

(English Translation)



Certificate of Accreditation

IAJapan hereby accredits the following conformity assessment body as a calibration laboratory of Japan Calibration Service System(JCSS).

Accreditation Identification: JCSS0156 Calibration

Name of Conformity Assessment Body:

Quality Assurance Division, HIOKI E. E. CORPORATION

Name of Legal Entity: HIOKI E. E. CORPORATION

Location of Conformity Assessment Body:

81, Koizumi, Ueda-shi, Nagano 386-1192, Japan

Scope of Accreditation:

Time & Frequency & Rotational speed, Temperature,
Electricity (Direct Current & Low Frequency) (as attached)

Accreditation Requirement:

ISO/IEC 17025:2017

Accreditation Requirements in the Section 6 of Accreditation
Scheme(JCSS) 3rd Edition

Effective Date of Accreditation: 2021-1-29

Expiry Date of Accreditation: 2025-1-28

Date of Initial Accreditation: 2008-06-11

KISHIMOTO Isao

Chief Executive, IAJapan

National Institute of Technology and Evaluation

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- International Accreditation Japan (IAJapan) is a laboratory accreditation body which has signed MRAs of ILAC (International Laboratory Accreditation Cooperation) and APAC (Asia Pacific Accreditation Cooperation).
 - MRA requirements are, in addition to relevant international standards and guides, requirements for participation in proficiency testing programs, surveillance and reassessment, and the policy for the traceability of measurement for MRA purpose.
 - This laboratory fulfills ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This accreditation means this laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).
 - This accreditation information is the information as of the effective date of accreditation. The latest accreditation information can be found on the IAJapan website.

General Field of Calibration: Time & Frequency & Rotational speed

Date of Initial Accreditation of the Field: 2015-02-05

Laboratory's permanent facility/On-site Calibration: Laboratory's permanent facility

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 Counter	From 0.5 Hz up to 1 Hz	0.1 mHz/Hz
		More than 1 Hz less than 2.5 Hz	0.05 mHz/Hz
		From 2.5 Hz less than 6 Hz	0.02 mHz/Hz
		From 6 Hz up to 500 kHz	0.01 mHz/Hz
	Time-Interval Measuring Equipment	10 s	2 μ s/s

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

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

General Field of Calibration: Temperature

Date of Initial Accreditation of the Field: 2015-02-05

Laboratory's permanent facility/On-site Calibration: Laboratory's permanent facility

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 100 °C	0.74 °C
		More than 100 °C up to 400 °C	1.7 °C
		More than 400 °C up to 600 °C	3.2 °C

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

Date of Initial Accreditation of the Field: 2008-06-11

Laboratory's permanent facility/On-site Calibration: Laboratory's permanent facility

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 Voltage Source	100 mV	23 μ V/V
		1 V	12 μ V/V
		10 V	10 μ V/V
		100 V	13 μ V/V
		1000 V	26 μ V/V
	DC Voltage Measuring Equipment	100 mV	23 μ V/V
		1 V	12 μ V/V
		10 V	10 μ V/V
		100 V	13 μ V/V
		1000 V	26 μ V/V
	DC Resistor	100 m Ω	20 $\mu\Omega/\Omega$
		1 Ω	10 $\mu\Omega/\Omega$
		10 Ω	10 $\mu\Omega/\Omega$
		100 Ω	14 $\mu\Omega/\Omega$
		1 k Ω	10 $\mu\Omega/\Omega$
		10 k Ω	10 $\mu\Omega/\Omega$
		100 k Ω	10 $\mu\Omega/\Omega$
	DC Resistance Measuring Equipment	1 M Ω	19 $\mu\Omega/\Omega$
		100 m Ω	0.2 m Ω/Ω
		1 Ω	20 $\mu\Omega/\Omega$
		10 Ω	10 $\mu\Omega/\Omega$
		100 Ω	14 $\mu\Omega/\Omega$
		1 k Ω	10 $\mu\Omega/\Omega$
		10 k Ω	10 $\mu\Omega/\Omega$
		100 k Ω	10 $\mu\Omega/\Omega$
	1 M Ω	18 $\mu\Omega/\Omega$	

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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.	Direct Current Source	100 μ A		15 μ A/A
		1 mA		15 μ A/A
		10 mA		18 μ A/A
		100 mA		25 μ A/A
	Direct Current Measuring Equipment	100 μ A		15 μ A/A
		1 mA		15 μ A/A
		10 mA		18 μ A/A
		100 mA		25 μ A/A
		9 A		0.040 A/A
		From 10 A up to 50 A		1.9 mA/A
		More than 50 A up to 200 A		2.0 mA/A
		More than 200 A up to 500 A		2.1 mA/A
		900 A		0.036 A/A
	AC Voltage Source	1 V	50 Hz, 60 Hz, 1 kHz	0.12 mV/V
		10 V		0.12 mV/V
		100 V		0.26 mV/V
		700 V		0.50 mV/V
	AC Voltage Measuring Equipment	1 V	50 Hz, 60 Hz, 1 kHz	0.12 mV/V
		10 V		0.12 mV/V
		100 V		0.26 mV/V
		700 V		0.50 mV/V
	Alternating Current Source	10 mA	50 Hz, 60 Hz	0.94 mA/A
		100 mA		0.95 mA/A
		1 A		1.4 mA/A
	Alternating Current Measuring Equipment	9 mA	50 Hz, 60 Hz	0.098 A/A
		10 mA		0.94 mA/A
		27 mA	50 Hz	0.036 A/A
			60 Hz	0.035 A/A

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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.	Alternating Current Measuring Equipment	90 mA	50 Hz	0.013 A/A
			60 Hz	0.018 A/A
		100 mA	50 Hz, 60 Hz	0.95 mA/A
		270 mA	50 Hz	0.015 A/A
			60 Hz	0.014 A/A
		0.9 A	50 Hz, 60Hz	0.016 A/A
		1 A		1.4 mA/A
		More than 1 A less than 2 A	50 Hz	1.5 mA/A
			60 Hz	
		From 2 A less than 4 A	50 Hz	1.1 mA/A
			60 Hz	
		From 4 A up to 50 A	50 Hz	0.86 mA/A
			60 Hz	
		More than 50 A up to 200 A	50 Hz	1.0 mA/A
			60 Hz	
		More than 200 A up to 500 A	50 Hz	1.4 mA/A
60 Hz				
1000 A	50 Hz	0.009 A/A		
	60 Hz	0.016 A/A		

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Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	Expanded Uncertainty (Level of Confidence Approximately 95 %)		
Electric Power Measuring Equipment, etc.	Power Meter	From 1 mA less than 2 mA Power factor: 0(lag)~1~0(lead)	1.6 mW/(V·A)		
		From 2 mA up to 9 mA Power factor: 0(lag)~1~0(lead)	1.2 mW/(V·A)		
		More than 9 mA up to 30 mA Power factor: 0(lag)~1~0(lead)	100 V, 200 V 50 Hz, 60 Hz	1.6 mW/(V·A)	
		More than 30 mA less than 50 mA Power factor: 0(lag)~1~0(lead)		2.1 mW/(V·A)	
		From 50 mA less than 0.1 A Power factor: 0(lag)~1~0(lead)		1.6 mW/(V·A)	
		1 A Power factor: 1		100 V 50 Hz, 60 Hz	1.0 mW/(V·A)
		1 A Power factor: 0.5			1.0 mW/(V·A)
		From 0.1 A up to 1 A Power factor: 0(lag)~1~0(lead) Except 100 V, 1 A, Power factor 1, 100 V, 1 A, Power factor 0.5	100 V, 200 V 50 Hz, 60 Hz	1.2 mW/(V·A)	
		More than 1 A less than 2 A Power factor: 0(lag)~1~0(lead)		1.6 mW/(V·A)	
		5 A Power factor: 1	200 V 50 Hz, 60 Hz	0.9 mW/(V·A)	
		5 A Power factor: 0.5		1.0 mW/(V·A)	
		From 2 A less than 25 A Power factor: 0(lag)~1~0(lead); Except 200 V, 5 A, Power factor 1, 200 V, 5 A, Power factor 0.5	100 V, 200 V 50 Hz, 60 Hz	1.2 mW/(V·A)	
		From 25 A up to 125 A Power factor: 0(lag)~1~0(lead); Except 50 A, 80 A, 90 A, 100 A Power factor: 0(lag)~1~0(lead)		1.5 mW/(V·A)	
		More than 125 A up to 250 A Power factor: 0(lag)~1~0(lead); Except 200 A, 225 A, 250 A Power factor: 0(lag)~1~0(lead)		3.9 mW/(V·A)	
		50 A, 80 A, 90 A, 100 A, 200 A, 225 A, 250 A 500 A Power factor: 0(lag)~1~0(lead)		1.1 mW/(V·A)	
		400 A, 450 A 1000 A Power factor: 0(lag)~1~0(lead)		3.9 mW/(V·A)	
		From 1 A less than 5 A		10 V, 12 V, 24 V, 48 V, 100 V, 200 V, 400 V, 600 V, 1 kV, DC	9.8 mW/W
		From 5 A less than 10 A			8.0 mW/W
		From 10 A up to 500 A	2.1 mW/W		
		More than 500 A up to 1000 A	6.2 mW/W		

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Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		Expanded Uncertainty (Level of Confidence Approximately 95 %)
Electric Power Measuring Equipment, etc.	Power Meter	From 0.001 A less than 0.002 A Power factor: 1	100 V, 200 V 400 Hz	3.5 mW/(V·A)
		From 0.002 A up to 0.03 A Power factor: 1		3.0 mW/(V·A)
		More than 0.03 A less than 0.1 A Power factor:1		3.5 mW/(V·A)
		From 0.1 A up to 5 A, 8 A, 10 A Power factor: 1		3.0 mW/(V·A)
		20 A Power factor: 1		3.5 mW/(V·A)
		From 0.001 A less than 0.002 A Power factor: 1	100 V, 200 V 1 kHz	4.3 mW/(V·A)
		From 0.002 A up to 0.03 A Power factor: 1		3.9 mW/(V·A)
		More than 0.03 A less than 0.1 A Power factor:1	100 V, 200 V 1 kHz	4.3 mW/(V·A)
		From 0.1 A up to 5 A, 8 A, 10 A Power factor: 1		3.9 mW/(V·A)
		20 A Power factor: 1		4.3 mW/(V·A)
	Energy Meter	From 1 mA less than 2 mA Power factor: 0(lag)~1~0(lead) Integrating time: 600 s	100 V, 200 V 50 Hz, 60 Hz	1.6 mW·h/(V·A·h)
		From 2 mA up to 9 mA Power factor: 0(lag)~1~0(lead) Integrating time: 600 s		1.3 mW·h/(V·A·h)
		More than 9 mA up to 30 mA Power factor: 0(lag)~1~0(lead) Integrating time: 600 s		1.6 mW·h/(V·A·h)
		More than 30 mA less than 50 mA Power factor: 0(lag)~1~0(lead) Integrating time: 600 s		2.8 mW·h/(V·A·h)
		From 50 mA less than 0.1 A Power factor: 0(lag)~1~0(lead) Integrating time: 600 s		1.9 mW·h/(V·A·h)
		From 0.1 A up to 1 A Power factor: 0(lag)~1~0(lead) Integrating time: 600 s		1.3 mW·h/(V·A·h)
		More than 1 A less than 1.5 A Power factor: 0(lag)~1~0(lead) Integrating time: 600 s		1.6 mW·h/(V·A·h)
		From 1.5 A up to 5 A, 8 A, 10 A Power factor: 0(lag)~1~0(lead) Integrating time: 600 s		1.3 mW·h/(V·A·h)
		20 A Power factor: 0(lag)~1~0(lead) Integrating time: 600 s		1.6 mW·h/(V·A·h)

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