Product Data Sheet

ELECTROCHEMICAL H2O2-100 SENSOR (4 SERIES) (PN: 070-0100-000)

• Description

This Hydrogen Peroxide (H2O2) sensor is designed to operate with no bias voltage required. It can be used as the pin-to-pin replacement of the standard 4-series electrochemical Hydrogen Peroxide sensors made by other manufacturers.

• Performance Characteristics

Nominal Range:	0 ~ 100 ppm
Maximum Overload:	200 ppm
Sensitivity (20°C):	0.40 ± 0.15 μA/ppm
Response Time (T90):	≤ 120 s
Zero Signal (20°C):	< ±0.2 μA
Baseline Shift (-20°C ~ 50°C):	< 0.5 ppm
Resolution:	0.015 ppm
Linearity:	Linear up to 100 ppm
Bias Voltage:	0 mV

• Environmental

Temperature Range:	-20°C ~ 50°C
Pressure Range:	1 ± 0.1 atm
Humidity Range:	15% ~ 90%RH non-condensing

• Life Time

Long Time Output Drift:	< 2% signal/month
Recommended Storage Temp:	10°C ~ 30°C
Expected Operating Life:	2 years in clean air
Storage Life:	6 months in original packaging
Warranty:	12 months

• Intrinsic Safety Data

Max. Current at 200ppm H2O2:	< 0.2 mA
Max. O/C Voltage:	1.3 V
Max. S/C Current:	< 1.0 A

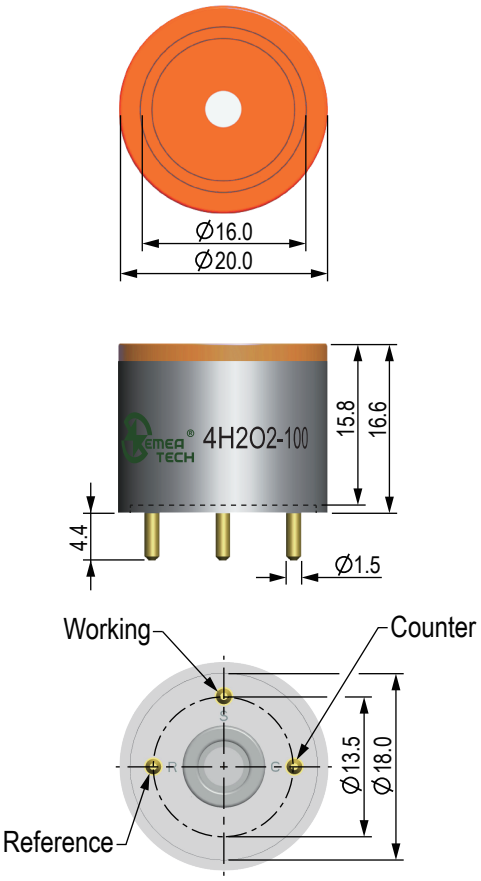
• Physical Characteristics

Housing Material:	ABS
Weight (Nominal):	5 g
RoHS Compliance	Yes

• Installation

Output signals from the sensor pins are different. Inappropriate use of the pins in product design will affect the sensor functionality. Exposure to high concentrations of solvent vapors should be avoided under any condition. Mechanical overstress may cause deformation or cracks of the plastic enclosure of the sensor. If the sensor is used in extreme environmental conditions, please contact us for more details.

• Product Dimensions



All dimensions in mm
All tolerances ±0.20mm unless otherwise stated

• Note

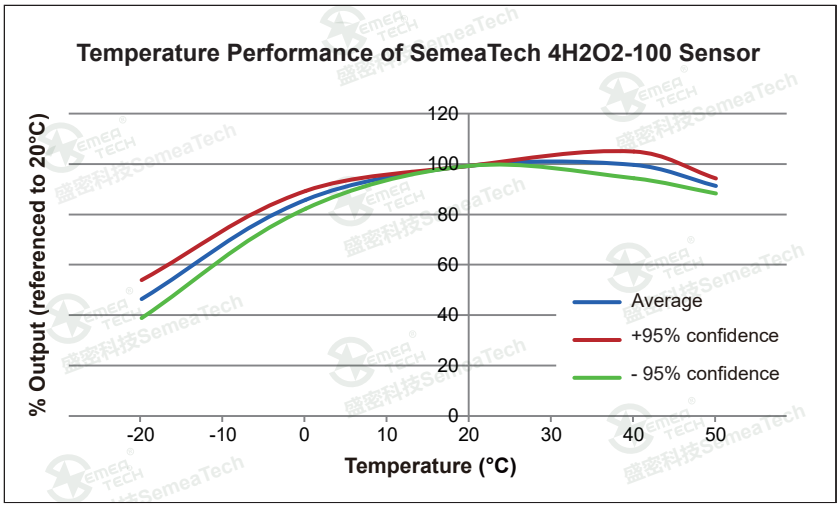
The performance data in this document are conducted by using SemeaTech recommended test circuitry and test environment at 20°C, 50%RH and 1 atm. Sensor performance varies under different environmental conditions. Please contact us if you need more details.

• Cross-Sensitivity Data

Gas	Concentration (ppm)	Output Signal (ppm H2O2 equivalent)
Hydrogen Sulfide	5	3.0
Carbon Monoxide	100	0.0
Nitrogen Dioxide	5	0.3
Sulfur Dioxide	5	0.1
Ethylene	100	0.0
Hydrogen	1,000	0.0

Note: The cross-sensitivities are not limited to the gases listed above; the sensor may also respond to other gases. The data in the table above may vary depending on different sensor batches and changes in the test environment. Due to the unavailability of H2O2 calibration gases, we recommend using H2S calibration gas with a concentration of 5 ppm as a substitute for calibrating this sensor.

• Temperature Data



• Safety Note

This sensor is designed to be used in certain instruments for life critical applications. To ensure the sensor functions 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 sensor plastic enclosure because the electrolyte and other chemicals stored inside are harmful.

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

This product data sheet is used for reference only.

SemeaTech is committed to providing its customers the most accurate data based on its best knowledge. SemeaTech does not provide a product warranty for failures of using its products in accordance with product specifications that are described in the datasheet, or other misuses, abuse, negligence to the product.