

SBS-H2 Calibration Kit



SBS provides a calibration kit for use with the SBS- H2 Hydrogen sensor and alarm systems. The Calibration Kit includes:

1. 2% H₂ in air calibrated gas canister (2)
2. Gas canister fitting for gas delivery
3. Tubing to safely deliver the gas to the sensor head



All of these items are provided in a convenient carrying case for easy storage!



*Calibrated gases can
be used for multiple
calibrations of your
devices!*

Calibrating of the SBS-H2 Hydrogen Alarm System:

The Alarm System is calibrated prior to shipment with set points of 2% H₂ for the 'Alarm' threshold and 1% H₂ for the 'Warning' threshold. It is recommended that the calibration of the sensors used with the alarm system be checked at least once a year.



Calibration Potentiometers
(Left to right: Warning1, Alarm1, Alarm2, Warning2)

Calibrating the Warning and Alarm Thresholds on the Alarm Box:

1. Connect the calibration needle valve fixture to the 2% H₂/air gas cylinder.
2. Secure the test fixture to the sensor module connected to 'Sensor 1' by pressing the flexible tubing completely over the inlet to the sensor head (excess tubing is included to reach installed sensors that may be further away).
3. Turn on the gas flow by slowly loosening the valve on the cylinder regulator until gas begins to flow. Please note that the valve on the regulator does not have to be opened all the way. Let the gas flow onto sensor for ~30 seconds to ensure the air in the tubing has been purged.
4. Ensure both relays are engaged with the yellow and red LED lights on, if not, adjust the potentiometer and instructed in step 6.
5. Continue gas flow during the following adjustment. Adjust the 'Alarm' potentiometer for 'Sensor 1' using the following procedure:
 - 5.1 Turn the potentiometer until the red alarm LED is lit. If the red LED is already lit then go to step 5.2.
 - 5.2 Turn the potentiometer clockwise slowly until the red LED turns off.
 - 5.3 Finally, turn the potentiometer counter-clockwise **slowly (you may not hear hissing)** until the red LED turns on. Turn off the gas and the calibration is set for the alarm system.

TO CALIBRATE SENSOR 2 (IF INSTALLED):

6. Repeat Steps 2-5 above for 'Sensor 2'.



WARNING: The SBS- H2 Hydrogen Alarm System is not a stand alone safety device and does not provide protection from hydrogen explosions. The relay contacts are intended to be connected to a safety system, enabling audible alarms, system shutdown, ventilation, or other measures to ensure safe handling and use of hydrogen gas.

Calibration of the SBS-H2 Hydrogen Sensor:

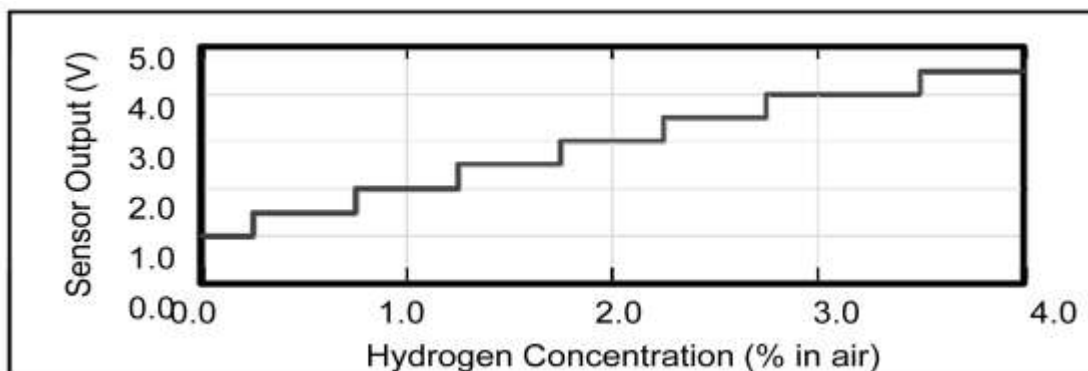
The SBS-H2 Hydrogen Sensor is calibrated prior to shipment, but may need re-calibration during the life of the sensor. The calibration kit comes with 2% calibration gasses to perform calibration of the sensor and/or the alarm system. There is nothing within the sensor electronics which can reset the sensor output. Please check to determine if the logic of your instrumentation attached to the sensor can be modified to adjust the revised information coming out of the sensor to accurately reflect the calibrated information. (If you have sensors newer than 014853, there is another opinion. The sensor output can be recalibrated, for a nominal fee, by sending the sensor back to SBS.)

Check the SBS H₂ Hydrogen Sensor and Adjust Instrumentation:

1. Connect the 2% hydrogen in air gas canister, or your own calibrated gas supply to the connection kit.
2. Secure the test fixture to the sensor by pressing the flexible tubing completely over the inlet to the sensor head (see Figure 1)
3. Turn on the gas flow by loosening the valve on the cylinder regulator until the gas begins to flow (please note that the valve on the regulator does not need to be opened all the way), have the gas flow onto sensor for 30 seconds to ensure the air in the tubing has been purged.
4. Record the sensor output reading at this first calibration point.
5. Evaluate the sensor outputs to the calibration curve supplied below.
 - If the sensor outputs are within spec then it is operating normally and should be checked again at the next calibration interval.
 - If the sensor outputs are outside of the calibration curve, adjust your instrumentation until the sensor output provides an accurate reading within your system.



Figure 1





Disclaimer

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. SBS reserves the right to make changes without further notice to any product, datasheet, technical data bulletin, or website.

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Should buyer purchase or use SBS products for any such unintended or unauthorized application, Buyer shall indemnify and hold SBS and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if claim alleges that SBS was negligent regarding the design or manufacture of the part.

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