

Minox i

Intrinsically Safe Oxygen Transmitter

Hazardous area-approved, the Minox i is an intrinsically safe (I.S), 2-wire, loop-powered oxygen transmitter with a 4...20 mA output. It is designed with proven sensor technology to accurately measure O₂ in a variety of gases, in the most demanding applications and hazardous environments.

Minox i has a small footprint and offers a variety of process connections for oxygen measurement. With an industry standard electrical plug, this compact transmitter can be installed in any OEM application simply and cost-effectively.



Plug & Play Technology

Pictured with KF40, flow-through and tri-clamp process connections.



Highlights

- Measurement ranges from 0...10 ppm_v up to 0...25 %
- Designed for in-line and extractive gas applications
- Global hazardous area certifications
- 2-wire, loop-powered, 4...20 mA output for easy integration
- Combined sensor and electronics
- Electrochemical and solid-state sensor technology

Applications

- Inerting
- H₂ and N₂ gas generation
- Glove box and containment solutions
- Sieving and powder transfer systems
- Additive Manufacturing
- Bio-gas and bio-methane
- Pharmaceutical

Technical Specifications

Sensor				
	Solid-state	Electrochemical (%)	Electrochemical (ppm)	Electrochemical (CO2 gases, ppm)
Model	OC-92	OC-90	OC-60	OC-69
Measuring Range	0...25 %		0...10, 0...100, 0...1000 ppm _v	
Accuracy	Please see Accuracy Table below			
Output Resolution (4...20 mA)	0.01 %		1 ppm _v	
Lower Detection Limit (LDL)	0.05 %		1 ppm _v	
Sample Flow Rate (application dependent)	Flow-through / extractive: 100...500 ml/min (250 ml/min optimal) in a vented atmosphere Direct insertion: Up to 6 m/s			
Pressure Range	900...1100 mBar _{abs}			
Response Time (T90)	< 15 seconds @ 25 °C (77 °F) within selected range			
Operating Temperature Range	-20 °C...+50 °C (-4 °F...+122 °F)	+5 °C...+45 °C (+31 °F...+113 °F)	+5 °C...+45 °C (+31 °F...+113 °F)	-10 °C...+45 °C (+14 °F...+113 °F)
Life Expectancy (application dependent)	Up to 2 years	Up to 18 months	Up to 12 months	
Humidity	0...95 %rh non-condensing (with normal use)			
Shelf Life	Up to 12 months	Up to 6 months	Up to 3 months	
Calibration Interval (application dependent)	6 months	6 months	3...6 months	
Transmitter				
Electrical				
Output Signal	4...20 mA loop-powered			
Electrical Interface	Industry standard M12			
Power Supply	24 V DC +/- 10 % (a suitable I.S barrier is required)			
Mechanical				
Ingress Protection	IP66 (NEMA4)			
Housing Material	316 Stainless steel			
Process Connection	Flow-through (1/8" NPT), KF40 flange, Tri-clamp			
Gas-wetted Materials	316 Stainless steel			
O-ring Material	Nitrile			
Weight	800 g (28 oz)			
Hazardous Area Certification				
IECEX Classification: Ex ia IIC T4 Ga (-20°C ≤ Ta ≤ +55°C)				
ATEX Classification: Ex ia IIC T4 Ga (-20°C ≤ Ta ≤ +55°C), Ex ia IIIC T ₂₀₀ 135°C Da (-20°C ≤ Ta ≤ +55°C)				
cQPSus Certification: Class 1 Zone 0 AEx ia IIC T4 Ga, Class 1 Zone 20 AEx ia IIC T135°C Da				
UKEX, and JPN Ex Classification: Ex ia IIC T4 Ga (-20°C ≤ Ta ≤ +55°C), Ex ia IIC T ₂₀₀ 135°C Da (-20°C ≤ Ta ≤ +55°C)				

Accuracy Table

Accuracy at standard temperature and pressure (STP)	
Range	
10 ppm	+/- 0.5 ppm
100 ppm	+/- 1 ppm
1000 ppm	+/- 3 ppm @ 100 ppm
	+/- 1 ppm @ 10 ppm
25 %	+/- 0.03 % @ 1 %

Dimensions (mm)

	Flow-through (%)	Flow-through (ppm)	Tri-clamp	KF40
a	59	59	59	59
b	54	54	54	54
c	-	-	55	55
d	47	47	37	37
e	129	100	118	118



CAUTION

Ntron Gas Measurement is part of the Process Sensing Technologies Group (PST). As customer applications are outside of PST control, the information provided is given without legal responsibility. Customers should test under their own conditions to ensure the equipment is suitable for the intended application(s).

We adopt a continuous development program which sometimes necessitates specification changes without notice. For technical assistance or enquiries about other options, please contact us here: oxygen@processsensing.com.