EMISSION MONITORING SYSTEMS

We *care* about the environment

HANDHELD MULTIGAS ANALYZER

MRU AIR fair since 1984 ®
EMISSION MONITORING SYSTEMS

OPTIMA 7

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

O2 | CO2 | CO | CO low | NO | NO low | NO2 | NOx | SO2

optma 7

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

Suitable for emission monitoring of combustions and industrial processes

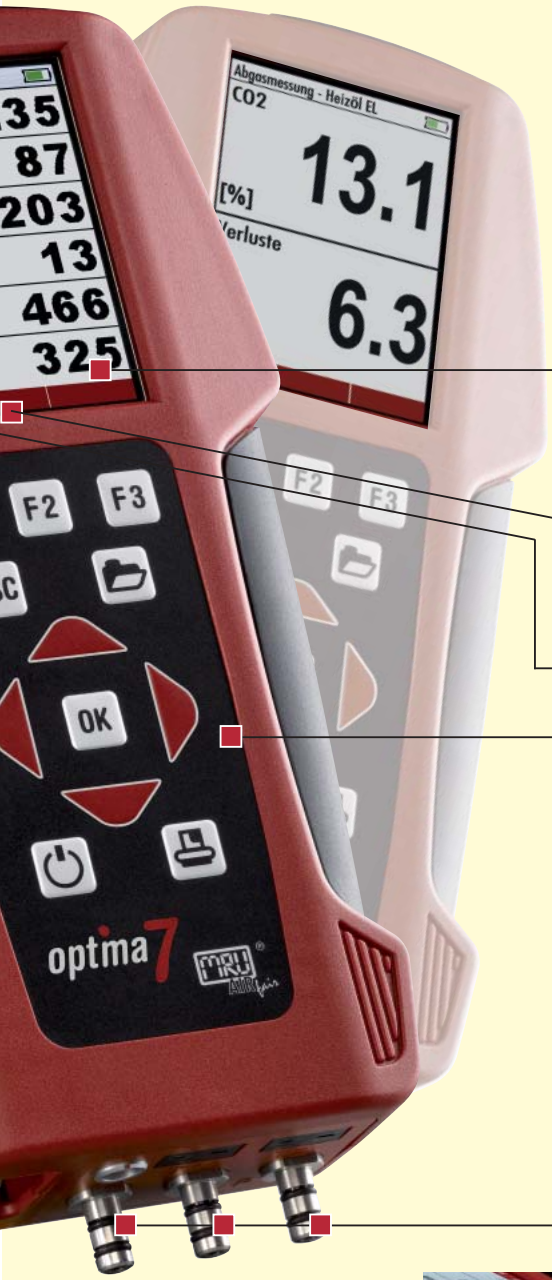
Main features:

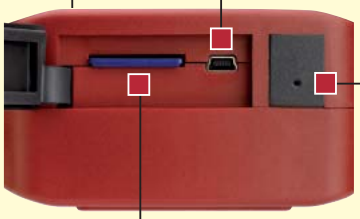
- Modern, slimline enclosure with fixing magnets
- Super bright, colour 3,5" TFT-display with LED backlight
- Mini-USB for cable data transfer
- IRDA interface for high speed infrared printer
- Integrated condensate trap with PTFE filter and LED backlight
- Menu guided software and function keys
- Robust 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 calculated value	0 ... 20,00 %
CO low	0 ... 300 ppm
CO/H_2 compensated	0 ... 4.000 ppm
NO low	0 ... 300 ppm
NO	0 ... 1.000 ppm
NO_2	0 ... 200 ppm
NO_x	0 ... 2.000 ppm
SO_2	0 ... 2.000 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

ABS transport case including infrared high speed printer





Mini-USB for cable data transfer and power supply or battery charging

IRDA printer interface

Bluetooth for wireless data transmission

2GB SD-card
for data storage

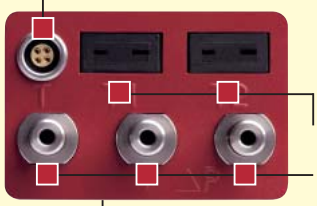
PC software
for wireless or cable data acquisition

3,5" TFT display
Super bright, colour 3,5" TFT display with backlight and zoom function

CO-sensor protection by fresh air purging pump

Menu guided software and function keys

User friendly, dirt and moisture resistant keypad



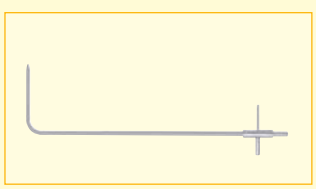
AUX universal auxiliary socket, for connection of HC or CO gas detector, other pressure, temperature external sensors

K-type temperature sockets

Robust stainless steel gas connectors

Condensate trap
Effective, backlit condensate trap with reusable Teflon filter for protection against dirt and soiling

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:	*range*	*accuracy*
Oxygen O_2	0 ... 21,0 Vol-% abs.	± 0,2 Vol-% abs.
Carbon monoxide CO (H2-comp)	0 ... 4.000 ppm * overload up to 10.000 ppm	± 20 ppm or 5 % reading < 4.000 ppm / 10 % reading > 4.000 ppm
Carbon monoxide CO low (special software and calibration)	0 ... 300 ppm (with 0,1 ppm resolution)	
Carbon monoxide CO high	0 ... 4.000 ppm * overload up to 20.000 ppm	± 100 ppm or 5 % reading < 4.000 ppm / 5 % reading > 4.000 ppm
Carbon monoxide CO very high	0 ... 4,00 % * overload up to 10,00 %	± 0,02% or 5 % reading < 0,4% / 10 % reading > 0,4%
Nitric monoxide NO	0 ... 1.000 ppm * overload up to 5.000 ppm	± 5 ppm or 5 % reading < 1.000 ppm / 10 % reading > 1.000 ppm
Nitric monoxide NO low (special software and calibration)	0 ... 300 ppm (with 0,1 ppm resolution)	
Nitric dioxide NO_2	0 ... 200 ppm * overload up to 1.000 ppm	± 5 ppm or 5 % reading < 200 ppm / 10 % reading > 200 ppm
Sulfur dioxide SO_2	0 ... 2.000 ppm * overload up to 5.000 ppm	± 10 ppm or 5 % reading < 2.000 ppm / 10 % reading > 2.000 ppm
Stack gas temperature T.Gas	0 ... 650 °C (stainless steel tube) 0 ... 1.100 °C (Inconel steel tube)	± 2 °C ... < 200 °C / 1 % reading > 200 °C ± 2 °C ... < 200 °C / 1 % reading > 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 CO_2	0 ... 20 %	± 0,3 Vol-% abs.
Heat losses qA	0 ... 99,9 %	
Efficiency η	0 ... 120 %	
Excess Air λ	1,... 9,99 %	
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/Nm³, NOx as mg/m³ NO_2 true measurement of NOx = 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)	
Dimensions	(W x H x D) 110 x 225 x 52 mm * for SHORT-TERM measurements only !	

DATA SUBJECT TO CHANGE WITHOUT NOTICE

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

Dealer:

MRU AIR fair since 1984 ®
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