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CALIBRATION CERTIFICATE 1796.01



**PRECISION
MEASUREMENTS
INC.**

**333 Moffett Park Drive
Sunnyvale, California 94089
USA**

Calibration Certificate

1895982
A2LA 1796.01

This report contains test data not covered under the Scope of Accreditation.

Description	Digital Multimeter	This calibration certificate documents the traceability to national standards, which realize the units of measurement according to the International System of Units (SI).
Manufacturer	Fluke	
Model	179	It is the users obligation to have the device recalibrated at appropriate intervals.
Serial Number	916704261	
Customer Address	Old ABC, Company 333 Moffett Park Drive Sunnyvale, CA 94089	This calibration certificate may not be reproduced other than in full except with the permission of the issuing laboratory. Calibration certificates without signatures are not valid.
Test Report Number	1895982	
Number of pages in this Certificate	4	This report must not be used to claim product endorsement by A2LA.
Calibration Date	November 30, 2011	

Date	Technical Staff	Quality Assurance
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Function	Nominal	As Found	As Left	Min. Tol.	Max. Tol.	Measurement Uncertainty
AC Voltage Range						
300 mV						
45 Hz	300.0 mV	299.9 mV	299.9 mV	296.7 mV	303.3 mV	0.095 mV
5 V						
500 Hz	5.000 V	4.994 V	4.994 V	4.947 V	5.053 V	0.0017 V
1 kHz	5.000 V	4.954 V	4.954 V	4.897 V	5.103 V	0.0017 V
50 V						
45 Hz	50.00 V	49.95 V	49.95 V	49.47 V	50.53 V	0.011 V
1 kHz	50.00 V	50.05 V	50.05 V	48.97 V	51.03 V	0.011 V
500 V						
45 Hz	300.0 V	299.8 V	299.8 V	296.7 V	303.3 V	0.08 V
500 Hz	500.0 V	500.3 V	500.3 V	494.7 V	505.3 V	0.12 V
1 kHz	500.0 V	500.3 V	500.3 V	489.7 V	510.3 V	0.12 V
1000 V						
45 Hz	1000 V	997 V	997 V	987 V	1013 V	0.16 V
Frequency - AC						
1V Input	45.00 Hz	45.00 Hz	45.00 Hz	44.94 Hz	45.06 Hz	1*10 ⁻⁶ Hz
5 V Input	50.00 kHz	50.00 kHz	50.00 kHz	49.94 kHz	50.06 kHz	1*10 ⁻⁶ kHz
DC Voltage						
	5.000 V	5.000 V	5.000 V	4.993 V	5.007 V	0.00080 V
	300.0 V	300.0 V	300.0 V	299.5 V	300.5 V	0.022 V
	1000 V	1000 V	1000 V	997 V	1003 V	0.66 V
	-1000 V	-1000 V	-1000 V	-1003 V	-997 V	0.66 V
DC Voltage - Frequency						
3V Input	45.00 Hz	45.00 Hz	45.00 Hz	44.94 Hz	45.06 Hz	1*10 ⁻⁶ Hz
30 V Input	50.00 kHz	50.00 kHz	50.00 kHz	49.94 kHz	50.06 kHz	1*10 ⁻⁶ kHz
DC Millivolt						
	30.0 mV	30.0 mV	30.0 mV	29.8 mV	30.2 mV	0.063 mV
	-300.0 mV	-299.9 mV	-299.9 mV	-300.5 mV	-299.5 mV	0.081 mV
	600.0 mV	599.8 mV	599.8 mV	599.3 mV	600.7 mV	0.082 mV
Resistance						
	19.0 Ω	19.1 Ω	19.1 Ω	18.6 Ω	19.4 Ω	0.063 Ω
	19.00 MΩ	19.00 MΩ	19.00 MΩ	18.68 MΩ	19.32 MΩ	0.023 MΩ
Capacitance						
	900 nF	900 nF	900 nF	887 nF	913 nF	NA
Continuity						
	25.00 Ω	Beep ON	Beep ON	Beep ON		0.064 Ω
	250.00 Ω	Beep OFF	Beep OFF	Beep OFF		0.083 Ω
Diode Check						
	2.00 V	2.000 V	2.000 V	1.978 V	2.022 V	0.062 V

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Function	Nominal	As Found	As Left	Min. Tol.	Max. Tol.	Measurement Uncertainty
AC Current						
Frequency						
45 Hz	3.00 mA	3.01 mA	3.01 mA	2.20 mA	3.80 mA	0.018 mA
1 kHz	50.00 mA	49.96 mA	49.96 mA	49.22 mA	50.78 mA	0.086 mA
1 kHz	400.0 mA	399.4 mA	399.4 mA	393.7 mA	406.3 mA	0.88 mA
45 Hz	4.000 A	4.001 A	4.001 A	3.937 A	4.063 A	0.015 A
1 kHz	9.00 A	9.00 A	9.00 A	8.83 A	9.17 A	0.030 A
DC Current						
	3.00 mA	3.01 mA	3.01 mA	2.94 mA	3.06 mA	0.0074 mA
	50.00 mA	49.99 mA	49.99 mA	49.47 mA	50.53 mA	0.024 mA
	-400.0 mA	-400.0 mA	-400.0 mA	-404.3 mA	-395.7 mA	0.34 mA
	4.000 A	4.000 A	4.000 A	3.957 A	4.043 A	0.0071 A
	-9.00 A	-8.99 A	-8.99 A	-9.12 A	-8.88 A	-0.012 A

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- **Description of Tests**

Refer to tables beginning on Page 3.

- **Calibration Procedure**

This calibration was performed using Calibration Procedure Number: Fluke 179

- **Location of Calibration**

Precision Measurements, Inc., Sunnyvale CA 94089

- **Nominal Measurement Value**

Refer to tables beginning on Page 3.

- **Ambient Environment**

This calibration was performed in an environment of 22 °C and 45 % relative humidity (non-condensing).

- **Measurement Results**

Refer to the table beginning on Page 3. Data that is not covered under the Scope of Accreditation is marked with an NA in the measurements uncertainty column.

- **Measurement Uncertainty**

Refer to the table(s) beginning on Page 3. Uncertainties reported are for a coverage factor of $k=2$, corresponding to a confidence interval of approximately 95% and is based on analysis of the Standards used through the method of process metrology as described in Precision Measurements QAP-2349.

- **Conformance with requirements**

This calibration is traceable to National Standards maintained by the National Institute of Standards and Technology. Precision Measurements, Inc. calibration system complies with the requirements of ISO/IEC Guide 17025 and ANSI/NCSL Z540-1.

- **Standards Used**

Manufacturer	Model Number	PMC Number	Due Date
Fluke	5520A	2752	September 9, 2012