



INTERNATIONAL
ACCREDITATION
SERVICE®

CERTIFICATE OF ACCREDITATION

This is to attest that

MASTER SYSTEMS CALIBRATION SERVICES WLL

P.O BOX: 10131, BARWA VILLAGE, BUILDING 16, OFFICE NO 14, STREET NO 294 ZONE 91
DOHA, QATAR

Calibration Laboratory CL-279

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

Effective Date August 20, 2024

Expiration Date September 1, 2025



A handwritten signature in black ink, reading 'Raj Nathan'.

President

Visit www.iasonline.org for current accreditation information.

SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

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

MASTER SYSTEMS CALIBRATION SERVICES WLL

www.mastersystems.com

Contact Name Tojo Joseph

Contact Phone + 974 44791683

Accredited to ISO/IEC 17025:2017

Effective Date August 20, 2024

CALIBRATION AND MEASUREMENT CAPABILITY (CMC)*

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY ^{1,2} (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
Dimensional			
Calipers (Digital / Dial / Vernier)	0 mm to 300 mm	30 µm	Direct Method as per ISO 13385-1:2019 Using Gauge Block Set, Long Gauge Block Set, Caliper Checker & Slip Gauge Accessories
External Micrometer	0 mm to 25 mm	4 µm	Direct Method as per ISO 3611:2023 Using Gauge Block Set, Optical Flat & Parallel
Height Gauge (Vernier / Dial / Digital)	0 mm to 300 mm	35 µm	Direct Method as per ISO 13225:2012 Using Gauge Block Set, Long Gauge Block Set, Caliper Checker & Surface Plate
Mechanical			
Hydraulic Pressure Gauges - Digital and Analog	0 bar to 10 bar 0 bar to 100 bar 0 bar to 1000 bar 0 bar to 2800 bar	0.01 bar 0.03 bar 0.8 bar 4 bar	Comparison method as per DKD-R 6-1 Using Reference pressure gauges
Thermal			
Digital and Analog Thermometers	-30 °C to 150 °C > 150 °C to 600 °C	0.57 °C 1.7 °C	Comparison method as per DKD-R 5-1 Using SPRT and dry bath calibrator

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

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MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY ^{1,2} (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
Electrical – DC/LF			
DC Voltage – Generate ³	0 mV to 200 mV 0.2 V to 2.0 V 2 V to 20 V 20 V to 200 V 200 V to 1050 V	0.022 % + 5 µV 0.022 % 0.022 % 0.022 % 0.011 %	Direct Method as per EURAMET CG-15 Using Multifunction Calibrator
DC Current – Generate ³	0 µA to 200 µA 0.2 mA to 2.0 mA 2 mA to 20 mA 20 mA to 200 mA 0.2 A to 2 A 2 A to 22 A	0.02 % +30 nV 0.03 % 0.06 % 0.06 % 0.06 % 0.2 %	Direct Method as per EURAMET CG-15 Using Multifunction Calibrator
AC Voltage – Generate ³	(50 Hz to 1 kHz) 1 mV to 200 mV 0.2 V to 2.0 V 2 V to 20 V 20 V to 200 V 200 V to 1000 V (1 kHz to 20 kHz) 1 mV to 200 mV 0.2 V to 2.0 V 2 V to 20 V	0.1 % +0.12 mV 0.20 % 0.10 % 0.10 % 0.12 % 0.2 % +0.2 mV 0.22 % 0.12 %	Direct Method as per EURAMET CG-15 Using Multifunction Calibrator
AC Current – Generate ³	(50 Hz to 200Hz) 20 µA to 200 µA 0.2 mA to 2.0 mA 2 mA to 20 mA 20 mA to 200 mA 0.2 A to 2 A 2 A to 20 A	0.10 % + 0.5 µA 0.10 % + 0.5 µA 0.10 % + 5.0 µA 0.10 % + 0.3 mA 0.14 % + 0.7 mA 0.25 % + 8.0 mA	Direct Method as per EURAMET CG-15 Using Multifunction Calibrator
DC Resistance – Generate ³ (Discrete resistance)	10 Ω 100 Ω 1 kΩ 10 kΩ 100 kΩ 1 MΩ 10 MΩ 100 MΩ	0.006 Ω 0.011 Ω 0.07 Ω 0.7 Ω 13 Ω 0.2 kΩ 12 kΩ 1.2 MΩ	Direct Method as per EURAMET CG-15 Using Multifunction Calibrator
Capacitance – Generate ³	@1 kHz 10 nF 20 nF 50 nF 100 nF 1 µF	 0.08 nF 0.22 nF 0.49 nF 1 nF 0.003 µF	Direct Method as per EURAMET CG-15 Using Multifunction Calibrator

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MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY ^{1,2} (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
<i>Time and Frequency</i>			
Frequency – Generate ³	20 Hz to 1 MHz	0.0024 %	Direct Method as per EURAMET CG-15 Using Multifunction Calibrator

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

²When uncertainty is stated in relative terms (such as percent, a multiplier expressed as a decimal fraction or in scientific notation), it is in relation to instrument reading or instrument output, as appropriate, unless otherwise indicated.

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