Vandagraph Sensor Technologies

Specification Datasheet - 8010050

JFD Ltd.

DB200381 Oxygen Sensor

v1.5

11th April 2018

Vandagraph Sensor Technologies Ltd.
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Specifications

VST part number	8010050
OEM model number	DB200381 Oxygen Sensor
Output in ambient air	6.5 – 9.0 mV
Electrical output	30 to 60 µA
Output connector	Flying leads with 3 pin female connector - Molex 22-01-2037
Input	Open input – see drawing and images
Input O ring	Not applicable
Range	0 – 100% oxygen
Pressure range	600 to 2500 mbar
Repeatability	<1% volume oxygen at constant temperature and pressure
Linearity error	0.1 to 1.0 bar < 3% relative 0.1 to 2.5 bar < 5% relative (at ppO_2 > 1.0 bar after 1-hour equilibration time)
Accuracy at constant temperature, pressure and humidity	Accuracy – Within + / - 3% of reading (or ±5 mBar oxygen, whichever is greater) up to specified range, when calibrated using 100% oxygen at known atmospheric pressure and 25°C Acceptable limits are Error mBar pO2 mBar pO2 Min Max 209 -4 4 1000 0 0 Calibration point 1500 -30 30 2000 -75 75 Specified range 2300 -100 100 Over-range capability Hysteresis after use at high pressure according to accuracy specification (within + / - 3% of reading)
Warm up time	< 30 minutes after sensor installed
Zero offset voltage	< 0.5% oxygen reading in 100% nitrogen @ 25ºC after 36 seconds
Cross interference	<0.5% volume oxygen response to 5% CO_2 balance N_2
Response time	< 5 s for 90% of final value.
Operating humidity	0 – 99% R.H. (non-condensing).
Influence of humidity	- 0.03% relative per % R.H. at 25 ºC.
Influence of mechanical shock	< 1% after fall from 1m
Operating temperature range	0 – 50 ºC
Storage temperature	-20 to +50 ºC
Recommended storage temperature	+5 to +15 ºC
Temperature compensation	Integrated NTC network
Temperature compensation error (steady state)	0 °C to 50 °C, 5% relative error
Nominal sensor life	500,000 % oxygen hours
Typical sensor life	20 to 24 months from date of invoice (including shelf life).
Long term output drift	< 1% volume oxygen per month, typically < -15% over sensor lifetime.
Load required	≥10 K Ohms

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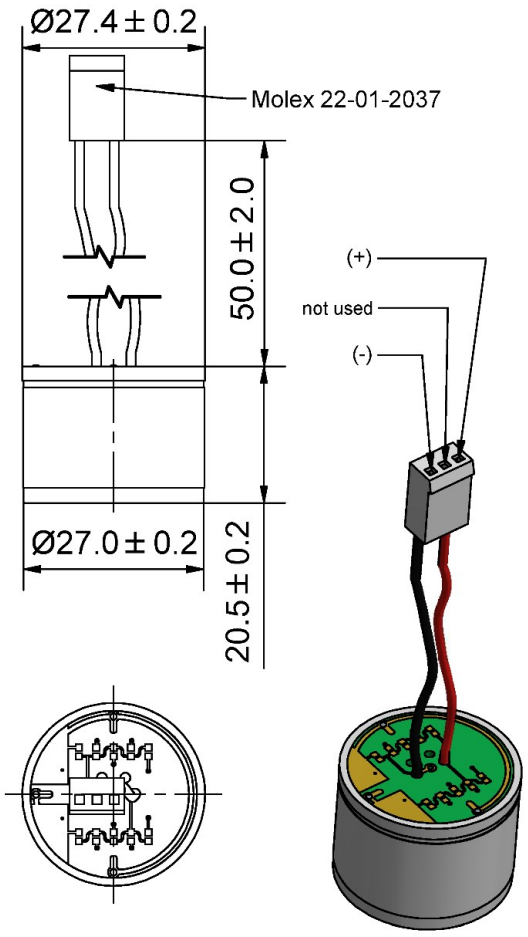
Input - membrane protection grille	No
Input - hydrophobic membrane	Yes
Conformal coating on PCB	Yes
Pressure equalization - PCB	Yes
Pressure equalization - output cap	Not applicable
Weight (approximate)	28 g
Flow diverter	No
Packaging	Gas barrier bag
Warranty period	12 months from date of sales invoice
Application specific components	Low/non-magnetic components utilized: Cathode, internal wiring. Suitability and QA assessment carried out by JFD prior to sensor production.
All specifications are applicable at standard conditions: **1013 mbar, 25°C dry ambient air**	

Drawings/images



Dimensions in mm

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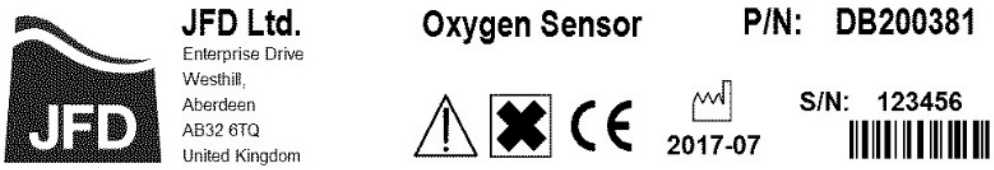
Labelling

Oxygen sensor label 90.0mm x 15.0mm

White vinyl label, text & graphics - black



Gas barrier bag label 63.5mm x 46.6mm

White label, text & graphics – black

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