



YOKOGAWA

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



CALIBRATION-CERTIFICATE

Certificate number
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Applicant	<i>Applicant</i> <i>Applicant</i> <i>Applicant</i> <i>Applicant</i>
Instrument	WT5000 Precision Power Analyzer Manufacturer Yokogawa Type 760902 Serial number <i>Serial number</i> Inventory number <i>Inventory number</i> ID numbers used standards CSE820 CSE976 CSE981 CSE965 CSE1029 Procedure CALWT5000_5A Version: 1 of 21-02-2020
Calibration method	The calibration is performed at the permanent laboratory in Amersfoort. 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.
Environmental conditions	Temperature (23.3 ± 1.0) °C Relative Humidity (56 ± 4) %rh
Period of Calibration	<i>Period of Calibration</i>
Result	The results of the calibration are shown on the next pages. 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 %. The standard uncertainty of measurement has been determined in accordance with the EA-4/02M:2013. The long term stability of the calibrated object is not included in the reported expanded uncertainty measurement. This certificate of calibration is issued in compliance with ISO/IEC 17025:2005 The reported results do only apply to the instrument calibrated.
Traceability	The measurements have been executed using standards for which the traceability to (inter)national standards has been demonstrated towards the RvA.
Date	<i>Date</i>
Name	<i>Name</i>
Function	<i>Function</i>

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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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YOKOGAWA

1 MHz Line filter set.

Voltage Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.50000	1.49994	0.00002	V DC	-0.004
1.5V	-1.50000	-1.49999	0.00002	V DC	-0.001
3V	3.00000	2.99990	0.00002	V DC	-0.003
3V	-3.00000	-3.00000	0.00002	V DC	0.000
6V	6.00000	5.99983	0.00005	V DC	-0.003
6V	-6.00000	-5.99998	0.00005	V DC	0.000
10V	10.0000	9.9995	0.0002	V DC	-0.005
10V	-10.0000	-9.9999	0.0002	V DC	-0.001
15V	15.0000	14.9994	0.0005	V DC	-0.004
15V	-15.0000	-14.9997	0.0006	V DC	-0.002
30V	30.0000	29.9987	0.0009	V DC	-0.004
30V	-30.0000	-30.0000	0.0009	V DC	0.000
60V	60.0000	59.9989	0.0017	V DC	-0.002
60V	-60.0000	-59.9991	0.0017	V DC	-0.001
100V	110.000	109.995	0.004	V DC	-0.005
100V	-110.000	-109.999	0.004	V DC	-0.001
100V	100.000	99.996	0.002	V DC	-0.004
100V	-100.000	-100.000	0.002	V DC	0.000
100V	50.000	49.996	0.002	V DC	-0.007
100V	-50.000	-50.001	0.002	V DC	0.003
100V	10.000	9.997	0.002	V DC	-0.030
100V	-10.000	-10.002	0.002	V DC	0.020
100V	1.000	0.997	0.002	V DC	-0.300
100V	-1.000	-1.003	0.002	V DC	0.300
150V	150.000	149.995	0.008	V DC	-0.003
150V	-150.000	-149.998	0.008	V DC	-0.001
300V	300.000	299.989	0.014	V DC	-0.004
300V	-300.000	-300.004	0.013	V DC	0.001
600V	600.000	599.986	0.024	V DC	-0.002
600V	-600.000	-600.002	0.027	V DC	0.000
1000V	1.0000	1.0000	0.0002	kV DC	-0.004
1000V	-1.0000	-1.0000	0.0002	kV DC	0.000

Voltage Calibration 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.50000	1.50000	0.00026	V AC	0.000
3V	3.0000	3.0000	0.0005	V AC	0.000
6V	6.0000	6.0001	0.0010	V AC	0.001
10V	10.0000	9.9998	0.0012	V AC	-0.002
15V	15.0000	15.0000	0.0029	V AC	0.000
30V	30.000	30.000	0.006	V AC	0.000
60V	60.000	59.999	0.015	V AC	-0.001
100V	100.000	99.999	0.016	V AC	-0.001

Voltage Calibration 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.5000	1.49997	0.00029	V AC	-0.002
3V	3.0000	3.0000	0.0006	V AC	0.000
6V	6.0000	6.0001	0.0013	V AC	0.002
10V	10.0000	9.9998	0.0007	V AC	-0.002
15V	15.0000	14.9997	0.0009	V AC	-0.002
30V	30.0000	29.9998	0.0028	V AC	-0.001
60V	60.000	60.000	0.004	V AC	0.000
100V	110.000	110.000	0.009	V AC	0.000
100V	100.000	99.999	0.009	V AC	-0.001
100V	50.000	50.000	0.004	V AC	0.000
100V	10.000	10.004	0.002	V AC	0.038
100V	1.000	1.000	0.002	V AC	0.015
150V	150.000	150.000	0.010	V AC	0.000
300V	300.000	300.000	0.027	V AC	0.000
600V	600.00	599.99	0.05	V AC	-0.002
1000V	1.0000	1.0000	0.0002	kV AC	-0.002

Voltage Calibration 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.5000	1.5002	0.0003	V AC	0.014
3V	3.0000	3.0005	0.0007	V AC	0.017
6V	6.0000	6.0008	0.0010	V AC	0.013
10V	10.0000	10.0009	0.0006	V AC	0.009
15V	15.0000	15.0005	0.0007	V AC	0.003
30V	30.0000	30.0012	0.0017	V AC	0.004
60V	60.0000	60.0021	0.0027	V AC	0.004
100V	100.000	100.002	0.007	V AC	0.002
150V	150.000	150.009	0.008	V AC	0.006
300V	300.000	300.017	0.019	V AC	0.006
600V	600.00	600.04	0.05	V AC	0.006
1000V	1.0000	1.0000	0.0002	kV AC	0.004

Voltage Calibration 10 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.50000	1.50108	0.00006	V AC	0.072
3V	3.00000	3.00152	0.00011	V AC	0.051
6V	6.0000	6.0019	0.0003	V AC	0.032
10V	10.0000	10.0016	0.0007	V AC	0.016
15V	15.0000	15.0010	0.0009	V AC	0.007
30V	30.0000	30.0013	0.0017	V AC	0.004
60V	60.000	60.000	0.004	V AC	0.000
100V	100.000	100.000	0.007	V AC	0.000
150V	150.000	150.006	0.008	V AC	0.004
300V	300.00	300.00	0.13	V AC	0.001
600V	600.00	599.99	0.04	V AC	-0.002

Voltage Calibration 50 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.5000	1.49956	0.00016	V AC	-0.030
3V	3.0000	2.9985	0.0004	V AC	-0.050
6V	6.0000	5.9957	0.0007	V AC	-0.072
10V	10.0000	9.9901	0.0015	V AC	-0.099
15V	15.0000	14.9901	0.0021	V AC	-0.066
30V	30.000	29.979	0.010	V AC	-0.071
60V	60.000	59.962	0.019	V AC	-0.064
100V	100.00	99.94	0.03	V AC	-0.064

Voltage Calibration 100 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V	1.5000	1.4999	0.0006	V AC	-0.005
3V	3.0000	2.9991	0.0015	V AC	-0.029
6V	6.0000	5.9971	0.0027	V AC	-0.049
10V	10.000	9.993	0.005	V AC	-0.070
15V	15.000	14.988	0.007	V AC	-0.077
30V	30.00	29.97	0.04	V AC	-0.092
60V	60.00	59.96	0.07	V AC	-0.070
100V	100.00	99.92	0.10	V AC	-0.081

Current Calibration DC

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
5mA	5.00000	5.00226	0.00015	mA DC	0.045
5mA	-5.00000	-4.99937	0.00023	mA DC	-0.013
10mA	10.0000	10.0018	0.0004	mA DC	0.018
10mA	-10.0000	-10.0000	0.0005	mA DC	0.000
20mA	20.0000	20.0009	0.0008	mA DC	0.005
20mA	-20.0000	-20.0006	0.0013	mA DC	0.003
50mA	50.0000	49.9980	0.0021	mA DC	-0.004
50mA	-50.0000	-50.0048	0.0023	mA DC	0.010
100mA	100.000	99.998	0.005	mA DC	-0.002
100mA	-100.000	-100.007	0.005	mA DC	0.007
200mA	200.000	199.998	0.012	mA DC	-0.001
200mA	-200.000	-200.016	0.012	mA DC	0.008
500mA	0.50000	0.50002	0.00002	A DC	0.004
500mA	-0.50000	-0.49998	0.00002	A DC	-0.004
1A	1.1000	1.0999	0.0010	A DC	-0.005
1A	1.00000	1.00002	0.00004	A DC	0.002
1A	0.50000	0.50001	0.00002	A DC	0.002
1A	0.10000	0.10000	0.00002	A DC	0.003
1A	0.01000	0.01000	0.00002	A DC	0.034
1A	-1.1000	-1.1002	0.0018	A DC	0.015
1A	-1.00000	-1.00001	0.00006	A DC	0.001
1A	-0.50000	-0.50000	0.00002	A DC	-0.001
1A	-0.10000	-0.10000	0.00002	A DC	0.003
1A	-0.01000	-0.01000	0.00002	A DC	-0.001
2A	2.00000	1.99996	0.00017	A DC	-0.002
2A	-2.00000	-1.99999	0.00022	A DC	-0.001
5A	5.0000	5.0000	0.0004	A DC	0.000
5A	-5.0000	-4.9998	0.0005	A DC	-0.005

Current Calibration AC at 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
5mA	5.0000	5.0003	0.0022	mA AC	0.006
10mA	10.0000	10.0007	0.0021	mA AC	0.007
20mA	20.000	19.999	0.005	mA AC	-0.005
50mA	50.000	50.001	0.014	mA AC	0.001
100mA	100.000	100.000	0.018	mA AC	0.000
200mA	200.00	200.00	0.04	mA AC	0.000
500mA	0.50000	0.50000	0.00011	A AC	0.000
1A	1.00000	0.99997	0.00019	A AC	-0.003

Current Calibration AC at 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
5mA	5.0000	5.0002	0.0017	mA AC	0.005
10mA	10.0000	10.0006	0.0013	mA AC	0.006
20mA	20.0000	19.9990	0.0027	mA AC	-0.005
50mA	50.0000	49.999	0.004	mA AC	-0.003
100mA	100.000	100.001	0.007	mA AC	0.001
200mA	200.000	199.993	0.024	mA AC	-0.003
500mA	0.50000	0.50001	0.00006	A AC	0.001
1A	1.10000	1.09990	0.00026	A AC	-0.009
1A	1.00000	1.00000	0.00008	A AC	0.000
1A	0.50000	0.50000	0.00005	A AC	0.000
1A	0.10000	0.09999	0.00002	A AC	-0.007
1A	0.01000	0.01000	0.00002	A AC	-0.020
2A	2.00000	1.99994	0.00030	A AC	-0.003
5A	5.0000	4.9998	0.0007	A AC	-0.003

Current Calibration AC at 1 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
5mA	5.0000	5.0004	0.0019	mA AC	0.008
10mA	10.0000	10.0010	0.0012	mA AC	0.010
20mA	20.0000	19.9999	0.0026	mA AC	0.000
50mA	50.0000	50.002	0.004	mA AC	0.005
100mA	100.000	100.005	0.007	mA AC	0.005
200mA	200.000	200.006	0.023	mA AC	0.003
500mA	0.50000	0.50001	0.00006	A AC	0.002
1A	1.00000	1.00004	0.00019	A AC	0.004
2A	2.00000	2.00010	0.00028	A AC	0.005
5A	5.0000	5.0000	0.0007	A AC	0.000

Current Calibration AC at 10 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
5mA	5.0000	4.9998	0.0020	mA AC	-0.003
10mA	10.0000	10.0004	0.0012	mA AC	0.004
20mA	20.0000	20.000	0.004	mA AC	-0.001
50mA	50.0000	50.014	0.003	mA AC	0.028
100mA	100.000	100.028	0.007	mA AC	0.028
200mA	200.000	200.048	0.029	mA AC	0.024
500mA	0.50000	0.50037	0.00007	A AC	0.074
1A	1.00000	1.00075	0.00017	A AC	0.075
2A	2.00000	2.00152	0.00026	A AC	0.076
5A	5.0000	5.0019	0.0016	A AC	0.038

Current Calibration AC at 50 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
5mA	5.0000	4.9995	0.0020	mA AC	-0.011
10mA	10.0000	10.0006	0.0013	mA AC	0.006
20mA	20.000	20.000	0.004	mA AC	-0.002
50mA	50.000	50.014	0.003	mA AC	0.028
100mA	100.000	100.028	0.007	mA AC	0.028
200mA	200.000	200.050	0.029	mA AC	0.025
500mA	0.50000	0.50036	0.00007	A AC	0.072
1A	1.00000	1.00075	0.00017	A AC	0.075
2A	2.00000	2.00153	0.00026	A AC	0.077

Current Calibration AC at 100 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
5mA	5.0000	4.9995	0.0020	mA AC	-0.010
10mA	10.0000	10.0005	0.0012	mA AC	0.005
20mA	20.000	20.000	0.004	mA AC	-0.002
50mA	50.000	50.013	0.003	mA AC	0.027
100mA	100.000	100.028	0.007	mA AC	0.028
200mA	200.000	200.047	0.029	mA AC	0.024
500mA	0.50000	0.50036	0.00007	A AC	0.073
1A	1.00000	1.00075	0.00017	A AC	0.075
2A	2.00000	2.00153	0.00026	A AC	0.077
5A	5.0000	5.0019	0.0016	A AC	0.038

External Current Calibration DC. For current 1000mV/A is set.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.00000	0.99990	0.00008	A DC	-0.010
1V	-1.00000	-1.00006	0.00005	A DC	0.006

External Current Calibration 10 Hz. For current 1000mV/A is set.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1V	1.00000	1.00006	0.00021	A AC	0.006

External Current Calibration 60 Hz. For current 1000mV/A is set.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100mV	100.00	99.93	0.11	mA AC	-0.067
200mV	200.00	199.99	0.07	mA AC	-0.006
500mV	500.00	499.98	0.03	mA AC	-0.004
1V	1.00000	0.99993	0.00012	A AC	-0.007
2V	2.00000	1.99991	0.00024	A AC	-0.004
5V	5.0000	4.9999	0.0003	A AC	-0.002

External Current Calibration 1 kHz. For current 1000mV/A is set.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100mV	100.00	99.93	0.09	mA AC	-0.066
200mV	200.00	199.99	0.09	mA AC	-0.005
500mV	500.00	500.02	0.03	mA AC	0.004
1V	1.00000	1.00002	0.00012	A AC	0.002
2V	2.00000	2.00012	0.00017	A AC	0.006
5V	5.00000	5.00021	0.00028	A AC	0.004

External Current Calibration 10 kHz. For current 1000mV/A is set.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
200mV	200.00	199.98	0.13	mA AC	-0.012
1V	1.00000	1.00091	0.00016	A AC	0.091
2V	2.00000	2.00159	0.00011	A AC	0.079
5V	5.0000	5.0017	0.0004	A AC	0.035

External Current Calibration 50 kHz. For current 1000mV/A is set.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
200mV	200.00	199.99	0.10	mA AC	-0.007
1V	1.00000	1.00100	0.00013	A AC	0.100
2V	2.00000	2.00188	0.00025	A AC	0.094
5V	5.0000	4.9976	0.0006	A AC	-0.049

External Current Calibration 100 kHz. For current 1000mV/A is set.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
200mV	200.00	199.97	0.10	mA AC	-0.015
1V	1.00000	1.00180	0.00024	A AC	0.180
5V	5.0000	5.0002	0.0010	A AC	0.004

Power Calibration DC Constant 100 V

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.000	99.997	0.020	W	-0.003
100V 1A	-100.000	-99.998	0.021	W	-0.002
100V 1A	50.000	49.998	0.004	W	-0.004
100V 1A	-50.000	-49.997	0.002	W	-0.005
100V 1A	10.000	10.000	0.002	W	-0.004
100V 1A	-10.000	-10.000	0.002	W	-0.002
100V 1A	1.000	1.000	0.002	W	0.000
100V 1A	-1.000	-1.000	0.002	W	0.032
100V 500mA	50.0000	49.9999	0.0028	W	0.000
100V 500mA	50.0000	49.9999	0.0029	W	0.000
100V 1A	100.000	99.997	0.020	W	-0.003
100V 1A	-100.000	-99.999	0.021	W	-0.001
100V 5mA	500.000	500.135	0.026	mW	0.027
100V 5mA	-500.000	-499.988	0.023	mW	-0.002
100V 10mA	1.00000	1.00011	0.00005	W	0.011
100V 10mA	-1.00000	-0.99999	0.00005	W	-0.001
100V 20mA	2.00000	2.00000	0.00013	W	0.000
100V 20mA	-2.00000	-1.99992	0.00008	W	-0.004
100V 50mA	5.00000	5.00009	0.00023	W	0.002
100V 50mA	-5.00000	-4.99964	0.00024	W	-0.007
100V 100mA	10.0000	9.9998	0.0005	W	-0.002
100V 100mA	-10.0000	-9.9999	0.0005	W	-0.001
100V 200mA	20.0000	19.9996	0.0016	W	-0.002
100V 200mA	-20.0000	-19.9999	0.0009	W	-0.001
100V 500mA	50.0000	49.9994	0.0028	W	-0.001
100V 500mA	-50.0000	-49.9953	0.0023	W	-0.009
100V 2A	200.000	199.988	0.018	W	-0.006
100V 2A	-200.000	-199.990	0.019	W	-0.005
100V 5A	500.00	499.97	0.18	W	-0.005
100V 5A	-500.00	-499.98	0.18	W	-0.005

Power Calibration DC Constant 1 A

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	110.000	109.997	0.022	W	-0.002
100V 1A	-110.000	-109.999	0.023	W	-0.001
100V 1A	100.000	99.997	0.020	W	-0.003
100V 1A	-100.000	-100.000	0.021	W	0.000
100V 1A	50.000	49.998	0.010	W	-0.005
100V 1A	-50.000	-50.001	0.011	W	0.003
100V 1A	10.000	9.997	0.002	W	-0.029
100V 1A	-10.000	-10.002	0.002	W	0.020
100V 1A	1.000	0.998	0.002	W	-0.161
100V 1A	-1.000	-1.002	0.002	W	0.167
10V 1A	10.0000	9.9994	0.0021	W	-0.006
10V 1A	-10.0000	-9.9997	0.0024	W	-0.003
15V 1A	15.000	14.999	0.003	W	-0.004
15V 1A	-15.000	-15.000	0.003	W	-0.002
30V 1A	30.0000	29.9996	0.0005	W	-0.001
30V 1A	-30.0000	-29.9998	0.0005	W	-0.001
60V 1A	60.000	59.999	0.012	W	-0.001
60V 1A	-60.000	-60.001	0.012	W	0.001
100V 1A	100.000	99.997	0.020	W	-0.003
100V 1A	-100.000	-99.998	0.021	W	-0.002
150V 1A	150.00	150.00	0.03	W	-0.003
150V 1A	-150.00	-150.00	0.03	W	0.001
300V 1A	300.00	299.99	0.06	W	-0.003
300V 1A	-300.00	-300.01	0.06	W	0.002
600V 1A	600.00	599.99	0.13	W	-0.002
600V 1A	-600.00	-600.01	0.12	W	0.002
1000V 1A	1.00000	0.99997	0.00023	kW	-0.003
1000V 1A	-1.00000	-1.00001	0.00022	kW	0.001

Power Calibration 10 Hz PF=1 constant 1 A

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
15V 1A	15.0000	14.9995	0.0014	W	-0.003
30V 1A	30.000	29.999	0.003	W	-0.003
60V 1A	60.000	59.999	0.006	W	-0.001
100V 1A	100.000	99.997	0.011	W	-0.003

Power Calibration 10 Hz PF=1 constant 100 V

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 500mA	50.000	49.994	0.006	W	-0.012

Power Calibration 60 Hz PF=1 constant 1 A

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
1.5V 1A	1.50000	1.50004	0.00027	W	0.002
3V 1A	3.00000	3.00008	0.00030	W	0.003
6V 1A	6.0000	6.0001	0.0006	W	0.002
15V 1A	15.0000	14.9996	0.0014	W	-0.003
30V 1A	30.000	29.999	0.003	W	-0.002
60V 1A	60.000	59.998	0.006	W	-0.003
100V 1A	110.000	109.997	0.011	W	-0.002
100V 1A	100.000	99.997	0.011	W	-0.003
100V 1A	50.000	49.998	0.005	W	-0.005
100V 1A	10.000	10.000	0.002	W	0.000
100V 1A	1.000	1.000	0.002	W	-0.033
150V 1A	150.000	149.999	0.014	W	-0.001
300V 1A	300.00	300.00	0.04	W	0.000
600V 1A	600.00	600.00	0.06	W	-0.001
1000V 1A	1.00000	0.99998	0.00011	kW	-0.002

Power Calibration 60 Hz PF=1 constant 100 V

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 20mA	2.0000	2.0002	0.0004	W	0.012
100V 50mA	5.0000	4.9998	0.0005	W	-0.003
100V 100mA	10.0000	9.9997	0.0012	W	-0.003
100V 200mA	20.0000	19.9978	0.0029	W	-0.011
100V 500mA	50.000	49.995	0.006	W	-0.009
100V 1A	110.000	109.998	0.011	W	-0.002
100V 1A	50.000	49.996	0.007	W	-0.008
100V 1A	10.000	9.999	0.002	W	-0.010
100V 1A	1.000	1.000	0.002	W	-0.011
100V 2A	200.000	199.992	0.025	W	-0.004
100V 5A	500.00	499.97	0.06	W	-0.006

Power Calibration 1 kHz PF=1 constant 1 A

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V 1A	6.0000	6.0015	0.0018	W	0.025
15V 1A	15.000	15.001	0.003	W	0.008
30V 1A	30.000	30.003	0.007	W	0.010
60V 1A	60.000	60.007	0.012	W	0.011
100V 1A	100.000	100.008	0.022	W	0.008
150V 1A	150.00	150.02	0.03	W	0.011
300V 1A	300.00	300.03	0.07	W	0.010
600V 1A	600.00	600.06	0.13	W	0.010
1000V 1A	1.00000	1.00008	0.00022	kW	0.008

Power Calibration 1 kHz PF=1 constant 100 V

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 10mA	1.00000	1.00014	0.00013	W	0.014
100V 50mA	5.0000	5.0006	0.0005	W	0.013
100V 100mA	10.0000	10.0010	0.0008	W	0.010
100V 200mA	20.0000	20.0012	0.0022	W	0.006
100V 500mA	50.000	50.004	0.006	W	0.008
100V 2A	200.000	200.011	0.025	W	0.006
100V 5A	500.00	500.00	0.05	W	0.001

Power Calibration 10 kHz PF=1 constant 1 A

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V 1A	6.000	6.006	0.004	W	0.101
15V 1A	15.000	15.009	0.005	W	0.062
30V 1A	30.000	30.018	0.006	W	0.059
60V 1A	60.000	60.038	0.010	W	0.064
100V 1A	100.000	100.062	0.012	W	0.062

Power Calibration 10 kHz PF=1 constant 100 V

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 10mA	1.00000	0.99988	0.00022	W	-0.012
100V 50mA	5.0000	5.0004	0.0009	W	0.008
100V 200mA	20.000	20.001	0.004	W	0.004
100V 500mA	50.000	50.030	0.027	W	0.061
100V 2A	200.00	200.13	0.12	W	0.063
100V 5A	500.00	500.14	0.19	W	0.029

Power Calibration 50 kHz PF=1 constant 1 A

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V 1A	6.000	5.999	0.006	W	-0.010
15V 1A	15.000	14.998	0.009	W	-0.011
30V 1A	30.000	29.999	0.018	W	-0.004
60V 1A	60.00	60.00	0.04	W	0.004
100V 1A	100.00	100.00	0.06	W	0.003

Power Calibration 50 kHz PF=1 constant 100 V

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.0000	4.9995	0.0027	W	-0.009
100V 200mA	20.000	19.991	0.010	W	-0.045
100V 500mA	50.00	50.00	0.12	W	-0.003
100V 2A	200.00	200.00	0.28	W	-0.002

Power Calibration 100 kHz PF=1 constant 1 A

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
6V 1A	6.000	6.001	0.008	W	0.013
15V 1A	15.000	14.999	0.009	W	-0.005
30V 1A	30.000	29.997	0.018	W	-0.009
60V 1A	60.00	60.01	0.04	W	0.011
100V 1A	100.00	100.00	0.06	W	-0.001

Power Calibration 100 kHz PF=1 constant 100 V

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 50mA	5.000	5.002	0.005	W	0.043
100V 100mA	10.000	10.003	0.011	W	0.026
100V 200mA	20.000	20.014	0.028	W	0.069
100V 500mA	50.00	50.00	0.15	W	-0.005
100V 2A	200.0	200.3	0.9	W	0.129

For current 1V/A is set in the instrument. Constant 60 V

External Current Power Calibration DC.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.000	59.998	0.009	W	-0.004
60V 1V	-60.000	-59.999	0.007	W	-0.002

External Current Power Calibration 10 Hz. PF=1.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.000	59.997	0.011	W	-0.005

External Current Power Calibration 60 Hz. PF=1.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 100mV	6.000	5.996	0.004	W	-0.068
60V 500mV	30.000	29.999	0.008	W	-0.005
60V 200mV	12.0000	11.9990	0.0026	W	-0.009
60V 1V	60.000	59.996	0.010	W	-0.007
60V 5V	300.0	300.0	0.6	W	-0.004
60V 10V	300.0	300.0	0.6	W	-0.003

External Current Power Calibration 1 kHz. PF=1.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 100mV	6.000	5.996	0.003	W	-0.062
60V 500mV	30.000	30.002	0.007	W	0.007
60V 200mV	12.0000	11.9994	0.0029	W	-0.005
60V 1V	60.000	60.004	0.015	W	0.007
60V 5V	300.0	300.0	0.6	W	0.008
60V 10V	300.0	300.0	0.6	W	0.010

External Current Power Calibration 10 kHz. PF=1.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.000	60.041	0.006	W	0.069
60V 5V	300.000	299.959	0.029	W	-0.014

External Current Power Calibration 50 kHz. PF=1.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.000	59.995	0.009	W	-0.008
60V 5V	300.00	299.50	0.05	W	-0.165

External Current Power Calibration 100 kHz. PF=1.

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
60V 1V	60.000	60.042	0.015	W	0.071
60V 5V	300.00	299.67	0.08	W	-0.110

Power Calibration 60Hz PF=0 lag. Constant 1 A

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
15V 1A	0.0000	-0.0004	0.0012	W	-
100V 1A	0.000	-0.001	0.006	W	-
150V 1A	0.000	0.000	0.009	W	-

Power Calibration 60Hz PF=0 Lead Constant 1 A

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
15V 1A	0.000	0.003	0.006	W	-
100V 1A	0.000	0.000	0.007	W	-
150V 1A	0.000	0.000	0.008	W	-

Power Calibration 1 kHz PF=0 lag

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	0.02	0.25	W	-

Power Calibration 10 kHz PF=0 lag

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

Power Calibration 50 kHz PF=0 lag

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.3	0.7	W	-

Power Calibration 100 kHz PF=0 lag

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	0.3	1.3	W	-

Power Calibration 1 kHz PF=0 lead

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

Power Calibration 10 kHz PF=0 lead

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.00	-0.02	0.25	W	-

Power Calibration 50 kHz PF=0 lead

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	-0.2	0.7	W	-

Power Calibration 100 kHz PF=0 lead

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	0.0	-0.3	1.3	W	-

6th Voltage Harmonic (60 Hz) synchronized to 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.000	100.003	0.008	V AC	0.003

20th Voltage Harmonic (1 kHz) synchronized to 50 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.000	99.969	0.006	V AC	-0.031

25th Voltage Harmonic (10 kHz) synchronized to 400 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.000	99.989	0.011	V AC	-0.011

20th Voltage Harmonic (50 kHz) synchronized to 2.5 kHz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V	100.000	99.885	0.020	V AC	-0.115

6th Current Harmonic (60 Hz) synchronized to 10 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
E1V	1.00000	0.99983	0.00012	A AC	-0.017

20th Current Harmonic (1 kHz) synchronized to 50 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
E1V	1.00000	1.00003	0.00012	A AC	0.003

25th Current Harmonic (10 kHz) synchronized to 400 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
E1V	1.00000	1.00093	0.00016	A AC	0.093

1st Power Harmonic synchronized to 60 Hz

Range	Applied	Measured	±Uncertainty	Unit	Deviation %
100V 1A	100.000	100.002	0.012	W	0.002

Comments :

For information, the deviation is given as a percentage (in %) of the measured value to the applied value. $\% = ((\text{Measured} - \text{Applied}) / \text{Applied}) \cdot 100\%$

Capacitive loads are leading (current leads voltage), and inductive loads are lagging (current lags voltage).