

Sensitivity of Chosen current sensor (INA253A2) : 200mV/A i.e . 0.2mV/mA

System Gain error : ±0.05%

INA253A2 with INA851

Current (A)	(INA253A2)S ensor's Correspondi ng Voltage Output (V)	INA851 Differential Output WITH Vocm= +2.5V (Gain= 5)		Actual Output (V)	Ideal Output (V)	Error
		Out+	Out-			
-10	0.5	-2.5	7.5	-10.0000	-10.0000	0.0000
-9.995	0.501	-2.49	7.5	-9.9900	-9.9950	-0.0050
-9.99	0.502	-2.49	7.49	-9.9800	-9.9900	-0.0100
-9.985	0.503	-2.49	7.49	-9.9800	-9.9850	-0.0050
-9.98	0.504	-2.49	7.49	-9.9800	-9.9800	0.0000
-9.97	0.506	-2.48	7.48	-9.9600	-9.9700	-0.0100
-9.96	0.508	-2.48	7.48	-9.9600	-9.9600	0.0000
-9.95	0.51	-2.47	7.47	-9.9400	-9.9500	-0.0100
-9.94	0.512	-2.47	7.47	-9.9400	-9.9400	0.0000
-9.93	0.514	-2.46	7.46	-9.9200	-9.9300	-0.0100
-9.92	0.516	-2.46	7.46	-9.9200	-9.9200	0.0000
-9.91	0.518	-2.45	7.45	-9.9000	-9.9100	-0.0100
-9.9	0.52	-2.45	7.45	-9.9000	-9.9000	0.0000
-9.8	0.54	-2.4	7.4	-9.8000	-9.8000	0.0000
-9.7	0.56	-2.35	7.35	-9.7000	-9.7000	0.0000
-9.6	0.58	-2.3	7.3	-9.6000	-9.6000	0.0000
-9.5	0.6	-2.25	7.25	-9.5000	-9.5000	0.0000
-9	0.7	-2	7	-9.0000	-9.0000	0.0000
-8	0.9	-1.5	6.5	-8.0000	-8.0000	0.0000
-7	1.1	-0.99687	6	-6.9969	-7.0000	-0.0031
-6	1.3	-0.49683	5.5	-5.9968	-6.0000	-0.0032
-5	1.5	0.0032	5	-4.9968	-5.0000	-0.0032
-4	1.7	0.50324	4.5	-3.9968	-4.0000	-0.0032
-3	1.9	1	4	-3.0000	-3.0000	0.0000
-2	2.1	1.5	3.5	-2.0000	-2.0000	0.0000
-1	2.3	2	3	-1.0000	-1.0000	0.0000
-0.9	2.32	2.05	2.95	-0.9000	-0.9000	0.0000
-0.8	2.34	2.1	2.9	-0.8000	-0.8000	0.0000
-0.7	2.36	2.153	2.849	-0.6960	-0.7000	-0.0040
-0.6	2.38	2.203	2.799	-0.5960	-0.6000	-0.0040
-0.5	2.4	2.25	2.75	-0.5000	-0.5000	0.0000
-0.4	2.42	2.3	2.7	-0.4000	-0.4000	0.0000
-0.3	2.44	2.35	2.65	-0.3000	-0.3000	0.0000
-0.2	2.46	2.4	2.6	-0.2000	-0.2000	0.0000
-0.1	2.48	2.45	2.55	-0.1000	-0.1000	0.0000
0	2.5	2.5	2.5	0.0000	0.0000	0.0000
0.005	2.501	2.51	2.5	0.0100	0.0050	-0.0050
0.01	2.502	2.51	2.49	0.0200	0.0100	-0.0100
0.015	2.503	2.51	2.49	0.02	0.0150	-0.0050
0.02	2.504	2.51	2.49	0.02	0.0200	0.0000
0.025	2.505	2.52	2.49	0.03	0.0250	-0.0050
0.03	2.506	2.5184	2.4843	0.0341	0.0300	-0.0041
0.035	2.507	2.52	2.48	0.04	0.0350	-0.0050
0.04	2.508	2.52	2.48	0.04	0.0400	0.0000
0.045	2.509	2.526	2.477	0.049	0.0450	-0.0040
0.05	2.51	2.528	2.474	0.054	0.0500	-0.0040
0.1	2.52	2.553	2.449	0.104	0.1000	-0.0040
0.2	2.54	2.603	2.399	0.204	0.2000	-0.0040
0.3	2.56	2.653	2.349	0.304	0.3000	-0.0040
0.4	2.58	2.703	2.299	0.404	0.4000	-0.0040

0.5	2.6	2.753	2.249	0.504	0.5000	-0.0040
0.6	2.62	2.803	2.199	0.604	0.6000	-0.0040
0.7	2.64	2.853	2.149	0.704	0.7000	-0.0040
0.8	2.66	2.903	2.099	0.804	0.8000	-0.0040
0.9	2.68	2.953	2.049	0.904	0.9000	-0.0040
1	2.7	3.003	1.999	1.004	1.0000	-0.0040
2	2.9	3.503	1.499	2.004	2.0000	-0.0040
3	3.1	4.003	0.999	3.004	3.0000	-0.0040
4	3.3	4.504	0.499	4.005	4.0000	-0.0050
5	3.5	5.004	0.00798	4.99602	5.0000	0.0040
6	3.7	5.5	-0.5008	6.0008	6.0000	-0.0008
7	3.9	6.004	-1	7.004	7.0000	-0.0040
8	4.1	6.504	-1.501	8.005	8.0000	-0.0050
9	4.3	7.004	-2.001	9.005	9.0000	-0.0050
9.5	4.4	7.254	-2.251	9.505	9.5000	-0.0050
9.505	4.401	7.256	-2.253	9.509	9.5050	-0.0040
9.51	4.402	7.259	-2.256	9.515	9.5100	-0.0050
9.515	4.403	7.261	-2.258	9.519	9.5150	-0.0040
9.52	4.404	7.264	-2.261	9.525	9.5200	-0.0050
9.525	4.405	7.266	-2.263	9.529	9.5250	-0.0040
9.53	4.406	7.269	-2.266	9.535	9.5300	-0.0050
9.535	4.407	7.271	-2.268	9.539	9.5350	-0.0040
9.54	4.408	7.274	-2.271	9.545	9.5400	-0.0050
9.545	4.409	7.276	-2.273	9.549	9.5450	-0.0040
9.55	4.41	7.279	-2.276	9.555	9.5500	-0.0050
9.6	4.42	7.304	-2.301	9.605	9.6000	-0.0050
9.7	4.44	7.354	-2.351	9.705	9.7000	-0.0050
9.8	4.46	7.404	-2.401	9.805	9.8000	-0.0050
9.9	4.48	7.454	-2.451	9.905	9.9000	-0.0050
9.999	4.4998	7.503	-2.5	10.003	9.9990	-0.0040
10	4.5	7.504	-2.501	10.005	10.0000	-0.0050