

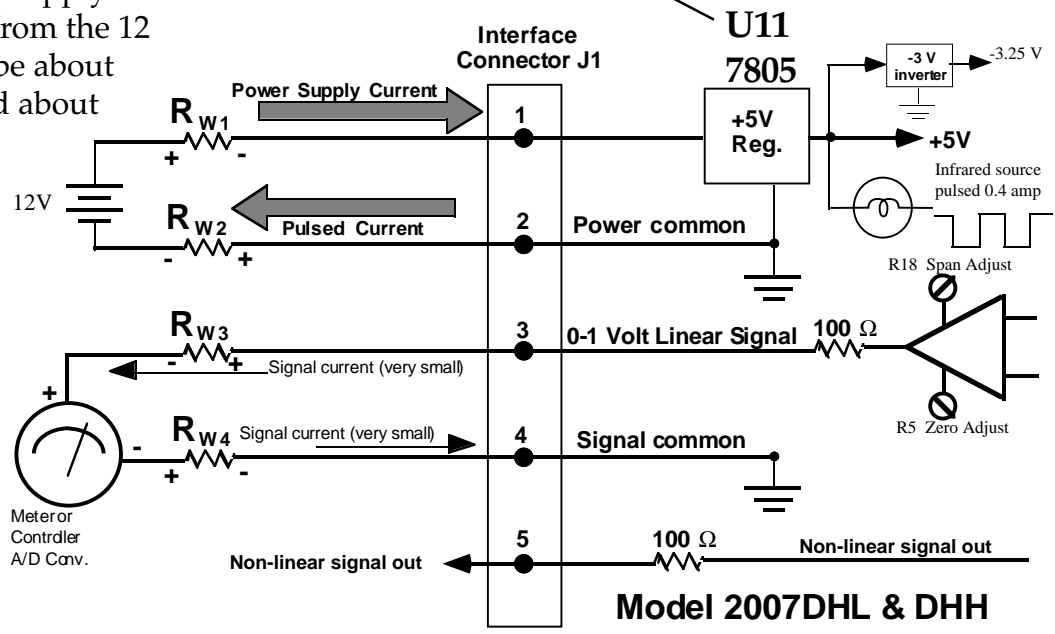
**COARSE ZERO** adj. (R1)  
Use only if the **ZERO** adj runs out of adjustment range with zero gas flowing into the gas cell at about 300 ml/min or with fresh air of about 0.04% CO<sub>2</sub> in the cell. Center the **ZERO** Adj (R5) and adjust very slowly because the output response is delayed about 8 to 10 seconds.

**J2**: IR Source connector has pulsed 5 volts applied every 1.4765 seconds with a 50% duty cycle. With power off, the IR source located inside the remote gas cell, should measure about 3 to 5 ohms across J2 pins 1 & 2.

**CLOCK** adjust (R56)  
**DO NOT** adjust without a frequency counter to measure the IR source ON/OFF duration of 1.4765 seconds.

Gas calibration should be done every six (6) months, especially the **ZERO** calibration. **DO NOT** adjust the **SPAN** (R18) unless you have a known upscale concentration of CO<sub>2</sub> in the gas cell somewhere between 1/3 to 3/4 of full scale. Certified 5.0 ±0.1% CO<sub>2</sub> flowing into the gas calibration tube at about 300 ml/minute is ideal for most **SPAN** adjustments after **ZERO** has been adjusted (0.00 v) with nitrogen flowing at about 300 ml/minute or fresh air at about 0.04% CO<sub>2</sub>. A Fyrite measurement of an incubator chamber is less accurate but may be used to determine the CO<sub>2</sub> level to adjust **SPAN** to. Refer to the response scale data table for the specific full scale you have. An example would be a 10% full scale would give you 0.50 volt for 5% CO<sub>2</sub> and a 20% full scale would give you 0.25 volt. The gas calibration tube should be pinched closed when not being used to calibrate the sensor.

U11 a 7805 linear regulator. The middle pin is ground, one pin is the 12V input and the third pin is the 5V output. This +5V supplies all the ICs and the infrared source (emitter) as well as a negative inverter supply IC U8. The current from the 12 volt supply will be about 0.6 amp peak and about 0.25 amp ave.



U8: a 7662 inverter IC has +5V into pin 8 and about -2.5 to -3.5 volt out on pin 5 and the other side of R52 a 15 ohm resistor