Gas Analyzers
Modular gas analyzer, GMS800
The GMS800 is an innovative product family of extractive analyzers which can measure more than 60 different gas compounds. The GMS800 is characterized by its modular design: up to 7 analyzing modules, one gas module, I/O modules and an operating unit. Standardized 19" racks as well as system enclosures optimized for installation in cabinets can be used for economic system integration. Wall mounting enclosures with an ATEX approval for hazardous areas can be used in rough industrial environments. Equipped with modern software, the GMS800 comes with all required interfaces for remote control via networks through to the connection to a process control system.

**At a glance**
- 7 different analyzer modules: DEFOR (NDUV, UVRAS), FIDOR (FID), MULTOR (NDIR), OXOR-E (electrochemical O2), OXOR-P (paramagnetic O2), THERMOR (TC) and UNOR (NDIR)
- 4 different types of enclosures
- Gas module with sample gas pump and/or control sensors
- New enclosure type for easy and quick integration in analyzer cabinets
- Remote diagnosis via Ethernet with software SOPAS ET

**Your benefits**
- Approved according to EN 15267-3 and EN 14181
- Installations in Non-Ex-areas and Ex-areas (Zone 1 and 2 according to ATEX) possible
- Minimum service and maintenance work as well as easy reconditioning of existing installations due to modular design
- Adjustment without test gases via optional adjustment unit
- Minimal influence of ambient temperature through thermostatic controlled modules
- System solutions with turn-key analyzer cabinets MAC800
- Reliable measuring results by proven measurement technology
- Easy maintenance and repair due to replacement of complete assemblies or modules

**Fields of application**
- Emission monitoring according to EN 15267 and process gas measurements
- Emission monitoring of very low concentrations
- Measurement of smallest concentrations of NO, NO2 and SO2 in gas turbines
- NOx monitoring by direct measurement of NO and NO2
- Measurement of sulfur compounds in process gases
- CO monitoring for Ex protection
- Measurement of smallest concentrations in hydrogen or hydrocarbons
- VOC monitoring

**Note**
The exact device specifications and performance data of the product may deviate from the information provided here, and depend on the application in which the product is being used and the relevant customer specifications.
### Technical data

**Measurement principles:** Electrochemical cell, Flame ionisation detection, Interference filter correlation, NDIR spectroscopy, NDUV spectroscopy, Paramagnetic dumbbell principle, Thermal conductivity measurement

**Measured values:**
(CH3)2CO, Ar, C2H2, C2H2F4, C2H4, C2H6, C3H6, C3H8, C4H10, C4H6, C5H12, C6H14, C6H4Cl2, C7H16, CH2Cl2, CH3OH, CH4, CHCl2F, CHClF2, Cl2, CO, CO+CO2, CO2, Corg, COS, CS2, H2, H2O, H2S, He, N2O, NH3, NO, NO2, O2, SF6, SO2, Other components on request

**Performance tested measurands:** CH4, CO, CO2, Corg, N2O, NO, NO2, NOx, O2, SO2

**Max. number of measurands:** 8

**Measuring ranges:**
- C<sub>org</sub>: 0 ... 1 ppm / 0 ... 100,000 ppm
- CH<sub>4</sub>: 0 ... 70 ppm / 0 ... 100 Vol.-%
- Cl<sub>2</sub>: 0 ... 20 ppm / 0 ... 100 Vol.-%
- CO<sub>2</sub>: 0 ... 10 ppm / 0 ... 100 Vol.-%
- H<sub>2</sub>: 0 ... 1 Vol.-% / 0 ... 100 Vol.-%
- H<sub>2</sub>S: 0 ... 5 ppm / 0 ... 100 Vol.-%
- N<sub>O</sub>: 0 ... 25 ppm / 0 ... 100 Vol.-%
- NF<sub>3</sub>: 0 ... 50 ppm / 0 ... 100 Vol.-%
- NO<sub>2</sub>: 0 ... 10 ppm / 0 ... 100 Vol.-%
- NO: 0 ... 10 ppm / 0 ... 100 Vol.-%
- O<sub>2</sub>: 0 ... 1 Vol.-% / 0 ... 100 Vol.-%
- SO<sub>2</sub>: 0 ... 10 ppm / 0 ... 100 Vol.-%

**Remark:** Depending on analyzer module

**Comment:** Measuring ranges depend on application and combination of measuring components

**Sample quantity:** 30 ... 60 l/h

**Process temperature:** Analyzer inlet: 0 ... +45 °C

**Process pressure:**
- Tubed gas lines: 200 ... 1,000 hPa
- Hosed gas lines: 200 ... 300 hPa

**Process gas humidity:** non-condensing

**Ambient temperature:** +5 ... +45 °C

**Ambient pressure:** 700 ... 1,200 hPa

**Ambient humidity:** 20 ... 90 %

**Conformities:**
- 2000/76/EC
- 2001/80/EC
- 27. BImSchV
- ATEX
- EN 14181
- EN 15267
- GOST
- MCERTS
- German Clean Air Regulations

**Ex-approvals ATEX:**
- GMS815: II 3G Ex nR II T6; II 3G Ex pz II T6; II 2G Ex px II T6
- GMS820P: II 2G Ex db eb [ia] IIIC T6; II 2G Ex db eb IIIC T6

**Electrical safety:** CE

**Enclosure rating:**
- GMS810: IP 40
- GMS815: IP 65/NEMA 4x
- GMS820P: IP 65
- GMS830, GMS831: IP 30

**Analog outputs:**
- 4 outputs: 0/2/4 ... 20 mA, 500 Ω
Analog inputs:
- 2 inputs:
  - 0/4 ... 20 mA

Digital outputs:
- 8 outputs:
  - 30 V AC, 500 mA
  - 48 V DC, 500 mA

Digital inputs:
- 8 inputs:
  - 42 V
  - all inlets with common reference potential

Interfaces:
- Ethernet
- RS-485

Bus protocol:
- Ethernet TCP/IP
- Modbus

Operation:
- Remote operation via software SOPAS ET or OPC server
- Menu-driven operation via LC-display and membrane keyboard

Device version:
- 19”-rack
- Flame-proof enclosure
- System integration module
- Wall mounting enclosure

Corrective functions:
- Manual or automatic adjustment, depending on analyzing module

Test functions:
- Self test and fault diagnosis, depending on analyzing module
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