

# PowerCEMS100

## Analyzer system for continuous emission monitoring

### High-performance, future-proof CEMS for emission measurement

- Your investment is secure, as the system can be adapted easily to meet future needs
- Easy commissioning and trouble-free on-site approval of the measuring system by the relevant authorities
- Easy service due to clear separation of the electrical system and the analyzer component
- Easy and quick module replacement for high availability with CAN bus technology



# PowerCEMS: certified quality, simple installation and operation

The PowerCEMS100 analyzer system is the modular solution in the portfolio for customized analyzer systems. PowerCEMS100 meets all relevant standards and legal requirements for continuous emission monitoring systems and is certified according to EN-15267.

## Minimal spatial requirements – can be installed anywhere

The analyzer cabinet is 2100 mm high, 800 mm wide and 600 mm deep. PowerCEMS100 can easily be integrated into existing analyzer rooms. The cabinet is made of rugged steel with corrosion protection paint and meets enclosure rating IP 54. If the ambient temperature exceeds 40 °C, an air conditioning can be attached optionally, to protect the electronic components from overheating and thus create reliable working conditions for the system. The PowerCEMS100 can also be delivered with a GFK cabinet for setting up outside or in aggressive environmental conditions.

## GMS800 – the core of the PowerCEMS100

The modular gas analyzer GMS800 measures IR absorbing gases, such as CO, NO or oxygen. With the UV analyzer DEFOR it is possible to implement the measurement of SO<sub>2</sub>, NO and NO<sub>2</sub> without converter. According to its certification the GMS800 has a maintenance interval of up to 6 months. That means more time for the analysis and less downtime due to adjustment or maintenance work.

During the development the top priority is placed on user-friendliness and low maintenance effort. This is reflected in the modular system structure and in the control elements in the analyzer cabinet.

## Multilingual – it is easy to communicate with the PowerCEMS100

The device is operated by the control unit BCU installed in the cabinet door. Clearly structured operator menus and the integrated keyboard facilitate work with the PowerCEMS100. The following menu languages are standard for selection: German, English, French, Spanish, Dutch, Swedish, Italian and Polish. This means that important functions can be performed in the respective language of the operator and parameters set easily corresponding to the requirements on site.



The user friendly operator panel (BCU control unit) makes working with the PowerCEMS100 easy.



As the core of the PowerCEMS100, the modular gas analyzer GMS800 measures IR absorbing gases, such as CO, NO or oxygen.

# PowerCEMS100: efficient system for continuous emission monitoring



## Product description

The PowerCEMS100 modular analyzer system is an economic and technically perfect solution for extractive measuring tasks. The fully configurable design of the complete system with high quality standard sub-assemblies and components allows the equipment to be customized to provide the ideal solution for prevailing requirements.

Retrofitting with analyzers or gas conditioners is easy and inexpensive. The innovative PowerCEMS100 system is certified according to European standards EN 15267-1/3 and EN 14181. It provides solutions for emission measurement and process applications that are fit for the future.

## At a glance

- Cold-extractive analyzer system certified according to EN 15267 and EN 14181
- Plug-and-play analyzer module with 24 V power supply
- Control unit for displaying all measured values and status information on a monitor
- External sensors can be connected via interfaces

## Your benefits

- Your investment is secure, as the system can be adapted easily to meet future needs
- Easy commissioning and trouble-free on-site approval of the measuring system by the relevant authorities
- Easy service due to clear separation of the electrical system and the analyzer component
- Easy and quick module replacement for high availability with CAN bus technology

## Fields of application

- Emission monitoring for plants with lignite or hard coal firing
- Emission monitoring for gas-fired power plants, gas turbines, or combined cycle plants
- Emission monitoring for CPR plants
- Emission monitoring for Waste-to-Energy plants
- Emission monitoring for biomass-fired power plants
- Emission monitoring for small and medium sized boilers
- Emission monitoring for metal and mining plants
- Measurement of greenhouse gases



## More Information online

For more information, enter the link or scan the QR code to get direct access to technical data, operating instructions, software, application examples, and much more.

[www.endress.com/powercems100](http://www.endress.com/powercems100)



# Detailed technical data

## PowerCEMS100

Measured values	CH <sub>4</sub> , CO, CO <sub>2</sub> , N <sub>2</sub> O, NO, NO <sub>2</sub> , NO <sub>x</sub> , O <sub>2</sub> , SO <sub>2</sub> , TOC
Measuring principle	NDIR / UV spectroscopy O <sub>2</sub> : electrochemical principle / paramagnetic principle
Gas flow rate	60 l/h With bypass pump: ≤ 250 l/h, for short response times
Process temperature	≤ +1,000 °C, depending on sampling probe
Sample gas temperature	≤ +200 °C, temperature at cabinet inlet
Process gas humidity	Non-condensing
Ambient temperature	
Indoor:	+5 °C ... +40 °C; can be expanded on the system side if necessary
Indoor with cooling unit:	+5 °C ... +50 °C; can be expanded on the system side if necessary
Outdoor:	-20 °C ... +50 °C; can be expanded on the system side if necessary
Storage temperature	-20 °C ... +50 °C
Ambient humidity	≤ 75 %, relative humidity; non-condensing
Conformities	Approved for plants requiring approval: 2001/80/EC (13 <sup>th</sup> BImSchV) 2000/76/EC (17 <sup>th</sup> BImSchV) EN 15267 EN 14181 MCERTS
Electrical safety	CE
Enclosure rating	IP54; can be expanded on the system side if necessary
Analog outputs	4 outputs: 0/2/4 ... 20 mA, 500 Ω, electrically isolated
Analog inputs	2 inputs: 0/4 ... 20 mA, 100 Ω, not electrically isolated
Digital outputs	8 potential-free outputs (change-over contacts): 34 V AC, 500 mA / 48 V DC, 500 mA Max. number of outputs depends on application
Digital inputs	8 inputs: 42 V Max. number of inputs depends on application
Interfaces	RS-422 (option) RS-485 (option) Ethernet TCP/IP
Bus protocol	Modbus TCP OPC CAN
Model	Steel sheet cabinet Versions with NO <sub>x</sub> converter (option) Versions with cooling or heating device (option)
Weight	250 kg ... 350 kg, depending on version
Mounting	Indoor, with protection against corrosive atmospheres
Power supply	Depending on version
Corrective functions	Manual adjustment with test gases Automatic testing and adjustment with test gases

Options

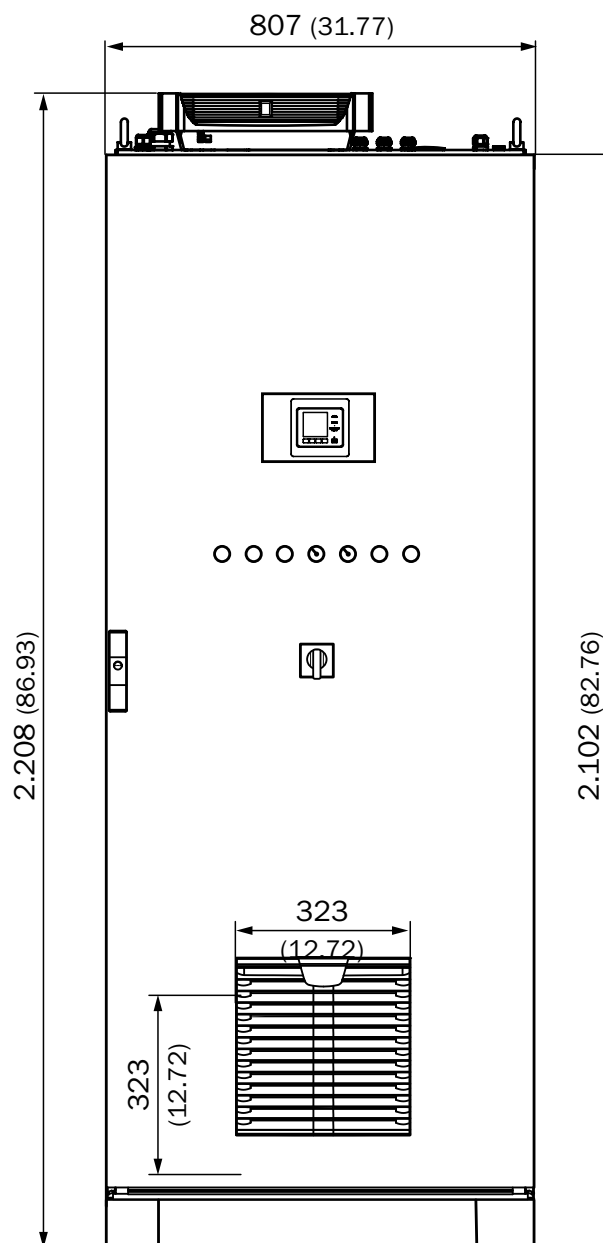
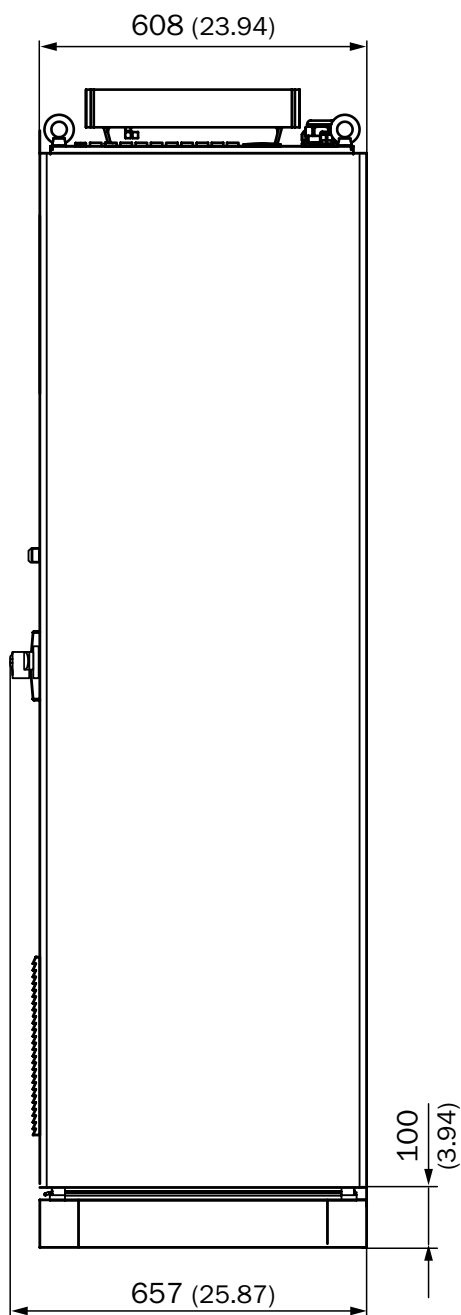
- NO<sub>x</sub> converter
- H<sub>2</sub> sensor
- Cooling device
- Heating
- Bypass pump

# Ordering information

Our regional sales organization will help you to select the optimum device configuration.

## Dimensional drawings

Cabinet (dimensions in mm (inch))



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