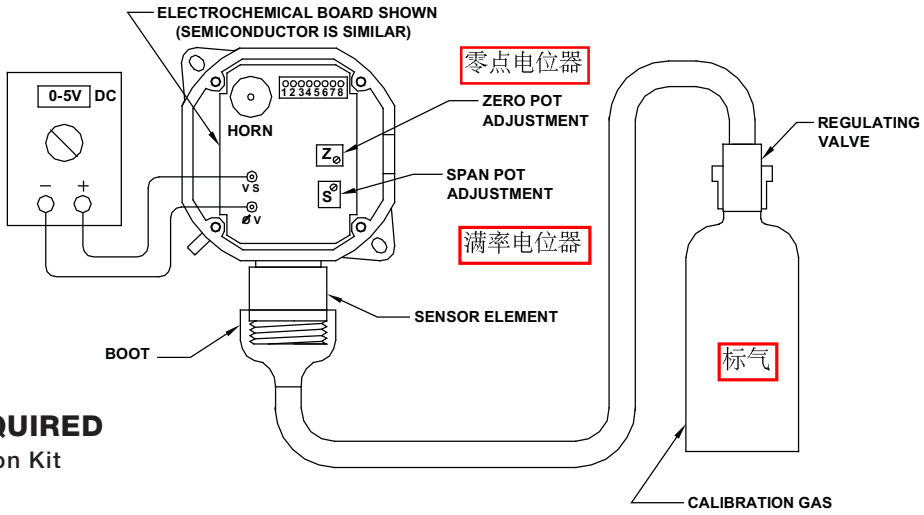
GAS DETECTION SENSOR CALIBRATION



EQUIPMENT REQUIRED

- Hansen Calibration Kit
- Stopwatch
- Hex wrench; 5/32”
- Long nose pliers
- 24VDC power supply
- Voltmeter
- 2 minigrabber voltmeter leads
- Calibration gas for sensor model

每15秒的电压变化小于0.01V的话,传感器输出就已经稳定了,这个时候就调整电位器到5V的万用表数据

SETUP

1. Be sure the system is made safe during calibration. The 4-20mA output and internal relay will be active during calibration.
2. Be sure the gas sensor has been powered up for a minimum 24 hours to stabilize the sensing element.
3. Verify the green LED is illuminated and the red LED is off.
4. Disable the internal horn by removing JP2 jumper.

ZERO CALIBRATION

5. Set the voltmeter to the appropriate DC range. The sensor element output is measured in DC volts; zero volts equals zero PPM and 5 volts equals the gas sensor PPM rating. (i.e. 100PPM, 250PPM). Attach the voltmeter leads to the VS, (+) lead from the voltmeter, V0, (-) lead of the voltmeter.
6. Be sure the ambient atmosphere around the gas sensor is free of the target gas.
7. Adjust the zero potentiometer (Z) until the voltage reading on the voltmeter reads between zero volts and +/- 0.090Vdc.

SPAN CALIBRATION

1. Always perform the zero calibration before doing the span calibration.
2. Place the boot over the sensor element. Use the correct concentration of calibration gas for the full range of the sensor. In other word, for a gas sensor with a range of 0 to 250 PPM, use a 250 PPM calibration gas when setting the span. If full range calibration gas is not available, a calibration gas of less than full range can be used then adjust to the corresponding output voltage. This may result in some loss of accuracy.

标准气体的浓度和传感器的满率一致,如果找不到这样浓度的标气,看万用表输出也可以,但是精度降低

3a. **Non vent line gas sensors.**
Start the flow of gas. Observe the output, it should begin to increase after 5 seconds. Leave the gas flow on and observe the voltage. The sensor voltage will slowly climb toward 5VDC. When the voltage does not change by more than +/- 0.010 volts per 15 seconds the sensor output voltage is considered to be stable. Adjust the span potentiometer (S) so the output voltage reads between 4.95 to 5.00 volts DC.

3b. **Vent line gas sensors.**
Start the flow of gas. Observe the output, it should begin to increase after 5 seconds. Leave the gas flow on and observe the voltage. The sensor voltage will ramp up very quickly crest then decrease quickly. At this point, adjust the span potentiometer (S) so the output reads between 4.95 to 5.00 volts DC.

4. Stop the flow of gas and remove the boot from the sensor element and verify the sensor voltage output begins to decrease.
5. Do not attempt to re-adjust the zero or span calibration until another 24 hours of powered operation has passed.

再次校正需要等到24H之后

6. It is recommended the process be repeated to verify the gas sensor has been calibrated correctly. Do not attempt to re-adjust the zero or span calibration until another 24 hours of powered operation has passed.
7. Enable system. Verify proper operation.
8. Enable the internal horn by installing JP2 jumper.

CALIBRATION GAS CYLINDERS

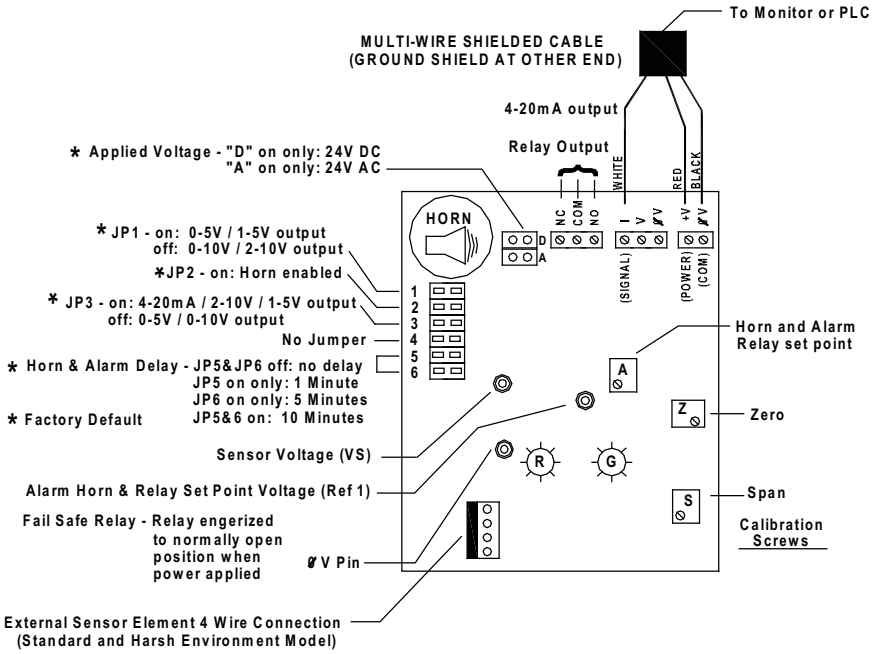
Warning: Refer to Material Safety Sheet supplied with gas cylinder and local safety precautions for proper usage, handling and disposal.

Calibration gas should be stored in a cool area, 65°F/75°F for indicated shelf life labeled on cylinder–one year from date of manufacture.

标气寿命一年

ELECTROCHEMICAL SENSOR TYPE

FOR USE WITH: STANDARD, HARSH, EXTREME MODELS



EQUIPMENT REQUIRED

- 3-wire, twisted pair shield cable

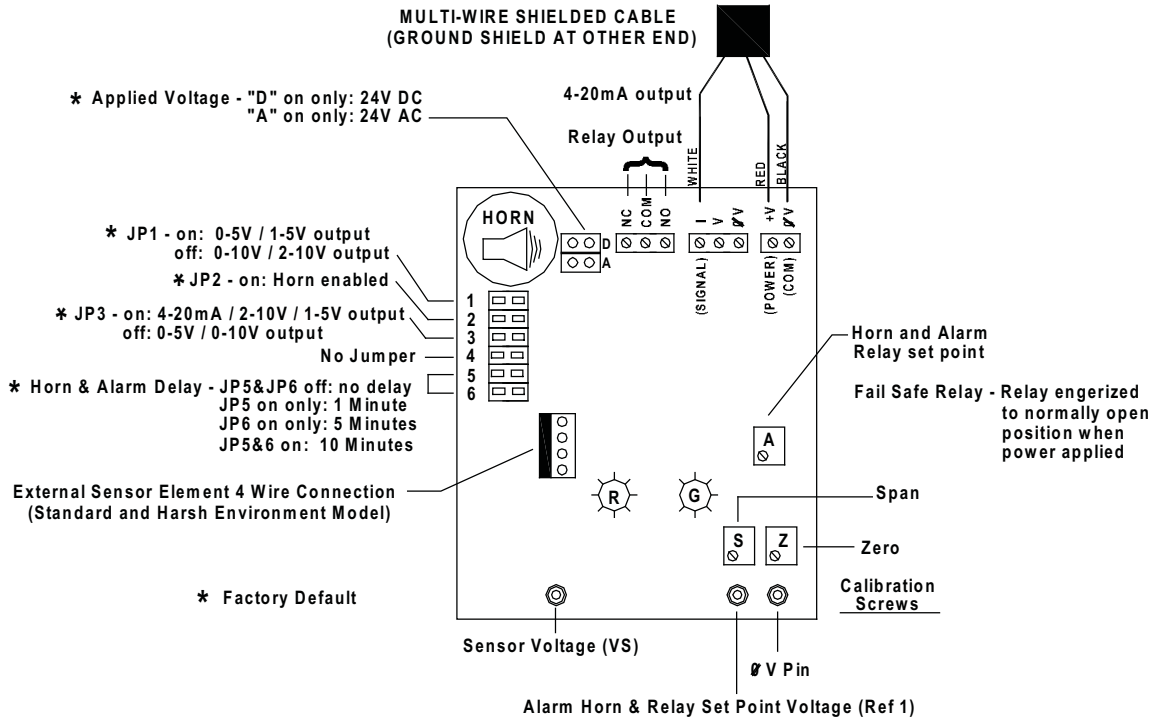
WIRING GAS SENSORS

Use three-wire, twisted pair shield cable such as Beldon 8770 or equal to connect the gas sensor to the gas monitor, GAS Alert System, customer supplied PLC or computer. Connect 12-24V DC power input wires to terminals ØV and +V. Connect the signal wire to terminal I for 4-20mA output or V terminal for 0-5 volt output. The 4-20mA output is best for long distances to the monitor and where electrical noise is a problem. The voltage output is for short distances within 10 feet (3 m) of the monitor. The maximum 4-20mA cable length is 1000 ft (300 m).

Under no circumstances should the gas sensor low voltage signal wires be in a common conduit, tray or wiring panel with power wiring over 48 volts. Do not run wires near variable frequency drive (VFD) equipment.

SEMICONDUCTOR SENSOR TYPE

FOR USE WITH: BASIC, STANDARD, HARSH, EXTREME, VENT LINE, EXPLOSION PROOF



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