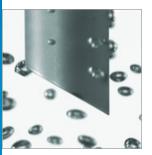
The Anti-Bubble Oxygen Sensor

Noise-Free Measurement Signal



Stable reproducible yields

Consistent batches and product quality is achieved by reliable oxygen measurement. The proprietary hydrophilic surface finish and tilted tip design prevent bubble accumulation falsifying the results.



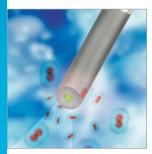
Hygienic and durable design

The PTFE layer on the OptoCap™ oxygen-sensing element contributes to signal stability by preventing biofouling from affecting measurements. The OptoCap has excellent durability and withstands autoclaving and standard CIP/SIP cycles.



Uncompromised reliability

Pre-batch sensor maintenance, thanks to advanced diagnostics data, ensures that the installed sensor will operate reliably throughout the batch.



Exceptional performance

Low handling time and running costs due to reduced calibration and maintenance needs. This is achieved by an electrolyte-free, one-piece replacement part.



InPro 6860i HD

Reliable Oxygen Measurements

Continuous dissolved oxygen (DO) measurement is critical during fermentation and cell culture. The InPro 6860i HD Anti-Bubble™ Oxygen Sensor is mechanically modified with a hydrophilic surface and a tilted tip design to prevent bubble accumulation, therefore creating a highly stable measurement signal. The main cause of signal noise found in fermentation and cell culture is air or oxygen bubbles from the sparger that accumulate on the DO sensor's tip. This creates a noise floor that is difficult to eliminate. Productivity, batch-to-batch consistency and product quality can all be adversely affected. InPro 6860i HD stops bubbles from adhering to the sensor: no bubbles — no noise.



Technical data of the InPro 6860i HD

Measurement technology	Optical fluorescence quenching	
Measurement range	$0 \dots 60 \% O_2$ saturation	
Accuracy	± (1 % of the reading +8 ppb)	
Operating temperature	060°C	
Mechanical temperature resistance	−20 140 °C (32 284 °F)	
Operating pressure	0.2 6 bar (0 87 psi)	
Mechanical pressure resistance	Max. 6 bar (87 psi)	
Steam sterilizable and autoclavable	Yes	
Cable connection	VP6/VP8 (analog/digital)	
Wetted membrane material	PTFE	
Shaft diameter	12 mm	
Available lengths (a)	125 mm, 225 mm, 325 mm, 425 mm, 595 mm	
Response time t ₉₈ at 25 °C Air to N ₂	<90s	
Digital Integration (RS 485)	ISM®, Modbus™ RTU	
Analog Integration	Simulated electrochemical nA signal or 4/20 mA HART active output	
Power supply	24 V DC; 0.1 A	
Certificates	Quality certificate, Material certificate 3.1, Surface finish certificate 2.1, ATEX certificate, USP Class VI	

Additional information

Digitally Compatible Transmitters		
M800 Process 1-/2-/4-channel		
M400 4-wire, HART™, FOUNDATION Fieldbus™		
M400 2-wire, HART, FOUNDATION Fieldbus, PROFIBUS™ PA		
M100 SM RS 485, 4-wire		
Accessories	Order Nr.	

Accessories	Order Nr.
iLink™ Multi (USB interface to PC)	30 130 631
iLink Multi cable/set oDO (cable set)	30 355 582
CalBox™ (calibration box for calibration gas connection)	52 300 400
iSense™ 2.4/2.4 CFR	30 130 614/30 283 620



iSense and iLink Multi

PC software tool to calibrate sensors and to manage historic sensor data. iLink Multi connectivity tool automatically compensates for local pressure and humidity levels, delivering best possible calibration results.



α

VP connector

Sensor head

Threaded sleeve Pg 13.5

Washer
O-ring

- Sensor shaft - Ø 12 mm

Optical module

O-ring

OptoCap

ISM, InPro, Anti-Bubble, OptoCap, CalBox, iSense and iLink are trademarks of the METTLER TOLEDO Group.

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www.mt.com/pro

For more information





Management System certified according to ISO 9001 / ISO 14001

METTLER TOLEDO Group

Process Analytics Local contact: www.mt.com/pro-MOs

Subject to technical changes.
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