

Name of Accreditation Program	JCSS Accreditation Program
Accreditation Identification	JCSS 0039 Calibration
Date of Initial Accreditation	1994-08-01
Effective Date of Accreditation	2020-01-30
Expiry Date of Accreditation	2023-03-21
Name and Location of Conformity Assessment Body	Japan Electric Meters Inspection Corporation 15-7, 4-chome, Shibaura, Minato-ku, Tokyo 108-0023, Japan
Name of Legal Entity	Japan Electric Meters Inspection Corporation JCN 4010405002454
Inquiry Point	Calibration Service Group Tel: +81-3-3451-6760 FAX: +81-3-3451-6910
Accreditation Requirements	ISO/IEC 17025:2017 and Accreditation Requirements in the Section 6 of Accreditation Scheme (JCSS) 2nd Edition (Calibration)(Time & Frequency & Rotational speed, Pressure, Mass, Length, Electricity (Direct Current & Low Frequency), Humidity, Temperature) ISO/IEC 17025:2005 (Calibration)(Time & Frequency & Rotational speed, Photometry, Electricity (Direct Current & Low Frequency), Electricity (High Frequency) & Electromagnetic Fields, Torque)
Accreditation Scope	As attached

*JCN: Japan Corporate Number

General Field of Calibration: Time & Frequency & Rotational speed

Date of Initial Accreditation of the Field: 2004-12-24

Permanent Laboratory/On-site Calibration: Permanent Laboratory

Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		Expanded Uncertainty (Level of Confidence Approximately 95 %)	
Time & Frequency Counter, etc.	Frequency Generator	From 1 Hz up to 100 MHz		3.0×10^{-10} (Relative expanded uncertainty)	
	Frequency Counter	From 1 Hz up to 100 MHz		3.0×10^{-10} (Relative expanded uncertainty)	
	Time-Interval Source *1	From 0.1 s less than 1 s		0.003 0 s	
		From 1 s less than 10 s		0.004 s	
		From 10 s up to 60 s		0.01 s	
	Time-Interval Measuring Equipment	Calibration by Frequency Measurement (rate) *2	Up to 99.99 s		0.006 s
			Calibration by Time-Interval Measurement	From 0.1 s less than 10 s	0.000 3 s
		From 10 s up to 60 s		0.003 s	
		More than 60 s up to 3600 s		0.09 s	
	Tachometer	From 1 rpm up to 50 000 rpm		0.060 rpm	
More than 50 000 rpm up to 100 000 rpm		0.065 rpm			

#All Calibration Procedures are in-house procedures developed by this laboratory.

*1: Limited to Withstand Voltage tester.

*2: Limited to the frequency of Crystal oscillator is 32.768 kHz.

Note: In the CMC column, the values of Frequency Generator and Frequency Counter exclude sources of uncertainty attributed to a unit under test, the values of Time-Interval Source, Time-Interval Measuring Equipment and Tachometer include sources of uncertainty attributed to a unit under test.

General Field of Calibration: Time & Frequency & Rotational speed

Date of Initial Accreditation of the Field: 2004-12-24

Permanent Laboratory/On-site Calibration: Permanent Laboratory

Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		Expanded Uncertainty (Level of Confidence Approximately 95 %)
Time & Frequency Counter, etc.	Time-Interval Measuring Equipment	Calibration by Time-Interval Measurement (Lightning impulse waveform)	Front time 0.84 μ s, 1.56 μ s (Voltage: From 100 kV up to 500 kV) (Time to half-value 60 μ s)	Front time 2.8 %
			Time to half-value 60 μ s (Voltage: From 100 kV up to 500 kV) (Front time 0.84 μ s, 1.56 μ s)	Time to half-value 2.0 %
		Calibration by Time-Interval Measurement (Switching impulse waveform)	Front time 200 μ s, 300 μ s (Voltage: From 180 kV up to 500 kV) (Time to half-value 2 500 μ s)	Front time 2.3 %
			Time to half-value 2 500 μ s (Voltage: From 180 kV up to 500 kV) (Front time 200 μ s, 300 μ s)	Time to half-value 1.2 %

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Note: In the CMC column, the values of Time-Interval Measuring Equipment include sources of uncertainty attributed to a unit under test.

Permanent Laboratory/On-site Calibration: On-site Calibration
Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated	Range		Expanded Uncertainty (Level of Confidence Approximately 95 %)	
Time & Frequency Counter, etc.	Frequency Generator	From 1 Hz up to 10 MHz		1.0×10^{-6} (Relative expanded uncertainty)
	Frequency Counter	From 1 Hz up to 10 MHz		1.0×10^{-6} (Relative expanded uncertainty)
	Time-Interval Source *1	From 0.1 s less than 1 s		0.003 0 s
		From 1 s less than 10 s		0.004 s
		From 10 s up to 60 s		0.01 s
	Time-Interval Measuring Equipment	Calibration by Time-Interval Measurement	From 0.1 s less than 10 s	0.000 3 s
			From 10 s up to 60 s	0.003 s
			More than 60 s up to 3600 s	0.09 s
Tachometer	From 1 rpm up to 50 000 rpm		0.060 rpm	
	More than 50 000 rpm up to 100 000 rpm		0.065 rpm	

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*1: Limited to Withstand Voltage tester.

Note: The values in the CMC column include sources of uncertainty attributed to a unit under test.

General Field of Calibration: PressureDate of Initial Accreditation of the Field: 2015-09-11Permanent Laboratory/On-site Calibration: Permanent LaboratoryCalibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		Expanded Uncertainty (Level of Confidence Approximately 95 %)
Pressure Gauge	Pressure Gauges (Digital Pressure Gauges)	Gas Gauge Pressure	From -90 kPa up to -10 kPa	27 Pa
			From 10 kPa up to 100 kPa	29 Pa
			More than 100 kPa up to 700 kPa	73 Pa
			More than 700 kPa up to 7 MPa	0.52 kPa
		Liquid Gauge Pressure	From 1 MPa up to 7 MPa	0.71 kPa
			More than 7 MPa up to 70 MPa	5.3 kPa
	Mechanical Type Pressure Gauges	Gas Gauge Pressure	From -90 kPa up to -10 kPa	0.2 kPa
			From 10 kPa up to 100 kPa	0.5 kPa
			More than 100 kPa up to 700 kPa	2.0 kPa
			More than 700 kPa up to 7 MPa	11 kPa
		Liquid Gauge Pressure	From 1 MPa up to 10 MPa	12 kPa
			More than 10 MPa up to 100 MPa	0.15 MPa

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Permanent Laboratory/On-site Calibration: On-site CalibrationCalibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		Expanded Uncertainty (Level of Confidence Approximately 95 %)
Pressure Gauge	Pressure Gauges (Digital Pressure Gauges)	Gas Gauge Pressure	From -80 kPa up to -10 kPa	0.10 kPa
			From 10 kPa up to 150 kPa	0.08 kPa
			More than 150 kPa up to 700 kPa	0.11 kPa
			More than 700 kPa up to 2 MPa	0.52 kPa
	Mechanical Type Pressure Gauges	Gas Gauge Pressure	From -80 kPa up to -10 kPa	0.2 kPa
			From 10 kPa up to 100 kPa	0.5 kPa
			More than 100 kPa up to 700 kPa	2.0 kPa
			More than 700 kPa up to 2 MPa	11 kPa

#All Calibration Procedures are in-house procedures developed by this laboratory.

General Field of Calibration: Mass

Date of Initial Accreditation of the Field: 2015-09-11

Permanent Laboratory/On-site Calibration: Permanent Laboratory, On-site Calibration

Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	Expanded Uncertainty (Level of Confidence Approximately 95 %)		
			Conventional mass		
			Permanent Laboratory	On-site Calibration	
Weight	Weight	1 mg	0.004 mg	-	
		2 mg	0.004 mg	-	
		5 mg	0.004 mg	-	
		10 mg	0.004 mg	-	
		20 mg	0.005 mg	-	
		50 mg	0.006 mg	-	
		100 mg	0.007 mg	-	
		200 mg	0.009 mg	-	
		500 mg	0.011 mg	-	
		1 g	0.015 mg	-	
		2 g	0.018 mg	-	
		5 g	0.023 mg	-	
		10 g	0.030 mg	-	
		20 g	0.037 mg	-	
		50 g	0.047 mg	-	
		100 g	0.076 mg	-	
		200 g	0.16 mg	-	
		500 g	0.42 mg	-	
		1 kg	0.80 mg	-	
		2 kg	1.6 mg	0.03 g	
		5 kg	4.2 mg	0.08 g	
		10 kg	8.0 mg	0.15 g	
		20 kg	16 mg	0.30 g	
		Deadweight	From 1 g less than 20 g	0.18 mg	-
			From 20 g less than 50 g	0.25 mg	-
			From 50 g less than 100 g	0.30 mg	-
	From 100 g less than 200 g		0.47 mg	-	
	From 200 g less than 500 g		1.3 mg	-	
	From 500 g less than 1 kg		2.3 mg	-	
	From 1 kg less than 2 kg		4.6 mg	-	
	From 2 kg less than 5 kg		13 mg	0.03 g	
	From 5 kg less than 10 kg		24 mg	0.08 g	
	From 10 kg less than 20 kg	46 mg	0.15 g		
	From 20 kg up to 25 kg	59 mg	0.30 g		

#All Calibration Procedures are in-house procedures developed by this laboratory.

Permanent Laboratory/On-site Calibration: Permanent Laboratory, On-site Calibration
Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	Expanded Uncertainty (Level of Confidence Approximately 95 %)	
			Permanent Laboratory	On-site Calibration
Scale	Non-Automatic Electronic Weighing Instruments	From 1 g up to 50 g	0.074 mg	0.11 mg
		More than 50 g up to 80 g	0.12 mg	0.19 mg
		More than 80 g up to 220 g	0.25 mg	0.35 mg
		More than 220 g up to 320 g	0.33 mg	0.48 mg
		More than 320 g up to 500 g	1.9 mg	1.9 mg
		More than 500 g up to 2 200 g	0.013 g	0.016 g
		More than 2 200 g up to 3 200 g	0.018 g	0.020 g
		More than 3 200 g up to 8 100 g	0.025 g	0.034 g
		More than 8 100 g up to 12 kg	0.13 g	0.13 g
		More than 12 kg up to 21 kg	0.22 g	0.23 g
		More than 21 kg up to 32 kg	0.29 g	0.31 g
		More than 32 kg up to 60 kg	1.7 g	1.7 g

#All Calibration Procedures are in-house procedures developed by this laboratory.

General Field of Calibration: LengthDate of Initial Accreditation of the Field: 2015-09-11Permanent Laboratory/On-site Calibration: Permanent LaboratoryCalibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	Expanded Uncertainty (Level of Confidence Approximately 95 %)
Length Measuring Instrument	Gauge Blocks (Comparison method)	From 0.5 mm up to 100 mm	0.15 μ m
		More than 100 mm up to 150 mm	0.22 μ m
		More than 150 mm up to 200 mm	0.27 μ m
		More than 200 mm up to 250 mm	0.32 μ m
	Micrometers	Up to 25 mm	2 μ m
		More than 25 mm up to 50 mm	3 μ m
		More than 50 mm up to 75 mm	3 μ m
		More than 75 mm up to 100 mm	5 μ m
	Calipers	Up to 600 mm	0.04 mm
	Height gauges	Up to 600 mm	0.03 mm
	Dial gauges	Up to 5 mm	0.9 μ m
		More than 5 mm up to 25.4 mm	2 μ m
		More than 25.4 mm up to 100 mm	4 μ m
Dial test indicators	Up to 0.14 mm	0.9 μ m	
	More than 0.14 mm up to 0.8 mm	2 μ m	

#All Calibration Procedures are in-house procedures developed by this laboratory.

Permanent Laboratory/On-site Calibration: On-site CalibrationCalibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	Expanded Uncertainty (Level of Confidence Approximately 95 %)
Length Measuring Instrument	Micrometers	Up to 25 mm	3 μ m
		More than 25 mm up to 50 mm	4 μ m
		More than 50 mm up to 75 mm	6 μ m
		More than 75 mm up to 100 mm	7 μ m
	Calipers	Up to 600 mm	0.06 mm
	Height gauges	Up to 600 mm	0.05 mm
	Dial gauges	Up to 25 mm	3 μ m
	Dial test indicators	Up to 0.8 mm	3 μ m

#All Calibration Procedures are in-house procedures developed by this laboratory.

General Field of Calibration: Electricity (Direct Current & Low Frequency)

Date of Initial Accreditation of the Field: 1995-06-21

Permanent Laboratory/On-site Calibration: Permanent Laboratory

Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	Expanded Uncertainty (Level of Confidence Approximately 95 %)
Direct Current & Low Frequency Measuring Equipment, etc.	DC Resistor	1 mΩ	3.1 ppm
		10 mΩ	1.8 ppm
		100 mΩ	0.9 ppm
		1 Ω	0.3 ppm
		10 Ω	0.8 ppm
		100 Ω	0.5 ppm
		1 kΩ	1.0 ppm
		10 kΩ	0.6 ppm
		30 kΩ, 40 kΩ, 50 kΩ, 60 kΩ, 70 kΩ, 80 kΩ, 90 kΩ	10 ppm
		100 kΩ	1.5 ppm
		200 kΩ, 300 kΩ, 400 kΩ, 500 kΩ, 600 kΩ, 700 kΩ, 800 kΩ, 900 kΩ	10 ppm
		1 MΩ	1.7 ppm
		10 MΩ	4.2 ppm
		100 MΩ	6 ppm
		1 GΩ	10 ppm
		10 GΩ	20 ppm
		100 GΩ	50 ppm
		1 TΩ	0.5 %
		More than 1 mΩ less than 2 mΩ	0.009 %
		From 2 mΩ less than 3 mΩ	0.008 %
	From 3 mΩ less than 10 mΩ	0.007 %	
	More than 10 mΩ less than 1 Ω	0.004 %	
	More than 1 Ω less than 6 Ω	20 ppm	
	From 6 Ω less than 10 Ω	10 ppm	
	More than 10 Ω less than 20 Ω	20 ppm	
	From 20 Ω less than 10 kΩ	10 ppm	
	More than 10 kΩ up to 9 MΩ	20 ppm	
	More than 9 MΩ up to 120 MΩ	30 ppm	
	More than 120 MΩ up to 600 MΩ	0.2 %	
	More than 600 MΩ less than 1 GΩ	0.3 %	
	More than 1 GΩ less than 100 GΩ	0.4 %	
	More than 100 GΩ up to 700 GΩ	0.7 %	
	More than 700 GΩ less than 1 TΩ	0.8 %	
	DC Resistance Measuring Equipment	1 mΩ	80 ppm
		10 mΩ	25 ppm
		100 mΩ	10 ppm
		1 Ω	3.5 ppm
		10 Ω, 100 Ω, 1 kΩ	4.0 ppm
		10 kΩ	3.5 ppm
		20 kΩ, 30 kΩ, 40 kΩ, 50 kΩ, 60 kΩ, 70 kΩ, 80 kΩ, 90 kΩ	0.001 %
100 kΩ		4.0 ppm	
200 kΩ, 300 kΩ, 400 kΩ, 500 kΩ, 600 kΩ, 700 kΩ, 800 kΩ, 900 kΩ		0.001 %	
1 MΩ		4.0 ppm	
1 GΩ, 10 GΩ		0.05 %	
100 GΩ		0.2 %	

Direct Current & Low Frequency Measuring Equipment, etc.	DC Resistance Measuring Equipment	1 T Ω		0.5 %
		More than 1 Ω up to 6 Ω		0.002 %
		More than 6 Ω less than 10 Ω		0.001 %
		More than 10 Ω up to 20 Ω		0.002 %
		More than 20 Ω less than 10 k Ω		0.001 %
		More than 10 k Ω less than 1 M Ω		0.002 %
		More than 1 M Ω less than 3 M Ω		0.02 %
		From 3 M Ω less than 4 M Ω		0.01 %
		From 4 M Ω less than 5 M Ω		0.008 %
		From 5 M Ω less than 6 M Ω		0.006 %
		From 6 M Ω up to 10 M Ω		0.005 %
		More than 10 M Ω less than 30 M Ω		0.02 %
		From 30 M Ω less than 40 M Ω		0.01 %
		From 40 M Ω less than 50 M Ω		0.008 %
		From 50 M Ω less than 60 M Ω		0.006 %
		From 60 M Ω up to 100 M Ω		0.005 %
		More than 100 M Ω up to 120 M Ω		0.02 %
		More than 120 M Ω up to 600 M Ω		0.2 %
		More than 600 M Ω less than 1 G Ω		0.3 %
		More than 1 G Ω less than 100 G Ω		0.4 %
	More than 100 G Ω less than 700 G Ω		0.7 %	
	More than 700 G Ω less than 1 T Ω		0.8 %	
	DC Voltage Source	1 V (fixed terminal)		0.2 ppm
		1.018 V (fixed terminal)		0.2 ppm
		10 V (fixed terminal)		0.02 ppm
		From 0 V less than 1 μ V		0.7 μ V
		From 1 μ V up to 10 mV		0.3 μ V
		More than 10 mV up to 20 mV		13 ppm
		More than 20 mV up to 30 mV		9 ppm
		More than 30 mV up to 40 mV		7 ppm
		More than 40 mV up to 50 mV		6 ppm
		More than 50 mV up to 60 mV		5 ppm
		More than 60 mV up to 100 mV		4 ppm
		More than 100 mV up to 1 kV		3.0 ppm
		More than 1 kV up to 200 kV		0.05 %
		DC Voltage Measuring Equipment	From 0 V less than 1 μ V	
	From 1 μ V up to 10 mV		0.3 μ V	
	More than 10 mV up to 20 mV		13 ppm	
	More than 20 mV up to 30 mV		9 ppm	
	More than 30 mV up to 40 mV		7 ppm	
	More than 40 mV up to 50 mV		6 ppm	
	More than 50 mV up to 60 mV		5 ppm	
More than 60 mV up to 100 mV			4 ppm	
More than 100 mV up to 1 kV			3.0 ppm	
DC Voltage Measuring Equipment	Lightning impulse voltage	From 100 kV up to 500 kV (Front time 0.84 μ s , 1.56 μ s) (Time to half-value 60 μ s)	Scale factor 0.7 %	
	Switching impulse voltage	From 180 kV up to 500 kV (Front time 200 μ s , 300 μ s) (Time to half-value 2 500 μ s)	Scale factor 0.7 %	

Direct Current & Low Frequency Measuring Equipment, etc.	DC Voltage Resistive Divider	More than 1 kV up to 200 kV		0.003 %
		1000 V	100:1	2.7 ppm
		100 V	10:1	1.6 ppm
		10 V	1:1	1 ppm
			From 1:0.000 000 1 up to 1:0.09	
		110 V	1:1.0	0.000 001 1
			1:0.9	0.000 001 0
			1:0.8	0.000 000 9
			1:0.7	0.000 000 7
			1:0.6	0.000 000 6
	1:0.5		0.000 000 5	
	1:0.4		0.000 000 4	
	1:0.3		0.000 000 3	
		1:0.2	0.000 000 2	
		1:0.1	0.000 000 1	
	Direct Current Source	0 A		0.001 0 μ A
		From 1 pA up to 10 pA		0.07 pA
		More than 10 pA up to 60 pA		0.3 pA
		More than 60 pA up to 400 pA		0.4 pA
		More than 400 pA up to 600 pA		0.5 pA
		More than 600 pA up to 800 pA		0.6 pA
		More than 800 pA up to 900 pA		0.7 pA
		More than 900 pA up to 1 000 pA		0.8 pA
		More than 1 nA up to 3 nA		0.003 nA
		More than 3 nA up to 4 nA		0.004 nA
		More than 4 nA up to 6 nA		0.005 nA
		More than 6 nA up to 8 nA		0.006 nA
		More than 8 nA up to 9 nA		0.007 nA
		More than 9 nA up to 100 nA		0.008 nA
		More than 100 nA up to 400 nA		0.03 nA
		More than 400 nA up to 8 μ A		0.04 nA
		More than 8 μ A up to 10 μ A		0.05 nA
More than 10 μ A up to 90 μ A		0.4 nA		
More than 90 μ A up to 100 μ A		0.5 nA		
More than 0.1 mA up to 0.9 mA		0.004 μ A		
More than 0.9 mA up to 1 mA		0.005 μ A		
More than 1 mA up to 8 mA		0.04 μ A		
More than 8 mA up to 10 mA		0.05 μ A		
More than 10 mA up to 90 mA		0.4 μ A		
More than 90 mA up to 100 mA		0.5 μ A		
More than 0.1 A up to 0.7 A		0.004 mA		
More than 0.7 A up to 0.9 A		0.005 mA		
More than 0.9 A up to 1 A		0.006 mA		
More than 1 A up to 1.3 A		0.05 mA		
More than 1.3 A up to 1.9 A		0.06 mA		
More than 1.9 A up to 2.3 A		0.07 mA		
More than 2.3 A up to 2.7 A		0.08 mA		
More than 2.7 A up to 3.1 A		0.09 mA		
More than 3.1 A up to 3.5 A		0.1 mA		
More than 3.5 A up to 7.2 A		0.2 mA		
More than 7.2 A up to 10 A		0.3 mA		
More than 10 A up to 11 A		0.4 mA		
More than 11 A up to 15 A		0.5 mA		
More than 15 A up to 19 A		0.6 mA		
More than 19 A less than 20 A		0.7 mA		
20 A		0.6 mA		

Direct Current & Low Frequency Measuring Equipment, etc.	Direct Current Source	More than 20 A up to 21 A	0.7 mA
		More than 21 A up to 25 A	0.8 mA
		More than 25 A up to 28 A	0.9 mA
		More than 28 A less than 30 A	1 mA
		30 A	0.9 mA
		More than 30 A up to 45 A	2 mA
		More than 45 A less than 50 A	3 mA
		50 A	2 mA
		More than 50 A up to 58 A	4 mA
		More than 58 A up to 73 A	5 mA
		More than 73 A up to 88 A	6 mA
		More than 88 A less than 100 A	7 mA
		100 A	3 mA
		More than 100 A up to 300 A	0.02 A
		More than 300 A up to 500 A	0.03 A
		More than 500 A up to 900 A	0.3 A
		More than 900 A up to 1 000 A	0.4 A
		More than 1 000 A up to 5 000 A	2 A
	Direct Current Measuring Equipment	0 A	0.001 0 μ A
		From 1 pA up to 10 pA	0.06 pA
		More than 10 pA up to 60 pA	0.2 pA
		More than 60 pA up to 400 pA	0.3 pA
		More than 400 pA up to 600 pA	0.4 pA
		More than 600 pA up to 800 pA	0.5 pA
		More than 800 pA up to 900 pA	0.6 pA
		More than 900 pA up to 1 000 pA	0.7 pA
		More than 1 nA up to 3 nA	0.002 nA
		More than 3 nA up to 4 nA	0.003 nA
		More than 4 nA up to 6 nA	0.004 nA
		More than 6 nA up to 8 nA	0.005 nA
		More than 8 nA up to 9 nA	0.006 nA
		More than 9 nA up to 100 nA	0.007 nA
		More than 100 nA up to 400 nA	0.02 nA
		More than 400 nA up to 600 nA	0.03 nA
		More than 600 nA up to 1 000 nA	0.04 nA
		More than 1 μ A up to 10 μ A	0.05 nA
		More than 10 μ A up to 80 μ A	0.4 nA
		More than 80 μ A up to 100 μ A	0.5 nA
		More than 0.1 mA up to 0.8 mA	0.004 μ A
		More than 0.8 mA up to 1 mA	0.005 μ A
More than 1 mA up to 8 mA		0.04 μ A	
More than 8 mA up to 10 mA		0.05 μ A	
More than 10 mA up to 80 mA		0.4 μ A	
More than 80 mA up to 100 mA		0.5 μ A	
More than 0.1 A up to 0.6 A		0.004 mA	
More than 0.6 A up to 0.9 A		0.005 mA	
More than 0.9 A up to 1 A		0.006 mA	
More than 1 A up to 1.6 A		0.06 mA	
More than 1.6 A up to 2.1 A		0.07 mA	
More than 2.1 A up to 2.5 A		0.08 mA	
More than 2.5 A up to 2.9 A	0.09 mA		
More than 2.9 A up to 3.4 A	0.1 mA		
More than 3.4 A up to 7.2 A	0.2 mA		
More than 7.2 A up to 10 A	0.3 mA		
More than 10 A up to 11 A	0.5 mA		
More than 11 A up to 16 A	0.6 mA		
More than 16 A up to 20 A	0.7 mA		

Direct Current & Low Frequency Measuring Equipment, etc.	Direct Current Measuring Equipment	More than 20 A up to 23 A	0.8 mA
		More than 23 A up to 26 A	0.9 mA
		More than 26 A up to 30 A	1 mA
		More than 30 A up to 45 A	2 mA
		More than 45 A less than 50 A	3 mA
		50 A	2 mA
		More than 50 A up to 58 A	4 mA
		More than 58 A up to 73 A	5 mA
		More than 73 A up to 87 A	6 mA
		More than 87 A less than 100 A	7 mA
		100 A	3 mA
		More than 100 A up to 300 A	0.02 A
		More than 300 A up to 500 A	0.03 A
		More than 500 A up to 2 000 A	0.012 %
		More than 2 000 A up to 5 000 A	2 A
	Direct Current standard Shunt	From 10 μ A up to 100 A	25 ppm
		More than 100 A up to 500 A	50 ppm
		More than 500 A up to 5 000 A	0.06 %
	Direct Current Transformer	More than 50 A up to 500 A	50 ppm
		More than 500 A up to 2 000 A	0.012 %
More than 2 000 A up to 5 000 A		0.06 %	

Direct Current & Low Frequency Measuring Equipment, etc.	AC Voltage Source	10 Hz	0.3 V	0.025 %
			0.6 V	0.023 %
			1 V, 2 V, 6 V, 10 V, 20 V, 60 V 100 V, 200 V, 600 V, 1 000 V	0.022 %
		20 Hz, 30 Hz	0.3 V	95 ppm
			0.6 V	88 ppm
			1 V	77 ppm
			2 V	76 ppm
			6 V	75 ppm
			10 V, 20 V	81 ppm
			60 V	80 ppm
			100 V	83 ppm
			200 V	81 ppm
			600 V, 1 000 V	0.012 %
		40 Hz	From 10 mV less than 20 mV	0.050 %
			20 mV	0.024 %
			More than 20 mV less than 30 mV	0.023 %
			From 30 mV less than 40 mV	0.022 %
			From 40 mV less than 60 mV	0.021 %
			60 mV	0.014 %
			More than 60 mV less than 100 mV	0.013 %
			From 0.1 V less than 0.2 V	0.011 %
			0.2 V	97 ppm
			More than 0.2 V less than 0.3 V	96 ppm
			From 0.3 V less than 0.6 V	59 ppm
			0.6 V	48 ppm
			More than 0.6 V less than 2 V	44 ppm
			From 2 V less than 6 V	39 ppm
			6 V	36 ppm
			More than 6 V up to 10 V	40 ppm
			More than 10 V up to 20 V	41 ppm
			More than 20 V less than 30 V	49 ppm
			From 30 V up to 60 V	48 ppm
			More than 60 V up to 100 V	50 ppm
		More than 100 V up to 200 V	52 ppm	
		More than 200 V up to 600 V	63 ppm	
		More than 600 V up to 1 000 V	62 ppm	
		50 Hz, 60 Hz	From 10 mV less than 20 mV	0.050 %
			20 mV	0.024 %
			More than 20 mV less than 30 mV	0.023 %
			From 30 mV less than 40 mV	0.022 %
			From 40 mV less than 60 mV	0.021 %
			60 mV	0.014 %
			More than 60 mV less than 100 mV	0.013 %
			From 0.1 V less than 0.2 V	0.011 %
			0.2 V	97 ppm
More than 0.2 V less than 0.3 V	96 ppm			
From 0.3 V less than 0.4 V	57 ppm			
From 0.4 V less than 0.6 V	56 ppm			
0.6 V	45 ppm			
More than 0.6 V less than 2 V	42 ppm			
From 2 V less than 6 V	39 ppm			
6 V	37 ppm			
More than 6 V less than 20 V	40 ppm			

Direct Current & Low Frequency Measuring Equipment, etc.	AC Voltage Source	50 Hz, 60 Hz	20 V	38 ppm
			More than 20 V up to 60 V	41 ppm
			More than 60 V up to 200 V	44 ppm
			More than 200 V up to 600 V	55 ppm
			More than 600 V up to 1 000 V	53 ppm
			More than 1 kV up to 1.5 kV	0.014 kV
			More than 1.5 kV up to 3.5 kV	0.02 kV
			More than 3.5 kV up to 6.5 kV	0.03 kV
			More than 6.5 kV up to 9 kV	0.04 kV
		More than 9 kV up to 10 kV	0.05 kV	
		400 Hz	From 10 mV less than 20 mV	0.050 %
			20 mV	0.024 %
			More than 20 mV less than 30 mV	0.023 %
			From 30 mV less than 40 mV	0.022 %
			From 40 mV less than 60 mV	0.021 %
			60 mV	0.014 %
			More than 60 mV less than 100 mV	0.013 %
			From 0.1 V less than 0.2 V	0.011 %
			0.2 V	97 ppm
			More than 0.2 V less than 0.3 V	96 ppm
			From 0.3 V less than 0.4 V	57 ppm
			From 0.4 V less than 0.6 V	56 ppm
			0.6 V	42 ppm
			More than 0.6 V less than 2 V	37 ppm
			From 2 V less than 6 V	35 ppm
			6 V	32 ppm
			More than 6 V up to 20 V	35 ppm
			More than 20 V less than 30 V	40 ppm
			From 30 V up to 60 V	39 ppm
			More than 60 V up to 200 V	41 ppm
			More than 200 V up to 1 000 V	52 ppm
		500 Hz, 1 kHz	From 10 mV less than 20 mV	0.050 %
			20 mV	0.024 %
			More than 20 mV less than 30 mV	0.023 %
			From 30 mV less than 40 mV	0.022 %
			From 40 mV less than 60 mV	0.021 %
			60 mV	0.014 %
			More than 60 mV less than 100 mV	0.013 %
			From 0.1 V less than 0.2 V	0.011 %
			0.2 V	97 ppm
			More than 0.2 V less than 0.3 V	96 ppm
			From 0.3 V less than 0.4 V	57 ppm
			From 0.4 V less than 0.6 V	56 ppm
			0.6 V	41 ppm
			More than 0.6 V less than 2 V	36 ppm
2 V	34 ppm			
More than 2 V less than 6 V	35 ppm			
6 V	31 ppm			
More than 6 V up to 20 V	34 ppm			
More than 20 V less than 30 V	40 ppm			
From 30 V up to 60 V	39 ppm			
More than 60 V up to 100 V	40 ppm			
More than 100 V up to 200 V	41 ppm			
More than 200 V up to 1 000 V	52 ppm			

Direct Current & Low Frequency Measuring Equipment, etc.	AC Voltage Source	10 kHz	From 0.3 V less than 0.4 V	57 ppm
			From 0.4 V less than 0.6 V	56 ppm
			0.6 V	41 ppm
			More than 0.6 V less than 2 V	37 ppm
			From 2 V less than 6 V	36 ppm
			6 V	32 ppm
			More than 6 V up to 20 V	34 ppm
			More than 20 V less than 30 V	40 ppm
			From 30 V up to 60 V	39 ppm
			More than 60 V up to 100 V	40 ppm
			More than 100 V up to 200 V	41 ppm
			More than 200 V up to 1 000 V	53 ppm
		20 kHz	From 0.3 V less than 0.4 V	57 ppm
			From 0.4 V less than 0.6 V	56 ppm
			0.6 V	41 ppm
			More than 0.6 V less than 6 V	38 ppm
			6 V	32 ppm
			More than 6 V up to 20 V	34 ppm
			More than 20 V less than 30 V	40 ppm
			From 30 V up to 60 V	39 ppm
			More than 60 V up to 100 V	40 ppm
			More than 100 V up to 200 V	41 ppm
			More than 200 V up to 1 000 V	53 ppm
			50 kHz	From 0.3 V less than 0.5 V
		From 0.5 V less than 0.6 V		78 ppm
		0.6 V		61 ppm
		More than 0.6 V up to 2 V		63 ppm
		More than 2 V less than 6 V		64 ppm
		From 6 V less than 10 V		55 ppm
		From 10 V up to 20 V		54 ppm
		More than 20 V less than 40 V		67 ppm
		From 40 V up to 60 V		66 ppm
		More than 60 V up to 100 V		77 ppm
		More than 100 V up to 200 V		78 ppm
		More than 200 V up to 1 000 V		0.014 %
		70 kHz	0.3 V	0.014 %
			0.6 V	84 ppm
			1 V, 2 V	83 ppm
			6 V	79 ppm
			10 V, 20 V	78 ppm
			60 V	94 ppm
			100 V, 200 V	99 ppm
			600 V, 1 000 V	0.040 %
		100 kHz	0.3 V	0.014 %
			0.6 V	84 ppm
			1 V, 2 V	86 ppm
			6 V	80 ppm
			10 V, 20 V	78 ppm
60 V	94 ppm			
100 V, 200 V	99 ppm			
600 V, 1 000 V	0.041 %			

Direct Current & Low Frequency Measuring Equipment, etc.	AC Voltage Source	200 kHz	0.3 V	0.024 %
			0.6 V	0.019 %
			1 V, 2 V	0.018 %
			6 V	0.019 %
			10 V	0.018 %
			20 V	0.019 %
		60 V, 100V	0.020 %	
		500 kHz	0.3 V	0.033 %
			0.6 V	0.028 %
			1 V	0.026 %
		700 kHz	0.3 V	0.081 %
			0.6 V	0.077 %
			1 V	0.072 %
		1 MHz	0.3 V	0.081 %
			0.6 V	0.077 %
1 V	0.073 %			

Direct Current & Low Frequency Measuring Equipment, etc.	AC Voltage Measuring Equipment	10 Hz	0.3 V	0.018 %
			0.6 V, 1 V	0.016 %
			2 V, 6 V	0.015 %
			10 V, 20 V, 60 V, 100 V, 200 V, 600 V, 1 000 V	0.016 %
		20 Hz, 30 Hz	0.3 V	71 ppm
			0.6 V	63 ppm
			1 V	57 ppm
			2 V	55 ppm
			6 V	53 ppm
			10 V	61 ppm
			20 V	62 ppm
			60 V	60 ppm
			100 V	63 ppm
			200 V	61 ppm
			600 V	84 ppm
			1 000 V	86 ppm
			40 Hz	10 mV
		More than 10 mV less than 20 mV		0.050 %
		20 mV		0.019 %
		More than 20 mV less than 30 mV		0.023 %
		From 30 mV less than 40 mV		0.022 %
		From 40 mV less than 60 mV		0.021 %
		60 mV		0.012 %
		More than 60 mV less than 100 mV		0.013 %
		0.1 V		0.010 %
		More than 0.1 V less than 0.2 V		0.011 %
		0.2 V		90 ppm
		More than 0.2 V less than 0.3 V		96 ppm
		0.3 V		51 ppm
		More than 0.3 V less than 0.6 V		59 ppm
		0.6 V		39 ppm
		More than 0.6 V less than 1 V		44 ppm
		1 V		39 ppm
		More than 1 V less than 2 V		44 ppm
		2 V		34 ppm
		More than 2 V less than 6 V		39 ppm
		6 V		30 ppm
		More than 6 V less than 10 V		40 ppm
		10 V		34 ppm
		More than 10 V less than 20 V		41 ppm
		20 V		35 ppm
		More than 20 V less than 60 V		48 ppm
		60 V		41 ppm
		More than 60 V less than 100 V		50 ppm
100 V	43 ppm			
More than 100 V less than 200 V	52 ppm			
200 V	45 ppm			
More than 200 V less than 600 V	63 ppm			
600 V	54 ppm			
More than 600 V less than 1 000 V	62 ppm			
1 000 V	54 ppm			

Direct Current & Low Frequency Measuring Equipment, etc.	AC Voltage Measuring Equipment	50 Hz, 60 Hz	10 mV	0.04 %
			More than 10 mV less than 20 mV	0.050 %
			20 mV	0.019 %
			More than 20 mV less than 30 mV	0.023 %
			From 30 mV less than 40 mV	0.022 %
			From 40 mV less than 60 mV	0.021 %
			60 mV	0.012 %
			More than 60 mV less than 100 mV	0.013 %
			0.1 V	0.010 %
			More than 0.1 V less than 0.2 V	0.011 %
			0.2 V	90 ppm
			More than 0.2 V less than 0.3 V	96 ppm
			0.3 V	48 ppm
			More than 0.3 V less than 0.4 V	57 ppm
			From 0.4 V less than 0.6 V	56 ppm
			0.6 V	35 ppm
			More than 0.6 V less than 1 V	42 ppm
			1 V	37 ppm
			More than 1 V less than 2 V	42 ppm
			2 V	34 ppm
		More than 2 V less than 6 V	39 ppm	
		6 V	31 ppm	
		More than 6 V less than 10 V	40 ppm	
		10 V	34 ppm	
		More than 10 V less than 20 V	40 ppm	
		20 V	31 ppm	
		More than 20 V less than 60 V	41 ppm	
		60 V	32 ppm	
		More than 60 V less than 100 V	44 ppm	
		100 V	36 ppm	
		More than 100 V less than 200 V	44 ppm	
		200 V	36 ppm	
		More than 200 V less than 600 V	55 ppm	
		600 V	44 ppm	
		More than 600 V less than 1 000 V	53 ppm	
		1 000 V	44 ppm	
		400 Hz	10 mV	0.04 %
			More than 10 mV less than 20 mV	0.050 %
			20 mV	0.019 %
			More than 20 mV less than 30 mV	0.023 %
			From 30 mV less than 40 mV	0.022 %
			From 40 mV less than 60 mV	0.021 %
			60 mV	0.012 %
			More than 60 mV less than 100 mV	0.013 %
0.1 V	0.010 %			
More than 0.1 V less than 0.2 V	0.011 %			
0.2 V	90 ppm			
More than 0.2 V less than 0.3 V	96 ppm			
0.3 V	48 ppm			
More than 0.3 V less than 0.4 V	57 ppm			
From 0.4 V less than 0.6 V	56 ppm			
0.6 V	31 ppm			
More than 0.6 V less than 1 V	37 ppm			
1 V	31 ppm			
More than 1 V less than 2 V	37 ppm			
2 V	29 ppm			
More than 2 V less than 6 V	35 ppm			

Direct Current & Low Frequency Measuring Equipment, etc.	AC Voltage Measuring Equipment	400 Hz	6 V	25 ppm
			More than 6 V less than 10 V	35 ppm
			10 V	27 ppm
			More than 10 V less than 20 V	35 ppm
			20 V	27 ppm
			More than 20 V less than 60 V	39 ppm
			60 V	30 ppm
			More than 60 V less than 100 V	41 ppm
			100 V	32 ppm
			More than 100 V less than 200 V	41 ppm
			200 V	33 ppm
			More than 200 V less than 600 V	52 ppm
			600 V	41 ppm
			More than 600 V less than 1 000 V	52 ppm
		1 000 V	42 ppm	
		500 Hz	10 mV	0.04 %
			More than 10 mV less than 20 mV	0.050 %
			20 mV	0.019 %
			More than 20 mV less than 30 mV	0.023 %
			From 30 mV less than 40 mV	0.022 %
			From 40 mV less than 60 mV	0.021 %
			60 mV	0.012 %
			More than 60 mV less than 100 mV	0.013 %
			0.1 V	0.010 %
			More than 0.1 V less than 0.2 V	0.011 %
			0.2 V	90 ppm
			More than 0.2 V less than 0.3 V	96 ppm
			0.3 V	48 ppm
			More than 0.3 V less than 0.4 V	57 ppm
			From 0.4 V less than 0.6 V	56 ppm
			0.6 V	30 ppm
			More than 0.6 V less than 1 V	36 ppm
			1 V	30 ppm
			More than 1 V less than 2 V	36 ppm
			2 V	28 ppm
			More than 2 V less than 6 V	35 ppm
			6 V	24 ppm
			More than 6 V less than 10 V	34 ppm
			10 V	26 ppm
			More than 10 V less than 20 V	34 ppm
			20 V	26 ppm
			More than 20 V less than 60 V	39 ppm
			60 V	30 ppm
			More than 60 V less than 100 V	40 ppm
			100 V	31 ppm
			More than 100 V less than 200 V	41 ppm
			200 V	33 ppm
			More than 200 V less than 600 V	52 ppm
			600 V	41 ppm
		More than 600 V less than 1 000 V	52 ppm	
		1 000 V	42 ppm	
1 kHz	10 mV	0.04 %		
	More than 10 mV less than 20 mV	0.050 %		
	20 mV	0.019 %		
	More than 20 mV less than 30 mV	0.023 %		
	From 30 mV less than 40 mV	0.022 %		
	From 40 mV less than 60 mV	0.021 %		
60 mV	0.012 %			

Direct Current & Low Frequency Measuring Equipment, etc.	AC Voltage Measuring Equipment	1 kHz	More than 60 mV less than 100 mV	0.013 %
			0.1 V	0.010 %
			More than 0.1 V less than 0.2 V	0.011 %
			0.2 V	90 ppm
			More than 0.2 V less than 0.3 V	96 ppm
			0.3 V	48 ppm
			More than 0.3 V less than 0.4 V	57 ppm
			From 0.4 V less than 0.6 V	56 ppm
			0.6 V	30 ppm
			More than 0.6 V less than 1 V	36 ppm
			1 V	30 ppm
			More than 1 V less than 2 V	36 ppm
			2 V	28 ppm
			More than 2 V less than 6 V	35 ppm
			6 V	24 ppm
			More than 6 V less than 10 V	34 ppm
			10 V	26 ppm
			More than 10 V less than 20 V	34 ppm
			20 V	26 ppm
			More than 20 V less than 60 V	39 ppm
		60 V	30 ppm	
		More than 60 V less than 100 V	40 ppm	
		100 V	31 ppm	
		More than 100 V less than 200 V	41 ppm	
		200 V	32 ppm	
		More than 200 V less than 600 V	52 ppm	
		600 V	41 ppm	
		More than 600 V less than 1 000 V	52 ppm	
		1 000 V	42 ppm	
		10 kHz	0.3 V	48 ppm
			More than 0.3 V less than 0.4 V	57 ppm
			From 0.4 V less than 0.6 V	56 ppm
			0.6 V	30 ppm
			More than 0.6 V less than 1 V	37 ppm
			1 V	31 ppm
			More than 1 V less than 2 V	37 ppm
			2 V	30 ppm
			More than 2 V less than 6 V	36 ppm
			6 V	25 ppm
			More than 6 V less than 10 V	34 ppm
			10 V	26 ppm
			More than 10 V less than 20 V	34 ppm
			20 V	26 ppm
			More than 20 V less than 60 V	39 ppm
			60 V	30 ppm
			More than 60 V less than 100 V	40 ppm
			100 V	31 ppm
			More than 100 V less than 200 V	41 ppm
			200 V	32 ppm
		More than 200 V less than 600 V	53 ppm	
		600 V	42 ppm	
More than 600 V less than 1 000 V	53 ppm			
1 000 V	43 ppm			
20 kHz	0.3 V	48 ppm		
	More than 0.3 V less than 0.4 V	57 ppm		
	From 0.4 V less than 0.6 V	56 ppm		
	0.6 V	30 ppm		
	More than 0.6 V less than 1 V	38 ppm		

Direct Current & Low Frequency Measuring Equipment, etc.	AC Voltage Measuring Equipment	20 kHz	1 V	33 ppm
			More than 1 V less than 2 V	38 ppm
			2 V	32 ppm
			More than 2 V less than 6 V	38 ppm
			6 V	25 ppm
			More than 6 V less than 10 V	34 ppm
			10 V	26 ppm
			More than 10 V less than 20 V	34 ppm
			20 V	26 ppm
			More than 20 V less than 60 V	39 ppm
			60 V	30 ppm
			More than 60 V less than 100 V	40 ppm
			100 V	31 ppm
			More than 100 V less than 200 V	41 ppm
			200 V	32 ppm
			More than 200 V less than 600 V	53 ppm
			600 V	42 ppm
			More than 600 V less than 1 000 V	53 ppm
		1 000 V	44 ppm	
		50 kHz	0.3 V	65 ppm
			More than 0.3 V less than 0.5 V	79 ppm
			From 0.5 V less than 0.6 V	78 ppm
			0.6 V	44 ppm
			More than 0.6 V less than 1 V	63 ppm
			1 V	51 ppm
			More than 1 V less than 2 V	63 ppm
			2 V	51 ppm
			More than 2 V less than 6 V	64 ppm
			6 V	40 ppm
			More than 6 V less than 10 V	55 ppm
			10 V	39 ppm
			More than 10 V less than 20 V	55 ppm
			20 V	39 ppm
			More than 20 V less than 40 V	67 ppm
			From 40 V less than 60 V	66 ppm
			60 V	49 ppm
			More than 60 V less than 100 V	77 ppm
			100 V	55 ppm
			More than 100 V less than 200 V	78 ppm
			200 V	56 ppm
		More than 200 V less than 600 V	0.014 %	
		600 V	88 ppm	
		More than 600 V less than 1 000 V	0.014 %	
		1 000 V	86 ppm	
		70 kHz	0.3 V	0.012 %
0.6 V	53 ppm			
1 V, 2 V	61 ppm			
6 V	47 ppm			
10 V, 20 V	46 ppm			
60 V	59 ppm			
100 V	62 ppm			
200 V	63 ppm			
600 V	93 ppm			
1 000 V	94 ppm			
100 kHz	0.3 V	0.012 %		
	0.6 V	53 ppm		
	1 V, 2 V	66 ppm		
	6 V	48 ppm		

Direct Current & Low Frequency Measuring Equipment, etc.	AC Voltage Measuring Equipment	100 kHz	10 V, 20 V	46 ppm
			60 V	59 ppm
			100 V	62 ppm
			200 V	63 ppm
			600 V	99 ppm
			1 000 V	0.011 %
		200 kHz	0.3 V	0.018 %
			0.6 V	0.011 %
			1 V, 2 V	0.013 %
			6 V, 10 V, 20 V	0.011 %
			60V, 100 V	0.012 %
		500 kHz	0.3 V	0.020 %
			0.6 V	0.012 %
			1 V	0.016 %
		700 kHz	0.3 V	0.024 %
			0.6 V	0.013 %
			1 V	0.018 %
		1 MHz	0.3 V	0.025 %
			0.6 V	0.013 %
			1 V	0.020 %
		50 Hz, 60 Hz	More than 1 kV less than 1.1 kV	0.4 %
			From 1.1 kV less than 1.6 kV	0.3 %
			From 1.6 kV less than 5 kV	0.2 %
			From 5 kV up to 9.5 kV	0.1 %
			More than 9.5 kV up to 10 kV	0.08 %
			More than 10 kV less than 11.25 kV	0.04 kV
			From 11.25 kV less than 13.75 kV	0.05 kV
			From 13.75 kV less than 16.25 kV	0.06 kV
			From 16.25 kV less than 18.75 kV	0.07 kV
			From 18.75 kV less than 21.25 kV	0.08 kV
			From 21.25 kV less than 23.75 kV	0.09 kV
			From 23.75 kV less than 26.25 kV	0.10 kV
			From 26.25 kV less than 28.75 kV	0.11 kV
			From 28.75 kV less than 31.25 kV	0.12 kV
			From 31.25 kV less than 33.75 kV	0.13 kV
			From 33.75 kV less than 36.25 kV	0.14 kV
			From 36.25 kV less than 38.75 kV	0.15 kV
			From 38.75 kV less than 41.25 kV	0.16 kV
			From 41.25 kV less than 43.75 kV	0.17 kV
			From 43.75 kV less than 46.25 kV	0.18 kV
			From 46.25 kV less than 48.75 kV	0.19 kV
			From 48.75 kV less than 51.25 kV	0.20 kV
From 51.25 kV less than 53.75 kV	0.21 kV			
From 53.75 kV less than 56.25 kV	0.22 kV			
From 56.25 kV less than 58.75 kV	0.23 kV			
From 58.75 kV less than 61.25 kV	0.24 kV			
From 61.25 kV less than 63.75 kV	0.25 kV			
From 63.75 kV less than 66.25 kV	0.26 kV			
From 66.25 kV less than 68.75 kV	0.27 kV			
From 68.75 kV less than 71.25 kV	0.28 kV			
From 71.25 kV less than 73.75 kV	0.29 kV			
From 73.75 kV less than 76.25 kV	0.30 kV			
From 76.25 kV less than 78.75 kV	0.31 kV			
From 78.75 kV less than 81.25 kV	0.32 kV			
From 81.25 kV less than 83.75 kV	0.33 kV			
From 83.75 kV less than 86.25 kV	0.34 kV			

Direct Current & Low Frequency Measuring Equipment, etc.	AC Voltage Measuring Equipment	50 Hz, 60 Hz	From 86.25 kV less than 88.75 kV	0.35 kV
			From 88.75 kV less than 91.25 kV	0.36 kV
			From 91.25 kV less than 93.75 kV	0.37 kV
			From 93.75 kV less than 96.25 kV	0.38 kV
			From 96.25 kV less than 98.75 kV	0.39 kV
			From 98.75 kV less than 101.25 kV	0.40 kV
			From 101.25 kV less than 103.75 kV	0.41 kV
			From 103.75 kV less than 106.25 kV	0.42 kV
			From 106.25 kV less than 108.75 kV	0.43 kV
			From 108.75 kV less than 111.25 kV	0.44 kV
			From 111.25 kV less than 113.75 kV	0.45 kV
			From 113.75 kV less than 116.25 kV	0.46 kV
			From 116.25 kV less than 118.75 kV	0.47 kV
			From 118.75 kV less than 121.25 kV	0.48 kV
			From 121.25 kV less than 123.75 kV	0.49 kV
			From 123.75 kV less than 126.25 kV	0.50 kV
			From 126.25 kV less than 128.75 kV	0.51 kV
			From 128.75 kV less than 131.25 kV	0.52 kV
			From 131.25 kV less than 133.75 kV	0.53 kV
			From 133.75 kV less than 136.25 kV	0.54 kV
			From 136.25 kV less than 138.75 kV	0.55 kV
			From 138.75 kV less than 141.25 kV	0.56 kV
			From 141.25 kV less than 143.75 kV	0.57 kV
			From 143.75 kV less than 146.25 kV	0.58 kV
			From 146.25 kV less than 148.75 kV	0.59 kV
			From 148.75 kV less than 151.25 kV	0.60 kV
			From 151.25 kV less than 153.75 kV	0.61 kV
			From 153.75 kV less than 156.25 kV	0.62 kV
			From 156.25 kV less than 158.75 kV	0.63 kV
			From 158.75 kV less than 161.25 kV	0.64 kV
From 161.25 kV less than 163.75 kV	0.65 kV			
From 163.75 kV less than 166.25 kV	0.66 kV			
From 166.25 kV less than 168.75 kV	0.67 kV			
From 168.75 kV less than 171.25 kV	0.68 kV			
From 171.25 kV less than 173.75 kV	0.69 kV			
From 173.75 kV less than 176.25 kV	0.70 kV			
From 176.25 kV less than 178.75 kV	0.71 kV			
From 178.75 kV less than 181.25 kV	0.72 kV			
From 181.25 kV less than 183.75 kV	0.73 kV			
From 183.75 kV less than 186.25 kV	0.74 kV			
From 186.25 kV less than 188.75 kV	0.75 kV			
From 188.75 kV up to 190.00 kV	0.76 kV			

Direct Current & Low Frequency Measuring Equipment, etc.	AC-DC-Voltage Comparator	0.3 V	10 Hz	37 ppm	
			20 Hz, 30 Hz	35 ppm	
			40 Hz	33 ppm	
			50 Hz, 60 Hz	28 ppm	
			400 Hz	27 ppm	
			500 Hz, 1 kHz, 10 kHz, 20 kHz, 50 kHz, 70 kHz, 100 kHz	26 ppm	
			200 kHz	46 ppm	
			500 kHz	49 ppm	
			700 kHz	84 ppm	
			1 MHz	87 ppm	
			0.6 V	10 Hz	35 ppm
		20 Hz, 30 Hz		33 ppm	
		40 Hz		32 ppm	
		50 Hz, 60 Hz		26 ppm	
		400 Hz		25 ppm	
		500 Hz, 1 kHz, 10 kHz, 20 kHz, 50 kHz, 70 kHz, 100 kHz		24 ppm	
		200 kHz		45 ppm	
		500 kHz		48 ppm	
		700 kHz, 1 MHz		82 ppm	
		1 V, 1.2 V		10 Hz	40 ppm
				20 Hz, 30 Hz	31 ppm
			40 Hz	28 ppm	
			50 Hz, 60 Hz	25 ppm	
			400 Hz	24 ppm	
			500 Hz, 1 kHz, 10 kHz, 20 kHz, 50 kHz, 70 kHz, 100 kHz	23 ppm	
			200 kHz	43 ppm	
			500 kHz	47 ppm	
			700 kHz	48 ppm	
			1 MHz	50 ppm	
			2 V	10 Hz	37 ppm
		20 Hz, 30 Hz		27 ppm	
		40 Hz		24 ppm	
		50 Hz, 60 Hz		25 ppm	
		400 Hz		24 ppm	
		500 Hz, 1 kHz, 10 kHz, 20 kHz, 50 kHz, 70 kHz, 100 kHz		23 ppm	
		200 kHz		44 ppm	
		500 kHz		48 ppm	
		700 kHz, 1 MHz		45 ppm	
		6 V		10 Hz	36 ppm
				20 Hz, 30 Hz	26 ppm
			40 Hz, 50 Hz, 60 Hz	24 ppm	
			400 Hz	23 ppm	
500 Hz, 1 kHz, 10 kHz, 20 kHz, 50 kHz, 70 kHz, 100 kHz	22 ppm				
200 kHz	43 ppm				
500 kHz	47 ppm				
700 kHz, 1 MHz	45 ppm				
10 V	10 Hz		48 ppm		
	20 Hz, 30 Hz		41 ppm		
	40 Hz		26 ppm		

Direct Current & Low Frequency Measuring Equipment, etc.	AC-DC-Voltage Comparator	10 V	50 Hz, 60 Hz	25 ppm
			400 Hz	24 ppm
			500 Hz, 1 kHz, 10 kHz, 20 kHz, 50 kHz, 70 kHz, 100 kHz	23 ppm
			200 kHz	43 ppm
			500 kHz	47 ppm
			700 kHz	49 ppm
			1 MHz	51 ppm
		20 V	10 Hz	49 ppm
			20 Hz, 30 Hz	42 ppm
			40 Hz	30 ppm
			50 Hz, 60 Hz	25 ppm
			400 Hz	24 ppm
			500 Hz, 1 kHz, 10 kHz, 20 kHz, 50 kHz, 70 kHz, 100 kHz	23 ppm
			200 kHz	44 ppm
			500 kHz	48 ppm
		24 V	700 kHz	56 ppm
			1 MHz	60 ppm
			10 Hz	49 ppm
			20 Hz, 30 Hz	42 ppm
			40 Hz	30 ppm
			50 Hz, 60 Hz	25 ppm
			400 Hz	24 ppm
			500 Hz, 1 kHz, 10 kHz, 20 kHz, 50 kHz, 70 kHz, 100 kHz	23 ppm
		48 V	200 kHz	45 ppm
			500 kHz	48 ppm
			10 Hz	43 ppm
			20 Hz, 30 Hz	35 ppm
			40 Hz	33 ppm
			50 Hz, 60 Hz	25 ppm
			400 Hz	24 ppm
			500 Hz, 1 kHz, 10 kHz, 20 kHz, 50 kHz, 70 kHz, 100 kHz	23 ppm
		60 V	200 kHz	52 ppm
			10 Hz	46 ppm
			20 Hz, 30 Hz	39 ppm
			40 Hz	37 ppm
			50 Hz, 60 Hz	26 ppm
			400 Hz, 500 Hz, 1 kHz, 10 kHz, 20 kHz, 50 kHz, 70 kHz, 100 kHz	25 ppm
			200 kHz	29 ppm
		100 V	200 kHz	58 ppm
			10 Hz	46 ppm
			20 Hz, 30 Hz	39 ppm
			40 Hz	38 ppm
50 Hz, 60 Hz, 400 Hz	30 ppm			
500 Hz, 1 kHz, 10 kHz, 20 kHz	29 ppm			
50 kHz	31 ppm			
200 V	70 kHz, 100 kHz	38 ppm		
	200 kHz	57 ppm		
	10 Hz	48 ppm		
		20 Hz, 30 Hz, 40 Hz	41 ppm	

Direct Current & Low Frequency Measuring Equipment, etc.	AC-DC- Voltage Comparator	200 V	50 Hz, 60 Hz, 400 Hz, 500 Hz, 1 kHz, 10 kHz, 20 kHz	31 ppm
			50 kHz	32 ppm
			70 kHz, 100 kHz	40 ppm
		300 V	10 Hz	50 ppm
			20 Hz, 30 Hz	45 ppm
			40 Hz	44 ppm
			50 Hz, 60 Hz, 400 Hz, 500 Hz, 1 kHz, 10 kHz, 20 kHz	32 ppm
			50 kHz	35 ppm
			70 kHz	42 ppm
			100 kHz	43 ppm
		600 V	10 Hz	54 ppm
			20 Hz, 30 Hz	49 ppm
			40 Hz	48 ppm
			50 Hz, 60 Hz, 400 Hz, 500 Hz, 1 kHz, 10 kHz, 20 kHz	36 ppm
			50 kHz	75 ppm
			70 kHz	80 ppm
			100 kHz	89 ppm
		700 V, 1000 V	10 Hz	56 ppm
			20 Hz, 30 Hz	52 ppm
			40 Hz	51 ppm
			50 Hz, 60 Hz	40 ppm
400 Hz, 500 Hz, 1 kHz, 10 kHz, 20 kHz	39 ppm			
20 kHz	40 ppm			
50 kHz	73 ppm			
70 kHz	83 ppm			
100 kHz	0.011 %			

Direct Current & Low Frequency Measuring Equipment, etc.	Alternating Current Source	From 0.001 A up to 0.006 A	0.025 % + 0.1 μ A
		More than 0.006 A less than 0.01 A	0.025 % + 0.5 μ A
		0.01 A	0.004 %
		More than 0.01 A less than 0.011 A	0.000 000 8 A
		From 0.011 A less than 0.012 A	0.000 000 9 A
		From 0.012 A less than 0.013 A	0.000 001 0 A
		From 0.013 A less than 0.015 A	0.000 001 1 A
		From 0.015 A less than 0.016 A	0.000 001 2 A
		From 0.016 A less than 0.018 A	0.000 001 3 A
		From 0.018 A less than 0.02 A	0.000 001 4 A
		0.02 A	0.005 %
		More than 0.02 A less than 0.021 A	0.000 001 5 A
		From 0.021 A less than 0.022 A	0.000 001 6 A
		From 0.022 A less than 0.023 A	0.000 001 7 A
		From 0.023 A less than 0.025 A	0.000 001 8 A
		From 0.025 A less than 0.026 A	0.000 001 9 A
		From 0.026 A less than 0.028 A	0.000 002 0 A
		From 0.028 A less than 0.03 A	0.000 002 1 A
		0.03 A	0.005 %
		More than 0.03 A less than 0.031 A	0.000 002 2 A
		From 0.031 A less than 0.032 A	0.000 002 3 A
		From 0.032 A less than 0.034 A	0.000 002 4 A
		From 0.034 A less than 0.035 A	0.000 002 5 A
		From 0.035 A less than 0.037 A	0.000 002 6 A
		From 0.037 A less than 0.038 A	0.000 002 7 A
		From 0.038 A less than 0.04 A	0.000 002 8 A
		From 0.04 A less than 0.041 A	0.000 002 9 A
		From 0.041 A less than 0.043 A	0.000 003 0 A
		From 0.043 A less than 0.044 A	0.000 003 1 A
		From 0.044 A less than 0.046 A	0.000 003 2 A
		From 0.046 A less than 0.047 A	0.000 003 3 A
		From 0.047 A less than 0.049 A	0.000 003 4 A
		From 0.049 A less than 0.05 A	0.000 003 5 A
		0.05 A	0.005 %
		More than 0.05 A less than 0.051 A	0.000 003 6 A
		From 0.051 A less than 0.053 A	0.000 003 7 A
From 0.053 A less than 0.054 A	0.000 003 8 A		
From 0.054 A less than 0.056 A	0.000 003 9 A		
From 0.056 A less than 0.057 A	0.000 004 0 A		
From 0.057 A less than 0.059 A	0.000 004 1 A		
From 0.059 A up to 0.06 A	0.000 004 2 A		
More than 0.06 A less than 0.069 A	0.000 006 A		
From 0.069 A less than 0.085 A	0.000 007 A		
From 0.085 A less than 0.1 A	0.000 008 A		
0.1 A	0.006 %		
More than 0.1 A less than 0.11 A	0.000 009 A		
From 0.11 A less than 0.12 A	0.000 010 A		
From 0.12 A less than 0.13 A	0.000 011 A		
From 0.13 A less than 0.15 A	0.000 012 A		
From 0.15 A less than 0.16 A	0.000 013 A		
From 0.16 A less than 0.17 A	0.000 014 A		
From 0.17 A less than 0.19 A	0.000 015 A		
From 0.19 A less than 0.2 A	0.000 016 A		

50 Hz, 60 Hz

Direct Current & Low Frequency Measuring Equipment, etc.	Alternating Current Source	0.2 A	50 Hz, 60 Hz	0.006 %
		More than 0.2 A less than 0.21 A		0.000 019 A
		From 0.21 A less than 0.23 A		0.000 020 A
		From 0.23 A less than 0.24 A		0.000 021 A
		From 0.24 A less than 0.25 A		0.000 022 A
		From 0.25 A less than 0.26 A		0.000 023 A
		From 0.26 A less than 0.27 A		0.000 024 A
		From 0.27 A less than 0.29 A		0.000 025 A
		From 0.29 A less than 0.3 A		0.000 026 A
		0.3 A		0.007 %
		More than 0.3 A less than 0.31 A		0.000 027 A
		From 0.31 A less than 0.32 A		0.000 028 A
		From 0.32 A less than 0.33 A		0.000 029 A
		From 0.33 A less than 0.34 A		0.000 030A
		From 0.34 A less than 0.36 A		0.000 031 A
		From 0.36 A less than 0.37 A		0.000 032 A
		From 0.37 A less than 0.38 A		0.000 033 A
		From 0.38 A less than 0.39 A		0.000 034 A
		From 0.39 A less than 0.4 A		0.000 035 A
		From 0.4 A less than 0.42 A		0.000 036 A
		From 0.42 A less than 0.43 A		0.000 037 A
		From 0.43 A less than 0.44 A		0.000 038 A
		From 0.44 A less than 0.45 A		0.000 039 A
		From 0.45 A less than 0.46 A		0.000 040 A
		From 0.46 A less than 0.47 A		0.000 041 A
		From 0.47 A less than 0.49 A		0.000 042A
		From 0.49 A less than 0.5 A		0.000 043 A
		0.5 A		0.008 %
		More than 0.5 A less than 0.51 A		0.000 044 A
		From 0.51 A less than 0.52 A		0.000 045 A
		From 0.52 A less than 0.53 A		0.000 046 A
		From 0.53 A less than 0.55 A		0.000 047 A
		From 0.55 A less than 0.56 A		0.000 048 A
From 0.56 A less than 0.57 A	0.000 049 A			
From 0.57 A less than 0.58 A	0.000 050 A			
From 0.58 A less than 0.59 A	0.000 051 A			
From 0.59 A up to 0.6 A	0.000 052 A			
More than 0.6 A less than 0.69 A	0.000 07 A			
From 0.69 A less than 0.81 A	0.000 08 A			
From 0.81 A less than 1 A	0.000 09 A			
1 A	0.008 %			
More than 1 A less than 1.06 A	0.000 11 A			
From 1.06 A less than 1.2 A	0.000 12 A			
From 1.2 A less than 1.3 A	0.000 13 A			
From 1.3 A less than 1.4 A	0.000 14 A			
From 1.4 A less than 1.5 A	0.000 15 A			
From 1.5 A less than 1.6 A	0.000 16 A			
From 1.6 A less than 1.8 A	0.000 17 A			
From 1.8 A less than 1.9 A	0.000 18 A			
From 1.9 A less than 2 A	0.000 19 A			
2 A	0.009 %			

Direct Current & Low Frequency Measuring Equipment, etc.	Alternating Current Source	More than 2 A less than 2.1 A	50 Hz, 60 Hz	0.000 28 A
		From 2.1 A less than 2.12 A		0.000 29 A
		From 2.12 A less than 2.2 A		0.000 30 A
		From 2.2 A less than 2.27 A		0.000 31 A
		From 2.27 A less than 2.4 A		0.000 32 A
		From 2.4 A less than 2.42 A		0.000 33 A
		From 2.42 A less than 2.5 A		0.000 34 A
		From 2.5 A less than 2.6 A		0.000 35 A
		From 2.6 A less than 2.65 A		0.000 36 A
		From 2.65 A less than 2.8 A		0.000 37 A
		From 2.8 A less than 2.81 A		0.000 38 A
		From 2.81 A less than 2.88 A		0.000 39 A
		From 2.88 A less than 3 A		0.000 40 A
		3 A		0.013 %
		More than 3 A less than 3.1 A		0.000 41 A
		From 3.1 A less than 3.11 A		0.000 42 A
		From 3.11 A less than 3.19 A		0.000 43 A
		From 3.19 A less than 3.3 A		0.000 44 A
		From 3.3 A less than 3.4 A		0.000 45 A
		From 3.4 A less than 3.41 A		0.000 46 A
		From 3.41 A less than 3.49 A		0.000 47 A
		From 3.49 A less than 3.6 A		0.000 48 A
		From 3.6 A less than 3.64 A		0.000 49 A
		From 3.64 A less than 3.72 A		0.000 50 A
		From 3.72 A less than 3.8 A		0.000 51 A
		From 3.8 A less than 3.9 A		0.000 52 A
		From 3.9 A less than 4 A		0.000 53 A
		From 4 A less than 4.02 A		0.000 54 A
		From 4.02 A less than 4.1 A		0.000 55 A
		From 4.1 A less than 4.2 A		0.000 56 A
		From 4.2 A less than 4.3 A		0.000 57 A
		From 4.3 A less than 4.33 A		0.000 58 A
		From 4.33 A less than 4.4 A		0.000 59 A
		From 4.4 A less than 4.5 A		0.000 60 A
		From 4.5 A less than 4.56 A		0.000 61 A
		From 4.56 A less than 4.7 A		0.000 62 A
		From 4.7 A less than 4.71 A		0.000 63 A
		From 4.71 A less than 4.78 A		0.000 64 A
		From 4.78 A less than 4.9 A		0.000 65 A
		From 4.9 A less than 5 A		0.000 66 A
		5 A		0.013 %
		More than 5 A less than 5.01 A		0.000 67 A
		From 5.01 A less than 5.09 A		0.000 68 A
		From 5.09 A less than 5.2 A		0.000 69 A
		From 5.2 A less than 5.3 A		0.000 70 A
		From 5.3 A less than 5.32 A		0.000 71 A
		From 5.32 A less than 5.39 A		0.000 72 A
		From 5.39 A less than 5.47 A		0.000 73 A
		From 5.47 A less than 5.6 A		0.000 74 A
		From 5.6 A less than 5.62 A		0.000 75 A
		From 5.62 A less than 5.7 A		0.000 76 A
		From 5.7 A less than 5.8 A		0.000 77 A
		From 5.8 A less than 5.9 A		0.000 78 A
		From 5.9 A less than 5.93 A		0.000 79 A
		From 5.93 A up to 6 A		0.000 80 A

Direct Current & Low Frequency Measuring Equipment, etc.	Alternating Current Source	More than 6 A less than 6.3 A	50 Hz, 60 Hz	0.001 1 A
		From 6.3 A less than 7 A		0.001 2 A
		From 7 A less than 7.6 A		0.001 3 A
		From 7.6 A less than 8.3 A		0.001 4 A
		From 8.3 A less than 8.9 A		0.001 5 A
		From 8.9 A less than 10 A		0.001 6 A
		10 A		0.013 %
		More than 10 A less than 10.2 A		0.001 7 A
		From 10.2 A less than 10.9 A		0.001 8 A
		From 10.9 A less than 11.5 A		0.001 9 A
		From 11.5 A less than 12.1 A		0.002 0 A
		From 12.1 A less than 12.8 A		0.002 1 A
		From 12.8 A less than 13.4 A		0.002 2 A
		From 13.4 A less than 14.1 A		0.002 3 A
		From 14.1 A less than 14.7 A		0.002 4 A
		From 14.7 A less than 15.4 A		0.002 5 A
		From 15.4 A less than 16 A		0.002 6 A
		From 16 A less than 16.6 A		0.002 7 A
		From 16.6 A less than 17.3 A		0.002 8 A
		From 17.3 A less than 17.9 A		0.002 9 A
		From 17.9 A less than 18.6 A		0.003 0 A
		From 18.6 A less than 19.2 A		0.003 1 A
		From 19.2 A less than 20 A		0.003 2 A
		20 A		0.014 %
More than 20 A up to 60 A	0.045 % + 1 mA			

Direct Current & Low Frequency Measuring Equipment, etc.	Alternating Current Measuring Equipment	From 0.001 A less than 0.01 A	50 Hz, 60 Hz	0.030 % + 0.5 μ A
		0.01 A		0.005 %
		More than 0.01 A less than 0.010 1 A		0.000 001 8 A
		From 0.010 1 A less than 0.010 6 A		0.000 001 9 A
		From 0.010 6 A less than 0.012 A		0.000 002 0 A
		From 0.012 A less than 0.012 2 A		0.000 002 1 A
		From 0.012 2 A less than 0.013 A		0.000 002 2 A
		From 0.013 A less than 0.014 A		0.000 002 3 A
		From 0.014 A less than 0.015 A		0.000 002 4 A
		From 0.015 A less than 0.016 A		0.000 002 5 A
		From 0.016 A less than 0.016 1 A		0.000 002 6 A
		From 0.016 1 A less than 0.016 8 A		0.000 002 7 A
		From 0.016 8 A less than 0.018 A		0.000 002 8 A
		From 0.018 A less than 0.019 A		0.000 002 9 A
		From 0.019 A less than 0.019 1 A		0.000 003 0 A
		From 0.019 1 A less than 0.02 A		0.000 003 1 A
		0.02 A		0.006 %
		More than 0.02 A less than 0.021 A		0.000 003 2 A
		From 0.021 A less than 0.022 A		0.000 003 3 A
		From 0.022 A less than 0.03 A		0.000 008 A
		0.03 A		0.006 %
		More than 0.03 A less than 0.034 A		0.000 009 A
		From 0.034 A less than 0.041 A		0.000 010 A
		From 0.041 A less than 0.05 A		0.000 011 A
		0.05 A		0.006 %
		More than 0.05 A less than 0.054 A		0.000 012 A
		From 0.054 A less than 0.06 A		0.000 013 A
		From 0.06 A less than 0.067 A		0.000 014 A
		From 0.067 A less than 0.073 A		0.000 015 A
		From 0.073 A less than 0.08 A		0.000 016 A
		From 0.08 A less than 0.087 A		0.000 017 A
		From 0.087 A less than 0.093 A		0.000 018 A
		From 0.093 A less than 0.1 A		0.000 019 A
		0.1 A		0.006 %
		More than 0.1 A less than 0.101 A		0.000 020 A
		From 0.101 A less than 0.108 A		0.000 021 A
		From 0.108 A less than 0.12 A		0.000 022 A
		From 0.12 A less than 0.121 A		0.000 023 A
		From 0.121 A less than 0.128 A		0.000 024 A
		From 0.128 A less than 0.14 A		0.000 025 A
From 0.14 A less than 0.142 A	0.000 026 A			
From 0.142 A less than 0.148 A	0.000 027 A			
From 0.148 A less than 0.16 A	0.000 028 A			
From 0.16 A less than 0.162 A	0.000 029 A			
From 0.162 A less than 0.169 A	0.000 030 A			
From 0.169 A less than 0.18 A	0.000 031 A			
From 0.18 A less than 0.182 A	0.000 032 A			
From 0.182 A less than 0.189 A	0.000 033 A			
From 0.189 A less than 0.2 A	0.000 034 A			
0.2 A	0.007 %			
More than 0.2 A less than 0.201 A	0.000 035 A			
From 0.201 A less than 0.204 A	0.000 036 A			
From 0.204 A less than 0.21 A	0.000 037 A			
From 0.21 A less than 0.22 A	0.000 038 A			
From 0.22 A less than 0.23 A	0.000 17 A			
From 0.23 A less than 0.24 A	0.000 18 A			
From 0.24 A less than 0.26 A	0.000 19 A			

Direct Current & Low Frequency Measuring Equipment, etc.	Alternating Current Measuring Equipment	From 0.26 A less than 0.28 A	50 Hz, 60 Hz	0.000 20 A
		From 0.28 A less than 0.3 A		0.000 21 A
		0.3 A		0.008 %
		More than 0.3 A less than 0.31 A		0.000 22 A
		From 0.31 A less than 0.33 A		0.000 23 A
		From 0.33 A less than 0.34 A		0.000 24 A
		From 0.34 A less than 0.36 A		0.000 25 A
		From 0.36 A less than 0.38 A		0.000 26 A
		From 0.38 A less than 0.4 A		0.000 27 A
		From 0.4 A less than 0.41 A		0.000 28 A
		From 0.41 A less than 0.43 A		0.000 29 A
		From 0.43 A less than 0.45 A		0.000 30 A
		From 0.45 A less than 0.46 A		0.000 31 A
		From 0.46 A less than 0.48 A		0.000 32 A
		From 0.48 A less than 0.5 A		0.000 33 A
		0.5 A		0.008 %
		More than 0.5 A less than 0.51 A		0.000 34 A
		From 0.51 A less than 0.53 A		0.000 35 A
		From 0.53 A less than 0.55 A		0.000 36 A
		From 0.55 A less than 0.57 A		0.000 37 A
		From 0.57 A less than 0.58 A		0.000 38 A
		From 0.58 A less than 0.6 A		0.000 39 A
		From 0.6 A less than 0.62 A		0.000 40 A
		From 0.62 A less than 0.63 A		0.000 41 A
		From 0.63 A less than 0.65 A		0.000 42 A
		From 0.65 A less than 0.67 A		0.000 43 A
		From 0.67 A less than 0.69 A		0.000 44 A
		From 0.69 A less than 0.7 A		0.000 45 A
		From 0.7 A less than 0.72 A		0.000 46 A
		From 0.72 A less than 0.74 A		0.000 47 A
		From 0.74 A less than 0.75 A		0.000 48 A
		From 0.75 A less than 0.77 A		0.000 49 A
		From 0.77 A less than 0.79 A		0.000 50 A
		From 0.79 A less than 0.80 A		0.000 51 A
		From 0.80 A less than 0.82 A		0.000 52 A
		From 0.82 A less than 0.84 A		0.000 53 A
		From 0.84 A less than 0.86 A		0.000 54 A
		From 0.86 A less than 0.87 A		0.000 55 A
		From 0.87 A less than 0.89 A		0.000 56 A
		From 0.89 A less than 0.91 A		0.000 57 A
		From 0.91 A less than 0.92 A		0.000 58 A
		From 0.92 A less than 0.94 A		0.000 59 A
		From 0.94 A less than 0.96 A		0.000 60 A
		From 0.96 A less than 0.97 A		0.000 61 A
		From 0.97 A less than 1 A		0.000 62 A
		1 A		0.008 %
		More than 1 A less than 1.01 A		0.000 63 A
		From 1.01 A less than 1.02 A		0.000 64 A
		From 1.02 A less than 1.04 A		0.000 65 A
		From 1.04 A less than 1.05 A		0.000 66 A
		From 1.05 A less than 1.07 A		0.000 67 A
		From 1.07 A less than 1.09 A		0.000 68 A
		From 1.09 A less than 1.1 A		0.000 69 A
		From 1.1 A less than 1.12 A		0.000 70 A
		From 1.12 A less than 1.14 A		0.000 71 A
		From 1.14 A less than 1.16 A		0.000 72 A
		From 1.16 A less than 1.17 A		0.000 73 A

Direct Current & Low Frequency Measuring Equipment, etc.	Alternating Current Measuring Equipment	From 1.17 A less than 1.19 A	50 Hz, 60 Hz	0.000 74 A
		From 1.19 A less than 1.21 A		0.000 75 A
		From 1.21 A less than 1.22 A		0.000 76 A
		From 1.22 A less than 1.24 A		0.000 77 A
		From 1.24 A less than 1.26 A		0.000 78 A
		From 1.26 A less than 1.28 A		0.000 79 A
		From 1.28 A less than 1.29 A		0.000 80 A
		From 1.29 A less than 1.31 A		0.000 81 A
		From 1.31 A less than 1.33 A		0.000 82 A
		From 1.33 A less than 1.34 A		0.000 83 A
		From 1.34 A less than 1.36 A		0.000 84 A
		From 1.36 A less than 1.38 A		0.000 85 A
		From 1.38 A less than 1.39 A		0.000 86 A
		From 1.39 A less than 1.41 A		0.000 87 A
		From 1.41 A less than 1.43 A		0.000 88 A
		From 1.43 A less than 1.45 A		0.000 89 A
		From 1.45 A less than 1.46 A		0.000 90 A
		From 1.46 A less than 1.48 A		0.000 91 A
		From 1.48 A less than 1.5 A		0.000 92 A
		From 1.5 A less than 1.51 A		0.000 93 A
		From 1.51 A less than 1.53 A		0.000 94 A
		From 1.53 A less than 1.55 A		0.000 95 A
		From 1.55 A less than 1.56 A		0.000 96 A
		From 1.56 A less than 1.58 A		0.000 97 A
		From 1.58 A less than 1.6 A		0.000 98 A
		From 1.6 A less than 1.62 A		0.000 99 A
		From 1.62 A less than 1.63 A		0.001 0 A
		From 1.63 A less than 1.8 A		0.001 1 A
		From 1.8 A less than 1.97 A		0.001 2 A
		From 1.97 A less than 2 A		0.001 3 A
		2 A		0.009 %
		More than 2 A less than 2.12 A		0.001 3 A
		From 2.12 A less than 2.2 A		0.001 4 A
		From 2.2 A less than 2.4 A		0.001 1 A
		From 2.4 A less than 2.6 A		0.001 2 A
		From 2.6 A less than 3 A		0.001 3 A
		3 A		0.013 %
		More than 3 A less than 3.1 A		0.001 4 A
		From 3.1 A less than 3.4 A		0.001 5 A
		From 3.4 A less than 3.7 A		0.001 6 A
From 3.7 A less than 3.9 A	0.001 7 A			
From 3.9 A less than 4.2 A	0.001 8 A			
From 4.2 A less than 4.5 A	0.001 9 A			
From 4.5 A less than 4.7 A	0.002 0 A			
From 4.7 A less than 5 A	0.002 1 A			
5 A	0.013 %			
More than 5 A less than 5.3 A	0.002 2 A			
From 5.3 A less than 5.5 A	0.002 3 A			
From 5.5 A less than 5.8 A	0.002 4 A			
From 5.8 A less than 6 A	0.002 5 A			
From 6 A less than 6.3 A	0.002 6 A			
From 6.3 A less than 6.6 A	0.002 7 A			
From 6.6 A less than 6.8 A	0.002 8 A			
From 6.8 A less than 7.1 A	0.002 9 A			
From 7.1 A less than 7.4 A	0.003 0 A			
From 7.4 A less than 7.6 A	0.003 1 A			
From 7.6 A less than 7.9 A	0.003 2 A			

Direct Current & Low Frequency Measuring Equipment, etc.	Alternating Current Measuring Equipment	From 7.9 A less than 8.2 A	50 Hz, 60 Hz	0.003 3 A
		From 8.2 A less than 8.4 A		0.003 4 A
		From 8.4 A less than 8.7 A		0.003 5 A
		From 8.7 A less than 8.9 A		0.003 6 A
		From 8.9 A less than 9.2 A		0.003 7 A
		From 9.2 A less than 9.5 A		0.003 8 A
		From 9.5 A less than 9.7 A		0.003 9 A
		From 9.7 A less than 10 A		0.004 0 A
		10 A		0.014 %
		More than 10 A less than 10.1 A		0.005 0 A
		From 10.1 A less than 10.3 A		0.005 1 A
		From 10.3 A less than 10.6 A		0.005 2 A
		From 10.6 A less than 10.8 A		0.005 3 A
		From 10.8 A less than 11 A		0.005 4 A
		From 11 A less than 11.3 A		0.005 5 A
		From 11.3 A less than 11.5 A		0.005 6 A
		From 11.5 A less than 11.8 A		0.005 7 A
		From 11.8 A less than 12 A		0.005 8 A
		From 12 A less than 12.3 A		0.005 9 A
		From 12.3 A less than 12.5 A		0.006 0 A
		From 12.5 A less than 12.8 A		0.006 1 A
		From 12.8 A less than 13 A		0.006 2 A
		From 13 A less than 13.2 A		0.006 3 A
		From 13.2 A less than 13.5 A		0.006 4 A
		From 13.5 A less than 13.7 A		0.006 5 A
		From 13.7 A less than 14 A		0.006 6 A
		From 14 A less than 14.2 A		0.006 7 A
		From 14.2 A less than 14.5 A		0.006 8 A
		From 14.5 A less than 14.7 A		0.006 9 A
		From 14.7 A less than 15 A		0.007 0 A
		From 15 A less than 15.2 A		0.007 1 A
		From 15.2 A less than 15.4 A		0.007 2 A
		From 15.4 A less than 15.7 A		0.007 3 A
		From 15.7 A less than 15.9 A		0.007 4 A
		From 15.9 A less than 16.2 A		0.007 5 A
		From 16.2 A less than 16.4 A		0.007 6 A
		From 16.4 A less than 16.7 A		0.007 7 A
		From 16.7 A less than 16.9 A		0.007 8 A
		From 16.9 A less than 17.1 A		0.007 9 A
		From 17.1 A less than 17.4 A		0.008 0 A
From 17.4 A less than 17.6 A	0.008 1 A			
From 17.6 A less than 17.9 A	0.008 2 A			
From 17.9 A less than 18.1 A	0.008 3 A			
From 18.1 A less than 18.4 A	0.008 4 A			
From 18.4 A less than 18.6 A	0.008 5 A			
From 18.6 A less than 18.8 A	0.008 6 A			
From 18.8 A less than 19.1 A	0.008 7 A			
From 19.1 A less than 19.3 A	0.008 8 A			
From 19.3 A less than 19.6 A	0.008 9 A			
From 19.6 A less than 20 A	0.009 0 A			
20 A	0.014 %			
More than 20 A up to 27 A	0.18 % + 0.01 A			
More than 27 A up to 30 A	0.06A			
More than 30 A up to 60 A	0.18 % + 0.01 A			
More than 60 A up to 100 A	0.3A			
More than 100 A up to 3 000 A	0.5 %			

	AC-DC- Current Comparator	10 mA, 20 mA		50 Hz, 60 Hz	0.004 %
		30 mA, 50 mA			0.005 %
		100 mA, 200 mA, 300 mA			0.006 %
		500 mA, 1 A			0.007 %
		2 A, 3 A			0.008 %
		5 A, 10 A			0.009 %
		20 A			0.010 %
Direct Current & Low Frequency Measuring Equipment, etc.	Temperature Indicator	Thermocouple R, with Reference Junction	From -226 μ V up to 21101 μ V (From -50 °C up to 1768 °C)	5 μ V	
		Thermocouple S, with Reference Junction	From -236 μ V up to 18693 μ V (From -50 °C up to 1768 °C)	5 μ V	
		Thermocouple N, with Reference Junction	From -4345 μ V up to 47513 μ V (From -270 °C up to 1300 °C)	21 μ V	
		Thermocouple K, with Reference Junction	From -6458 μ V up to 54886 μ V (From -270 °C up to 1372 °C)	22 μ V	
		Thermocouple E, with Reference Junction	From -9835 μ V up to 76373 μ V (From -270 °C up to 1000 °C)	27 μ V	
		Thermocouple J, with Reference Junction	From -8095 μ V up to 69553 μ V (From -210 °C up to 1200 °C)	25 μ V	
		Thermocouple T, with Reference Junction	From -6258 μ V up to 20872 μ V (From -270 °C up to 400 °C)	24 μ V	
		Thermocouple R, without Reference Junction	From -226 μ V up to 21101 μ V (From -50 °C up to 1768 °C)	4 μ V	
		Thermocouple S, without Reference Junction	From -236 μ V up to 18693 μ V (From -50 °C up to 1768 °C)	4 μ V	
		Thermocouple N, without Reference Junction	From -4345 μ V up to 47513 μ V (From -270 °C up to 1300 °C)	9 μ V	
		Thermocouple K, without Reference Junction	From -6458 μ V up to 54886 μ V (From -270 °C up to 1372 °C)	10 μ V	
		Thermocouple E, without Reference Junction	From -9835 μ V up to 76373 μ V (From -270 °C up to 1000 °C)	18 μ V	
		Thermocouple J, without Reference Junction	From -8095 μ V up to 69553 μ V (From -210 °C up to 1200 °C)	14 μ V	
		Thermocouple T, without Reference Junction	From -6258 μ V up to 20872 μ V (From -270 °C up to 400 °C)	14 μ V	
		Resistance thermometer Sensor	From 18.52 Ω up to 390.48 Ω (From -200 °C up to 850 °C)	0.011 Ω	

Direct Current & Low Frequency Measuring Equipment, etc.	Temperature Indicator calibration equipment	Thermocouple R, with Reference Junction	From -226 μV up to 21101 μV (From -50 $^{\circ}\text{C}$ up to 1768 $^{\circ}\text{C}$)	3 μV	
		Thermocouple S, with Reference Junction	From -236 μV up to 18693 μV (From -50 $^{\circ}\text{C}$ up to 1768 $^{\circ}\text{C}$)	3 μV	
		Thermocouple N, with Reference Junction	From -4345 μV up to 47513 μV (From -270 $^{\circ}\text{C}$ up to 1300 $^{\circ}\text{C}$)	19 μV	
		Thermocouple K, with Reference Junction	From -6458 μV up to 54886 μV (From -270 $^{\circ}\text{C}$ up to 1372 $^{\circ}\text{C}$)	20 μV	
		Thermocouple E, with Reference Junction	From -9835 μV up to 76373 μV (From -270 $^{\circ}\text{C}$ up to 1000 $^{\circ}\text{C}$)	23 μV	
		Thermocouple J, with Reference Junction	From -8095 μV up to 69553 μV (From -210 $^{\circ}\text{C}$ up to 1200 $^{\circ}\text{C}$)	21 μV	
		Thermocouple T, with Reference Junction	From -6258 μV up to 20872 μV (From -270 $^{\circ}\text{C}$ up to 400 $^{\circ}\text{C}$)	20 μV	
		Thermocouple R, without Reference Junction	From -226 μV up to 21101 μV (From -50 $^{\circ}\text{C}$ up to 1768 $^{\circ}\text{C}$)	1.4 μV	
		Thermocouple S, without Reference Junction	From -236 μV up to 18693 μV (From -50 $^{\circ}\text{C}$ up to 1768 $^{\circ}\text{C}$)	1.4 μV	
		Thermocouple N, without Reference Junction	From -4345 μV up to 47513 μV (From -270 $^{\circ}\text{C}$ up to 1300 $^{\circ}\text{C}$)	1.5 μV	
		Thermocouple K, without Reference Junction	From -6458 μV up to 54886 μV (From -270 $^{\circ}\text{C}$ up to 1372 $^{\circ}\text{C}$)	1.6 μV	
		Thermocouple E, without Reference Junction	From -9835 μV up to 76373 μV (From -270 $^{\circ}\text{C}$ up to 1000 $^{\circ}\text{C}$)	1.7 μV	
		Thermocouple J, without Reference Junction	From -8095 μV up to 69553 μV (From -210 $^{\circ}\text{C}$ up to 1200 $^{\circ}\text{C}$)	1.7 μV	
		Thermocouple T, without Reference Junction	From -6258 μV up to 20872 μV (From -270 $^{\circ}\text{C}$ up to 400 $^{\circ}\text{C}$)	1.4 μV	
		DC Voltage Ratio Measuring Equipment	From 0 mV/V up to 10 mV/V		0.000 17 mV/V
		AC Voltage Ratio Measuring Equipment	225 Hz	From 0 mV/V up to 2.5 mV/V	0.000 050 mV/V
More than 2.5 mV/V up to 5 mV/V	0.000 060 mV/V				

Electric Power Measuring Equipment, etc.	Power Converter	From 10 V up to 300 V From 50 mA up to 200 A From 45 Hz up to 66 Hz Power factor, whole range	0.04 mV/V ~ 1.4 mV/V (Appendix 1-1)
		100 V, 5 A More than 66 Hz up to 1000 Hz Power factor, whole range	0.25 mV/V (Appendix 1-1)
	Power Meter	From 10 V up to 1 000 V From 5 mA up to 200 A From 45 Hz up to 66 Hz Power factor, whole range	0.04 mW/VA ~ 0.16 mW/VA (Appendix 1-2)
		100 V, 5 A More than 66 Hz up to 1000 Hz Power factor, whole range	0.25 mW/VA (Appendix 1-2)
	Reactive Power Meter	From 10 V up to 1 000 V From 5 mA up to 200 A From 45 Hz up to 66 Hz Power factor, whole range	0.04 mvar/VA ~ 0.16 mvar/VA (Appendix 1-3)

Electric Power Measuring Equipment, etc.	Energy Meter	From 10 V up to 300 V From 50 mA up to 50 A From 45 Hz up to 66 Hz The absolute of Power factor is from 0.2	0.009 % ~ 0.011 % (Appendix 1-4)		
	Reactive Energy Meter	From 10 V up to 132 V From 50 mA up to 5 A From 45 Hz up to 66 Hz Except the range of Power factor is form +0.9 lag to +0.9 lead against 1 and from -0.9 lag to -0.9 lead against -1	0.009 % ~ 0.011 % (Appendix 1-5)		
	Power Source	From 50 V up to 100 V From 2.5 A up to 5 A From 45 Hz up to 66 Hz Power factor, whole range	0.06 mW/VA ~ 0.12 mW/VA (Appendix 1-5)		
	AC Voltage Transformer	50 Hz, 60 Hz (Testing voltage is from 5 % to 120 % of rated primary voltage and from 5 % up to 110 % at more than $275/\sqrt{3}$ kV)	Rated primary voltage From 100 V up to 33 kV	Ratio error 5×10^{-5} Phase angle 0.3'	
			Rated primary voltage More than 33 kV up to 77 kV	Ratio error 8×10^{-5} Phase angle 0.3'	
			Rated primary voltage More than 77 kV up to $275/\sqrt{3}$ kV	Ratio error 13×10^{-5} Phase angle 0.5'	
			Rated primary voltage More than $275/\sqrt{3}$ kV up to $550/\sqrt{3}$ kV	Ratio error 14×10^{-5} Phase angle 0.5'	
	Alternating Current Transformer	50 Hz, 60 Hz	Rated primary current From 5 mA up to 1.5 kA	Ratio error 60 ppm Phase angle 0.2'	
			Rated primary current More than 1.5 kA up to 12 kA	Ratio error 70 ppm Phase angle 0.3'	
	Alternating Current Standard Shunt	From 50 A up to 3 000 A	50 Hz, 60 Hz	0.4 %	

#All Calibration Procedures are in-house procedures developed by this laboratory.

Appendix 1-1

Category	Range				Expanded Uncertainty (Level of Confidence Approximately 95 %)
	Frequency	Voltage	Current	Power factor	
Power Converter	50 Hz	100 V	200 A	1	0.08 mV/V
			5 A	1	0.05 mV/V
				0.5 lag	0.05 mV/V
				0.5 lead	0.05 mV/V
				0 lag	0.04 mV/V
				0 lead	0.04 mV/V
		10 V	5 A	1	0.14 mV/V
	100 V	50 mA	1	1.4 mV/V	
	60 Hz	100 V	5 A	1	0.05 mV/V
				0.5 lag	0.05 mV/V
				0.5 lead	0.05 mV/V
				0 lag	0.04 mV/V
				0 lead	0.04 mV/V
	400 Hz	100 V	5 A	1	0.25 mV/V
				0.5 lag	0.25 mV/V
				0.5 lead	0.25 mV/V
				0 lag	0.25 mV/V
				0 lead	0.25 mV/V
	1 kHz	100 V	5 A	1	0.25 mV/V
				0.5 lag	0.25 mV/V
0.5 lead				0.25 mV/V	
0 lag				0.25 mV/V	
0 lead				0.25 mV/V	

Appendix 1-2

Category	Range						Expanded Uncertainty (Level of Confidence Approximately 95 %)
	Type	Phase wire	Frequency	Voltage	Current	Power factor	
Power Meter	Active Power	Single phase two wire	50 Hz	100 V	200 A	1	0.08 mW/VA
					5 A	1	0.05 mW/VA
						0.5 lag	0.04 mW/VA
						0.5 lead	0.04 mW/VA
						0 lag	0.04 mW/VA
						0 lead	0.04 mW/VA
						1000 V	5 A
			100 V	5 mA	1	0.16 mW/VA	
			60 Hz	100 V	5 A	1	0.05 mW/VA
						0.5 lag	0.04 mW/VA
						0.5 lead	0.04 mW/VA
						0 lag	0.04 mW/VA
						0 lead	0.04 mW/VA
			400 Hz	100 V	5 A	1	0.25 mW/VA
		0.5 lag				0.25 mW/VA	
		0.5 lead				0.25 mW/VA	
		0 lag				0.25 mW/VA	
		0 lead				0.25 mW/VA	
		1 kHz	100 V	5 A	1	0.25 mW/VA	
					0.5 lag	0.25 mW/VA	
					0.5 lead	0.25 mW/VA	
					0 lag	0.25 mW/VA	
					0 lead	0.25 mW/VA	
		Single phase three wire	50 Hz	100 V	5 A	1	0.05 mW/VA
		Three phase three wire	50 Hz	100 V	5 A	1	0.05 mW/VA
		Three phase four wire	50 Hz	100 V	5 A	1	0.05 mW/VA

Appendix 1-3

Category	Range						Expanded Uncertainty (Level of Confidence Approximately 95 %)
	Type	Phase wire	Frequency	Voltage	Current	Power factor	
Reactive Power Meter	Reactive power	Single phase two wire	50 Hz	100 V	200 A	0 lag	0.08 mvar/VA
					5 A	0 lag	0.05 mvar/VA
				0 lead		0.05 mvar/VA	
				0.866 lag		0.05 mvar/VA	
				0.866 lead		0.05 mvar/VA	
				1		0.04 mvar/VA	
				1000 V	5 A	0 lag	0.14 mvar/VA
			100 V	5 mA	0 lag	0.16 mvar/VA	
			60 Hz	100 V	5 A	0 lag	0.05 mvar/VA
						0 lead	0.05 mvar/VA
						0.866 lag	0.05 mvar/VA
						0.866 lead	0.05 mvar/VA
						1	0.04 mvar/VA
			Single phase three wire	50 Hz	100 V	5 A	0 lag
		Three phase three wire	50 Hz	100 V	5 A	0 lag	0.05 mvar/VA
		Three phase four wire	50 Hz	100 V	5 A	0 lag	0.05 mvar/VA

Appendix 1-4

Category	Range						Expanded Uncertainty (Level of Confidence Approximately 95 %)		
	Type	Phase wire	Frequency	Voltage	Current	Power factor			
Energy Meter	Active Energy	Three phase three wire	50 Hz	100 V	5 A	1	0.009 %		
						0.5 lag	0.011 %		
						0.5 lead	0.011 %		
						10 V	5 A	1	0.009 %
						100 V	50 mA	1	0.009 %
			60 Hz	100 V	5 A	1	0.009 %		
						0.5 lag	0.011 %		
						0.5 lead	0.011 %		
			Single phase two wire	50 Hz	100 V	5 A	300 V	5 A	1
		50 A					1	0.011 %	
							1	0.009 %	
		50 mA		0.5 lag	0.011 %				
				0.5 lead	0.011 %				
				1	0.011 %				
		10 V		5 A	1	0.010 %			
		60 Hz		100 V	5 A	1	0.009 %		
						0.5 lag	0.011 %		
			0.5 lead			0.011 %			
		Single phase three wire	50 Hz	100 V	5 A	1	0.009 %		
		Three phase four wire	50 Hz	100 V	5 A	1	0.009 %		

Appendix 1-5

Category	Range						Expanded Uncertainty (Level of Confidence Approximately 95 %)
	Type	Phase wire	Frequency	Voltage	Current	Power factor	
Reactive Energy Meter	Reactive energy	Three phase three wire	50 Hz	100 V	5 A	0 lag	0.009 %
						0 lead	0.009 %
				0.866 lag	0.011 %		
				0.866 lead	0.011 %		
			10 V	5 A	0 lag	0.009 %	
					100 V	50 mA	0 lag
			60 Hz	100 V	5 A	0 lag	0.009 %
						0 lead	0.009 %
		0.866 lag		0.011 %			
		0.866 lead		0.011 %			
		Single phase two wire	50 Hz	100 V	5 A	0 lag	0.009 %
		Single phase three wire	50 Hz	100 V	5 A	0 lag	0.009 %
Three phase four wire	50 Hz	100 V	5 A	0 lag	0.009 %		
Power Source	Active Power	Single phase two wire	50 Hz	100 V	5 A	1	0.06 mW/VA
						0.5 lag	0.06 mW/VA
						0.5 lead	0.06 mW/VA
						0 lag	0.06 mW/VA
						0 lead	0.06 mW/VA
			50 V	5 A	1	0.12 mW/VA	
					1	0.12 mW/VA	
			60 Hz	100 V	5 A	1	0.06 mW/VA
						0.5 lag	0.06 mW/VA
						0.5 lead	0.06 mW/VA
		0 lag				0.06 mW/VA	
		0 lead				0.06 mW/VA	
		Single phase three wire	50 Hz	100 V	5 A	1	0.06 mW/VA
		Three phase three wire	50 Hz	100 V	5 A	1	0.06 mW/VA
		Three phase four wire	50 Hz	100 V	5 A	1	0.06 mW/VA

General Field of Calibration: Electricity (Direct Current & Low Frequency)

Date of Initial Accreditation of the Field: 1995-06-21

Permanent Laboratory/On-site Calibration: On-site Calibration

Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated	Range	Expanded Uncertainty (Level of Confidence Approximately 95 %)		
Direct Current & Low Frequency Measuring Equipment, etc.	DC Resister	1 mΩ	0.03 %	
		10 mΩ	0.03 %	
		100 mΩ	0.01 %	
		1 Ω	0.01 %	
		2 Ω, 3 Ω, 4 Ω, 5 Ω, 6 Ω, 7 Ω, 8 Ω, 9 Ω, 10 Ω	0.001 Ω	
		20 Ω, 30 Ω, 40 Ω, 50 Ω, 60 Ω, 70 Ω, 80 Ω, 90 Ω, 100 Ω	0.003 Ω	
		200 Ω, 300 Ω, 400 Ω, 500 Ω, 600 Ω, 700 Ω, 800 Ω, 900 Ω, 1000 Ω	0.02 Ω	
		2 kΩ, 3 kΩ, 4 kΩ, 5 kΩ, 6 kΩ, 7 kΩ, 8 kΩ, 9 kΩ, 10 kΩ	0.0002 kΩ	
		20 kΩ, 30 kΩ, 40 kΩ, 50 kΩ, 60 kΩ, 70 kΩ, 80 kΩ, 90 kΩ, 100 kΩ	0.002 kΩ	
		200 kΩ, 300 kΩ, 400 kΩ, 500 kΩ, 600 kΩ, 700 kΩ, 800 kΩ, 900 kΩ, 1 MΩ	0.03 kΩ	
		1.1 MΩ	0.40 kΩ	
		2 MΩ, 3 MΩ, 4 MΩ, 5 MΩ, 6 MΩ, 7 MΩ, 8 MΩ, 9 MΩ, 10 MΩ	0.001 MΩ	
		20 MΩ, 30 MΩ, 40 MΩ, 50 MΩ, 60 MΩ	0.1 %	
		70 MΩ, 80 MΩ, 90 MΩ	0.06 MΩ	
		100 MΩ	0.05 MΩ	
		DC Resistance Measuring Equipment	From 1 Ω up to 10 kΩ	0.050 % (lower limit 10 mΩ)
			More than 10 kΩ up to 1 MΩ	0.10 %
			More than 1 MΩ up to 10 MΩ	0.20 %
			More than 10 MΩ up to 100 MΩ	1.0 %
			More than 100 MΩ up to 2000 MΩ	2.0 %
		DC Voltage Source	From 0 V up to 1000 V	0.010 % (lower limit 0.010 mV)
			More than 1 kV up to 1.5 kV	0.014 kV
			More than 1.5 kV up to 3.5 kV	0.02 kV
			More than 3.5 kV up to 6.5 kV	0.03 kV
			More than 6.5 kV up to 9 kV	0.04 kV
			More than 9 kV up to 10 kV	0.05 kV
		DC Voltage Measuring Equipment	From 0 V up to 1000 V	0.050 % (lower limit 5 μV)
			More than 1 kV up to 180 kV	0.005 V/V
		Direct Current Source	From 0 A up to 30 A	0.10 % (lower limit 0.05 μA)
		Direct Current Measuring Equipment	From 0 A up to 10 A	0.10 % (lower limit 0.10 μA)
			More than 10 A up to 25 A	0.04 A
			More than 25 A up to 30 A	0.05 A
			More than 30 A up to 40 A	0.40 A
		More than 40 A up to 50 A	0.50 A	
		More than 50 A up to 500 A	1.0 %	

Direct Current & Low Frequency Measuring Equipment, etc.	AC Voltage Source	50 Hz, 60 Hz	From 10 mV up to 40 mV	0.10 mV
			More than 40 mV up to 1000 V	0.30 %
			More than 1 kV up to 1.5 kV	0.014 kV
			More than 1.5 kV up to 3.5 kV	0.02 kV
			More than 3.5 kV up to 6.5 kV	0.03 kV
			More than 6.5 kV up to 9 kV	0.04 kV
			More than 9 kV up to 10 kV	0.05 kV
	AC Voltage Source	400 Hz, 1 kHz	From 10 mV up to 40 mV	0.10 mV
			More than 40 mV up to 1000 V	0.30 %
	AC Voltage Measuring Equipment	50 Hz, 60 Hz, 400 Hz, 1 kHz	From 10 mV up to 1000 V	0.10 % (lower limit 0.10 mV)
			From 5 kV up to 190 kV	0.005 V/V
	Alternating Current Source	50 Hz, 60 Hz	From 1 mA up to 60 A	0.50 %
	Alternating Current Measuring Equipment	50 Hz, 60 Hz	From 1 mA up to 43 mA	0.30 %
			More than 43 mA up to 50 mA	0.13 mA
			More than 50 mA up to 0.2 A	0.30 %
			More than 0.2 A up to 0.3 A	0.000 6 A
			More than 0.3 A up to 0.43 A	0.30 %
			More than 0.43 A up to 0.5 A	0.001 3 A
			More than 0.5 A up to 0.75 A	0.001 4 A
			More than 0.75 A up to 1.3 A	0.30 %
			More than 1.3 A up to 1.5 A	0.004 A
			More than 1.5 A up to 2 A	0.30 %
			More than 2 A up to 3 A	0.006 A
			More than 3 A up to 4.3 A	0.30 %
			More than 4.3 A up to 5 A	0.013 A
			More than 5 A up to 7.5 A	0.014 A
			More than 7.5 A up to 10 A	0.30 %
More than 10 A up to 15 A			0.03 A	
More than 15 A up 30 A			0.06 A	
More than 30 A up to 50 A			0.13 A	
More than 50 A up to 60 A			0.50 %	
More than 60 A up to 100 A			0.3 A	
More than 100 A up to 500 A	1.5 %			

Direct Current & Low Frequency Measuring Equipment, etc.	Temperature Indicator	Thermocouple R, with Reference Junction	From -226 μV up to 21101 μV (From -50 $^{\circ}\text{C}$ up to 1768 $^{\circ}\text{C}$)	5 μV
		Thermocouple S, with Reference Junction	From -236 μV up to 18693 μV (From -50 $^{\circ}\text{C}$ up to 1768 $^{\circ}\text{C}$)	5 μV
		Thermocouple N, with Reference Junction	From -4345 μV up to 47513 μV (From -270 $^{\circ}\text{C}$ up to 1300 $^{\circ}\text{C}$)	21 μV
		Thermocouple K, with Reference Junction	From -6458 μV up to 54886 μV (From -270 $^{\circ}\text{C}$ up to 1372 $^{\circ}\text{C}$)	22 μV
		Thermocouple E, with Reference Junction	From -9835 μV up to 76373 μV (From -270 $^{\circ}\text{C}$ up to 1000 $^{\circ}\text{C}$)	27 μV
		Thermocouple J, with Reference Junction	From -8095 μV up to 69553 μV (From -210 $^{\circ}\text{C}$ up to 1200 $^{\circ}\text{C}$)	25 μV
		Thermocouple T, with Reference Junction	From -6258 μV up to 20872 μV (From -270 $^{\circ}\text{C}$ up to 400 $^{\circ}\text{C}$)	24 μV
		Thermocouple R, without Reference Junction	From -226 μV up to 21101 μV (From -50 $^{\circ}\text{C}$ up to 1768 $^{\circ}\text{C}$)	4 μV
		Thermocouple S, without Reference Junction	From -236 μV up to 18693 μV (From -50 $^{\circ}\text{C}$ up to 1768 $^{\circ}\text{C}$)	4 μV
		Thermocouple N, without Reference Junction	From -4345 μV up to 47513 μV (From -270 $^{\circ}\text{C}$ up to 1300 $^{\circ}\text{C}$)	9 μV
		Thermocouple K, without Reference Junction	From -6458 μV up to 54886 μV (From -270 $^{\circ}\text{C}$ up to 1372 $^{\circ}\text{C}$)	10 μV
		Thermocouple E, without Reference Junction	From -9835 μV up to 76373 μV (From -270 $^{\circ}\text{C}$ up to 1000 $^{\circ}\text{C}$)	18 μV
		Thermocouple J, without Reference Junction	From -8095 μV up to 69553 μV (From -210 $^{\circ}\text{C}$ up to 1200 $^{\circ}\text{C}$)	14 μV
		Thermocouple T, without Reference Junction	From -6258 μV up to 20872 μV (From -270 $^{\circ}\text{C}$ up to 400 $^{\circ}\text{C}$)	14 μV
		Resistance thermometer Sensor	From 18.52 Ω up to 390.48 Ω (From -200 $^{\circ}\text{C}$ up to 850 $^{\circ}\text{C}$)	0.07 Ω

Direct Current & Low Frequency Measuring Equipment, etc.	Temperature Indicator calibration equipment	Thermocouple R, with Reference Junction	From -226 μV up to 21101 μV (From -50 $^{\circ}\text{C}$ up to 1768 $^{\circ}\text{C}$)	5 μV
		Thermocouple S, with Reference Junction	From -236 μV up to 18693 μV (From -50 $^{\circ}\text{C}$ up to 1768 $^{\circ}\text{C}$)	5 μV
		Thermocouple N, with Reference Junction	From -4345 μV up to 47513 μV (From -270 $^{\circ}\text{C}$ up to 1300 $^{\circ}\text{C}$)	19 μV
		Thermocouple K, with Reference Junction	From -6458 μV up to 54886 μV (From -270 $^{\circ}\text{C}$ up to 1372 $^{\circ}\text{C}$)	20 μV
		Thermocouple E, with Reference Junction	From -9835 μV up to 76373 μV (From -270 $^{\circ}\text{C}$ up to 1000 $^{\circ}\text{C}$)	24 μV
		Thermocouple J, with Reference Junction	From -8095 μV up to 69553 μV (From -210 $^{\circ}\text{C}$ up to 1200 $^{\circ}\text{C}$)	22 μV
		Thermocouple T, with Reference Junction	From -6258 μV up to 20872 μV (From -270 $^{\circ}\text{C}$ up to 400 $^{\circ}\text{C}$)	21 μV
		Thermocouple R, without Reference Junction	From -226 μV up to 21101 μV (From -50 $^{\circ}\text{C}$ up to 1768 $^{\circ}\text{C}$)	3.0 μV
		Thermocouple S, without Reference Junction	From -236 μV up to 18693 μV (From -50 $^{\circ}\text{C}$ up to 1768 $^{\circ}\text{C}$)	3.0 μV
		Thermocouple N, without Reference Junction	From -4345 μV up to 47513 μV (From -270 $^{\circ}\text{C}$ up to 1300 $^{\circ}\text{C}$)	3.2 μV
		Thermocouple K, without Reference Junction	From -6458 μV up to 54886 μV (From -270 $^{\circ}\text{C}$ up to 1372 $^{\circ}\text{C}$)	3.3 μV
		Thermocouple E, without Reference Junction	From -9835 μV up to 76373 μV (From -270 $^{\circ}\text{C}$ up to 1000 $^{\circ}\text{C}$)	3.4 μV
		Thermocouple J, without Reference Junction	From -8095 μV up to 69553 μV (From -210 $^{\circ}\text{C}$ up to 1200 $^{\circ}\text{C}$)	3.3 μV
		Thermocouple T, without Reference Junction	From -6258 μV up to 20872 μV (From -270 $^{\circ}\text{C}$ up to 400 $^{\circ}\text{C}$)	3.0 μV

Electric Power Measuring Equipment, etc.	Power Meter	Single phase two wire From 30 V up to 300 V From 0.2 A up to 33 A 50 Hz, 60 Hz Power factor 0 lag \sim 1 \sim 0 lead	0.050 W \sim 8 W (Appendix 2-1)
		Single phase three wire, Three phase three wire From 50 V up to 300 V From 0.2 A up to 33 A 50 Hz, 60 Hz Power factor 0 lag \sim 1 \sim 0 lead	0.075 W \sim 12 W (Appendix 2-2)

#All Calibration Procedures are in-house procedures developed by this laboratory.

Appendix 2-1

Category	Range						Expanded Uncertainty (Level of Confidence Approximately 95 %)
	Type	Phase wire	Frequency	Voltage	Current	Power factor	
Power Meter	Active Power	Single phase Two wire	50 Hz 60 Hz	More than 150 V up to 300 V	More than 20 A up to 33 A	0 lag ~ 1 ~ 0 lead	8 W
					More than 10 A up to 20 A	0 lag ~ 1 ~ 0 lead	5.1 W
					More than 5 A up to 10 A	0 lag ~ 1 ~ 0 lead	2.6 W
					More than 2 A up to 5 A	0 lag ~ 1 ~ 0 lead	1.3 W
					More than 1 A up to 2 A	0 lag ~ 1 ~ 0 lead	0.51 W
					1 A	0 lag ~ 1 ~ 0 lead	0.26 W
					0.2 A	0 lag ~ 1 ~ 0 lead	0.48 W
				More than 100 V up to 150 V	More than 20 A up to 33 A	0 lag ~ 1 ~ 0 lead	4 W
					More than 10 A up to 20 A	0 lag ~ 1 ~ 0 lead	2.6 W
					More than 5 A up to 10 A	0 lag ~ 1 ~ 0 lead	1.3 W
					More than 2 A up to 5 A	0 lag ~ 1 ~ 0 lead	0.7 W
					More than 1 A up to 2 A	0 lag ~ 1 ~ 0 lead	0.26 W
					1 A	0 lag ~ 1 ~ 0 lead	0.13 W
					0.2 A	0 lag ~ 1 ~ 0 lead	0.24 W

Appendix 2-1(continued)

Power Meter	Active Power	Single phase Two wire	50 Hz	More than 60 V Up to 100 V	More than 20 A up to 33 A	0 lag~1~0 lead	2.6 W	
					More than 10 A up to 20 A	0 lag~1~0 lead	1.7 W	
					More than 5 A up to 10 A	0 lag~1~0 lead	0.9 W	
					More than 2 A up to 5 A	0 lag~1~0 lead	0.42 W	
					More than 1 A up to 2 A	0 lag~1~0 lead	0.17 W	
					1 A	0 lag~1~0 lead	0.09 W	
				60 Hz	From 50 V up to 60 V	More than 20 A up to 33 A	0 lag~1~0 lead	1.7 W
						More than 10 A up to 20 A	0 lag~1~0 lead	1.1 W
						More than 5 A up to 10 A	0 lag~1~0 lead	0.51 W
						More than 2 A up to 5 A	0 lag~1~0 lead	0.26 W
			More than 1 A up to 2 A			0 lag~1~0 lead	0.10 W	
			1 A			0 lag~1~0 lead	0.050W	
			0.2 A			0 lag~1~0 lead	0.12 W	
			30 V		10 A	0 lag~1~0 lead	1.5 W	
					5 A	0 lag~1~0 lead	0.8 W	
					2.5 A	0 lag~1~0 lead	0.38 W	
					1 A	0 lag~1~0 lead	0.15 W	
					0.2 A	0 lag~1~0 lead	0.060 W	

Appendix 2-2

Category	Range						Expanded Uncertainty (Level of Confidence Approximately 95 %)
	Type	Phase wire	Frequency	Voltage	Current	Power factor	
Power Meter	Active Power	Single phase three wire	50 Hz 60 Hz	More than 150 V up to 300 V	More than 20 A up to 33 A	0 lag ~ 1 ~ 0 lead	12 W
					More than 10 A up to 20 A	0 lag ~ 1 ~ 0 lead	7.6 W
					More than 5 A up to 10 A	0 lag ~ 1 ~ 0 lead	3.9 W
					More than 2 A up to 5 A	0 lag ~ 1 ~ 0 lead	1.9 W
					More than 1 A up to 2 A	0 lag ~ 1 ~ 0 lead	0.76 W
					1 A	0 lag ~ 1 ~ 0 lead	0.38 W
					0.2 A	0 lag ~ 1 ~ 0 lead	0.96 W
		Three phase three wire		More than 100 V up to 150 V	More than 20 A up to 33 A	0 lag ~ 1 ~ 0 lead	6 W
					More than 10 A up to 20 A	0 lag ~ 1 ~ 0 lead	3.9 W
					More than 5 A up to 10 A	0 lag ~ 1 ~ 0 lead	2.0 W
					More than 2 A up to 5 A	0 lag ~ 1 ~ 0 lead	1.0 W
					More than 1 A up to 2 A	0 lag ~ 1 ~ 0 lead	0.38 W
					1 A	0 lag ~ 1 ~ 0 lead	0.19 W
					0.2 A	0 lag ~ 1 ~ 0 lead	0.48 W

Appendix 2-2(continued)

Power Meter	Active Power	Single phase three wire	50 Hz 60 Hz	More than 60 V up to 100 V	More than 20 A up to 33 A	0 lag~1~0 lead	3.7 W
					More than 10 A up to 20 A	0 lag~1~0 lead	2.5 W
					More than 5 A up to 10 A	0 lag~1~0 lead	1.3 W
					More than 2 A up to 5 A	0 lag~1~0 lead	0.63 W
					More than 1 A up to 2 A	0 lag~1~0 lead	0.25 W
					1 A	0 lag~1~0 lead	0.13 W
		Three phase three wire	50 Hz 60 Hz	From 50 V up to 60 V	More than 20 A up to 33 A	0 lag~1~0 lead	2.2 W
					More than 10 A up to 20 A	0 lag~1~0 lead	1.5 W
					More than 5 A up to 10 A	0 lag~1~0 lead	0.75 W
					More than 2 A up to 5 A	0 lag~1~0 lead	0.38 W
					More than 1 A up to 2 A	0 lag~1~0 lead	0.15 W
					1 A	0 lag~1~0 lead	0.075 W

General Field of Calibration: Electricity (Direct Current & Low Frequency)

Date of Initial Accreditation of the Field: 1995-06-21

Permanent Laboratory/On-site Calibration: Permanent Laboratory

Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		Expanded Uncertainty (Level of Confidence Approximately 95 %)		
Low Frequency Impedance Measuring Equipment, etc.	AC Voltage Inductive Voltage-Divider	50 Hz	10 V	Real	0.20×10^{-6}	
				Imag	3.0×10^{-6}	
		60 Hz	10 V	Real	0.20×10^{-6}	
				Imag	3.0×10^{-6}	
		120 Hz	10 V, 20 V	Real	0.15×10^{-6}	
				Imag	3.0×10^{-6}	
		225 Hz	10 V	Real	0.15×10^{-6}	
				Imag	3.0×10^{-6}	
		400 Hz	From 10 V up to 100 V	Real	0.10×10^{-6}	
				Imag	1.0×10^{-6}	
		1 kHz	From 1 V up to 150 V	Real	0.10×10^{-6}	
				Imag	1.0×10^{-6}	
		5 kHz	10 V, 20 V	Real	2.0×10^{-6}	
				Imag	1.2×10^{-5}	
	10 kHz	10 V, 20 V	Real	1.7×10^{-5}		
			Imag	2.9×10^{-5}		
	Capacitor	1 kHz	1 pF		1.1 μ F/F	
			More than 1 pF less than 10 pF		0.002 %	
			10 pF		0.80 μ F/F	
			More than 10 pF less than 100 pF		0.002 %	
			100 pF		0.73 μ F/F	
			More than 100 pF less than 1 000 pF		0.002 %	
			1 000 pF		0.79 μ F/F	
			More than 1 000 pF up to 0.1 μ F		0.007 %	
			More than 0.1 μ F up to 1 μ F		0.008 %	
			10 μ F		0.008 %	
	Capacitance Measuring Equipment	1 kHz	100 pF		0.006 %	
			1 000 pF		0.006 %	
			0.01 μ F		0.007 %	
			0.1 μ F		0.007 %	
			1 μ F		0.008 %	
			10 μ F		0.008 %	
	AC Resister	1 kHz Coaxial Shunt	Up to 10 A	From 10 $\mu\Omega$ less than 100 $\mu\Omega$	AC Resistance	0.09 %
					Phase angle	0.004 rad
				From 100 $\mu\Omega$ less than 1 m Ω	AC Resistance	0.06 %
				Phase angle	0.004 rad	
			From 1 m Ω less than 10 m Ω	AC Resistance	0.06 %	
				Phase angle	0.004 rad	
		Up to 1 A	From 10 m Ω less than 0.1 Ω	AC Resistance	0.009 %	
				Phase angle	0.000 4 rad	
			0.1 Ω	AC Resistance	0.006 %	
				Phase angle	0.000 12 rad	
1 kHz			10 Ω	AC Resistance	0.007 %	
				Phase angle	5×10^{-5} rad	
	100 Ω	AC Resistance	0.003 %			
		Phase angle	3×10^{-5} rad			

Low Frequency Impedance Measuring Equipment, etc.				1 k Ω	AC Resistance	0.003 %
					Phase angle	3×10^{-5} rad
				10 k Ω	AC Resistance	0.003 %
					Phase angle	3×10^{-5} rad
				100 k Ω	AC Resistance	0.003 %
					Phase angle	5×10^{-5} rad
	AC Resister	10 kHz Coaxial Shunt	Up to 10 A	From 10 $\mu\Omega$ less than 100 $\mu\Omega$	AC Resistance	0.4 %
					Phase angle	0.04 rad
				From 100 $\mu\Omega$ less than 1 m Ω	AC Resistance	0.4 %
					Phase angle	0.04 rad
				From 1 m Ω less than 10 m Ω	AC Resistance	0.4 %
			Phase angle		0.04 rad	
			From 10 m Ω less than 0.1 Ω	AC Resistance	0.04 %	
				Phase angle	0.004 rad	
			Up to 1 A	0.1 Ω	AC Resistance	0.008 %
					Phase angle	0.000 5 rad
	AC Resistance Measuring Equipment	1 kHz		10 Ω		0.007 %
				100 Ω		0.004 %
				1 k Ω		0.004 %
				10 k Ω		0.004 %
				100 k Ω		0.002 %
	Inductor	1 kHz		100 μH		0.04 %
				More than 100 μH up to 300 μH		0.2 %
				More than 300 μH less than 600 μH		0.1 %
				600 μH		0.09 %
				More than 600 μH less than 1 mH		0.08 %
				1 mH		0.02 %
More than 1 mH less than 2 mH					0.08 %	
2 mH					0.07 %	
More than 2 mH less than 10 mH					0.06 %	
10 mH					0.010 %	
More than 10 mH less than 100 mH					0.06 %	
100 mH					0.010 %	
More than 100 mH less than 1 H					0.06 %	
1 H					0.011 %	
More than 1 H less than 2 H					0.06 %	
2 H		0.1 %				
More than 2 H less than 10 H		0.2 %				
10 H		0.05 %				
Inductance Measuring Equipment	1 kHz		100 μH		0.2 %	
			1 mH		0.03 %	
			10 mH		0.02 %	
			100 mH		0.02 %	
			1 H		0.02 %	
			10 H		0.2 %	

#All Calibration Procedures are in-house procedures developed by this laboratory.

General Field of Calibration: HumidityDate of Initial Accreditation of the Field: 2015-09-11Permanent Laboratory/On-site Calibration: Permanent LaboratoryCalibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated			Range	Expanded Uncertainty (Level of Confidence Approximately 95 %)	
Humidity Measuring Instrument, etc.	Dew point hygrometers	Optical Dew point hygrometers	Dew point From -10 °C up to 50 °C	Dew point 0.17 °C	
			Dew point More than 50 °C up to 85 °C	Dew point 0.27 °C	
		Calibration temperature From 5 °C less than 20 °C	Relative humidity From 10 % up to 50 % Dew point above -10 °C	Relative humidity 1.0 %	
				Relative humidity More than 50 % up to 90 %	Relative humidity 1.5 %
		Calibration temperature From 20 °C up to 30 °C	Relative humidity From 10 % up to 50 % Dew point above -10 °C	Relative humidity 0.8 %	
				Relative humidity More than 50 % up to 90 %	Relative humidity 1.2 %
		Calibration temperature More than 30 °C up to 50 °C	Relative humidity From 10 % up to 50 %	Relative humidity 0.8 %	
				Relative humidity More than 50 % up to 90 %	Relative humidity 1.2 %
		Calibration temperature More than 50 °C up to 85 °C	Relative humidity From 10 % up to 50 %	Relative humidity 1.4 %	
				Relative humidity More than 50 % up to 90 %	Relative humidity 2.5 %
		Capacitive hygrometers	Dew point From -10 °C up to 48 °C		Dew point 0.21 °C
			Dew point More than 48 °C up to 83 °C		Dew point 0.51 °C

#All Calibration Procedures are in-house procedures developed by this laboratory.

General Field of Calibration: HumidityDate of Initial Accreditation of the Field: 2015-09-11Permanent Laboratory/On-site Calibration: Permanent LaboratoryCalibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated			Range	Expanded Uncertainty (Level of Confidence Approximately 95 %)	
Humidity Measuring Instrument, etc.	Dew point hygrometers	Optical Dew point hygrometers	Dew point From -10 °C up to 50 °C	Dew point 0.17 °C	
			Dew point More than 50 °C up to 85 °C	Dew point 0.27 °C	
			Calibration temperature From 5 °C less than 20 °C	Relative humidity From 10 % up to 50 % Dew point above -10 °C	Relative humidity 1.0 %
				Relative humidity More than 50 % up to 90 %	Relative humidity 1.5 %
			Calibration temperature From 20 °C up to 30 °C	Relative humidity From 10 % up to 50 % Dew point above -10 °C	Relative humidity 0.8 %
				Relative humidity More than 50 % up to 90 %	Relative humidity 1.2 %
		Calibration temperature More than 30 °C up to 50 °C	Relative humidity From 10 % up to 50 %	Relative humidity 0.8 %	
			Relative humidity More than 50 % up to 90 %	Relative humidity 1.2 %	
		Calibration temperature More than 50 °C up to 85 °C	Relative humidity From 10 % up to 50 %	Relative humidity 1.4 %	
			Relative humidity More than 50 % up to 90 %	Relative humidity 2.5 %	
		Capacitive hygrometers	Dew point From -10 °C up to 48 °C	Dew point 0.21 °C	
			Dew point More than 48 °C up to 83 °C	Dew point 0.51 °C	

Humidity Measuring Instrument, etc.	Electronic hygrometers	Dew point From -10 °C up to 48 °C Calibration temperature From 5 °C up to 55 °C Relative humidity From 10 % up to 90 %		Dew point 0.21 °C
		Dew point From -10 °C up to 48 °C Calibration temperature More than 55 °C up to 85 °C Relative humidity From 10 % up to 90 %		Dew point 0.33 °C
		Dew point More than 48 °C up to 83 °C Calibration temperature More than 50 °C up to 85 °C Relative humidity From 10 % up to 90 %		Dew point 0.51 °C
	Calibration temperature From 5 °C less than 20 °C	Relative humidity From 10 % up to 50 % Dew point above -10 °C	Relative humidity 1.0 %	
		Relative humidity More than 50 % up to 90 %	Relative humidity 1.5 %	
	Calibration temperature From 20 °C up to 30 °C	Relative humidity From 10 % up to 50 % Dew point above -10 °C	Relative humidity 0.8 %	
		Relative humidity More than 50 % up to 90 %	Relative humidity 1.2 %	
	Calibration temperature More than 30 °C up to 50 °C	Relative humidity From 10 % up to 50 %	Relative humidity 0.8 %	
		Relative humidity More than 50 % up to 90 %	Relative humidity 1.2 %	
	Calibration temperature More than 50 °C up to 85 °C	Relative humidity From 10 % up to 50 %	Relative humidity 1.4 %	
Relative humidity More than 50 % up to 90 %		Relative humidity 2.5 %		

#All Calibration Procedures are in-house procedures developed by this laboratory.

General Field of Calibration: Temperature

Date of Initial Accreditation of the Field: 1994-08-01

Permanent Laboratory/On-site Calibration: Permanent Laboratory

Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	Expanded Uncertainty (Level of Confidence Approximately 95 %)		
Contact type thermometer	Fixed point apparatus	Triple point of Water	0.4 mK		
		Triple point of Mercury	1.2 mK		
		Melting point of Gallium	1.0 mK		
		Freezing point of Indium	2.4 mK		
		Freezing point of Tin	2.3 mK		
		Freezing point of Zinc	3.3 mK		
		Freezing point of Aluminum	6.0 mK		
	Resistance thermometer (Fixed point calibration)			$W(T_{90})$ (*1)	$R(T_{90})$ (*2)
		Triple point of Water	-	1.0 mK	
		Triple point of Mercury	2.0 mK		2.0 mK
		Melting point of Gallium	2.0 mK		2.0 mK
		Freezing point of Indium	3.0 mK		3.0 mK
		Freezing point of Tin	3.0 mK		3.0 mK
		Freezing point of Zinc	4.0 mK		4.0 mK
	Resistance thermometer (Comparison Calibration)	Vicinity of -196 °C, -186 °C or -183 °C	6 mK		6 mK
		From -80 °C up to 80 °C	7 mK		7 mK
		More than 80 °C up to 250 °C	8 mK		8 mK
		More than 250 °C up to 420 °C	30 mK		30 mK
	Thermocouple (Fixed point calibration) (for noble metal thermocouple)	Freezing point of Indium	0.10 °C (*3)		
		Freezing point of Tin			
		Freezing point of Zinc	0.15 °C (*3)		
		Freezing point of Aluminum			
		Freezing point of Silver	0.25 °C (*3)		
		Freezing point of Copper			
	Melting point of Palladium	1.0 °C (*3)			
	Thermocouple (Comparison Calibration)	From 0 °C up to 150 °C	0.2 °C (*3)		
		More than 150 °C up to 400 °C	0.5 °C (*3)		
More than 400 °C up to 1100 °C		0.7 °C (*3)			
More than 1100 °C up to 1554 °C		1.8 °C (*3)			
Temperature sensors with display unit (Comparison calibration)	Vicinity of -196 °C, -186 °C or -183 °C	10 mK			
	From -80 °C up to 80 °C	7 mK			
	More than 80 °C up to 250 °C	8 mK			
	More than 250 °C up to 420 °C	30 mK			
	More than 420 °C up to 1100 °C	0.8 °C			
	More than 1100 °C up to 1554 °C	2.0 °C			
Thermometer calibration equipment	From -80 °C up to 420 °C	0.080 °C			
	More than 420 °C up to 700 °C	0.60 °C			

Radiation thermometer	Fixed point apparatus	Freezing point of Zinc	0.30 °C
		Freezing point of Aluminum	
		Freezing point of Silver	
		Freezing point of Copper	
	Near-infrared radiation thermometer / Visible radiation thermometer (Fixed-point calibration) (for 0.9 μm radiation thermometer)	Freezing point of Zinc	0.30 °C
		Freezing point of Aluminum	
		Freezing point of Silver	
		Freezing point of Copper	
	Near-infrared radiation thermometer / Visible radiation thermometer (Comparison Calibration)	From 400 °C up to 700 °C	0.7 °C
		More than 700 °C up to 1000 °C	0.5 °C
		More than 1000 °C up to 1200 °C	0.9 °C
		More than 1200 °C up to 1400 °C	1.2 °C
More than 1400 °C up to 1600 °C		1.5 °C	
More than 1600 °C up to 1800 °C		2.5 °C	
	More than 1800 °C up to 2000 °C	3.0 °C	

#All Calibration Procedures are in-house procedures developed by this laboratory.

(*1) Temperature converted from the ratio of the resistance $R(T_{90})$ to $R(273.16K)$, $W(T_{90})$

(*2) Temperature converted from resistance $R(T_{90})$

(*3) Temperature converted from Electromotive Force (EMF)

Permanent Laboratory/On-site Calibration: On-site Calibration

Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		Expanded Uncertainty (Level of Confidence Approximately 95 %)
Contact type thermometer	Temperature sensors with display unit (Comparison calibration)	From -40 °C up to 150 °C		0.20 °C
		More than 150 °C up to 400 °C		0.70 °C
		Equipped within temperature controlled enclosures	From -40 °C up to 150 °C	0.30 °C
			More than 150 °C up to 200 °C	0.70 °C

#All Calibration Procedures are in-house procedures developed by this laboratory.

General Field of Calibration: Electricity (High Frequency) & Electromagnetic Fields

Date of Initial Accreditation of the Field: 2016-10-20

Permanent Laboratory/On-site Calibration: Permanent Laboratory

Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		Expanded Uncertainty (Level of Confidence Approximately 95 %)
Electromagnetic Fields Measuring Equipments	Magnetic Fields Generator	Direct Current	From 29 mT up to 2.5 T	0.07 %
			From 0.5 mT less than 29 mT	0.4 %
	Magnetic Fields Measuring Equipment		From 29 mT up to 2.5 T	0.09 %
			From 30 μ T less than 29 mT	1 %
			From 10 μ T less than 30 μ T	3 %
	Magnetic Fields Measuring Equipment		Alternating Current	From 10 μ T up to 2 mT (50 Hz / 60 Hz)

#All Calibration Procedures are in-house procedures developed by this laboratory.

General Field of Calibration: Torque

Date of Initial Accreditation of the Field: 2018-02-02

Permanent Laboratory/On-site Calibration: Permanent Laboratory & On-site Calibration

Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		Expanded Uncertainty (Level of Confidence Approximately 95 %)
Torque measuring devices	Hand torque tools	Hand torque wrench	Clockwise Torque and Counterclockwise Torque From 10 N·m up to 420 N·m	2.0 %

#All Calibration Procedures are in-house procedures developed by this laboratory.

General Field of Calibration: PhotometryDate of Initial Accreditation of the Field: 1994-08-01Permanent Laboratory/On-site Calibration: Permanent LaboratoryCalibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	Expanded Uncertainty (Level of Confidence Approximately 95 %)	
Standard lamp for luminous intensity, etc.	Luminous Intensity Standard Source & Measuring Instruments	Tungsten Lamp	From 10 cd up to 3 000 cd	1.1 %
		LED	From 0.1 cd up to 10 cd	1.5 %
	Luminous Flux Standard Source & Measuring Instruments	Tungsten Lamp	From 5 lm up to 20 000 lm	1.1 %
		LED	From 0.1 lm up to 10 lm	1.4 %
	Illuminance Standard Source & Measuring Instruments (Illuminance Meter)		From 1 lx up to 3 000 lx	1.1 %
	Distribution Temperature Standard (Distribution Temperature Standard Lamp)		From 2 045 K up to 2 856 K	18 K
	Spectral Irradiance Standard Source & Measuring Instruments		From 250 nm up to 290 nm	8.0 %
			More than 290 nm up to 350 nm	6.1 %
			More than 350 nm up to 450 nm	4.8 %
			More than 450 nm up to 600 nm	3.8 %
			More than 600 nm up to 830 nm	3.6 %
More than 830 nm up to 2 300 nm			4.0 %	
Colorimetric Values (Derived Values with Spectral Irradiance Standard Lamp)		Chromaticity of LED	Chromaticity Coordinate x: From 0. 004 up to 0. 735 y: From 0. 005 up to 0. 834	x: 0. 003 y: 0. 004

#All Calibration Procedures are in-house procedures developed by this laboratory.