

Specification Datasheet - 8010050
JFD Ltd.
DB200381 Oxygen Sensor



v1.7
3rd July 2018

Specifications

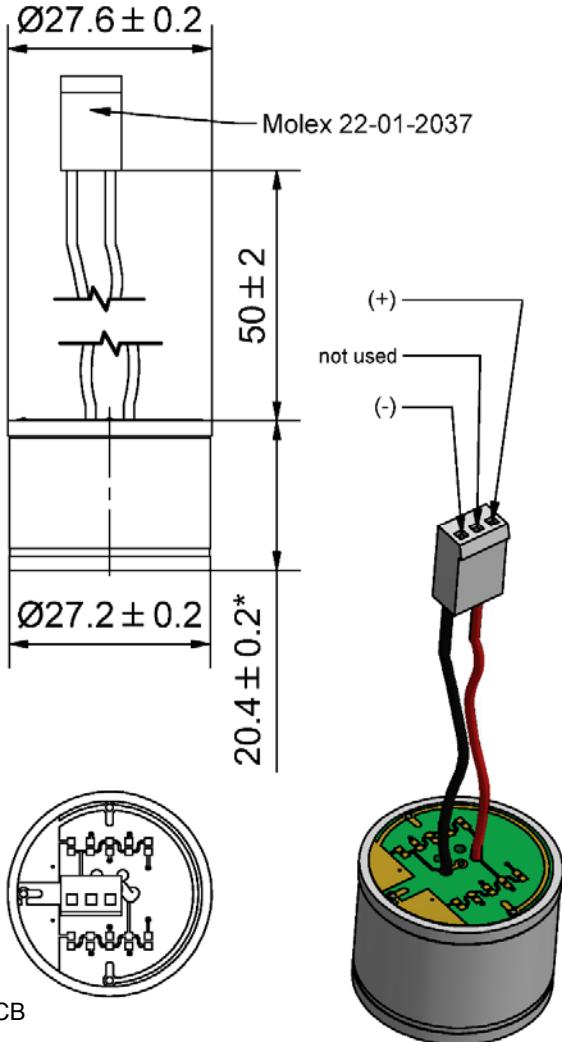
VST part number	8010050																								
OEM model number	DB200381 Oxygen Sensor																								
Output in ambient air	6.5 – 9.0 mV																								
Electrical output	30 to 60 μ A																								
Output connector	Flying leads with 3 pin female connector - Molex 22-01-2037																								
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 <table> <thead> <tr> <th>mBar pO₂</th> <th>Error mBar pO₂</th> <th>Min</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>209</td> <td>-4</td> <td>4</td> <td></td> </tr> <tr> <td>1000</td> <td>0</td> <td>0</td> <td>Calibration point</td> </tr> <tr> <td>1500</td> <td>-30</td> <td>30</td> <td></td> </tr> <tr> <td>2000</td> <td>-75</td> <td>75</td> <td>Specified range</td> </tr> <tr> <td>2300</td> <td>-100</td> <td>100</td> <td>Over-range capability</td> </tr> </tbody> </table> Hysteresis after use at high pressure according to accuracy specification (within + / - 3% of reading)	mBar pO ₂	Error mBar pO ₂	Min	Max	209	-4	4		1000	0	0	Calibration point	1500	-30	30		2000	-75	75	Specified range	2300	-100	100	Over-range capability
mBar pO ₂	Error mBar pO ₂	Min	Max																						
209	-4	4																							
1000	0	0	Calibration point																						
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2000	-75	75	Specified range																						
2300	-100	100	Over-range capability																						
Warm up time	< 30 minutes after sensor installed																								
Zero offset voltage	< 0.5% oxygen reading in 100% nitrogen @ 25°C 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 °C.																								
Influence of mechanical shock	< 1% after fall from 1m																								
Operating temperature range	0 – 50 °C																								
Storage temperature	-20 to +50 °C																								
Recommended storage temperature	+5 to +15 °C																								
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																								

Input - membrane protection grille	No
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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 to be carried out by JFD prior to sensor production.

All specifications are applicable at standard conditions: **1013 mbar, 25°C dry ambient air**

Drawings/images



Labelling

Oxygen sensor label 90.0mm x 15.0mm

White vinyl label, text & graphics - black



JFD Ltd.
Enterprise Drive
Westhill,
Aberdeen
AB32 6TQ
United Kingdom

Oxygen Sensor

P/N: DB200381



2017-07

S/N: 123456



Gas barrier bag label 63.5mm x 46.6mm

White label, text & graphics – black



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This oxygen sensor contains caustic liquid, in case of leakage avoid contact with eyes and skin. Do not puncture or staple this bag. Do not remove the oxygen sensor from this bag until ready to use. Depending upon the ambient conditions the oxygen sensor may require 30 minutes to reach signal stability after installation.

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