



Model 2008SDH-2A 100% CO₂

Specification: 2008SDH-2A 100% CO₂

Method: N.D. I. R. (Non-dispersive Infra-red) Sample draw type gas sampling
 (see VTI **Application Note A7** - Recommended Gas Conditioning)
 Gas sample hose barbs: Designed for 1/8 inch I.D. tubing and **flow rates** between **0.05** and **0.3** liter/minute
 see Application Note A24 about gas calibration and our **ECONO-CAL™** calibration kit.
 Gas: Carbon Dioxide (CO₂)

Range: 0-100% CO₂

Accuracy: ± 5% of reading (±2.0% CO₂ from 0 to 50% CO₂) - see scale data

Repeatability: ± 1% of full scale (challenge with same gas sample and assure zero)

External Power Source: 12 Volts D.C. @ 0.6 amp. max.(11.0 to 16.0 VDC absolute min. / max.)

Power Consumption: less than 3 watts @ 12.0 VDC (2.4 watts typical, 7.2 watts peak at 12.0 V)

Output Signals,

Voltage: 0 to 1 volt = 0 to 100% CO₂ (linear scale data attached)

Current Loop: 4 to 20 mA = 0 to 100% CO₂ (linear scale data attached) 300Ω max loop R

Zero Drift at Constant Temperature: Less than 2% of full scale per 24 hours (random not cumulative)

Zero Noise at Constant Temperature: .. Less than 10 mV peak to peak, measured on V out during any 20 second period

Zero Drift due to Ambient Temp.: Less than 0.5% of full scale per degree Centigrade

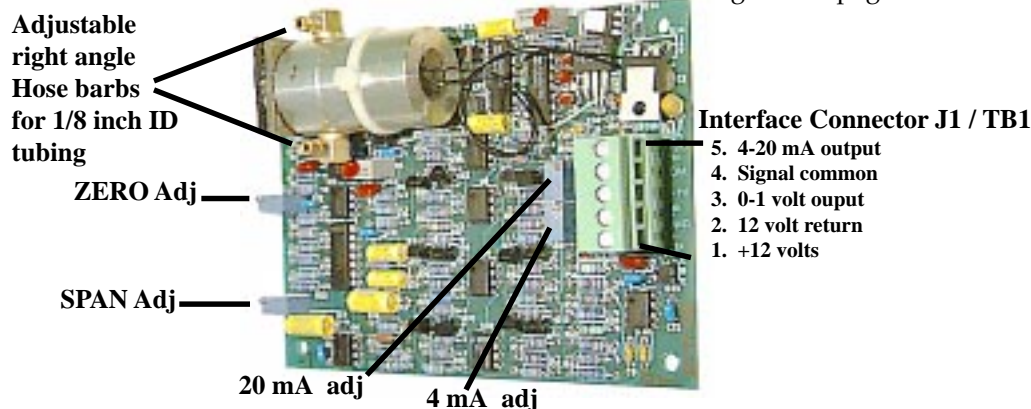
Operating Temperature Range: 0 to 50°C (32° to 122°F) the gas laws effect the gas density and span

Storage Temperature Range: -40 to +70°C (-40 to +158°F)

Operating Humidity Range: 5 to 95% RH non-condensing

Weight: Less than 0.5 pounds (0.23 kilograms)

External Dimensions: PCB Card: 3.9" x 5" x 1.5" dimensions are in inches - see diagram on page 2 for mounting

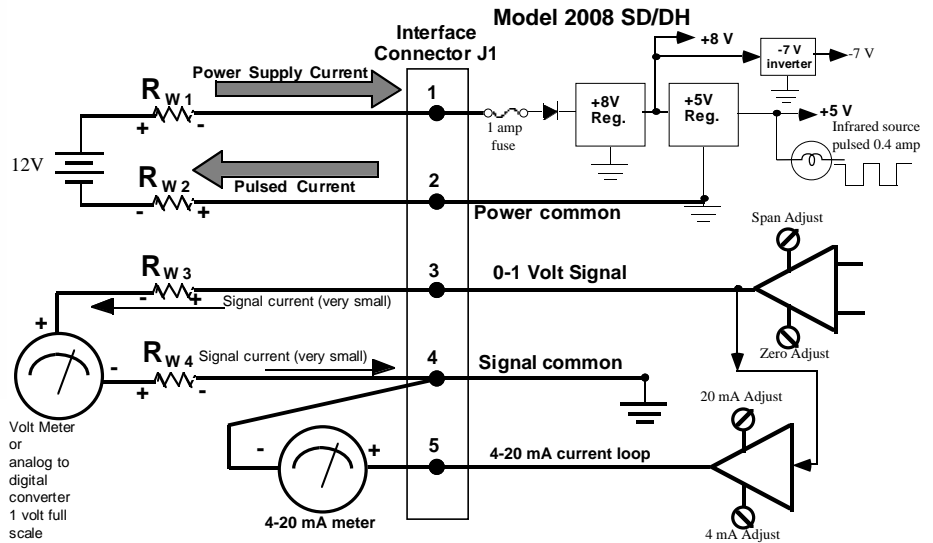
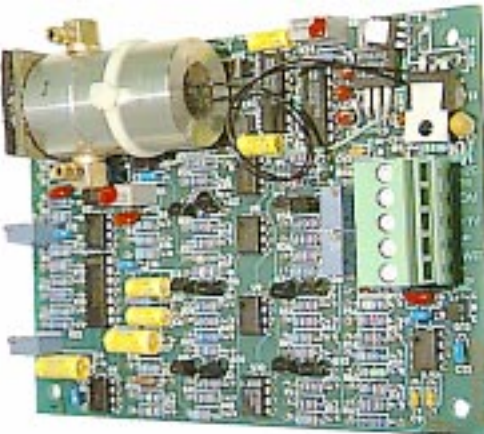




VALTRONICS 100% & 1 volt full scale

Gas in %	Output in volts	±2.5% gas		4-20 mA			Gas in %	Output in volts	±5% of reading			4-20 mA			±5% of reading		
		Max	Min	output	Max	Min			in %	in volts	Max	Min	output	Max	Min		
0.00	0.000	0.025	-0.025	4.00	4.40	3.60	52.00	0.520	0.546	0.494	12.32	12.74	11.90				
2.00	0.020	0.045	-0.005	4.32	4.72	3.92	54.00	0.540	0.567	0.513	12.64	13.07	12.21				
4.00	0.040	0.065	0.015	4.64	5.04	4.24	56.00	0.560	0.588	0.532	12.96	13.41	12.51				
6.00	0.060	0.085	0.035	4.96	5.36	4.56	58.00	0.580	0.609	0.551	13.28	13.74	12.82				
8.00	0.080	0.105	0.055	5.28	5.68	4.88	60.00	0.600	0.630	0.570	13.60	14.08	13.12				
10.00	0.100	0.125	0.075	5.60	6.00	5.20	62.00	0.620	0.651	0.589	13.92	14.42	13.42				
12.00	0.120	0.145	0.095	5.92	6.32	5.52	64.00	0.640	0.672	0.608	14.24	14.75	13.73				
14.00	0.140	0.165	0.115	6.24	6.64	5.84	66.00	0.660	0.693	0.627	14.56	15.09	14.03				
16.00	0.160	0.185	0.135	6.56	6.96	6.16	68.00	0.680	0.714	0.646	14.88	15.42	14.34				
18.00	0.180	0.205	0.155	6.88	7.28	6.48	70.00	0.700	0.735	0.665	15.20	15.76	14.64				
20.00	0.200	0.225	0.175	7.20	7.60	6.80	72.00	0.720	0.756	0.684	15.52	16.10	14.94				
22.00	0.220	0.245	0.195	7.52	7.92	7.12	74.00	0.740	0.777	0.703	15.84	16.43	15.25				
24.00	0.240	0.265	0.215	7.84	8.24	7.44	76.00	0.760	0.798	0.722	16.16	16.77	15.55				
26.00	0.260	0.285	0.235	8.16	8.56	7.76	78.00	0.780	0.819	0.741	16.48	17.10	15.86				
28.00	0.280	0.305	0.255	8.48	8.88	8.08	80.00	0.800	0.840	0.760	16.80	17.44	16.16				
30.00	0.300	0.325	0.275	8.80	9.20	8.40	82.00	0.820	0.861	0.779	17.12	17.78	16.46				
32.00	0.320	0.345	0.295	9.12	9.52	8.72	84.00	0.840	0.882	0.798	17.44	18.11	16.77				
34.00	0.340	0.365	0.315	9.44	9.84	9.04	86.00	0.860	0.903	0.817	17.76	18.45	17.07				
36.00	0.360	0.385	0.335	9.76	10.16	9.36	88.00	0.880	0.924	0.836	18.08	18.78	17.38				
38.00	0.380	0.405	0.355	10.08	10.48	9.68	90.00	0.900	0.945	0.855	18.40	19.12	17.68				
40.00	0.400	0.425	0.375	10.40	10.80	10.00	92.00	0.920	0.966	0.874	18.72	19.46	17.98				
42.00	0.420	0.445	0.395	10.72	11.12	10.32	94.00	0.940	0.987	0.893	19.04	19.79	18.29				
44.00	0.440	0.465	0.415	11.04	11.44	10.64	96.00	0.960	1.008	0.912	19.36	20.13	18.59				
46.00	0.460	0.485	0.435	11.36	11.76	10.96	98.00	0.980	1.029	0.931	19.68	20.46	18.90				
48.00	0.480	0.505	0.455	11.68	12.08	11.28	100.00	1.000	1.050	0.950	20.00	20.80	19.20				
50.00	0.500	0.525	0.475	12.00	12.40	11.60											

Accuracy = ±2.5% gas from 0 to 50% and ±5% of reading from 50 to 100% gas
Revised on 2-6-95



• 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.

