



EMISSION MONITORING SYSTEMS

We *care* about the environment

HANDHELD MULTIGAS ANALYZER



**BEST PERFORMANCE
BEST PRICE**

**LOW WEIGHT:
LESS THAN 800 gr.**

NOW WITH 7 SENSORS
New Sensors:
CO2 0 - 20 % (IR-Bench)
H2S 0 - 500 ppm (EC Sensor)



OPTIMA 7

THE MOST POWERFUL HANDHELD MULTIGAS ANALYZER FOR INDUSTRIAL COMBUSTIONS, EMISSION AND PROCESS MONITORING MEASUREMENTS USING UP TO 5 ELECTROCHEMICAL SENSORS

- O2
- CO2
NDIR
- CO
- CO
low
- NO
- NO
low
- NO2
- NOx
- SO2
- H2S

optima 7

THE SLIM
MULTI TALENT HANDHELD
FLUE GAS ANALYZER USING
UP TO 5 ELECTROCHEMICAL
SENSORS

Suitable for emission
monitoring of combustions
and industrial processes

Main features:

- Modern, slimline enclosure with fixing magnets
- Super bright, colour 3,5" TFT-display with LED backlight
- Mini-USB for cable data transfer
- IRDA interface for high speed infrared printer
- Integrated condensate trap with PTFE filter and LED backlight
- Menu guided software and function keys
- Robust stainless steel gas connectors
- Rechargeable Lithium-Ion battery for min. 15 hours, or NiMH for min. 6 hours operation
- Less than 800 gr. weight (for instrument only)

Measurement of:

O ₂	0 ... 21,00 %
CO ₂ IR bench	0 ... 20,00 %
CO ₂ calculated value	0 ... 20,00 %
CO low	0 ... 300 ppm
CO/H ₂ compensated	0 ... 10.000 ppm
NO low	0 ... 300 ppm
NO	0 ... 5.000 ppm
NO ₂	0 ... 1.000 ppm
NO _x	0 ... 5.000 ppm
SO ₂	0 ... 5.000 ppm
H ₂ S	0 ... 500 ppm
CO high	0 ... 2,0 %
CO very high	0 ... 10,00 %
Combustion air temperature	up to 100 °C
Stack gas temperature	up to 1.100 °C *
Stack draft measurement	± 100 hPa
Differential pressure	± 100 hPa
Differential temperature	up to 1.100 °C *

* with adequate probes



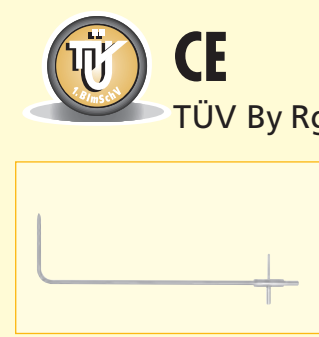
NOW WITH 7 SENSORS
New Sensors:
CO₂ 0 - 20 % (IR-Bench)
H₂S 0 - 500 ppm (EC Sensor)



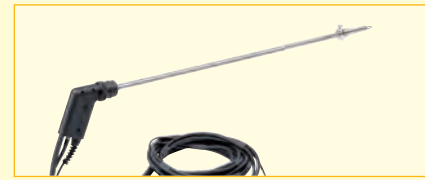
ABS transport case
including infrared
high speed printer



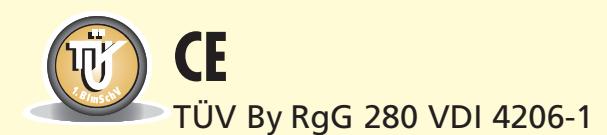
Shoulder strap



Gas flow velocity
measurement with m/s,
absolute pressure sensor
and different pitot tubes



Probes and hoses
MRU offers a wide range of standard
(up to 650 °C) and industrial probes
(up to 1.100 °C) with various lengths



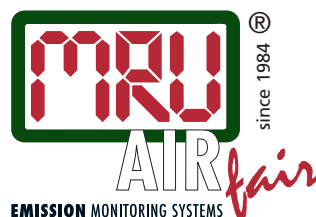
Technical Specifications

OPTIMA 7 GAS ANALYZER	Handheld analyzer with up to 5 electrochemical sensors	
Fuel types	natural gas, liquid gas, oil heavy, oil light, pellets, wood, bio diesel, expandable fuel type list	
Measurement components:	<i>range</i>	<i>accuracy</i>
Oxygen O₂	0 ... 21,0 Vol-%	± 0,2 Vol-% abs.
Carbon dioxide CO₂ IR bench	0 ... 20 Vol-%	± 0,4 Vol-% abs.
Carbon monoxide CO (H₂-comp)	0 ... 4.000 ppm * overload up to 10.000 ppm	± 10 ppm or** 5 % reading up to 4.000 ppm or** 10 % reading up to 10.000 ppm
Carbon monoxide CO low (special software and calibration)	0 ... 300 ppm (with 0,1 ppm resolution)	± 2,0 ppm or** 5 % reading
Carbon monoxide CO high	0 ... 4.000 ppm * overload up to 20.000 ppm	± 100 ppm or** 5 % reading up to 4.000 ppm or** 5 % reading up to 20.000 ppm
Carbon monoxide CO very high	0 ... 4,00 % * overload up to 10,00 %	± 0,02% or** 5 % reading up to 4,00 % or** 10 % reading up to 10,00 %
Nitric monoxide NO	0 ... 1.000 ppm * overload up to 5.000 ppm	± 5 ppm or** 5 % reading up to 1.000 ppm or** 10 % reading up to 5.000 ppm
Nitric monoxide NO low (special software and calibration)	0 ... 300 ppm (with 0,1 ppm resolution)	± 2,0 ppm or** 5 % reading
Nitric dioxide NO₂	0 ... 200 ppm * overload up to 1.000 ppm	± 5 ppm or** 5 % reading up to 200 ppm or** 10 % reading up to 1.000 ppm
Sulfur dioxide SO₂	0 ... 2.000 ppm * overload up to 5.000 ppm	± 10 ppm or** 5 % reading up to 2.000 ppm or** 10 % reading up to 5.000 ppm
Hydrogen sulfide H₂S	0 ... 50 ppm * overload up to 500 ppm	± 5 ppm or** 5 % reading up to 100 ppm or** 10 % reading up to 500 ppm
Stack gas temperature T. Gas	0 ... 650 °C (stainless steel tube) 0 ... 1.100 °C (Inconel steel tube)	± 2 °C ... < 200 °C or**1 % reading up to 200 °C ± 2 °C ... < 200 °C or**1 % reading up to 200 °C
Differential temperature	up to 650 °C or up to 1.100 °C (with suitable temperature sampling tube)	
Combustion air temperature T. Air	0 ... 100 °C	± 1 °C
Draft / Differential pressure	- 100 ... + 100 hPa	± 0,02 hPa
Calculated values: (fuel type depending)		
Carbon dioxide CO₂	0 ... 20 %	± 0,3 Vol-% abs.
Heat losses q_A	0 ... 99,9 %	
Efficiency η	0 ... 120 %	
Air Ratio λ	1, ... 9,99 %	
Excess Air	0 ... 99,9 %	
Combustion calculations	based on the large fuel type list like: CO ₂ , excess air, heat losses, combustion efficiency, flue gas dew point, CO / CO ₂ ratio	
Emission calculations	mg/Nm ³ , NO _x as mg/m ³ NO ₂ true measurement of NO _x = NO + NO ₂ , including O ₂ referencing (normalisation) to user settable value	
CO-sensor purge (option)	using 2nd pump, for sensor protection	
General specifications:		
Operation temperature	+ 5 ... + 45 °C, max. 95 % RH, none condensing	
Storage temperature	0 ... + 50 °C	
Ambient conditions	not in aggressive, corrosive or high dust ambience, not for use in hazardous areas	
Power supply	High energy Lithium-Ion battery 15 h operation or NiMH battery, min. 6 h operation	
Mains	wall-plug grid power supply, 100 - 240 Vac / 50 ... 60 Hz	
Protection class	IP 20	
Weight	approx. 750 g (with 2 sensors)	* for SHORT-TERM measurements only !
Dimensions	(W x H x D) 110 x 225 x 52 mm	** which ever is larger!

DATA SUBJECT TO CHANGE WITHOUT NOTICE

OPTIMA 7 – Amazing Functionality & Versatility in a Handheld Analyzer MRU – Always a safe and sustainable decision

Dealer:



EMISSION MONITORING SYSTEMS

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and environmental protection GmbH
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