

Schedule

Issue date: 23 July 2025
Valid Until: -



NO: SAMM 870

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LABORATORY LOCATION/ CENTRAL OFFICE:	Laboratory, Smart Instruments (M) Sdn. Bhd. Suite 9-23, 9th Floor, Wisma Zelan, No.1, Jalan Tasik Permaisuri 2, Bandar Tun Razak, 56000 WP Kuala Lumpur , 5600, WILAYAH PERSEKUTUAN KUALA LUMPUR MALAYSIA
	
ACCREDITED SINCE :	23 JULY 2025
FIELD(S) OF CALIBRATION:	ELECTRICAL

This laboratory has demonstrated its technical competence to operate in accordance with MS ISO/IEC 17025:2017 (ISO/IEC 17025:2017).

This laboratory's fulfillment of the requirements of ISO/IEC 17025 means the 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. The management system requirements in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001 (see Joint ISO-ILAC-IAF Communiqué dated April 2017).

*** The uncertainty covered by the CMC is expressed as the expanded uncertainty corresponding to a coverage probability of approximately 95 % and have a coverage factor of k=2 unless stated otherwise.**

CENTRAL LOCATION	Laboratory, Smart Instruments (M) Sdn. Bhd. Suite 9-23, 9th Floor, Wisma Zelan, No.1, Jalan Tasik Permaisuri 2, Bandar Tun Razak, 56000 WP Kuala Lumpur , 5600, Wilayah Persekutuan Kuala Lumpur
FIELD(S) OF CALIBRATION :	ELECTRICAL,

SCOPE OF CALIBRATION : ELECTRICAL

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
Electrical Measuring Instruments (a) Dc Voltage	<u>202 mV</u> -202 mV to 0 mV 0 mV to 202 mV	-0.03 mV/V + 2.3 μ V 0.03 mV/V + 2.4 μ V	Generated using calibrator
	<u>2.02 V</u> -2.02 V to -0.202 V 0.202 V to 2.02 V	-0.04 mV/V - 2.9 μ V 0.04 mV/V - 2.9 μ V	Generated using calibrator

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Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
Electrical Measuring Instruments (b) Dc Current	<u>20.02 V</u> -20.2 V to -2.02 V 2.02 V to 20.2 V	-0.04 mV/V - 0.06 mV 0.04 mV/V - 0.07 mV	Generated using calibrator
	<u>202 V</u> -202 V to -20.2 V 20.2 V to 202 V	-0.05 mV/V - 2.5 mV 0.05 mV/V - 2.5 mV	Generated using calibrator
	<u>1000 V</u> -1000 V to -202 V 202 V to 1000 V	-0.02 mV/V - 5.6 mV 0.02 mV/V - 5.6 mV	Generated using calibrator
	<u>200 mA</u> -202 mA to 0 mA 0 mA to 202 mA	-1.8 mA/A + 0.4 mA -0.62 mA/A + 0.68 mA	Generated using calibrator
	<u>2 mA</u> -2.02 mA to -0.202 mA 0.202 mA to 2.02 mA	-0.01 mA/A + 0.58 mA 0.01 mA/A + 0.58 mA	Generated using calibrator
	<u>20 mA</u> -20.2 mA to -2.02 mA 2.02 mA to 20.2 mA	-0.03 mA/A + 0.58 mA 0.03 mA/A + 0.58 mA	Generated using calibrator
	<u>200 mA</u> -202 mA to -20.2 mA 20.2 mA to 202 mA	-0.06 mA/A + 1 mA 0.08 mA/A + 1.1 mA	Generated using calibrator
	<u>2 A</u> -2.02 A to -0.202 A 0.202 A to 2.02 A	0.08 mA/A + 0.02 mA 0.08 mA/A + 0.02 mA	Generated using calibrator
	<u>20 A</u> -20 A to -2.02 A 2.02 A to 20 A	-0.25 mA/A + 0.24 mA 0.25 mA/A + 0.18 mA	Generated using calibrator
Electrical Measuring Instruments (c) Resistance	0 Ω to 100 Ω	70 $\mu\Omega/\Omega$ - 1.2 m Ω	Generated using calibrator
	100 Ω to 1 k Ω	1.8 $\mu\Omega/\Omega$ + 7.9 m Ω	Generated using calibrator
	1 k Ω to 10 k Ω	2.1 $\mu\Omega/\Omega$ + 55 m Ω	Generated using calibrator
	10 k Ω to 100 k Ω	1.8 $\mu\Omega/\Omega$ + 0.79 Ω	Generated using calibrator
	100 k Ω to 1 M Ω	3.3 $\mu\Omega/\Omega$ + 7.7 Ω	Generated using calibrator
	1 M Ω to 10 M Ω	14 $\mu\Omega/\Omega$ + 0.12 k Ω	Generated using calibrator
Electrical Measuring Instruments Resistance (4-wire)	0 Ω	2.9 m Ω	Generated using calibrator
	0.1 Ω	3 m Ω	Generated using calibrator
	1 Ω	3.1 m Ω	Generated using calibrator

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	10 ?	3.4 m?	Generated using calibrator
	100 ?	26 m?	Generated using calibrator
	1 k?	0.26 ?	Generated using calibrator
	10 k?	2.6 ?	Generated using calibrator
	100 k?	31 ?	Generated using calibrator
Electrical Measuring Instruments (d) Capacitance (at 50 Hz)	1 nF	5.8 pF	Generated using calibrator
	10 nF	58 pF	Generated using calibrator
	20 nF	59 pF	Generated using calibrator
	50 nF	63 pF	Generated using calibrator
	100 nF	0.58 nF	Generated using calibrator
	1 μ F	5.8 nF	Generated using calibrator
	10 μ F	58 nF	Generated using calibrator
Electrical Measuring Instruments (e) Ac Voltage	0 V to 1000 V (See Matrix A)	(See Matrix A)	Generated using calibrator
Electrical Measuring Instruments (f) Ac Current	0 A to 20 A (See Matrix B)	(See Matrix B)	Generated using calibrator

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