Measured values	Range	Resolution	Accuracy	Higher value applies
Number of gas components measured				
O <sub>2</sub>	0...21 %	0,01 vol. %	± 0,3 vol. %	✓
CO (H <sub>2</sub> -comp.)	0...2.500 ppm (10.000 ppm)	1 ppm	± 20 ppm / 5 % of reading*	✓
Other measured variables				
T-Gas	0...500 °C	0,1 °C	± 2 °C / 1,5 % of reading*	•
	0...1.100 °C	0,1 °C	± 2 °C / 1,5 % of reading*	•
T-Air	0...99 °C	0,1 °C	± 1 °C	✓
Pressure   ΔP	± 100 hPa	0,01 hPa	± 0,5 hPa o 1 % of reading*	✓

Technical data	
Calculation values	Range
CO <sub>2</sub>	0...CO <sub>2max</sub>
Combustion efficiency (ETA)	0...120 %
Excess air (Lambda)	>1
Losses qA	0...100 %
Dew point	x° C
mg/m <sup>3</sup>	x mg/m <sup>3</sup>
mg/kWh	x mg/kWh
O <sub>2</sub> reference	x % O <sub>2</sub>

	NO	SO <sub>2</sub>	NO <sub>2</sub>
Measurement range	0...500 ppm of Full Scale 500...2.000 ppm of Full Scale	0...500 ppm of Full Scale 500...2.000 ppm of Full Scale	0...500 ppm of Full Scale 500...2.000 ppm of Full Scale
Lifetime UV radiation source	> 8.000 hours (EDL) <sup>(2)</sup>	> 20.000 hours	> 20.000 hours
Warm-up time	≤ 60 minutes <sup>(3)</sup>	≤ 60 minutes <sup>(3)</sup>	≤ 60 minutes <sup>(3)</sup>
Response time (t <sub>90</sub> )	≤ 20 seconds	≤ 20 seconds	≤ 20 seconds
Detection limit (3·σ) <sup>(4)</sup>	≤ 0,5 ppm	≤ 0,5 ppm	≤ 0,5 ppm
Linearity error	0...500 ppm ≤ ± 0,15 % of Full Scale 500...2.000 ≤ ± 0,50 % of Full Scale	0...500 ppm ≤ ± 0,15 % of Full Scale 500...2.000 ≤ ± 0,50 % of Full Scale	0...500 ppm ≤ ± 0,15 % of Full Scale 500...2.000 ≤ ± 0,50 % of Full Scale
Repeatability	± 0,15 % of Full Scale	± 0,15 % of Full Scale	± 0,15 % of Full Scale
Long term stability (zero point)	< 5 ppm / 6 h <sup>(7)</sup> < 0,2 % Full Scale / 24 h <sup>(3)</sup>	< 5 ppm / 6 h <sup>(7)</sup> < 0,2 % of Full Scale / 24 h <sup>(3)</sup>	< 8 ppm / 6 h <sup>(7)</sup> < 0,2 % of Full Scale / 24 h <sup>(3)</sup>
Long term stability (reference point)	< 0,2 % of Full Scale / month	< 0,2 % of Full Scale / month	< 0,2 % of Full Scale / month
Temperature influence (zero point)	< 0,2 % of Full Scale / 10 kelvin	< 0,2 % of Full Scale / 10 kelvin	< 0,2 % of Full Scale / 10 kelvin
Temperature influence (reference point)	< 0,2 % of Full Scale / 10 kelvin	< 0,2 % of Full Scale / 10 kelvin	< 0,2 % of Full Scale / 10 kelvin
Cross sensitivity <sup>(5)</sup>	@ 100 ppm SO <sub>2</sub> : < 2 ppm @ 500 ppm NO <sub>2</sub> : < 2 ppm @ 20 °C Dew point H <sub>2</sub> O : < 5 ppm @ 100 ppm N <sub>2</sub> O : < 10 ppm	@ 500 ppm NO <sub>2</sub> : < 5 ppm @ 20 °C Dew point H <sub>2</sub> O : < 5 ppm @ 100 ppm N <sub>2</sub> O : < 10 ppm	@ 100 ppm SO <sub>2</sub> : < 5 ppm @ 20 °C Dew point H <sub>2</sub> O : < 5 ppm @ 100 ppm N <sub>2</sub> O : < 10 ppm
Pressure influence	< 0,1 % / 10 hPa of measured value <sup>(6)</sup>	< 0,1 % / 10 hPa of measured value <sup>(6)</sup>	< 0,1 % / 10 hPa of measured value <sup>(6)</sup>

\* = Higher value prevails

<sup>(1)</sup> Related to Pa = 1.020hPa; Ta = 25 °C; flow = 1 l / min.

<sup>(2)</sup> EDL: 50 % intensity drop

<sup>(3)</sup> Full specification after 6 hours, depends on environmental conditions

<sup>(4)</sup> At zero point

<sup>(5)</sup> To each calibrated gas channel

<sup>(6)</sup> With pressure compensation

<sup>(7)</sup> First 6 hours after warm-up