



Product Data Sheet

ELECTROCHEMICAL HF-10 SENSOR (4 SERIES) (P/N:069-0000-000)

• Description

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

• Performance Characteristics

Nominal Range: 0~10 ppm

Maximum Overload: 50ppm

Sensitivity(20 °C) : $0.3 \pm 0.1 \mu\text{A/ppm}$ (negative signal)

Response Time (T90): $\leq 120 \text{ s}$

Zero Signal(20 °C) : $< \pm 0.2 \mu\text{A}$

Baseline Shift (- 20 °C ~ 50 °C) : $< 2 \text{ ppm}$

Resolution: 0.5 ppm

Linearity: Linear up to 10 ppm

Bias Voltage: 0 mV

• Environmental

Temperature Range: -20 °C ~ 50 °C

Pressure Range: 1 atm $\pm 10 \%$

Humidity Range: 15 % ~ 95 %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

Maximum Current at 50 ppm HF: $< 0.2 \text{ mA}$

Maximum O/C Voltage: 1.3 V

Maximum S/C Current: $< 1.0 \text{ A}$

• Physical Characteristics

Housing Material: ABS

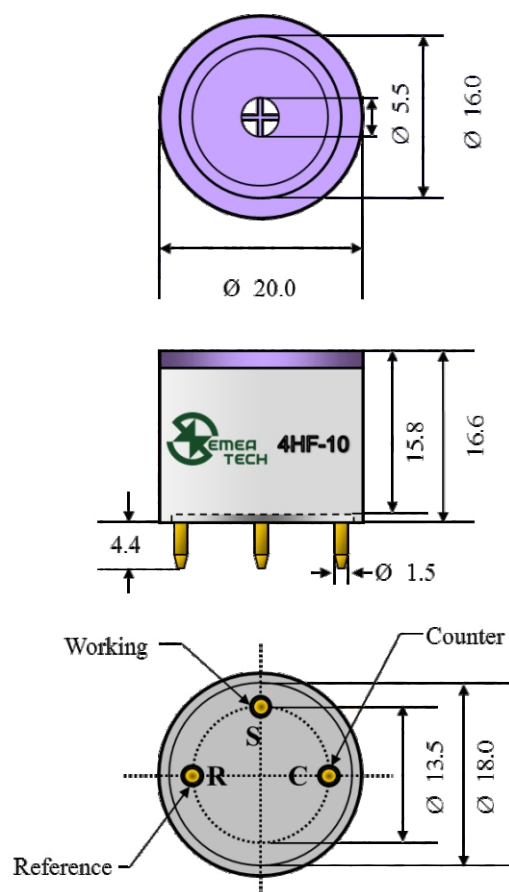
Weight (Nominal): 5 g

Orientation: None

• 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 SemeaTech for more details.

Product Dimensions



All dimensions in mm

All tolerances $\pm 0.10 \text{ mm}$ unless otherwise stated

Note

The performance data in this document is 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 SemeaTech for more details.

The sensor has no protection against condensation.

• Cross-Sensitivity Data

Gas	Concentration (ppm)	Output signal (ppm HF equivalent)
Hydrogen Sulfide	25	-0.6
Sulfur Dioxide	20	0.2
Nitric Oxide	50	0
Nitrogen Dioxide	5	1.5
Carbon Monoxide	100	0
Hydrogen	1000	0

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.

• 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.