

Specification Datasheet - 8010050

JFD Ltd.
DB200381 Oxygen Sensor



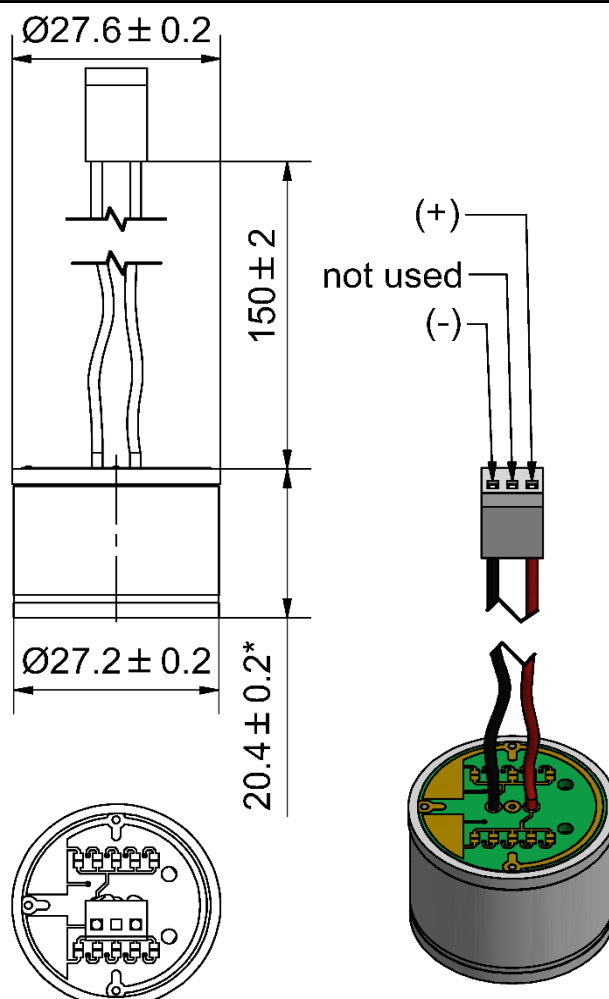
V2.0
6th May 2019

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 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><tr><td colspan="2"></td><td colspan="2">Error mBar pO₂</td><td></td></tr><tr><td>mBar pO₂</td><td>Min</td><td>Max</td><td></td><td></td></tr><tr><td>209</td><td>-4</td><td>4</td><td></td><td></td></tr><tr><td>1000</td><td>0</td><td>0</td><td>Calibration point</td><td></td></tr><tr><td>1500</td><td>-30</td><td>30</td><td></td><td></td></tr><tr><td>2000</td><td>-75</td><td>75</td><td>Specified range</td><td></td></tr><tr><td>2300</td><td>-100</td><td>100</td><td>Over-range capability</td><td></td></tr></table> Hysteresis after use at high pressure according to accuracy specification (within + / - 3% of reading)			Error mBar pO ₂			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	
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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 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
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



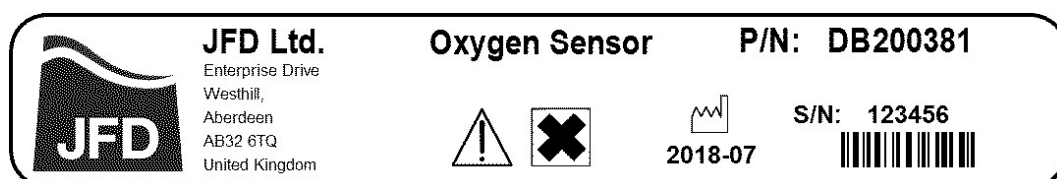
Dimensions in mm

*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

