



**CEM Solutions**  
Industrial Emissions Monitoring



**MCA 10**

## Measuring ranges

Component	Certification range	Measuring range 2	Measuring range 3
CO	0...75 mg/m <sup>3</sup>	0...300 mg/m <sup>3</sup>	0...5000 mg/m <sup>3</sup>
CO <sub>2</sub>	0...25 vol. %	0...50 vol. %	-
NO	0...200 mg/m <sup>3</sup>	0...400 mg/m <sup>3</sup>	0...3000 mg/m <sup>3</sup>
NO <sub>2</sub>	0...50 mg/m <sup>3</sup>	0...500 mg/m <sup>3</sup>	-
N <sub>2</sub> O	0...50 mg/m <sup>3</sup>	0...3000 mg/m <sup>3</sup>	-
NH <sub>3</sub>	0...10 mg/m <sup>3</sup>	0...50 mg/m <sup>3</sup>	0...500 mg/m <sup>3</sup>
SO <sub>2</sub>	0...75 mg/m <sup>3</sup>	0...300 mg/m <sup>3</sup>	0...2500 mg/m <sup>3</sup>
HCl	0...15 mg/m <sup>3</sup>	0...90 mg/m <sup>3</sup>	0...5000 mg/m <sup>3</sup>
HF	-	0...20 mg/m <sup>3</sup>	-
H <sub>2</sub> O	0...40 vol. %	-	-
CH <sub>4</sub>	0...50 mg/m <sup>3</sup>	0...500 mg/m <sup>3</sup>	-
TOC	0...15 mg/m <sup>3</sup>	0...30 mg/m <sup>3</sup>	-
O <sub>2</sub>	0...25 vol. %	-	-

## Product Information

The multi component analyser MCA 10 HWIR serves the continuous emission measurement of pollutants in flue gas (e.g. CO, NO, N<sub>2</sub>O, NO<sub>2</sub>, NH<sub>3</sub>, CH<sub>4</sub>, HCl, SO<sub>2</sub>, HF) and the measurement of CO<sub>2</sub>, H<sub>2</sub>O and O<sub>2</sub> as well as the continuous process control.

The device is suitability tested according to DIN EN 15267-3 and certified in compliance with MCERTS Performance Standards.

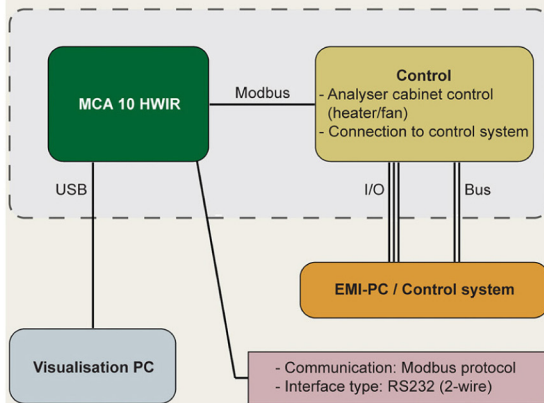
## Application

The MCA 10 HWIR 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
- Industrial exhaust air
- Waste incineration plants
- Paper mills
- Refineries
- Glass industry
- Cement industry
- Chemical industry

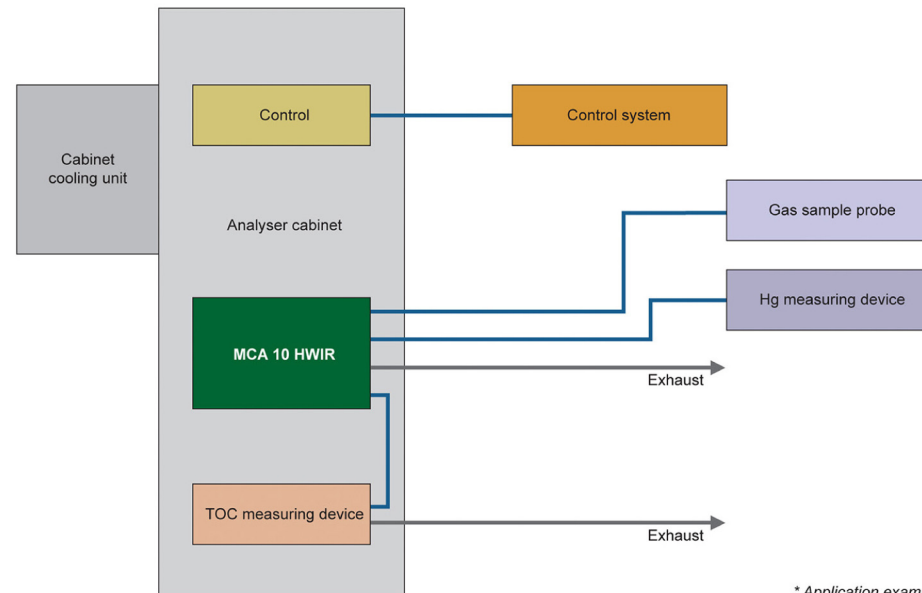
## Design of CPU components



The system design consists basically of three logic units:

- Multi component analyser MCA 10 HWIR
- Visualisation PC with user software
- PLC control for analyser cabinet

## System design\*



\* Application example

## Highlights of the device

- modularly structured hot gas analyser system (without gas cooler)
- continuous, extractive measurement of up to twelve infrared components
- field-proven components, modern photometer technology
- long operation times, high reliability
- compact 19" insertion of the analyser → easy mounting
- easy system design
- pre-calibrated → immediately deployable
- integrated control
- integrated zero gas provision
- self control (additional control of inlet temperature)
- zero point drift control
- remote diagnosis and system setting via Ethernet
- first-class price-performance ratio

## Technical data

### Analyser

Housing:	steel sheet housing, 19" format, IP 40; 480 mm x 220 mm x 350 mm (w x h x d), weight approx. 28 kg
Measuring methods:	- bi-frequency measuring method (NO <sub>2</sub> , SO <sub>2</sub> , HF, H <sub>2</sub> O, CO <sub>2</sub> ) - gas filter correlation (CO, NO, HCl, NH <sub>3</sub> , N <sub>2</sub> O, CH <sub>4</sub> ) - zirconium dioxide cell (O <sub>2</sub> )
Number of meas. components:	max. 12 infrared components (dependent on application) and oxygen
Accuracy:	< 2% of the respective measuring range
Zero point correction:	automatical
Sensitivity correction:	with test gas, once in 6 months
Cross-sensitivity correction:	additive, multiplicative
Air pressure correction:	yes
Standardisation:	dry, wet
Gas conveyance:	air-jet pump
Compressed-air connection:	1...4 bar
Display/operating:	PC connection via USB (e.g. to the control panel in the analyser cabinet)
Interfaces:	2 x RS232, USB
Power supply:	110 V bis 230 V, 50/60 Hz, 300 W
Photometer:	- spectral range: 1...16 µm - gas path: continuously heated, standard 185 °C (higher temperatures on request) - path length of measuring cell: adjustable 2...10 m - dead volume of measuring cell: < 1 l - particle filter: 2 µm

### Analyser cabinet

Dimensions:	steel sheet cabinet, 800 mm x 2100 mm x 600 mm (w x h x d)
Weight:	approx. 200...300 kg (depending on fitments)
Display/operating:	integrated 15" control panel with touch surface, 1024 x 768 Pixel

### System

Ambient temperature:	5...40 °C
Relative humidity:	max. 90% (non-condensing)
Compressed-air connection:	4...6 bar (dependent on application)
Compressed-air consumption:	approx. 1 m <sup>3</sup> /h (dependent on application)
Calibration:	- zero point: automatical with instrument air - span point: with test gas, optionally automatical
Interfaces:	analogue outputs, Modbus, Profibus, further on request
Inputs:	for analogue and digital signals
Digital outputs:	failure, maintenance, maintenance requirement, measuring range switch-over, other
Analogue output:	4 ... 20 mA
Remote control:	Ethernet, analogue modem
Power supply:	230 V or 400 V / 50 Hz, 4000 W (analyser cabinet, air conditioner, probe) + 100 W/m measuring gas pipe
Suitability test:	DIN EN 15267-3; certification: MCERTS, Cert.-No.: Sira MC140256/01

*Special models are possible on request.*

## ABOUT US

We have partnered with a highly respected German manufacturer to provide the best quality products. Our team of engineers has many years' experience in continuous emissions monitoring, system design & specification, high level customer support, installation, commissioning, servicing and repairs.



**CEM Solutions**  
Industrial Emissions Monitoring

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