

Multigas Analyzer V2.4.

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▼ GenTwo 2.4

Our multigas analyzers of the GenTwo® V2.4 series are based on a modular design concept that enables the implementation of a wide variety of device configurations for different fields of application. In addition to a large selection of sensors with different physical measuring principles, various options are available that ensure optimum adaptation of the analyzer to the application-specific requirements.

Besides various housing versions, the options include e.g. electrical interface cards, modules for automated calibration as well as sample gas pumps, filters or flow meters that can be integrated into the gas path. The available modules and possible configurations are presented in more detail in this brochure.

▼ Housing Variants

19" Rack Long



19" Rack Short



Wall-Mount Housing

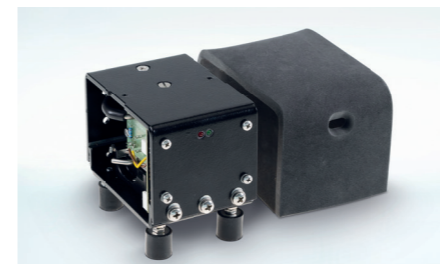


Our multigas analyzer is offered in three different housing variants. For fitting in a 19" rack, two housings with various depths are available that can be used depending on the installation space as well as the type and number of the requested sensors. For rack mounting, pull-out rails can be fitted to meet the needs of both the European and American markets. In demanding industrial environments, a rugged housing with IP54 for wall mounting can be used as an alternative. All housing variants include universal power supply for voltage from 100 to 240 VAC as well as a resistive 7" touch display with user interface.

Regardless of the sensors selected, the base unit already offers a number of interfaces. These include 4 digital status outputs (device status, calibration mode, pump operating status, calibration error), Ethernet (Modbus TCP/IP and AK protocol TCP/IP) as well as a USB port.

▼ Sensors

PMA



Paramagnetic Sensor

for measuring O₂

- ▶ Measuring range: 0–100 vol%
- ▶ Limit of detection: up to 0.02 vol%

TCD



Thermal Conductivity Detector

for measuring H₂

- ▶ Measuring range: 0–100 vol%
- ▶ Limit of detection: 0.1 vol%

EC

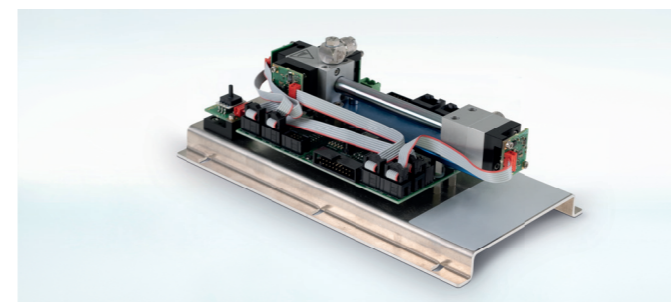


Electrochemical Sensors

for measuring O₂

- ▶ Measuring range: 0–25 vol% for measuring H₂S:
- ▶ Measuring range: 0–50 ppm, 0–1,000 ppm, 0–10,000 ppm

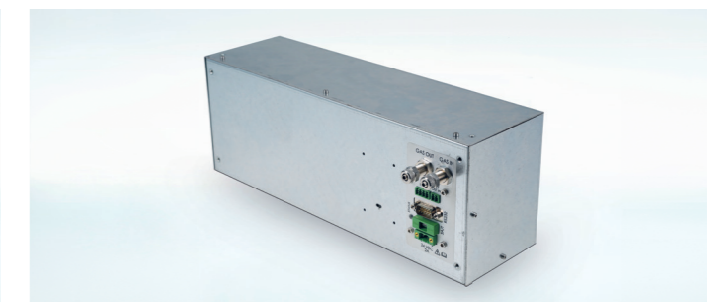
NDIR/NDUV



Non-Dispersive Infrared/Non-Dispersive Ultraviolet

- ▶ Optical measuring benches for several different gases and measuring ranges available, see separate table
- ▶ Up to 4 measuring channels per sensor

UVRAS



Ultraviolet Resonance Absorption Spectroscopy

for measuring NO

- ▶ Sensor in thermobox housing
- ▶ Combination with NDUV e.g. for measuring NO and NO₂

Depending on the sensors used, up to 6 measuring channels can be implemented in one unit.

Overview of Available Sensors and Measuring Ranges

| Measuring Range | O ₂ | H ₂ | CO ₂ | CO | CH ₄ | N ₂ O | CnHm | CF ₄ | SF ₆ | NO ₂ | NO | SO ₂ | H ₂ S | O ₃ | Cl ₂ |
|-----------------|----------------|----------------|-----------------|------|-----------------|------------------|------|-----------------|-----------------|-----------------|----|-----------------|------------------|----------------|-----------------|
| 100 vol% | | | | | | | | NDIR | NDIR | | | | | | |
| 50 vol% | | | | | | NDIR | | | NDIR | | | | | | |
| 30 vol% | | | | | | | | | | | | | | | |
| 20 vol% | PMA | TCD | | | | | | | | | | | | | |
| 10 vol% | EC | | | | NDIR | NDIR | NDIR | | | | | | | | |
| 5 vol% | | | | | | | | | | | | | | | |
| 1 vol% | | | NDIR | NDIR | NDIR | NDIR | | | | | | | | | |
| 5,000 ppm | | | | | | | | | | | | | | | NDUV |
| 2,000 ppm | | | | EC | | | | | | | | | | | |
| 1,000 ppm | | | | | | | | | | | | | | | |
| 500 ppm | | | | | | | | | | NDUV | EC | UVRAS | EC | NDUV | EC |
| 300 ppm | | | | | | | | | | | | | | | NDUV |
| 100 ppm | | | | | | | | | | | | | | | |
| 50 ppm | | | | | | | | | | | | | | | |
| 10 ppm | | | | | | | | | | | | | | | |
| 1 ppm | | | | | | | | | | | | | | | |

Gas Paths

Viton® Tubing



PTFE Tubing



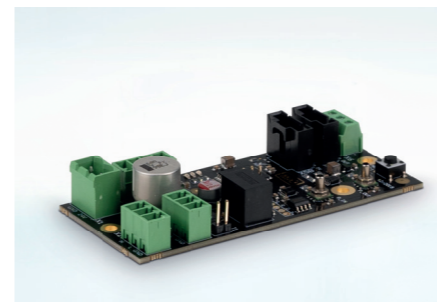
Stainless Steel Tubing



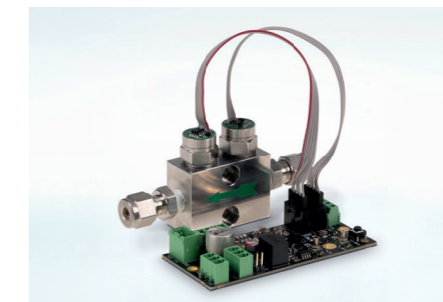
In total, up to three independent gas paths can be implemented in the analyzer. There are three options as regards the tubing of these gas paths. In addition to Viton® or PTFE tubing, stainless steel tubing can be selected for particularly high demands on tightness.

Flow Measurement

GenXFlow without Flow Chamber



GenXFlow with Flow Chamber



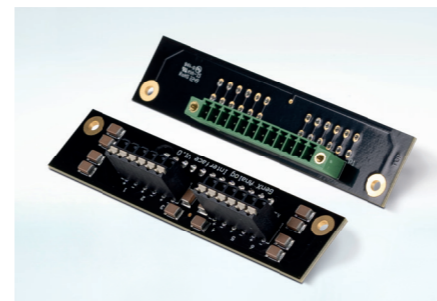
Flow Meter Front Plate



To determine the flow rate and for pressure compensation of the sensor signals, one GenXFlow module is installed per gas path. If required, e.g. when selecting stainless steel tubing for the gas paths, this module is available in a corrosion-resistant version with a flow chamber made of stainless steel and corrosion-resistant pressure sensors. The GenXFlow module can also be used to control the optional N3-R or N7-R sample gas pumps. One float-type flow meter per gas path can be optionally mounted to the front of the unit.

Interfaces

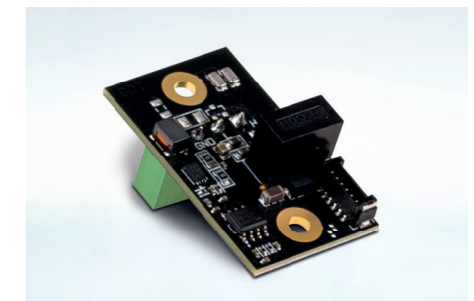
Analog Signal Output



Digital Signal Output



Ext. CAN Interface



One galvanically isolated analogue output with 0–20/4–20 mA can be provided for each measuring channel by means of an additional card. Furthermore, a relay card with four digital outputs can be installed for each measuring channel. Two of the digital outputs provide feedback on the selected measuring range, and the other two outputs are used to transmit the exceeding of operational limits. The analyzer can also be equipped with a CAN interface to connect external sensors.

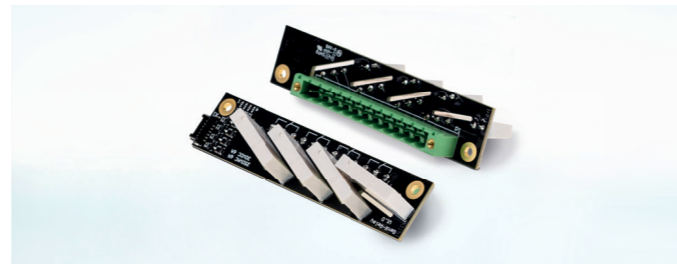
▼ AutoZero & AutoCal

AutoZero

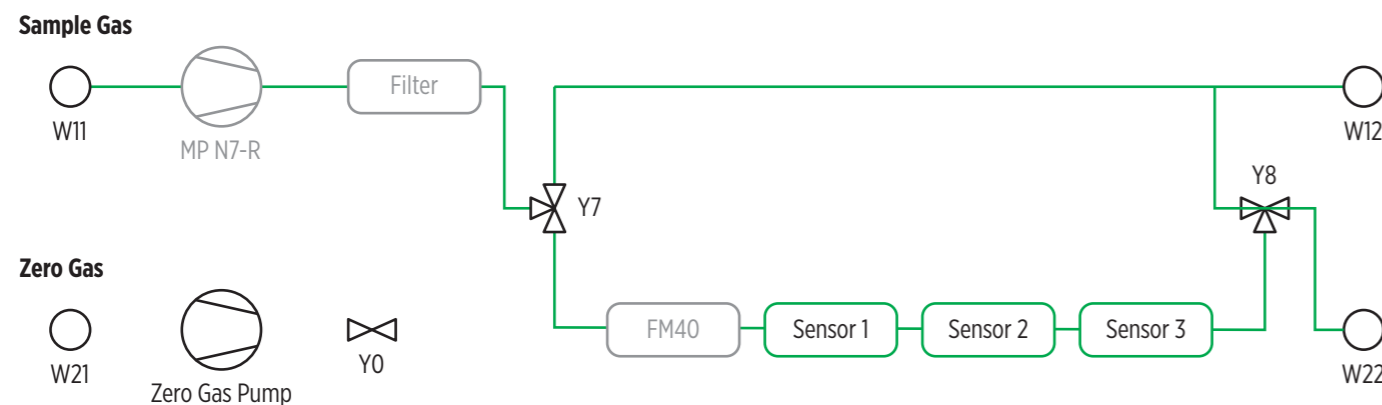


With our AutoZero module, an automated calibration of the zero point can be performed. The hardware consists of a valve island made of stainless steel, which is equipped with solenoid valves and can optionally be fitted with a pump to convey ambient air as zero gas. In addition, the module can optionally be equipped with another valve to direct the zero gas out of the device through an independent gas outlet. This means that downstream devices in the sample gas path are not affected by the calibration.

AutoCal



As an alternative to our AutoZero module, an interface card with three potential-free changeover contacts can also be integrated, which enables the operation of an external calibration device. Using this interface card, a zero gas valve and a calibration gas valve can be controlled independently of each other.



Example configuration with zero gas pump and separate outlet for calibration gas.

▼ Further Options

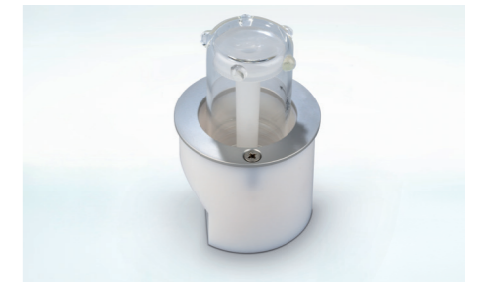
Sample Gas Pump N3-R



Sample Gas Pump N7-R

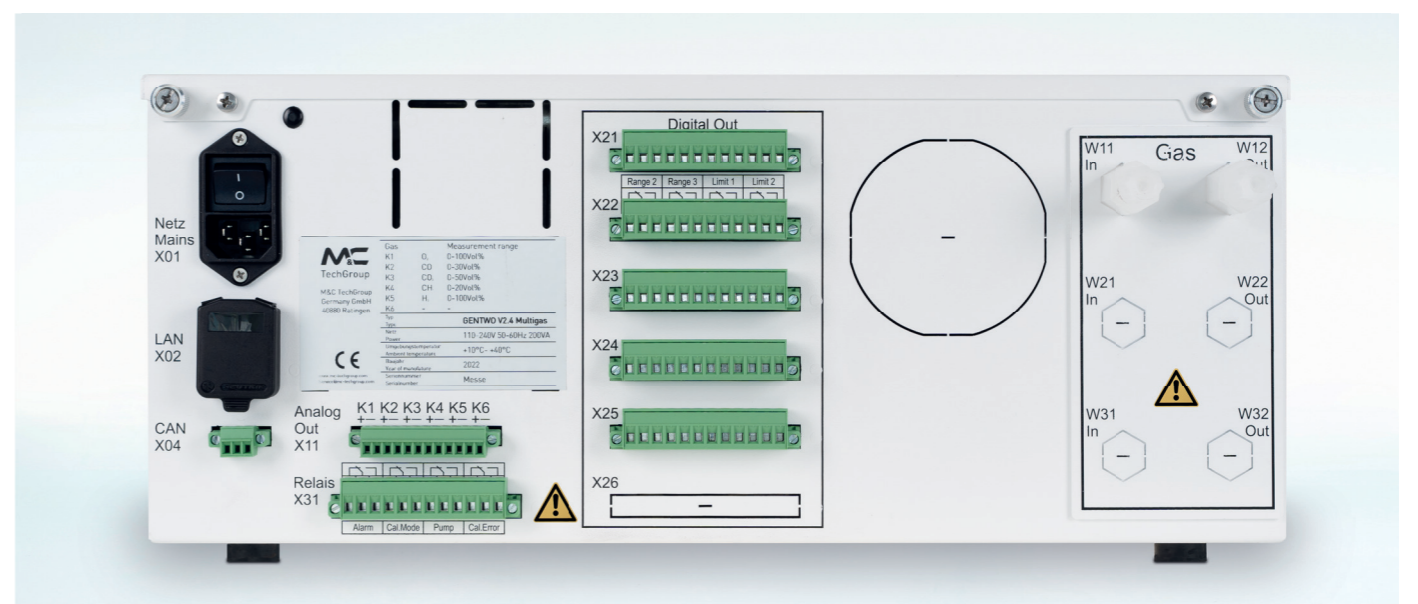


Front Panel Filter



If required, one sample gas pump (N3-R or N7-R) can be installed per gas path. The pumps are adjustable in rotational speed and have flow rates of approx. 3.5 NI/min (N3-R) or 7 NI/min (N7-R). To protect the sensors, an FPF+ filter can be integrated into the front panel of the unit for each gas path to hold 70-mm filter elements.

▼ Exemplary View of Rear Panel





M&C TechGroup Germany GmbH . Rehhecke 79 . 40885 Ratingen, Germany . P. +49 2102.935-0 . sales@mc-techgroup.com

 mc-techgroup.com