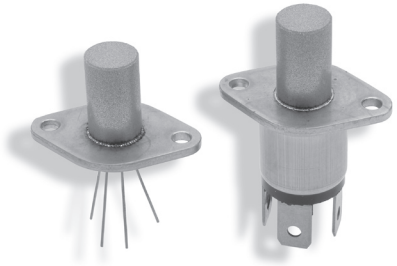
Honeywell

Oxygen Sensors Line Guide



Breathe easier, with unparalleled reliability. Honeywell Sensing and Control (S&C) offers a comprehensive range of oxygen sensors unmatched in the industry. Simply stated, our sensors are engineered to perform better and last longer. Our design employs two Zirconium Dioxide (ZrO_2) discs with a small, hermetically sealed chamber between each disc. ZrO_2 technology provides oxygen measurement without reference gas, providing enhanced accuracy and durability. That's why Honeywell S&C sensors are commonly found in potential applications from industrial processes, agriculture, and on-board aircraft oxygen generation system controls to automotive exhaust gas diagnostics, service instruments, environmental oxygen monitoring, combustion systems, and environmental controls.

FEATURES

OXYGEN SENSORS

KGZ-10 Series.

Features: Small, enhanced accuracy, wide measuring range • Low power consumption • No reference gas necessary • Stainless steel construction, both externally and internally • Often resistant against vibration, moisture and high pressures • Fail safe measuring principle • Linear output signal • No need for temperature stabilization • Function testing and calibration in ambient air • Rugged construction • Easy calibration • Long life

Benefits: Dynamic sensing principle allowing failsafe operation. Electronics necessary to operate the sensor can either be incorporated into the customer's own electronic circuits or be purchased as a separate interface board (DE800, Oxymac50 or ELECDITT). High resistance to corrosion allows the sensor to be used in aggressive, harsh environments. Can be used directly in high temperature, high pressure, and polluted gases. Often ideal for potential applications including heating boiler control, industrial process control, control of aircraft on-board oxygen generation systems, automotive exhaust gas diagnostics, service instruments, monitoring environmental oxygen, agriculture, composting, and fruit storage.

KGZ-12 Series.

Features: Long sensor probe, enhanced accuracy, wide measuring range • Low power consumption • No reference gas necessary • Stainless steel construction, both externally and internally • Resistant to vibration, moisture, and high pressures • Failsafe measuring principle • Linear output signal • No need for temperature stabilization • Function testing and calibration in ambient air • Easy calibration • Enhanced life

Benefits: Dynamic sensing principle allowing failsafe operation. Electronics necessary to operate the sensor can be incorporated into the customer's own electronic circuits or be purchased as a separate interface board. High resistance to corrosion allows the sensor to be used in aggressive, harsh environments. Can be used directly in high temperature, high pressure, and polluted gases. Often ideal for potential applications including heating boiler control, industrial process control, control of aircraft on-board oxygen generation systems, automotive exhaust gas diagnostics, service instruments, monitoring environmental oxygen, agriculture, composting, and fruit storage.

GMS-10 Series.

Features: Small, enhanced accuracy, wide measuring range • Low power consumption • No reference gas necessary • Linear output signal • No need for temperature stabilization • Function testing and calibration in ambient air • Rugged construction • Easy calibration • Enhanced life

Benefits: Dynamic sensing principle allowing failsafe operation. Electronics necessary to operate the sensor can be incorporated into the customer's own electronic circuits or be purchased as a separate interface board. Can be used directly in high temperature, high pressure, and polluted gases. Often ideal for potential applications including heating boiler control, industrial process control, control of aircraft on-board oxygen generation systems, automotive exhaust gas diagnostics, service instruments, and monitoring environmental oxygen.

MF010 Series.

Features: Combines an oxygen sensor probe with electronics mounted at the back of the probe electromechanical pump • No moving parts • IP65 • No reference gas necessary • Stainless steel construction, both externally and internally • Resistant to vibration, moisture, and high pressures • Failsafe measuring principle

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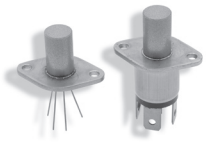
Oxygen Sensors Line Guide

Uncommon sensing. Unmatched leadership. Honeywell S&C's dual disc, Zirconium Dioxide (ZrO_2) design offers advantages over the competition — because it's built for enhanced accuracy. The first disc functions as a reversible oxygen pump, which sequentially fills and empties the chamber. The second disc measures the ratio of the partial pressure difference, and then generates a corresponding voltage. A heat element produces the 700 °C [1292 °F] required for the ZrO_2 to operate as an O_2 pump. The time needed for the pump to reach specific minimum and maximum pressures within the chamber provides a measure of the partial oxygen pressure of the environment.

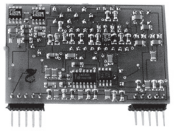
Trust Honeywell S&C for top-flight engineering, and world-class performance: enhanced accuracy measurement; low power consumption; no reference gas or temperature stabilization required; linear output signal; function testing and calibration in ambient air; and enhanced life.

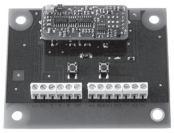


Oxygen Sensors	KGZ-10 Series	KGZ-12 Series	GMS-10 Series
Sensor voltage levels (recommended)	45-64-85 mV	45-64-85 mV	45-64-85 mV
Pump current (recommended)	40 uA	40 uA	40 uA
Housing	flange mounted	400 mm probe; 220 mm probe	80 mm probe; screw fit probe (28 mm, 45 mm, 55 mm)
Response time	< 4 s	< 15 s	< 15 s
Warm up time	< 100 s	< 100 s	< 100 s
Heater supply	4.35 V (1.85 A)	4.0 V (1.7 A)	4.0 V (1.7 A)
Oxygen pressure range	2 mbar - 3 bar	2 mbar - 3 bar	2 mbar - 3 bar
Operational temperature	700 °C [1292 °F]	700 °C [1292 °F]	700 °C [1292 °F]
Sensitivity	1.05 ms/mbar	1.05 ms/mbar	1.05 ms/mbar
Accuracy	< 5 mbar	< 5 mbar	< 5 mbar
Termination	0,6 mm [0.024 in] diameter, 4-pin, nickel-plated steel; 4,0 mm x 8,0 mm x 7,00 mm [0.157 in x 0.315 in x 0.028 in] Faston contact tabs; 0,6 mm [0.024 in] diameter, 5-pin, nickel-plated steel	5 Teflon coated wires	5 Teflon coated wires (with 6 fold Molex connectors)

Oxygen Sensors	MF010 Series
Supply voltage	24 Vdc ±5 %
Supply current	500 mA
Output signal	0 Vdc to 10 Vdc or 4 mA to 20 mA
Housing	220 mm probe; 400 mm probe; 600 mm probe
Oxygen concentration range	0.1 % to 25 % (0 % to 100 % on request) by volume
Ambient temperature	-10 °C to 50 °C [14 °F to 122 °F]
Permissable gas temperature (probe tip)	-148 °C to 482 °C or -148 °C to 752 °C
Resolution	12 bit
Sensitivity	1.05 ms/mbar
Accuracy	±2 %
Termination	binder connector, 693 series
Repeatability	± 1%
Warm up time	10 min. (approx.)

Oxygen Sensor Interface Boards





	Oxymac50	Elecdit	DE800
Supply voltage	24 Vdc ±20 %	15 Vdc ±10 %	24 Vdc ±20 %
Supply current	100 mA	100 mA	100 mA
Power consumption (interface)	<250 mW	<250 mW	<500 mW
Output signal	0 Vdc to 10 Vdc or 4 mA to 20 mA	0 Vdc to 10 Vdc	0 Vdc to 10 Vdc or 4 mA to 20 mA
Oxygen concentration range	0.1 % to 25 % (0 % to 100 % on request) by volume	0.1 % to 25 % (0 % to 100 % on request) by volume	0.1 % to 25 % (0 % to 100 % on request) by volume
Ambient temperature	-10 °C to 50 °C [14 °F to 122 °F]	-10 °C to 50 °C [14 °F to 122 °F]	-10 °C to 50 °C [14 °F to 122 °F]
Resolution	12 bit	12 bit	12 bit
Sensitivity	1.05 ms/mbar	1.05 ms/mbar	1.05 ms/mbar
Accuracy	±2 %	±2 %	±2 %
Repeatability	± 1%	± 1%	± 1%
Connector	15-pin D type connector	2,5 mm x 2,5 mm (0.1 in x 0.1 in) pin connector	screw connector block

• Low power consumption • No need for temperature stabilization • Functional testing and calibration in ambient air • Suitable for use in gases up to 300 °C [572 °F] • Lower running costs • Enhanced life

Benefits: No reference gas pressure required, creating an ability to measure ambient oxygen content. Can be operated by simple, low-cost electronics. Allows failsafe operation. Can be mounted directly into the flue. High resistance to corrosion allows the sensor to be used in aggressive, harsh environments. No additional electronic circuit needed. Potential applications include heating boiler control, industrial process control, combustion systems, compost systems, and environmental control.

OXYGEN SENSOR INTERFACE BOARDS – KGZ SERIES

Oxymac50.

Features: Provides the necessary circuits to control Honeywell oxygen sensors • Functional testing and calibration in ambient air • PCB board format • Linear output of measured oxygen content in voltage or current format • Requires an external heater power supply • Low power consumption • Flexible interconnection • Lower running costs

Benefits: Removes the need to implement sensor control circuits within equipment. Removes effects of barometric or application pressure changes and sensor drift for enhanced accuracy. Ease of mounting and access for calibration. Potential applications include heating boiler control, industrial process control, combustion systems, compost systems, environmental control, medical, and aerospace.

Elecdit.

Features: Provides the necessary circuits to control Honeywell oxygen sensors • Functional testing and calibration in ambient air • PCB board format • Linear output of measured oxygen content in voltage or current format • Requires an external heater power supply • Low power consumption • Flexible interconnection • Lower running costs

Benefits: Removes the need to implement sensor control circuits within equipment. Removes effects of barometric or application pressure changes and sensor drift for enhanced accuracy. Offers a level of noise protection. Ease of mounting and access for calibration. Potential applications include heating boiler control, industrial process control, combustion systems, compost systems, environmental control, medical, and aerospace.

DE800.

Features: Provides the necessary circuits to control Honeywell oxygen sensors • Functional testing and calibration in ambient air • PCB board format • Linear output of measured oxygen content in voltage or current format • Requires no external heater power supply • Low power consumption • Flexible interconnection • Lower running costs

Benefits: Removes the need to implement sensor control circuits within equipment. Removes effects of barometric or application pressure changes and sensor drift for best accuracy. Ease of mounting and access for calibration. Potential applications include heating boiler control, industrial process control, combustion systems, compost systems, environmental control, medical, and aerospace.

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⚠ WARNING

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