CERTIFICATE OF ACCREDITATION

This is to attest

UL INTERNATIONAL ITALIA S.R.L.

VIA DELLE INDUSTRIE, 6
20061 CARUGATE (MI), ITALY

Calibration Laboratory CL-163

has met the requirements of AC204, *IAS Accreditation Criteria for Calibration Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2017, *General requirements for the competence of testing and calibration laboratories*. This organization is accredited to provide the services specified in the scope of accreditation.

Expiration Date November 1, 2025
Effective Date May 7, 2025

International Accreditation Service
Issued under the authority of IAS management

Visit www.iasonline.org for current accreditation information.

SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

3060 Saturn Street, Suite 100, Brea, California 92821, U.S.A. | www.iasonline.org

UL INTERNATIONAL ITALIA S.R.L.

https://italy.ul.com

Contact Name Dario Rivoltella **Contact Phone** +39-0292526427

Accredited to ISO/IEC 17025:2017 *Effective Date May 7, 2025*

CALIBRATION AND MEASUREMENT CAPABILITY (CMC)*

METERS[5]				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U1	**U2**	
DC Voltage – Generate[3]	1 mV to 330 mV 330 mV to 3.3 V 3.3 V to 33 V 33 V to 330 V 330 V to 1000 V	2.0E-05 rel 1.1E-05 rel 1.2E-05 rel 1.8E-05 rel 1.8E-05 rel	1.0 µV/U 2.6 µV/U 26 µV/U 0.19 mV/U 1.5 mV/U	PT-TAR-M-VDC1 Direct Method Fluke 5522A (Note 1s, 2s)
DC Current - Generate[3]	29 µA to 330 µA 330 µA to 3.3 mA 3.3 mA to 33 mA 33 mA to 330 mA 330 mA to 1.1 A 1.1 A to 3 A 3 A to 11 A 11 A to 20 A 20 A to 33 A 33 A to 100 A	1.5E-04 rel 1.0E-04 rel 1.0E-04 rel 1.0E-04 rel 2.0E-04 rel 3.8E-04 rel 5.0E-04 rel 1.0E-03 rel 1.6E-04 rel 1.6E-04 rel	20 nA/I 51 nA/I 0.26 µA/I 2.6 µA/I 40 µA/I 41 µA/I 0.50 mA/I 0.75 mA/I 9.6 mA/I 9.6 mA/I	PT-TAR-M-IDC1 Direct Method Fluke 5522A Fluke 52120A (Note 1s, 3s)
DC Resistance – Generate[3]	10 mΩ 20 mΩ 50 mΩ 100 mΩ 200 mΩ 500 mΩ 1 Ω to 11 Ω 11 Ω to 33 Ω 33 Ω to 110 Ω 110 Ω to 330 Ω 330 Ω to 1.1 kΩ 1.1 kΩ to 3.3 kΩ	2.0E-03 rel 2.0E-03 rel 2.0E-03 rel 3.0E-04 rel 3.0E-04 rel 3.0E-04 rel 4.0E-05 rel 3.0E-05 rel 2.8E-05 rel 2.8E-05 rel 2.8E-05 rel 2.8E-05 rel	0.0 mΩ/R 0.0 mΩ/R 0.0 mΩ/R 0.0 mΩ/R 0.0 mΩ/R 0.0 mΩ/R 1.0 mΩ/R 1.5 mΩ/R 1.4 mΩ/R 2 mΩ/R 2 mΩ/R 20 mΩ/R	PT-TAR-M-RDC2W1 PT-TAR-M-RDC4W1 Direct Method Burster 1240-0,01 Burster 1240-0,02 Burster 1240-0,05 Burster 1240-0,10 Burster 1240-0,20

** If information in this CMC is presented in non-SI units, the conversion factors stated in NIST Special Publication 811 "Guide for the Use of the International System of Units (SI)" apply.*

METERS[5]				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U1	**U2**	
DC Resistance – Generate[3] continued	3.3 kΩ to 11 kΩ 11 kΩ to 33 kΩ 33 kΩ to 110 kΩ 110 kΩ to 330 kΩ 330 kΩ to 1.1 MΩ 1.1 MΩ to 3.3 MΩ 3.3 MΩ to 11 MΩ 11 MΩ to 33 MΩ 33 MΩ to 110 MΩ 110 MΩ to 330 MΩ	2.8E-05 rel 2.8E-05 rel 2.8E-05 rel 3.2E-05 rel 3.2E-05 rel 6.0E-05 rel 1.3E-04 rel 2.5E-04 rel 5.0E-04 rel 3.0E-03 rel	20 mΩ/R 0.2 Ω/R 0.2 Ω/R 2 Ω/R 2 Ω/R 30 Ω/R 50 Ω/R 2.5 kΩ/R 3.0 kΩ/R 0.1 MΩ/R	PT-TAR-M-RDC2W1 PT-TAR-M-RDC4W1 Direct Method Burster 1240-0,50 Fluke 5522A (Note 1s, 4s)

POWER METERS[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**U1**	**U2**	
DC Power – Generate[3]	3.3 V to 33 V	29 µA to 330 µA 330 µA to 3.3 mA 3.3 mA to 33 mA 33 mA to 330 mA 330 mA to 1.1 A 1.1 A to 3 A 3 A to 11 A 11 A to 20 A 20 A to 33 A 33 A to 100 A	1.5E-04 rel 1.0E-04 rel 1.0E-04 rel 1.0E-04 rel 2.0E-04 rel 3.8E-04 rel 5.0E-04 rel 1.0E-03 rel 4.1E-04 rel 4.1E-04 rel	5.8 µW/P 6.0 µW/P 9.9 µW/P 99 µW/P 1.3 mW/P 1.3 mW/P 17 mW/P 25 mW/P 1.2 W/P 1.2 W/P	PT-TAR-M-PDC2 Direct Method Fluke 5522A, Fluke 52120A (Note 1s, 8s)
	33 V to 330 V	29 µA to 330 µA 330 µA to 3.3 mA 3.3 mA to 33 mA 33 mA to 330 mA 330 mA to 1.1 A 1.1 A to 3 A 3 A to 11 A 11 A to 20 A 20 A to 33 A 33 A to 100 A	1.5E-04 rel 1.0E-04 rel 1.0E-04 rel 1.0E-04 rel 2.0E-04 rel 3.8E-04 rel 5.0E-04 rel 1.0E-03 rel 4.1E-04 rel 4.1E-04 rel	8.8 µW/P 18 µW/P 0.10 mW/P 1.0 mW/P 13 mW/P 13 mW/P 0.17 W/P 0.25 W/P 12 W/P 12 W/P	
	330 V to 1000 V	29 µA to 330 µA 330 µA to 3.3 mA 3.3 mA to 33 mA 33 mA to 330 mA	1.5E-04 rel 1.0E-04 rel 1.0E-04 rel 1.0E-04 rel	13 µW/P 31 µW/P 0.17 mW/P 1.7 mW/P	

POWER METERS[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**U1**	**U2**	
DC Power – Generate[3] continued	330 V to 1000 V	330 mA to 1.1 A 1.1 A to 3 A 3 A to 11 A 11 A to 20 A 20 A to 33 A 33 A to 100 A	2.0E-04 rel 3.8E-04 rel 5.0E-04 rel 1.0E-03 rel 4.1E-04 rel 4.1E-04 rel	24 mW/P 25 mW/P 0.30 W/P 0.46 W/P 22 W/P 22 W/P	

Thermocouple Meters /Temperature DataLogger[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U	
Meters - Type B – Generate[3]	600 °C to 800 °C 800 °C to 1550 °C 1550 °C to 1820 °C	0.35 °C 0.28 °C 0.22 °C	PT-TAR-M-TEMP1 Direct Method Fluke 7526A Fluke 5522A (Note 17s)
Meters - Type C - Generate[3]	0 °C to 1000 °C 1000 °C to 1800 °C 1800 °C to 2000 °C 2000 °C to 2316 °C	0.16 °C 0.23 °C 0.26 °C 0.35 °C	
Meters - Type E - Generate[3]	-250 °C to -200 °C -200 °C to -100 °C -100 °C to 0 °C 0 °C to 600 °C 600 °C to 1000 °C	0.25 °C 0.12 °C 91 m°C 81 m°C 0.10 °C	
Meters - Type J - Generate[3]	-210 °C to -100 °C -100 °C to 800 °C 800 °C to 1200 °C	0.14 °C 91 m°C 0.10 °C	
Meters - Type K - Generate[3]	-250 °C to -200 °C -200 °C to -100 °C -100 °C to 500 °C 500 °C to 800 °C 800 °C to 1372 °C	0.46 °C 0.16 °C 0.10 °C 0.10 °C 0.13 °C	
Meters - Type L - Generate[3]	-200 °C to -100 °C -100 °C to 900 °C	0.10 °C 91 m°C	

Thermocouple Meters /Temperature DataLogger[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)** **U**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
Meters - Type N - Generate[3]	-250 °C to -200 °C -200 °C to -100 °C -100 °C to 0 °C 0 °C to 100 °C 100 °C to 800 °C 800 °C to 1300 °C	0.73 °C 0.23 °C 0.12 °C 0.11 °C 0.10 °C 0.12 °C	PT-TAR-M-TEMP1 Direct Method Fluke 7526A Fluke 5522A (Note 17s)
Meters - Type R - Generate[3]	-50 °C to -25 °C -25 °C to 0 °C 0 °C to 100 °C 100 °C to 400 °C 400 °C to 600 °C 600 °C to 1000 °C 1000 °C to 1600 °C 1600 °C to 1767 °C	0.55 °C 0.45 °C 0.39 °C 0.28 °C 0.22 °C 0.21 °C 0.19 °C 0.23 °C	
Meters - Type S - Generate[3]	-50 °C to -25 °C -25 °C to 0 °C 0 °C to 100 °C 100 °C to 400 °C 400 °C to 600 °C 600 °C to 1000 °C 1000 °C to 1600 °C 1600 °C to 1767 °C	0.51 °C 0.43 °C 0.38 °C 0.29 °C 0.23 °C 0.22 °C 0.22 °C 0.26 °C	
Meters - Type T - Generate[3]	-250 °C to -200 °C -200 °C to -100 °C -100 °C to 0 °C 0 °C to 200 °C 200 °C to 400 °C	0.35 °C 0.16 °C 0.11 °C 91 m°C 91 m°C	
Meters - Type U - Generate[3]	-200 °C to 0 °C 0 °C to 200 °C 200 °C to 600 °C	0.16 °C 0.10 °C 0.10 °C	

Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	CAPACITANCE	**FREQUENCY**	**U1**	**U2**	
Capacitance – Generate[3]	220 pF to 399.9 pF 0.4 nF to 1.0999 nF 1.1 nF to 3.2999 nF 3.3 nF to 10.9999 nF 11 nF to 32.9999 nF 33 nF to 109.999 nF 110 nF to 329.999 nF 0.33 µF to 1.09999 µF 1.1 µF to 3.29999 µF 3.3 µF to 10.9999 µF 11 µF to 32.9999 µF 33 µF to 109.999 µF 110 µF to 329.999 µF	10 Hz to 10 kHz 10 Hz to 10 kHz 10 Hz to 3 kHz 10 Hz to 1 kHz 10 Hz to 1 kHz 10 Hz to 1 kHz 10 Hz to 1 kHz 10 Hz to 600 Hz 10 Hz to 300 Hz 10 Hz to 150 Hz 10 Hz to 120 Hz 10 Hz to 80 Hz 0 Hz to 50 Hz	5.0E-03 rel 5.0E-03 rel 5.0E-03 rel 2.5E-03 rel 2.5E-03 rel 2.5E-03 rel 2.5E-03 rel 2.5E-03 rel 2.5E-03 rel 2.5E-03 rel 4.0E-03 rel 4.5E-03 rel 4.5E-03 rel	0.01 nF 0.01 nF 0.01 nF 0.01 nF 0.12 nF 0.12 nF 0.65 nF 1.2 nF 6.5 nF 12 nF 65 nF 0.12 µF 0.65 µF	PT-TAR-M-C1 Direct Method Fluke 5522A (Note 1s, 25s, 27s)

Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Frequency**	**U1**	**U2**	
AC Voltage – Generate[3] AC Voltage – Generate[3] continued	10 mV to 33 mV	45 Hz to 10 kHz 10 kHz to 20 kHz 20 kHz to 50 kHz 50 kHz to 100 kHz 100 kHz to 4 MHz 4 MHz to 20 MHz	1.5E-04 rel 2.0E-04 rel 1.0E-03 rel 3.5E-03 rel 2.0E-02 rel 2.0E-02 rel	6.0 µV/U 6.0 µV/U 6.0 µV/U 12 µV/U 5.8 µV/U 5.8 µV/U	PT-TAR-M-VAC1 Fluke 5522A Keysight 33220A Direct Method (Note 1s, 2s) PT-TAR-M-VAC1 Direct Method Fluke 5522A Keysight 33220A
	33 mV to 330 mV	45 Hz to 10 kHz 10 kHz to 20 kHz 20 kHz to 50 kHz 50 kHz to 100 kHz 100 kHz to 4 MHz 4 MHz to 20 MHz	3.0E-04 rel 3.6E-04 rel 3.5E-04 rel 8.0E-04 rel 2.0E-02 rel 2.0E-02 rel	8.1 µV/U 8.1 µV/U 8.1 µV/U 32 µV/U 58 µV/U 58 µV/U	
	330 mV to 3.3 V	45 Hz to 10 kHz 10 kHz to 20 kHz 20 kHz to 50 kHz 50 kHz to 100 kHz 100 kHz to 500 kHz 500 kHz to 4 MHz 4 MHz to 20 MHz	8.9E-01 rel 1.9E-04 rel 3.0E-04 rel 7.0E-04 rel 2.4E-03 rel 2.0E-02 rel 2.0E-02 rel	61 µV/U 61 µV/U 51 µV/U 0.13 mV/U 0.60 mV/U 0.58 mV/U 0.58 mV/U	

Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Frequency**	**U1**	**U2**	
	3.3 V to 33 V	45 Hz to 10 kHz 10 kHz to 20 kHz 20 kHz to 50 kHz 50 kHz to 100 kHz	1.5E-04 rel 2.4E-04 rel 3.5E-04 rel 9.0E-04 rel	0.61 mV/U 0.61 mV/U 0.61 mV/U 1.6 mV/U	(Note 1s, 2s)
	33 V to 330 V	45 Hz to 1 kHz 1 kHz to 10 kHz 10 kHz to 20 kHz 20 kHz to 50 kHz 50 kHz to 100 kHz	1.9E-04 rel 2.0E-04 rel 2.5E-04 rel 3.0E-04 rel 2.0E-03 rel	2.1 mV/U 6.1 mV/U 6.1 mV/U 6.1 mV/U 50 mV/U	
	330 V to 1000 V	45 Hz to 1 kHz 1 kHz to 5 kHz 5 kHz to 10 kHz	3.0E-04 rel 2.5E-04 rel 3.0E-04 rel	10 mV/U 10 mV/U 10 mV/U	

Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Current	**Frequency**	**U1**	**U2**	
AC Current – Generate[3] AC Current – Generate[3] (continued)	29 µA to 330 µA	45 Hz to 1 kHz	1.3E-03 rel	0.10 µA/I	PT-TAR-M-IAC1 Direct Method Fluke 5522A, Fluke 52120A (Note 1s, 3s)
	330 µA to 3.3 mA	45 Hz to 1 kHz 1 kHz to 5 kHz	1.0E-03 rel 2.0E-03 rel	0.15 µA/I 0.20 µA/I	
	3.3 mA to 33 mA	45 Hz to 1 kHz 1 kHz to 5 kHz	4.0E-04 rel 8.0E-04 rel	2.0 µA/I 2.0 µA/I	
	33 mA to 330 mA	45 Hz to 1 kHz 1 kHz to 5 kHz 5 kHz to 6 kHz 6 kHz to 10 kHz	4.0E-04 rel 1.0E-03 rel 7.8E-03 rel 1.5E-02 rel	20 µA/I 50 µA/I 25 mA/I 62 mA/I	
	330 mA to 1.1 A	45 Hz to 1 kHz 1 kHz to 5 kHz 5 kHz to 6 kHz 6 kHz to 10 kHz	5.0E-04 rel 6.0E-03 rel 7.8E-03 rel 1.5E-02 rel	0.10 mA/I 1.0 mA/I 25 mA/I 62 mA/I	PT-TAR-M-IAC1 Direct Method Fluke 5522A, Fluke 52120A (Note 1s, 3s)
	1.1 A to 3 A	45 Hz to 1 kHz 1 kHz to 5 kHz 5 kHz to 6 kHz 6 kHz to 10 kHz	6.0E-04 rel 6.0E-03 rel 7.8E-03 rel 1.5E-02 rel	0.10 mA/I 1.0 mA/I 25 mA/I 62 mA/I	
	3 A to 11 A	45 Hz to 1 kHz 1 kHz to 5 kHz 5 kHz to 6 kHz	6.0E-04 rel 1.0E-03 rel 7.8E-03 rel	2.0 mA/I 2.0 mA/I 62 mA/I	

Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Current	**Frequency**	**U1**	**U2**	
		6 kHz to 10 kHz	2.3E-02 rel	94 mA/I	
	11 A to 20 A	45 Hz to 1 kHz 1 kHz to 5 kHz 5 kHz to 6 kHz 6 kHz to 10 kHz	1.2E-03 rel 1.5E-03 rel 7.8E-03 rel 2.3E-02 rel	5.0 mA/I 5.0 mA/I 62 mA/I 94 mA/I	
	20 A to 33 A	45 Hz to 65 Hz 65 Hz to 300 Hz 300 Hz to 1 kHz 1 kHz to 3 kHz 3 kHz to 6 kHz 6 kHz to 10 kHz	1.9E-04 rel 2.8E-04 rel 8.0E-04 rel 2.3E-03 rel 7.8E-03 rel 3.1E-02 rel	19 mA/I 28 mA/I 94 mA/I 0.23 A/I 0.42 A/I 0.70 A/I	
	33 A to 120 A	45 Hz to 65 Hz 65 Hz to 300 Hz 300 Hz to 1 kHz 1 kHz to 3 kHz 3 kHz to 6 kHz 6 kHz to 10 kHz	1.9E-04 rel 2.8E-04 rel 8.0E-04 rel 2.3E-03 rel 7.8E-03 rel 3.1E-02 rel	19 mA/I 28 mA/I 94 mA/I 0.23 A/I 0.42 A/I 0.70 A/I	

Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Frequency	**Voltage**	**U1**	**U2**	
Frequency (Voltage) – Generate[3]	0.01 Hz to 10 Hz	1 mV to 3.3 V	2.6E-06 rel	7.7 µHz/f	PT-TAR-M-F1 Direct Method Fluke 5522A Keysight 33220A (Note 1s, 5s)
	10 Hz to 45 Hz	1 mV to 33 V	2.5E-06 rel	7.7 µHz/f	
	45 Hz to 100 Hz	1 mV to 1000 V	2.5E-06 rel	7.7 µHz/f	
	100 Hz to 1199.9 Hz		2.5E-06 rel	7.7 µHz/f	
	1.2 kHz to 10 kHz		2.6E-06 rel	5.8 mHz/f	
	10 kHz to 100 kHz	1 mV to 329.99 V	2.5E-06 rel	5.8 mHz/f	
	100 kHz to 1199.9 kHz	1 mV to 3.3 V	2.5E-06 rel	5.8 mHz/f	
	1.2 MHz to 2 MHz 2 MHz to 20 MHz		5.1E-06 rel 1.5E-03 rel	5.8 Hz/f 5.8 kHz/f	

Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Frequency**	**Crest Factor**	**U1**	**U2**	
AC Voltage Crest Factor – Measure[4]	6 V to 60 V	50 Hz to 60 Hz	1.0 to 2.0	1.67E-02 rel	5.8E-07 Unit	PT-TAR-M-CF1 Direct Method UL International Italia VIHM Tektronix DPO7354C + Tektronix P5210 Tektronix MSO64B + Tektronix THDP0100 (Note 1s)
	60 V to 270 V	50 Hz to 60 Hz	1.0 to 1.6	1.85E-02 rel	5.8E-07 Unit	

Power meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
Power Factor @ 50/60 Hz – Generate[3]	3.3 V to 1000 V	29 µA to 20 A	0.10 0.35 0.50 0.70 0.90 1.00	0.0E+00 rel 0.0E+00 rel 0.0E+00 rel 0.0E+00 rel 0.0E+00 rel 0.0E+00 rel	2.6E-03 unit/PF 2.5E-03 unit/PF 2.3E-03 unit/PF 1.9E-03 unit/PF 1.1E-03 unit/PF 5.8E-06 unit/PF	PT-TAR-M-PF2 Direct Method Fluke 5522A (Note 1s, 7s, 20s, 24s)

Power meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**cos(φ)**	**U1**	**U2**	
AC Active Power @ 50/60 Hz – Generate[3]	3.3 V to 33 V	29 µA to 330 µA	0.1 0.5 1.0	1.7E-02 rel 3.3E-03 rel 1.3E-03 rel	0.32 µW/P 1.6 µW/P 3.2 µW/P	PT-TAR-M-PAC2 Direct Method Fluke 5522A Fluke 52120A, Clarke Hess 6000A, Clarke Hess 650, Clarke Hess 610 (Note 1s, 8s)
		330 µA to 3.3 mA	0.1 0.5 1.0	1.7E-02 rel 3.2E-03 rel 1.0E-03 rel	0.52 µW/P 2.6 µW/P 5.3 µW/P	
		3.3 mA to 33 mA	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 4.3E-04 rel	8.9 µW/P 34 µW/P 68 µW/P	
		33 mA to 330 mA	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 4.3E-04 rel	68 µW/P 0.34 mW/P 0.68 mW/P	
		330 mA to 1.1 A	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 5.2E-04 rel	0.33 mW/P 1.6 mW/P 3.3 mW/P	
		1.1 A to 3 A	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 6.2E-04 rel	0.37 mW/P 1.8 mW/P 3.7 mW/P	
		3 A to 11 A	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 6.2E-04 rel	8.7 mW/P 33 mW/P 65 mW/P	
		11 A to 20 A	0.1 0.5 1.0	1.7E-02 rel 3.3E-03 rel 1.2E-03 rel	17 mW/P 81 mW/P 0.16 W/P	
		20 A to 33 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 1.0E-03 rel	0.15 W/P 0.75 W/P 1.5 W/P	
		33 A to 50 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 9.3E-04 rel	0.17 W/P 0.86 W/P 1.7 W/P	

Power meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**cos(φ)**	**U1**	**U2**	
AC Active Power @ 50/60 Hz – Generate[3]	33 V to 330 V	29 µA to 330 µA	0.1 0.5 1.0	1.8E-02 rel 3.3E-03 rel 1.3E-03 rel	6.7 µW/P 18 µW/P 34 µW/P	PT-TAR-M-PAC2 Direct Method Fluke 5522A Fluke 52120A, Clarke Hess 6000A, Clarke Hess 650, Clarke Hess 610 (Note 1s, 8s)
		330 µA to 3.3 mA	0.1 0.5 1.0	1.7E-02 rel 3.2E-03 rel 1.0E-03 rel	7.6 µW/P 26 µW/P 50 µW/P	
		3.3 mA to 33 mA	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 4.5E-04 rel	67 µW/P 0.33 mW/P 0.67 mW/P	
		33 mA to 330 mA	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 4.5E-04 rel	0.67 mW/P 3.3 mW/P 6.7 mW/P	
		330 mA to 1.1 A	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 5.4E-04 rel	3.3 mW/P 17 mW/P 33 mW/P	
		1.1 A to 3 A	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 6.3E-04 rel	3.4 mW/P 17 mW/P 34 mW/P	
		3 A to 11 A	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 6.3E-04 rel	66 mW/P 0.33 W/P 0.66 W/P	
		11 A to 20 A	0.1 0.5 1.0	1.7E-02 rel 3.3E-03 rel 1.2E-03 rel	0.17 W/P 0.83 W/P 1.7 W/P	
		20 A to 33 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 1.0E-03 rel	1.6 W/P 7.8 W/P 16 W/P	
		33 A to 50 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 9.4E-04 rel	1.8 W/P 8.8 W/P 18 W/P	

Power meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**cos(φ)**	**U1**	**U2**	
AC Active Power @ 50/60 Hz – Generate[3]	330 V to 1000 V	29 µA to 330 µA	0.1 0.5 1.0	1.8E-02 rel 3.3E-03 rel 1.3E-03 rel	8.4 µW/P 31 µW/P 61 µW/P	PT-TAR-M-PAC2 Direct Method Fluke 5522A Fluke 52120A, Clarke Hess 6000A, Clarke Hess 650, Clarke Hess 610 (Note 1s, 8s)
		330 µA to 3.3 mA	0.1 0.5 1.0	1.7E-02 rel 3.2E-03 rel 1.0E-03 rel	11 µW/P 49 µW/P 96 µW/P	
		3.3 mA to 33 mA	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 5.0E-04 rel	0.13 mW/P 0.63 mW/P 1.3 mW/P	
		33 mA to 330 mA	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 5.0E-04 rel	1.3 mW/P 6.3 mW/P 13 mW/P	
		330 mA to 1.1 A	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 5.9E-04 rel	6.1 mW/P 31 mW/P 61 mW/P	
		1.1 A to 3 A	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 6.7E-04 rel	8.8 mW/P 34 mW/P 67 mW/P	
		3 A to 11 A	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 6.7E-04 rel	0.12 W/P 0.61 W/P 1.2 W/P	
		11 A to 20 A	0.1 0.5 1.0	1.7E-02 rel 3.3E-03 rel 1.2E-03 rel	0.30 W/P 1.5 W/P 3.0 W/P	
		20 A to 33 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 1.1E-03 rel	2.8 W/P 14 W/P 28 W/P	
		33 A to 50 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 9.7E-04 rel	3.2 W/P 16 W/P 32 W/P	

Power Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**cos(φ)**	**U1**	**U2**	
AC Active Energy @50/60Hz – PF@1.0 or 0.5 – 10min Integration - Generate[3]	3.3 V to 33 V	29 µA to 330 µA	1.0 0.5	1.3E-03 rel 3.3E-03 rel	0.54 µWh/E 0.27 µWh/E	PT-TAR-M-E2 Direct Method Fluke 5522A Fluke 52120A Clarke Hess 6000A Clarke Hess 650 Clarke Hess 610 Quantum StopClock 5500 (Note 1s, 11s)
		330 µA to 3.3 mA	1.0 0.5	1.0E-03 rel 3.2E-03 rel	0.87 µWh/E 0.43 µWh/E	
		3.3 mA to 33 mA	1.0 0.5	4.3E-04 rel 3.1E-03 rel	13 µWh/E 8.1 µWh/E	
		33 mA to 330 mA	1.0 0.5	4.3E-04 rel 3.1E-03 rel	0.11 mWh/E 56 µWh/E	
		330 mA to 1.1 A	1.0 0.5	5.2E-04 rel 3.1E-03 rel	0.55 mWh/E 0.27 mWh/E	
		1.1 A to 3 A	1.0 0.5	6.2E-04 rel 3.1E-03 rel	0.61 mWh/E 0.31 mWh/E	
		3 A to 11 A	1.0 0.5	6.2E-04 rel 3.1E-03 rel	12 mWh/E 7.9 mWh/E	
		11 A to 20 A	1.0 0.5	1.2E-03 rel 3.3E-03 rel	27 mWh/E 15 mWh/E	
		20 A to 33 A	1.0 0.5	1.0E-03 rel 6.2E-03 rel	0.25 Wh/E 0.13 Wh/E	
		33 A to 50 A	1.0 0.5	9.3E-04 rel 6.2E-03 rel	0.29 Wh/E 0.14 Wh/E	
	33 V to 330 V	29 µA to 330 µA	1.0 0.5	1.3E-03 rel 3.3E-03 rel	8.0 µWh/E 6.4 µWh/E	
		330 µA to 3.3 mA	1.0 0.5	1.0E 03 rel 3.2E-03 rel	10 µWh/E 7.1 µWh/E	
		3.3 mA to 33 mA	1.0 0.5	4.5E-04 rel 3.1E-03 rel	0.11 mWh/E 56 µWh/E	
		33 mA to 330 mA	1.0 0.5	4.5E-04 rel 3.1E-03 rel	1.1 mWh/E 0.55 mWh/E	
		330 mA to 1.1 A	1.0 0.5	5.4E-04 rel 3.1E-03 rel	5.5 mWh/E 2.8 mWh/E	
		1.1 A to 3 A	1.0 0.5	6.3E-04 rel 3.1E-03 rel	5.6 mWh/E 2.8 mWh/E	
		3 A to 11 A	1.0 0.5	6.3E-04 rel 3.1E-03 rel	0.11 Wh/E 55 mWh/E	
		11 A to 20 A	1.0 0.5	1.2E-03 rel 3.3E-03 rel	0.28 Wh/E 0.14 Wh/E	

Power Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**cos(φ)**	**U1**	**U2**	
AC Active Energy@50/60Hz – PF@1.0 or 0.5 – 10min Integration - Generate[3] (continued)	33 V to 330 V	20 A to 33 A	1.0 0.5	1.0E-03 rel 6.2E-03 rel	2.6 Wh/E 1.3 Wh/E	PT-TAR-M-E2 Direct Method Fluke 5522A Fluke 52120A Clarke Hess 6000A Clarke Hess 650 Clarke Hess 610 Quantum StopClock 5500 (Note 1s, 11s)
		33 A to 50 A	1.0 0.5	9.4E-04 rel 6.2E-03 rel	2.9 Wh/E 1.5 Wh/E	
	330 V to 1000V	29 µA to 330 µA	1.0 0.5	1.3E-03 rel 3.3E-03 rel	12 µWh/E 7.7 µWh/E	
		330 µA to 3.3 mA	1.0 0.5	1.0E-03 rel 3.2E-03 rel	17 µWh/E 9.9 µWh/E	
		3.3 mA to 33 mA	1.0 0.5	5.0E-04 rel 3.1E-03 rel	0.21 mWh/E 0.10 mWh/E	
		33 mA to 330 mA	1.0 0.5	5.0E-04 rel 3.1E-03 rel	2.1 mWh/E 1.0 mWh/E	
		330 mA to 1.1 A	1.0 0.5	5.9E-04 rel 3.1E-03 rel	10 mWh/E 5.1 mWh/E	
		1.1 A to 3 A	1.0 0.5	6.7E-04 rel 3.1E-03 rel	13 mWh/E 8.0 mWh/E	
		3 A to 11 A	1.0 0.5	6.7E-04 rel 3.1E-03 rel	0.20 Wh/E 0.10 Wh/E	
		11 A to 20 A	1.0 0.5	1.2E-03 rel 3.3E-03 rel	0.50 Wh/E 0.25 Wh/E	
		20 A to 33 A	1.0 0.5	1.1E-03 rel 6.2E-03 rel	4.7 Wh/E 2.4 Wh/E	
		33 A to 50 A	1.0 0.5	9.7E-04 rel 6.2E-03 rel	5.4 Wh/E 2.7 Wh/E	

Power meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**sin(φ)**	**U1**	**U2**	
AC Reactive Power @ 50/60 Hz – Generate[3]	3.3 V to 33 V	33 mA to 330 mA	0.1 0.5 0.9	4.6E-04 rel 1.1E-03 rel 3.6E-03 rel	68 µvar/Q 0.34 mvar/Q 0.61 mvar/Q	PT-TAR-M-Q2 Direct Method Fluke 5522A, Fluke 52120A, Clarke Hess 6000A Clarke Hess 650 Clarke Hess 610 (Note 1s, 9s)
		330 mA to 1.1 A	0.1 0.5 0.9	5.5E-04 rel 1.1E-03 rel 3.7E-03 rel	0.33 mvar/Q 1.6 mvar/Q 3.0 mvar/Q	
		1.1 A to 3 A	0.1 0.5 0.9	6.5E-04 rel 1.2E-03 rel 3.7E-03 rel	0.37 mvar/Q 1.8 mvar/Q 3.3 mvar/Q	
		3 A to 11 A	0.1 0.5 0.9	6.5E-04 rel 1.2E-03 rel 3.7E-03 rel	8.7 mvar/Q 33 mvar/Q 58 mvar/Q	
		11 A to 20 A	0.1 0.5 0.9	1.2E-03 rel 1.6E-03 rel 3.8E-03 rel	17 mvar/Q 81 mvar/Q 0.15 var/Q	
		20 A to 33 A	0.1 0.5 0.9	1.1E-03 rel 2.3E-03 rel 7.3E-03 rel	0.15 var/Q 0.75 var/Q 1.4 var/Q	
		33 A to 50 A	0.1 0.5 0.9	1.0E-03 rel 2.2E-03 rel 7.3E-03 rel	0.17 var/Q 0.86 var/Q 1.6 var/Q	
	33 V to 330 V	29 µA to 330 µA	0.1 0.5 0.9	1.3E-03 rel 1.6E-03 rel 3.8E-03 rel	6.7 µvar/Q 18 µvar/Q 30 µvar/Q	PT-TAR-M-Q2 Direct Method Fluke 5522A, Fluke 52120A, Clarke Hess 6000A Clarke Hess 650 Clarke Hess 610 (Note 1s, 9s)
		330 µA to 3.3 mA	0.1 0.5 0.9	1.0E-03 rel 1.4E-03 rel 3.8E-03 rel	7.6 µvar/Q 26 µvar/Q 45 µvar/Q	
		3.3 mA to 33 mA	0.1 0.5 0.9	4.8E-04 rel 1.1E-03 rel 3.7E-03 rel	67 µvar/Q 0.33 mvar/Q 0.60 mvar/Q	
		33 mA to 330 mA	0.1 0.5 0.9	4.8E-04 rel 1.1E-03 rel 3.7E-03 rel	0.67 mvar/Q 3.3 mvar/Q 6.0 mvar/Q	
		330 mA to 1.1 A	0.1 0.5 0.9	5.7E-04 rel 1.1E-03 rel 3.7E-03 rel	3.3 mvar/Q 17 mvar/Q 30 mvar/Q	
		1.1 A to 3 A	0.1 0.5 0.9	6.6E-04 rel 1.2E-03 rel 3.7E-03 rel	3.4 mvar/Q 17 mvar/Q 30 mvar/Q	

Power meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**sin(φ)**	**U1**	**U2**	
AC Reactive Power @ 50/60 Hz – Generate[3] (continued)	33 V to 330 V	3 A to 11 A	0.1 0.5 0.9	6.6E-04 rel 1.2E-03 rel 3.7E-03 rel	66 mvar/Q 0.33 var/Q 0.60 var/Q	PT-TAR-M-Q2 Direct Method Fluke 5522A, Fluke 52120A, Clarke Hess 6000A Clarke Hess 650 Clarke Hess 610 (Note 1s, 9s)
		11 A to 20 A	0.1 0.5 0.9	1.2E-03 rel 1.6E-03 rel 3.8E-03 rel	0.17 var/Q 0.83 var/Q 1.5 var/Q	
		20 A to 33 A	0.1 0.5 0.9	1.1E-03 rel 2.3E-03 rel 7.3E-03 rel	1.6 var/Q 7.8 var/Q 14 var/Q	
		33 A to 50 A	0.1 0.5 0.9	1.0E-03 rel 2.2E-03 rel 7.3E-03 rel	1.8 var/Q 8.8 var/Q 16 var/Q	
	330 V to 1000 V	29 µA to 330 µA	0.1 0.5 0.9	1.3E-03 rel 1.6E-03 rel 3.8E-03 rel	8.4 µvar/Q 31 µvar/Q 55 µvar/Q	
		330 µA to 3.3 mA	0.1 0.5 0.9	1.1E-03 rel 1.5E-03 rel 3.8E-03 rel	11 µvar/Q 49 µvar/Q 87 µvar/Q	
		3.3 mA to 33 mA	0.1 0.5 0.9	5.3E-04 rel 1.1E-03 rel 3.7E-03 rel	0.13 mvar/Q 0.63 mvar/Q 1.1 mvar/Q	
		33 mA to 330 mA	0.1 0.5 0.9	5.3E-04 rel 1.1E-03 rel 3.7E-03 rel	1.3 mvar/Q 6.3 mvar/Q 11 mvar/Q	
		330 mA to 1.1 A	0.1 0.5 0.9	6.1E-04 rel 1.2E-03 rel 3.7E-03 rel	6.1 mvar/Q 31 mvar/Q 55 mvar/Q	
		1.1 A to 3 A	0.1 0.5 0.9	7.0E-04 rel 1.2E-03 rel 3.7E-03 rel	8.8 mvar/Q 34 mvar/Q 61 mvar/Q	
		3 A to 11 A	0.1 0.5 0.9	7.0E-04 rel 1.2E-03 rel 3.7E-03 rel	0.12 var/Q 0.61 var/Q 1.1 var/Q	
		11 A to 20 A	0.1 0.5 0.9	1.3E-03 rel 1.6E-03 rel 3.8E-03 rel	0.30 var/Q 1.5 var/Q 2.7 var/Q	
		20 A to 33 A	0.1 0.5 0.9	1.1E-03 rel 2.3E-03 rel 7.3E-03 rel	2.8 var/Q 14 var/Q 25 var/Q	

Power meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**sin(φ)**	**U1**	**U2**	
AC Reactive Power @ 50/60 Hz – Generate[3] (continued)	330 V to 1000 V	33 A to 50 A	0.1 0.5 0.9	1.0E-03 rel 2.2E-03 rel 7.3E-03 rel	3.2 var/Q 16 var/Q 29 var/Q	PT-TAR-M-Q2 Direct Method Fluke 5522A, Fluke 52120A, Clarke Hess 6000AClarke Hess 650 Clarke Hess 610 (Note 1s, 9s)

Power Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**U1**	**U2**	
AC Apparent Power @ 50/60 Hz – PF @ 0.1 to 1.0 Generate[3]	3.3 V to 33 V	29 µA to 330 µA 330 µA to 3.3 mA 3.3 mA to 33 mA 33 mA to 330 mA 330 mA to 1.1 A 1.1 A to 3 A 3 A to 11 A 11 A to 20 A 20 A to 33 A 33 A to 120 A	1.3E-03 rel 1.0E-03 rel 4.3E-04 rel 4.3E-04 rel 5.2E-04 rel 6.2E-04 rel 6.2E-04 rel 1.2E-03 rel 1.0E-03 rel 9.2E-04 rel	3.2 µVA/S 5.3 µVA/S 68 µVA/S 0.68 mVA/S 3.3 mVA/S 3.7 mVA/S 65 mVA/S 0.16 VA/S 1.3 VA/S 1.6 VA/S	PT-TAR-M-S2 Direct Method Fluke 5522A Fluke 52120A (Note 1s, 10s)
	33 V to 330 V	29 µA to 330 µA 330 µA to 3.3 mA 3.3 mA to 33 mA 33 mA to 330 mA 330 mA to 1.1 A 1.1 A to 3 A 3 A to 11 A 11 A to 20 A 20 A to 33 A 33 A to 120 A	1.3E-03 rel 1.0E-03 rel 4.5E-04 rel 4.5E-04 rel 5.4E-04 rel 6.3E-04 rel 6.3E-04 rel 1.2E-03 rel 1.0E-03 rel 9.3E-04 rel	34 µVA/S 50 µVA/S 0.67 mVA/S 6.7 mVA/S 33 mVA/S 34 mVA/S 0.66 VA/S 1.7 VA/S 14 VA/S 16 VA/S	
	330 V to 1000 V			61 µVA/S 96 µVA/S 1.3 mVA/S 13 mVA/S 61 mVA/S	

Power Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**U1**	**U2**	
AC Apparent Power @ 50/60 Hz – PF @ 0.1 to 1.0 Generate[3]	330 V to 1000 V	1.1 A to 3 A 3 A to 11 A 11 A to 20 A 20 A to 33 A 33 A to 120 A	6.7E-04 rel 6.7E-04 rel 1.2E-03 rel 1.1E-03 rel 9.6E-04 rel	67 mVA/S 1.2 VA/S 3.0 VA/S 25 VA/S 30 VA/S	PT-TAR-M-S2 Direct Method Fluke 5522A Fluke 52120A (Note 1s, 10s)

Voltage Harmonics, Interharmonics and THD meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Par	**IHRM Amplitude**	**IHRM Frequency**	**U1**	**U2**	
AC Voltage Harmonics and Interharmonics – Measure[4]	Fund	30 V to 1000 V	50 Hz/60 Hz	5.0E-03 rel	58 µV/U	PT-TAR-M-HRMV1 PT-TAR-M-HRMV2 IEC 61000-4-7 UL International Italia VIHM UL International Italia 3PQA ZES Zimmer LMG640/LMG611 (Note 1s, 2s, 12s)
	IHRM11 to IHRM2000	0.3 V to 60 V	55 Hz to 12 kHz	1.0E-02 rel	58 µV/U	
	THD_V	Fund: 30 V to 1000 V	55 Hz to 12 kHz	7.5E-03 rel	58 $\mu\%_{THD}/THD_V$	

Current Harmonics, Interharmonics and THD meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Par	**IHRM Amplitude**	**IHRM Frequency**	**U1**	**U2**	
AC Current Harmonics and Interharmonics – Measure[4]	Fund	50 mA to 100 A	50 Hz/60 Hz	2.0E-02 rel	0.58 µA/I	PT-TAR-M-HRMI1 PT-TAR-M-HRMI2 IEC 61000-4-7 UL International Italia CIHM (Note 1s, 3s, 12s)
	IHRM11 to IHRM2000	4.5 mA to 135 mA (TotRMSmax: 500 mA)	55 Hz to 3 kHz	2.5E-02 rel	0.58 µA/I	
			3 kHz to 12 kHz	6.0E-02 rel	0.58 µA/I	
		50 mA to 1.35 A (TotRMSmax: 5 A)	55 Hz to 3 kHz	2.5E-02 rel	0.58 µA/I	
			3 kHz to 12 kHz	6.0E-02 rel	0.58 µA/I	
		300 mA to 9 A (TotRMSmax: 32 A)	55 Hz to 3 kHz	2.5E-02 rel	0.58 µA/I	
			3 kHz to 12 kHz	6.0E-02 rel	0.58 µA/I	
		1 A to 30 A (TotRMSmax: 100 A)	55 Hz to 3 kHz	2.5E-02 rel	0.58 µA/I	
			3 kHz to 12 kHz	9.0E-02 rel	0.58 µA/I	
	THD_I	Fund: 50 mA to 100 A	55 Hz to 12 kHz	2.5E-02 rel	58 $\mu\%_{THD}/THD_I$	

Current Clamps[5]				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U1	**U2**	
DC Current - Generate[3]	330 mA to 1.1 A 1.1 A to 3 A 3 A to 11 A 11 A to 20 A 20 A to 33 A 33 A to 100 A 100 A to 150 A 150 A to 550 A 550 A to 1000 A 1000 A to 2500 A	8.1E-03 rel 3.5E-03 rel 1.4E-03 rel 1.3E-03 rel 8.6E-04 rel 8.6E-04 rel 9.3E-04 rel 5.7E-04 rel 1.0E-03 rel 8.6E-04 rel	16 mA/I 17 mA/I 17 mA/I 17 mA/I 40 mA/I 40 mA/I 0.67 A/I 0.68 A/I 0.67 A/I 1.2 A/I	PT-TAR-M-PA-IDC1 PT-TAR-M-PA-IDC2 Direct Method Fluke 5522A Fluke 5500A/COIL Fluke 52120A 52120A/COIL3K Fluke 8508A Fluke 8846A ZES Zimmer LMG95 ZES Zimmer LMG640/LMG611 (Note 1s, 3s)

Clamp-on power meters - Power meters chained with current clamp[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**U1**	**U2**	
DC Power – Generate[3]	3.3 V to 33 V	330 mA to 1.1 A 1.1 A to 3 A 3 A to 11 A 11 A to 20 A 20 A to 33 A 33 A to 100 A 100 A to 150 A 150 A to 550 A 550 A to 1000 A 1000 A to 2500 A	2.0E-04 rel 3.8E-04 rel 5.0E-04 rel 1.0E-03 rel 4.1E-04 rel 4.1E-04 rel 4.6E-03 rel 1.3E-03 rel 1.2E-03 rel 4.7E-04 rel	1.3 mW/P 1.3 mW/P 18 mW/P 25 mW/P 1.2 W/P 1.2 W/P 66 mW/P 0.83 W/P 1.2 W/P 30 W/P	PT-TAR-M-PA-PDC1 Direct Method Fluke 5522A, Fluke 5500A/COIL, Fluke 52120A, 52120A/COIL3K (Note 1s, 8s)
	33 V to 330 V	330 mA to 1.1 A 1.1 A to 3 A 3 A to 11 A 11 A to 20 A 20 A to 33 A 33 A to 100 A 100 A to 150 A 150 A to 550 A 550 A to 1000 A 1000 A to 2500 A	2.0E-04 rel 3.8E-04 rel 5.0E-04 rel 1.0E-03 rel 4.3E-04 rel 4.3E-04 rel 4.6E-03 rel 1.3E-03 rel 1.2E-03 rel 4.9E-04 rel	13 mW/P 13 mW/P 0.17 W/P 0.25 W/P 12 W/P 12 W/P 0.66 W/P 8.3 W/P 12 W/P 0.31 kW/P	
	330 V to 1000 V	330 mA to 1.1 A 1.1 A to 3 A 3 A to 11 A 11 A to 20 A 20 A to 33 A 33 A to 100 A 100 A to 150 A 150 A to 550 A 550 A to 1000 A 1000 A to 2500 A	2.0E-04 rel 3.8E-04 rel 5.0E-04 rel 1.0E-03 rel 4.3E-04 rel 4.3E-04 rel 4.6E-03 rel 1.3E-03 rel 1.2E-03 rel 4.9E-04 rel	24 mW/P 25 mW/P 0.30 W/P 0.46 W/P 23 W/P 23 W/P 1.2 W/P 15 W/P 23 W/P 0.6 kW/P	

Current Clamps[5] –					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Current	**Frequency**	**U1**	**U2**	
AC Current - Generate[3]	330 mA to 1.1 A 1.1 A to 3 A 3 A to 11 A 11 A to 20 A 20 A to 33 A 33 A to 100 A 100 A to 150 A 150 A to 550 A 550 A to 1000 A 1000 A to 3000 A	50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz	8.1E-03 rel 2.9E-03 rel 1.0E-03 rel 1.3E-03 rel 1.1E-03 rel 1.1E-03 rel 1.3E-03 rel 1.2E-03 rel 1.2E-03 rel 1.1E-03 rel	5.8 mA/I 5.8 mA/I 6.1 mA/I 7.1 mA/I 53 mA/I 53 mA/I 59 mA/I 0.16 A/I 0.12 A/I 1.3 A/I	PT-TAR-M-PA-IAC1 PT-TAR-M-PA-IAC2 Direct Method Fluke 5522A, Fluke 5500A/COIL Fluke 52120A, 52120A/COIL3K Fluke 8508A Fluke 8846A ZES Zimmer LMG95 ZES Zimmer LMG640/LMG611 (Note 1s,3s)

Clamp-on power meters - Power meters chained with current clamp[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
Power Factor @ 50/60 Hz – Generate[3]	33 V to 330 V	1 A to 1250 A	0.10 ind 0.35 ind 0.50 ind 0.70 ind 0.90 ind 1.00 0.90 cap 0.70 cap 0.50 cap 0.35 cap 0.10 cap	4.0E-03 rel 3.4E-03 rel 8.0E-04 rel 1.1E-03 rel 4.4E-04 rel 4.0E-04 rel 4.4E-06 rel 5.7E-06 rel 8.0E-06 rel 2.3E-05 rel 4.0E-05 rel	3.5E-03 unit/PF 3.3E-03 unit/PF 3.0E-03 unit/PF 2.5E-03 unit/PF 1.5E-03 unit/PF 5.8E-05 unit/PF 1.5E-03 unit/PF 2.5E-03 unit/PF 3.0E-03 unit/PF 3.3E-03 unit/PF 3.5E-03 unit/PF	PT-TAR-M-PA-PF1 Direct Method Fluke 5522A, Fluke 5500A/COIL Fluke 52120A 52120A/COIL3K Clarke Hess 6000A Clarke Hess 650 Clarke Hess 610 (Note 1s, 7s, 20s)

Clamp-on power meters - Power meters chained with current clamp [5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**cos(φ)**	**U1**	**U2**	
AC Active Power @ 50/60 Hz – Generate[3]	33 V to 330 V	330 mA to 1.1 A	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 5.4E-04 rel	3.3 mW/P 17 mW/P 33 mW/P	PT-TAR-M-PA-PAC1 Direct Method Fluke 5522A, Fluke 5500A/COIL Fluke 52120A 52120A/COIL3K Clarke Hess 6000A Clarke Hess 650 Clarke Hess 610 (Note 1s, 8s)
		1.1 A to 3 A	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 6.3E-04 rel	3.4 mW/P 17 mW/P 34 mW/P	
		3 A to 11 A	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 6.3E-04 rel	66 mW/P 0.33 W/P 0.66 W/P	
		11 A to 20 A	0.1 0.5 1.0	1.7E-02 rel 3.3E-03 rel 1.2E-03 rel	0.17 W/P 0.83 W/P 1.7 W/P	
		20 A to 33 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 1.0E-03 rel	1.6 W/P 7.8 W/P 16 W/P	
		33 A to 50 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 9.4E-04 rel	1.8 W/P 8.8 W/P 18 W/P	
		50 A to 150 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 1.3E-03 rel	0.33 W/P 1.7 W/P 3.3 W/P	
		150 A to 550 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 1.3E-03 rel	3.3 W/P 17 W/P 33 W/P	
		550 A to 1000 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 1.3E-03 rel	3.3 W/P 17 W/P 33 W/P	
		1000 A to 1250 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 9.4E-04 rel	44 kW/P 0.22 kW/P 0.44 kW/P	

Clamp-on power meters - Power meters chained with current clamp[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**cos(φ)**	**U1**	**U2**	
AC Active Power @ 50/60 Hz – Generate[3]	330 V to 1000 V	330 mA to 1.1 A	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 5.9E-04 rel	6.1 mW/P 31 mW/P 61 mW/P	PT-TAR-M-PA-PAC1 Direct Method Fluke 5522A, Fluke 5500A/COIL Fluke 52120A 52120A/COIL3K Clarke Hess 6000A Clarke Hess 650 Clarke Hess 610 (Note 1s, 8s)
		1.1 A to 3 A	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 6.7E-04 rel	8.8 mW/P 34 mW/P 67 mW/P	
		3 A to 11 A	0.1 0.5 1.0	1.7E-02 rel 3.1E-03 rel 6.7E-04 rel	0.12 W/P 0.61 W/P 1.2 W/P	
		11 A to 20 A	0.1 0.5 1.0	1.7E-02 rel 3.3E-03 rel 1.2E-03 rel	0.30 W/P 1.5 W/P 3.0 W/P	
		20 A to 33 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 1.1E-03 rel	2.8 W/P 14 W/P 28 W/P	
		33 A to 50 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 9.7E-04 rel	3.2 W/P 16 W/P 32 W/P	
		50 A to 150 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 1.3E-03 rel	0.62 W/P 3.1 W/P 6.2 W/P	
		150 A to 550 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 1.3E-03 rel	6.1 W/P 30 W/P 61 W/P	
		550 A to 1000 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 1.3E-03 rel	6.1 W/P 31 W/P 61 W/P	
		1000 A to 1250 A	0.1 0.5 1.0	3.5E-02 rel 6.2E-03 rel 9.7E-04 rel	81 kW/P 0.40 kW/P 0.81 kW/P	

Clamp-on power meters - Power meters chained with current clamp[5]						
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**			**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**cos(φ)**	**U1**	**U2**	
AC Active Energy @50/60 Hz – PF@1.0 or 0.5– 10min Integration - Generate[3]	33 V to 330 V	330 mA to 1.1 A	1.0 0.5	5.4E-04 rel 3.1E-03 rel	5.5 mWh/E 2.8 mWh/E	PT-TAR-M-PA-E1 Direct Method Fluke 5522A, Fluke 5500A/COIL, Fluke 52120A, 52120A/COIL3K (Note 1s, 11s)
		1.1 A to 3 A	1.0 0.5	6.3E-04 rel 3.1E-03 rel	5.6 mWh/E 2.8 mWh/E	
		3 A to 11 A	1.0 0.5	6.3E-04 rel 3.1E-03 rel	0.11 Wh/E 55 mWh/E	
		11 A to 20 A	1.0 0.5	1.2E-03 rel 3.3E-03 rel	0.28 Wh/E 0.14 Wh/E	
		20 A to 33 A	1.0 0.5	1.0E-03 rel 6.2E-03 rel	2.6 Wh/E 1.3 Wh/E	
		33 A to 100 A	1.0 0.5	9.4E-04 rel 6.2E-03 rel	2.9 Wh/E 1.5 Wh/E	
		100 A to 150 A	1.0 0.5	1.3E-03 rel 6.2E-03 rel	0.55 Wh/E 0.28 Wh/E	
		150 A to 550 A	1.0 0.5	1.3E-03 rel 6.2E-03 rel	5.5 Wh/E 2.8 Wh/E	
		550 A to 1000 A	1.0 0.5	1.3E-03 rel 6.2E-03 rel	5.5 Wh/E 2.8 Wh/E	
		1000 A to 1250 A	1.0 0.5	9.4E-04 rel 6.2E-03 rel	74 Wh/E 37 Wh/E	
	330 V to 1000 V	330 mA to 1.1 A	1.0 0.5	5.9E-04 rel 3.1E-03 rel	10 mWh/E 5.1 mWh/E	
		1.1 A to 3 A	1.0 0.5	6.7E-04 rel 3.1E-03 rel	13 mWh/E 8.0 mWh/E	
		3 A to 11 A	1.0 0.5	6.7E-04 rel 3.1E-03 rel	0.20 Wh/E 0.10 Wh/E	
		11 A to 20 A	1.0 0.5	1.2E-03 rel 3.3E-03 rel	0.50 Wh/E 0.25 Wh/E	
		20 A to 33 A	1.0 0.5	1.1E-03 rel 6.2E-03 rel	4.7 Wh/E 2.4 Wh/E	
		33 A to 100 A	1.0 0.5	9.7E-04 rel 6.2E-03 rel	5.4 Wh/E 2.7 Wh/E	
		100 A to 150 A	1.0 0.5	1.3E-03 rel 6.2E-03 rel	1.0 Wh/E 0.52 Wh/E	
		150 A to 550 A	1.0 0.5	1.3E-03 rel 6.2E-03 rel	10 Wh/E 5.1 Wh/E	
		550 A to 1000 A	1.0	1.3E-03 rel	10 Wh/E	

			0.5	6.2E-03 rel	5.1 Wh/E	

Clamp-on power meters - Power meters chained with current clamp[5]						
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**			**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**cos(φ)**	**U1**	**U2**	
AC Active Energy @50/60 Hz – PF@1.0 or 0.5– 10min Integration - Generate[3] continued	330 V to 1000 V	1000 A to 1250 A	1.0 0.5	9.7E-04 rel 6.2E-03 rel	0.13 kWh/E 67 Wh/E	PT-TAR-M-PA-E1 Direct Method Fluke 5522A, Fluke 5500A/COIL, Fluke 52120A, 52120A/COIL3K (Note 1s, 11s)

Clamp-on power meters - Power meters chained with current clamp[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**sin(φ)**	**U1**	**U2**	
AC Reactive Power @ 50/60 Hz – Generate[3]	33 V to 330 V	330 mA to 1.1 A	0.1 0.5 0.9	5.7E-04 rel 1.1E-03 rel 3.7E-03 rel	3.4 mvar/Q 17 mvar/Q 30 mvar/Q	PT-TAR-M-PA-Q1 Direct Method Fluke 5522A, Fluke 5500A/COIL Fluke 52120A 52120A/COIL3K Clarke Hess 6000A Clarke Hess 650 Clarke Hess 610 (Note 1s, 9s)
		1.1 A to 3 A	0.1 0.5 0.9	6.6E-04 rel 1.2E-03 rel 3.7E-03 rel	3.4 mvar/Q 17 mvar/Q 30 mvar/Q	
		3 A to 11 A	0.1 0.5 0.9	6.6E-04 rel 1.2E-03 rel 3.7E-03 rel	66 mvar/Q 0.33 var/Q 0.60 var/Q	
		11 A to 20 A	0.1 0.5 0.9	1.2E-03 rel 1.6E-03 rel 3.8E-03 rel	0.17 var/Q 0.83 var/Q 1.5 var/Q	
		20 A to 33 A	0.1 0.5 0.9	1.1E-03 rel 2.3E-03 rel 7.3E-03 rel	1.6 var/Q 7.8 var/Q 14 var/Q	
		33 A to 50 A	0.1 0.5 0.9	1.0E-03 rel 2.2E-03 rel 7.3E-03 rel	1.8 var/Q 8.8 var/Q 16 var/Q	
		50 A to 150 A	0.1 0.5 0.9	1.3E-03 rel 2.4E-03 rel 7.3E-03 rel	0.34 var/Q 1.7 var/Q 3.0 var/Q	

		150 A to 550 A	0.1 0.5 0.9	1.3E-03 rel 2.4E-03 rel 7.3E-03 rel	3.4 var/Q 17 var/Q 30 var/Q	

Clamp-on power meters - Power meters chained with current clamp[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**sin(φ)**	**U1**	**U2**	
AC Reactive Power @ 50/60 Hz – Generate[3]	33 V to 330 V	550 A to 1000 A	0.1 0.5 0.9	1.3E-03 rel 2.4E-03 rel 7.3E-03 rel	3.4 var/Q 17 var/Q 30 var/Q	PT-TAR-M-PA-Q1 Direct Method Fluke 5522A, Fluke 5500A/COIL Fluke 52120A 52120A/COIL3K Clarke Hess 6000A Clarke Hess 650 Clarke Hess 610 (Note 1s, 9s)
		1000 A to 1250 A	0.1 0.5 0.9	1.0E-03 rel 2.2E-03 rel 7.3E-03 rel	44 var/Q 0.22 kvar/Q 0.40 kvar/Q	
	330 V to 1000 V	330 mA to 1.1 A	0.1 0.5 0.9	6.1E-04 rel 1.2E-03 rel 3.7E-03 rel	6.1 mvar/Q 31 mvar/Q 55 mvar/Q	
		1.1 A to 3 A	0.1 0.5 0.9	7.0E-04 rel 1.2E-03 rel 3.7E-03 rel	8.8 mvar/Q 34 mvar/Q 61 mvar/Q	
		3 A to 11 A	0.1 0.5 0.9	7.0E-04 rel 1.2E-03 rel 3.7E-03 rel	0.12 var/Q 0.61 var/Q 1.1 var/Q	
		11 A to 20 A	0.1 0.5 0.9	1.3E-03 rel 1.6E-03 rel 3.8E-03 rel	0.31 var/Q 1.5 var/Q 2.7 var/Q	
		20 A to 33 A	0.1 0.5 0.9	1.1E-03 rel 2.3E-03 rel 7.3E-03 rel	2.8 var/Q 14 var/Q 25 var/Q	
		33 A to 50 A	0.1 0.5 0.9	1.0E-03 rel 2.2E-03 rel 7.3E-03 rel	3.2 var/Q 16 var/Q 29 var/Q	
		50 A to 150 A	0.1 0.5 0.9	1.3E-03 rel 2.4E-03 rel 7.4E-03 rel	0.62 var/Q 3.1 var/Q 5.6 var/Q	
		150 A to 550 A	0.1 0.5 0.9	1.3E-03 rel 2.4E-03 rel 7.3E-03 rel	6.1 var/Q 30 var/Q 55 var/Q	
		550 A to 1000 A	0.1 0.5 0.9	1.3E-03 rel 2.4E-03 rel 7.3E-03 rel	6.1 var/Q 31 var/Q 55 var/Q	

		1000 A to 1250 A	0.1 0.5 0.9	1.0E-03 rel 2.2E-03 rel 7.3E-03 rel	81 var/Q 0.40 kvar/Q 0.73 kvar/Q	

Clamp-on power meters - Power meters chained with current clamp[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**U1**	**U2**	
AC Apparent Power @50/60Hz – PF @ 0.1 to1.0 Generate[3]	33 V to 330 V	330 mA to 1.1 A 1.1 A to 3 A 3 A to 11 A 11 A to 20 A 20 A to 33 A 33 A to 100 A 100 A to 150 A 150 A to 550 A 550 A to 1000 A 1000 A to 3000 A	5.4E-04 rel 6.3E-04 rel 6.3E-04 rel 1.2E-03 rel 1.0E-03 rel 9.3E-04 rel 1.3E-03 rel 1.3E-03 rel 1.3E-03 rel 9.3E-04 rel	33 mVA/S 34 mVA/S 0.66 VA/S 1.7 VA/S 14 VA/S 16 VA/S 3.3 VA/S 33 VA/S 33 VA/S 3.9 kVA/S	PT-TAR-M-PA-S1 Direct Method Fluke 5522A, Fluke 5500A/COIL, Fluke 52120A, 52120A/COIL3KA (Note 1s, 10s)
	330 V to 1000 V	330 mA to 1.1 A 1.1 A to 3 A 3 A to 11 A 11 A to 20 A 20 A to 33 A 33 A to 100 A 100 A to 150 A 150 A to 550 A 550 A to 1000 A 1000 A to 3000 A	5.9E-04 rel 6.7E-04 rel 6.7E-04 rel 1.2E-03 rel 1.1E-03 rel 9.6E-04 rel 1.3E-03 rel 1.3E-03 rel 1.3E-03 rel 9.6E-04 rel	61 mVA/S 67 mVA/S 1.2 VA/S 3.0 VA/S 25 VA/S 30 VA/S 6.2 VA/S 61 VA/S 61 VA/S 7.1 kVA/S	

Built-in Meters[5]				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U1	**U2**	
DC Voltage - Measure[4]	0.3 V to 3 V 3 V to 6 V 6 V to 12.5 V 12.5 V to 25 V 25 V to 60 V 60 V to 130 V 130 V to 250 V 250 V to 400 V 400 V to 600 V 600 V to 1000 V	8.0E-04 rel 8.0E-04 rel 8.1E-04 rel 8.1E-04 rel 8.0E-04 rel 8.0E-04 rel 8.0E-04 rel 8.0E-04 rel 8.0E-04 rel 8.0E-04 rel	10 mV/U 14 mV/U 30 mV/U 60 V/U 0.14 V/U 0.31 V/U 0.60 V/U 0.96 V/U 1.5 V/U 3.5 V/U	PT-TAR-M-VDC2 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG640/LMG611 (Note 1s, 2s)

Built-in Meters[5]				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U1	**U2**	
DC Current - Measure[4]	0.15 mA to 1.5 mA	6.1E-03 rel	3.6 µA/I	PT-TAR-M-IDC2 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-SH020 ZES Zimmer LMG640/LMG611 (Note 1s, 3s, 16s)
	1.5 mA to 3.0 mA	6.1E-03 rel	7.2 µA/I	
	3 mA to 5 mA	8.0E-04 rel	18 µA/I	
	5 mA to 10 mA	8.0E-04 rel	36 µA/I	
	10 mA to 20 mA	8.0E-04 rel	72 µA/I	
	20 mA to 40 mA	8.0E-04 rel	150 µA/I	
	40 mA to 80 mA	8.0E-04 rel	290 µA/I	
	80 mA to 150 mA	8.0E-04 rel	540 µA/I	
	0.15 A to 0.3 A	8.0E-04 rel	1.1 mA/I	
	0.3 A to 0.6 A	8.0E-04 rel	2.2 mA/I	
	0.6 A to 1.2 A	8.0E-04 rel	4.3 mA/I	
	1.2 A to 2.5 A	8.0E-04 rel	9.0 mA/I	
	2.5 A to 5 A	8.0E-04 rel	18 mA/I	
	5 A to 10 A	8.0E-04 rel	36 mA/I	
	10 A to 20 A	8.0E-04 rel	72 mA/I	
	20 A to 32 A	8.0E-04 rel	120 mA/I	

Built-in Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**U1**	**U2**	
DC Power – Measure[4]	25 V to 60 V	0.15 mA to 1.5 mA	6.0E-04 rel	0.13 mW/P	PT-TAR-M-PDC1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-SH020 ZES Zimmer LMG640/LMG611 (Note 1s, 8s, 16s)
		1.5 mA to 3.0 mA	6.0E-04 rel	0.25 mW/P	
		3.0 mA to 6.0 mA	6.0E-04 rel	0.51 mW/P	
		6.0 mA to 12.5 mA	6.0E-04 rel	1.1 mW/P	
		12.5 mA to 25 mA	6.0E-04 rel	2.1 mW/P	
		25 mA to 50 mA	6.0E-04 rel	4.2 mW/P	
		50 mA to 0.15 A	6.0E-04 rel	13 mW/P	
		0.15 A to 0.3 A	6.0E-04 rel	25 mW/P	
		0.3 A to 0.6 A	6.0E-04 rel	51 mW/P	
		0.6 A to 1.2 A	6.0E-04 rel	0.10 W/P	
		1.2 A to 2.5 A	6.0E-04 rel	0.21 W/P	
		2.5 A to 5 A	6.0E-04 rel	0.42 W/P	
		5 A to 10 A	6.0E-04 rel	0.84 W/P	
		10 A to 20 A	6.0E-04 rel	1.7 W/P	
		20 A to 32 A	4.0E-04 rel	3.5 W/P	

Built-in Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**U1**	**U2**	
DC Power – Measure[4] continued	60 V to 130 V	0.15 mA to 1.5 mA 1.5 mA to 3.0 mA 3.0 mA to 6.0 mA 6.0 mA to 12.5 mA 12.5 mA to 25 mA 25 mA to 50 mA 50 mA to 0.15 A 0.15 A to 0.3 A 0.3 A to 0.6 A 0.6 A to 1.2 A 1.2 A to 2.5 A 2.5 A to 5 A 5 A to 10 A 10 A to 20 A 20 A to 32 A	6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 4.0E-04 rel	0.27 mW/P 0.55 mW/P 1.1 mW/P 2.3 mW/P 4.6 mW/P 9.1 mW/P 27 mW/P 55 mW/P 0.11 W/P 0.22 W/P 0.46 W/P 0.91 W/P 1.8 W/P 3.7 W/P 7.5 W/P	PT-TAR-M-PDC1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-SH020 ZES Zimmer LMG640/LMG611 (Note 1s, 8s, 16s)
	130 V to 250 V	0.15 mA to 1.5 mA 1.5 mA to 3.0 mA 3.0 mA to 6.0 mA 6.0 mA to 12.5 mA 12.5 mA to 25 mA 25 mA to 50 mA 50 mA to 0.15 A 0.15 A to 0.3 A 0.3 A to 0.6 A 0.6 A to 1.2 A 1.2 A to 2.5 A 2.5 A to 5 A 5 A to 10 A 10 A to 20 A 20 A to 32 A	6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 4.0E-04 rel	0.53 mW/P 1.1 mW/P 2.1 mW/P 4.4 mW/P 8.8 mW/P 18 mW/P 53 mW/P 0.11 W/P 0.21 W/P 0.42 W/P 0.88 W/P 1.8 W/P 3.5 W/P 7.0 W/P 15 W/P	

Built-in Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**U1**	**U2**	
DC Power – Measure[4]	250 V to 400 V	0.15 mA to 1.5 mA 1.5 mA to 3.0 mA 3.0 mA to 6.0 mA 6.0 mA to 12.5 mA 12.5 mA to 25 mA 25 mA to 50 mA 50 mA to 0.15 A 0.15 A to 0.3 A 0.3 A to 0.6 A 0.6 A to 1.2 A 1.2 A to 2.5 A 2.5 A to 5 A 5 A to 10 A 10 A to 20 A 20 A to 32 A	6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 4.0E-04 rel	0.84 mW/P 1.7 mW/P 3.4 mW/P 7.0 mW/P 14 mW/P 28 mW/P 84 mW/P 0.17 W/P 0.34 W/P 0.68 W/P 1.4 W/P 2.8 W/P 5.6 W/P 11 W/P 23 W/P	PT-TAR-M-PDC1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-SH020 ZES Zimmer LMG640/LMG611 (Note 1s, 8s, 16s)
	400 V to 600 V	0.15 mA to 1.5 mA 1.5 mA to 3.0 mA 3.0 mA to 6.0 mA 6.0 mA to 12.5 mA 12.5 mA to 25 mA 25 mA to 50 mA 50 mA to 0.15 A 0.15 A to 0.3 A 0.3 A to 0.6 A 0.6 A to 1.2 A 1.2 A to 2.5 A 2.5 A to 5 A 5 A to 10 A 10 A to 20 A 20 A to 32 A	6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 4.0E-04 rel	1.3 mW/P 2.5 mW/P 5.1 mW/P 11 mW/P 21 mW/P 42 mW/P 0.13 mW/P 0.25 W/P 0.51 W/P 1.0 W/P 2.1 W/P 4.2 W/P 8.4 W/P 17 W/P 35 W/P	
	600 V to 1000 V	0.15 mA to 1.5 mA 1.5 mA to 3.0 mA 3.0 mA to 6.0 mA 6.0 mA to 12.5 mA 12.5 mA to 25 mA 25 mA to 50 mA 50 mA to 0.15 A 0.15 A to 0.3 A 0.3 A to 0.6 A 0.6 A to 1.2 A 1.2 A to 2.5 A 2.5 A to 5 A 5 A to 10 A	4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel	20 mW/P 40 mW/P 80 mW/P 160 mW/P 300 mW/P 0.60 W/P 1.2 W/P 2.4 W/P 5.0 W/P 9.9 W/P 20 W/P 40 W/P 64 W/P	

Built-in Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Frequency**	**U1**	**U2**	
AC Voltage – Measure[4]	0.3 V to 3 V 3 V to 6 V 6 V to 12.5 V 12.5 V to 25 V 25 V to 60 V 60 V to 130 V 130 V to 250 V 250 V to 400 V 400 V to 600 V 600 V to 1000 V	50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz	4.0E-04 rel 4.0E-04 rel 4.2E-04 rel 4.1E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel	2.5 mV/U 4.9 mV/U 10 mV/U 20 mV/U 48 mV/U 0.10 V/U 0.20 V/U 0.32 V/U 0.48 V/U 0.88 V/U	PT-TAR-M-VAC2 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG640/LMG611 (Note 1s, 2s)

Built-in Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Current	**Frequency**	**U1**	**U2**	
AC Current – Measure[4]	0.5 mA to 5 mA 5 mA to 10 mA 10 mA to 20 mA 20 mA to 40 mA 40 mA to 80 mA 80 mA to 150 mA 0.15 A to 0.3 A 0.3 A to 0.6 A 0.6 A to 1.2 A 1.2 A to 2.5 A 2.5 A to 5 A 5 A to 10 A 10 A to 20 A 20 A to 32 A 32 A to 60 A 60 A to 100 A	50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz	4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 1.6E-03 rel 1.6E-03 rel	4.0 µA/I 8.0 µA/I 16 µA/I 32 µA/I 64 µA/I 120 µA/I 0.24 mA/I 0.48 mA/I 0.96 mA/I 2.0 mA/I 4.0 mA/I 8.0 mA/I 16 mA/I 26 mA/I	PT-TAR-M-IAC2 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 (Note 1s, 3s, 16s)

Built-in Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Fequency	**Voltage**	**U1**	**U2**	
Frequency (Voltage) – Measure[4]	1 Hz to 10 Hz 10 Hz to 100 Hz 100 Hz to 1000 Hz 1 kHz to 10 kHz 10 kHz to 100 kHz 100 kHz to 499.9 kHz	1 V to 600 V	4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel	5.8 µHz/f 5.8 µHz/f 5.8 µHz/f 5.8 mHz/f 5.8 mHz/f 5.8 mHz/f	PT-TAR-M-F2 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG640/LMG611 (Note 1s, 5s)

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
Power Factor @ 50/60 Hz – Measure[4]	60 V to 1000 V	0.6 A to 50 A	0.10 ind 0.35 ind 0.50 ind 0.70 ind 0.90 ind 1.00 0.90 cap 0.70 cap 0.50 cap 0.35 cap 0.10 cap	4.0E-05 rel 1.1E-05 rel 8.0E-06 rel 5.7E-06 rel 8.9E-06 rel 0.0E+00 rel 8.9E-06 rel 5.7E-06 rel 8.0E-06 rel 2.3E-05 rel 8.0E-05 rel	2.7E-03 unit/PF 3.1E-03 unit/PF 3.5E-03 unit/PF 4.1E-03 unit/PF 4.8E-03 unit/PF 5.2E-03 unit/PF 2.7E-03 unit/PF 2.7E-03 unit/PF 2.7E-03 unit/PF 2.7E-03 unit/PF 2.7E-03 unit/PF	PT-TAR-M-PF1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG640/LMG611 (Note 1s, 7s, 20s)

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
AC Active Power @ 50/60 Hz – Measure[4]	25 V to 60 V	0.15 mA to 1.5 mA	0.1 to 1	1.8E-03 rel	0.11 mW/P	PT-TAR-M-PAC1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 (Note 1s, 8s, 16s)
		1.5 mA to 3.0 mA	0.1 to 1	1.8E-03 rel	0.22 mW/P	
		3 mA to 5 mA	0.1 to 1	1.8E-03 rel	0.36 mW/P	
		5 mA to 10 mA	0.1 to 1	1.8E-03 rel	0.72 mW/P	
		10 mA to 20 mA	0.1 to 1	1.8E-03 rel	1.5 mW/P	
		20 mA to 40 mA	0.1 to 1	1.8E-03 rel	2.9 mW/P	
		40 mA to 80 mA	0.1 to 1	1.8E-03 rel	5.8 mW/P	
		80 mA to 150 mA	0.1 to 1	1.8E-03 rel	11 mW/P	
		0.15 A to 0.3 A	0.1 to 1	1.8E-03 rel	22 mW/P	
		0.3 A to 0.6 A	0.1 to 1	1.8E-03 rel	43 mW/P	
		0.6 A to 1.2 A	0.1 to 1	1.8E-03 rel	87 mW/P	
		1.2 A to 2.5 A	0.1 to 1	1.8E-03 rel	0.18 W/P	
		2.5 A to 5 A	0.1 to 1	1.8E-03 rel	0.36 W/P	
		5 A to 10 A	0.1 to 1	1.8E-03 rel	0.72 W/P	
		10 A to 20 A	0.1 to 1	1.8E-03 rel	1.5 W/P	
		20 A to 32 A	0.1 to 1	1.8E-03 rel	2.3 W/P	
		32 A to 50 A	0.1 to 1	2.4E-03 rel	4.3 W/P	
	60 V to 130 V	0.15 mA to 1.5 mA	0.1 to 1	1.8E-03 rel	0.24 mW/P	
		1.5 mA to 3.0 mA	0.1 to 1	1.8E-03 rel	0.47 mW/P	
		3 mA to 5 mA	0.1 to 1	1.8E-03 rel	0.78 mW/P	
		5 mA to 10 mA	0.1 to 1	1.8E-03 rel	1.6 mW/P	
		10 mA to 20 mA	0.1 to 1	1.8E-03 rel	3.1 mW/P	
		20 mA to 40 mA	0.1 to 1	1.8E-03 rel	6.3 mW/P	
		40 mA to 80 mA	0.1 to 1	1.8E-03 rel	13 mW/P	
		80 mA to 150 mA	0.1 to 1	1.8E-03 rel	24 mW/P	
		0.15 A to 0.3 A	0.1 to 1	1.8E-03 rel	47 mW/P	
		0.3 A to 0.6 A	0.1 to 1	1.8E-03 rel	94 mW/P	
		0.6 A to 1.2 A	0.1 to 1	1.8E-03 rel	0.19 W/P	
		1.2 A to 2.5 A	0.1 to 1	1.8E-03 rel	0.39 W/P	
		2.5 A to 5 A	0.1 to 1	1.8E-03 rel	0.78 W/P	
		5 A to 10 A	0.1 to 1	1.8E-03 rel	1.6 W/P	
		10 A to 20 A	0.1 to 1	1.8E-03 rel	3.1 W/P	
		20 A to 32 A	0.1 to 1	1.8E-03 rel	5.0 W/P	
		32 A to 50 A	0.1 to 1	2.4E-03 rel	9.4 W/P	

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
AC Active Power @ 50/60 Hz – Measure[4]	130 V to 250 V	0.15 mA to 1.5 mA	0.1 to 1	1.8E-03 rel	0.45 mW/P	PT-TAR-M-PAC1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG640/LMG611 (Note 1s, 8s, 16s)
		1.5 mA to 3.0 mA	0.1 to 1	1.8E-03 rel	0.90 mW/P	
		3 mA to 5 mA	0.1 to 1	1.8E-03 rel	1.5 mW/P	
		5 mA to 10 mA	0.1 to 1	1.8E-03 rel	3.0 mW/P	
		10 mA to 20 mA	0.1 to 1	1.8E-03 rel	6.0 mW/P	
		20 mA to 40 mA	0.1 to 1	1.8E-03 rel	12 mW/P	
		40 mA to 80 mA	0.1 to 1	1.8E-03 rel	24 mW/P	
		80 mA to 150 mA	0.1 to 1	1.8E-03 rel	45 mW/P	
		0.15 A to 0.3 A	0.1 to 1	1.8E-03 rel	90 mW/P	
		0.3 A to 0.6 A	0.1 to 1	1.8E-03 rel	0.18 W/P	
		0.6 A to 1.2 A	0.1 to 1	1.8E-03 rel	0.36 W/P	
		1.2 A to 2.5 A	0.1 to 1	1.8E-03 rel	0.75 W/P	
		2.5 A to 5 A	0.1 to 1	1.8E-03 rel	1.5 W/P	
		5 A to 10 A	0.1 to 1	1.8E-03 rel	3.0 W/P	
		10 A to 20 A	0.1 to 1	1.8E-03 rel	6.0 W/P	
		20 A to 32 A	0.1 to 1	1.8E-03 rel	9.7 W/P	
		32 A to 50 A	0.1 to 1	2.4E-03 rel	18 W/P	
	250 V to 400 V	0.15 mA to 1.5 mA	0.1 to 1	1.8E-03 rel	0.72 mW/P	
		1.5 mA to 3.0 mA	0.1 to 1	1.8E-03 rel	1.4 mW/P	
		3 mA to 5 mA	0.1 to 1	1.8E-03 rel	2.4 mW/P	
		5 mA to 10 mA	0.1 to 1	1.8E-03 rel	4.8 mW/P	
		10 mA to 20 mA	0.1 to 1	1.8E-03 rel	9.7 mW/P	
		20 mA to 40 mA	0.1 to 1	1.8E-03 rel	19 mW/P	
		40 mA to 80 mA	0.1 to 1	1.8E-03 rel	39 mW/P	
		80 mA to 150 mA	0.1 to 1	1.8E-03 rel	72 mW/P	
		0.15 A to 0.3 A	0.1 to 1	1.8E-03 rel	0.14 W/P	
		0.3 A to 0.6 A	0.1 to 1	1.8E-03 rel	0.29 W/P	
		0.6 A to 1.2 A	0.1 to 1	1.8E-03 rel	0.58 W/P	
		1.2 A to 2.5 A	0.1 to 1	1.8E-03 rel	1.2 W/P	
		2.5 A to 5 A	0.1 to 1	1.8E-03 rel	2.4 W/P	
		5 A to 10 A	0.1 to 1	1.8E-03 rel	4.8 W/P	
		10 A to 20 A	0.1 to 1	1.8E-03 rel	9.7 W/P	
		20 A to 32 A	0.1 to 1	1.8E-03 rel	15 W/P	
		32 A to 50 A	0.1 to 1	2.4E-03 rel	29 W/P	

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
AC Active Power @ 50/60 Hz – Measure[4] continued	400 V to 600 V	0.15 mA to 1.5 mA	0.1 to 1	1.8E-03 rel	1.1 mW/P	PT-TAR-M-PAC1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG640/LMG611 (Note 1s, 8s, 16s)
		1.5 mA to 3.0 mA	0.1 to 1	1.8E-03 rel	2.2 mW/P	
		3 mA to 5 mA	0.1 to 1	1.8E-03 rel	3.6 mW/P	
		5 mA to 10 mA	0.1 to 1	1.8E-03 rel	7.2 mW/P	
		10 mA to 20 mA	0.1 to 1	1.8E-03 rel	14 mW/P	
		20 mA to 40 mA	0.1 to 1	1.8E-03 rel	29 mW/P	
		40 mA to 80 mA	0.1 to 1	1.8E-03 rel	58 mW/P	
		80 mA to 150 mA	0.1 to 1	1.8E-03 rel	0.11 W/P	
		0.15 A to 0.3 A	0.1 to 1	1.8E-03 rel	0.22 W/P	
		0.3 A to 0.6 A	0.1 to 1	1.8E-03 rel	0.43 W/P	
		0.6 A to 1.2 A	0.1 to 1	1.8E-03 rel	0.87 W/P	
		1.2 A to 2.5 A	0.1 to 1	1.8E-03 rel	1.8 W/P	
		2.5 A to 5 A	0.1 to 1	1.8E-03 rel	3.6 W/P	
		5 A to 10 A	0.1 to 1	1.8E-03 rel	7.2 W/P	
		10 A to 20 A	0.1 to 1	1.8E-03 rel	14 W/P	
		20 A to 32 A	0.1 to 1	1.8E-03 rel	23 W/P	
		32 A to 50 A	0.1 to 1	2.4E-03 rel	43 W/P	

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
AC Active Power @ 50/60 Hz – Measure[4]	600 V to 1000 V	0.5 mA to 5 mA	0.1 to 1	1.8E-03 rel	6.6 mW/P	PT-TAR-M-PAC1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG640/LMG611 (Note 1s, 8s, 16s)
		5 mA to 10 mA	0.1 to 1	1.8E-03 rel	13 mW/P	
		10 mA to 20 mA	0.1 to 1	1.8E-03 rel	27 mW/P	
		20 mA to 40 mA	0.1 to 1	1.8E-03 rel	53 mW/P	
		40 mA to 80 mA	0.1 to 1	1.8E-03 rel	0.11 W/P	
		80 mA to 150 mA	0.1 to 1	1.8E-03 rel	0.20 W/P	
		0.15 A to 0.3 A	0.1 to 1	1.8E-03 rel	0.40 W/P	
		0.3 A to 0.6 A	0.1 to 1	1.8E-03 rel	0.80 W/P	
		0.6 A to 1.2 A	0.1 to 1	1.8E-03 rel	1.6 W/P	
		1.2 A to 2.5 A	0.1 to 1	1.8E-03 rel	3.3 W/P	
		2.5 A to 5 A	0.1 to 1	1.8E-03 rel	6.6 W/P	
		5 A to 10 A	0.1 to 1	1.8E-03 rel	13 W/P	
		10 A to 20 A	0.1 to 1	1.8E-03 rel	27 W/P	
		20 A to 32 A	0.1 to 1	1.8E-03 rel	42 W/P	
		32 A to 50 A	0.1 to 1	2.4E-03 rel	80 W/P	

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
AC Reactive Power @ 50/60 Hz – Measure[4]	25 V to 60 V	0.5 mA to 5 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.30 mvar/Q 0.40 mvar/Q 1.0 mvar/Q	PT-TAR-M-Q1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG640/LMG611 (Note 1s, 9s, 16s)
		5 mA to 10 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.60 mvar/Q 0.80 mvar/Q 2.0 mvar/Q	
		10 mA to 20 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	1.2 mvar/Q 1.6 mvar/Q 4.0 mvar/Q	
		20 mA to 40 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	2.4 mvar/Q 3.2 mvar/Q 8.1 mvar/Q	
		40 mA to 80 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	4.8 mvar/Q 6.4 mvar/Q 16 mvar/Q	
		80 mA to 0.15 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	9.0 mvar/Q 12 mvar/Q 30 mvar/Q	
		0.15 A to 0.3 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	18 mvar/Q 24 mvar/Q 61 mvar/Q	
		0.3 A to 0.6 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	36 mvar/Q 48 mvar/Q 0.12 var/Q	
		0.6 A to 1.2 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	72 mvar/Q 96 mvar/Q 0.24 var/Q	
		1.2 A to 2.5 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.15 var/Q 0.20 var/Q 0.50 var/Q	
		2.5 A to 5 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.30 var/Q 0.40 var/Q 1.0 var/Q	
		5 A to 10 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.60 var/Q 0.80 var/Q 2.0 var/Q	

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
AC Reactive Power @ 50/60 Hz – Measure[4] continued	25 V to 60 V	10 A to 20 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	1.2 var/Q 1.6 var/Q 4.0 var/Q	PT-TAR-M-Q1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 (Note 1s, 9s, 16s)
		20 A to 32 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	1.9 var/Q 2.5 var/Q 6.4 var/Q	
		32 A to 50 A	0.1 0.5 0.9	1.0E-02 rel 1.3E-02 rel 5.4E-02 rel	3.5 var/Q 4.7 var/Q 12 var/Q	
	60 V to 130 V	0.5 mA to 5 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.68 mvar/Q 0.90 mvar/Q 2.2 mvar/Q	
		5 mA to 10 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	1.4 mvar/Q 1.8 mvar/Q 4.5 mvar/Q	
		10 mA to 20 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	2.7 mvar/Q 3.6 mvar/Q 9.0 mvar/Q	
		20 mA to 40 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	5.5 mvar/Q 7.2 mvar/Q 18 mvar/Q	
		40 mA to 80 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	11 mvar/Q 14 mvar/Q 36 mvar/Q	
		80 mA to 0.15 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	20 mvar/Q 27 mvar/Q 67 mvar/Q	
		0.15 A to 0.3 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	41 mvar/Q 54 mvar/Q 0.13 var/Q	
		0.3 A to 0.6 A	0.1 0.5 0.9	5.7E-04 rel 9.7E 04 rel 8.3E-03 rel	82 mvar/Q 0.11 var/Q 0.27 var/Q	
		0.6 A to 1.2 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.16 var/Q 0.22 var/Q 0.54 var/Q	
		1.2 A to 2.5 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.34 var/Q 0.45 var/Q 1.1 var/Q	

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
AC Reactive Power @ 50/60 Hz – Measure[4] continued	60 V to 130 V	2.5 A to 5 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.68 var/Q 0.90 var/Q 2.2 var/Q	PT-TAR-M-Q1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG640/LMG611 (Note 1s, 9s, 16s)
		5 A to 10 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	1.4 var/Q 1.8 var/Q 4.5 var/Q	
		10 A to 20 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	2.7 var/Q 3.6 var/Q 9.0 var/Q	
		20 A to 32 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	4.3 var/Q 5.7 var/Q 14 var/Q	
		32 A to 50 A	0.1 0.5 0.9	1.0E-02 rel 1.3E-02 rel 5.4E-02 rel	7.9 var/Q 11 var/Q 26 var/Q	
	130 V to 250 V	0.5 mA to 5 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	1.3 mvar/Q 1.7 mvar/Q 4.3 mvar/Q	
		5 mA to 10 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	2.6 mvar/Q 3.5 mvar/Q 8.6 mvar/Q	
		10 mA to 20 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	5.2 mvar/Q 6.9 mvar/Q 17 mvar/Q	
		20 mA to 40 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	10 mvar/Q 14 mvar/Q 34 mvar/Q	
		40 mA to 80 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	21 mvar/Q 28 mvar/Q 69 mvar/Q	

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
		80 mA to 150 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	39 mvar/Q 52 mvar/Q 0.13 var/Q	
AC Reactive Power @ 50/60 Hz – Measure[4] continued	130 V to 250 V	0.15 A to 0.3 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	79 mvar/Q 0.10 var/Q 0.26 var/Q	PT-TAR-M-Q1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG640/LMG611 (Note 1s, 9s, 16s)
		0.3 A to 0.6 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.16 var/Q 0.21 var/Q 0.52 var/Q	
		0.6 A to 1.2 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.31 var/Q 0.41 var/Q 1.0 var/Q	
		1.2 A to 2.5A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.65 var/Q 0.86 var/Q 2.2 var/Q	
		2.5 A to 5 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	1.3 var/Q 1.7 var/Q 4.3 var/Q	
		5 A to 10 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	2.6 var/Q 3.5 var/Q 8.6 var/Q	
	130 V to 250 V	10 A to 20 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	5.2 var/Q 6.9 var/Q 17 var/Q	
		20 A to 32 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	8.3 var/Q 11 var/Q 27 var/Q	
		32 A to 50 A	0.1 0.5 0.9	1.0E-02 rel 1.3E-02 rel 5.4E-02 rel	15 var/Q 20 var/Q 51 var/Q	
	250 V to 400 V	0.5 mA to 5 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	3.3 mvar/Q 4.3 mvar/Q 11 mvar/Q	

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
AC Reactive Power @ 50/60 Hz – Measure[4] continued	250 V to 400 V	5 mA to 10 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	6.6 mvar/Q 8.6 mvar/Q 21 mvar/Q	PT-TAR-M-Q1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG640/LMG611 (Note 1s, 9s, 16s)
		10 mA to 20 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	13 mvar/Q 17 mvar/Q 42 mvar/Q	
		20 mA to 40 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	26 mvar/Q 34 mvar/Q 84 mvar/Q	
		40 mA to 80 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	53 mvar/Q 69 mvar/Q 0.17 var/Q	
		80 mA to 150 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	98 mvar/Q 0.13 var/Q 0.32 var/Q	
		0.15 A to 0.3 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.20 var/Q 0.26 var/Q 0.63 var/Q	
		0.3 A to 0.6 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.39 var/Q 0.51 var/Q 1.3 var/Q	
		0.6 A to 1.2 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.79 var/Q 1.0 var/Q 2.5 var/Q	
		1.2 A to 2.5 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	1.6 var/Q 2.1 var/Q 5.3 var/Q	
		2.5 A to 5 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	3.3 var/Q 4.3 var/Q 11 var/Q	
		5 A to 10 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	6.6 var/Q 8.6 var/Q 21 var/Q	

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
AC Reactive Power @ 50/60 Hz – Measure[4]	250 V to 400 V	10 A to 20 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	13 var/Q 17 var/Q 42 var/Q	PT-TAR-M-Q1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG640/LMG611 (Note 1s, 9s, 16s)
		20 A to 32 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	21 var/Q 27 var/Q 67 var/Q	
		32 A to 50 A	0.1 0.5 0.9	1.0E-02 rel 1.3E-02 rel 5.4E-02 rel	25 var/Q 33 var/Q 82 var/Q	
	400 V to 600 V	0.5 mA to 5 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	5.7 mvar/Q 7.6 mvar/Q 19 mvar/Q	
		5 mA to 10 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	11 mvar/Q 15 mvar/Q 38 mvar/Q	
		10 mA to 20 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	23 mvar/Q 30 mvar/Q 75 mvar/Q	
		20 mA to 40 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	46 mvar/Q 61 mvar/Q 0.15 var/Q	
		40 mA to 80 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	92 mvar/Q 0.12 var/Q 0.30 var/Q	
		80 mA to 150 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.17 var/Q 0.23 var/Q 0.57 var/Q	
		0.15 A to 0.3 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.34 var/Q 0.45 var/Q 1.1 var/Q	
		0.3 A to 0.6 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	0.69 var/Q 0.91 var/Q 2.3 var/Q	

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
AC Reactive Power @ 50/60 Hz – Measure[4] continued	400 V to 600 V	0.6 A to 1.2 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	1.4 var/Q 1.8 var/Q 4.5 var/Q	PT-TAR-M-Q1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG640/LMG611 (Note 1s, 9s, 16s)
		1.2 A to 2.5 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	2.9 var/Q 3.8 var/Q 9.4 var/Q	
		2.5 A to 5 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	5.7 var/Q 7.6 var/Q 19 var/Q	
		5 A to 10 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	11 var/Q 15 var/Q 38 var/Q	
		10 A to 20 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	23 var/Q 30 var/Q 75 var/Q	
		20 A to 32 A	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	36 var/Q 48 var/Q 0.12 kvar/Q	
		32 A to 50 A	0.1 0.5 0.9	1.0E-02 rel 1.3E-02 rel 5.4E-02 rel	38 var/Q 52 var/Q 0.13 kvar/Q	
	600 V to 1000 V	0.5 mA to 5mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	5.7 mvar/Q 7.6 mvar/Q 19 mvar/Q	
		5 mA to 10 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	11 mvar/Q 15 mvar/Q 38 mvar/Q	
		10 mA to 20 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	23 mvar/Q 30 mvar/Q 75 mvar/Q	
		20 mA to 40 mA	0.1 0.5 0.9	5.7E-04 rel 9.7E-04 rel 8.3E-03 rel	46 mvar/Q 61 mvar/Q 0.15 var/Q	

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
AC Apparent Power @ 50/60 Hz – Measure[4]	25 V to 60 V	0.5 mA to 5 mA	0.1 to 1	5.7E-04 rel	0.30 mVA/S	PT-TAR-M-S1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG640/LMG611 (Note 1s, 10s, 16s)
		5 mA to 10 mA	0.1 to 1	5.7E-04 rel	0.59 mVA/S	
		10 mA to 20 mA	0.1 to 1	5.7E-04 rel	1.2 mVA/S	
		20 mA to 40 mA	0.1 to 1	5.7E-04 rel	2.4 mVA/S	
		40 mA to 80 mA	0.1 to 1	5.7E-04 rel	4.7 mVA/S	
		80 mA to 150 mA	0.1 to 1	5.7E-04 rel	8.9 mVA/S	
		0.15 A to 0.3 A	0.1 to 1	5.7E-04 rel	18 mVA/S	
		0.3 A to 0.6 A	0.1 to 1	5.7E-04 rel	36 mVA/S	
		0.6 A to 1.2 A	0.1 to 1	5.7E-04 rel	71 mVA/S	
		1.2 A to 2.5 A	0.1 to 1	5.7E-04 rel	0.15 VA/S	
		2.5 A to 5 A	0.1 to 1	5.7E-04 rel	0.30 VA/S	
		5 A to 10 A	0.1 to 1	5.7E-04 rel	0.59 VA/S	
		10 A to 20 A	0.1 to 1	5.7E-04 rel	1.2 VA/S	
		20 A to 32 A	0.1 to 1	5.7E-04 rel	1.9 VA/S	
		32 A to 60 A	0.1 to 1	1.0E-02 rel	3.4 VA/S	
		60 A to 100 A	0.1 to 1	1.0E-02 rel	6.8 VA/S	
	60 V to 130 V	0.5 mA to 5 mA	0.1 to 1	5.7E-04 rel	0.67 mVA/S	
		5 mA to 10 mA	0.1 to 1	5.7E-04 rel	1.4 mVA/S	
		10 mA to 20 mA	0.1 to 1	5.7E-04 rel	2.7 mVA/S	
		20 mA to 40 mA	0.1 to 1	5.7E-04 rel	5.4 mVA/S	
		40 mA to 80 mA	0.1 to 1	5.7E-04 rel	11 mVA/S	
		80 mA to 150 mA	0.1 to 1	5.7E-04 rel	20 mVA/S	
		0.15 A to 0.3 A	0.1 to 1	5.7E-04 rel	40 mVA/S	
		0.3 A to 0.6 A	0.1 to 1	5.7E-04 rel	81 mVA/S	
		0.6 A to 1.2 A	0.1 to 1	5.7E-04 rel	0.16 VA/S	
		1.2 A to 2.5 A	0.1 to 1	5.7E-04 rel	0.34 VA/S	
		2.5 A to 5 A	0.1 to 1	5.7E-04 rel	0.67 VA/S	
		5 A to 10 A	0.1 to 1	5.7E-04 rel	1.4 VA/S	
		10 A to 20 A	0.1 to 1	5.7E-04 rel	2.7 VA/S	
		20 A to 32 A	0.1 to 1	5.7E-04 rel	4.3 VA/S	
		32 A to 60 A	0.1 to 1	1.0E-02 rel	7.8 VA/S	
		60 A to 100 A	0.1 to 1	1.0E-02 rel	16 VA/S	
	130 V to 250 V	0.5 mA to 5 mA	0.1 to 1	5.7E-04 rel	1.3 mVA/S	
		5 mA to 10 mA	0.1 to 1	5.7E-04 rel	2.6 mVA/S	
		10 mA to 20 mA	0.1 to 1	5.7E-04 rel	5.2 mVA/S	
		20 mA to 40 mA	0.1 to 1	5.7E-04 rel	10 mVA/S	
		40 mA to 80 mA	0.1 to 1	5.7E-04 rel	21 mVA/S	
		80 mA to 150 mA	0.1 to 1	5.7E-04 rel	39 mVA/S	
		0.15 A to 0.3 A	0.1 to 1	5.7E-04 rel	78 mVA/S	
		0.3 A to 0.6 A	0.1 to 1	5.7E-04 rel	0.16 VA/S	
		0.6 A to 1.2 A	0.1 to 1	5.7E-04 rel	0.31 VA/S	
		1.2 A to 2.5 A	0.1 to 1	5.7E-04 rel	0.65 VA/S	
		2.5 A to 5 A	0.1 to 1	5.7E-04 rel	1.3 VA/S	

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
AC Apparent Power @ 50/60 Hz – Measure[4] continued	130 V to 250 V	0.5 mA to 5 mA	0.1 to 1	5.7E-04 rel	1.3 mVA/S	PT-TAR-M-S1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG640/LMG611 (Note 1s, 10s, 16s)
		5 mA to 10 mA	0.1 to 1	5.7E-04 rel	2.6 mVA/S	
		10 mA to 20 mA	0.1 to 1	5.7E-04 rel	5.2 mVA/S	
		20 mA to 40 mA	0.1 to 1	5.7E-04 rel	10 mVA/S	
		40 mA to 80 mA	0.1 to 1	5.7E-04 rel	21 mVA/S	
		80 mA to 150 mA	0.1 to 1	5.7E-04 rel	39 mVA/S	
		0.15 A to 0.3 A	0.1 to 1	5.7E-04 rel	78 mVA/S	
		0.3 A to 0.6 A	0.1 to 1	5.7E-04 rel	0.16 VA/S	
		0.6 A to 1.2 A	0.1 to 1	5.7E-04 rel	0.31 VA/S	
		1.2 A to 2.5 A	0.1 to 1	5.7E-04 rel	0.65 VA/S	
		2.5 A to 5 A	0.1 to 1	5.7E-04 rel	1.3 VA/S	
		5 A to 10 A	0.1 to 1	5.7E-04 rel	2.6 VA/S	
		10 A to 20 A	0.1 to 1	5.7E-04 rel	5.2 VA/S	
		20 A to 32 A	0.1 to 1	5.7E-04 rel	8.3 VA/S	
		32 A to 60 A	0.1 to 1	1.0E-02 rel	15 VA/S	
		60 A to 100 A	0.1 to 1	1.0E-02 rel	30 VA/S	
	250 V to 400 V	0.5 mA to 5 mA	0.1 to 1	5.7E-04 rel	2.1 mVA/S	
		5 mA to 10 mA	0.1 to 1	5.7E-04 rel	4.2 mVA/S	
		10 mA to 20 mA	0.1 to 1	5.7E-04 rel	8.4 mVA/S	
		20 mA to 40 mA	0.1 to 1	5.7E-04 rel	17 mVA/S	
		40 mA to 80 mA	0.1 to 1	5.7E-04 rel	34 mVA/S	
		80 mA to 150 mA	0.1 to 1	5.7E-04 rel	63 mVA/S	
		0.15 A to 0.3 A	0.1 to 1	5.7E-04 rel	0.13 VA/S	
		0.3 A to 0.6 A	0.1 to 1	5.7E-04 rel	0.25 VA/S	
		0.6 A to 1.2 A	0.1 to 1	5.7E-04 rel	0.51 VA/S	
		1.2 A to 2.5 A	0.1 to 1	5.7E-04 rel	1.1 VA/S	
		2.5 A to 5 A	0.1 to 1	5.7E-04 rel	2.1 VA/S	
		5 A to 10 A	0.1 to 1	5.7E-04 rel	4.2 VA/S	
		10 A to 20 A	0.1 to 1	5.7E-04 rel	8.4 VA/S	
		20 A to 32 A	0.1 to 1	5.7E-04 rel	14 VA/S	
		32 A to 60 A	0.1 to 1	1.0E-02 rel	24 VA/S	
		60 A to 100 A	0.1 to 1	1.0E-02 rel	49 VA/S	
	400 V to 600 V	0.5 mA to 5 mA	0.1 to 1	6.1E-03 rel	0.97 mVA/S	
		5 mA to 10 mA	0.1 to 1	6.1E-03 rel	2.0 mVA/S	
		10 mA to 20 mA	0.1 to 1	6.1E-03 rel	3.9 mVA/S	
		20 mA to 40 mA	0.1 to 1	6.1E-03 rel	8.1 mVA/S	
		40 mA to 80 mA	0.1 to 1	6.1E-03 rel	16 mVA/S	
		80 mA to 150 mA	0.1 to 1	6.1E-03 rel	32 mVA/S	
		0.15 A to 0.3 A	0.1 to 1	5.7E-04 rel	0.11 VA/S	
		0.3 A to 0.6 A	0.1 to 1	5.7E-04 rel	0.17 VA/S	
		0.6 A to 1.2 A	0.1 to 1	5.7E-04 rel	0.38 VA/S	
		1.2 A to 2.5 A	0.1 to 1	5.7E-04 rel	0.75 VA/S	
		2.5 A to 5 A	0.1 to 1	5.7E-04 rel	1.5 VA/S	

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
AC Apparent Power @ 50/60 Hz – Measure[4] continued	400 V to 600 V	5 A to 10 A	0.1 to 1	5.7E-04 rel	3.1 VA/S	PT-TAR-M-S1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG640/LMG611 (Note 1s, 10s, 16s
		10 A to 20 A	0.1 to 1	5.7E-04 rel	6.2 VA/S	
		20 A to 32 A	0.1 to 1	5.7E-04 rel	11 VA/S	
		32 A to 60 A	0.1 to 1	1.0E-02 rel	19 VA/S	
		60 A to 100 A	0.1 to 1	1.0E-02 rel	38 VA/S	
	600 V to 1000 V	0.5 mA to 5 mA	0.1 to 1	.7E-04 rel	5.7 mVA/S	
		5 mA to 10 mA	0.1 to 1	5.7E-04 rel	11 mVA/S	
		10 mA to 20 mA	0.1 to 1	5.7E-04 rel	23 mVA/S	
		20 mA to 40 mA	0.1 to 1	5.7E-04 rel	45 mVA/S	
		40 mA to 80 mA	0.1 to 1	5.7E-04 rel	91 mVA/S	
		80 mA to 150 mA	0.1 to 1	5.7E-04 rel	0.17 VA/S	
		0.15 A to 0.3 A	0.1 to 1	5.7E-04 rel	0.34 VA/S	
		0.3 A to 0.6 A	0.1 to 1	5.7E-04 rel	0.68 VA/S	
		0.6 A to 1.2 A	0.1 to 1	5.7E-04 rel	1.4 VA/S	
		1.2 A to 2.5 A	0.1 to 1	5.7E-04 rel	2.8 VA/S	
		2.5 A to 5 A	0.1 to 1	5.7E-04 rel	5.7 VA/S	
		5 A to 10 A	0.1 to 1	5.7E-04 rel	11 VA/S	
		10 A to 20 A	0.1 to 1	5.7E-04 rel	23 VA/S	
		20 A to 32 A	0.1 to 1	5.7E-04 rel	36 VA/S	

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
AC Active Energy @ 50/60 Hz – Measure[4]	60 V to 130 V	0.6 A to 1.2 A	0.1 to 1	1.8E-03 rel	0.19 Wh/E	PT-TAR-M-E1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG640/LMG611 (Note 1s, 11s)
		1.2 A to 2.5 A	0.1 to 1	1.8E-03 rel	0.39 Wh/E	
		2.5 A to 5 A	0.1 to 1	1.8E-03 rel	0.78 Wh/E	
		5 A to 10 A	0.1 to 1	1.8E-03 rel	1.6 Wh/E	
	130 V to 250 V	0.6 A to 1.2 A	0.1 to 1	1.8E-03 rel	0.36 Wh/E	
		1.2 A to 2.5 A	0.1 to 1	1.8E-03 rel	0.75 Wh/E	
		2.5 A to 5 A	0.1 to 1	1.8E-03 rel	1.5 Wh/E	
		5 A to 10 A	0.1 to 1	1.8E-03 rel	3.0 Wh/E	
	250 V to 400 V	0.6 A to 1.2 A	0.1 to 1	1.8E-03 rel	0.58 Wh/E	
		1.2 A to 2.5 A	0.1 to 1	1.8E-03 rel	1.2 Wh/E	
		2.5 A to 5 A	0.1 to 1	1.8E-03 rel	2.4 Wh/E	
		5 A to 10 A	0.1 to 1	1.8E-03 rel	4.8 Wh/E	

Built-in Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Current**	**PF**	**U1**	**U2**	
AC Active Energy @ 50/60 Hz – Measure[4] continued	400 V to 600 V	0.6 A to 1.2 A 1.2 A to 2.5 A 2.5 A to 5 A 5 A to 10 A	0.1 to 1 0.1 to 1 0.1 to 1 0.1 to 1	1.8E-03 rel 1.8E-03 rel 1.8E-03 rel 1.8E-03 rel	0.87 Wh/E 1.8 Wh/E 3.6 Wh/E 7.2 Wh/E	PT-TAR-M-E1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG640/LMG611 (Note 1s, 11s)

Generators[5]				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U1	**U2**	
DC Voltage – Measure[4]	1 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 200 V to 1000 V 1000 V to 10 kV 10 kV to 30 kV	1.3E-05 rel 9.0E-06 rel 9.0E-06 rel 1.4E-05 rel 1.4E-05 rel 1.3E-05 rel 1.5E-02 rel	0.24 µV/U 1.0 µV/U 10 µV/U 0.10 mV/U 1.2 mV/U 0.24 µV/U	PT-TAR-G-VDC1 Direct Method Fluke 8508A Fluke 8846A Zes Zimmer LMG95 Fluke 5320A/HV divider Fluke 5322A/HV divider Tektronix DPO7354C/Tektronix MSO64B+Teseq MD200A Tektronix DPO7354C + Tektronix P5210 Tektronix MSO64B + Tektronix THDP0100 Fluke 80K-40 (Note 1s, 2s)

Generators[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Signal under evaluation	**U**	
DC Ripple – Measure[4]	1 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 200 V to 1000 V	9.3E-4 %Vmean 6.4E-4 %Vmean 6.4E-4 %Vmean 1.0E-3 %Vmean 1.0E-3 %Vmean	PT-TAR-G-VDCrip1 Direct Method Fluke 8508A Fluke 8846A Tektronix DPO7354C/Tektronix MSO64B+Teseq MD200A Tektronix DPO7354C + Tektronix P5210 Tektronix MSO64B + Tektronix THDP0100

Generators[5]				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U1	**U2**	
DC Current - Measure[4]	20 µA to 200 µA 200 µA to 2 mA 2 mA to 20 mA 20 mA to 200 mA 200 mA to 2 A 2 A to 20 A	3.2E-05 rel 3.2E-05 rel 3.6E-05 rel 1.2E-04 rel 4.5E-04 rel 1.0E-03 rel	0.80 nA/I 8.0 nA/I 80 nA/I 1.6 µA/I 32 µA/I 0.80 mA/I	PT-TAR-G-IDC1 Direct Method Fluke 8508A Fluke 8846A Zes Zimmer LMG95 ZES Zimmer LMG-SH020 ZES Zimmer LMG-SH001 (Note 1s, 3s, 16s)

RTD Simulator[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**TECHNIQUE, REFERENCE STANDARD, EQUIPMENT**
		U	
Meters - PT385, 100 Ohm – Generate[3] (Simulated)	-200 °C to -80 °C -80 °C to 100 °C 100 °C to 300 °C 300 °C to 400 °C 400 °C to 630 °C 630 °C to 800 °C	13 m°C 20 m°C 24 m°C 26 m°C 33 m°C 38 m°C	PT-TAR-G-TEMP1 Direct Method Fluke 7526A Fluke 5522A (Note 17s)
Meters - PT385, 1000 Ohm – Generate[3] (Simulated)	-200 °C to 0 °C 0 °C to 100 °C 100 °C to 300 °C 300 °C to 400 °C 400 °C to 630 °C	15 m°C 18 m°C 24 m°C 26 m°C 33 m°C	PT-TAR-G-TEMP1 Direct Method Fluke 7526A (Note 17s)

Thermocouple Simulators[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U	
Meters - Type B – Measure[4]	600 °C to 800 °C 800 °C to 1550 °C 1550 °C to 1820 °C	0.35 °C 0.28 °C 0.22 °C	PT-TAR-G-TEMP1 Direct Method Fluke 7526A Fluke 5522A (Note 17s)
Meters - Type C - Measure[4]	0 °C to 1000 °C 1000 °C to 1800 °C 1800 °C to 2000 °C 2000 °C to 2316 °C	0.16 °C 0.23 °C 0.26 °C 0.35 °C	
Meters - Type E - Measure[4]	-250 °C to -200 °C -200 °C to -100 °C -100 °C to 0 °C 0 °C to 600 °C 600 °C to 1000 °C	0.25 °C 0.12 °C 91 m°C 81 m°C 0.10 °C	
Thermocouple Simulators continued[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U	
Meters - Type J - Measure[4]	-210 °C to -100 °C -100 °C to 800 °C 800 °C to 1200 °C	0.14 °C 91 m°C 0.10 °C	PT-TAR-G-TEMP1 Direct Method Fluke 7526A Fluke 5522A (Note 17s)
Meters - Type K - Measure[4]	-250 °C to -200 °C -200 °C to -100 °C -100 °C to 500 °C 500 °C to 800 °C 800 °C to 1372 °C	0.46 °C 0.16 °C 0.10 °C 0.10 °C 0.13 °C	
Meters - Type L - Measure[4]	-200 °C to -100 °C -100 °C to 900 °C	0.10 °C 91 m°C	
Meters - Type N - Measure[4]	-250 °C to -200 °C -200 °C to -100 °C -100 °C to 0 °C 0 °C to 100 °C 100 °C to 800 °C 800 °C to 1300 °C	0.73 °C 0.23 °C 0.12 °C 0.11 °C 0.10 °C 0.12 °C	
Meters - Type R - Measure[4]	-50 °C to -25 °C -25 °C to 0 °C 0 °C to 100 °C 100 °C to 400 °C 400 °C to 600 °C 600 °C to 1000 °C	0.55 °C 0.45 °C 0.39 °C 0.28 °C 0.22 °C 0.21 °C	

Thermocouple Simulators continued[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
Meters - Type R - Measure[4]	1000 °C to 1600 °C 1600 °C to 1767 °C	0.19 °C 0.23 °C	PT-TAR-G-TEMP1 Direct Method Fluke 7526A Fluke 5522A (Note 17s)
Meters - Type S - Measure[4]	-50 °C to -25 °C -25 °C to 0 °C 0 °C to 100 °C 100 °C to 400 °C 400 °C to 600 °C 600 °C to 1000 °C 1000 °C to 1600 °C 1600 °C to 1767 °C	0.51 °C 0.43 °C 0.38 °C 0.29 °C 0.23 °C 0.22 °C 0.22 °C 0.26 °C	
Meters - Type T - Measure[4]	-250 °C to -200 °C -200 °C to -100 °C -100 °C to 0 °C 0 °C to 200 °C 200 °C to 400 °C	0.35 °C 0.16 °C 0.11 °C 91 m°C 91 m°C	
Meters - Type U - Measure[4]	-200 °C to 0 °C 0 °C to 200 °C 200 °C to 600 °C	0.16 °C 0.10 °C 0.10 °C	

Generators[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Frequency**	**U1**	**U2**	
AC Voltage – Measure[4]	1 mV to 200 mV	10 Hz to 40 Hz 40 Hz to 100 Hz 100 Hz to 2 kHz 2 kHz to 10 kHz 10 kHz to 30 kHz 30 kHz to 100 kHz	3.2E-04 rel 2.7E-04 rel 2.7E-04 rel 3.3E-04 rel 7.9E-04 rel 1.7E-03 rel	50 µV /U 50 µV/U 24 µV/U 50 µV/U 0.10 mV/U 0.24 mV/U	PT-TAR-G-VAC1 Direct Method Fluke 8508A Zes Zimmer LMG95 Fluke 8846A Fluke 5320A/HV divider Fluke 5322A/HV divider Tektronix DPO7354C/Tektronix MSO64B Teseq MD200A Tektronix P5210 UL International Italia 3PQA Fluke 80K-40 (Note 1s, 2s)
	200 mV to 2 V	10 Hz to 40 Hz 40 Hz to 100 Hz 100 Hz to 2 kHz 2 kHz to 10 kHz 10 kHz to 30 kHz 30 kHz to 100 kHz 100 kHz to 300 kHz 300 kHz to 1 MHz	2.7E-04 rel 2.2E-04 rel 1.8E-04 rel 2.7E-04 rel 5.2E-04 rel 1.3E-03 rel 6.0E-03 rel 2.0E-02 rel	24 µV/U 24 µV/U 24 µV/U 24 µV/U 50 µV/U 0.24 mV/U 2.4 mV/U 24 mV/U	
	2 V to 20 V	10 Hz to 40 Hz 40 Hz to 100 Hz 100 Hz to 2 kHz 2 kHz to 10 kHz 10 kHz to 30 kHz 30 kHz to 100 kHz 100 kHz to 300 kHz 300 kHz to 1 MHz	2.7E-04 rel 2.2E-04 rel 1.8E-04 rel 2.7E-04 rel 5.2E-04 rel 1.3E-03 rel 6.0E-03 rel 2.0E-02 rel	24 µV/U 24 µV/U 24 µV/U 24 µV/U 50 µV/U 0.24 mV/U 2.4 mV/U 24 mV/U	
	20 V to 200 V	10 Hz to 40 Hz 40 Hz to 100 Hz 100 Hz to 2 kHz 2 kHz to 10 kHz 10 kHz to 30 kHz 30 kHz to 100 kHz 100 kHz to 300 kHz 300 kHz to 1 MHz	2.7E-04 rel 2.2E-04 rel 1.8E-04 rel 2.7E-04 rel 5.2E-04 rel 1.3E-03 rel 6.0E-03 rel 2.0E-02 rel	24 µV/U 24 µV/U 24 µV/U 24 µV/U 50 µV/U 0.24 mV/U 2.4 mV/U 24 mV/U	
	200 V to 1000 V	10 Hz to 40 Hz 40 Hz to 10 kHz 10 kHz to 30 kHz 30 kHz to 100 kHz	2.9E-04 rel 2.8E-04 rel 5.3E-04 rel 1.4E-03 rel	50 µV/U 50 µV/U 0.10 mV/U 0.10 mV/U	
	1000 V to 10 kV	50 Hz to 60 Hz	1.2E-0.2 rel	3.0 V/U	
	10 kV to 20 kV	50 Hz to 60 Hz	1.5E-0.2 rel		

Generators[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Current	**Frequency**	**U1**	**U2**	
AC Current – Measure[4]	20 µA to 200 µA	10 Hz to 10 kHz 10 kHz to 30 kHz 30 kHz to 100 kHz	7.4E-04 rel 1.6E-03 rel 8.0E-03 rel	4.8 µA/I 4.8 µA/I 4.8 µA/I	PT-TAR-G-IAC1 Direct Method Fluke 8508A Zes Zimmer LMG95 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG-SH001 Fluke 8846A Chauvin Arnoux C 107DO (Note 1s, 3s, 16s)
	200 µA to 2mA	10 Hz to 10 kHz 10 kHz to 30 kHz 30 kHz to 100 kHz	7.4E-04 rel 1.6E-03 rel 8.0E-03 rel	4.8 µA/I 4.8 µA/I 4.8 µA/I	
	2 mA to 20 mA	10 Hz to 10 kHz 10 kHz to 30 kHz 30 kHz to 100 kHz	7.4E-04 rel 1.6E-03 rel 8.0E-03 rel	4.8 µA/I 4.8 µA/I 4.8 µA/I	
	20 mA to 200 mA	10 Hz to 10 kHz 10 kHz to 30 kHz	7.2E-04 rel 1.5E-03 rel	48 µA/I 48 µA/I	
	200 mA to 2 A	10 Hz to 2 kHz 2 kHz to 10 kHz 10 kHz to 30 kHz	1.5E-03 rel 1.7E-03 rel 6.0E-03 rel	0.48 mA/I 0.48 mA/I 0.48 mA/I	
	2 A to 20 A	10 Hz to 2 kHz 2 kHz to 10 kHz	1.8E-03 rel 5.0E-03 rel	4.8 mA/I 4.8 mA/I	
	20 A to 30 A	50 Hz to 60 Hz	1.0E-02 rel	24 mA/I	
	30 A to 60 A	50 Hz to 60 Hz	1.0E-02 rel	48 mA/I	
	60 A to 100 A	50 Hz to 60 Hz	1.0E-02 rel	96 mA/I	
	100 A to 1000 A	50 Hz to 60 Hz	5.0E-03 rel		

Generators[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Fequency	**Voltage**	**U1**	**U2**	
Frequency (Voltage) – Measure[4]	10 Hz to 100 Hz 100 Hz to 1000 Hz 1 kHz to 10 kHz 10 kHz to 100 kHz 100 kHz to 1 MHz	1 mV to 1000 V	2.0E-05 rel 2.0E-05 rel 2.0E-05 rel 2.0E-05 rel 2.0E-05 rel	0.40 mHz/f 4.0 mHz/f 40 mHz/f 0.40 Hz/f 4.0 Hz/f	PT-TAR-G-FV1 Direct Method Fluke 8508A Zes Zimmer LMG95 Zes Zimmer LMG640/LMG611 UL International Italia 3PQA UL International Italia VIHM (Note 1s, 5s)

Generators[5]				
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Frequency**	**U**	
AC Voltage Crest Factor – Measure[4]	6 V to 60 V	50 Hz to 60 Hz	1.7E-02 rel	PT-TAR-G-CF1 Direct Method UL International Italia VIHM Tektronix DPO7354C + Tektronix P5210 Tektronix MSO64B + Tektronix THDP0100 (Note 1s)
	60 V to 300 V	50 Hz to 60 Hz	1.9E-02 rel	

Generators[5]				
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Time	**Current**	**U**	
Rise Time (Voltage) – Measure[4]	1 µs to 500 ms	5 mV to 7 kV	24E-05 rel	PT-TAR-G-TRFV1 Direct Method Tektronix DPO7354C/Tektronix MSO64B + Teseq MD200A Tektronix DPO7354C + Tektronix P5210 Tektronix MSO64B + Tektronix THDP0100 (Note 1s)
Rise Time (Current) – Measure[4]	1 µs to 500 ms	50 mA to 5 kA	27E-06 rel	PT-TAR-G-TRFI1 Direct Method ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG-SH001 Chauvin Arnoux CO107DO Tektronix DPO7354C/Tektronix MSO64B Clarke Hess 650 Clarke Hess 610 Pearson 4997 Teseq MD300 (Note 1s, 16s)

Generators[5]				
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Time	**Amplitude**	**U**	
Pulse duration (Voltage) – Measure[4]	1 µs to 1 s	5 mV to 7 kV	10E-03 rel	PT-TAR-G-TDV1 Direct Method Tektronix DPO7354C/Tektronix MSO64B Teseq MD200A Tektronix DPO7354C + Tektronix P5210 Tektronix MSO64B + Tektronix THDP0100 (Note 1s, 6s)
Pulse duration (Current) – Measure[4]	1 µs to 1 s	50 mA to 5 kA	10E-03 rel	PT-TAR-G-TDI1 Direct Method ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG-SH001 Chauvin Arnoux CO107DO Tektronix DPO7354C/Tektronix MSO64B Clarke Hess 650 Clarke Hess 610 Pearson 4997 Teseq MD300 (Note 1s)

Current Generators[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Inrush Current - Generate[3]	20 mA to 1 A 1.5 A to 6600 A	1.5E-02 rel 3.8E-02 rel	PT-TAR-G-IAC1 Direct Method ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG-SH001 Chauvin Arnoux CO107DO Tektronix DPO7354C/Tektronix MSO64B Clarke Hess 650 Clarke Hess 610 Pearson 4997 Teseq MD300 (Note 1s)

Generators[5]				
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Degrees**	**U**	
Phase Shifting (Voltage – Sinusoidal @ 50/60 Hz) – Measure[4]	6 V to 300 V	0° to 360°	27E-03°	PT-TAR-G-DSPV1 Direct Method Tektronix DPO7354C/Tektronix MSO64B Teseq MD200A Tektronix DPO7354C + Tektronix P5210 Tektronix MSO64B + Tektronix THDP0100 UL International Italia VIHM (Note 1s, 6s)

Power Sources[5]					
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Channel 1	**Channel 2**	**φ**	**U**	
Phase Displacement @ 50/60 Hz – Measure[4]	10 V to 300 V	3 mA to 100 A	0° to 360°	0.20°	PT-TAR-Q-PD1 PT-TAR-Q-PD2 Direct Method Clarke Hess 6000A Clarke Hess 650 Clarke Hess 610 ZES Zimmer LMG-Z601 ZES Zimmer LMG-SH020 ZES Zimmer LMG-SH001

Voltage Generators[5]					
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Par	**IHRM Amplitude**	**IHRM Frequency**	**U**	
AC Voltage Harmonics and Interharmonics – Measure[4]	Fund	30 V to 1000 V	50 Hz/60 Hz	5.0E-03 rel	PT-TAR-G-HRMV1 Direct Method UL International Italia VIHM ZES Zimmer LMG640/LMG611 UL International Italia 3PQA IEC 61000-4-7 (Note 1s, 2s, 12s)
	IHRM2 to IHRM2000	0.3 V to 60 V	55 Hz to 12 kHz	1.0E-02 rel	
	THD_V	Fund: 30 V to 1000 V	55 Hz to 12 kHz	7.5E-03 rel	

Current Generators[5]					
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Par	**IHRM Amplitude**	**IHRM Frequency**	**U**	
AC Current Harmonics and Interharmonics – Measure[4]	Fund	50 mA to 100 A	50 Hz/60 Hz	2.0E-02 rel	PT-TAR-G-HRMI1 Direct Method UL International Italia CIHM IEC 61000-4-7 (Note 1s, 3s, 12s)
	IHRM11 to IHRM2000	4.5 mA to 135 mA (TotRMSmax: 500 mA)	55 Hz to 3 kHz	2.5E-02 rel	
			2.4 kHz to 12 kHz	6.0E-02 rel	
		50 mA to 1.35 A (TotRMSmax: 5 A)	55 Hz to 3 kHz	2.5E-02 rel	
			3 kHz to 12 kHz	6.0E-02 rel	
		300 mA to 9 A (TotRMSmax: 32 A)	55 Hz to 3 kHz	2.5E-02 rel	
			3 kHz to 12 kHz	6.0E-02 rel	
		1 A to 30 A (TotRMSmax: 100 A)	55 Hz to 3 kHz	2.5E-02 rel	
			3 kHz to 12 kHz	9.0E-02 rel	
	THD_I	Fund:50 mA to 100 A	55 Hz to 12 kHz	2.5E-02 rel	

Calibrators/Resistors[5]				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U1	**U2**	
DC Resistance – Measure[4]	10 mΩ to 1 Ω	3.8E-04 rel	15 µΩ/R	PT-TAR-G-RDC2W1
	1 Ω to 2 Ω	4.4E-05 rel	10 µΩ/R	PT-TAR-G-RDC4W1
	2 Ω to 20 Ω	2.4E-05 rel	36 µΩ/R	PT-TAR-Q-RDC1
	20 Ω to 200 Ω	2.0E-05 rel	0.12 mΩ/R	Direct Method
	200 Ω to 2 kΩ	2.0E-05 rel	1.2 mΩ/R	
	2 kΩ to 20 kΩ	2.0E-05 rel	12 mΩ/R	
	20 kΩ to 200 kΩ	2.0E-05 rel	0.12 Ω/R	Fluke 5522A
	200 kΩ to 2 MΩ	2.4E-05 rel	2.4 Ω/R	Fluke 8508A
	2 MΩ to 20 MΩ	5.0E-05 rel	0.24 kΩ/R	ZES Zimmer LMG95
	20 MΩ to 200 MΩ	3.0E-04 rel	24 kΩ/R	(Note 1s, 4s)
	200 MΩ to 2 GΩ	3.6E-03 rel	2.4 MΩ/R	

Impedance module[5]				
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Resistance	**Frequency**	**U**	
Impedance module – Measure[4]	30 mΩ to 70 mΩ	20 Hz to 9 kHz	2.0E-02 rel	PT-TAR-Q-Z1 Direct Method Wayne Kerr 6440B (Note 1s)
	70 mΩ to 200 mΩ	20 Hz to 9 kHz	1.0E-02 rel	
	200 mΩ to 400 mΩ	20 Hz to 9 kHz 9 kHz to 100 kHz	4.0E-03 rel 2.0E-02 rel	
	400 mΩ to 1 Ω	20 Hz to 9 kHz 9 kHz to 100 kHz	2.0E-03 rel 2.0E-02 rel	
	1 Ω to 2 Ω	20 Hz to 100 Hz 100 Hz to 9 kHz 9 kHz to 100 kHz	2.0E-03 rel 1.0E-03 rel 1.0E-02 rel	
	2 Ω to 6 Ω	20 Hz to 9 kHz 9 kHz to 100 kHz 100 kHz to 1 MHz	1.0E-03 rel 4.0E-03 rel 2.0E-02 rel	
	6 Ω to 10 Ω	20 Hz to 9 kHz 9 kHz to 100 kHz 100 kHz to 1 MHz 1 MHz to 3 MHz	1.0E-03 rel 2.0E-03 rel 1.0E-02 rel 2.0E-02 rel	
	10 Ω to 30 Ω	20 Hz to 9 kHz 9 kHz to 100 kHz 100 kHz to 1 MHz 1 MHz to 3 MHz	1.0E-03 rel 2.0E-03 rel 4.0E-03 rel 2.0E-02 rel	
	30 Ω to 5 kΩ	20 Hz to 100 kHz 100 kHz to 1 MHz 1 MHz to 3 MHz	1.0E-03 rel 2.0E-03 rel 2.0E-02 rel	
	5 kΩ to 10 kΩ	20 Hz to 100 kHz 100 kHz to 1 MHz	1.0E-03 rel 2.0E-03 rel	
	10 kΩ to 30 kΩ	20 Hz to 100 kHz 100 kHz to 1 MHz	1.0E-03 rel 4.0E-03 rel	
	30 kΩ to 100 kΩ	20 Hz to 100 kHz 100 kHz to 1 MHz	1.0E-03 rel 1.0E-02 rel	
	100 kΩ to 200 kΩ	20 Hz to 9 kHz 9 kHz to 100 kHz 100 kHz to 1 MHz	1.0E-03 rel 2.0E-03 rel 2.0E-02 rel	
	200 kΩ to 400 kΩ	20 Hz to 9 kHz 9 kHz to 100 kHz	1.0E-03 rel 2.0E-03 rel	
	400 kΩ to 1 MΩ	20 Hz to 100 Hz 100 Hz to 9 kHz 9 kHz to 100 kHz	2.0E-03 rel 1.0E-03 rel 4.0E-03 rel	
	1 MΩ to 3 MΩ	20 Hz to 100 Hz 100 Hz to 9 kHz	4.0E-03 rel 2.0E-03 rel	

Impedance module[5]				
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Resistance	**Frequency**	**U**	
Impedance module – Measure[4] continued		9 kHz to 100 kHz	1.0E-02 rel	Direct Method PT-TAR-Q-Z1 Wayne Kerr 6440B (Note 1s)
	3 MΩ to 5 MΩ	20 Hz to 100 Hz 100 Hz to 9 kHz 9 kHz to 100 kHz	1.0E-02 rel 2.0E-03 rel 2.0E-02 rel	
	5 MΩ to 9 MΩ	20 Hz to 100 Hz 100 Hz to 9 kHz	1.0E-02 rel 2.0E-03 rel	
	9 MΩ to 20 MΩ	20 Hz to 100 Hz 100 Hz to 10 kHz	2.0E-02 rel 1.0E-02 rel	
	20 MΩ to 50 MΩ	100 Hz to 10 kHz	2.0E-02 rel	

Capacitance[5]				
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Capacitance	**Frequency**	**U**	
Capacitance – Measure[4]	3 pF to 5 pF	1 kHz to 100 kHz	2.0E-02 rel	PT-TAR-Q-C1 Direct Method Wayne Kerr 6440B (Note 1s)
	5 pF to 10 pF	1 kHz to 100 kHz	1.0E-02 rel	
	10 pF to 30 pF	1 kHz to 100 kHz	4.0E-03 rel	
	30 pF to 100 pF	1 kHz to 100 kHz	2.0E-03 rel	
	100 pF to 10 nF	1 kHz to 100 kHz	1.0E-03 rel	
	10 nF to 100 nF	40 Hz to 100 kHz	1.0E-03 rel	
	100 nF to 10 µF	40 Hz to 10 kHz	1.0E-03 rel	
	10 µF to 1 mF	40 Hz to 1 kHz	4.0E-03 rel	
	1 mF to 10 mF	20 Hz to 100 Hz	4.0E-03 rel	
	1 mF to 10 mF	100 Hz to 400 Hz 400 Hz to 1 kHz	1.0E-02 rel 2.0E-02 rel	
	10 mF to 100 mF	20 Hz to 100 Hz	2.0E-02 rel	

Inductance[5]				
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Inductance	**Frequency**	**U**	
Inductance – Measure[4]	2 µH to 10 µH	1 kHz to 10 kHz	2.0E-02 rel	PT-TAR-Q-L1 Direct Method Wayne Kerr 6440B (Note 1s)
	10 µH to 30 µH	100 Hz to 1 kHz	2.0E-02 rel	
	10 µH to 30 µH	1 kHz to 10 kHz	1.0E-02 rel	
	30 µH to 100 µH	50 Hz to 1 kHz	2.0E-02 rel	
	30 µH to 100 µH	1 kHz to 10 kHz	1.0E-02 rel	
	100 µH to 1 mH	50 Hz to 1 kHz	1.0E-02 rel	
	100 µH to 1 mH	1 kHz to 10 kHz	1.0E-03 rel	
	1 mH to 10 mH	40 Hz to 1 kHz	2.0E-03 rel	
		1 kHz to 10 kHz	1.0E-03 rel	
	10 mH to 1 H	40 Hz to 10 kHz	1.0E-03 rel	

AC Dielectric Strength Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Amplitude	**Frequency**	**U1**	**U2**	
AC High Voltage –Measure[4]	0.1 kV to 1 kV 1 kV to 10 kV	50 Hz to 60 Hz 50 Hz to 60 Hz	2.0E-03 rel 5.0E-03 rel	0.55 V/U 5.0 V/U	PT-TAR-DIEL1 Direct Method Fluke 5320A Fluke 5320A/HV divider Fluke 5322A Fluke 5322A/HV divider (Note 1s, 2s)
AC Voltage waveform – Measure[4]	0.1 kV to 2 kV	50 Hz to 60 Hz	1.7E-02 rel	59 mV/U	PT-TAR-DIEL1 Direct Method Tektronix DPO7354C + Tektronix P5210 Tektronix MSO64B + Tektronix THDP0100 (Note 1s, 2s)
AC Voltage THD	@ 1 kV	55 Hz to 2.4 kHz	4.0E-03 rel	58 μ%$_{THD}$/THD$_V$	PT-TAR-DIEL1 Direct Method UL International Italia VIHM ZES Zimmer LMG640/LMG611 Fluke 5322A (Note 1, 12)
Test Time – Measure[4]	0.1 s to 120 s 10 s to 999 s	50 Hz to 60 Hz 50 Hz to 60 Hz	3.0E-03 rel 2.0E-04 rel	20 ms/T	PT-TAR-DIEL1 Direct Method Tektronix DPO7354C/Tektronix MSO64B Fluke 5320A Fluke 5322A (Note 1, 6)
AC Voltage Rise ramp – Measure[4]	0.1 kV to 2 kV	50 Hz to 60 Hz	1.7E-02 rel	12 mV/U	PT-TAR-DIEL1 Direct Method Tektronix DPO7354C + Tektronix P5210

					Tektronix MSO64B + Tektronix THDP0100 (Note 1s, 2s)

AC Dielectric Strength Meters[5] continued					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
AC Trip current and Leakage current Threshold – Measure[4]	1 µA to 300 µA 0.3 mA to 3 mA 3 mA to 30 mA 30 mA to 300 mA	50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz 50 Hz to 60 Hz	3.7E-03 rel 3.3E-03 rel 4.5E-03 rel 2.4E-03 rel	0.61 µA/I 6.0 µA/I 60 µA/I 0.6 mA/I	PT-TAR-DIEL1 Direct Method Fluke 5320A Fluke 5322A Fluke 5320A/Load Fluke 5322A/Load (Note 1s, 3s, 16s)
AC Short-Circuit current – Measure[4]	20 mA to 1 A @ 1 kV to 5 kV	50 Hz to 60 Hz	1.5E-02 rel		PT-TAR-DIEL1 Direct Method Tektronix DPO7354C/Tektronix MSO64B + ZES Zimmer LMG-SH001(Note 1s)
500 VA Transformer capability – Measure[4]	100 mA @ 5 kV	50 Hz to 60 Hz	5.7E-03 rel	2.1 V/U	PT-TAR-DIEL1 Direct Method Fluke 5320A Fluke 5322A Fluke 5320A/HV divider Fluke 5322A/HV divider (Note 1s, 2s)

DC Dielectric Strength Meters[5]				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Amplitude	**U1**	**U2**	
DC High Voltage – Measure[4]	0.1 kV to 1 kV 1 kV to 10 kV	2.4E-03 rel 3.0E-03 rel	0.55 V/U 5.0 V/U	PT-TAR-DIEL1 Direct Method Fluke 5320A Fluke 5322A Fluke 5320A/HV divider Fluke 5322A/HV divider (Note 1s, 2s)
DC Voltage ripple – Measure[4]	0.1 kV to 7 kV	1.7E-02 rel	12 mV/U	PT-TAR-DIEL1 Direct Method Tektronix DPO7354C + Tektronix P5210 Tektronix MSO64B + Tektronix THDP0100 Fluke 5322A Tektronix DPO7354C/ Tektronix MSO64B + Teseq MD200A (Note 1, 2)

DC Dielectric Strength Meters[5] continued				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Amplitude	**U1**	**U2**	
Test Time – Measure[4]	0.1 s to 120 s 10 s to 999 s	3.0E-03 rel 2.0E-04 rel	2.0 ms/T	PT-TAR-DIEL1 Direct Method Tektronix DPO7354C + Tektronix P5210 Tektronix MSO64B + Tektronix THDP0100 Fluke 5320A Fluke 5322A (Note 1s, 6s)
DC Voltage Rise ramp – Measure[4]	0.1 kV to 2 kV	1.7E-02 rel	12 mV/U	PT-TAR-DIEL1 Direct Method Tektronix DPO7354C + Tektronix P5210 Tektronix MSO64B + Tektronix THDP0100 (Note 1s, 2s)
DC Trip current and Leakage current Threshold – Measure[4]	1 µA to 300 µA 0.3 mA to 3 mA 3 mA to 30 mA 30 mA to 300 mA	5.1E-03 rel 2.6E-03 rel 4.3E-03 rel 2.3E-03 rel	0.61 µA/I 6.0 µA/I 60 µA/I 0.16 mA/I	PT-TAR-DIEL1 Direct Method Fluke 5320A Fluke 5322A Fluke 5320A/Load Fluke 5322A/Load (Note 1s, 3s, 16s)
DC Short-Circuit current – Measure[4]	20 mA to 1 A @ 1 kV to 5 kV	1.5E-02 rel		PT-TAR-DIEL1 Direct Method Tektronix DPO7354C/Tektronix MSO64B + ZES Zimmer LMG-SH001 (Note 1s)

Ground Bond Resistance Meters[5]						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Current	**Voltage**	**Resistance**	**U1**	**U2**	
AC Current @ 50/60 Hz – Measure[4]	5 A to 10 A 10 A to 20 A 20 A to 30 A 30 A to 60 A 60 A to 100 A			4.0E-04 rel 4.0E-04 rel 1.0E-02 rel 1.0E-02 rel 1.0E-02 rel	8.0 mA/I 16 mA/I 24 mA/I 48 mA/I 96 mA/I	PT-TAR-GBR1 Direct Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 (Note 1s, 3s)
Resistance and Threshold @ 50/60 Hz – Measure[4]	5 A to 10 A		1 mΩ to 20 mΩ 10 mΩ to 200 mΩ 100 mΩ to 2 Ω 1 Ω to 2.4 Ω	7.2E-04 rel 7.2E-04 rel 7.2E-04 rel 7.2E-04 rel	9.0 µΩ/R 86 µΩ/R 0.86 mΩ/R 3.2 mΩ/R	PT-TAR-GBR1 Comparison Method ZES Zimmer LMG95 ZES Zimmer LMG-Z601 Fluke 8846A (Note 1s, 4s, 16s)
	10 A to 20 A		0.5 mΩ to 10 mΩ 5 mΩ to 100 mΩ 50 mΩ to 1 Ω 500 mΩ to 1.2 Ω	7.2E-04 rel 7.2E-04 rel 7.2E-04 rel 7.2E-04 rel	4.5 µΩ/R 43 µΩ/R 0.43 mΩ/R 1.6 mΩ/R	
	20 A to 30 A		0.3 mΩ to 5 mΩ 3.3 mΩ to 50 mΩ 33.3 mΩ to 0.5 mΩ 333.3 mΩ to 0.6 Ω	1.0E-02 rel 1.0E-02 rel 1.0E-02 rel 1.0E-02 rel	3.1 µΩ/R 29 µΩ/R 0.29 mΩ/R 1.1 mΩ/R	
	30 A to 60 A		0.2 mΩ to 3.3 mΩ 1.7 mΩ to 33.3 mΩ 16.7 mΩ to 0.33 Ω 166.7 mΩ to 0.4 Ω	1.0E-02 rel 1.0E-02 rel 1.0E-02 rel 1.0E-02 rel	1.6 µΩ/R 14 µΩ/R 0.14 mΩ/R 0.53 mΩ/R	
	60 A to 100A		0.1 mΩ to 1.7 mΩ 1 mΩ to 16.7 mΩ 10 mΩ to 0.17 Ω 100 mΩ to 0.2 Ω	1.0E-02 rel 1.0E-02 rel 1.0E-02 rel 1.0E-02 rel	1.2 µΩ/R 10 µΩ/R 0.10 mΩ/R 0.32 mΩ/R	
AC Voltage and Threshold @ 50/60 Hz – Measure[4]		10 mV to 0.1 V 0.1 V to 1 V 1 V to 10 V 10 V to 12 V		6.0E-04 rel 6.0E-04 rel 6.0E-04 rel 6.0E-04 rel	40 µV/U 0.30 mV/U 3.0 mV/U 30 mV/U	PT-TAR-GBR1 Comparison Method Fluke 8846A (Note 1s, 2s, 16s)

Ground Bond Resistance Meters[5] continued						
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Current	**Voltage**	**Resistance**	**U1**	**U2**	
Test Time @ 50/60 Hz – Measure[4]	0.1 s to 120 s 10 s to 999 s			3.0E-03 rel 2.0E-04 rel	20 ms/T	PT-TAR-GBR1 Direct Method Tektronix DPO7354C/Tektronix MSO64B Fluke 5320A Fluke 5322A (Note 1s, 6s)

Insulation Resistance Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Voltage	**Resistance**	**U1**	**U2**	
DC Voltage – Measure[4]	10 V to 100 V 100 V to 1000 V		1.9E-04 rel 1.6E-04 rel	40 mV/U 40 mV/U	PT-TAR-IR1 Direct Method Fluke 8846A (Note 1s, 2s)
Resistance and Threshold – Generate[3]	10 V to 500 V	200 kΩ to 999.9 kΩ 1 MΩ to 10 MΩ 10 MΩ to 999.9 MΩ 1 GΩ to 10 GΩ	2.0E-03 rel 3.0E-03 rel 5.0E-03 rel 1.0E-02 rel	58 Ω/R 0.58 kΩ/R 5.8 kΩ/R 0.58 MΩ/R	PT-TAR-IR1 Direct Method Fluke 5320A Fluke 5322A (Note 1s, 4s)
	500 V to 1000 V	200 kΩ to 999.9 kΩ 1 MΩ to 10 MΩ 10 MΩ to 999.9 MΩ 1 GΩ to 10 GΩ	4.0E-03 rel 5.0E-03 rel 7.0E-03 rel 1.2E-02 rel	58 Ω/R 0.58 kΩ/R 5.8 kΩ/R 0.58 MΩ/R	
Test Time – Measure[4]	0.1 s to 120 s 10 s to 999 s		3.0E-03 rel 2.0E-04 rel	20 ms/T	PT-TAR-IR1 Direct Method Tektronix DPO7354C/Tektronix MSO64B Tektronix P5210 Fluke 5320A Fluke 5322A (Note 1s, 6s)

Glow Wire test apparatus[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Amplitude	**Frequency**	**U1**	**U2**	
AC Current – Measure[4]	10 A to 100 A 100 A to 200 A	50 Hz to 60 Hz 50 Hz to 60 Hz	7.5E-03 rel 7.5E-03 rel	5.8 mA/I 58 mA/I	PT-TAR-GLOW_WIRE1 Comparison Method Fluke 8846A Chauvin Arnoux C107DO (Note 1s, 3s)
AC Current – Silver foil melting – Measure[4]	120 A to 150 A	50 Hz to 60 Hz	7.5E-03 rel		PT-TAR-GLOW_WIRE1 Direct Method Fluke 8846A Chauvin Arnoux C107DO (Note 1s)
Temperature - Generate[3]	120 °C to 1000 °C			0.13 °C	PT-TAR-GLOW_WIRE1 Direct Method Fluke 5522A Fluke 7526A
Temperature – Silver foil melting	950 °C to 970 °C			1.2 °C	PT-TAR-GLOW_WIRE1 Direct Method Cimi Ag999
Push force - carriage – Measure[4]	0.9 N to 1.1 N		4.0E-03 rel		PT-TAR-GLOW_WIRE1 Direct Method AEP Transducers TCA AEP Transducers DFI(Note 1s)
Dimensional – millimeter scale – Measure[4]	5 mm to 150 mm			0.29 mm	PT-TAR-GLOW_WIRE1 Direct Method Mitutoyo CD-6”GS
Ambient light – test chamber – Measure[4]	0 Lux to 4000 Lux		3.1E-02 rel		PT-TAR-GLOW_WIRE1 Direct Method ISO-TECH Lux-1335 (Note 1s)
Draught proof – test chamber – Measure[4]	0 m/s to 0.99 m/s			26 mm/s	PT-TAR-GLOW_WIRE1 Direct Method DELTA OHM HD 2103.1 DELTA OHM AP471S2 TSI 8475-300-1

Tracking test apparatus[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Amplitude	**Frequency**	**U1**	**U2**	
AC Voltage – Measure[4]	60 V to 130 V 130 V to 250 V 250 V to 400 V 400 V to 600 V	45 Hz to 65 Hz 45 Hz to 65 Hz 45 Hz to 65 Hz 45 Hz to 65 Hz	4.0E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel	0.10 V/U 0.20 V/U 0.32 V/U 0.48 V/U	PT-TAR-TRACKING1 Comparison Method ZES Zimmer LMG95 (Note 1s, 2s)
AC Current and Current Threshold – Measure[4]	15 mA to 0.15 A 0.15 A to 0.3 A 0.3 A to 0.6 A 0.6 A to 1.2 A	45 Hz to 65 Hz 45 Hz to 65 Hz 45 Hz to 65 Hz 45 Hz to 65 Hz	4.1E-04 rel 4.0E-04 rel 4.0E-04 rel 4.0E-04 rel	0.16 mA/I 0.24 mA/I 0.48 mA/I 0.96 mA/I	PT-TAR-TRACKING1 Comparison Method ZES Zimmer LMG95 (Note 1s, 3s)
Current Threshold – Time – Measure[4]	0.1 s to 120 s		3.0E-03 rel		PT-TAR-TRACKING1 Direct Method Tektronix DPO7354C/Tektronix MSO64B (Note 1s)
Dimensional - Electrodes – Measure[4]	1 mm to 150 mm 0.1 mm to 25 mm 0 mm to 0.1 mm			30 µm 3.0 µm 5 µm	PT-TAR-TRACKING1 Direct Method Mitutoyo CD-6”GS Mitutoyo 293-344 Microvu Vertex 311
Angles – Electrodes – Measure[4]	30° to 60°			2.1E-2°	PT-TAR-TRACKING1 Direct Method Mitutoyo CD-6”GS Mitutoyo 293-344 Microvu Vertex 311
Push force - Electrodes – Measure[4]	0.9 N to 1.1 N		4.2E-03 rel		PT-TAR-TRACKING1 Direct Method AEP Transducers TCA AEP Transducers DFI (Note 1s)
Drops – Mass – Measure[4]	0.5 g to 100 g			4.0 Mg	PT-TAR-TRACKING1 Direct Methodf Sartorius ED224S
Drops – Erogation time – Measure[4]	1350 s to 1590 s			80 µs	PT-TAR-TRACKING1 Direct Method Quantum StopClock 5500
Draught proof – test chamber – Measure[4]	0 m/s to 0.99 m/s			0.10 m/s	PT-TAR-TRACKING1 Direct Method DELTA OHM HD 2103.1 DELTA OHM AP471S2 TSI 8475-300-1

Leakage Current Built-in Meters[5]					
CALIBRATION AREA	**RANGE**		**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Current	**Frequency**	**U1**	**U2**	
Leakage current –Measure[4]	10 µA to 100 µA 0.1 mA to 1 mA 1 mA to 10 mA 10 mA to 100 mA	50 Hz to 60 Hz	2.3E-03 rel 1.1E-03 rel 1.0E-03 rel 1.0E-03 rel	0.10 µA/I 0.70 µA/I 4.1 µA/I 40.2 µA/I	PT-TAR-LEAK1 Direct Method Fluke 5320A Fluke 5322A Fluke 8846A (Note 1s, 3s, 16s)

Leakage Current Networks/Other Networks[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Frequency	**U**	
Input impedance – Measure[4]	DC	2.0E-05 rel	PT-TAR-Q-TRANSIMP2 Direct Method Fluke 8846A Fluke 8508A (Note 1s)
	20 Hz to 1 MHz	4.0E-03 rel	PT-TAR-Q-TRANSIMP2 Direct Method Wayne Kerr 6440B (Note 1s)
Transfer Impedance – Measure[4]	DC	1.5E-04 rel	PT-TAR-Q-TRANSIMP2 Direct Method Fluke 5522A Fluke 8846A Fluke 8508A (Note 1s)
	20 Hz to 100 kHz	2.2E-02 rel	PT-TAR-Q-TRANSIMP2 Direct Method Wayne Kerr 6440B Keysight 33220A Tektronix DPO7354C/Tektronix MSO64B (Note 1s)
	100 kHz to 1 MHz	4.2E-02 rel	

Leakage Current Meters not built on power sources[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Frequency	**U**	
Volt per milliampere indication – Generate[3]	DC	1.5E-04 rel	PT-TAR-LEAK1 Direct Method Fluke 5522A (Note 1s)
Volt per milliampere indication – Generate[3]	20 Hz to 100 kHz 100 kHz to 1 MHz	1.5E-02 rel 2.0E-02 rel	PT-TAR-LEAK1 Direct Method Keysight 33220A (Note 1s, 21s)

Digital Calipers[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U	
External measurement	1 mm to 1500 mm (r = 0.01 mm)	13 µm	PT-TAR-CALIPER1 Direct Method Mitutoyo 516-967-10 Mitutoyo 611676-031 Mitutoyo 611803-031 Mitutoyo 611805-031 Mitutoyo 611685-031 Mitutoyo 177-139 Mitutoyo 177-292 (Note 18s)
Internal measurement	1 mm to 1500 mm (r = 0.01 mm)	13 µm	
Depth measurement	1 mm to 1500 mm (r = 0.01 mm)	12 µm	

Vernier and Dial Calipers[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U	
External measurement	1 mm to 1500 mm (r = 0.02 mm)	24 µm	PT-TAR-CALIPER1 Direct Method Mitutoyo 516-967-10 Mitutoyo 611676-031 Mitutoyo 611803-031 Mitutoyo 611805-031 Mitutoyo 611685-031 Mitutoyo 177-139 Mitutoyo 177-292 (Note 18s)
Internal measurement	1 mm to 1500 mm (r = 0.02 mm)	24 µm	
Depth measurement	1 mm to 1500 mm (r = 0.02 mm)	24 µm	

Digital micrometers[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U	
External measurement	1 mm to 25 mm (r = 0.001 mm)	1.5 µm	PT-TAR-MICROMETER1 Direct Method Mitutoyo 516-967-10
	25 mm to 50 mm (r = 0.001 mm)	1.9 µm	

Analog micrometers[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U	
External measurement	1 mm to 25 mm (r = 0.0025 mm)	3.1 µm	PT-TAR-MICROMETER1 Direct Method Mitutoyo 516-967-10
	25 mm to 50 mm (r = 0.0025 mm)	3.3 µm	

Climatic Chambers[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Temperature - Measure[4]	-45 °C to 0 °C (r=0.01 °C)	1.00 °C	PT-TAR-CLIMCHAMBER1 PT-TAR-CLIMCHAMBER2 PT-TAR-CLIMCHAMBER3 Comparison Method Agilent 34972A Agilent 34901A Agilent 34980A Agilent 34921A Rotronic HC2-SH Tersid PT100 1/5DIN Yokogawa MV2000 Tersid TF/TF-24-TT (Note 19s)
	0 °C to 50 °C (r=0.01 °C)	0.40 °C	
	50 °C to 180 °C (r=0.01 °C)	1.00 °C	
	180 °C to 260 °C (r=0.01 °C)	0.80 °C	
Relative Humidity - Measure[4]	20 %RH to 95 %RH (r=0.01 %RH) @10 °C to 22 °C	2.1 %RH	
	20 %RH to 95 %RH (r=0.01 %RH) @ 22 °C to 24 °C	1.2 %RH	
	20 %RH to 95 %RH (r=0.01 %RH) @ 24 °C to 50 °C	2.1 %RH	

Temperature sensors – chained with indicator[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Temperature - Measure[4]	-45 °C to 120 °C	0.06 °C	PT-TAR-M-TEMP2 Comparison Method Fluke 9170-5615 Labfacility TempMasterPRO PR-197-D–935-14-95H/BW ISO-TECH TTI-10–PR-197-D Techne Tecal 425S–Fluke 9011 Fluke7341 Fluke 1523-5615
	120 °C to 140 °C	0.15 °C	
	140 °C to 650 °C	0.40 °C	

Platinum resistance PRT PT100 385 – without indicator - Customer			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Temperature - Measure[4]	-45 °C to 120 °C	0.06 °C	PT-TAR-M-TEMP3 Comparison Method Fluke 9170-5615 Labfacility TempMasterPRO PR-197-D–935-14-95H/BW ISO-TECH TTI-10–PR-197-D Techne Tecal 425S–Fluke 9011 Fluke 7341 Fluke 1523-5615 Fluke 5522A Fluke 7526A (Note 22s)
	120 °C to 140 °C	0.15 °C	
	140 °C to 650 °C	0.40 °C	

Thermocouple - without indicator[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U	
Temperature - Type B – Measure[4]	-45 °C to 120 °C 120 °C to 140 °C 140 °C to 650 °C	0.36 °C 0.38 °C 0.53 °C	PT-TAR-M-TEMP3 Comparison Method Fluke 9170-5615 Labfacility TempMasterPRO PR-197-D–935-14-95H/BW ISO-TECH TTI-10–PR-197-D Techne Tecal 425S–Fluke 9011 Fluke 7341 Fluke 1523-5615 Fluke 7526A Fluke 5522A (Note 22s)
Temperature - Type C - Measure[4]	-45 °C to 120 °C 120 °C to 140 °C 140 °C to 650 °C	0.17 °C 0.22 °C 0.43 °C	
Temperature - Type E - Measure[4]	-45 °C to 0 °C 0 °C to 120 °C 120 °C to 140 °C 140 °C to 650 °C	0.11 °C 0.10 °C 0.17 °C 0.41 °C	
Temperature - Type J - Measure[4]	-45 °C to 120 °C 120 °C to 140 °C 140 °C to 650 °C	0.11 °C 0.18 °C 0.41 °C	
Temperature - Type K - Measure[4]	-45 °C to 120 °C 120 °C to 140 °C 140 °C to 650 °C	0.12 °C 0.18 °C 0.41 °C	
Temperature - Type N - Measure[4]	-45 °C to 120 °C 120 °C to 140 °C 140 °C to 650 °C	0.13 °C 0.18 °C 0.41 °C	
Temperature - Type R - Measure[4]	-45 °C to 0 °C 0 °C to 120 °C 120 °C to 140 °C 140 °C to 650 °C	0.46 °C 0.40 °C 0.32 °C 0.45 °C	
Temperature - Type S - Measure[4]	-45 °C to 0 °C 0 °C to 120 °C 120 °C to 140 °C 140 °C to 650 °C	0.44 °C 0.39 °C 0.33 °C 0.46 °C	
Temperature - Type T - Measure[4]	-45 °C to 0 °C 0 °C to 120 °C 120 °C to 140 °C 140 °C to 400 °C	0.13 °C 0.11 °C 0.18 °C 0.41 °C	

Temperature source – temperature evaluation of one/multiple points inside a conditioned environment[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Temperature - Measure[4]	-45 °C to 0 °C 0 °C to 50 °C 50 °C to 180 °C 180 °C to 260 °C	1.0 °C 0.40 °C 1.0 °C 0.80 °C	PT-TAR-M-TEMP4 Direct Method Agilent 34972A Agilent 34901A UL International Italia TP25g Tersid PT100 1/5DIN Yokogawa MV2000 Tersid TF/TF-24-TT

Climatic central units – T, RH and Barometric Pressure[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Temperature - Measure[4]	10 °C to 60 °C	0.20 °C	PT-TAR-M-CCU1 Comparison Method
Relative Humidity - Measure[4]	10 %RH to 95 %RH	1.0 %RH	Rotronic HG2-S_HC2-SH Agilent 34972A Agilent 34901A Tersid PT100 1/5DIN Labfacility TempMasterPRO PR-197-D ISO-TECH TTI-10–PR-197-D
Barometric Pressure - Measure[4]	800 mbar to 1100 mbar	0.60 mbar	PT-TAR-M-BARP1 Comparison Method Setra 278 Fluke 8846A (Note 16s)

Non-automatic weighing instruments[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Weight	10 mg to 1 g	13 µg	PT-TAR-M-SCALE1 Direct Method OIML R111-1 E2 OIML R111-1 F1 OIML R111-1 M1 Various Weights
	1 g to 10 g	29 µg	
	10 g to 100 g	0.19 mg	
	100 g to 1 kg	0.97 mg	
	1 kg to 10 kg	9.0 mg	
	10 kg to 100 kg	90 mg	
	100 kg to 300 kg	0.14 g	

Manometer and pressure gauge[5]				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U1**	**U2**	
Pressure - Generate[3]	-0.8 bar to 1 bar	5.0E-04	0.40 mbar	PT-TAR-M-PRE1 PT-TAR-M-PRE2 Comparison Method Fluke 2700G-BG100K Fluke 719Pro-30G AEP LabDMM5 Fluke 719Pro-300G AEP LabDMM50 AEP LabDMM350 AEP LabDMM1000 (Note 1s)
	1 bar to 2 bar	1.5E-03 rel	0.70 mbar	
	2 bar to 5 bar		5.0 mbar	
	5 bar to 20 bar		7.0 mbar	
	20 bar to 50 bar		30 mbar	
	50 bar to 350 bar		0.18 bar	
	350 bar to 700 bar		0.50 bar	

Absolute Manometer[5]				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U1**	**U2**	
Absolute Pressure - Generate[3]	P_amb to 2 bar	5.0E-04	1.8 mbar	PT-TAR-M-PRE3 Comparison Method Setra 278 Fluke 2700G-BG100K Fluke 719Pro-30G AEP LabDMM5 Fluke 719Pro-300G AEP LabDMM50 AEP LabDMM350 AEP LabDMM1000 (Note 1s, 26s)
	2 bar to 3 bar	1.5E-03 rel	1.7 mbar	
	3 bar to 6 bar		5.3 mbar	
	6 bar to 21 bar		7.2 mbar	
	21 bar to 51 bar		30 mbar	
	51 bar to 351 bar		0.18 bar	
	351 bar to 701 bar		0.50 bar	

Torque meter/Slip Torque Meter				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U1**	**U2**	
Torque meter/Slip Torque Meter - Measure[4]	0.1 N·m to 2.5 N·m	1.0E-02 rel	5 mN·m /Tq	PT-TAR-M-TRQ1 Comparison Method AEP Transducers BTR 2,5Nm AEP Transducers BTR2 10Nm AEP Transducers BTR 25Nm (Note 1s, 14s)
	2.5 N·m to 25 N·m	5.0E-03 rel	13 mN·m /Tq	

Torque meter[5]					
CALIBRATION AREA	**RANGE**			**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Weight	**Lever**	**Torque**	**U**	
Torque meter - Measure[4]	0 g to 100 g	0 cm to 50 cm 50 cm to 100 cm 100 cm to 200 cm	0 N·m to 0.49 N·m 0 N·m to 0.98 N·m 0.1 N·m to 1.96 N·m	0.58 mN·m 0.59 mN·m 0.61 mN·m	PT-TAR-M-TRQ2 Direct Method Lever-weight system: Tajima 3.0m HiLock-16 KERN&Sohn 347series Sartorius BP6100 Precia Molen K30 Sola ENW60cm
	100 g to 1 kg	0 cm to 20 cm 20 cm to 100 cm 100 cm to 200 cm	0 N·m to 1.96 N·m 0.2 N·m to 9.82 N·m 0.98 N·m to 19.63 N·m	0.97 mN·m 0.98 mN·m 0.99 mN·m	
	1 kg to 10 kg	0 cm to 100 cm 100 cm to 200 cm	0 N·m to 98.17 N·m 9.82 N·m to 196.34 N·m	7.9 mN·m 8.1 mN·m	
	10 kg to 20 kg	0 cm to 200 cm	0 N·m to 392.68 N·m	79 mN·m	
	20 kg to 115 kg	0 cm to 200 cm	0 N·m to 2257.9 N·m	0.16 N·m	

Linear Dimension[5]				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U1**	**U2**	
Linear dimension - Measure[4] in contact	0.1 mm to 25 mm 25 mm to 150 mm 150 mm to 200 mm 200 mm to 600 mm 600 mm to 2000 mm 2000 mm to 3000 mm		3.0 µm 30 µm 30 µm 50 µm 0.4 mm 0.5 mm	PT-TAR-Q-LENGTH1 Direct Method Mitutoyo 293-344 Mitutoyo CD-6"GS Mitutoyo CD-P20M RS 877-1788 Tajima 3.0m HiLock-16 Microvu Vertex 311 Sola ENW60cm
Linear dimension - Measure[4] in contact/Optical	217 mm x 217 mm x 160 mm	50E-6 rel	6.0 µm	
Degrees	0° to 90°		0.2°	

Digital Inclinometer			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Degrees - Measure[4]	0° to 90°	0.20°	PT-TAR-M-ANGLE1 Comparison Method Sola ENW60cm

Tape Measure			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Tape Measure – Tick distance	1 mm to 2000 mm	0.40 mm	PT-TAR-M-TAPE1 Comparison Method Microvu Vertex 311 Tajima 3.0m HiLock-16
	2000 mm to 3000 mm	0.50 mm	

Dynamometer[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Dynamometer - Measure[4]	0 N to 10 N 10 N to 100 N 100 N to 1000 N	0.18 mN 2.6 mN 25 mN	PT-TAR-M-FRC1 Direct Method Various Weights M1 Class AEP Transducer TCA10, TCA50, TCA500

Impact Hammer				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U1**	**U2**	
Energy	0.2 J to 1 J		0.013 J	PT-TAR-IMPHAM1 Direct Method Secom CMI Microvu Vertex 311, Mitutoyo CD-6”GS, Mitutoyo 293-344 AEP Transducer TCA10 (Note 1s, 15s) Sartorius BP6100
Linear Dimension	0 mm to 230 mm		5.0 µm	
Releasing Force	≤10 N	2.0E-3 rel	5.0 mN/F	
Striking element Mass	250 g		1.0 g	

Weight			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Weight – Measure	0.5 g to 220 g 220 g to 5700 g 5700 g to 30000 g	20 mg 2.0 g 14.0 g	PT-TAR-Q-MASS1 Direct Method Sartorius ED224S Sartorius BP6100 Precia Molen K30

Stopwatch - Manual Start/Stop[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Stopwatch - Measure[4]	10 s to 600 s 600 s to 10000 s 10000 s to 30000 s	5.0 ms 50 ms 52 ms	PT-TAR-M-TIME1 Comparison Method Alge-Timing Timy3 Quantum StopClock 5500

Stopwatch - Electrical Start/Stop[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Stopwatch - Measure[4]	10 s to 600 s 600 s to 10000 s 10000 s to 30000 s	5.0 ms 21 ms 25 ms	PT-TAR-M-TIME1 Comparison Method Alge-Timing Timy3 Quantum StopClock 5500

Angular Velocity[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Angular Velocity - Measure[4]	6 rpm to 30000 rpm	0.21 rpm	PT-TAR-M-RPM2 Comparison Method ANDERS ELECTRONICS TM-5010

Angular Velocity – Manual count[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Angular Velocity - Measure[4]	1 rpm to 10 rpm 10 rpm to 100 rpm	3.3E-03 rpm 33E-03 rpm	PT-TAR-Q-RPM1 Comparison Method Alge-Timing Timy3 Quantum StopClock 5500

Tachometer[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Angular Velocity - Generate[3]	6 rpm to 30000 rpm	95E-03 rpm	PT-TAR-M-RPM1 Direct Method Fluke 5522A Keysight 33220A

Chamber - Air velocity[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U**	
Air Velocity measure[4]	0.0 m/s to 0.55 m/s 0.55 m/s to 2.00 m/s 2.00 m/s to 5.00 m/s	30 mm/s 0.10 m/s 0.25 m/s	PT-TAR-Q-AIRVEL1 Direct Method DELTA OHM AP471S2 TSI 8475-300-1

Chamber - Ambient light[5]				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U1**	**U2**	
Ambient light measure[4]	0 lx to 40 lx 40 lx to 400 lx 400 lx to 4000 lx	3.0E-02 rel 3.0E-02 rel 3.0E-02 rel	0.20 lx 2.0 lx 20 lx	PT-TAR-Q-LUX1 Direct Method ISOTECH LUX-1335

Flow Meters[5]				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U1**	**U2**	
Water Flow - Measure[4]	0 L/min to 10 L/min 10 L/min to 20 L/min 20 L/min to 38 L/min 38 L/min to 380 L/min	5.0E-03 rel 5.0E-03 rel 5.0E-03 rel 2.0E-02 rel	0.75 mL/min 1.4 mL/min 0.49 mL/min 10 mL/min	PT-TAR-M-FLW1 Comparison Method Yokogawa AXF002G Yokogawa AXF010G Yokogawa AXG025G Omega FTB794

Water Counter[5]				
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**		**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
	Value	**U1**	**U2**	
Water Count - Measure[4]	0.2 L/min to 2 L/min 2 L/min to 10 L/min	5.0E-03 rel 5.0E-03 rel	0.75 mL 1.4 mL	PT-TAR-M-WCNT1 Comparison Method Yokogawa AXF002G Yokogawa AXF010G

Fast Transient/Burst – Generator[5] -			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U	
Peak Voltage into 50 Ω - Measure[4]	0.25 kV to 8 kV	43E-03 rel	PT-TAR-G-BURST IEC 61000-4-4 Tektronix DPO7354C/Tektronix MSO64B, EM TEST KW50, EM TEST KW1000 (Note 1s)
Peak Voltage into 1000 Ω - Measure[4]	0.25 kV to 8 kV	43E-03 rel	
Rise Time into 50 Ω - Measure[4]	5 ns	20 ps	
Rise Time into 1000 Ω - Measure[4]	5 ns	35 ps	
Pulse Width into 50 Ω - Measure[4]	50 ns	18 ps	
Pulse Width into 1000 Ω - Measure[4]	50 ns to 150 ns	4.0 ps	
Frequency - Measure[4]	5 kHz and 100 kHz	10E-09 rel	
Duration @ 5 kHz - Measure[4]	15 ms	18 ns	
Duration @ 100 kHz - Measure[4]	0.75 ms	18 ns	
Period - Measure[4]	300 ms	18 ns	

Fast Transient/Burst - Coupling Decoupling Network[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U	
Peak Voltage into 50 Ω - Measure[4]	0.25 kV to 8 kV	43E-03 rel	PT-TAR-G-BURSTIEC 61000-4-4 Tektronix DPO7354C/Tektronix MSO64B, EM TEST KW50 (Note 1s)
Rise Time into 50 Ω - Measure[4]	5.5 ns	20 ps	
Pulse Width into 50 Ω - Measure[4]	45 ns	18 ps	

Fast Transient/Burst - Capacitive Clamp[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U	
Peak Voltage into 50 Ω - Measure[4]	2 kV	43E-03 rel	PT-TAR-G-BURST IEC 61000-4-4 Tektronix DPO7354C/Tektronix MSO64B, EM TEST KW50, EM TEST CA HFK (Note 1s)
Rise Time into 50 Ω - Measure[4]	5 ns	20 ps	
Pulse Width into 50 Ω - Measure[4]	50 ns	18 ps	

Surge Generator[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U	
Open Circuit Peak Voltage - Measure[4]	0.25 kV to 7 kV	12E-03 rel	PT-TAR-G-SURGE IEC 61000-4-5 Tektronix DPO7354C/Tektronix MSO64B, Tektronix P5210, Teseq MD200A, Pearson 4997 (Note 1s)
Front Time Voltage - Measure	1.2 µs	24E-05 rel	
Time to half value Voltage - Measure[4]	50 µs	35E-06 rel	
Short Circuit Peak Current - Measure[4]	20 A to 3.5 kA	38E-03 rel	
Front Time Current - Measure[4]	8 µs	27E-06 rel	
Time to half value Current - Measure[4]	20 µs	10E-06 rel	
Output Impedance	2 Ω to 12 Ω	5E-02 rel	

Surge Generator - Coupling Decoupling Network[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U	
Open Circuit Peak Voltage - Measure[4]	0.25 kV to 7 kV	12E-03 rel	PT-TAR-G-SURGE IEC 61000-4-5 Tektronix DPO7354C/Tektronix MSO64B, Tektronix
Front Time Voltage - Measure[4]	1.2 µs	24E-05 rel	
Time to half value Voltage - Measure[4]	50 µs	35E-06 rel	

Short Circuit Peak Current - Measure[4]	8 A to 3.5 kA	38E-03 rel	P5210, Teseq MD200A, Pearson 4997 (Note 1s)
Front Time Current - Measure[4]	2.5 µs to 8 µs	27E-06 rel	
Time to half value Current - Measure[4]	20 µs to 25 µs	10E-06 rel	

Ring Wave Generator[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U	
Open Circuit Peak Voltage - Measure[4]	0.25 kV to 7 kV	12E-03 rel	PT-TAR-G-RINGWAVE IEC 61000-4-12 Tektronix DPO7354C/Tektronix MSO64B, Tektronix P5210, Teseq MD200A, Pearson 4997 (Note 1s)
Rise Time Voltage - Measure[4]	0.500 µs	24E-05 rel	
Frequency - Measure[4]	100 kHz	16E-06 rel	
Decaying - Measure[4]	Ratio from Peak voltage	0.02 Unit	
Short Circuit Peak Current - Measure[4]	up to 500 A	38E-03 rel	
Rise Time Current - Measure[4]	1 µs	27E-06 rel	
Output Impedance	12 Ω to 30 Ω	5E-02 rel	

Flicker[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U	
P_{st} - Measure[4]	P_{st}=1	30E-03 Unit	PT-TAR-M-FLICKER IEC 61000-3-3, IEC 61000-3-11, IEC 61000-4-15 UL International Italia VIHM,
ΔU/U - Measure[4]	0.4 % to 3.2 %	150E-03 %*ΔU/U*	
Flicker Impedance Resistive Part - Measure[4]	0.032 Ω to 0.400 Ω	0.9E-03 Ω	
Flicker Impedance Imaginary Part - Measure[4]	0.020 j to 0.250 j	0.5E-03 j	

ElectroStatic Discharge			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)**
		U	
Air discharge DC output voltage- Measure[4]	2 kV to 30 kV	15E-03 rel	PT-TAR-G-ESD IEC 61000-4-2, ISO 10605 Fluke 8846A, Fluke 80K-40 Tektronix DPO7354C/Tektronix MSO64B, EM TEST CTR2 (Note 1s)
Peak Current - Measure[4] Discharge Circuit	7.5 A to 112.50 A	58E-03 rel	
Current @ 30 ns - Measure[4] Discharge Circuit	4 A to 60 A	58E-03 rel	
Current @ 60 ns - Measure[4] Discharge Circuit	2 A to 30 A	58E-03 rel	
Rise Time - Measure[4] Discharge Circuit	600 ps to 1000 ps	80 ps	

Power frequency magnetic field immunity – Generator/Antenna[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**TECHNIQUE, REFERENCE STANDARD, EQUIPMENT**
		U	
Magnetic Field	1 A/m to 100 A/m @ 50-60 Hz	1.0E-01 rel	PT-TAR-Q-MAGNETIC_FIELD IEC 61000-4-8 UL International Italia CIHM, Wandel & Goltermann EFA-200, Tajima 3.0m HiLock-16
Magnetic Field Uniformity	1 A/m to 100 A/m @ 50-60 Hz	1.2E-01 rel	
THD	100A total rms Fund @ 50-60 Hz	2.5E-02 rel	
Coil Factor	1 A/m to 100 A/m @ 50-60 Hz	1.0E-01 rel	

S-Parameters[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**TECHNIQUE, REFERENCE STANDARD, EQUIPMENT**
		U	
Transmission Measurements - Measure[4]	9 kHz to 50 MHz -50 dB to 0 dB -360° to 360°	0.20 dB 2.8°	PT-TAR-Q-S_PARAMETERS Direct Method Rohde & Schwarz ZVL6, Rohde & Schwarz ZV-Z170
	50 MHz to 3 GHz -70 dB to -50 dB -360° to 360°	0.30 dB 3.6°	
	50 MHz to 3 GHz -50 dB to 0 dB -360° to 360°	0.20 dB 2.8°	
	3 GHz to 6 GHz -70 dB to -50 dB -360° to 360°	0.31 dB 3.6°	
	3 GHz to 6 GHz -50 dB to 0 dB -360° to 360°	0.21 dB 2.8°	

S-Parameters[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**TECHNIQUE, REFERENCE STANDARD, EQUIPMENT**
		U	
Transmission Measurements - Measure[4]	100 kHz to 200 MHz -60 dB to -50 dB -360° to 360°	0.20 dB 2.1°	PT-TAR-Q-S_PARAMETERS Direct Method Rohde & Schwarz ZNB40, Rohde & Schwarz ZN-Z129
	100 kHz to 200 MHz -50 dB to -40 dB -360° to 360°	0.11 dB 1.8°	
	100 kHz to 200 MHz -40 dB to -20 dB -360° to 360°	0.089 dB 1.7°	
	100 kHz to 200 MHz -20 dB to 0 dB -360° to 360°	0.083 dB 1.6°	
	200 MHz to 4 GHz -60 dB to -50 dB -360° to 360°	0.24 dB 2.3°	
	200 MHz to 4 GHz -50 dB to -40 dB -360° to 360°	0.12 dB 1.8°	
	200 MHz to 4 GHz -40 dB to -20 dB -360° to 360°	0.094 dB 1.7°	
	200 MHz to 4 GHz -20 dB to 0 dB -360° to 360°	0.088 dB 1.6°	
	4 GHz to 10 GHz -60 dB to -50 dB -360° to 360°	0.25 dB 3.9°	
	4 GHz to 10 GHz -50 dB to -40 dB -360° to 360°	0.13 dB 3.7°	
	4 GHz to 10 GHz -40 dB to -20 dB -360° to 360°	0.10 dB 3.6°	
	4 GHz to 10 GHz -20 dB to 0 dB -360° to 360°	0.096 dB 3.6°	

S-Parameter[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**TECHNIQUE, REFERENCE STANDARD, EQUIPMENT**
Transmission Measurements - Measure[4]	10 GHz to 20 GHz -60 dB to -50 dB -360° to 360°	0.26 dB 4.9°	PT-TAR-Q-S_PARAMETERS Direct Method Rohde & Schwarz ZNB40, Rohde & Schwarz ZN-Z129
	10 GHz to 20 GHz -50 dB to -40 dB -360° to 360°	0.14 dB 4.7°	
	10 GHz to 20 GHz -40 dB to -20 dB -360° to 360°	0.12 dB 4.6°	
	10 GHz to 20 GHz -20 dB to 0 dB -360° to 360°	0.11 dB 4.6°	
	20 GHz to 26.5 GHz -60 dB to -50 dB -360° to 360°	0.34 dB 5.2°	
	20 GHz to 26.5 GHz -50 dB to -40 dB -360° to 360°	0.17 dB 4.8°	
	20 GHz to 26.5 GHz -40 dB to -20 dB -360° to 360°	0.13 dB 4.7°	
	20 GHz to 26.5 GHz -20 dB to 0 dB -360° to 360°	0.12 dB 4.7°	
	26.5 GHz to 35 GHz -60 dB to -50 dB -360° to 360°	0.34 dB 5.6°	
	26.5 GHz to 35 GHz -50 dB to -40 dB -360° to 360°	0.17 dB 5.2°	
	26.5 GHz to 35 GHz -40 dB to -20 dB -360° to 360°	0.14 dB 5.2°	
	26.5 GHz to 35 GHz -20 dB to 0 dB -360° to 360°	0.13 dB 5.1°	
	35 GHz to 40 GHz -60 dB to -50 dB -360° to 360°	0.99 dB 8.3°	
	35 GHz to 40 GHz -50 dB to -40 dB -360° to 360°	0.34 dB 5.6°	
	35 GHz to 40 GHz -40 dB to -20 dB -360° to 360°	0.17 dB 5.2°	
	35 GHz to 40 GHz -20 dB to 0 dB -360° to 360°	0.14 dB 5.2°	

S-Parameters[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**TECHNIQUE, REFERENCE STANDARD, EQUIPMENT**
Reflection Measurements - Measure[4]	9 kHz to 6 GHz 0 dB to -15 dB -360° to 360°	0.41 dB 3.6°	PT-TAR-Q-S_PARAMETERS Direct Method Rohde & Schwarz ZVL6, Rohde & Schwarz ZV-Z121 Rohde & Schwarz ZNB40, Rohde & Schwarz ZN-Z129
	9 kHz to 6 GHz -15 dB to -25 dB -360° to 360°	1.0 dB 6.4°	
	9 kHz to 6 GHz -25 dB to -35 dB -360° to 360°	3.0 dB 20°	
	100 kHz to 10 GHz 0 dB to -15 dB -360° to 360°	0.13 dB 3.6°	
	100 kHz to 10 GHz -15 dB to -25 dB -360° to 360°	0.30 dB 3.9°	
	100 kHz to 10 GHz -25 dB to -35 dB -360° to 360°	0.89 dB 7.5°	
	10 GHz to 20 GHz 0 dB to -15 dB -360° to 360°	0.20 dB 4.7°	
	10 GHz to 20 GHz -15 dB to -25 dB -360° to 360°	0.49 dB 5.3°	
	10 GHz to 20 GHz -25 dB to -35 dB -360° to 360°	1.3 dB 12°	
	20 GHz to 40 GHz 0 dB to -15 dB -360° to 360°	0.27 dB 5.3°	
	20 GHz to 40 GHz -15 dB to -25 dB -360° to 360°	0.62 dB 6.3°	
	20 GHz to 40 GHz -25 dB to -35 dB -360° to 360°	1.8 dB 15°	

Normalized Site Attenuation and Site Voltage Standing Wave Ratio[5]			
CALIBRATION AREA	**RANGE**	**EXPANDED UNCERTAINTY[1,2] (±)**	**TECHNIQUE, REFERENCE STANDARD, EQUIPMENT**
		U	
Normalized Site Attenuation Horizontal	30 MHz to 200 MHz -10 dB to 10 dB	0.74 dB	PT-TAR-Q-NSA PT-TAR-Q-SVSWR Direct Method CISPR 16-1-4, Rohde & Schwarz ZVL6, Rohde & Schwarz ZN-Z170, Rohde & Schwarz ZNB40, Rohde & Schwarz ZN-Z129, Schwarzbeck BBA 9106, Schwarzbeck VULP 9118, Schwarzbeck BBV 9743, Schwarzbeck DGA 9552, Seibersdorf PCD3100 Seibersdorf POD16 Seibersdorf POD618
Normalized Site Attenuation Vertical	30 MHz to 200 MHz -10 dB to 10 dB	0.90 dB	
Normalized Site Attenuation Horizontal	200 MHz to 1 GHz -10 dB to 10 dB	0.70 dB	
Normalized Site Attenuation Vertical	200 MHz to 1 GHz -10 dB to 10 dB	0.70 dB	
Site Voltage Standing Wave Ratio Horizontal and Vertical	1 GHz to 6 GHz 0 dB to 10 dB	1.9 dB	
Site Voltage Standing Wave Ratio Horizontal and Vertical	6 GHz to 18 GHz 0 dB to 10 dB	1.9 dB	

General Notes:

[1]The uncertainty covered by the Calibration and Measurement Capability (CMC) is expressed as the expanded uncertainty having a coverage probability of approximately 95 %. It is the smallest measurement uncertainty that a laboratory can achieve within its scope of accreditation when performing calibrations of a best existing device. The measurement uncertainty reported on a calibration certificate may be greater than that provided in the CMC due to the behavior of the calibration item and other factors that may contribute to the uncertainty of a specific calibration.

[2]When uncertainty is stated in relative terms (such as percent, a multiplier expressed as a decimal fraction or in scientific notation), it is in relation to instrument reading or instrument output, as appropriate, unless otherwise indicated. When Calibration and Measurement Capability (CMC) is expressed in two parts as **U1** and **U2,** the total CMC is the root sum squared of U1 and U2. Given below is an example calculation of total CMC expressed in % of reading for DC Voltage at a calibration point of 50 mV:

$$CMC_{[\%rdg]} = 100 \cdot \sqrt{U1^2{}_{[rel]} + \left(\frac{U2_{[V]}}{Calpoint_{[V]}}\right)^2}$$

$$CMC_{[\%rdg]} = 100 \cdot \sqrt{(1.5 \cdot 10^{-3})^2{}_{[rel]} + \left(\frac{1.4 \cdot 10^{-6}{}_{[V]}}{50 \cdot 10^{-3}{}_{[V]}}\right)^2} = 0.15_{[\%rdg]}$$

[3]Capability is suitable for the calibration of measuring devices in the stated ranges.

[4]Capability is suitable for the calibration of devices intended to generate the indicated quantity in the stated ranges.

[5]Also available as site calibration. Note that actual measurement uncertainties achievable at a customer's site can normally be expected to be larger than the uncertainties listed on this Scope of Accreditation.

Specific Notes:

1s rel is value declared in relative form.
2s *U* indicates voltage expressed in Volt.
3s *I* indicates current expressed in Ampere.
4s *R* indicates resistance expressed in Ohm.
5s *f* indicates frequency expressed in Hertz.
6s *T* indicates time expressed in second.
7s *PF* indicates power factor expressed in unit.
8s *P* indicates active power expressed in Watt.
9s *Q* indicates reactive power expressed in var.
10s *S* indicates apparent power expressed in VA.
11s *E* indicates active energy expressed in Wh.
12s *THD* indicates THD expressed in $\%_{THD.}$
13s *L* indicates Length expressed in meter.
14s *Tq* indicates Torque expressed in Nm
15s *F Indicates Force* expressed in N
16s Ranges are defined considering the measurement capability of reference standards. If the quantity is obtained using auxiliary equipment (e.g. resistive loads) there could be limitations on measuring points definition.
17s Uncertainties do not take into account temperature sensor uncertainty contributors.
18s The coverage factor k is 1.83 (trapezoidal distribution).
19s Uncertainty includes contributors of fluctuation, uniformity, repeatability and resolution.
20s The waveform applied is perfectly sinusoidal $P = S \cdot \cos(\varphi)$ and $PF = \cos(\varphi)$ so $PF = {}^{P}/_{S}$ where P is Real Power and S is Apparent Power.
21s Uncertainty does not include resolution
22s Measurements are performed considering nominal constants to transduce temperature
23s Uncertainties are evaluated for each measurement
24s Power factor values are intended for both inductive and capacitive measurement
25s *C* indicates Capacitance in F
26s *P_amp* indicates Ambient pressure in bar
27s Stated uncertainties are valid for the ranges of frequencies given, but the actual frequency applied by the calibrator may be dependent on the measurement device under calibration.