Product Data Sheet

ELECTROCHEMICAL 4O$_2$-LF SENSOR (4 SERIES) (P/N:053-0000-000)

• Description

The sensor is Lead-Free and designed for the measurement of O_2 concentration in gas phase. It can be used as the pin to pin replacement of the standard 4 series electrochemical O_2 sensor.

• Performance Characteristics

Nominal Range: 0~ 25 %vol oxygen
Maximum Overload: 30 %vol oxygen
Sensitivity (20 ℃) : 100 ± 20 μA in air
Response Time (T90): ≤ 20 s
Baseline: ± 0.3 %vol oxygen @20 ℃
Detections limit: 0.1 %vol oxygen
Linearity: The error is < ±5 %FS, or <0.3 %vol, whichever is the less.
Theoretical calculating formula: K*Ln(1/(1-C))
Bias Voltage: -600 mV
Warm up time: Reading returns to within 21 %vol in air after losing bias voltage for 15 minutes.
Repeatability: < ± 5 %

• Environmental

Temperature Range: -40 ℃ ~ 50 ℃
Pressure Range: 1 atm ± 10 %
Humidity Range: 15 % ~ 90 %RH non-condensing

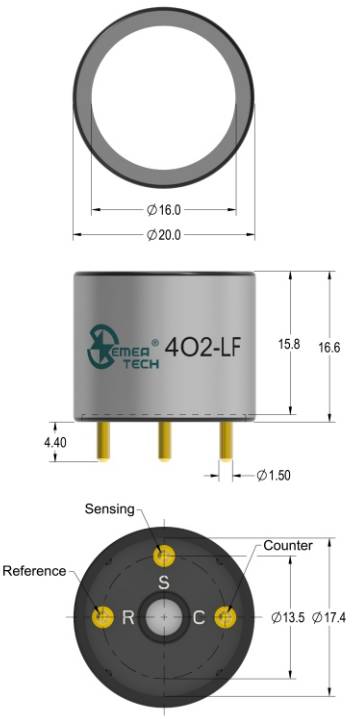
• Life Time

Long Time Output Drift: < 5 % /year
Recommended Storage Temp: 10 ℃ ~ 30 ℃
Expected Operating Life: 5 years in clean air
Storage Life: 12 months in original packaging
Warranty: 36 months

• Mechanical

Housing Material: ABS
Weight: 5 g
Orientation: Any
RoHS Compliance: RoHS Compliant

Product Dimensions



All dimensions in mm
All tolerances ±0.15 mm unless otherwise stated

Note

The performance data in this document is conducted by using SemeaTech recommended test circuitry and test environment at 20 ℃, 50 %RH and 1 atm.

Sensor performance varies under different environmental conditions, please contact us if you need more details.

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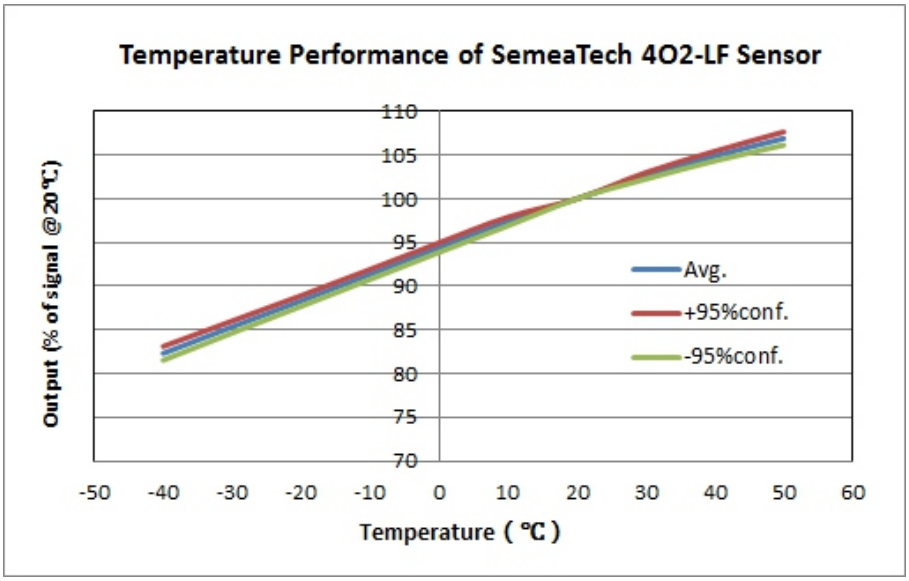
REV.: 2019/04

• Cross-Sensitivity Data

Gas	Concentration	Output signal (%O_2 equivalent)
Carbon Dioxide	5%	0.11
Hydrogen	2000ppm	0.29

Note: The cross sensitivity are including but not limited to the above gases. It may also respond to other gases.The data in the table above may vary from different batches of sensors and the changes of test environment. Calibration with cross sensitivity gas is not recommended.

• Temperature Data



• Safety Note

The sensor is designed to be used in certain instruments for life critical applications. To ensure the sensor functioning per its specifications inside the instrument, it is required to read the instrument user's guide carefully and comply with the calibration procedures by using certified target calibration gas before each use. Failure to do so may cause serious injury and fatality. Please do not open the housing because the electrolyte stored inside is harmful.

It is highly recommended for customers to validate the sensor performance using this document as a reference for their product designs or applications.