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.

SBS makes no warranty, representation or guarantee regarding the suitability of its product for any neither particular purpose, nor does SBS assume any liability arising out of the application or use of any product and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters, including Typical must be validated for each customer application by customer's technical experts.

SBS products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other application intended to support or sustain life, or for any application in which the failure of the SBS product could create a situation where personal injury or death may occur.

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 of death associated with such unintended or unauthorized use, even if claim alleges that SBS was negligent regarding the design or manufacture of the part.

In the case of a defect in the sensor, SBS shall not be liable for any damages which may result, including, but no limited to, loss of revenue, property, or life. In an event, SBS shall limit liability to replacement of the defective unit. SBS does not convey any license under its patent rights nor the rights of others.