Measuring ranges

Component	*Measuring range 1*	*Measuring range 2*
CO:	0...100 mg/m³	0...5000 mg/m³
CO_2:	0...25 vol. %	0...50 vol. %
CH_4:	0...50 mg/m³	0...500 mg/m³
NO:	0...100 mg/m³	0...3000 mg/m³
NO_2:	0...100 mg/m³	0...2500 mg/m³
N_2O:	0...100 mg/m³	0...3000 mg/m³
NH_3:	0…25 mg/m³	0…500 mg/m³
SO_2:	0...50 mg/m³	0...2500 mg/m³
HCl:	0...50 mg/m³	0...5000 mg/m³
H_2O:	0...20 vol. %	0...40 vol. %
O_2:	0...15 vol. %	0...25 vol. %

Highlights of the device

- continuous, extractive measurement of up to twelve infrared components
- compact 19“ insertion for mounting in customer-provided control cabinet
- hot gas measurement (without gas cooler)
- integrated control
- integrated zero gas provision
- self control (additional control of inlet temperature)
- first-class price-performance ratio

Technical data

Housing dimensions:	480 mm x 220 mm x 350 mm (w x h x d)
Weight:	28 kg
Power supply:	100...240 V AC, 50-60 Hz, 6 A
Power consumption:	350 W
Protection degree:	IP 40
Media temperature:	max. 200 °C
Ambient temperature:	+20 °C ... +35 °C (temperature stability max. ± 3 °C)
Required media:	Instrument air for gas conveyance, zero point calibration as well as purging operation (quality requirements: dew-point -40 °C, < 1 ppm oil-free, dust-free, 2 bar)
Outputs:	- max. 8 x 4...20 mA analogue outputs - max. 7 digital output signals possible - optional: Modbus
Display/operating:	provided by customer
Measuring methods (infrared absorption):	- Bi-frequency measuring method - Gas filter correlation - Oxygen measurement (zirconium dioxide cell)

Special models are possible on request.

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MCA 14

Product Information

The multi component analyser MCA 14 serves the continuous measurement of pollutants in flue gas (e.g. CO, CO_2, N_2O, NO_2, NH_3, CH_4, HCl, H_2O, SO_2, O_2, NO) as well as the continuous process control.

Application

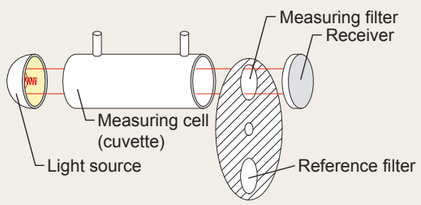
The MCA 14 is applicable all-purpose for measurement of emissions, raw gases or processes. As system in regulatory and operational emission measurement systems, amongst others, it serves the exhaust concentration control in combustion plants with different types of fuel, the thermal waste treatment, the combustion optimisation and the process management control.

Application examples:

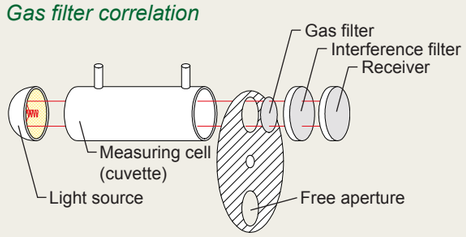
- Power plants
- Waste incineration plants
- Refineries
- Cement industry
- Industrial exhaust air
- Paper mills
- Glass industry
- Chemical industry

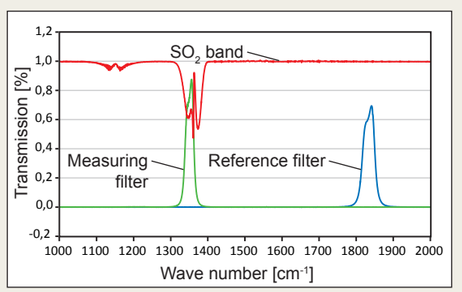
Measuring methods

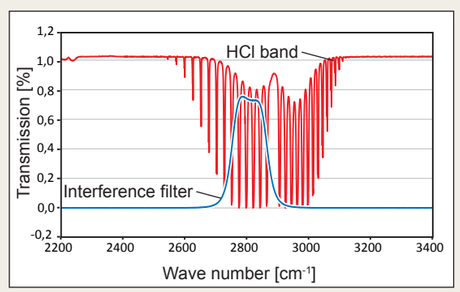
Bi-frequency measuring method



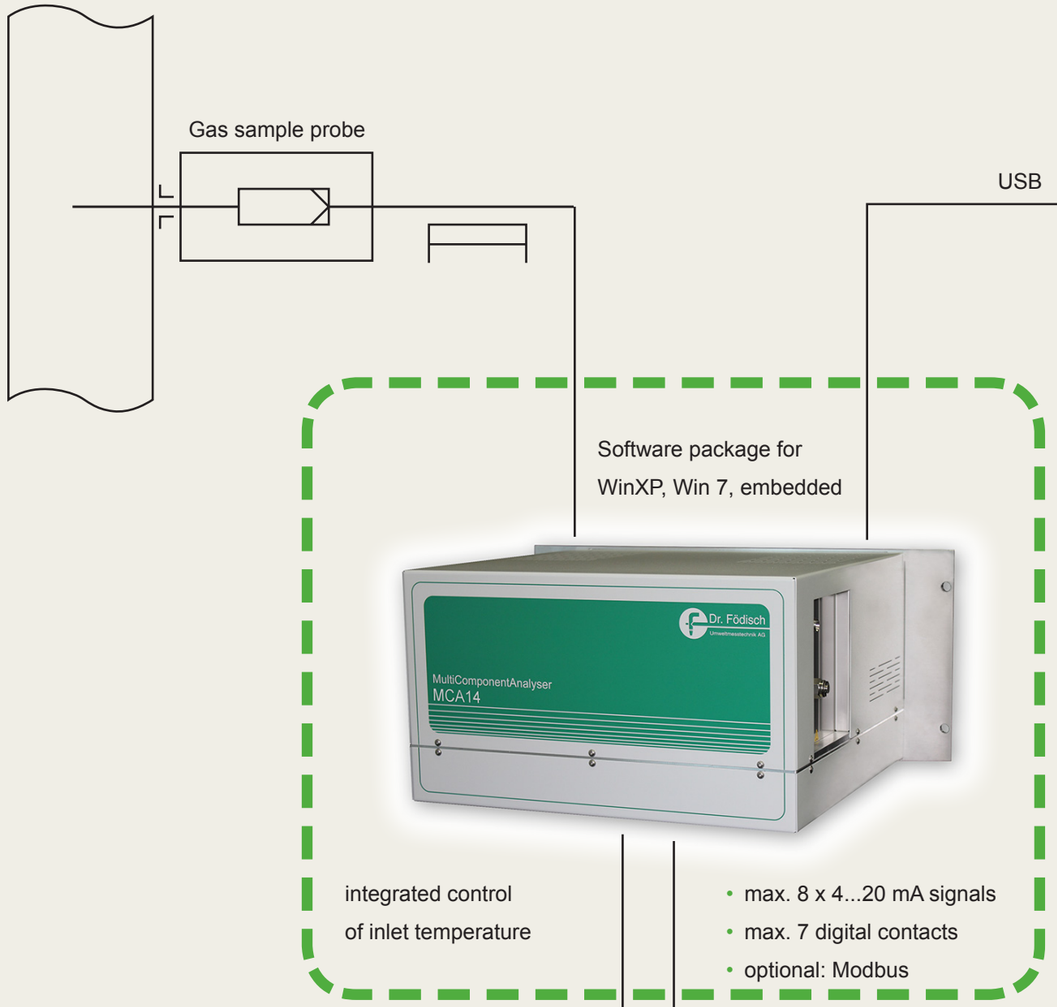
Gas filter correlation



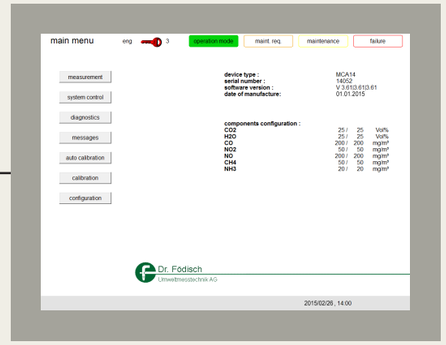




System integration



provided by customer:



Laptop/PC/panel/tablet for:

- Visualisation of measuring results and parameters
- Remote control via LAN (VNC...)
- Data storage on HDD

- Data logger
- EMI PC
- Control system

Design

The MCA 14 has a robust chassis design, where the photometer is structurally separated from the control electronics respectively computer electronics.

Basically, the MCA 14 consists of the following device components:

- gas suction and gas distribution
- photometer (consisting of emitter unit, measuring cell and detector unit)
- measuring relevant sensors
- power supply unit
- mainboard

Other components (e.g. cooler, measuring gas pump) are not required for gas conditioning.

Gas distribution block

- connections for measuring gas pipe and exhaust pipe
- gas conveyance by low-maintenance air-jet pump (at primary pressure of forced air of 2 bar as standard a suction performance of 150 mbar is reached)
- temperature of gas distribution block = 185 °C
  → no heat conductive areas in the internal gas path

Irradiation photometer

- standard heated to a temperature of 185 °C
- simultaneous measurement of up to 12 components

Mainboard and internal control

- internal evaluation of the gas concentrations with all necessary compensations and standardisations
- provision of measuring results by max. 8 analogue and 7 digital output signals or Modbus
- visualisation and operating by external PC with device-own PC software
  → high operational safety because instable Windows platforms are only needed for displaying