EC300 – Gas analysis sampling systems

B.190304

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Biogas analysis
- Gas analysis in ambient
- Emissions control
- Process gas analysis

GENERAL

The EC300 system allows the analysis of gases sampled by a process or the ambient.
The metallic enclosure has a standard protection IP54 or IP55 (with forced internal ventilation) or IP65 (without ventilation), with transparent door, and includes all the necessary components for sampling, filtering and measuring. The type of sensors mounted depends on the specific application, electrochemical cells (for O2, CO, H2S, etc.) or NDIR cells (for CH4, CO2).
The EC300 has 4-20mA linear analogue outputs for each sensor (optional galvanic isolator max 900 Ohm), zero and span manual controls, alarms, pressure switch, flow meters, coalescence filter with peristaltic pump, optional measure or purge mode controlled in remote or in local.

APPLICATIONS

The system can be used in many applications, for example:
- biogas, biomethane
- process gas
- combustion flue gases
- gas in industrial ambients

TECHNICAL FEATURES

Enclosure
Metallic with transparent door, IP54 or IP55 protection (with internal forced ventilation) or IP65 (without ventilation)
Standard dimensions:
40x25x60h cm (may vary depending on the application)
In case of flammable gases measure: internal gas leak detector, with eventual block of the sampling pump.

NDIR sensors
Microprocessor electronics
NDIR optical cell
4-20mA linear analogue outputs
Versions for several gases and measuring ranges, from ppm to % VOL.
Working conditions: T -20..+60°C. 0-95% r.h. non condensing

The technical features depend on the type of optical sensor used:
Type ES
Accuracy: ±2% f.s.
Zero stability: ±2% f.s. / year
Zero repeatibilty: ±0,3% f.s.
Span repeatibility: ±1,5% f.s.
Automatic temperature compensation
Response time T90: ca. 10s

Electrochemicall sensors
Several electrochemical sensors can be mounted in the EC300, in relation to the specific application, gas and range required (O_2, CO, H_2S, SO_2, etc.).
The technical features depend on the type of cell used.

Other measuring methods
For particular applications, the EC300 can be supplied with other types of sensors, for example:
- PID (Photo Ionization) sensors for VOC (volatile Organic Compounds)
For the technical features see the specific data sheet of the sensor used.

Sampling and conditioning
- sampling pump (standard 1,8 lit/min)
- coalescence filter, single (standard) or double (option), with peristaltic pump to drain the condensate
- trap filter (option)
- condensate sensor (option)
- sample dilution to measure high concentrations for particular applications e.g. for H2S (option)
- purge with ambient air, controlled by local timers or by remote (option)
- condensate separation by means of a Peltier cell, with peristaltic pump to drain the liquid