



INTERNATIONAL
ACCREDITATION
SERVICE®

CERTIFICATE OF ACCREDITATION

This is to attest that

INTERTEK TESTING SERVICES HONG KONG LTD.

2/F, GARMENT CENTRE, 576 CASTLE PEAK ROAD
KOWLOON, HONG KONG SAR

Calibration Laboratory CL-242

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 September 18, 2023

Expiration Date January 1, 2026



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

President

SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

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

INTERTEK TESTING SERVICES HONG KONG LTD.

www.intertek.com

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Accredited to ISO/IEC 17025:2017

Effective Date September 18, 2023

CALIBRATION AND MEASUREMENT CAPABILITY (CMC)*

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY ^{1,2} (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
Dimensional			
Calipers	0.5 mm to 150 mm	0.02 mm	Mitutoyo, Ceramic Block; CP-600, BS 887 Specification for precision vernier calipers
Micrometers	0.5 mm to 25 mm	1.1 µm	Mitutoyo, Ceramic Block; CP-600, BS 870 Specification for external micrometers
Mechanical			
Electronic Balance	5 g to 5000 g	0.3 g (Limit of performance)	F2 class weights; CP-230, Australia Government – National Measurement Institute, “The Calibration of Weights and Balances”, Monograph 4, NMI Technology Transfer Series
Electrical – DC/LF			
DC Voltage – Generate ³	30 mV to 3 V 3 V to 1000 V	0.005 % 0.01 %	Using Multi-product Calibrator Fluke 5500A by Direct Method; CP-214
AC Voltage – Generate ³	10 mV to 700 V (40 Hz & 45 Hz)	0.22 %	Using Multi-product Calibrator Fluke 5500A by Direct Method; CP-214
	10 mV to 900 V (50 Hz)	0.01 %	
	10 mV to 700 V (1 kHz)	0.2 %	
	10 mV to 700 V (10 kHz & 20 kHz)	0.13 %	

* 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)
DC Current – Generate ³	1 µA to 4 mA 4 mA to 300 mA 300 mA to 10 A	0.009 % 0.013 % 0.033 %	Using Multi-product Calibrator Fluke 5500A by Direct Method; CP-214
AC Current – Generate ³	30 µA to 1 mA (40 Hz) 1 mA to 10 A (40 Hz) 1 mA to 10 A (45 Hz & 50 Hz) 30 µA to 300 µA (1 kHz) 300 µA to 10 A (1 kHz)	0.37 % 0.053 % 0.046 % 0.15 % 0.057 %	Using Multi-product Calibrator Fluke 5500A by Direct Method; CP-214
DC Resistance – Generate ³	1 Ω to 5 Ω 5 Ω to 300 Ω 300 Ω to 300 kΩ 300 kΩ to 5 MΩ 5 MΩ to 50 MΩ 50 MΩ to 100 MΩ	0.06 % 0.01 % 0.005 % 0.02 % 0.08 % 0.6 %	Using Multi-product Calibrator Fluke 5500A by Direct Method; CP-214
Capacitance -Generate ^{3,4}	4 nF to 300 nF 1 µF to 1000 µF	0.25 % 0.34 %	Using Multi-product Calibrator Fluke 5500A by Direct Method; CP-214
Frequency – Generate ³	10 Hz to 2 MHz	0.008 %	Using Multi-product Calibrator Fluke 5500A by Direct Method; CP-214
DC Power - Generate ³	10 mW to 306 W (1 V to 1020 V, 10 mA to 300 mA) 30 mW to 10200 W (1 V to 1020 V, 30 mA to 10 A)	(relative to output in Watts) 0.08 % 0.1 %	Using Multi-product Calibrator Fluke 5500A by Direct Method; CP-088
AC Power Generate ³	0.1 W to 6000 W (50 Hz, 60 Hz, 1 kHz, UPF = 1)	0.14 %	Using Multi-product Calibrator Fluke 5500A by Direct Method; CP-088
AC Power Factor Phase Specification	±0.1 to ±1 (45 Hz to 65 Hz)	0.11 %	Using Multi-product Calibrator Fluke 5500A by Direct Method; CP-088

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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.

⁴ The actual frequency applied by the calibrator cannot be selected and may be dependent on the measurement device under calibration. Approximate frequency ranges for a given capacitance or capacitance range may be found in the Fluke 552xA's published specifications.

UPF = universal power factor