



EMISSION MONITORING SYSTEMS

We *care* about the environment

NEVER BE SATISFIED WITH LESS



SIGMA
THE SLIM MULTI TALENT
HAND HELD ANALYZER

O₂

CO₂

CO

NO

NO₂

NO_x

CO_{high}

SO₂

SIGMA

THE SLIM MULTI TALENT HAND HELD ANALYZER

A powerfull device fitting the palm of your hand.

- Up to 4 measuring electrochemical cells
- Efficient CO sensor purging
- Battery and grid power supply
- Automatic internal test of hard- and software functions
- Stack draft and differential pressure measurement
- 100 measurements data storage
- Ergonomical design

Modular probe with integrated dust filter

Soft side strips

Large, backlit, graphic LCD with page header
User selectable 8/4 measured values display

Standard probe 300 x Ø 8 mm, up to max.650 °C
Industrial probe, up to 2.000 mm tube length and up to 1.100 °C ... on demand

Interface RS 232



Belt holding clip with integrated fixing magnet



SIGMA-basic set with O₂, CO (H₂ comp), NO, with printer and ABS transport case



MOBILE GAS ANALYSIS



SIGMA Industrial model
SO₂, NO₂, CO_{high}

Bluetooth /
IR Interface for
thermal printer



SIGMA is a high-grade gas analyzer which guarantees accurate readings. A Viton sampling line will be used to achieve correct measuring results for NO₂ and SO₂

Options:

- Bluetooth module for wireless data transfer to PC / PDA
- RS 232 special cable for data transfer to PC / PDA
- RS 232 / USB converter for data transmission to PC / PDA
- Ambient air temperature probe, short plug style
- Combustion air temperature probe, 300 mm length with 2,5 m cable
- Infrared thermal printer
- Robust, ABS-transport case
- CO (H₂ comp.) sensor purge by means of 2nd pump, for sensor protection

Measuring ranges:

- O₂ 0 ... 21 %
- CO (H₂ comp) 0 ... 2.000 ppm (* overload up to 10.000 ppm)
- NO 0 ... 1.000 ppm (* overload up to 5.000 ppm)
- CO (high) 0 ... 4.000 ppm (* overload up to 20.000 ppm)
- CO (very high) 0 ... 4 % (* overload up to 10 %)
- NO₂ 0 ... 200 ppm (* overload up to 1.000 ppm)
- SO₂ 0 ... 2.000 ppm (* overload up to 5.000 ppm)

* for SHORT-TERM measurements only!

Recommended sensor combinations (O₂ is standard):

O ₂	basic	basic	basic	basic	basic	basic	basic
CO (H ₂ comp)	●	●	●		●	●	●
NO		●	●	●	●	●	●
NO ₂			●	●			
SO ₂				●	●		
CO (high)						●(**)	
CO (very high)							●(**)

(**) to protect the CO (H₂ comp) sensor, we recommend the optional CO sensor purging



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SIGMA – TOP PERFORMANCE WITHIN MOST COMPACT DIMENSIONS

TECHNICAL SPECIFICATIONS

SIGMA Gasanalyzer	Handheld analyzer with up to 4 electrochemical sensors
Fuel types	natural gas, liquid gas, oil heavy, oil light, pellets, wood, bio diesel, expandable fuel type list
Measurement components:	
Oxygen O₂	0 ... 21,0 Vol-%, accuracy ± 0,2 Vol-% abs.
Carbon monoxide CO_{H2-comp} (option)	0 ... 2.000 ppm, overload up to 10.000 ppm accuracy ± 20 ppm or 5 % reading ≤ 2.000 ppm / 10 % reading > 2.000 ppm
Carbon monoxide CO_{high} (option)	0 ... 4.000 ppm, overload up to 20.000 ppm accuracy ± 20 ppm oder 5 % reading ≤ 2.000 ppm / ± 100 ppm or 5 % reading ≤ 4.000 ppm
Carbon monoxide CO_{very high} (option)	0 ... 4%, overload up to 10% accuracy ± 0,02% or 5 % reading ≤ 0,4% / 10 % reading > 0,4%
Nitrogen monoxide NO (option)	0 ... 1.000 ppm, overload up to 5.000 ppm accuracy ± 5 ppm or 5 % reading ≤ 1.000 ppm / 10 % reading > 1.000 ppm
Nitrogen dioxide NO₂ (option)	0 ... 200 ppm, overload up to 1.000 ppm accuracy ± 5 ppm or 5 % reading ≤ 200 ppm / 10 % reading > 200 ppm
Sulfur dioxide SO₂ (option)	0 ... 2.000 ppm, overload up to 5.000 ppm accuracy ± 10 ppm or 5 % reading ≤ 2.000 ppm / 10 % reading > 2.000 ppm
Stack gas temperature T.Gas	0 ... 650 °C by means of stainless steel sampling tube, accuracy ± 2 °C ≤ 200 °C / 1 % reading > 200 °C 0 ... 1.100 °C by means of Inconel steel sampling tube, accuracy ± 2 °C ≤ 200 °C / 1 % reading > 200 °C
Combustion air temperature T.Air	0 ... 100 °C, accuracy ± 1 °C
Draft / Differential pressure	± 100 hPa, accuracy ± 0,02 hPa (fuel type depending)
Calculated values:	
Carbon dioxide CO₂	0 ... CO ₂ max, accuracy ± 0,3 Vol-% abs.
Dewpoint H₂O	°C
Losses	0 ... 99,9 %
Efficiency	0 ... 120 %
Excess Air	1, ... 9,99 %
Measured values as	mg/Nm ³ , referenced to O ₂ , NO _x as mg/Nm ³ NO ₂
Data transfer	RS 232, baud 9600
CO-sensor purge (option)	by means of 2nd pump, for sensor protection
Bluetooth module (option)	for wireless data transfer to PC / PDA ...
General specifications:	
Operation temperature	+ 5 ... + 45 °C, max. 95 % RH, not condensing
Storage temperature	- 20 ... + 50 °C
Ambient conditions	not in aggressive, corrosive or high dust ambient, not for use in hazardous areas
Power supply	internal: 4 x Mignon NiMh battery, min 8 h operation wall-plug grid power supply, 100 - 240 Vac / 50 ... 60 Hz
Protection class	IP 42
Weight	approx. 750 g
Dimensions	(W x H x D) 75 x 210 x 55 mm

Dealer:



EMISSION MONITORING SYSTEMS

MRU · Measuring instruments for flue gases
and environmental protection GmbH
Fuchshalde 8 · 74172 Neckarsulm-Obereisesheim
Phone +49 7132-99620 · Fax +49 7132-996220
info@mru.de · www.mru.eu