



# Cultivation Systems From Discovery to Production



Engineering for Life

# DO<sub>2</sub> Sensors

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- Low drift by usage of titanium and PEEK material
  - Easy calibration & short response time
  - Optimal cleanability due to fully electro-polished surface
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Measurements of dissolved oxygen (DO<sub>2</sub>) in biotechnological processes is a basis for process optimization and maximization of the product yield. A microorganism or cell responds to the oxygen concentration in regulating its overall metabolism. Therefore, knowledge of the DO<sub>2</sub> concentration and its proper control during the process are of great importance.

The AppliSens DO<sub>2</sub>-sensor is specifically designed for long-term, stable and accurate measurements in bioprocesses. The DO<sub>2</sub>-sensor has a titanium membrane module to minimize the measurement drift. The autoclavable polarization module allows polarizing of your DO<sub>2</sub>-sensor while autoclaving your bioreactor system, resulting in a reduced start-up time of your cultivation.

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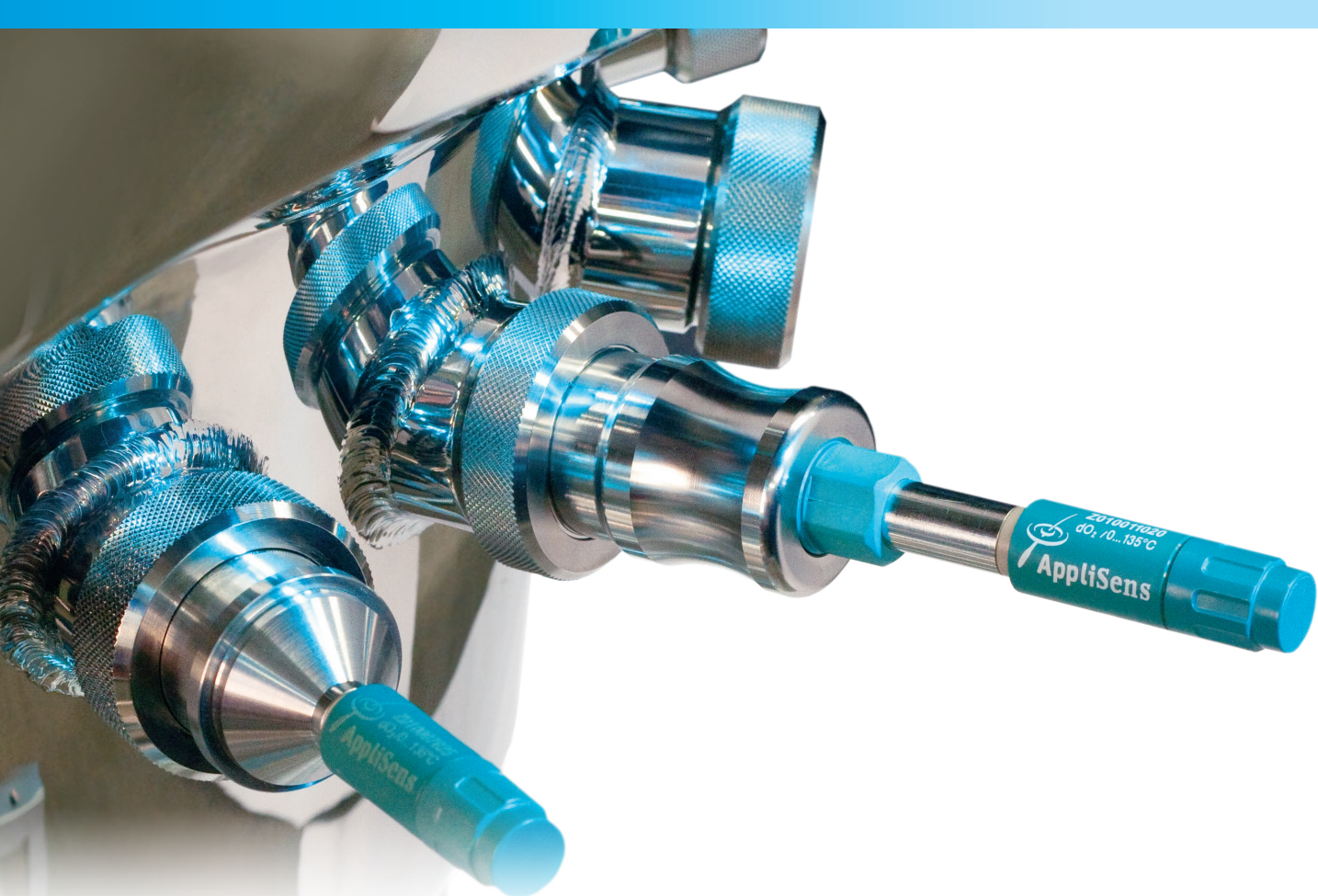
## Features

- cGMP compatible by using FDA approved materials
  - Withstands repeated SIP and CIP cycles
  - Standardized PG 13.5 connection guarantees interchangeability with other bioreactor brands
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## Applications

- Microbial cultures
  - Cell cultures
  - Batch
  - Fed Batch
  - Continuous cultures
  - Perfusion cultures
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## Specifications

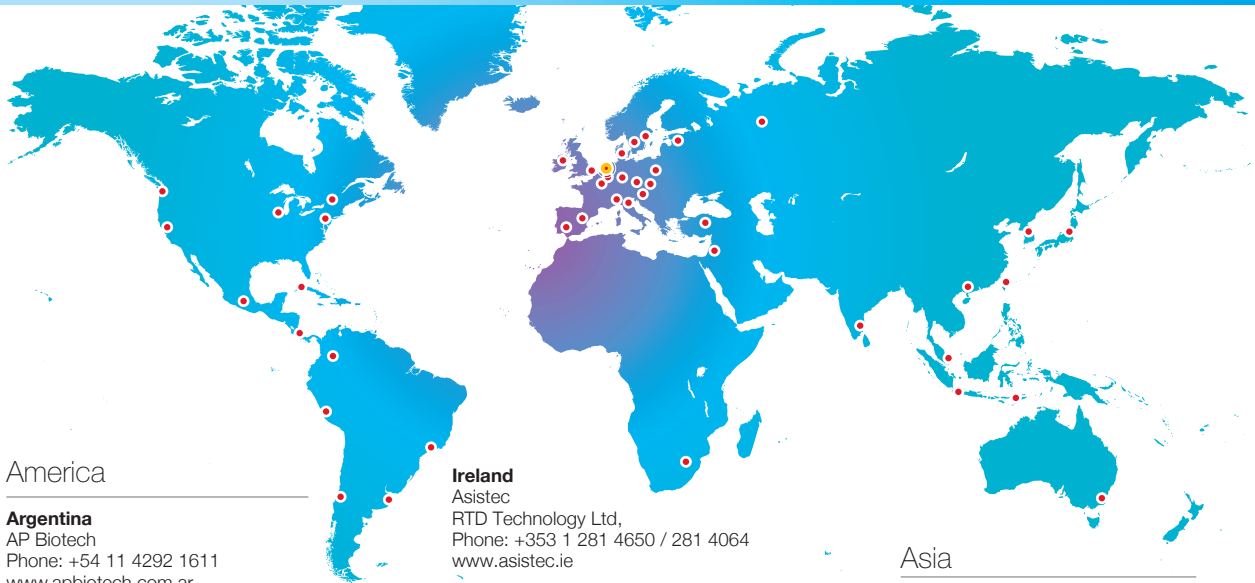
Optimum polarization potential	- 800 mV @ 40°C	
Polarization potential amplifier	- 675 mV	
Max. pressure where linearity is guaranteed	4 bar	
Max. sterilization temperature	135°C	
Minimum polarization time	30 minutes	
Minimum polarization time after autoclaving	4h	
Optimum polarization time after autoclaving	Overnight	
Polarization current	Air / 25 °C / 1.013 bar / 100 % RH	(33 - 66) nA
Polarization current	Air / 40 °C / 1.013 bar / 100 % RH	(65 - 98) nA
Polarization current	O <sub>2</sub> / 40 °C / 1.013 bar / 0 % RH	(300 - 350) nA
Response time gas phase 20 °C	t (90%)	(20 - 30) s
Response time gas phase 40 °C	t (90%)	(10 - 20) s
Response time gas phase 60 °C	t (90%)	(5 - 10) s
Drift between 15h - 5 days	< 0.2 % / day	
Drift between 5 days and 7 days	< 0.1 % / day	
Drift between 7 days and 30 days	< 0.05 % / day	

## Related products

- DO<sub>2</sub> sensor Ø 8 mm (L = 115 / 135 / 185)
- DO<sub>2</sub> sensor Ø 12 mm (L = 110 / 154 / 235 / 325 / 425 / 590)
- DO<sub>2</sub> sensor cable (L = 0.65M / 2.0M)
- DO electrolyte
- DO membrane kits







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