

In-Situ Gasanalysis with the sensor SOQ

Application:

In-situ measuring of humidity and ethylene oxide for Parametric Release

The continuous measuring of humidity and ethylene oxide at one or several measuring points carried out at a sterilizer is a very important parameter for the Parametric Release. These measurements can be executed under the conditions of overpressure or negative pressure in the sterilizer.

The in-situ SOQ3 gassensor is especially designed for these challenging measurement tasks. The SOQ3 sensor based on the physical measurement principle of infrared spectroscopy. The construction of the devices and the integration in the overall system fulfill the ATEX requirements caused by the flammability limit of EO.

Advantages:

- Continuous and direct measuring without gas sampling
Direct recognition of the measured gas concentration during the process
- Integration of the sensor into the by-pass gaspipe with 3/4"-screw joint
- Measurement of up to three gas components at the same time
- Compact construction
- Long-term stable and low-maintenance
- The support of the gas flow via pumps and valves isn't needed
- Standardized interfaces according state of the art for the further data processing

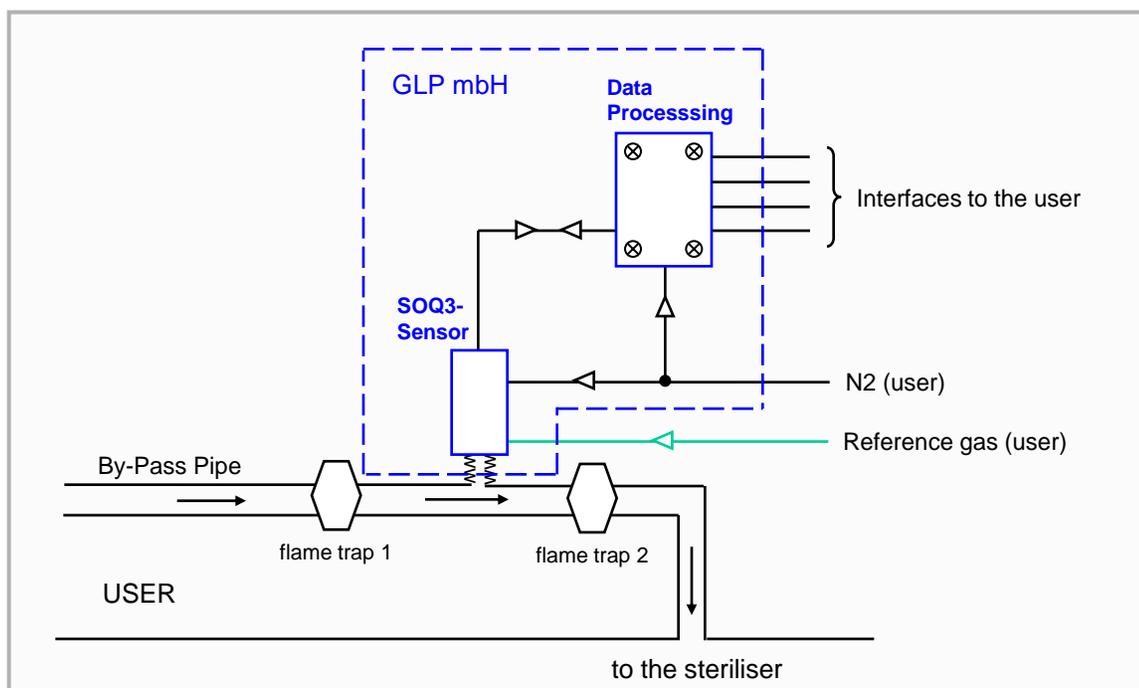
In-Situ-Gasanalyse mit SOQ 3



Integration of the In-situ SOQ3 gassensor into the user process

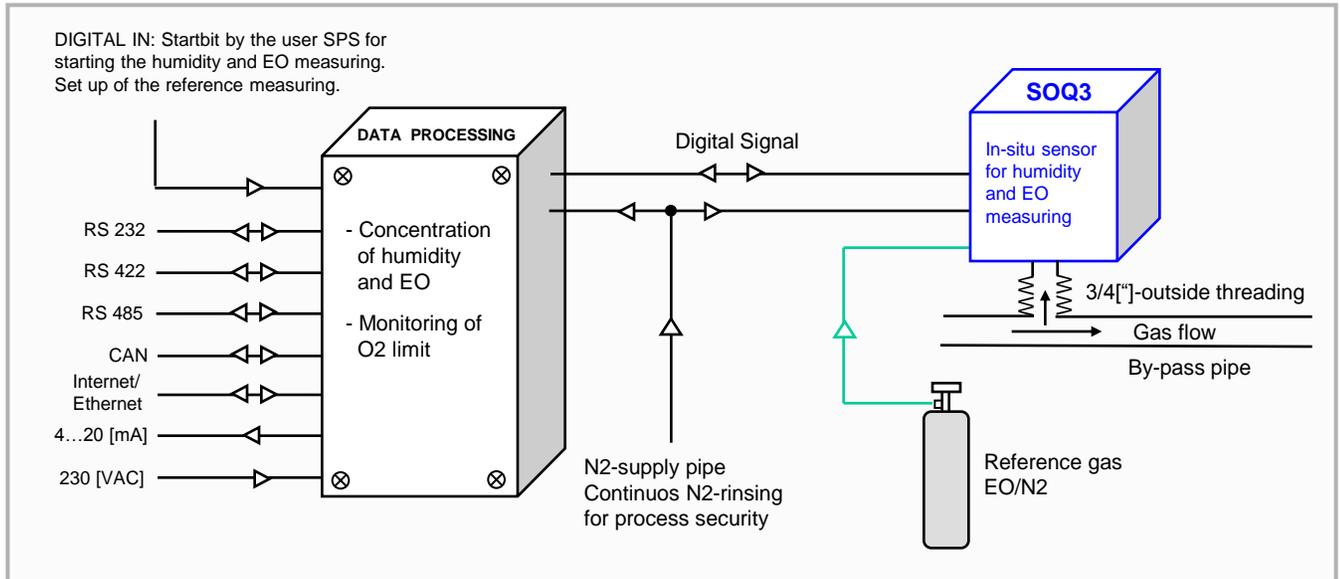
The application parameter are:

- Concentration of humidity: ca. 0 to 100 [%] relativ
- Concentration of ethylene oxide: ca. 0 to 2000 [mg/l]



Following module ensure the optimized and safe measurement process :

- In-situ measuring of the humidity and EO concentration with the SOQ3 sensor capsulated into the ATEX casing with N2 rinsing.
- Direct reference measuring with EO: Zero point and final point measuring with reference gas. Initiation is automatically cyclic or called up manually via user SPS. No idle time of the chamber, no disassembly of the sensor. No indirect calibration by mathematical formula.
- Vacuum tight adaption to the process.
- The connection SOQ3 sensor to the user is carried out by a high-performance data processing unit in an ATEX casing with N2 rinsing and integrated monitoring of O2 limit.
- Software: Operating software, Calibration software, Service software via Internet/Ethernet



Technical Data

In-Situ-SOQ3-Sensor in the application EO-gassteriliser:

Measuring range:	humidity: 0 -100 [%], not condensing EO: 0 - 2000 [mg/l], calibrated
Measuring principle:	physical, infrared
Survey frequency:	500 [msec] each
Measuring accuracy:	≤ 2 [%] of final value of measuring range. The final value of the measuring range for EO is 2000 [mg/l] and for humidity 100 [%].
Operational pressure MIN:	10 [mbar]
Input pressure MAX:	2 [bar]
T 90 -time:	20 - 30 [sec]
Repeatability:	
- zero point	1[%] of final value of measuring range
- sensitivity	1[%] of final value of measuring range
Cross sensitivity:	no cross sensitivity to gas or vapour in the area of maximum working place concentration
Long-term drift:	no long-term drift, since reference measurements are carried out cyclically
Operational temperature:	40 [°C] - 60 [°C]
Gas consumption:	no
Voltage supply:	24 [VAC]
Process gas interface:	Measuring gas IN via 3/4" to 1-1/4" outside threading Reference gas IN via 1/8" swagelok-screw joint
Size of casing SOQ3:	HxBxD: 80 x 85 x 40 [mm ³], ATEX-casing with N2-rinsing

Data processing

Size of casing:	HxBxD: 400 x 100 x 120 [mm ³], ATEX-casing with N2-rinsing and monitoring of O2 limit
Communication-Interfaces:	RS 232, RS 422, RS 485, Can-Bus, Ethernet/Internet
Process-Interfaces:	4 - 20 [mA], Digital In/Out