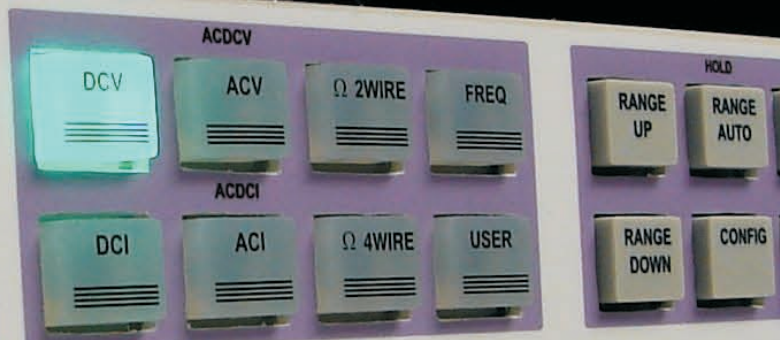
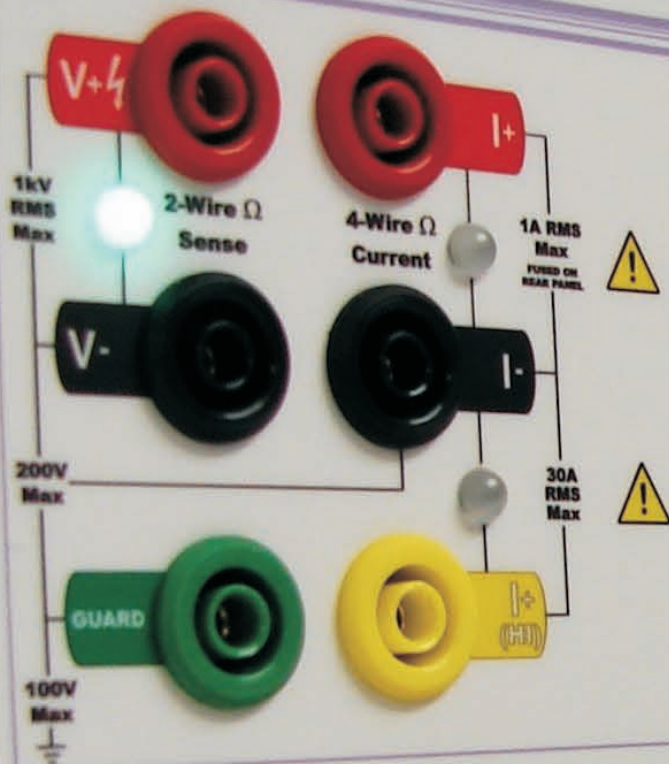


EXTENDED SPECIFICATIONS

8081 MULTIMETER

INPUTS



MODEL 8081

4 PPM PRECISION DIGITAL MULTIMETER



DC Voltage: 1nV to 1050V in 5 Ranges				INSTRUMENT UNCERTAINTY (RELATIVE TO CAL. STDS)*											
Range	Full Scale	Resolution	Input Impedance	90 Day			180 Day			1 Year			2 Year		
				± ppm Reading + Range			± ppm Reading + Range			± ppm Reading + Range			± ppm Reading + Range		
100mV	120,000,000	1nV	> 10 GOhms	3.8	+	1.7	4.3	+	1.7	4.8	+	1.7	7.0	+	1.7
1V	1.200,000,00	10nV	> 10 GOhms	3.0	+	0.6	3.5	+	0.6	3.9	+	0.6	5.5	+	0.6
10V	12.000,000,0	100nV	> 10 GOhms	3.0	+	0.6	3.5	+	0.6	3.9	+	0.6	5.5	+	0.6
100V	120.000,000	1uV	10 MOhms, 1%	4.6	+	0.8	5.2	+	0.8	5.8	+	0.8	8.0	+	0.8
1000V	1.050,000,00	10uV	10 MOhms, 1%	4.6	+	1.2	5.2	+	1.2	5.8	+	1.2	8.0	+	1.2

Input Protection : 1100Volts

DC Current 0.01pA to 30 Amps in 11 Ranges				INSTRUMENT UNCERTAINTY (RELATIVE TO CAL. STDS)*							
Range	Full Scale	Resolution	Input Impedance	90 Day		180 Day		1 Year		2 Year	
				± ppm Reading + Range		± ppm Reading + Range		± ppm Reading + Range		± ppm Reading + Range	
10nA	12.000,00	0.01pA	Virtual Ground	4000	+ 80	4500	+ 80	5000	+ 80	7000	+ 80
100nA	120.000,0	0.1pA	Virtual Ground	1440	+ 34	1620	+ 34	1800	+ 34	2520	+ 34
1uA	1.200,000	1pA	Virtual Ground	160	+ 17	180	+ 17	200	+ 17	280	+ 17
10uA	12,000,00	10pA	Virtual Ground	24	+ 10	27	+ 10	30	+ 10	42	+ 10
100uA	120,000,00	10pA	10 kOhms	5.5	+ 4	6	+ 4	7	+ 4	10	+ 4
1mA	1.200,000,0	100pA	1 kOhms	5.5	+ 4	6	+ 4	7	+ 4	10	+ 4
10mA	12.000,000	1nA	100 Ohms	7.2	+ 4	8.1	+ 4	9	+ 4	13	+ 4
100mA	120,000,00	10nA	10 Ohms	24	+ 6	27	+ 6	30	+ 6	42	+ 6
1A	1.200,000,0	100nA	0.5 Ohms	120	+ 13	135	+ 13	150	+ 13	210	+ 13
10A	12.000,000	1uA	10 mOhms	290	+ 35	320	+ 35	360	+ 35	500	+ 35
30A	30.500,00	10uA	10 mOhms	390	+ 145	440	+ 145	490	+ 145	690	+ 145

Resistance : 0.01uOhm to 1TOhm in 13 Ranges				INSTRUMENT UNCERTAINTY (RELATIVE TO CAL. STDS)*							
Range	Full Scale	Resolution	I/P Impedance	90 Day		180 Day		1 Year		2 Year	
				± ppm Reading + Range		± ppm Reading + Range		± ppm Reading + Range		± ppm Reading + Range	
1 Ohm	1.200,000,00	0.01 uOhm	100mA	12.0	+ 6.0	13.0	+ 6.0	15.0	+ 6.0	21.0	+ 6.0
10 Ohm	12.000,000,0	0.1 uOhm	10mA	8.0	+ 3.0	9.0	+ 3.0	10.0	+ 3.0	14.0	+ 3.0
100 Ohm *	120.000,000	1 uOhm	10mA	7.0	+ 1.0	8.0	+ 1.0	9.0	+ 1.0	13.0	+ 1.0
1 kOhm *	1.200,000,00	10 uOhms	10mA	6.5	+ 0.8	7.0	+ 0.8	8.0	+ 0.8	11.0	+ 0.8
10 kOhm *	12.000,000,0	100 uOhms	1mA	7.5	+ 0.8	8.5	+ 0.8	9.5	+ 0.8	13.0	+ 0.8
100 kOhm	120.000,000	1 mOhms	100uA	8.0	+ 0.8	9.0	+ 0.8	10.0	+ 0.8	14.0	+ 0.8
1 MOhm	1.200,000,00	10 mOhms	10uA	9.0	+ 2.0	10.0	+ 2.0	11.0	+ 2.0	15.0	+ 2.0
10 Mohm	12.000,000,0	100 mOhms	1uA	12.0	+ 8.0	13.5	+ 8.0	15.0	+ 8.0	21.0	+ 8.0

* Low current measurement mode available

AC Voltage 0.1uV to 1000 Volts in 5 Ranges					INSTRUMENT UNCERTAINTY (RELATIVE TO CAL. STDS)*											
					90 Day		180 Day		1 Year		2 Year					
Range	Full Scale	Resolution	I/P Impedance	Frequency	± % Reading + Range		± % Reading + Range		± % Reading + Range							
100mV	105,000,0	0.1uV	>1 GOhm / 90pF	10Hz to 40Hz	0.040	+	0.015	0.045	+	0.015	0.05	+	0.015	0.070	+	0.015
				40Hz to 200Hz	0.017	+	0.009	0.019	+	0.009	0.021	+	0.009	0.029	+	0.009
				200Hz to 2KHz	0.014	+	0.008	0.015	+	0.008	0.017	+	0.008	0.024	+	0.008
				2kHz to 20kHz	0.020	+	0.01	0.023	+	0.01	0.025	+	0.010	0.035	+	0.010
				20kHz to 100kHz	0.048	+	0.05	0.054	+	0.05	0.06	+	0.050	0.080	+	0.050
1V	1.050,000	1uV	>1 GOhm / 90pF	10Hz to 40Hz	0.030	+	0.015	0.036	+	0.015	0.04	+	0.015	0.060	+	0.015
10V	10.500,00	10uV	>1 GOhm / 90pF	40Hz to 200Hz	0.015	+	0.006	0.017	+	0.006	0.019	+	0.006	0.027	+	0.006
				200Hz to 2KHz	0.012	+	0.006	0.014	+	0.006	0.015	+	0.006	0.021	+	0.006
				2kHz to 20kHz	0.020	+	0.01	0.023	+	0.01	0.025	+	0.010	0.035	+	0.010
				20kHz to 100kHz	0.048	+	0.05	0.054	+	0.05	0.06	+	0.050	0.084	+	0.050
				100kHz to 1MHz*	0.800	+	2.5	0.900	+	2.5	1	+	2.5	1.400	+	2.5
100V	105.000,0	100uV	1 MOhm / 130pF	10Hz to 40Hz	0.040	+	0.015	0.045	+	0.015	0.05	+	0.015	0.070	+	0.015
1000V	1050.000	1mV	1 MOhm / 130pF	40Hz to 200Hz	0.016	+	0.009	0.018	+	0.009	0.02	+	0.009	0.028	+	0.009
				200Hz to 2KHz	0.014	+	0.007	0.016	+	0.007	0.018	+	0.007	0.025	+	0.007
				2kHz to 20kHz	0.024	+	0.01	0.027	+	0.01	0.03	+	0.010	0.042	+	0.010
				20kHz to 50kHz	0.064	+	0.05	0.072	+	0.05	0.08	+	0.050	0.112	+	0.050

* 1V Range to 1MHz : 10V Range to 200kHz

AC Current 100uA to 30A in 7 Ranges					INSTRUMENT UNCERTAINTY (RELATIVE TO CAL. STDS)*							
					90 Day	180 Day	1 Year	2 Year				
Range	Full Scale	Resolution	I/P Impedance	Frequency	± % Reading + Range		± % Reading + Range		± % Reading + Range			
100uA	100.500,0	0.1nA	10 kOhms	10Hz to 40Hz	0.040	+ 0.015	0.045	+ 0.015	0.05	+ 0.015	0.07	+ 0.015
1mA	1.050,000	1nA	1 kOhm	40Hz to 1kHz	0.024	+ 0.012	0.027	+ 0.012	0.03	+ 0.012	0.042	+ 0.012
10mA	10.500,00	10nA	100 Ohms	1KHz to 10kHz	0.056	+ 0.030	0.063	+ 0.030	0.07	+ 0.030	0.098	+ 0.030
100mA	105.000,0	100nA	10 Ohms									
1A	1.050,000	1uA	0.5 Ohms	10Hz to 40Hz	0.048	+ 0.020	0.054	+ 0.020	0.06	+ 0.020	0.084	+ 0.020
				40Hz to 1kHz	0.032	+ 0.015	0.036	+ 0.015	0.04	+ 0.015	0.056	+ 0.015
				1KHz to 10kHz	0.056	+ 0.050	0.063	+ 0.050	0.07	+ 0.050	0.098	+ 0.050
10A	10.500,00	10uA	10 mOhms	10Hz to 40Hz	0.064	+ 0.040	0.072	+ 0.040	0.08	+ 0.040	0.112	+ 0.040
30A	30.500,0	100uA	10 mOhms	40Hz to 1kHz	0.056	+ 0.030	0.063	+ 0.030	0.07	+ 0.030	0.098	+ 0.030

Frequency 1Hz to 1MHz	
Signal Amplitude Range	5%
Resolution	1Hz
Frequency Range	1Hz to 1MHz
Accuracy (1 Year)	5ppm \pm 2 Digits
Sample Interval	1s

INSTRUMENT UNCERTAINTY (RELATIVE TO CAL. STDS)*

Instrument accuracy relative to calibration standards covers the uncertainty of the multimeter only - these figures must be combined with the calibrating laboratory uncertainties to determine actual performance.

This benefits the user by allowing a choice of which laboratory to use for calibration of the multimeter and adding this laboratory's uncertainties to the stated uncertainties in this specification document to calculate the absolute uncertainty.

TCal \pm 1°C