

EMISSION MONITORING SYSTEMS

We *care* about the environment

COMBUSTION EFFICIENCY ANALYZER



YOUR BEST AND RELIABLE CHOICE

EASY HANDLING ROBUST RUBBER PROTECTION CASE WITH MAGNET

LOW WEIGHT: APPR. 500 g



DELTA 65

THIS IS THE IDEAL COMBUSTION ANALYZER FOR INSTALLATION AND MAINTENANCE – ALWAYS DEPENDABLE



THE NEW GENERATION

DELTA 65

COMBUSTION EFFICIENCY ANALYZER

The new handheld combustion analyzer with rubber protection case and fixing magnet, optimized condensate separator and reusable filter is the ideal instrument for installation and maintenance in a wide range of applications.

YOUR BEST AND RELIABLE CHOICE

Main features:

- Smallest instrument with ergonomic and modern design
- Rugged rubber protection case with fixing magnet
- Optimized condensate separator with reusable star filter (PTFE)
- Well legible, backlit LCD display
- Mini USB interface for cable data transfer to PC and internal battery charging
- Data storage for up to 100 measurements
- Integrated rechargeable batteries (NiMH) for min. 8 hours operation
- Universal USB battery charger for 100 ... 240 Vac grid power
- Infrared interface for high speed printer
- Large fuel type list: natural gas, liquid gas, oil heavy, oil light, pellets, wood, bio diesel and others
- Bluetooth for wireless data transmission (option)
- Appr. 500 g weight

Measurement of:

O ₂	0 ... 21,00 %
CO ₂ calculated value	0 ... 20,00 %
CO	0 ... 10.000 ppm
NO	0 ... 5.000 ppm
Ambient air temperature	up to 100° C
Flue gas temperature	up to 1.100° C *
Stack draft measurement	± 50 hPa
Differential pressure	± 200 hPa
Differential temperature	up to 650° C *
	* with adequate probes

TÜV approval / EN 50379 Standard / UNI-norm
CE-conform, ISO 9001:2008



Sampling hose
transparent = gas
black = draft

Flue gas temperature
thermocouple type K plug

Ambient air temperature
thermocouple type K plug

LCD graphical display
backlit, well legible

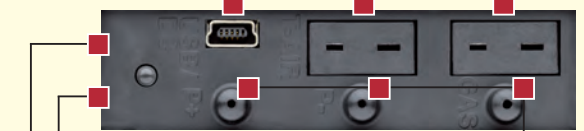
Rubber protection case
with fixing magnet

A

Connecting plate

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

K-type thermocouple temperature sockets



Bluetooth for wireless data transmission

Gas- and draft connectors

IRDA - printer interface

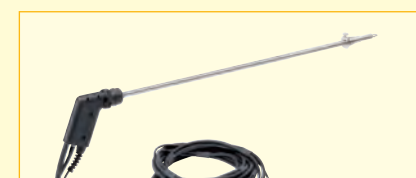
User friendly **keypad**, dirt and moisture resistant

Condensate separator effective, optimized condensate separator with reusable PTFE filter for protection against dirt and soiling

CE TÜV By RgG 283 VDI 4206-1



PP transport case including infrared high speed printer (option)



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

Combustion calculations and software features

- CO₂, CO/CO₂ ratio
- Efficiency, losses
- Excess air
- Tightness test
- Let by test (only U.K.)
- CO ambient measurement

ALSO AVAILABLE AS HANDHELD FLUE GAS ANALYZER FOR INDUSTRIAL APPLICATIONS

such as control- and adjustment measurements at industrial combustion sources. Single gas analysis of

O₂ CO NO SO₂ H₂S

NEW
now
with
3-rd sensor
for NO



Technical Specifications

DELTA 65	COMBUSTION EFFICIENCY ANALYZER with O₂ and CO electrochemical sensors	
Fuel types	natural gas, liquid gas, oil heavy, oil light, pellets, wood, bio diesel and others	
Measurement components:	<i>range</i>	<i>accuracy</i>
Oxygen O₂	0 ... 21,0 Vol-%	± 0,2 Vol-% abs.
Carbon monoxide CO	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
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
Flue gas temperature	0 ... 650 °C (stainless steel tube)	± 2 °C** up to 200 °C or 1 %** reading up to 650 °C
Differential temperature	up to 650°C	± 2 °C** up to 200 °C or 1 %** reading up to 650 °C
Ambient air temperature	0 ... 100 °C	± 1° C
Draft pressure	± 50 hPa (mbar)	± 0,02 hPa (mbar)** or 1 %** reading
Differential pressure	± 200 hPa (mbar)	± 0,02 hPa (mbar)** or 1 %** reading
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, CO ambient air measurement, Tightness test, Let by test (only U.K.)	
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 %	
DELTA 65 INDUSTRIAL	INDUSTRIAL COMBUSTION ANALYZER with one or two electrochemical sensors	
Oxygen O₂	0 ... 21,0 Vol-%	± 0,2 Vol-% abs.
Carbon monoxide CO (Hz-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 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
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
Hydrogen sulfide H₂S	0 ... 50 ppm * overload up to 500 ppm	± 5 ppm reading up to 50 ppm or 10 % reading up to 500 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
Flue gas temperature	0 ... 1.100 °C (Inconel steel tube)	± 2 °C up to 200 °C or 1 % reading up to 1.100 °C
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	NiMH battery, min. 8 h operation	
Mains	wall-plug grid power supply, 100 - 240 Vac / 50 ... 60 Hz	
Protection class	IP 20	
Approval	TÜV approval, EN 50379 Standard, UNI-norm, CE-conform, ISO 9001:2008	
Weight	approx. 500 g	
Dimensions	(W x H x D) 74 x 145 x 35 mm	
	* for SHORT-TERM measurements only!	** which ever is larger!

DELTA 65 – Your best and reliable choice
MRU – Always a safe and sustainable decision

Dealer:



EMISSION MONITORING SYSTEMS

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