



Carbon Dioxide Monitor

Model 2007DHH-R 10% CO₂

Description:

The Valtronics Model 2007DHH-R is a Non-Dispersive Infrared gas monitor, designed as a remote transducer-transmitter for continuous monitoring of Carbon Dioxide in the range of zero to 10% CO₂ full scale. This unit is designed with the intent of meeting CE requirements for Radio Frequency Interference. The requirements for the "CE" marking (Electromagnetic Compatibility for the European Economic Community market).

The Optical Diffusion Head is completely unaffected by humidity, and requires no gas sampling pump. The transducer output may be interfaced to any controller unit via the linear 0 to 1 Volt output signal.

Model 2007DHH-R 10% Specifications:

Method: N.D. I. R. (Non-dispersive Infra-red) gas diffusion sample cell
Gas: Carbon dioxide (CO₂)
Range: 0-10% CO₂
Accuracy: ± 5% of reading from mid to full scale (± 0.25% CO₂ from 0-5% CO₂)
Repeatability: ± 1% of full scale (challenge with same gas sample and assure zero)
External Power Source: 12 Volts D.C. @ 0.5 amp. max.(7.25 to 15.0 VDC absolute min./max.)
Power Consumption: 3 watts typical @ 12.0 VDC
Output Signal: 0 to 1 volt = 0 to 10% CO₂ (linear scale data attached)
Electronic Response Time: 8 seconds typical to a step change in gas concentration
gas response depends on gas diffusion physics

Zero Noise at
Constant Temperature: Less than 10 mV peak to peak (measured during any 20 second period)
Designed with the intent of meeting CE requirements for Radio Frequency Interference.
see VTI Application Note A20 -How to avoid GROUND LOOPS & EMI

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

Zero Drift due to
Ambient Temperature: Less than 0.5% of full scale per degree Centigrade
Operating Temperature Range: 5 to 40°C (41° to 104°F), see **Application Note A12**
Ambient Relative Humidity: 5 to 95% RH non-condensing, see **Application Note A30**
Storage Temperature range: 40 to +70°C (-40 to +158°F)
Weight: Less than 0.5 pound (0.23 kilogram)

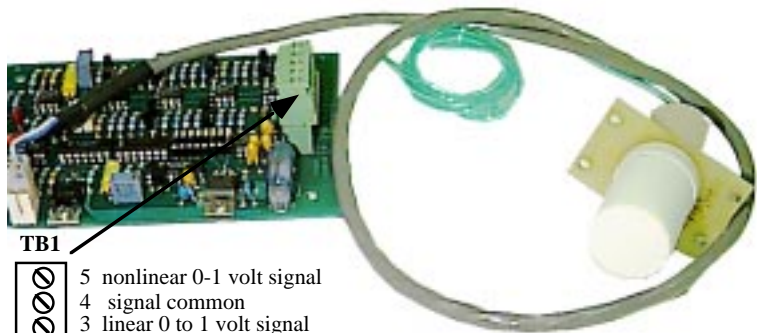
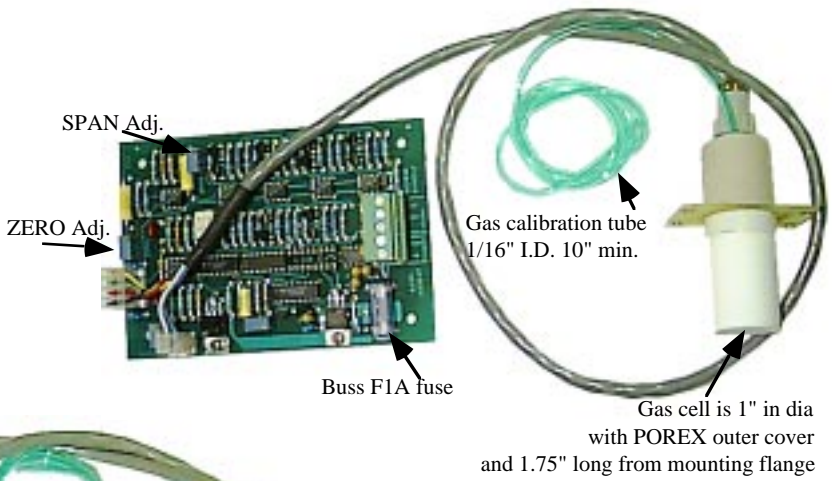
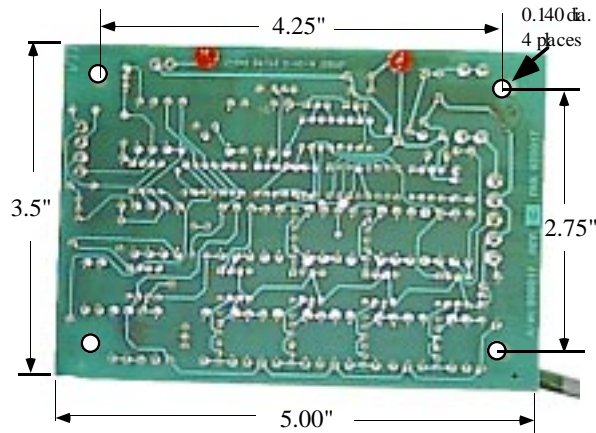
External Dimensions:
PCB Card: 3.5" x 5" x 1" (8.89 cm, x 12.7 cm, x 2.54 cm)
Sample Head and Optics: .. 1.25" x 2.0" x 2.5" on a 29±2 inch long cable



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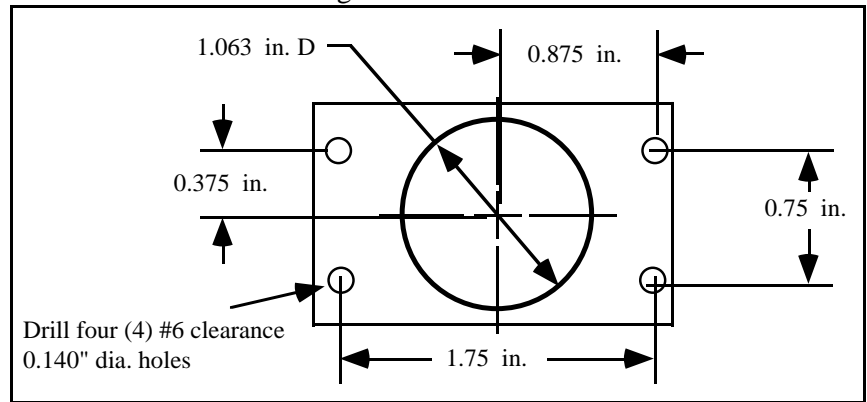
<i>Gas in %</i>	<i>Output in volts</i>	<i>±5% of reading</i>	
		<i>Max</i>	<i>Min</i>
0.00	0.000	0.025	-0.025
0.20	0.020	0.045	-0.005
0.40	0.040	0.065	0.015
0.60	0.060	0.085	0.035
0.80	0.080	0.105	0.055
1.00	0.100	0.125	0.075
1.20	0.120	0.145	0.095
1.40	0.140	0.165	0.115
1.60	0.160	0.185	0.135
1.80	0.180	0.205	0.155
2.00	0.200	0.225	0.175
2.20	0.220	0.245	0.195
2.40	0.240	0.265	0.215
2.60	0.260	0.285	0.235
2.80	0.280	0.305	0.255
3.00	0.300	0.325	0.275
3.20	0.320	0.345	0.295
3.40	0.340	0.365	0.315
3.60	0.360	0.385	0.335
3.80	0.380	0.405	0.355
4.00	0.400	0.425	0.375
4.20	0.420	0.445	0.395
4.40	0.440	0.465	0.415
4.60	0.460	0.485	0.435
4.80	0.480	0.505	0.455
5.00	0.500	0.525	0.475
5.20	0.520	0.546	0.494
5.40	0.540	0.567	0.513
5.60	0.560	0.588	0.532
5.80	0.580	0.609	0.551
6.00	0.600	0.630	0.570
6.20	0.620	0.651	0.589
6.40	0.640	0.672	0.608
6.60	0.660	0.693	0.627
6.80	0.680	0.714	0.646
7.00	0.700	0.735	0.665
7.20	0.720	0.756	0.684
7.40	0.740	0.777	0.703
7.60	0.760	0.798	0.722
7.80	0.780	0.819	0.741
8.00	0.800	0.840	0.760
8.20	0.820	0.861	0.779
8.40	0.840	0.882	0.798
8.60	0.860	0.903	0.817
8.80	0.880	0.924	0.836
9.00	0.900	0.945	0.855
9.20	0.920	0.966	0.874
9.40	0.940	0.987	0.893
9.60	0.960	1.008	0.912
9.80	0.980	1.029	0.931
10.00	1.000	1.050	0.950

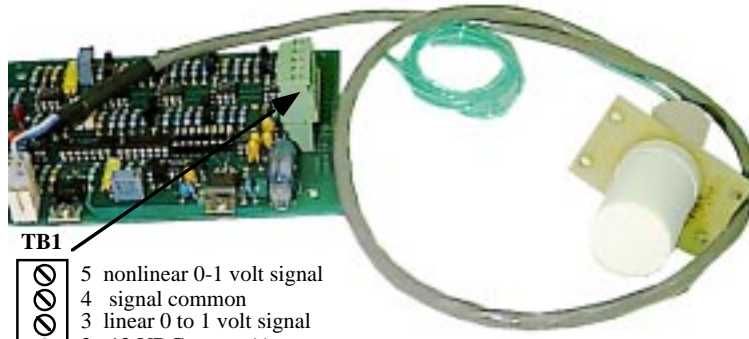
Accuracy = ± 0.25 % CO₂ from 0.0% CO₂ to 5.0% CO₂
 Accuracy = ±5% of reading from 5.0% CO₂ to 10.0% CO₂
 Chart revised on 3-15-95



- TB1**
- 5 nonlinear 0-1 volt signal
 - 4 signal common
 - 3 linear 0 to 1 volt signal
 - 2 12 VDC return (-)
 - 1 +12 VDC
- TB1**

Gas cell mounting dimensions





TB1

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

TB1

