



EXAMPLE



YOKOGAWA

European Standards Laboratory
Yokogawa Europe Solutions B.V.
Amersfoort, The Netherlands

CALIBRATION-CERTIFICATE

Certificate number ###
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Applicant

Instrument	WT1806E Precision Power Analyzer
	Manufacturer Yokogawa
	Type WT1806E-5A6-50A0-HE-F/EX6/G5/PD2/
	Serial number
	Inventory number
	ID numbers used standards CSE820 CSE976 CSE981 CSE965 CSE1029
	Procedure CALWT1800_5A Version: 1 of 20-01-2017

Calibration method	The Powermeter was compared to the Yokogawa Power Calibration System via a phantom technique. During the calibration the distortion of the applied voltage and current were below 0.1 %. Before calibration the device was powered on for at least 12 hours.
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Environmental conditions	Temperature (24.7 ± 1) °C
	Relative Humidity (51 ± 4) %rh

Date of Calibration	28 February 2018
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Result	<p>The results of the calibration are shown on the next pages.</p> <p>The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor 2 such that the coverage probability corresponds to approximately 95 %.</p> <p>The standard uncertainty of measurement has been determined in accordance with the EA-4/02 M:2013.</p> <p>The long term stability of the calibrated object is not included in the reported expanded uncertainty measurement.</p> <p>This certificate of calibration is issued in compliance with ISO/IEC 17025:2005</p>
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Traceability	The measurements have been executed using standards for which the traceability to (inter)national standards has been demonstrated towards the RvA.
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Date	28 February 2018
Name	N. el Morabit
Function	Calibration Engineer

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The Raad voor Accreditatie is member of the European Co-operation for Accreditation (EA) and is one of the signatories to the ILAC Mutual Recognition Arrangements (MRA) for the mutual recognition of calibration Certificates.

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EXAMPLE

ELEMENT 1

Voltage Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.99	0.02	V DC	-0.010
100V	-100.00	-100.00	0.02	V DC	0.000

Voltage Calibration AC at 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.99	0.02	V AC	-0.011

Voltage Calibration AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.5000	1.4998	0.0006	V AC	-0.016
3V	3.0000	2.9997	0.0004	V AC	-0.010
6V	6.0000	5.9998	0.0009	V AC	-0.003
10V	10.000	10.000	0.002	V AC	-0.004
15V	15.000	15.000	0.002	V AC	-0.002
30V	30.000	29.997	0.002	V AC	-0.009
60V	60.000	59.997	0.002	V AC	-0.006
100V	100.00	99.99	0.02	V AC	-0.010
150V	150.00	149.99	0.02	V AC	-0.009
300V	300.00	299.98	0.02	V AC	-0.007
600V	600.00	599.96	0.04	V AC	-0.007
1000V	1000.0	999.9	0.2	V AC	-0.013

Voltage Calibration AC at 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.5000	1.4998	0.0007	V AC	-0.014
3V	3.0000	3.0000	0.0006	V AC	-0.001
6V	6.0000	5.9999	0.0009	V AC	-0.002
10V	10.000	10.000	0.002	V AC	0.003
15V	15.000	14.999	0.002	V AC	-0.005
30V	30.000	29.998	0.004	V AC	-0.005
60V	60.000	59.998	0.008	V AC	-0.004
100V	100.00	99.99	0.02	V AC	-0.008
150V	150.00	150.00	0.02	V AC	-0.002
300V	300.00	299.99	0.04	V AC	-0.003
600V	600.00	599.98	0.07	V AC	-0.003
1000V	1000.0	999.9	0.4	V AC	-0.013

Voltage Calibration AC at 10 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.0000	6.0012	0.0010	V AC	0.020
100V	100.00	100.02	0.06	V AC	0.020
150V	100.00	99.99	0.06	V AC	-0.012

Voltage Calibration AC at 50 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.0000	5.9934	0.0023	V AC	-0.111
100V	100.00	99.89	0.14	V AC	-0.106
150V	100.00	99.97	0.14	V AC	-0.035

Voltage Calibration AC at 100 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.000	5.991	0.010	V AC	-0.151
100V	100.00	99.86	0.16	V AC	-0.136
150V	100.00	100.03	0.16	V AC	0.033

Voltage Calibration Linearity DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	1.00	1.00	0.02	V DC	-0.010
100V	-1.00	-1.00	0.02	V DC	0.013
100V	50.00	49.99	0.02	V DC	-0.019
100V	-50.00	-50.00	0.02	V DC	0.000
100V	110.00	109.98	0.02	V DC	-0.015
100V	-110.00	-110.00	0.02	V DC	0.000

Voltage Calibration Linearity at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	1.0000	0.9998	0.0009	V AC	-0.022
100V	50.00	50.00	0.02	V AC	-0.002
100V	110.00	109.99	0.02	V AC	-0.007

Current Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.0000	1.0000	0.0004	A DC	0.000
1A	-1.0000	-0.9999	0.0004	A DC	-0.006

Current Calibration AC at 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.0000	1.0000	0.0002	A AC	-0.004

Current Calibration AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
10mA	10.000	10.002	0.002	mA AC	0.019
20mA	20.000	20.000	0.004	mA AC	0.000
50mA	50.000	49.997	0.007	mA AC	-0.006
100mA	100.00	100.00	0.02	mA AC	-0.004
200mA	200.00	200.00	0.02	mA AC	0.001
500mA	500.00	499.97	0.05	mA AC	-0.007
1A	1.0000	0.9999	0.0002	A AC	-0.006
2A	2.0000	1.9999	0.0002	A AC	-0.007
5A	5.0000	4.9994	0.0002	A AC	-0.012

Current Calibration AC at 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
10mA	10.000	10.004	0.002	mA AC	0.044
20mA	20.000	20.005	0.006	mA AC	0.026
50mA	50.000	50.008	0.012	mA AC	0.016
100mA	100.00	100.01	0.02	mA AC	0.014
200mA	200.00	200.04	0.04	mA AC	0.021
500mA	500.00	500.08	0.08	mA AC	0.015
1A	1.0000	1.0001	0.0002	A AC	0.010
2A	2.0000	2.0004	0.0006	A AC	0.020
5A	5.0000	5.0003	0.0011	A AC	0.005

Current Calibration AC at 10 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.000	50.003	0.022	mA AC	0.006
200mA	200.00	200.03	0.08	mA AC	0.015
1A	1.0000	1.0003	0.0002	A AC	0.030

Current Calibration AC at 50 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.000	49.950	0.022	mA AC	-0.101
200mA	200.00	199.82	0.04	mA AC	-0.091
1A	1.0000	0.9992	0.0005	A AC	-0.076

Current Calibration AC at 100 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.00	50.01	0.05	mA AC	0.019
200mA	200.00	200.08	0.29	mA AC	0.041
1A	1.0000	0.9999	0.0007	A AC	-0.011

Current Calibration Linearity AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	0.0100	0.0100	0.0002	A AC	-0.021
1A	0.5000	0.4999	0.0002	A AC	-0.012
1A	1.1000	1.0999	0.0002	A AC	-0.009

Current Calibration Linearity AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	0.0100	0.0100	0.0002	A AC	-0.016
1A	0.5000	0.5000	0.0002	A AC	-0.008
1A	1.1000	1.0999	0.0002	A AC	-0.010

External Current Calibration DC. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100mV	100.00	100.02	0.08	mA DC	0.025
100mV	-100.00	-99.98	0.09	mA DC	-0.020

External Current Calibration 10 Hz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100mV	100.00	100.01	0.07	mA AC	0.006

External Current Calibration 60 Hz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mV	50.00	50.00	0.03	mA AC	0.007
1V	1.0000	1.0000	0.0002	A AC	0.004
5V	5.0000	5.0003	0.0007	A AC	0.007

External Current Calibration 10 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	0.9996	0.0002	A AC	-0.038

External Current Calibration 50 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	0.9991	0.0005	A AC	-0.089

External Current Calibration 100 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	1.0006	0.0012	A AC	0.063



Power Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.00	99.98	0.04	W	-0.017
100V 1A	-100.00	-99.99	0.05	W	-0.010

Power Calibration 10Hz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
30V 1A	30.00	30.00	0.02	W	-0.010

Power Calibration 60Hz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 10mA	1.0000	1.0000	0.0002	W	-0.001
100V 20mA	2.0000	1.9997	0.0005	W	-0.014
100V 50mA	5.0000	4.9993	0.0011	W	-0.014
100V 100mA	10.000	10.000	0.002	W	-0.001
100V 200mA	20.000	20.000	0.005	W	-0.001
100V 500mA	50.000	49.999	0.008	W	-0.002
100V 2A	200.00	199.96	0.04	W	-0.018
100V 5A	500.00	499.90	0.06	W	-0.020
1.5V 1A	1.5000	1.5000	0.0023	W	-0.001
3V 1A	3.000	3.000	0.005	W	-0.004
6V 1A	6.000	6.000	0.009	W	-0.006
10V 1A	10.000	9.999	0.015	W	-0.009
15V 1A	15.000	14.998	0.002	W	-0.013
30V 1A	30.000	29.996	0.005	W	-0.014
60V 1A	60.000	59.994	0.009	W	-0.010
100V 1A	100.00	99.99	0.02	W	-0.009
150V 1A	150.00	149.99	0.02	W	-0.009
300V 1A	300.00	299.96	0.05	W	-0.012
600V 1A	600.00	599.93	0.10	W	-0.012
1000V 1A	1000.0	999.8	0.2	W	-0.019

Power Calibration 1 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 10mA	1.0000	1.0002	0.0004	W	0.023
100V 50mA	5.0000	5.0004	0.0011	W	0.008
100V 100mA	10.000	10.001	0.002	W	0.007
100V 200mA	20.000	20.004	0.005	W	0.018
100V 2A	200.00	200.04	0.05	W	0.018
100V 5A	500.00	500.02	0.16	W	0.003
6V 1A	6.0000	6.0011	0.0026	W	0.018
15V 1A	15.000	15.002	0.007	W	0.011
30V 1A	30.000	30.003	0.014	W	0.011
60V 1A	60.000	60.007	0.027	W	0.011
100V 1A	100.00	100.01	0.02	W	0.006
150V 1A	150.00	150.02	0.06	W	0.015
300V 1A	300.00	300.03	0.08	W	0.010
600V 1A	600.00	600.08	0.17	W	0.013
1000V 1A	1000.0	1000.0	0.9	W	0.005

Power Calibration 10 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.0000	5.0009	0.0013	W	0.019
100V 200mA	20.000	20.005	0.005	W	0.026
6V 1A	6.0000	6.0024	0.0029	W	0.040
100V 1A	100.00	100.05	0.05	W	0.049
150V 1A	100.00	100.02	0.05	W	0.016

Power Calibration 50 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.000	4.989	0.003	W	-0.228
100V 200mA	20.000	19.956	0.017	W	-0.219
6V 1A	6.000	5.982	0.011	W	-0.301
100V 1A	100.00	99.81	0.10	W	-0.191
150V 1A	100.00	99.85	0.10	W	-0.146

Power Calibration 100 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.000	4.995	0.007	W	-0.104
100V 200mA	20.000	19.977	0.019	W	-0.115
6V 1A	6.000	5.958	0.006	W	-0.706
100V 1A	100.0	99.9	0.3	W	-0.117
150V 1A	100.0	100.0	0.3	W	0.024

Power Calibration Linearity 60 Hz PF=1 at constant 1 A

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	1.00	1.00	0.02	W	-0.033
100V 1A	50.00	49.99	0.02	W	-0.015
100V 1A	110.00	109.99	0.02	W	-0.011

Power Calibration Linearity 60 Hz PF=1 at constant 100 V

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	1.00	1.00	0.02	W	-0.012
100V 1A	50.00	50.00	0.02	W	-0.009

External Current Power Calibration DC. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.00	60.00	0.02	W	-0.008
60V 1V	-60.00	-60.01	0.02	W	0.022

External Current Power Calibration 10 Hz. PF=1. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.00	60.00	0.02	W	-0.005

External Current Power Calibration 60 Hz. PF=1. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 500mV	30.00	30.00	0.05	W	-0.001
60V 1V	60.00	60.00	0.02	W	-0.006
60V 5V	300.00	299.99	0.12	W	-0.002

Power Calibration 60Hz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.00	0.02	W	-

Power Calibration 60Hz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.01	0.02	W	-

Power Calibration 1 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.00	0.12	W	-

Power Calibration 10 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	-0.04	0.24	W	-

Power Calibration 50 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	-0.1	0.7	W	-

Power Calibration 100 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	-0.4	1.2	W	-

Power Calibration 1 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.00	0.12	W	-

Power Calibration 10 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.02	0.24	W	-

Power Calibration 50 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.0	0.6	W	-

Power Calibration 100 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.4	1.2	W	-

Frequency Calibration

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
15V	60.0	60.0	1.2	Hz	0.002
15V	1.0000	1.0000	0.0013	kHz	0.000
15V	10.000	10.000	0.002	kHz	0.000
15V	50.000	50.000	0.002	kHz	0.000

Harmonic Analysis Calibration

100th Voltage Harmonic (1 kHz) synchronized to 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.000	99.993	0.011	V AC	-0.007

500th Voltage Harmonic (50 kHz) synchronized to 100 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.82	0.14	V AC	-0.184

50th Voltage Harmonic (50 kHz) synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.88	0.14	V AC	-0.115

100th Current Harmonic (1 kHz) synchronized to 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00010	0.00016	A AC	0.010

100th Current Harmonic (10 kHz) synchronized to 100 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00025	0.00002	A AC	0.025

10th Current Harmonic (10 kHz) synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00035	0.00017	A AC	0.035

1st Power Harmonic synchronized to 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.000	99.991	0.019	W	-0.009

1st Power Harmonic synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.000	100.004	0.025	W	0.004

ELEMENT 2

Voltage Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	100.00	0.02	V DC	0.000
100V	-100.00	-100.01	0.02	V DC	0.010

Voltage Calibration AC at 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	100.00	0.02	V AC	-0.001

Voltage Calibration AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.5000	1.4999	0.0006	V AC	-0.005
3V	3.0000	3.0001	0.0005	V AC	0.003
6V	6.0000	6.0003	0.0009	V AC	0.005
10V	10.000	10.001	0.002	V AC	0.007
15V	15.000	15.001	0.002	V AC	0.005
30V	30.000	30.000	0.002	V AC	0.001
60V	60.000	60.001	0.002	V AC	0.001
100V	100.00	100.00	0.02	V AC	0.000
150V	150.00	150.01	0.02	V AC	0.004
300V	300.00	300.00	0.02	V AC	0.000
600V	600.00	600.01	0.04	V AC	0.002
1000V	1000.0	1000.0	0.2	V AC	-0.003

Voltage Calibration AC at 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.5000	1.5001	0.0007	V AC	0.003
3V	3.0000	3.0002	0.0006	V AC	0.007
6V	6.0000	6.0006	0.0009	V AC	0.010
10V	10.000	10.001	0.002	V AC	0.013
15V	15.000	15.001	0.002	V AC	0.009
30V	30.000	30.001	0.004	V AC	0.004
60V	60.000	60.003	0.008	V AC	0.005
100V	100.00	100.00	0.02	V AC	0.001
150V	150.00	150.02	0.02	V AC	0.012
300V	300.00	300.02	0.04	V AC	0.006
600V	600.00	600.03	0.07	V AC	0.005
1000V	1000.0	1000.0	0.4	V AC	-0.004

Voltage Calibration AC at 10 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.0000	6.0023	0.0010	V AC	0.038
100V	100.00	100.03	0.06	V AC	0.030
150V	100.00	100.01	0.06	V AC	0.008

Voltage Calibration AC at 50 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.0000	5.9917	0.0023	V AC	-0.138
100V	100.00	99.86	0.14	V AC	-0.135
150V	100.00	99.97	0.14	V AC	-0.025

Voltage Calibration AC at 100 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.000	5.985	0.010	V AC	-0.244
100V	100.00	99.76	0.16	V AC	-0.236
150V	100.00	100.06	0.16	V AC	0.064

Voltage Calibration Linearity DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	1.00	1.00	0.02	V DC	0.020
100V	-1.00	-1.00	0.02	V DC	-0.017
100V	50.00	50.00	0.02	V DC	0.001
100V	-50.00	-50.01	0.02	V DC	0.020
100V	110.00	110.00	0.02	V DC	0.000
100V	-110.00	-110.01	0.02	V DC	0.009

Voltage Calibration Linearity at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	1.0000	0.9998	0.0009	V AC	-0.022
100V	50.00	50.00	0.02	V AC	0.010
100V	110.00	110.00	0.02	V AC	0.004

Current Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.0000	1.0001	0.0004	A DC	0.010
1A	-1.0000	-0.9999	0.0004	A DC	-0.007

Current Calibration AC at 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.0000	1.0000	0.0002	A AC	-0.003

Current Calibration AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
10mA	10.000	10.002	0.002	mA AC	0.017
20mA	20.000	20.001	0.004	mA AC	0.004
50mA	50.000	49.999	0.007	mA AC	-0.002
100mA	100.00	100.00	0.02	mA AC	0.001
200mA	200.00	200.01	0.02	mA AC	0.007
500mA	500.00	499.99	0.05	mA AC	-0.002
1A	1.0000	1.0000	0.0002	A AC	-0.005
2A	2.0000	2.0001	0.0002	A AC	0.003
5A	5.0000	4.9998	0.0004	A AC	-0.004

Current Calibration AC at 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
10mA	10.000	10.004	0.002	mA AC	0.042
20mA	20.000	20.006	0.006	mA AC	0.028
50mA	50.000	50.011	0.012	mA AC	0.022
100mA	100.00	100.01	0.02	mA AC	0.014
200mA	200.00	200.05	0.04	mA AC	0.026
500mA	500.00	500.10	0.08	mA AC	0.021
1A	1.0000	1.0002	0.0002	A AC	0.019
2A	2.0000	2.0006	0.0006	A AC	0.031
5A	5.0000	5.0006	0.0011	A AC	0.012

Current Calibration AC at 10 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.000	50.004	0.022	mA AC	0.009
200mA	200.00	200.04	0.08	mA AC	0.022
1A	1.0000	1.0004	0.0002	A AC	0.038

Current Calibration AC at 50 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.000	49.950	0.022	mA AC	-0.100
200mA	200.00	199.83	0.04	mA AC	-0.087
1A	1.0000	0.9986	0.0005	A AC	-0.136

Current Calibration AC at 100 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.00	50.02	0.05	mA AC	0.036
200mA	200.00	200.09	0.29	mA AC	0.044
1A	1.0000	1.0001	0.0007	A AC	0.014

Current Calibration Linearity AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	0.0100	0.0100	0.0002	A AC	-0.021
1A	0.5000	0.5000	0.0002	A AC	0.001
1A	1.1000	1.1000	0.0002	A AC	-0.001

Current Calibration Linearity AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	0.0100	0.0100	0.0002	A AC	-0.015
1A	0.5000	0.5000	0.0002	A AC	-0.008
1A	1.1000	1.1000	0.0002	A AC	0.001

External Current Calibration DC. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100mV	100.00	100.04	0.08	mA DC	0.037
100mV	-100.00	-99.99	0.09	mA DC	-0.014

External Current Calibration 10 Hz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100mV	100.00	100.01	0.07	mA AC	0.013

External Current Calibration 60 Hz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mV	50.00	50.01	0.03	mA AC	0.017
1V	1.0000	1.0001	0.0002	A AC	0.007
5V	5.0000	5.0004	0.0007	A AC	0.009

External Current Calibration 10 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	0.9999	0.0002	A AC	-0.012

External Current Calibration 50 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	0.9994	0.0005	A AC	-0.061

External Current Calibration 100 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	1.0009	0.0012	A AC	0.092



Power Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.00	100.01	0.04	W	0.006
100V 1A	-100.00	-100.01	0.05	W	0.010

Power Calibration 10Hz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
30V 1A	30.00	30.00	0.02	W	0.001

Power Calibration 60Hz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 10mA	1.0000	1.0001	0.0002	W	0.008
100V 20mA	2.0000	2.0000	0.0005	W	0.000
100V 50mA	5.0000	4.9998	0.0011	W	-0.004
100V 100mA	10.000	10.001	0.002	W	0.011
100V 200mA	20.000	20.003	0.004	W	0.016
100V 500mA	50.000	50.006	0.008	W	0.012
100V 2A	200.00	200.01	0.04	W	0.004
100V 5A	500.00	499.99	0.06	W	-0.002
1.5V 1A	1.5000	1.5002	0.0023	W	0.015
3V 1A	3.000	3.000	0.005	W	0.013
6V 1A	6.000	6.001	0.009	W	0.012
10V 1A	10.000	10.001	0.015	W	0.007
15V 1A	15.000	15.000	0.002	W	0.001
30V 1A	30.000	30.001	0.005	W	0.003
60V 1A	60.000	60.000	0.009	W	0.000
100V 1A	100.00	100.00	0.02	W	0.002
150V 1A	150.00	150.00	0.02	W	0.003
300V 1A	300.00	300.00	0.05	W	-0.001
600V 1A	600.00	600.01	0.10	W	0.001
1000V 1A	1000.0	1000.0	0.2	W	0.003

Power Calibration 1 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 10mA	1.0000	1.0004	0.0004	W	0.036
100V 50mA	5.0000	5.0013	0.0011	W	0.025
100V 100mA	10.000	10.003	0.002	W	0.027
100V 200mA	20.000	20.007	0.005	W	0.034
100V 2A	200.00	200.07	0.05	W	0.034
100V 5A	500.00	500.11	0.16	W	0.022
6V 1A	6.0000	6.0019	0.0026	W	0.032
15V 1A	15.000	15.004	0.007	W	0.030
30V 1A	30.000	30.008	0.014	W	0.026
60V 1A	60.000	60.014	0.027	W	0.024
100V 1A	100.00	100.02	0.02	W	0.025
150V 1A	150.00	150.04	0.06	W	0.029
300V 1A	300.00	300.08	0.08	W	0.026
600V 1A	600.00	600.18	0.17	W	0.030
1000V 1A	1000.0	1000.1	0.9	W	0.015

Power Calibration 10 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.0000	5.0018	0.0012	W	0.036
100V 200mA	20.000	20.009	0.005	W	0.045
6V 1A	6.0000	6.0036	0.0029	W	0.061
100V 1A	100.00	100.07	0.05	W	0.070
150V 1A	100.00	100.03	0.05	W	0.034

Power Calibration 50 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.000	4.987	0.003	W	-0.258
100V 200mA	20.000	19.950	0.017	W	-0.248
6V 1A	6.000	5.980	0.011	W	-0.330
100V 1A	100.00	99.77	0.10	W	-0.233
150V 1A	100.00	99.86	0.10	W	-0.142

Power Calibration 100 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.000	4.990	0.007	W	-0.195
100V 200mA	20.000	19.958	0.019	W	-0.211
6V 1A	6.000	5.952	0.006	W	-0.798
100V 1A	100.0	99.8	0.3	W	-0.202
150V 1A	100.0	100.0	0.3	W	0.039

Power Calibration Linearity 60 Hz PF=1 at constant 1 A

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	1.00	1.00	0.02	W	-0.033
100V 1A	50.00	50.00	0.02	W	-0.002
100V 1A	110.00	110.00	0.02	W	-0.003

Power Calibration Linearity 60 Hz PF=1 at constant 100 V

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	1.00	1.00	0.02	W	-0.013
100V 1A	50.00	50.00	0.02	W	0.010

External Current Power Calibration DC. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.00	60.00	0.02	W	-0.004
60V 1V	-60.00	-60.02	0.02	W	0.028

External Current Power Calibration 10 Hz. PF=1. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.00	60.00	0.02	W	0.007

External Current Power Calibration 60 Hz. PF=1. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 500mV	30.00	30.00	0.05	W	0.013
60V 1V	60.00	60.01	0.02	W	0.010
60V 5V	300.00	300.04	0.12	W	0.013

Power Calibration 60Hz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	-0.01	0.02	W	-

Power Calibration 60Hz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.02	0.02	W	-

Power Calibration 1 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.00	0.12	W	-

Power Calibration 10 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	-0.06	0.24	W	-

Power Calibration 50 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.0	0.7	W	-

Power Calibration 100 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	-0.4	1.2	W	-

Power Calibration 1 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.01	0.12	W	-

Power Calibration 10 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.04	0.24	W	-

Power Calibration 50 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.0	0.6	W	-

Power Calibration 100 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.4	1.2	W	-

Frequency Calibration

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
15V	60.0	60.0	1.2	Hz	0.002
15V	1.0000	1.0000	0.0013	kHz	0.000
15V	10.000	10.000	0.002	kHz	0.000
15V	50.000	50.000	0.002	kHz	0.000

Harmonic Analysis Calibration

100th Voltage Harmonic (1 kHz) synchronized to 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.000	100.004	0.011	V AC	0.004

500th Voltage Harmonic (50 kHz) synchronized to 100 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.78	0.14	V AC	-0.223

50th Voltage Harmonic (50 kHz) synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.86	0.14	V AC	-0.145

100th Current Harmonic (1 kHz) synchronized to 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00012	0.00016	A AC	0.012

100th Current Harmonic (10 kHz) synchronized to 100 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00027	0.00002	A AC	0.027

10th Current Harmonic (10 kHz) synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00037	0.00017	A AC	0.037

1st Power Harmonic synchronized to 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.000	100.003	0.019	W	0.003

1st Power Harmonic synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.000	100.026	0.025	W	0.026

ELEMENT 3

Voltage Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	100.00	0.02	V DC	0.000
100V	-100.00	-100.01	0.02	V DC	0.010

Voltage Calibration AC at 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	100.00	0.02	V AC	-0.001

Voltage Calibration AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.5000	1.5000	0.0006	V AC	-0.003
3V	3.0000	3.0001	0.0004	V AC	0.004
6V	6.0000	6.0003	0.0009	V AC	0.005
10V	10.000	10.001	0.002	V AC	0.006
15V	15.000	15.001	0.002	V AC	0.007
30V	30.000	30.002	0.002	V AC	0.005
60V	60.000	60.003	0.002	V AC	0.005
100V	100.00	100.01	0.02	V AC	0.008
150V	150.00	150.01	0.02	V AC	0.005
300V	300.00	300.01	0.02	V AC	0.003
600V	600.00	600.02	0.04	V AC	0.003
1000V	1000.0	1000.0	0.2	V AC	-0.003

Voltage Calibration AC at 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.5000	1.5000	0.0007	V AC	-0.001
3V	3.0000	3.0002	0.0006	V AC	0.007
6V	6.0000	6.0005	0.0009	V AC	0.008
10V	10.000	10.001	0.002	V AC	0.014
15V	15.000	15.001	0.002	V AC	0.009
30V	30.000	30.002	0.004	V AC	0.005
60V	60.000	60.003	0.008	V AC	0.005
100V	100.00	100.00	0.02	V AC	0.002
150V	150.00	150.02	0.02	V AC	0.012
300V	300.00	300.02	0.04	V AC	0.006
600V	600.00	600.03	0.07	V AC	0.004
1000V	1000.0	1000.0	0.4	V AC	-0.001

Voltage Calibration AC at 10 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.0000	6.0024	0.0010	V AC	0.040
100V	100.00	100.04	0.06	V AC	0.040
150V	100.00	100.01	0.06	V AC	0.008

Voltage Calibration AC at 50 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.0000	5.9946	0.0023	V AC	-0.090
100V	100.00	99.96	0.14	V AC	-0.044
150V	100.00	100.02	0.14	V AC	0.015

Voltage Calibration AC at 100 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.000	5.990	0.010	V AC	-0.164
100V	100.00	99.89	0.16	V AC	-0.105
150V	100.00	100.09	0.16	V AC	0.094

Voltage Calibration Linearity DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	1.00	1.00	0.02	V DC	-0.033
100V	-1.00	-1.00	0.02	V DC	0.030
100V	50.00	50.00	0.02	V DC	0.001
100V	-50.00	-50.01	0.02	V DC	0.019
100V	110.00	110.00	0.02	V DC	0.000
100V	-110.00	-110.01	0.02	V DC	0.009

Voltage Calibration Linearity at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	1.0000	0.9998	0.0009	V AC	-0.022
100V	50.00	50.01	0.02	V AC	0.015
100V	110.00	110.01	0.02	V AC	0.007

Current Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.0000	1.0000	0.0004	A DC	-0.003
1A	-1.0000	-0.9998	0.0004	A DC	-0.016

Current Calibration AC at 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.0000	0.9999	0.0002	A AC	-0.014

Current Calibration AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
10mA	10.000	10.001	0.002	mA AC	0.010
20mA	20.000	19.999	0.004	mA AC	-0.007
50mA	50.000	49.995	0.007	mA AC	-0.011
100mA	100.00	100.00	0.02	mA AC	-0.004
200mA	200.00	199.99	0.02	mA AC	-0.004
500mA	500.00	499.92	0.05	mA AC	-0.015
1A	1.0000	0.9999	0.0002	A AC	-0.014
2A	2.0000	1.9998	0.0002	A AC	-0.011
5A	5.0000	4.9990	0.0004	A AC	-0.020

Current Calibration AC at 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
10mA	10.000	10.003	0.002	mA AC	0.034
20mA	20.000	20.004	0.006	mA AC	0.018
50mA	50.000	50.004	0.012	mA AC	0.008
100mA	100.00	100.01	0.02	mA AC	0.006
200mA	200.00	200.03	0.04	mA AC	0.016
500mA	500.00	500.03	0.08	mA AC	0.007
1A	1.0000	1.0001	0.0002	A AC	0.009
2A	2.0000	2.0003	0.0006	A AC	0.016
5A	5.0000	5.0001	0.0011	A AC	0.002

Current Calibration AC at 10 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.000	50.000	0.022	mA AC	0.000
200mA	200.00	200.02	0.08	mA AC	0.009
1A	1.0000	1.0003	0.0002	A AC	0.028

Current Calibration AC at 50 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.000	49.947	0.022	mA AC	-0.107
200mA	200.00	199.81	0.04	mA AC	-0.093
1A	1.0000	0.9992	0.0005	A AC	-0.079

Current Calibration AC at 100 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.00	50.01	0.05	mA AC	0.026
200mA	200.00	200.07	0.29	mA AC	0.037
1A	1.0000	1.0001	0.0007	A AC	0.012

Current Calibration Linearity AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	0.0100	0.0100	0.0002	A AC	-0.022
1A	0.5000	0.4999	0.0002	A AC	-0.017
1A	1.1000	1.0998	0.0002	A AC	-0.017

Current Calibration Linearity AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	0.0100	0.0100	0.0002	A AC	-0.015
1A	0.5000	0.4999	0.0002	A AC	-0.012
1A	1.1000	1.0998	0.0002	A AC	-0.015

External Current Calibration DC. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100mV	100.00	100.00	0.08	mA DC	0.004
100mV	-100.00	-99.99	0.09	mA DC	-0.006

External Current Calibration 10 Hz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100mV	100.00	100.01	0.07	mA AC	0.006

External Current Calibration 60 Hz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mV	50.00	50.01	0.03	mA AC	0.010
1V	1.0000	1.0000	0.0002	A AC	-0.005
5V	5.0000	5.0000	0.0007	A AC	-0.001

External Current Calibration 10 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	0.9997	0.0002	A AC	-0.032

External Current Calibration 50 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	0.9992	0.0005	A AC	-0.079

External Current Calibration 100 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	1.0007	0.0012	A AC	0.070

Power Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.00	100.00	0.04	W	-0.003
100V 1A	-100.00	-100.00	0.05	W	-0.001

Power Calibration 10Hz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
30V 1A	30.00	30.00	0.02	W	-0.012

Power Calibration 60Hz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 10mA	1.0000	1.0000	0.0002	W	-0.002
100V 20mA	2.0000	1.9998	0.0005	W	-0.009
100V 50mA	5.0000	4.9995	0.0011	W	-0.010
100V 100mA	10.000	10.000	0.002	W	-0.002
100V 200mA	20.000	20.001	0.004	W	0.004
100V 500mA	50.000	50.000	0.008	W	0.000
100V 2A	200.00	199.98	0.04	W	-0.008
100V 5A	500.00	499.93	0.06	W	-0.015
1.5V 1A	1.5000	1.5001	0.0023	W	0.008
3V 1A	3.000	3.000	0.005	W	0.001
6V 1A	6.000	6.000	0.009	W	-0.002
10V 1A	10.000	9.999	0.015	W	-0.009
15V 1A	15.000	14.999	0.002	W	-0.007
30V 1A	30.000	29.997	0.005	W	-0.011
60V 1A	60.000	59.994	0.009	W	-0.011
100V 1A	100.00	99.99	0.02	W	-0.008
150V 1A	150.00	149.99	0.02	W	-0.009
300V 1A	300.00	299.96	0.05	W	-0.014
600V 1A	600.00	599.94	0.10	W	-0.010
1000V 1A	1000.0	999.9	0.2	W	-0.008

Power Calibration 1 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 10mA	1.0000	1.0002	0.0004	W	0.024
100V 50mA	5.0000	5.0006	0.0011	W	0.012
100V 100mA	10.000	10.002	0.002	W	0.015
100V 200mA	20.000	20.005	0.005	W	0.023
100V 2A	200.00	200.04	0.05	W	0.022
100V 5A	500.00	500.03	0.16	W	0.007
6V 1A	6.0000	6.0011	0.0026	W	0.019
15V 1A	15.000	15.003	0.007	W	0.018
30V 1A	30.000	30.004	0.014	W	0.013
60V 1A	60.000	60.007	0.027	W	0.011
100V 1A	100.00	100.02	0.02	W	0.016
150V 1A	150.00	150.03	0.06	W	0.017
300V 1A	300.00	300.04	0.08	W	0.012
600V 1A	600.00	600.08	0.17	W	0.014
1000V 1A	1000.0	1000.0	0.9	W	0.004

Power Calibration 10 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.0000	5.0015	0.0013	W	0.030
100V 200mA	20.000	20.008	0.005	W	0.040
6V 1A	6.0000	6.0030	0.0029	W	0.050
100V 1A	100.00	100.06	0.05	W	0.061
150V 1A	100.00	100.02	0.05	W	0.025

Power Calibration 50 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.000	4.991	0.003	W	-0.180
100V 200mA	20.000	19.967	0.017	W	-0.165
6V 1A	6.000	5.982	0.011	W	-0.292
100V 1A	100.00	99.86	0.10	W	-0.139
150V 1A	100.00	99.89	0.10	W	-0.106

Power Calibration 100 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.000	4.996	0.007	W	-0.072
100V 200mA	20.000	19.983	0.019	W	-0.087
6V 1A	6.000	5.955	0.006	W	-0.744
100V 1A	100.0	99.9	0.3	W	-0.085
150V 1A	100.0	100.1	0.3	W	0.058

Power Calibration Linearity 60 Hz PF=1 at constant 1 A

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	1.00	1.00	0.02	W	-0.033
100V 1A	50.00	50.00	0.02	W	-0.001
100V 1A	110.00	109.99	0.02	W	-0.012

Power Calibration Linearity 60 Hz PF=1 at constant 100 V

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	1.00	1.00	0.02	W	-0.010
100V 1A	50.00	50.00	0.02	W	-0.009

External Current Power Calibration DC. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.00	59.99	0.02	W	-0.008
60V 1V	-60.00	-60.02	0.02	W	0.032

External Current Power Calibration 10 Hz. PF=1. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.00	60.00	0.02	W	-0.001

External Current Power Calibration 60 Hz. PF=1. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 500mV	30.00	30.00	0.05	W	0.000
60V 1V	60.00	60.00	0.02	W	-0.001
60V 5V	300.00	300.01	0.12	W	0.002

Power Calibration 60Hz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	-0.01	0.02	W	-

Power Calibration 60Hz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.00	0.02	W	-

Power Calibration 1 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.02	0.12	W	-

Power Calibration 10 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	-0.07	0.24	W	-

Power Calibration 50 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.0	0.7	W	-

Power Calibration 100 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	-0.4	1.2	W	-

Power Calibration 1 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	-0.04	0.12	W	-

Power Calibration 10 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.05	0.24	W	-

Power Calibration 50 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.0	0.6	W	-

Power Calibration 100 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.4	1.2	W	-

Frequency Calibration

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
15V	60.0	60.0	1.2	Hz	0.002
15V	1.0000	1.0000	0.0013	kHz	0.000
15V	10.000	10.000	0.002	kHz	0.000
15V	50.000	50.000	0.002	kHz	0.000

Harmonic Analysis Calibration

100th Voltage Harmonic (1 kHz) synchronized to 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.000	100.002	0.011	V AC	0.002

500th Voltage Harmonic (50 kHz) synchronized to 100 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.87	0.14	V AC	-0.134

50th Voltage Harmonic (50 kHz) synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.95	0.14	V AC	-0.054

100th Current Harmonic (1 kHz) synchronized to 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00011	0.00016	A AC	0.011

100th Current Harmonic (10 kHz) synchronized to 100 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00016	0.00002	A AC	0.016

10th Current Harmonic (10 kHz) synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00025	0.00017	A AC	0.025

1st Power Harmonic synchronized to 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.000	99.991	0.019	W	-0.009

1st Power Harmonic synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.000	100.011	0.025	W	0.011

ELEMENT 4

Voltage Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.99	0.02	V DC	-0.010
100V	-100.00	-100.00	0.02	V DC	0.000

Voltage Calibration AC at 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.99	0.02	V AC	-0.011

Voltage Calibration AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.5000	1.4998	0.0006	V AC	-0.014
3V	3.0000	2.9998	0.0004	V AC	-0.007
6V	6.0000	5.9998	0.0009	V AC	-0.004
10V	10.000	10.000	0.002	V AC	-0.004
15V	15.000	15.000	0.002	V AC	-0.003
30V	30.000	29.997	0.002	V AC	-0.009
60V	60.000	59.996	0.002	V AC	-0.006
100V	100.00	100.00	0.02	V AC	-0.003
150V	150.00	149.99	0.02	V AC	-0.005
300V	300.00	299.97	0.02	V AC	-0.009
600V	600.00	599.95	0.04	V AC	-0.009
1000V	1000.0	999.9	0.2	V AC	-0.014

Voltage Calibration AC at 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.5000	1.4999	0.0007	V AC	-0.006
3V	3.0000	3.0000	0.0006	V AC	0.001
6V	6.0000	5.9999	0.0009	V AC	-0.002
10V	10.000	10.000	0.002	V AC	0.004
15V	15.000	15.000	0.002	V AC	0.003
30V	30.000	29.999	0.004	V AC	-0.005
60V	60.000	59.996	0.008	V AC	-0.007
100V	100.00	99.99	0.02	V AC	-0.008
150V	150.00	150.00	0.02	V AC	0.000
300V	300.00	299.99	0.04	V AC	-0.004
600V	600.00	599.97	0.07	V AC	-0.005
1000V	1000.0	999.9	0.4	V AC	-0.009

Voltage Calibration AC at 10 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.0000	6.0018	0.0010	V AC	0.030
100V	100.00	100.03	0.06	V AC	0.031
150V	100.00	100.01	0.06	V AC	0.008

Voltage Calibration AC at 50 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.0000	5.9956	0.0023	V AC	-0.074
100V	100.00	99.96	0.14	V AC	-0.045
150V	100.00	100.00	0.14	V AC	-0.005

Voltage Calibration AC at 100 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.000	5.991	0.010	V AC	-0.143
100V	100.00	99.89	0.16	V AC	-0.106
150V	100.00	100.01	0.16	V AC	0.014

Voltage Calibration Linearity DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	1.00	1.00	0.02	V DC	0.000
100V	-1.00	-1.00	0.02	V DC	0.003
100V	50.00	50.00	0.02	V DC	0.001
100V	-50.00	-50.00	0.02	V DC	0.000
100V	110.00	109.99	0.02	V DC	-0.009
100V	-110.00	-110.00	0.02	V DC	0.000

Voltage Calibration Linearity at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	1.0000	0.9998	0.0009	V AC	-0.022
100V	50.00	50.00	0.02	V AC	-0.004
100V	110.00	109.99	0.02	V AC	-0.011

Current Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.0000	1.0000	0.0004	A DC	0.002
1A	-1.0000	-0.9999	0.0004	A DC	-0.013

Current Calibration AC at 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.0000	1.0000	0.0002	A AC	-0.003

Current Calibration AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
10mA	10.000	10.002	0.002	mA AC	0.019
20mA	20.000	20.000	0.004	mA AC	0.001
50mA	50.000	49.996	0.007	mA AC	-0.008
100mA	100.00	100.00	0.02	mA AC	-0.004
200mA	200.00	199.99	0.02	mA AC	-0.004
500mA	500.00	499.97	0.05	mA AC	-0.006
1A	1.0000	1.0000	0.0002	A AC	-0.005
2A	2.0000	1.9998	0.0002	A AC	-0.012
5A	5.0000	4.9993	0.0002	A AC	-0.014

Current Calibration AC at 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
10mA	10.000	10.004	0.002	mA AC	0.036
20mA	20.000	20.004	0.006	mA AC	0.021
50mA	50.000	50.006	0.012	mA AC	0.012
100mA	100.00	100.01	0.02	mA AC	0.013
200mA	200.00	200.04	0.04	mA AC	0.021
500mA	500.00	500.06	0.08	mA AC	0.012
1A	1.0000	1.0001	0.0002	A AC	0.008
2A	2.0000	2.0004	0.0006	A AC	0.019
5A	5.0000	5.0002	0.0011	A AC	0.004

Current Calibration AC at 10 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.000	50.003	0.022	mA AC	0.006
200mA	200.00	200.03	0.08	mA AC	0.013
1A	1.0000	1.0002	0.0002	A AC	0.024

Current Calibration AC at 50 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.000	49.948	0.022	mA AC	-0.105
200mA	200.00	199.81	0.04	mA AC	-0.095
1A	1.0000	0.9991	0.0004	A AC	-0.089

Current Calibration AC at 100 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.00	50.01	0.05	mA AC	0.021
200mA	200.00	200.08	0.29	mA AC	0.038
1A	1.0000	1.0002	0.0007	A AC	0.018

Current Calibration Linearity AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	0.0100	0.0100	0.0002	A AC	-0.019
1A	0.5000	0.5000	0.0002	A AC	0.003
1A	1.1000	1.0999	0.0002	A AC	-0.009

Current Calibration Linearity AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	0.0100	0.0100	0.0002	A AC	-0.015
1A	0.5000	0.5000	0.0002	A AC	-0.009
1A	1.1000	1.0999	0.0002	A AC	-0.009

External Current Calibration DC. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100mV	100.00	100.02	0.08	mA DC	0.025
100mV	-100.00	-99.98	0.09	mA DC	-0.016

External Current Calibration 10 Hz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100mV	100.00	100.00	0.07	mA AC	0.003

External Current Calibration 60 Hz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mV	50.00	50.00	0.03	mA AC	0.004
1V	1.0000	1.0000	0.0002	A AC	-0.001
5V	5.0000	5.0001	0.0007	A AC	0.001

External Current Calibration 10 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	0.9999	0.0002	A AC	-0.006

External Current Calibration 50 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	0.9996	0.0005	A AC	-0.038

External Current Calibration 100 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	1.0012	0.0012	A AC	0.117

Power Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.00	99.99	0.04	W	-0.009
100V 1A	-100.00	-99.99	0.05	W	-0.007

Power Calibration 10Hz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
30V 1A	30.00	30.00	0.02	W	-0.013

Power Calibration 60Hz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 10mA	1.0000	1.0000	0.0002	W	-0.003
100V 20mA	2.0000	1.9998	0.0005	W	-0.011
100V 50mA	5.0000	4.9994	0.0011	W	-0.013
100V 100mA	10.000	10.000	0.002	W	-0.001
100V 200mA	20.000	20.000	0.004	W	0.001
100V 500mA	50.000	50.000	0.008	W	0.000
100V 2A	200.00	199.97	0.04	W	-0.013
100V 5A	500.00	499.92	0.06	W	-0.016
1.5V 1A	1.5000	1.5001	0.0023	W	0.003
3V 1A	3.000	3.000	0.005	W	-0.001
6V 1A	6.000	6.000	0.009	W	-0.004
10V 1A	10.000	9.999	0.015	W	-0.006
15V 1A	15.000	14.998	0.002	W	-0.012
30V 1A	30.000	29.996	0.005	W	-0.014
60V 1A	60.000	59.993	0.009	W	-0.011
100V 1A	100.00	99.99	0.02	W	-0.010
150V 1A	150.00	149.99	0.02	W	-0.008
300V 1A	300.00	299.95	0.05	W	-0.017
600V 1A	600.00	599.90	0.10	W	-0.017
1000V 1A	1000.0	999.8	0.2	W	-0.016

Power Calibration 1 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 10mA	1.0000	1.0003	0.0004	W	0.025
100V 50mA	5.0000	5.0004	0.0011	W	0.008
100V 100mA	10.000	10.002	0.002	W	0.017
100V 200mA	20.000	20.004	0.005	W	0.018
100V 2A	200.00	200.03	0.05	W	0.017
100V 5A	500.00	500.00	0.16	W	0.000
6V 1A	6.0000	6.0009	0.0026	W	0.015
15V 1A	15.000	15.002	0.007	W	0.014
30V 1A	30.000	30.003	0.014	W	0.010
60V 1A	60.000	60.004	0.027	W	0.007
100V 1A	100.00	100.01	0.02	W	0.013
150V 1A	150.00	150.02	0.06	W	0.013
300V 1A	300.00	300.03	0.08	W	0.009
600V 1A	600.00	600.06	0.17	W	0.009
1000V 1A	1000.0	1000.0	0.9	W	-0.004

Power Calibration 10 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.0000	5.0013	0.0012	W	0.027
100V 200mA	20.000	20.006	0.005	W	0.030
6V 1A	6.0000	6.0025	0.0029	W	0.042
100V 1A	100.00	100.05	0.05	W	0.052
150V 1A	100.00	100.02	0.05	W	0.018

Power Calibration 50 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.000	4.991	0.003	W	-0.180
100V 200mA	20.000	19.967	0.017	W	-0.167
6V 1A	6.000	5.983	0.011	W	-0.278
100V 1A	100.00	99.87	0.10	W	-0.133
150V 1A	100.00	99.88	0.10	W	-0.122

Power Calibration 100 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.000	4.996	0.007	W	-0.083
100V 200mA	20.000	19.982	0.019	W	-0.090
6V 1A	6.000	5.957	0.006	W	-0.720
100V 1A	100.0	99.9	0.3	W	-0.079
150V 1A	100.0	100.0	0.3	W	-0.018

Power Calibration Linearity 60 Hz PF=1 at constant 1 A

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	1.00	1.00	0.02	W	-0.033
100V 1A	50.00	49.99	0.02	W	-0.021
100V 1A	110.00	109.98	0.02	W	-0.014

Power Calibration Linearity 60 Hz PF=1 at constant 100 V

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	1.00	1.00	0.02	W	-0.013
100V 1A	50.00	49.99	0.02	W	-0.011

External Current Power Calibration DC. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.00	59.99	0.02	W	-0.013
60V 1V	-60.00	-60.00	0.02	W	0.007

External Current Power Calibration 10 Hz. PF=1. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.00	60.00	0.02	W	-0.004

External Current Power Calibration 60 Hz. PF=1. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 500mV	30.00	30.00	0.05	W	-0.004
60V 1V	60.00	60.00	0.02	W	-0.006
60V 5V	300.00	299.98	0.12	W	-0.006

Power Calibration 60Hz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	-0.01	0.02	W	-

Power Calibration 60Hz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.01	0.02	W	-

Power Calibration 1 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.01	0.12	W	-

Power Calibration 10 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	-0.07	0.24	W	-

Power Calibration 50 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.0	0.7	W	-

Power Calibration 100 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	-0.4	1.2	W	-

Power Calibration 1 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.00	0.12	W	-

Power Calibration 10 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.06	0.24	W	-

Power Calibration 50 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.0	0.6	W	-

Power Calibration 100 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.3	1.2	W	-

Frequency Calibration

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
15V	60.0	60.0	1.2	Hz	0.002
15V	1.0000	1.0000	0.0013	kHz	0.000
15V	10.000	10.000	0.002	kHz	0.000
15V	50.000	50.000	0.002	kHz	0.000

Harmonic Analysis Calibration

100th Voltage Harmonic (1 kHz) synchronized to 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.000	99.994	0.011	V AC	-0.006

500th Voltage Harmonic (50 kHz) synchronized to 100 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.88	0.14	V AC	-0.124

50th Voltage Harmonic (50 kHz) synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.93	0.14	V AC	-0.065

100th Current Harmonic (1 kHz) synchronized to 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00011	0.00016	A AC	0.011

100th Current Harmonic (10 kHz) synchronized to 100 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00023	0.00002	A AC	0.023

10th Current Harmonic (10 kHz) synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00031	0.00017	A AC	0.031

1st Power Harmonic synchronized to 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.000	99.991	0.019	W	-0.009

1st Power Harmonic synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.000	100.011	0.025	W	0.011

ELEMENT 5

Voltage Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	100.00	0.02	V DC	0.001
100V	-100.00	-100.01	0.02	V DC	0.010

Voltage Calibration AC at 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	100.00	0.02	V AC	-0.001

Voltage Calibration AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.5000	1.4999	0.0006	V AC	-0.007
3V	3.0000	3.0000	0.0005	V AC	-0.001
6V	6.0000	6.0000	0.0009	V AC	0.000
10V	10.000	10.000	0.002	V AC	-0.003
15V	15.000	15.001	0.002	V AC	0.005
30V	30.000	29.999	0.002	V AC	-0.002
60V	60.000	60.000	0.002	V AC	0.001
100V	100.00	100.00	0.02	V AC	-0.003
150V	150.00	150.00	0.02	V AC	0.002
300V	300.00	299.99	0.02	V AC	-0.002
600V	600.00	600.01	0.02	V AC	0.002
1000V	1000.0	1000.0	0.2	V AC	-0.003

Voltage Calibration AC at 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.5000	1.5000	0.0007	V AC	0.001
3V	3.0000	3.0001	0.0006	V AC	0.003
6V	6.0000	6.0003	0.0009	V AC	0.005
10V	10.000	10.000	0.002	V AC	0.004
15V	15.000	15.000	0.002	V AC	0.003
30V	30.000	30.000	0.004	V AC	-0.001
60V	60.000	60.001	0.008	V AC	0.001
100V	100.00	100.00	0.02	V AC	0.002
150V	150.00	150.01	0.02	V AC	0.006
300V	300.00	300.01	0.04	V AC	0.003
600V	600.00	600.02	0.07	V AC	0.003
1000V	1000.0	999.9	0.4	V AC	-0.005

Voltage Calibration AC at 10 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.0000	6.0008	0.0010	V AC	0.014
100V	100.00	100.01	0.06	V AC	0.010
150V	100.00	99.99	0.06	V AC	-0.011

Voltage Calibration AC at 50 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.0000	5.9940	0.0023	V AC	-0.100
100V	100.00	99.90	0.14	V AC	-0.098
150V	100.00	100.00	0.14	V AC	-0.004

Voltage Calibration AC at 100 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.000	5.992	0.010	V AC	-0.128
100V	100.00	99.88	0.16	V AC	-0.116
150V	100.00	100.09	0.16	V AC	0.094

Voltage Calibration Linearity DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	1.00	1.00	0.02	V DC	0.013
100V	-1.00	-1.00	0.02	V DC	-0.010
100V	50.00	50.00	0.02	V DC	0.001
100V	-50.00	-50.01	0.02	V DC	0.020
100V	110.00	110.00	0.02	V DC	0.000
100V	-110.00	-110.01	0.02	V DC	0.010

Voltage Calibration Linearity at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	1.0000	0.9998	0.0009	V AC	-0.022
100V	50.00	50.00	0.02	V AC	-0.002
100V	110.00	110.00	0.02	V AC	-0.001

Current Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.0000	0.9999	0.0004	A DC	-0.006
1A	-1.0000	-0.9999	0.0004	A DC	-0.011

Current Calibration AC at 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.0000	0.9998	0.0002	A AC	-0.016

Current Calibration AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
10mA	10.000	10.002	0.002	mA AC	0.017
20mA	20.000	19.999	0.004	mA AC	-0.004
50mA	50.000	49.991	0.007	mA AC	-0.017
100mA	100.00	100.00	0.02	mA AC	-0.004
200mA	200.00	199.99	0.02	mA AC	-0.006
500mA	500.00	499.94	0.05	mA AC	-0.013
1A	1.0000	0.9999	0.0002	A AC	-0.015
2A	2.0000	1.9997	0.0002	A AC	-0.016
5A	5.0000	4.9990	0.0002	A AC	-0.020

Current Calibration AC at 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
10mA	10.000	10.004	0.002	mA AC	0.036
20mA	20.000	20.003	0.006	mA AC	0.017
50mA	50.000	50.004	0.012	mA AC	0.008
100mA	100.00	100.01	0.02	mA AC	0.008
200mA	200.00	200.03	0.04	mA AC	0.016
500mA	500.00	500.03	0.08	mA AC	0.006
1A	1.0000	1.0001	0.0002	A AC	0.010
2A	2.0000	2.0003	0.0006	A AC	0.016
5A	5.0000	4.9998	0.0011	A AC	-0.003

Current Calibration AC at 10 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.000	50.000	0.022	mA AC	-0.001
200mA	200.00	200.01	0.08	mA AC	0.007
1A	1.0000	1.0003	0.0002	A AC	0.028

Current Calibration AC at 50 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.000	49.947	0.022	mA AC	-0.106
200mA	200.00	199.81	0.04	mA AC	-0.093
1A	1.0000	0.9990	0.0005	A AC	-0.099

Current Calibration AC at 100 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.00	50.01	0.05	mA AC	0.025
200mA	200.00	200.08	0.29	mA AC	0.038
1A	1.0000	1.0002	0.0007	A AC	0.024

Current Calibration Linearity AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	0.0100	0.0100	0.0002	A AC	-0.020
1A	0.5000	0.4999	0.0002	A AC	-0.017
1A	1.1000	1.0999	0.0002	A AC	-0.013

Current Calibration Linearity AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	0.0100	0.0100	0.0002	A AC	-0.014
1A	0.5000	0.4999	0.0002	A AC	-0.011
1A	1.1000	1.0998	0.0002	A AC	-0.018

External Current Calibration DC. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100mV	100.00	100.00	0.08	mA DC	0.003
100mV	-100.00	-99.99	0.09	mA DC	-0.006

External Current Calibration 10 Hz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100mV	100.00	100.00	0.07	mA AC	-0.001

External Current Calibration 60 Hz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mV	50.00	50.00	0.03	mA AC	-0.001
1V	1.0000	1.0000	0.0002	A AC	-0.003
5V	5.0000	4.9998	0.0007	A AC	-0.004

External Current Calibration 10 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	1.0000	0.0002	A AC	0.002

External Current Calibration 50 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	0.9997	0.0005	A AC	-0.025

External Current Calibration 100 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	1.0012	0.0012	A AC	0.124

Power Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.00	99.99	0.04	W	-0.008
100V 1A	-100.00	-100.00	0.05	W	0.002

Power Calibration 10Hz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
30V 1A	30.00	29.99	0.02	W	-0.017

Power Calibration 60Hz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 10mA	1.0000	1.0000	0.0002	W	-0.001
100V 20mA	2.0000	1.9998	0.0005	W	-0.011
100V 50mA	5.0000	4.9993	0.0011	W	-0.013
100V 100mA	10.000	10.000	0.002	W	0.000
100V 200mA	20.000	20.000	0.004	W	0.001
100V 500mA	50.000	49.997	0.008	W	-0.005
100V 2A	200.00	199.98	0.04	W	-0.012
100V 5A	500.00	499.92	0.06	W	-0.016
1.5V 1A	1.5000	1.5000	0.0023	W	-0.001
3V 1A	3.000	3.000	0.005	W	-0.004
6V 1A	6.000	6.000	0.009	W	-0.004
10V 1A	10.000	9.999	0.015	W	-0.006
15V 1A	15.000	14.998	0.002	W	-0.012
30V 1A	30.000	29.996	0.005	W	-0.014
60V 1A	60.000	59.994	0.009	W	-0.011
100V 1A	100.00	99.99	0.02	W	-0.009
150V 1A	150.00	149.98	0.02	W	-0.011
300V 1A	300.00	299.95	0.05	W	-0.016
600V 1A	600.00	599.92	0.10	W	-0.013
1000V 1A	1000.0	999.8	0.2	W	-0.017

Power Calibration 1 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 10mA	1.0000	1.0002	0.0004	W	0.025
100V 50mA	5.0000	5.0004	0.0011	W	0.008
100V 100mA	10.000	10.002	0.002	W	0.017
100V 200mA	20.000	20.004	0.005	W	0.018
100V 2A	200.00	200.04	0.05	W	0.019
100V 5A	500.00	500.00	0.16	W	0.001
6V 1A	6.0000	6.0011	0.0026	W	0.018
15V 1A	15.000	15.002	0.007	W	0.012
30V 1A	30.000	30.003	0.014	W	0.009
60V 1A	60.000	60.007	0.027	W	0.011
100V 1A	100.00	100.01	0.02	W	0.014
150V 1A	150.00	150.02	0.06	W	0.015
300V 1A	300.00	300.03	0.08	W	0.009
600V 1A	600.00	600.08	0.17	W	0.014
1000V 1A	1000.0	1000.1	0.9	W	0.006

Power Calibration 10 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.0000	5.0002	0.0013	W	0.004
100V 200mA	20.000	20.002	0.005	W	0.012
6V 1A	6.0000	6.0014	0.0029	W	0.023
100V 1A	100.00	100.03	0.05	W	0.031
150V 1A	100.00	100.00	0.05	W	-0.003

Power Calibration 50 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.000	4.988	0.003	W	-0.234
100V 200mA	20.000	19.956	0.017	W	-0.221
6V 1A	6.000	5.982	0.011	W	-0.308
100V 1A	100.00	99.82	0.10	W	-0.184
150V 1A	100.00	99.87	0.10	W	-0.126

Power Calibration 100 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.000	4.996	0.007	W	-0.089
100V 200mA	20.000	19.979	0.019	W	-0.107
6V 1A	6.000	5.957	0.006	W	-0.715
100V 1A	100.0	99.9	0.3	W	-0.096
150V 1A	100.0	100.1	0.3	W	0.064

Power Calibration Linearity 60 Hz PF=1 at constant 1 A

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	1.00	1.00	0.02	W	-0.033
100V 1A	50.00	49.99	0.02	W	-0.016
100V 1A	110.00	109.99	0.02	W	-0.011

Power Calibration Linearity 60 Hz PF=1 at constant 100 V

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	1.00	1.00	0.02	W	-0.012
100V 1A	50.00	50.00	0.02	W	-0.008

External Current Power Calibration DC. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.00	59.99	0.02	W	-0.013
60V 1V	-60.00	-60.01	0.02	W	0.018

External Current Power Calibration 10 Hz. PF=1. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.00	60.00	0.02	W	-0.005

External Current Power Calibration 60 Hz. PF=1. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 500mV	30.00	30.00	0.05	W	-0.002
60V 1V	60.00	60.00	0.02	W	-0.008
60V 5V	300.00	299.99	0.12	W	-0.005

Power Calibration 60Hz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.00	0.02	W	-

Power Calibration 60Hz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.03	0.02	W	-

Power Calibration 1 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.02	0.12	W	-

Power Calibration 10 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	-0.05	0.24	W	-

Power Calibration 50 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	-0.1	0.7	W	-

Power Calibration 100 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	-0.4	1.2	W	-

Power Calibration 1 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.01	0.12	W	-

Power Calibration 10 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.03	0.24	W	-

Power Calibration 50 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.0	0.6	W	-

Power Calibration 100 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.4	1.2	W	-

Frequency Calibration

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
15V	60.0	60.0	1.2	Hz	0.002
15V	1.0000	1.0000	0.0013	kHz	0.000
15V	10.000	10.000	0.002	kHz	0.000
15V	50.000	50.000	0.002	kHz	0.000

Harmonic Analysis Calibration

100th Voltage Harmonic (1 kHz) synchronized to 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.000	100.004	0.011	V AC	0.004

500th Voltage Harmonic (50 kHz) synchronized to 100 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.82	0.14	V AC	-0.185

50th Voltage Harmonic (50 kHz) synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.89	0.14	V AC	-0.106

100th Current Harmonic (1 kHz) synchronized to 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00011	0.00016	A AC	0.011

100th Current Harmonic (10 kHz) synchronized to 100 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00020	0.00002	A AC	0.020

10th Current Harmonic (10 kHz) synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00017	0.00017	A AC	0.017

1st Power Harmonic synchronized to 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.000	99.991	0.019	W	-0.009

1st Power Harmonic synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.000	100.013	0.025	W	0.013

ELEMENT 6

Voltage Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.99	0.02	V DC	-0.010
100V	-100.00	-100.00	0.02	V DC	0.000

Voltage Calibration AC at 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	100.00	0.02	V AC	-0.001

Voltage Calibration AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.5000	1.4999	0.0006	V AC	-0.010
3V	3.0000	2.9999	0.0004	V AC	-0.004
6V	6.0000	6.0001	0.0009	V AC	0.001
10V	10.000	10.000	0.002	V AC	-0.003
15V	15.000	15.000	0.002	V AC	-0.002
30V	30.000	29.999	0.002	V AC	-0.004
60V	60.000	59.999	0.002	V AC	-0.002
100V	100.00	100.00	0.02	V AC	-0.002
150V	150.00	150.00	0.02	V AC	-0.001
300V	300.00	299.98	0.02	V AC	-0.007
600V	600.00	599.98	0.04	V AC	-0.004
1000V	1000.0	1000.0	0.2	V AC	-0.003

Voltage Calibration AC at 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.5000	1.4999	0.0007	V AC	-0.006
3V	3.0000	3.0001	0.0006	V AC	0.004
6V	6.0000	6.0002	0.0009	V AC	0.003
10V	10.000	10.000	0.002	V AC	0.003
15V	15.000	15.000	0.002	V AC	0.002
30V	30.000	30.000	0.004	V AC	-0.001
60V	60.000	59.999	0.008	V AC	-0.001
100V	100.00	100.00	0.02	V AC	0.001
150V	150.00	150.01	0.02	V AC	0.005
300V	300.00	300.00	0.05	V AC	0.000
600V	600.00	600.00	0.07	V AC	0.000
1000V	1000.0	999.9	0.4	V AC	-0.005

Voltage Calibration AC at 10 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.0000	6.0011	0.0010	V AC	0.019
100V	100.00	100.02	0.06	V AC	0.021
150V	100.00	99.99	0.06	V AC	-0.011

Voltage Calibration AC at 50 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.0000	5.9941	0.0023	V AC	-0.098
100V	100.00	99.97	0.14	V AC	-0.034
150V	100.00	100.05	0.14	V AC	0.046

Voltage Calibration AC at 100 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V	6.000	5.992	0.010	V AC	-0.135
100V	100.00	99.95	0.16	V AC	-0.045
150V	100.00	100.14	0.16	V AC	0.144

Voltage Calibration Linearity DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	1.00	1.00	0.02	V DC	0.017
100V	-1.00	-1.00	0.02	V DC	-0.017
100V	50.00	50.00	0.02	V DC	0.001
100V	-50.00	-50.00	0.02	V DC	0.000
100V	110.00	109.99	0.02	V DC	-0.009
100V	-110.00	-110.00	0.02	V DC	0.000

Voltage Calibration Linearity at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	1.0000	0.9998	0.0009	V AC	-0.022
100V	50.00	50.00	0.02	V AC	-0.002
100V	110.00	110.00	0.02	V AC	-0.002

Current Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.0000	1.0000	0.0004	A DC	0.001
1A	-1.0000	-0.9998	0.0004	A DC	-0.016

Current Calibration AC at 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.0000	0.9999	0.0002	A AC	-0.015

Current Calibration AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
10mA	10.000	10.002	0.002	mA AC	0.015
20mA	20.000	19.999	0.004	mA AC	-0.005
50mA	50.000	49.994	0.007	mA AC	-0.012
100mA	100.00	100.00	0.02	mA AC	-0.004
200mA	200.00	199.99	0.02	mA AC	-0.003
500mA	500.00	499.94	0.05	mA AC	-0.011
1A	1.0000	0.9999	0.0002	A AC	-0.012
2A	2.0000	1.9998	0.0002	A AC	-0.011
5A	5.0000	4.9992	0.0002	A AC	-0.015

Current Calibration AC at 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
10mA	10.000	10.004	0.002	mA AC	0.043
20mA	20.000	20.004	0.006	mA AC	0.020
50mA	50.000	50.005	0.012	mA AC	0.011
100mA	100.00	100.01	0.02	mA AC	0.007
200mA	200.00	200.03	0.04	mA AC	0.016
500mA	500.00	500.07	0.08	mA AC	0.013
1A	1.0000	1.0001	0.0002	A AC	0.010
2A	2.0000	2.0004	0.0006	A AC	0.020
5A	5.0000	5.0002	0.0011	A AC	0.004

Current Calibration AC at 10 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.000	50.000	0.022	mA AC	0.000
200mA	200.00	200.02	0.08	mA AC	0.011
1A	1.0000	1.0003	0.0002	A AC	0.028

Current Calibration AC at 50 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.000	49.947	0.022	mA AC	-0.105
200mA	200.00	199.81	0.04	mA AC	-0.093
1A	1.0000	0.9991	0.0004	A AC	-0.086

Current Calibration AC at 100 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mA	50.00	50.01	0.05	mA AC	0.025
200mA	200.00	200.07	0.29	mA AC	0.036
1A	1.0000	1.0002	0.0007	A AC	0.017

Current Calibration Linearity AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	0.0100	0.0100	0.0002	A AC	-0.020
1A	0.5000	0.4999	0.0002	A AC	-0.015
1A	1.1000	1.0999	0.0002	A AC	-0.012

Current Calibration Linearity AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	0.0100	0.0100	0.0002	A AC	-0.015
1A	0.5000	0.5000	0.0002	A AC	-0.009
1A	1.1000	1.0999	0.0002	A AC	-0.008

External Current Calibration DC. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100mV	100.00	100.03	0.08	mA DC	0.028
100mV	-100.00	-99.98	0.09	mA DC	-0.015

External Current Calibration 10 Hz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100mV	100.00	100.00	0.07	mA AC	0.003

External Current Calibration 60 Hz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
50mV	50.00	50.00	0.03	mA AC	0.004
1V	1.0000	0.9999	0.0002	A AC	-0.007
5V	5.0000	5.0001	0.0007	A AC	0.002

External Current Calibration 10 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	0.9998	0.0002	A AC	-0.017

External Current Calibration 50 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	0.9995	0.0005	A AC	-0.051

External Current Calibration 100 kHz. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.0000	1.0009	0.0012	A AC	0.093

Power Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.00	99.98	0.04	W	-0.017
100V 1A	-100.00	-99.99	0.05	W	-0.006

Power Calibration 10Hz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
30V 1A	30.00	29.99	0.02	W	-0.018

Power Calibration 60Hz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 10mA	1.0000	0.9999	0.0002	W	-0.007
100V 20mA	2.0000	1.9997	0.0005	W	-0.014
100V 50mA	5.0000	4.9993	0.0011	W	-0.015
100V 100mA	10.000	10.000	0.002	W	-0.003
100V 200mA	20.000	20.000	0.004	W	0.000
100V 500mA	50.000	49.998	0.008	W	-0.004
100V 2A	200.00	199.98	0.04	W	-0.012
100V 5A	500.00	499.91	0.06	W	-0.019
1.5V 1A	1.5000	1.5001	0.0023	W	0.008
3V 1A	3.000	3.000	0.005	W	-0.003
6V 1A	6.000	6.000	0.009	W	-0.002
10V 1A	10.000	9.999	0.015	W	-0.009
15V 1A	15.000	14.998	0.002	W	-0.012
30V 1A	30.000	29.996	0.005	W	-0.014
60V 1A	60.000	59.991	0.009	W	-0.014
100V 1A	100.00	99.98	0.02	W	-0.015
150V 1A	150.00	149.98	0.02	W	-0.011
300V 1A	300.00	299.95	0.05	W	-0.017
600V 1A	600.00	599.91	0.10	W	-0.015
1000V 1A	1000.0	999.8	0.2	W	-0.015

Power Calibration 1 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 10mA	1.0000	1.0002	0.0004	W	0.017
100V 50mA	5.0000	5.0004	0.0011	W	0.009
100V 100mA	10.000	10.001	0.002	W	0.008
100V 200mA	20.000	20.003	0.005	W	0.014
100V 2A	200.00	200.04	0.05	W	0.020
100V 5A	500.00	500.02	0.16	W	0.004
6V 1A	6.0000	6.0010	0.0026	W	0.017
15V 1A	15.000	15.002	0.007	W	0.014
30V 1A	30.000	30.003	0.014	W	0.010
60V 1A	60.000	60.005	0.027	W	0.009
100V 1A	100.00	100.01	0.02	W	0.008
150V 1A	150.00	150.02	0.06	W	0.016
300V 1A	300.00	300.03	0.08	W	0.011
600V 1A	600.00	600.07	0.17	W	0.012
1000V 1A	1000.0	1000.1	0.9	W	0.006

Power Calibration 10 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.0000	5.0005	0.0012	W	0.009
100V 200mA	20.000	20.005	0.005	W	0.023
6V 1A	6.0000	6.0019	0.0029	W	0.032
100V 1A	100.00	100.05	0.05	W	0.046
150V 1A	100.00	100.01	0.05	W	0.011

Power Calibration 50 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.000	4.992	0.003	W	-0.162
100V 200mA	20.000	19.969	0.017	W	-0.153
6V 1A	6.000	5.982	0.011	W	-0.298
100V 1A	100.00	99.88	0.10	W	-0.115
150V 1A	100.00	99.92	0.10	W	-0.083

Power Calibration 100 kHz PF=1

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.000	4.999	0.007	W	-0.016
100V 200mA	20.000	19.994	0.019	W	-0.031
6V 1A	6.000	5.956	0.006	W	-0.728
100V 1A	100.0	100.0	0.3	W	-0.032
150V 1A	100.0	100.1	0.3	W	0.112

Power Calibration Linearity 60 Hz PF=1 at constant 1 A

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	1.00	1.00	0.02	W	-0.037
100V 1A	50.00	49.99	0.02	W	-0.016
100V 1A	110.00	109.98	0.02	W	-0.021

Power Calibration Linearity 60 Hz PF=1 at constant 100 V

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	1.00	1.00	0.02	W	-0.014
100V 1A	50.00	50.00	0.02	W	-0.009

External Current Power Calibration DC. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.00	59.99	0.02	W	-0.019
60V 1V	-60.00	-60.01	0.02	W	0.011

External Current Power Calibration 10 Hz. PF=1. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.00	60.00	0.02	W	-0.004

External Current Power Calibration 60 Hz. PF=1. For current 1V/A is used.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 500mV	30.00	30.00	0.05	W	-0.002
60V 1V	60.00	59.99	0.02	W	-0.008
60V 5V	300.00	299.99	0.12	W	-0.002

Power Calibration 60Hz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	-0.01	0.02	W	-

Power Calibration 60Hz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.01	0.02	W	-

Power Calibration 1 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.02	0.12	W	-

Power Calibration 10 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	-0.08	0.24	W	-

Power Calibration 50 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.0	0.7	W	-

Power Calibration 100 kHz PF=0 Lagging

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	-0.5	1.2	W	-

Power Calibration 1 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	-0.03	0.12	W	-

Power Calibration 10 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.07	0.24	W	-

Power Calibration 50 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.0	0.6	W	-

Power Calibration 100 kHz PF=0 Leading

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.5	1.2	W	-

Frequency Calibration

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
15V	60.0	60.0	1.2	Hz	0.002
15V	1.0000	1.0000	0.0013	kHz	0.000
15V	10.000	10.000	0.002	kHz	0.000
15V	50.000	50.000	0.002	kHz	0.000

Harmonic Analysis Calibration

100th Voltage Harmonic (1 kHz) synchronized to 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.000	100.003	0.011	V AC	0.003

500th Voltage Harmonic (50 kHz) synchronized to 100 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.89	0.14	V AC	-0.105

50th Voltage Harmonic (50 kHz) synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.00	99.97	0.14	V AC	-0.025

100th Current Harmonic (1 kHz) synchronized to 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00010	0.00016	A AC	0.010

100th Current Harmonic (10 kHz) synchronized to 100 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00020	0.00002	A AC	0.020

10th Current Harmonic (10 kHz) synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1A	1.00000	1.00027	0.00017	A AC	0.027

1st Power Harmonic synchronized to 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.000	99.979	0.019	W	-0.021

1st Power Harmonic synchronized to 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.000	100.002	0.025	W	0.002

Comments : No comment