



Carbon Dioxide Monitor Model 2007DHH-R 20% CO₂

Description:

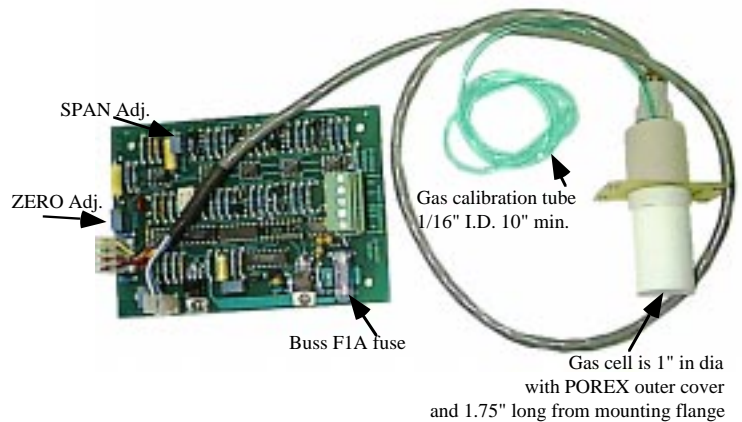
The Valtronics Model 2007DHH-R is a Non-Dispersive Infrared gas monitor, designed as a remote transducer-transmitter for continuous monitoring of Carbon Dioxide in the range of zero to 20% CO₂ full scale. This unit is designed with the intent of meeting CE requirements for Radio Frequency Interference. 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 20% Specifications:

- Method: N.D. I. R. (Non-dispersive Infra-red) gas diffusion sample cell
- Gas: Carbon dioxide (CO₂)
- Range: 0-20% CO₂
- Accuracy: ± 5% of reading from mid to full scale (± 0.5 CO₂ from 0-10% 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 20% CO₂ (linear scale data attached)
- Electronic Response Time: 8 seconds typical to a step change in gas concentration
- 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.
- Zero Drift at Constant Temperature: Less than 2% of full scale per 24 hours (random not cumulative)
- Zero Drift due to Ambient Temp: 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: **cell # marked on flange**

Note: The gas cell & circuit board are **matched calibrated & temperature compensated pairs**. They will not function properly if they are not kept as **matched pairs**.





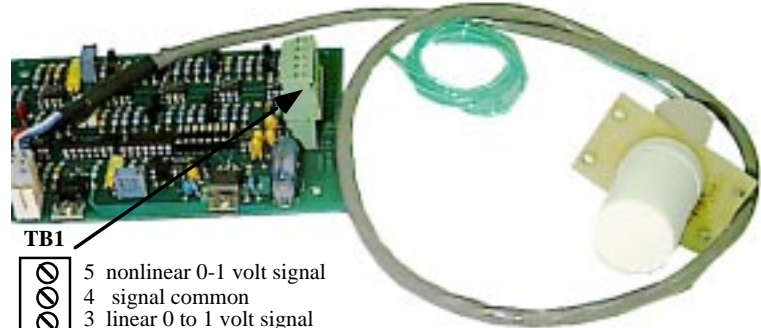
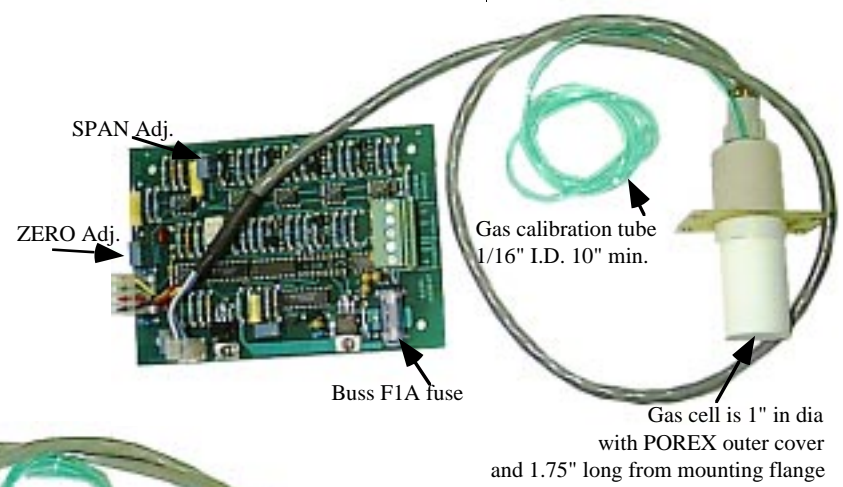
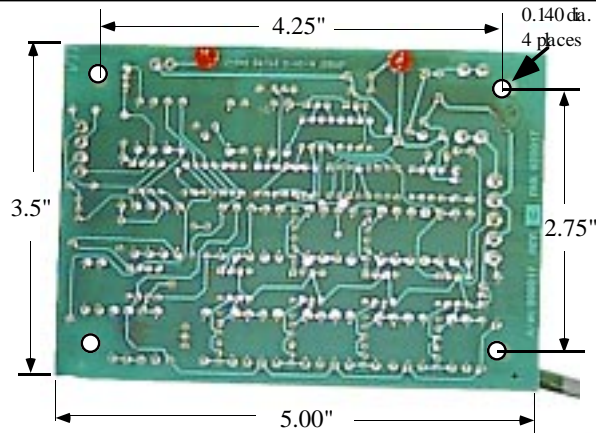
Model 2007DHH-R 20%

VALTRONICS 20% & 1 volt fu

Accuracy = ±5% of reading (±0.025 volt = ±0.5% CO2 from 0 to 10% CO2)

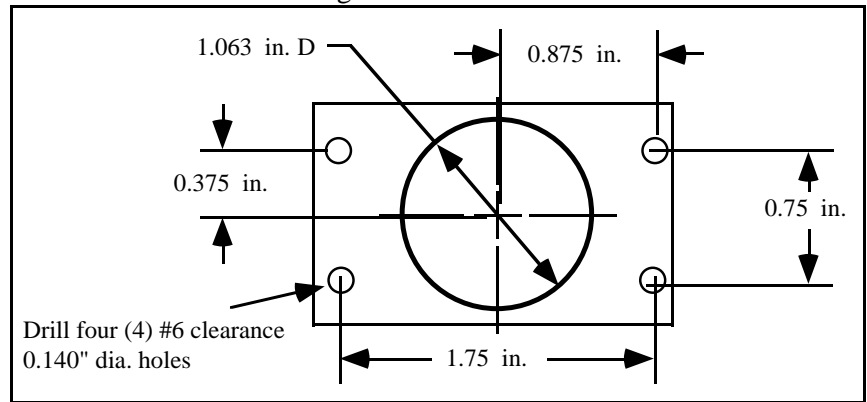
Gas		Output		±0.025 volt		Gas		Output		±0.025 volt		Gas		Output		±5% of reading		Gas		Output		±5% of reading		
in %	in volts	Max.	Min.	in %	in volts	Max.	Min.	in %	in volts	Max.	Min.	in %	in volts	Max.	Min.	in %	in volts	Max.	Min.	in %	in volts	Max.	Min.	
0.0	0.000	0.025	-0.025																					
0.1	0.005	0.030	-0.020	5.1	0.255	0.280	0.230	10.1	0.505	0.530	0.480	15.1	0.755	0.793	0.717									
0.2	0.010	0.035	-0.015	5.2	0.260	0.285	0.235	10.2	0.510	0.535	0.484	15.2	0.760	0.798	0.722									
0.3	0.015	0.040	-0.010	5.3	0.265	0.290	0.240	10.3	0.515	0.541	0.489	15.3	0.765	0.803	0.727									
0.4	0.020	0.045	-0.005	5.4	0.270	0.295	0.245	10.4	0.520	0.546	0.494	15.4	0.770	0.808	0.731									
0.5	0.025	0.050	0.000	5.5	0.275	0.300	0.250	10.5	0.525	0.551	0.499	15.5	0.775	0.814	0.736									
0.6	0.030	0.055	0.005	5.6	0.280	0.305	0.255	10.6	0.530	0.556	0.503	15.6	0.780	0.819	0.741									
0.7	0.035	0.060	0.010	5.7	0.285	0.310	0.260	10.7	0.535	0.562	0.508	15.7	0.785	0.824	0.746									
0.8	0.040	0.065	0.015	5.8	0.290	0.315	0.265	10.8	0.540	0.567	0.513	15.8	0.790	0.829	0.750									
0.9	0.045	0.070	0.020	5.9	0.295	0.320	0.270	10.9	0.545	0.572	0.518	15.9	0.795	0.835	0.755									
1.0	0.050	0.075	0.025	6.0	0.300	0.325	0.275	11.0	0.550	0.577	0.522	16.0	0.800	0.840	0.760									
1.1	0.055	0.080	0.030	6.1	0.305	0.330	0.280	11.1	0.555	0.583	0.527	16.1	0.805	0.845	0.765									
1.2	0.060	0.085	0.035	6.2	0.310	0.335	0.285	11.2	0.560	0.588	0.532	16.2	0.810	0.850	0.769									
1.3	0.065	0.090	0.040	6.3	0.315	0.340	0.290	11.3	0.565	0.593	0.537	16.3	0.815	0.856	0.774									
1.4	0.070	0.095	0.045	6.4	0.320	0.345	0.295	11.4	0.570	0.598	0.541	16.4	0.820	0.861	0.779									
1.5	0.075	0.100	0.050	6.5	0.325	0.350	0.300	11.5	0.575	0.604	0.546	16.5	0.825	0.866	0.784									
1.6	0.080	0.105	0.055	6.6	0.330	0.355	0.305	11.6	0.580	0.609	0.551	16.6	0.830	0.871	0.788									
1.7	0.085	0.110	0.060	6.7	0.335	0.360	0.310	11.7	0.585	0.614	0.556	16.7	0.835	0.877	0.793									
1.8	0.090	0.115	0.065	6.8	0.340	0.365	0.315	11.8	0.590	0.619	0.560	16.8	0.840	0.882	0.798									
1.9	0.095	0.120	0.070	6.9	0.345	0.370	0.320	11.9	0.595	0.625	0.565	16.9	0.845	0.887	0.803									
2.0	0.100	0.125	0.075	7.0	0.350	0.375	0.325	12.0	0.600	0.630	0.570	17.0	0.850	0.892	0.807									
2.1	0.105	0.130	0.080	7.1	0.355	0.380	0.330	12.1	0.605	0.635	0.575	17.1	0.855	0.898	0.812									
2.2	0.110	0.135	0.085	7.2	0.360	0.385	0.335	12.2	0.610	0.640	0.579	17.2	0.860	0.903	0.817									
2.3	0.115	0.140	0.090	7.3	0.365	0.390	0.340	12.3	0.615	0.646	0.584	17.3	0.865	0.908	0.822									
2.4	0.120	0.145	0.095	7.4	0.370	0.395	0.345	12.4	0.620	0.651	0.589	17.4	0.870	0.913	0.826									
2.5	0.125	0.150	0.100	7.5	0.375	0.400	0.350	12.5	0.625	0.656	0.594	17.5	0.875	0.919	0.831									
2.6	0.130	0.155	0.105	7.6	0.380	0.405	0.355	12.6	0.630	0.661	0.598	17.6	0.880	0.924	0.836									
2.7	0.135	0.160	0.110	7.7	0.385	0.410	0.360	12.7	0.635	0.667	0.603	17.7	0.885	0.929	0.841									
2.8	0.140	0.165	0.115	7.8	0.390	0.415	0.365	12.8	0.640	0.672	0.608	17.8	0.890	0.934	0.845									
2.9	0.145	0.170	0.120	7.9	0.395	0.420	0.370	12.9	0.645	0.677	0.613	17.9	0.895	0.940	0.850									
3.0	0.150	0.175	0.125	8.0	0.400	0.425	0.375	13.0	0.650	0.682	0.617	18.0	0.900	0.945	0.855									
3.1	0.155	0.180	0.130	8.1	0.405	0.430	0.380	13.1	0.655	0.688	0.622	18.1	0.905	0.950	0.860									
3.2	0.160	0.185	0.135	8.2	0.410	0.435	0.385	13.2	0.660	0.693	0.627	18.2	0.910	0.955	0.864									
3.3	0.165	0.190	0.140	8.3	0.415	0.440	0.390	13.3	0.665	0.698	0.632	18.3	0.915	0.961	0.869									
3.4	0.170	0.195	0.145	8.4	0.420	0.445	0.395	13.4	0.670	0.703	0.636	18.4	0.920	0.966	0.874									
3.5	0.175	0.200	0.150	8.5	0.425	0.450	0.400	13.5	0.675	0.709	0.641	18.5	0.925	0.971	0.879									
3.6	0.180	0.205	0.155	8.6	0.430	0.455	0.405	13.6	0.680	0.714	0.646	18.6	0.930	0.977	0.884									
3.7	0.185	0.210	0.160	8.7	0.435	0.460	0.410	13.7	0.685	0.719	0.651	18.7	0.935	0.982	0.888									
3.8	0.190	0.215	0.165	8.8	0.440	0.465	0.415	13.8	0.690	0.724	0.655	18.8	0.940	0.987	0.893									
3.9	0.195	0.220	0.170	8.9	0.445	0.470	0.420	13.9	0.695	0.730	0.660	18.9	0.945	0.992	0.898									
4.0	0.200	0.225	0.175	9.0	0.450	0.475	0.425	14.0	0.700	0.735	0.665	19.0	0.950	0.998	0.903									
4.1	0.205	0.230	0.180	9.1	0.455	0.480	0.430	14.1	0.705	0.740	0.670	19.1	0.955	1.003	0.907									
4.2	0.210	0.235	0.185	9.2	0.460	0.485	0.435	14.2	0.710	0.745	0.674	19.2	0.960	1.008	0.912									
4.3	0.215	0.240	0.190	9.3	0.465	0.490	0.440	14.3	0.715	0.751	0.679	19.3	0.965	1.013	0.917									
4.4	0.220	0.245	0.195	9.4	0.470	0.495	0.445	14.4	0.720	0.756	0.684	19.4	0.970	1.019	0.922									
4.5	0.225	0.250	0.200	9.5	0.475	0.500	0.450	14.5	0.725	0.761	0.689	19.5	0.975	1.024	0.926									
4.6	0.230	0.255	0.205	9.6	0.480	0.505	0.455	14.6	0.730	0.766	0.693	19.6	0.980	1.029	0.931									
4.7	0.235	0.260	0.210	9.7	0.485	0.510	0.460	14.7	0.735	0.772	0.698	19.7	0.985	1.034	0.936									
4.8	0.240	0.265	0.215	9.8	0.490	0.515	0.465	14.8	0.740	0.777	0.703	19.8	0.990	1.040	0.941									
4.9	0.245	0.270	0.220	9.9	0.495	0.520	0.470	14.9	0.745	0.782	0.708	19.9	0.995	1.045	0.945									
5.0	0.250	0.275	0.225	10.0	0.500	0.525	0.475	15.0	0.750	0.787	0.712	20.0	1.000	1.050	0.950									

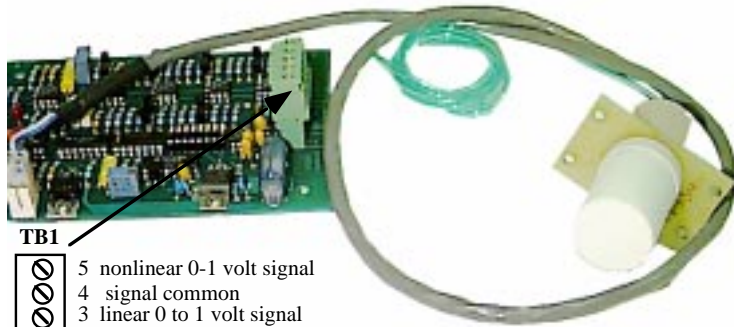
Model 2007DHH-R 20%



- 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

Note: The gas cell & circuit board are **matched calibrated & temperature compensated pairs**. They will not function properly if they are not kept as **matched pairs**. A control number is marked on the gas cell flange that should match one marked on the circuit board.

