



**NDIR ANALYSIS TECHNOLOGY**

We *care* about the environment

# PORTABLE MULTI-COMPONENT NDIR-GAS-ANALYZER

CO

CO<sub>2</sub>

HC

O<sub>2</sub>

NO<sub>(X)</sub>

RS 232

PRINTER  
INTERFACE

MEMORY

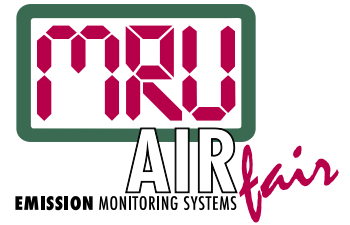
RECHARG.  
BATTERY  
USE

110 - 240  
VOLT  
USE



**NDIR - DELTA 1600 S - IV \***

**\*INDUSTRIAL VERSION**



# NDIR TECHNOLOGY WITH MOST COMPACT DIMENSIONS: DELTA 1600 S IV INDUSTRIAL VERSION

## MULTI-COMPONENT GAS ANALYZER

Continuous analysis of CO, CO<sub>2</sub>, HC on a NDIR basis and of O<sub>2</sub>, NO<sub>2</sub> on an electro-chemical basis. Up to 5 gas components can be simultaneously recorded and documented with this handy, mobile gas analyzer. **DELTA 1600S-IV** is the smallest and the most lightweight (1000g) gas analyzer on **NDIR basis**. Equipped with an external battery, mobile operation up to 4 hours is possible. Areas difficult of access, where gases have been detected with high precision. e.g. disposal sites, cement industry, food industry, smokeries etc. are the range of use and operational areas for the NDIR gas analyzer **DELTA 1600 S-IV... a MRU product where high quality meets low cost.**



NDIR DELTA 1600 S - IV / INDUSTRIAL VERSION with external battery and battery charger



Transportation case

IR printer interface for external printer

external battery capacity up to 4 hours

large, illuminated, well legible LCD display

gas inlet with condensate box and micro filter

logically structured and menu-guided software

RS 232 computer interface for data transmission

flexible and handy gas sampling probe

### MULTI-COMPONENT ANALYZER DELTA 1600 S-IV

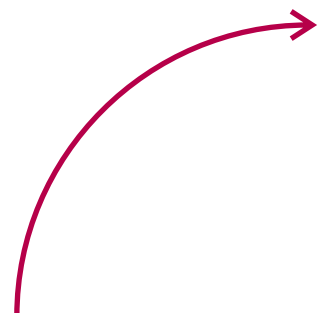
- ▶ High-Tech product of MRU
- ▶ With continuous analysis of all gas components and indication of all analyzed data within seconds.
- ▶ All functions are monitored by micro processor, all internal parts are SMD parts, which allow minimal dimensions and low weight.
- ▶ Internal self test when switching on.
- ▶ Display indicates when system is ready for measurement.
- ▶ Keyboard is simply, logically and clearly structured.
- ▶ Logical and menu-guided user software.
- ▶ 4 measured data are shown on the well legible LCD display at the same time. More values are possible (individually programmable)
- ▶ Measured data can be transmitted to computer or other data storage unit by RS 232 interface (option).
- ▶ Transmission of measured data to an external printer via standard IR interface (documentation with date and time).

- ▶ DELTA 1600S-IV is user optimised. It is a robust and versatilely usable gas analyzer.
- ▶ Its compactness, the low weight and the easy handling allow a versatile use.
- ▶ An important contribution to environment protection.

### NDIR DELTA 1600 S-IV INDUSTRIAL VERSION

- Precisely configured for the different requirements of the industry, if e.g. combustible is not known or with different gas mixtures in process gases:
- ▶ Strong gas pump for quick response time and overcome low pressure.
  - ▶ Optimum filter system: coarse and fine filter
  - ▶ Water / humidity stop inside
  - ▶ Gas sampling probe acc. to customer's specifications
  - ▶ Operational temperatures up to 1100°C and above
  - ▶ With carrier belt for easy transport
  - ▶ With memory storage

**NDIR-DELTA 1600 S-IV**  
**INDUSTRIAL VERSION**



### Operational principle:

The operational principle is based on the "non dispersive infrared absorption measuring principle". By narrow band pass filter CO, CO<sub>2</sub>, HC can selectively be measured, which allows the compactness of the measuring system. Measurement of O<sub>2</sub> and NO is

effected by electro-chemical sensors. An integrated strong diaphragm pump sucks the gas and conducts it to the heated gas cell. A micro processor analyses concentration of the gas and indicates the corresponding values on a large illuminated display.



### Possible range of user industry:

- ▶ Disposal Sites
- ▶ Food Industry
- ▶ Cement Industry
- ▶ Chemical Industry
- ▶ Incineration Plants
- ▶ Automobile Industry
- ▶ Metal Industries
- ▶ Smokeries etc.

# NDIR ANALYSIS TECHNOLOGY



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## DESCRIPTION AND EQUIPEMENT: MULTI-COMPONENT-NDIR-ANALYZER DELTA 1600 S-iV INDUSTRIAL VERSION .the profesional mobile analysis system

Suitable for control- and adjustment measurements at large industrial boilers, power stations, reffineries, automobile industry, breweries, paper-, ceramic-, cement industry, incinerator plants, disposal sites, large boiler, food industry, smokeries etc.

Handheld portable gas analyzer based on NDIR-technology designed for robust industrial use, with strong gas pump, inclusive combined filter-unit with fine filter and condensate box, rechargeable battery standard.

### Possibilities of the equipement:

#### NDIR MULTI-COMPONENT-ANALYZER

▶CO <sub>2</sub>	carbon dioxide	up to 20 %	
▶CO	carbon monoxide	up to 10 %	
▶HC	hydrocarbon	up to 100 %	MRU-No. 160 460
▶CO <sub>2</sub>	carbon dioxide	up to 100 %	
▶CO	carbon monoxide	up to 100 %	
▶HC	hydrocarbon	up to 15 %	MRU-No. 160 470
▶CO <sub>2</sub>	carbon dioxide	up to 16 %	
▶CO	carbon monoxide	up to 10 %	
▶O <sub>2</sub>	oxygen	up to 22 %	MRU-No. 160 300

Other ranges, e.g. up to 40 or 60 % on demand!

#### OPTIONS AND SPARE PARTS:

▶O <sub>2</sub>	oxygen measuring	up to 22 %	MRU-No. 55 998
▶NO <sub>(x)</sub>	nitrogen dioxide meas.	up to 5.000 ppm	MRU-No. 160 320
▶300 mm	gas sampling probe, Ø 8 mm, incl. 2,70 m gas sampling hose, useable up to 800°C		MRU-No. 56593
▶500 mm	gas sampling probe, Ø 8 mm, incl. 2,70 m gas sampling hose, useable up to 800°C		MRU-No. 56594
▶1000 mm	gas sampling probe, Ø 8 mm, incl. 2,70 m gas sampling hose, useable up to 800°C		MRU-No. 56595
▶1000 mm	gas sampling probe, Ø 8 mm, incl. 2,70 m gas sampling hose, useable up to 1100°C		MRU-No. 56596
▶Coarse filter,	for high dirt mounted directly after the gas sampling probe		MRU-No. 56356
▶probe holder,	slewable		MRU-No. 50648
▶High temperature cone,	for Ø 8 mm probes, up to 1.000°C		MRU-No. 50908
▶Battery pack,	rechargeable, 12V, capacity 4 hours (spare part)		MRU-No. 56620
▶Infrared	thermoprinter		MRU-No. 55425
▶ABS-	transportcase		MRU-No. 55715
▶Aluminium	framed case		MRU-No. 55523
▶Service- and	cleaning set		MRU-No. 55523
▶Starfilter	(fine filter)		MRU-No. 11165
▶Filtertabs			MRU-No. 52798

Dealer's stamp:

#### TECHNICAL DATA:

CO	0 - 10% or 0 - 100% vol.
CO <sub>2</sub>	0 - 20% or 0 - 100% vol.
HC	0 - 10% or 0 - 100% vol.
O <sub>2</sub>	option 0 - 22% vol.
NO	option 0 - 5.000 ppm vol.

Emptying condensate trap: manually

IR-interface: IR-thermoprinter (option)

#### Power supply:

Rechargeable battery pack 12V external, (standard)

Quick charger for battery pack (standard)

Power supply 100 to 240VDC / 12VDC (option)

#### Gas sampling probe:

Tube 300 mm, 500 mm or 1000 mm slewable, up to 800°C and 1000 mm up to 1100°C with 2,7 m gas sampling line.

#### Operating temperature:

+ 5°C to + 40°C

#### Storage temperature:

- 20°C to + 50°C

#### Dimensions:

100 x 210 x 60 mm (without case)

140 x 225 x 65 mm (with case)

#### Weight:

approx. 2.000g with battery and case



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