

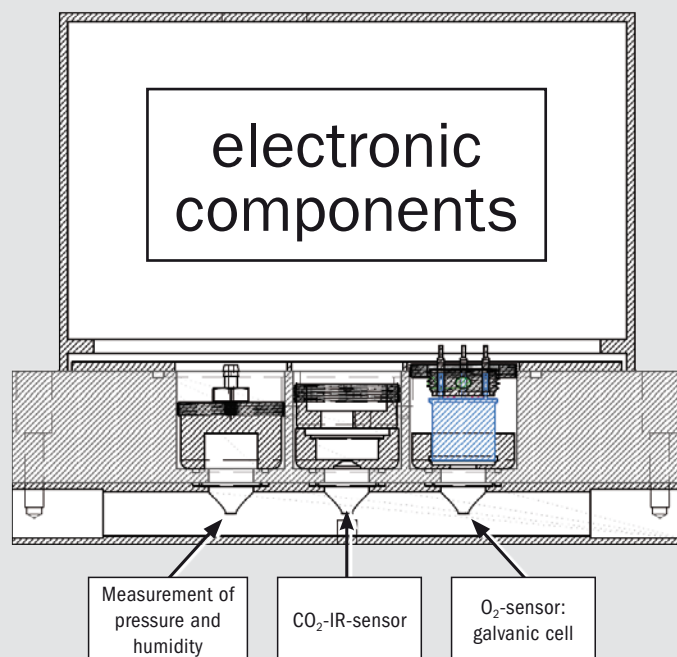
Advantages

- > Parallel measurement of O₂ and CO₂
- > O₂ concentrations from 0 - 100 Vol.%
- > No oxygen needed in the process
- > Compact stainless steel housing
- > PAT conform in-situ-measurement
- > Auto compensated humidity and pressure
- > No gas cooler, pumps or valves needed
- > Connectable to any hose or tube from 4 mm to 1 ¼"
- > Real time process optimization
- > Status display by luminous pushbuttons



Application areas

- > Cell growth processes
- > Biotechnology
- > Online fermentation monitoring
- > From lab to industrial scale



Data Sheet

Concentration ranges * * *

0 - 10 Vol.% CO ₂ / 0 - 100 Vol.% O ₂
0 - 25 Vol.% CO ₂ / 0 - 100 Vol.% O ₂

O₂ sensor unit

Gas	O ₂
Measuring principle	Galvanic cell
Accuracy	< ± 0.2% FS* ± 3% value
Drift	< ± 2% value / year
Lifetime of sensor element	Approx. 900.000 Vol.% h operating hours at 1 bar (14.5 psi)
Temperature inside of the sensor unit	Approx. room temperature

CO₂ sensor unit

Gas	CO ₂
Measuring principle	Infrared: dual wavelengths
Accuracy	< ± 0.2% FS* ± 3% value
Drift	< ± 2% value / year
Lifetime of optical components	Approx. 3 years
Temperature inside of the sensor unit	3°C / 5.4°F higher than process temperature

General

Temperature range	15 - 40°C / 59°F - 104°F
Pressure range	0.8 - 1.3 bar / 11.6 - 18.85 psi absolute pressure
Operating humidity	5 - 100% RH, integrated humidity compensation
Housing	Stainless steel, IP65
Dimension (WxLxH) / weight	170 x 150 x 120 mm (6.69" x 5.91" x 4.72") ** / 4 kg (8.82 lb)
Mechanical connection	4 mm - 1¼" ***
Materials in contact with process gas	Stainless steel, viton, sapphire, PTFE, polymer H.L., nitrile
Filters	PTFE 0.22 µm, PTFE 5 µm
Power supply	24V 1A
Storage conditions	0 - 60°C (32-140°F); 5 - 75% RH noncondensing

Electronic connections

Power supply	8 pin M12 male
Output connection	8 pin M12 female
Electronic Output	Active output, maximum 500 Ohm at 24V power supply RS232, RS485 Modbus, 2x 4-20mA, USB, Modbus OPC Server
Maintenance	One point calibration with ambient air (0.04 Vol.% CO ₂ , 20.97 Vol.% O ₂) once a month (other conditions possible), optional factory calibration once a year
CE/FCC/ICES	EN61326-1:2006 / FCC 15:2009 Subpart 107/109, ICES-001:2006
Remarks	High concentration of NH ₃ or O ₃ could minimize the lifetime of the O ₂ sensor element

* FS= full scale ** depends on flow adapter dimension ***others on request

