

Data Sheet

O2A-X-XXX Series Standard Temperature and O2A-X-XXX-H Series High Temperature Oxygen Sensors

FEATURES

- Oxygen partial pressure range 1 to 250mbar (0 to 25% oxygen) or 1 to 1000mbar (0 to 100% oxygen) in normal atmosphere
- Function testing and calibration in ambient air
- Linear 0 to 10V or 4 to 20mA output of measured oxygen content
- High accuracy
- Low power consumption
- Linear output signal
- Long life

DESCRIPTION

The O2A-X-XXX Series Low temperature Oxygen Sensors is designed to determine the oxygen concentration in air or inert gas mixtures with temperatures of -100 to +250°C max. The O2A-X-XXX-H Series High temperature Oxygen Sensors is designed to determine the oxygen concentration in air or inert gas mixtures with temperatures of -100 to +400°C max.

These products are particularly suitable for measuring oxygen in areas that are not easily accessible, or in closed systems, such as ventilation pipes and containers. The O2A-X-XXX and O2A-X-XXX-H Series may both be supplied with measuring range of 0.1vol% O₂ to 25 vol. % O₂ and 0.1 vol. % O₂ to 100 vol. % O₂. The entire measurement range is linear for both sides.

The actual oxygen sensor is mounted in the tip of the bar probe and is protected by stainless-steel sintered disk which serves as a flame back-flash stop. The water-proofed plastic housing accommodates the electronics and is mechanically connected to the bar probe.

The sensor outputs the measured values via an analogue channel (4 to 20mA or 0 to 10V) and a digital channel (also provides any error signals) which are evaluated and further processed in a user-specified external mounting device, such as a fuel controller, display, measuring instrument, programmable logic controller or ventilation.



Both series may be calibrated manually or self-calibrated using atmospheric air instead of a reference gas. The sensor can also conduct external operational self-tests.

Both series may also operate in a fault-proof mode. The sensor self-monitors during operation and provides an error signal output. A second oxygen sensor is not necessary.

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General Specifications

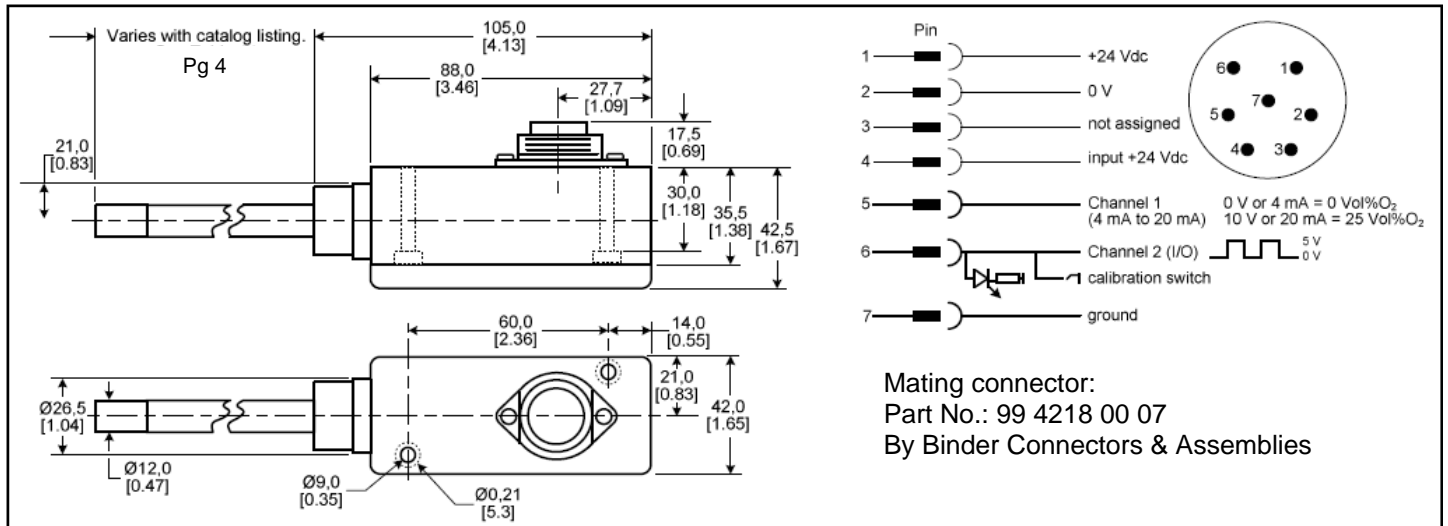
Characteristic	Parameter
Supply voltage	24VDC \pm 5%
Supply current	500mA
Ambient temperature	-10 to 50°C
Resolution	12 bit
Heat-up time	Approx. 10 min
Accuracy	\pm 2% FS (Full Scale)
Reproducibility	\pm 1% FS (Full Scale)
Gas flow rate	0 to 10m/s
Reaction time	Approx. 3s
Incidental permissible acceleration	30 g
Repetitive permissible acceleration	5 g
Bar probe material	Stainless steel
Housing material	Makrolon 8030 (30% GV), UL94 V-1
Housing sealing	IP65
Connector sealing	IP67
Weight (without bar probe)	150 g
Termination (female connector)	99-4225-14-07 (Binder 693 series)
Certificates	Complies with EMC directives EN 50082-2 and EN 50081-1 and directives 89/226/EWG and 92/31/EWG

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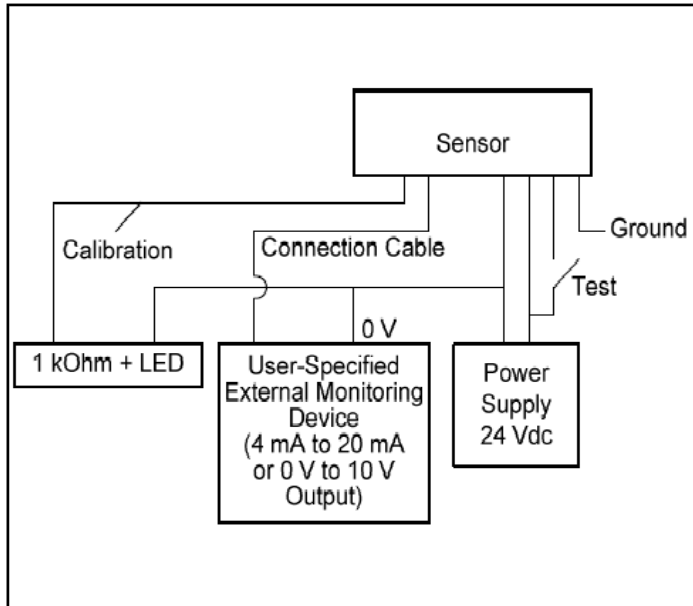
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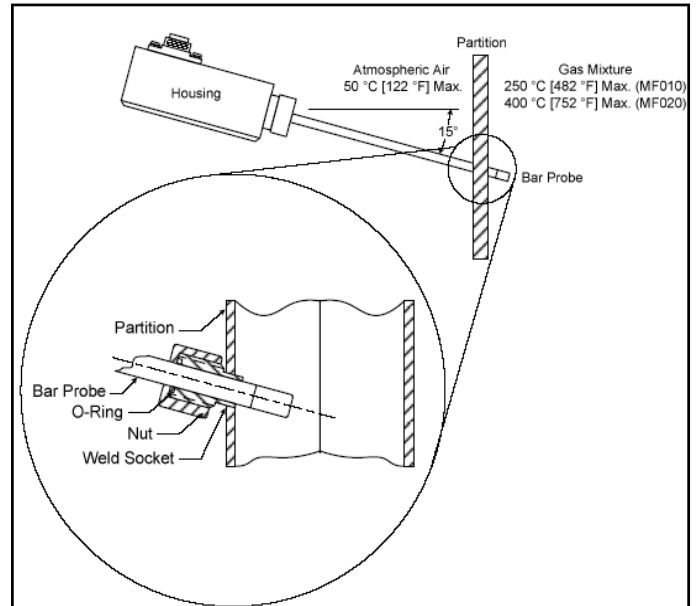
Dimensional Drawing and Pinout (For reference only: mm/in)



System Block Diagram



Sensor Mounting



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Low Temperature Series Ordering Information

Characteristics	Catalogue Listing			
	O2A-0-V25 O2A-1-V25	O2A-0-V100 O2A-1-V100	O2A-0-A25 O2A-1-A25	O2A-0-A100 O2A-1-A100 O2A-2-A100
Temperature Range (at probe tip)	-100 to +250°C			
Output	0 to 10VDC		4 to 20mA	
O2 range (O2 partial pressure) with equivalent O2% output	1 to 250mbar 0.1 to 25% vol. O2	1 to 1000mbar 0.1 to 100% vol. O2	1 to 250mbar 0.1 to 25% vol. O2	1 to 1000mbar 0.1 to 100% vol. O2
Probe Length: -0-XXXX -1-XXXX	220mm 400mm			

High Temperature Series Ordering Information

Characteristics	Catalogue Listing			
	O2A-0-V25-H O2A-1-V25-H	O2A-0-V100-H O2A-1-V100-H	O2A-0-A25-H O2A-1-A25-H	O2A-0-A100-H O2A-1-A100-H
Temperature Range (at probe tip)	-100 to +400°C			
Output	0 to 10VDC		4 to 20mA	
O2 range (O2 partial pressure) with equivalent O2% output	1 to 250mbar 0.1 to 25% vol. O2	1 to 1000mbar 0.1 to 100% vol. O2	1 to 250mbar 0.1 to 25% vol. O2	1 to 1000mbar 0.1 to 100% vol. O2
Probe Length: -0-XXXX -1-XXXX	220mm 400mm			

WARNING

Personal Injury

DO NOT USE these products as safety or Emergency Stop devices or in any other application Where failure of the product could result in Personal injury.

Failure to comply with these instructions could Result in death or serious injury.

CAUTION

Do not exceed maximum ratings and ensure sensor is operated in accordance with all requirements of AN0043

Failure to comply with these instructions may result in product damage.

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