

XPM601

Paramagnetic Oxygen Analyzer for safe operation of electrolyzers

A hazardous area-certified paramagnetic analyzer designed for monitoring oxygen in green hydrogen generated through electrolysis. The paramagnetic measurement technology is known for measurement accuracy and sensitivity while being very stable and having a long sensor life. The XPM601 is certified for use in hazardous areas through UKCA, ATEX, IECEx and cQPSus.

SIL2
Capable



Highlights

- Measurement range from 0 to 5 % O₂ in H₂
- Accuracy of < ±0.1 % O₂ full scale
- Low cost of ownership due to minimal maintenance
- Through-glass display allows operation and calibration without hot works permit
- Analog and digital outputs available for 2 x 4...20 mA outputs and Modbus RTU over RS485 as standard
- XPM601 can be supplied meeting the requirements of IEC 61508 (SIL2 Capable)
- ATEX, IECEx, UKCA & cQPSus certified

Applications

- Accurate measurement of O₂ in H₂ in process conditions
- Safe operation of electrolyzer
- Monitor electrolyzer generation performance
- Determine hydrogen purity

Technical Specifications

Performance Specifications

Measurement Technology	Paramagnetic oxygen analyzer
Gas	Non-condensing sample with particles <5 µm
Measurement Range	Up to 5 % O ₂
Display Resolution	0.01 %
Accuracy	< ±0.1 % O ₂
Repeatability	< ±0.012 % O ₂
Linearity	< ±0.1 % O ₂
Zero Stability	±0.25 % of range per month
Range Stability	±0.25 % of range per month
Sample Flow Rate	100 ml/min (0.25 scfh)
Sample Pressure	0.33 barg (4.78 psig)
Sample Temperature	A constant temperature of +5...+55 °C (+41...+131 °F)
Background Gas	Analyzer is calibrated in the background gas of H ₂

Electrical Specifications

Analog Inputs	1 off mA input for an external sensor (can be displayed on the screen) 1 off mA input to act as an active compensation for the process conditions
Analog Outputs	2 off 4...20 mA outputs (powered with 24V excitation voltage)
Alarms	2 off single pole changeover (SPCO) relays for O ₂ concentration (250 V, 5 A max)
Digital Communications	Modbus RTU over RS485
Power Supply	24 V DC, 1.5 A max

Operating Conditions

Ambient Temperature	+5...+60 °C (+41...+140 °F) +5...+50 °C (+41...+122 °F) cQPSus
Atmospheric Pressure	750 mbar...1250 mbar

Mechanical Specifications

Warm-up Time	< 25 minutes
Stabilization Time	5 minutes
Wetted Materials	316 stainless steel, Viton 'O' ring, borosilicate glass, Electroless Nickel, platinum, platinum/iridium alloy
Gas Connection	1/8" NPT (female)
Ingress Protection	IP66, NEMA 4X

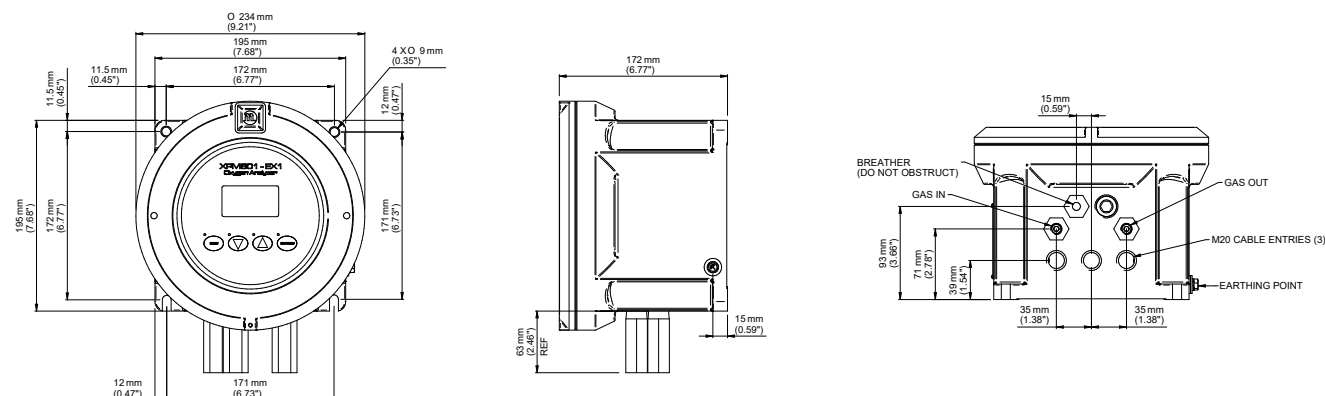
Hazardous Area Classification

ATEX/UKCA *	II 2 G D, Ex db IIB +H2 T6 Gb, Ex tb IIIC T85 °C Db IP66
IECEX *	Ex db IIB +H2 T6 Gb, Ex tb IIIC T85 °C Db IP66
cQPSus **	Class I, Division 1, Groups B,C & D T6, Class II, Division 1 Groups E, F & G Class I, Zone 1 AEx db IIB+H2 T6 Gb / Ex db IIB+H2 T6 Gb Zone 21, AEx tb IIC T85°C Db / Ex tb IIC T85°C Db

* Maximum temperature rating for ATEX/UKCA and IECEX Ta = -15 °C...+60 °C

** Maximum temperature rating for cQPSus Ta = -15 °C...+50 °C

Product Dimensions



Michell Instruments adopts a continuous development programme which sometimes necessitates specification changes without notice.
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