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Certificate of Accreditation

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

Accreditation Identification: JCSS 0214 Calibration

Name of Conformity Assessment Body: Calibration Services, Technology Center,
Ohte Giken, Inc.

Name of Legal Entity: Ohte Giken, Inc.

Location of Conformity Assessment Body: 1-25-12 Kannondai, Tsukuba-shi, Ibaraki 300-0856, JAPAN

Scope of Accreditation: Mass, Temperature, Electricity (Direct Current & Low Frequency),
Pressure (as the following pages)

Accreditation Requirement: ISO/IEC 17025:2017*

* The relevant accreditation requirements described in the Accreditation Scheme Document for JCSS are also applied.

Effective Date of Accreditation: 2023-02-14

Expiry Date of Accreditation: 2027-02-13

Date of Initial Accreditation: 2008-06-11

A handwritten signature in black ink, appearing to read 'K. Horisaka'.

HORISAKA Kazuhide

Chief Executive, International Accreditation Japan (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).
 - The latest accreditation information is publicly available on IAJapan Website as an accreditation certificate.

General Field of Calibration: Mass

Date of Initial Accreditation of the Field: 2009-09-01

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 %) (Conventional Mass)
Weight	Weight	1 mg	0.005 mg
		2 mg	0.005 mg
		5 mg	0.005 mg
		10 mg	0.005 mg
		20 mg	0.005 mg
		50 mg	0.005 mg
		100 mg	0.010 mg
		200 mg	0.010 mg
		500 mg	0.010 mg
		1 g	0.050 mg
		2 g	0.050 mg
		5 g	0.15 mg
		10 g	0.15 mg
		20 g	0.15 mg
		50 g	0.15 mg
		100 g	0.15 mg
		200 g	0.20 mg
		500 g	2.0 mg
		1 kg	2.0 mg
		2 kg	3.0 mg
		5 kg	10 mg
		10 kg	25 mg
	Deadweight	From 1 mg up to 2 g	0.05 mg
		More than 2 g up to 200 g	0.5 mg
		More than 200 g up to 1 kg	4.0 mg
		More than 1 kg up to 2 kg	6.0 mg
		More than 2 kg up to 5 kg	15 mg
		More than 5 kg up to 15 kg	50 mg

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

General Field of Calibration: Temperature

Date of Initial Accreditation of the Field: 2013-09-05

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 0 °C up to 100 °C	0.050 K

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General Field of Calibration: Pressure

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 %)
Pressure Gauge	Pressure Balance	Gas	Gauge Pressure	From 10 kPa up to 350 kPa	The larger one of the two 0.0035 % or 1.0 Pa
				More than 350 kPa up to 7000 kPa	The larger one of the two 0.0037 % or 19 Pa
		Liquid	Gauge Pressure	From 0.1 MPa up to 100 MPa	The larger one of the two 0.0060 % or 0.60 kPa
				More than 100 MPa up to 200 MPa	0.0070 %
				More than 200 MPa up to 350 MPa	0.010 %
				More than 350 MPa up to 400 MPa	0.013 %
	Pressure Gauges (Digital Pressure Gauges, Pressure Transducers)	Gas	Absolute Pressure	From 10 kPa up to 7000 kPa	The larger one of the two 0.0040 % or 4.0 Pa
				More than 7 MPa up to 100 MPa	The larger one of the two 0.0060 % or 0.60 kPa
			Gauge Pressure	From -90 kPa up to -10 kPa	10 Pa
				From 10 kPa up to 7000 kPa	The larger one of the two 0.0040 % or 1.0 Pa
				More than 7 MPa up to 100 MPa	The larger one of the two 0.0060 % or 0.60 kPa
		Liquid	Absolute Pressure	From 0.2 MPa up to 100 MPa	The larger one of the two 0.0060 % or 0.60 kPa
				More than 100 MPa up to 200 MPa	0.0070 %
				More than 200 MPa up to 350 MPa	0.010 %
				More than 350 MPa up to 400 MPa	0.013 %
			Gauge Pressure	From 0.1 MPa up to 100 MPa	The larger one of the two 0.0060 % or 0.60 kPa
				More than 100 MPa up to 200 MPa	0.0070 %
				More than 200 MPa up to 350 MPa	0.010 %
				More than 350 MPa up to 400 MPa	0.013 %

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range			Expanded Uncertainty (Level of Confidence Approximately 95 %)
Pressure Gauge	Mechanical Type Pressure Gauges	Gas	Gauge Pressure	From -90 kPa up to -10 kPa	100 Pa
				From 10 kPa up to 100 MPa	0.10 % of maximum pressure
		Liquid	Gauge Pressure	From 0.1 MPa up to 200 MPa	0.10 % of maximum pressure

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

Date of Initial Accreditation of the Field: 2024-06-05

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 %)
Direct Current & Low Frequency Measuring Equipment, etc.	DC Resistor	1 Ω	0.14 m Ω
		10 Ω	0.41 m Ω
		25 Ω	1.7 m Ω
		50 Ω	2.3 m Ω
		75 Ω	3.0 m Ω
		100 Ω	3.1 m Ω
		200 Ω	5.4 m Ω
		400 Ω	9.9 m Ω
		600 Ω	15 m Ω
		800 Ω	19 m Ω
		1 k Ω	22 m Ω
		2 k Ω	54 m Ω
		4 k Ω	99 m Ω
		6 k Ω	0.15 Ω
		8 k Ω	0.19 Ω
		10 k Ω	0.22 Ω
		100 k Ω	2.2 Ω
		1 M Ω	35 Ω
		10 M Ω	1.4 k Ω
		100 M Ω	0.11 M Ω
		More than 10 Ω less than 25 Ω	1.9 m Ω
		More than 25 Ω less than 50 Ω	2.5 m Ω
		More than 50 Ω less than 75 Ω	3.0 m Ω
		More than 75 Ω less than 100 Ω	3.6 m Ω

Direct Current & Low Frequency Measuring Equipment, etc.	DC Resistance Measuring Equipment	More than 100 Ω less than 200 Ω	12 m Ω
		More than 200 Ω less than 400 Ω	14 m Ω
		More than 400 Ω less than 600 Ω	17 m Ω
		More than 600 Ω less than 800 Ω	21 m Ω
		More than 800 Ω less than 1 k Ω	24 m Ω
		More than 2 k Ω less than 4 k Ω	0.15 Ω
		More than 4 k Ω less than 6 k Ω	0.17 Ω
		More than 6 k Ω less than 8 k Ω	0.21 Ω
		More than 8 k Ω less than 10 k Ω	0.24 Ω
		10 Ω	0.26 m Ω
		25 Ω	1.7 m Ω
		50 Ω	2.3 m Ω
		75 Ω	3.0 m Ω
		100 Ω	1.6 m Ω
		200 Ω	5.4 m Ω
		400 Ω	10 m Ω
		600 Ω	15 m Ω
		800 Ω	19 m Ω
		1 k Ω	14 m Ω
		2 k Ω	54 m Ω
		4 k Ω	0.10 Ω
		6 k Ω	0.15 Ω
		8 k Ω	0.19 Ω
		10 k Ω	0.14 Ω
		100 k Ω	1.5 Ω
		1 M Ω	25 Ω
		10 M Ω	0.51 k Ω
		100 M Ω	15 k Ω
		More than 10 Ω less than 25 Ω	1.9 m Ω
		More than 25 Ω less than 50 Ω	2.5 m Ω
		More than 50 Ω less than 75 Ω	3.0 m Ω
		More than 75 Ω less than 100 Ω	3.6 m Ω
		More than 100 Ω less than 200 Ω	12 m Ω
		More than 200 Ω less than 400 Ω	14 m Ω
		More than 400 Ω less than 600 Ω	17 m Ω
		More than 600 Ω less than 800 Ω	21 m Ω
		More than 800 Ω less than 1 k Ω	24 m Ω
		More than 2 k Ω less than 4 k Ω	0.15 Ω

Direct Current & Low Frequency Measuring Equipment, etc.	DC Resistance Measuring Equipment	More than 4 k Ω less than 6 k Ω	0.17 Ω
		More than 6 k Ω less than 8 k Ω	0.21 Ω
		More than 8 k Ω less than 10 k Ω	0.24 Ω
	DC Voltage Source	0 mV	3.1 μ V
		10 mV	3.1 μ V
		25 mV	3.2 μ V
		50 mV	3.2 μ V
		75 mV	3.3 μ V
		100 mV	3.5 μ V
		200 mV	3.8 μ V
	DC Voltage Source	400 mV	5.0 μ V
		600 mV	6.5 μ V
		800 mV	8.0 μ V
		1.0 V	9.6 μ V
		2 V	19 μ V
		4 V	36 μ V
		6 V	53 μ V
		8 V	70 μ V
		10 V	87 μ V
		25 V	0.37 mV
		50 V	0.68 mV
		75 V	1.0 mV
		100 V	1.3 mV
		More than 10 mV less than 25 mV	3.4 μ V
		More than 25 mV less than 50 mV	3.4 μ V
		More than 50 mV less than 75 mV	3.5 μ V
		More than 75 mV less than 100 mV	3.6 μ V
		More than 200 mV less than 400 mV	12 μ V
		More than 400 mV less than 600 mV	13 μ V
		More than 600 mV less than 800 mV	14 μ V
		More than 800 mV less than 1 V	15 μ V
		More than 2 V less than 4 V	0.13 mV
		More than 4 V less than 6 V	0.14 mV
		More than 6 V less than 8 V	0.14 mV
		More than 8 V less than 10 V	0.15 mV
		More than 10 V less than 25 V	1.4 mV
		More than 25 V less than 50 V	1.5 mV
		More than 50 V less than 75 V	1.7 mV
		More than 75 V less than 100 V	1.9 mV

Direct Current & Low Frequency Measuring Equipment, etc.	DC Voltage Measuring Equipment	0 mV	3.1 μ V
		10 mV	3.1 μ V
		50 mV	3.1 μ V
		100 mV	3.3 μ V
		150 mV	3.4 μ V
		200 mV	3.5 μ V
		500 mV	4.7 μ V
		1.0 V	7.2 μ V
		1.5 V	10 μ V
		2 V	12 μ V
	DC Voltage Measuring Equipment	4 V	21 μ V
		6 V	30 μ V
		8 V	30 μ V
		10 V	49 μ V
		12 V	59 μ V
		14 V	68 μ V
		16 V	77 μ V
		18 V	87 μ V
		20 V	0.10 mV
		40 V	0.27 mV
		60 V	0.39 mV
		80 V	0.51 mV
		100 V	0.62 mV
		More than 10 mV less than 50 mV	4.4 μ V
		More than 50 mV less than 100 mV	4.4 μ V
		More than 100 mV less than 150 mV	4.5 μ V
		More than 150 mV less than 200 mV	4.7 μ V
		More than 0.2 V less than 0.5 V	14 μ V
		More than 0.5 V less than 1.0 V	15 μ V
		More than 1.0 V less than 1.5 V	16 μ V
		More than 1.5 V less than 2.0 V	18 μ V
		More than 2 V less than 4 V	62 μ V
		More than 4 V less than 6 V	63 μ V
		More than 6 V less than 8 V	66 μ V
		More than 8 V less than 10 V	70 μ V
		More than 10 V less than 12 V	0.14 mV
		More than 12 V less than 14 V	0.14 mV
		More than 14 V less than 16 V	0.14 mV

Direct Current & Low Frequency Measuring Equipment, etc.	DC Voltage Measuring Equipmen	More than 16 V less than 18 V	0.14 mV
		More than 18 V less than 20 V	0.15 mV
		More than 20 V less than 40 V	0.69 mV
		More than 40 V less than 60 V	0.73 mV
		More than 60 V less than 80 V	0.78 mV
		More than 80 V less than 100 V	0.84 mV
	Direct Current Source	0 A	1.9 nA
		100 μ A	5.7 nA
		1 mA	51 nA
		2.5 mA	0.21 μ A
		5 mA	0.31 μ A
	Direct Current Source	7.5 mA	0.41 μ A
		10 mA	0.51 μ A
		25 mA	2.8 μ A
		50 mA	4.6 μ A
		75 mA	6.3 μ A
		100 mA	8.1 μ A
		More than 1 mA less than 2.5 mA	0.28 μ A
		More than 2.5 mA less than 5 mA	0.36 μ A
		More than 5 mA less than 7.5 mA	0.45 μ A
		More than 7.5 mA less than 10 mA	0.54 μ A
		More than 10 mA less than 25 mA	4.9 μ A
		More than 25 mA less than 50 mA	6.1 μ A
		More than 50 mA less than 75 mA	7.5 μ A
		More than 75 mA less than 100 mA	9.0 μ A
	Direct Current Measuring Equipment	0 A	0.007 μ A
		100 μ A	0.011 μ A
		1 mA	0.043 μ A
		2 mA	0.12 μ A
		5 mA	0.22 μ A
		10 mA	0.40 μ A
		15 mA	0.70 μ A
		20 mA	0.85 μ A
		40 mA	4.4 μ A
		60 mA	6.2 μ A
		80 mA	8.0 μ A
		100 mA	9.8 μ A
		More than 2 mA less than 5 mA	0.58 μ A

Direct Current & Low Frequency Measuring Equipment	Direct Current Measuring Equipmen	More than 5 mA less than 10 mA	0.66 μ A
		More than 10 mA less than 15 mA	0.78 μ A
		More than 15 mA less than 20 mA	0.91 μ A
		More than 20 mA less than 40 mA	4.5 μ A
		More than 40 mA less than 60 mA	6.2 μ A
		More than 60 mA less than 80 mA	8.0 μ A
		More than 80 mA less than 100 mA	9.8 μ A

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