



Instrument Calibration Solutions



Certificate of Calibration

34857

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Customer Information

Instrument Calibration Solutions
413 Hopewell Ave
Aliquippa, PA 15001

PO #: Standards 2015
Reference #: Standards 2015
Account #: IC0304A
SO #: 13531

Instrument Identification

Instrument Id: **02-0026**

Noun: Multimeter, Digital
Mfr: Fluke
Model: 233
Accuracy: MFG Specifications

Serial #: 16170166
Department: Quality
Location: Aaron's Kit

Certification Information

Reason For Service: Calibration
Type Of Calibration: Accredited
As Found Condition: In Tolerance
As Left Condition: Left As Found
Procedure: Mfr Manual :
Quality Remarks: ISO/IEC 17025:2005

Technician: Darrell Martin
Cal Date: 24 JUN 15
Cal Due: 30 JUN 16
Temperature: 21.0 °C
Humidity: 45.0 %

This instrument has been calibrated using standards with accuracies traceable to the National Institute of Standards and Technology, derived from natural physical constants, derived from ratio measurements, or compared to nationally or internationally recognized consensus standards.

Instrument Calibration Solutions' quality system complies with the applicable requirements of ANSI/NCSL Z540-1 and ISO/IEC 17025.

Reported uncertainties and/or "test uncertainty ratios" (TUR's) are expressed as expanded uncertainty values at approximately the 95% confidence level using a coverage factor of K=2. A TUR of 4:1 is routinely observed unless otherwise noted on the Certificate. Statements of compliance, where applicable, are based on test results falling within specified limits with no reduction by the uncertainty of the measurement.

Calibration due dates appearing on the Certificate of Calibration and label are determined by the client for administrative purposes and do not imply continued conformance to specification.

All results contained herein relate only to the item calibrated. This certificate shall not be reproduced except in full, without the written permission of Instrument Calibration Solutions.

David Beier, Director of Services

Darrell Martin, Director of Quality

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Please visit our website www.instrumentcs.com and give us your feedback.

413 Hopewell Avenue
Aliquippa, PA 15001

INSTRUMENT CALIBRATION SOLUTIONS

Phone: (724) 846-0136

Fax: (724) 846-0137

"Providing real solutions for your calibration needs..."



Calibration History

WO#	Reason For Service	Type Of Cal	As Found Condition	As Left Condition	Cal Date	Cal Due
24856	Calibration	Normal	In Tolerance	Left As Found	28 May 2013	31 May 2014
30264	Calibration	Normal	In Tolerance	Left As Found	14 Jul 2014	31 Jul 2015
34857	Calibration	Accredited	In Tolerance	Left As Found	24 Jun 2015	30 Jun 2016

✓ In Tolerance ✗ Out of Tolerance

Calibration Data

Range	Nominal	As Found		As Left		Min	Max
AC Voltage Test							
6 V	5.0 V 45 Hz	4.995	✓	As Found		4.947	5.053
	5.0 V 1 kHz	5.001	✓	As Found		4.897	5.103
60 V	50.0 V 45 Hz	49.95	✓	As Found		49.47	50.53
	50.0 V 1 kHz	49.50	✓	As Found		48.97	51.03
600 V	600.0 V 45 Hz	599.4	✓	As Found		593.7	606.3
	600.0 V 1 kHz	594.6	✓	As Found		587.7	612.3
1000 V	1000.0 V 45 Hz	1000	✓	As Found		977	1013
DC Voltage Test							
6 V	0.0 V	0.000	✓	As Found		-0.002	0.002
	5.0 V	4.998	✓	As Found		4.985	5.015
60 V	50.0 V	49.98	✓	As Found		49.85	50.15
600 V	600.0 V	599.8	✓	As Found		598.3	601.7
1000 V	-600.0 V	-599.8	✓	As Found		-601.7	-598.3
	1000 V	1000	✓	As Found		995	1005
AC Millivolt Test							
600 mV	6.0 mV 45 Hz	6.1	✓	As Found		5.6	6.4
	600.0 mV 1 kHz	600.1	✓	As Found		587.7	612.3
DC Millivolt Test							
600 mV	20.0 mV	20.00	✓	As Found		19.7	20.3
	600.0 mV	599.7	✓	As Found		598.3	601.7
Resistance Test							
600 ohm	0.0 ohm	0.1	✓	As Found		0.0	0.2
	500.0 ohm	500.1	✓	As Found		495.3	504.7
6 kohm	5.0 kohm	5.000	✓	As Found		4.954	5.046
60 kohm	50.0 kohm	49.99	✓	As Found		49.54	50.46
600 kohm	500.0 kohm	500.2	✓	As Found		495.4	504.6



✓ In Tolerance ✗ Out of Tolerance

Calibration Data

Range	Nominal	As Found		As Left		Min	Max
Resistance Test							
6 Mohm	5.0 Mohm	5.001	✓	As Found		4.954	5.046
40 Mohm	10.0 Mohm	9.98	✓	As Found		9.83	10.17
	30.0 Mohm	30.04	✓	As Found		29.53	30.47
Continuity Test							
600 ohm	20 ohm Beeper On	N/A		N/A		Pass/Fail	Pass/Fail
	250 ohm Beeper Off	N/A		N/A		Pass/Fail	Pass/Fail
Capacitance Test							
1000 nF	30.0 nF	30	✓	As Found		27	33
	9.0 µF	8.99	✓	As Found		8.81	9.19
	90.0 µF	90.0	✓	As Found		88.1	91.9
9999 µF	900.0 µF	901	✓	As Found		881	919
Diode Test							
2 V	1.9 V	1.899	✓	As Found		1.881	1.919
Temperature Test							
	Open Input	Pass		As Found		Display OPEn	Pass/Fail
	0.0 °C	0.2	✓	As Found		-1.0	1.0
	400.0 °C	400.2	✓	As Found		395.0	405.0
AC Current Test							
6 A	5.0 A 45 Hz	4.992	✓	As Found		4.922	5.078
DC Current Test							
10 A	9.5 A	9.49	✓	As Found		9.37	9.63

End of Datasheet

Calibration Standards

<u>NIST Traceable #</u>	<u>Instrument ID#</u>	<u>Description</u>	<u>Model</u>	<u>Calibration Date</u>	<u>Date Due</u>
34004	01-0008	Calibrator, Multi-Function	5520A/SC600	29 MAY 2015	31 MAY 2016