

## **Specification Datasheet - 8010050**

JFD Ltd.  
DB200381 Oxygen Sensor



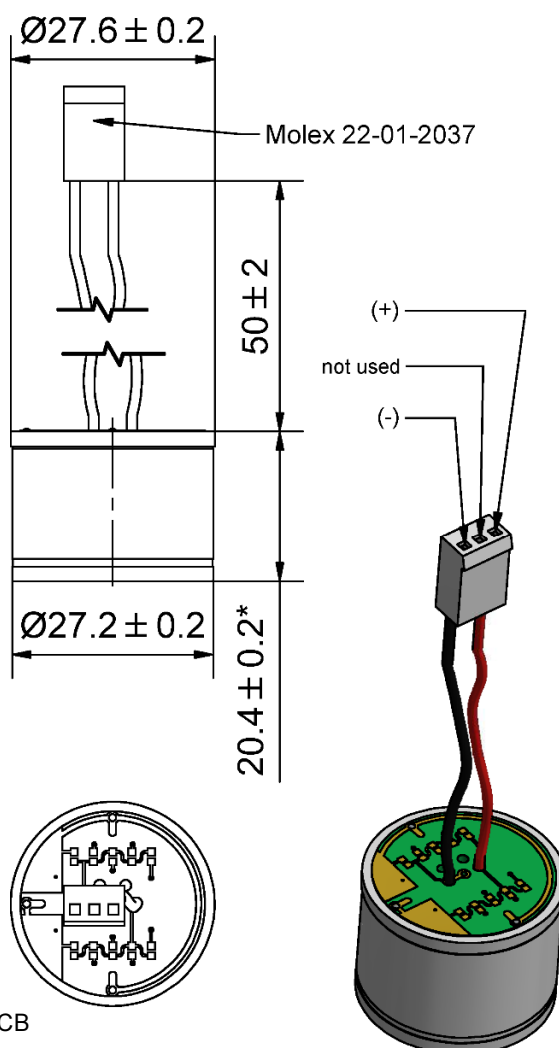
v1.9  
6<sup>th</sup> December 2018

## 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 µA																												
Output connector	Flying leads with 3 pin female connector - Molex 22-01-2037 NOTE: As instructed by JFD - after QA testing the connector is removed prior to packaging.																												
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 <sub>2</sub> > 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><tr><td></td><td colspan="3">Error mBar pO<sub>2</sub></td></tr><tr><td>mBar pO<sub>2</sub></td><td>Min</td><td>Max</td><td></td></tr><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></table> Hysteresis after use at high pressure according to accuracy specification (within + / - 3% of reading)		Error mBar pO <sub>2</sub>			mBar pO <sub>2</sub>	Min	Max		209	-4	4		1000	0	0	Calibration point	1500	-30	30		2000	-75	75	Specified range	2300	-100	100	Over-range capability
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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 <sub>2</sub> balance N <sub>2</sub>																												
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																												

<b>Input - membrane protection grille</b>	No
<b>Input - hydrophobic membrane</b>	Yes
<b>Conformal coating on PCB</b>	Yes
<b>Pressure equalization - PCB</b>	Yes
<b>Pressure equalization - output cap</b>	Not applicable
<b>Weight (approximate)</b>	28 g
<b>Flow diverter</b>	No
<b>Packaging</b>	Gas barrier bag
<b>Warranty period</b>	12 months from date of sales invoice
<b>Application specific components</b>	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: <b>1013 mbar, 25°C dry ambient air</b>	

## Drawings/images



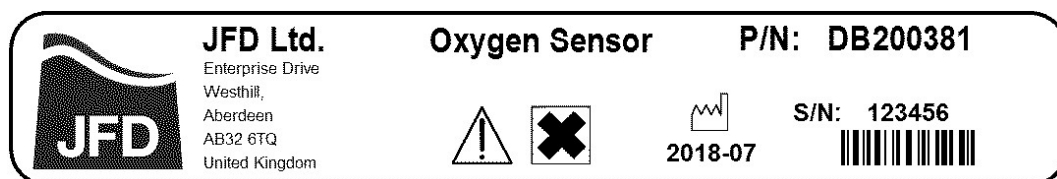
Dimensions in mm

\*Sensor housing height, without PCB

## 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

