




UNISENSE H2 Hydrogen Sensors User Guide

[Home](#) » [UNISENSE](#) » UNISENSE H2 Hydrogen Sensors User Guide 

Contents

- 1 UNISENSE H2 Hydrogen Sensors
 - 1.1 Replacement of defective sensors
- 2 Guaranteed lifetime
- 3 Unpacking
 - 3.1 connect the sensor to the amplifier
 - 3.2 Calibrate the sensor
- 4 Storage
- 5 Useful tools
- 6 Documents / Resources
 - 6.1 References
- 7 Related Posts



UNISENSE H2 Hydrogen Sensors

**Important! Test sensor upon receipt!**

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 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.

Signal amplification

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

Standard hydrogen sensors are functioning correctly if (at Room temperature):

- It has an immediate response when exposing the tip to hydrogen
- The 90 % response time is within the specified range (see table below)
- The zero signal is less than the specified value (see table below)

	H2-10	H2-25	H2-50	H2-100	H2-500	H2-N	H2-NP	H2-MR	H2-500 LR	H2-NPL R
90 % response time (in sec.)	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
Zero- s ignal le ss than	10 mV	10 mV	10 mV	10 mV	10 mV	10 mV	10 mV	10 mV	10 mV	10 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).

Unpacking

- Remove the grey shock-absorbing plastic net and inspect the sensor visually.
Leave the sensor in the protection tube for testing.

connect the sensor to the amplifier

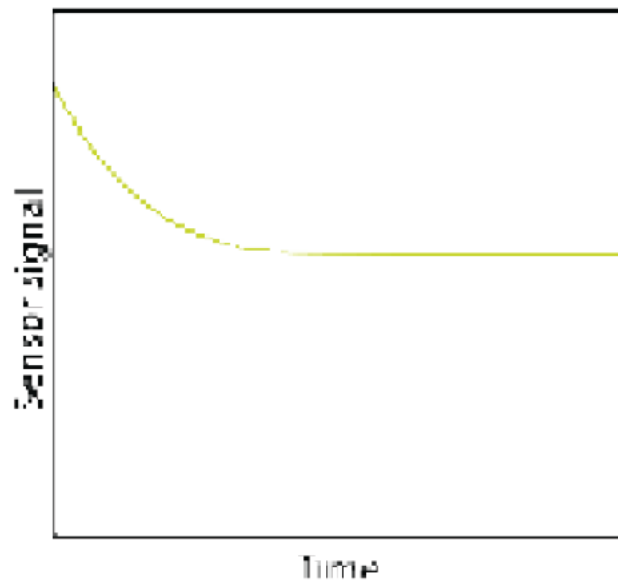
- The amplifier is automatically set up correctly when used with these instruments: UniAmp series and Unisense in situ amplifiers.
- For other amplifiers, set the polarization manually to +100 mV.

NOTE

Incorrect polarization may destroy the sensor

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 1 hour.
- Once the signal is stable, calibration can be performed.



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

Calibrate the sensor

- Place the sensor in water or air to obtain a zero H₂ calibration point.
- Prepare water containing a known concentration of H₂ by bubbling a gas with a known H₂ content through the CAL300. Place the sensor in the CAL300 to obtain the second calibration point.
- Consult the H₂ sensor manual for further information about calibrating the H₂ sensor.



- H₂ microsensor



- CAL300 with microsensors and bubbling with air.

Approve the sensor

- Compare the calibration points to the specifications given on the previous page. If necessary, see Troubleshooting in the H2 Microsensor manual or contact support (see below).

Storage

- When not in use, store the sensor with the protection tube mounted at 10 – 30°C. If the sensor is used regularly, keep it polarized and connected to the amplifier.

Useful tools



- For support go to www.unisense.com/support or contact sales@unisense.com



- Get the full manuals for all sensors, equipment & software at www.unisense.com/manuals

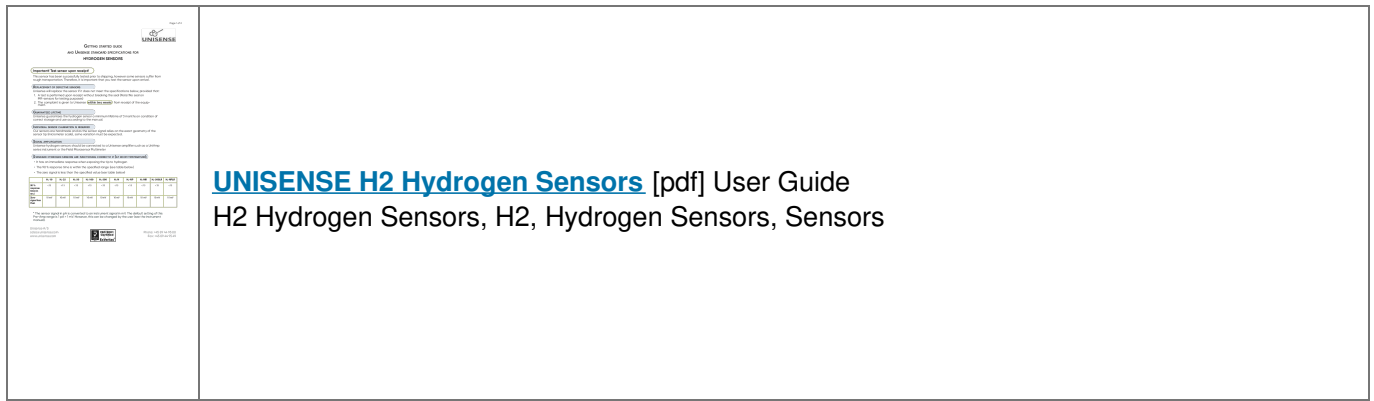


- H2 Microsensor Manual



- SensorTrace Suite Manual

Documents / Resources



References

Manuals+,