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Getting Started Guide & Unisense standard specifications for

Hydrogen Sulfide Sensors - H_2S-types

This sensor has been successfully tested prior to shipping, however some sensors suffer from rough transportation. Therefore, it is important that you test the sensor upon arrival!

Replacement of Defective Sensors

Unisense will replace the sensor if it does not meet the specifications below, provided that:

1. A test is performed upon receipt without breaking the seal (Note! No seal on MR-sensors for testing purposes)
2. The complaint is given to Unisense ***within two weeks*** from receipt of the equipment.

Guaranteed Lifetime

Unisense guarantees the hydrogen sulfide sensor a minimum lifetime of 3 months on condition of correct storage and use according to the manual.

Individual Sensor Calibration is required

Our sensors are handmade and as the sensor signal relies on the exact geometry of the sensor tip (micrometer scale), some variation must be expected. Complete linearity cannot be expected in the high concentration range (more than 300 µM H_2S). The H_2S sensitivity decreases over time (not uniformly) no matter if the sensor is in use or stored.

Signal Amplification

Unisense hydrogen sulfide sensors should be connected to a Unisense amplifier such as a UniAmp series instrument or the Field Microsensor Multimeter

Standard Hydrogen Sulfide Sensors are functioning correctly if (at room temperature):

- The 90 % response time is within the specified range (see table below).
- The zero signal is less than 25 % of the signal in a 50 µM H_2S calibration solution (see the table).

	H_2S-10	H_2S-25	H_2S-50	H_2S-100	H_2S-200	H_2S-500	H_2S-N	H_2S-NP	H_2S-MR	H_2S-50LR	H_2S-100LR	H_2S-500LR	H_2S-NPLR
90% response time (sec.)	<10	<10	<10	<15	<15	<20	<20	<20	<20	<10	<15	<20	<20
Zero-signal less than	15 mV	15 mV	20 mV	25 mV	25 mV	25 mV	25 mV	25 mV	25 mV	25 mV	25 mV	25 mV	25 mV

The sensor signal in pA is converted to an instrument signal in mV. The default setting of this Pre-Amp range is 1 pA = 1 mV. However, this can be changed by the user (see the instrument manual).

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Getting started with Hydrogen Sensors

1. Unpacking

- Remove the grey shock-absorbing plastic net and inspect the sensor visually. Leave the sensor in the protection tube for testing, and do not break the seal.

2. Connect the sensor to the amplifier

- The amplifier is automatically set up correctly when used with these instruments: UniAmp series and Unisense in situ amplifiers.
- For other amplifiers, set the polarization manually to +85 mV.
  NOTE: Incorrect polarization may destroy the sensor!

3. Wait for the sensor to stabilize

- The signal will be very high right after the sensor is connected and will decrease over time.
- The period of decreasing signal will normally be at least 2 hours.
- Once the signal is stable, calibration can be performed.

4. Calibrate the sensor

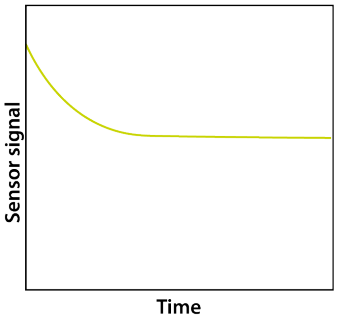
- Place the sensor in sulfide free water to obtain the zero calibration point.
- Prepare the sulfide solution according to the H_2S calibration kit manual and inject the solution into the calibration cap.
- For alternative calibration method, see the H_2S Microsensor manual.

5. Approve the sensor

- Compare the calibration points to the specifications given on the previous page. If necessary, see Troubleshooting in the H_2S Microsensor manual or contact support.

6. Storage

- When not in use, store the sensor with the protection tube mounted at 5-35°C. Store the sensor in low light or darkness.



A typical decrease in sensor signal over time for a sensor that has just been plugged in.

Injecting calibration liquid into protection tube using the calibration cap.

Useful tools

H_2S Microsensor Manual

Calkit-H_2S Manual

uSense Solutions Manual

Contact information for support

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ISO 9001 Certified