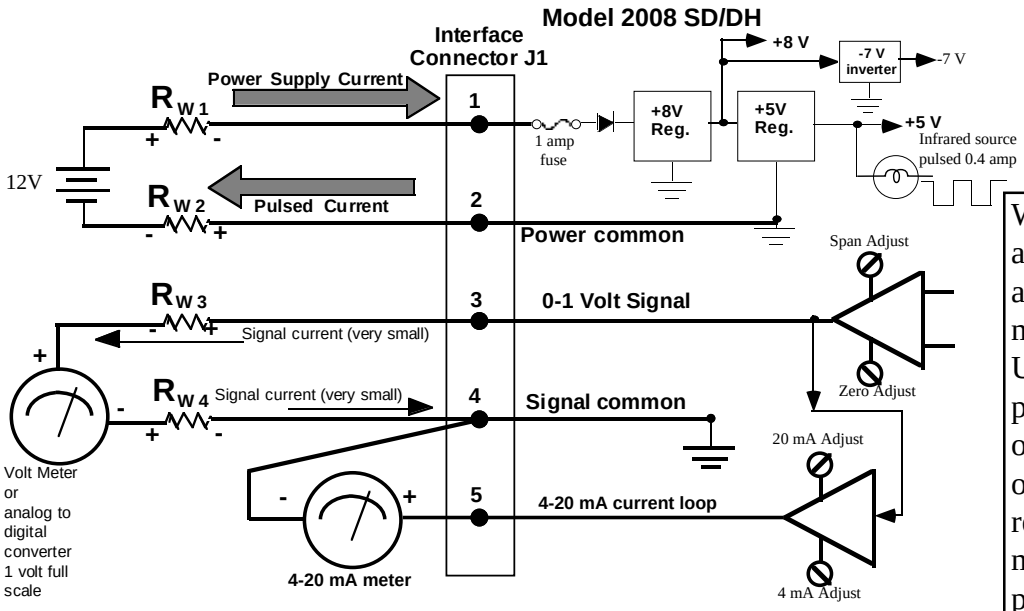
VALTRONICS

Application Note A50

Model 2008SDH/SDL Troubleshooting (Ref Schematic #910087 rev E)



See Application Note A7 about gas sample conditioning

With +12 (11 to 16) volts DC across pin 1 and 2 of TB1 (J1) at 0.6 amp max you should measure **+8.0**±0.3 V at pin 3 of U12, -5.5 to **-7** V on R53 (output of U13), **+5.0**±0.25 at pin 3 of U14, and **-2.5**V at the anode of CR4. The Clock adjust R65 requires a frequency counter to measure the source on/off period of 1.0085 ±0.002 sec.

• The pulsating **power supply return current** will take the path of least resistance. If the wire from pin# 2 is large and short it will travel through it and not in the signal path which would introduce an offset and noise. The **SIGNAL COMMON** must have a separate wire for signal current to flow through. There must be a minimum of four (4) wires. A three (3) wire connection where one wire is used for both power supply and signal common will **not work** even with the current loop.

U15 is under gas cell

CR4

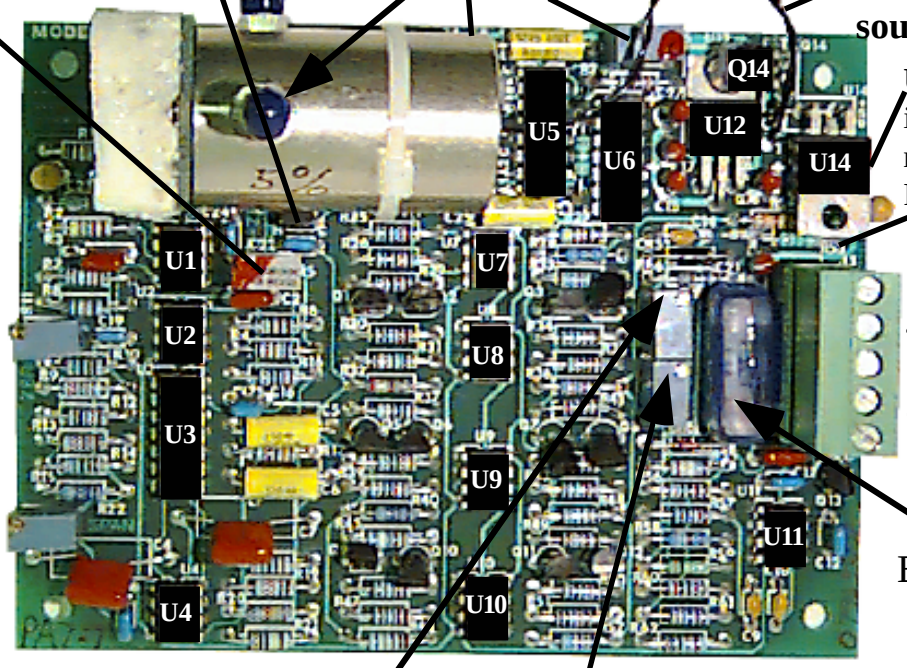
Nickle plated brass hose barbs for 1/8 inch I.D. tubing with plastic covers for shipping.

R5 **Coarse ZERO** adj very slowly only if ZERO runs out of adj.

R65 Clock

About **3 ohms** across **source** wires with power off

U13 is under U14 it creates -5.5 to -7 VDC measured on this side of R53 a 15Ω resistor



ZERO Adj.

SPAN Adj.

5 4-20 mA signal
4 signal common
3 0 to 1 volt signal
2 12 VDC return (-)
1 +12 VDC

Buss F1A fuse

20 mA Adj.

4 mA Adj.

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Resistor values that are selected for **different full scale** values:

	Long Gas Cell				Short Gas Cell			
Resistor	**0.3%FS**	**0.5% FS**	**1% FS**	**2% FS**	**5% FS**	**10% FS**	**15% FS**	**20% FS**
R28	4.02K	5.62K	6.19K	9.09K	5.62K	6.19K	7.5K	6.98K
R29	10K	11K	10K	13.7K	11K	10K	24.9K	20K
R33	8.06K	5.62K	10K	6.81K	5.62K	10K	4.75K	8.66K
R37	7.5K	8.06K	5.11K	4.99K	8.06K	5.11K	20K	4.99K
R41	51.1K	20K	7.32K	24.9K	20K	7.32K	3.57K	24.9K
R45	10K	6.98K	10K	3.01K	6.98K	10K	6.98K	2.74K
R49	2.61K	1.82K	1.5K	1.82K	1.82K	1.5K	1.5K	1.82K

Scale Resistor values for **Rev-E** PCB assembly