

Schedule

Issue date: 17 September 2025
Valid Until: -



NO: SAMM 240

Page: 1 of 13

LABORATORY LOCATION/ CENTRAL OFFICE: 	Technical and Calibration Section (TCST) Testing Services Department SIRIM QAS International Sdn. Bhd. Building 8, No.1, Persiaran Dato Menteri P.O. Box 7035, Section 2, 40700 Shah Alam, Selangor , 40700, SELANGOR MALAYSIA
ACCREDITED SINCE :	17 SEPTEMBER 2025
FIELD(S) OF CALIBRATION:	ELECTRICAL DIMENSIONAL MASS HEAT & TEMPERATURE PRESSURE

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	Technical and Calibration Section (TCST) Testing Services Department SIRIM QAS International Sdn. Bhd. Building 8, No.1, Persiaran Dato Menteri P.O. Box 7035, Section 2, 40700 Shah Alam, Selangor , 40700, Selangor
FIELD(S) OF CALIBRATION :	ELECTRICAL, DIMENSIONAL, MASS, HEAT & TEMPERATURE, PRESSURE

SCOPE OF CALIBRATION : ELECTRICAL

Scan this QR Code or visit <https://accreditation.jsm.gov.my/public/listing/cab/samm-ct/30003791> for the current scope of accreditation

NO: SAMM 240

Page: 2 of 13

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
indicating & Recording Instrument dc Voltage	0 mV to 329 mV 0.329 V to 3.29 V 3.29 V to 32.9 V 32.9 V to 329 V 329 V to 1000 V	1.9 μ V/V + 1.2 μ V 2.2 μ V/V + 6.8 μ V 2.4 μ V/V + 95 μ V 4.3 μ V/V + 0.66 mV 9 μ V/V + 5.4 mV	Generating using calibrator model Fluke 5502A
indicating & Recording Instrument dc Current	0 mA to 3.29 mA 3.29 mA to 32.9 mA 32.9 mA to 329 mA 0.329 A to 2.99 A 2.99 A to 11 A	1.5 μ A/A + 0.27 μ A 9.5 μ A/A + 1.1 μ A 80 μ A/A + 3.6 μ A 5 μ A/A + 0.11 mA 0.3 μ A/A + 0.58 mA	Generating using calibrator model Fluke 5502A
indicating & Recording Instrument ac Voltage	3 mV to 30 mV @ 45 Hz to 10 kHz 30 mV to 300 mV @ 45 Hz to 10 kHz 0.3 V to 3 V @ 45 Hz to 10 kHz 3 V to 30 V @ 45 Hz to 10 kHz 30 V to 300 V @ 45 Hz to 1 kHz 300 V to 1000 V @ 45 Hz to 1 kHz	13 μ V/V + 6 μ V 15 μ V/V + 6 μ V 22 μ V/V + 51 μ V 6 μ V/V + 1.1 mV 18 μ V/V + 5.2 mV 29 μ V/V + 2 mV	Generating using calibrator model Fluke 5502A

Schedule

Issue date: 17 September 2025
Valid Until: -



NO: SAMM 240

Page: 3 of 13

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
indicating & Recording Instrument ac Current	0.033 mA to 0.329 mA @ 1 kHz to 5 kHz	50 μ A/A + 0.06 μ A	Generating using calibrator model Fluke 5502A
		40 μ A/A + 0.56 μ A	
	0.329 mA to 3.29 mA @ 45 Hz to 1 kHz 1 kHz to 5 kHz	83 μ A/A + 0.76 μ A	
	3.29 mA to 32.9 mA @ 45 Hz to 1 kHz 1k Hz to 5 kHz	0.2 mA/A + 3.2 μ A	
	32.9 mA to 329 mA @ 45 Hz to 1 kHz 1 kHz to 5 kHz	0.28 mA/A + 4 μ A	
	0.329 A to 2.99 A @ 45 Hz to 1 kHz 1 kHz to 5 kHz	0.6 mA/A + 0.4 mA	
	2.99 A to 11 A @ 50 Hz to 1 kHz	0.6 mA/A + 1 mA	Generating using calibrator model Transmille 3041 and AC/DC Transconductance model Transmille EA3012
	11 A to 20 A @ 50 Hz to 60 Hz		
	20 A to 30 A @ 50 Hz to 60 Hz	0.29 A	
	30 A to 40 A @ 50 Hz to 60 Hz	0.61 A	
	40 A to 50 A @ 50 Hz to 60 Hz	0.77 A	
	50 A to 60 A @ 50 Hz to 60 Hz	0.94 A	
	60 A to 70 A @ 50 Hz to 60 Hz	1.3 A	

Scan this QR Code or visit <https://accreditation.jsm.gov.my/public/listing/cab/samm-cl/30003791> for the current scope of accreditation

NO: SAMM 240

Page: 4 of 13

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
indicating & Recording Instrument ac Power	Wattage: 0.11 mW to 12000 W @ 45 Hz to 65 Hz Power Factor = 1 100 mW to 1 W 1 W to 100 W 100 W to 1 kW 1 kW to 12 kW	 0.13 mW/W 0.22 mW/W 0.28 mW/W 0.60 mW/W	Generating using calibrator model Fluke 5502A
indicating & Recording Instrument dc Resistance	330 Ω to 3 k Ω 3 k Ω to 30 k Ω 30 k Ω to 300 k Ω 0.3 M Ω to 1.19 M Ω 1.19 M Ω to 11.9 M Ω 11.9 M Ω to 30 M Ω 30 M Ω to 50 M Ω	1.5 $\mu\Omega/\Omega$ + 56 m Ω 18 $\mu\Omega/\Omega$ + 0.69 Ω 20 $\mu\Omega/\Omega$ + 4.6 Ω 1.2 $\mu\Omega/\Omega$ + 0.11 k Ω 55 $\mu\Omega/\Omega$ + 0.47 k Ω 0.22 m Ω/Ω + 4.3 k Ω 0.38 m Ω/Ω + 0.9 k Ω	Generating using calibrator model Fluke 5502A
generating & Sourcing Instrument Ac Voltage	10 mV to 100 mV @ 40 Hz to 1 kHz 100 mV to 1 V @ 40 Hz to 1 kHz 1 V to 10 V @ 40 Hz to 1 kHz 10 V to 100 V @ 40 Hz to 1 kHz 100 V to 1000 V @ 40 Hz to 1 kHz	21 mV 0.09 mV 0.9 mV 9.9 mV 49 mV	Measuring using Digital Multimeter Model Wavetek 1281
generating & Sourcing Instrument ac High Voltage Source	0.5 kV to 10 kV @ 50 Hz	0.019 kV	Measuring using High Voltage Meter Tamadensoku TDV-10ADS

Schedule

Issue date: 17 September 2025
Valid Until: -



NO: SAMM 240

Page: 5 of 13

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
generating & Sourcing Instrument ac Trip Current (source)	AC @ 50 Hz 1 mA 2 mA 5 mA 10 mA	0.014 mA 0.023 mA 0.049 mA 0.11 mA	Measuring using cut-off current calibrator Tamadensoku TLC-501B and Multimeter Fluke 8845A
generating & Sourcing Instrument ac Current	1 mA to 10 mA @ 40 Hz to 1 kHz 10 mA to 100 mA @ 40 Hz to 1 kHz 100 mA to 1 A @ 40 Hz to 1 kHz 5 A to 30 A @50 Hz	0.002 mA 0.022 mA 0.00078 A 0.33 mA/A + 0.009 A	Measuring using Multimeter model Wavetek 1281 Measuring using Digital Power Meter Model Yokogawa WT310EH
generating & Sourcing Instrument dc Voltage	-100 mV to 100 mV -1 V to 1 V -10 V to 10 V -100 V to 100 V -1000 V to 1000V	0.0017 mV 0.0000092 V 0.000084 V 0.0010 V 0.012 V	Measuring using Multimeter model Wavetek 1281
generating & Sourcing Instrument dc High Voltage	0 kV to 5 kV	0.003 kV	Measuring using High Voltage Meter model Kikusui 149-10A
generating & Sourcing Instrument dc Current	-1 mA to 1 mA -10 mA to 10 mA -100 mA to 100 mA -1 A to 1 A	0.00007 mA 0.0007 mA 0.0080 mA 0.00013 A	Measuring using Multimeter model Wavetek 1281
generating & Sourcing Instrument insulation Resistance	0.1 M Ω to 2 M Ω 2 M Ω to 20 M Ω 20 M Ω to 200 M Ω 200 M Ω to 1900 M Ω	0.6 $\mu\Omega/\Omega$ + 0.57 k Ω 0.4 m Ω/Ω + 4 k Ω 0.29 m Ω/Ω + 50 k Ω 5 m Ω/Ω + 0.1 k Ω	Generating using Decade Resistance IET model HRRS- F-4-10M-5KV and Decade Resistance Yokogawa 2793-03

Schedule

Issue date: 17 September 2025

Valid Until: -



NO: SAMM 240

Page: 6 of 13

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
	1.9 G Ω to 10 G Ω 10 G Ω to 100 G Ω (0 to 5 kV)	4 m Ω / Ω + 0.003 G Ω 3 m Ω / Ω + 0.054 G Ω	Generating using IET HRRS 5kV decade resistance
generating & Sourcing Instrument optical Tachometer	60 rpm to 180 rpm 240 rpm to 1980 rpm 2040 rpm to 60000 rpm	0.01 rpm 0.1 rpm 0.6 rpm	Generating using function generator model RIGOL DG1022 and Frequency Counter Model BK 1823 A
generating & Sourcing Instrument timer	30 sec to 60 sec 1 min to 5 min 5 min to 10 min 10 min to 15 min 15 min to 30 min 30 min to 1 hour	0.25 sec 0.30 sec 0.30 sec 0.30 sec 0.70 sec 0.70 sec	Calibrated by using comparison method according to NIST stop watch and timer calibration
indicating And Recording Instrument dc Resistance Fixed Value	10 m Ω 100 m Ω 1 Ω 2.9 Ω 10 Ω 29 Ω 100 Ω 290 Ω	0.01 m Ω 0.1 m Ω 0.001 Ω 0.001 Ω 0.01 Ω 0.01 Ω 0.1 Ω 0.1 Ω	Generating using Low Resistance Standard Zeal ZMLRJ1 and Multi Product Calibrator model Fluke 5502A
Stopwatch	0 to 900 s 900 to 3600 s	0.03 s 0.57 s	Video totalized method with Function Generator RIGOL DG1022 & Universal Counter B&K Precision 1823A

Scan this QR Code or visit <https://accreditation.jsm.gov.my/public/listing/cab/samm-cl/30003791> for the current scope of accreditation

NO: SAMM 240

Page: 7 of 13

SCOPE OF CALIBRATION : DIMENSIONAL

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
External Micrometers (analogue / Digital) with 25 Mm Frame	0 mm to 25 mm	0.001 mm	Calibrated using ceramic gauge block as standards reference to ISO 3611
External Calipers (dial / Vernier / Digital)	0 mm to 300 mm	0.01 mm	Calibrated using caliper checker as standard reference to ISO 13385-1
	Above 300 mm to 600 mm	0.02 mm	
Internal Caliper (dial/ Vernier/ Digital)	0 mm to 250 mm	0.01 mm	Calibrated using caliper checker as standard reference to ISO 13385-1

NO: SAMM 240

Page: 8 of 13

SCOPE OF CALIBRATION : MASS

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
Weight Block	1 g to 200 g	0.001 g	1. Calibrate using OIML Class F1 reference standard weight by comparison method according to ABBA weighing scheme. 2. Intermediate values can be calibrated with uncertainty interpolated from the next higher and lower nominal values tabulated.
	Above 200 g to 2500g	0.002 g	
		0.004 g	
	Above 2500g to 5000g	0.03 g	
	Above 5000g to 10000g	0.05 g	
	Above 10000g to 20000g		

NO: SAMM 240

Page: 9 of 13

SCOPE OF CALIBRATION : HEAT & TEMPERATURE

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
Temperature Sensor With Indicator thermocouple Type K	0 -•°C	0.3 -•°C	Calibration by comparison method using PRT in ice point bath, dry block calibrator and Field Metrology Well.
	30 -•°C to 100 -•°C	0.4 -•°C	
	Above 100 -•°C to 175 -•°C	0.4 -•°C	
	Above 175 -•°C to 250 -•°C	0.5 -•°C	

NO: SAMM 240

Page: 10 of 13

SCOPE OF CALIBRATION : PRESSURE

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
Pressure Gauge Hydraulic	0 MPa to 3.5 MPa	0.6% of reading	Calibrated Using Pressure Calibrator
	Above 3.5 MPa to 20 MPa	0.4% of reading	
	Above 20 MPa to 70 MPa	0.2% of reading	

SITE LOCATION (HQ)	1. CATEGORY I
FIELD(S) OF CALIBRATION :	ELECTRICAL, FORCE, HEAT & TEMPERATURE, MASS

SCOPE OF CALIBRATION : ELECTRICAL

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques	Remarks
indicating Instrument	0 V to 5 V	0.00052 mV/V + 0.11 mV	Generating using calibrator model Fluke 5500 A
dc Voltage	5 V to 20 V	0.001 mV/V + 0.11 mV	
generating And Sourcing Instrument	10 V to 100 V @ 50 Hz to 60 Hz	0.065 mV/V + 0.05 V	Measuring using precision multimeter Model Fluke 8845 A
ac Voltage	100 V to 300 V @ 50 Hz to 60 Hz	0.09 mV/V + 0.05 V	
generating And Sourcing Instrument	0 A to 1 A	0.17 mA/A + 0.07 mA	Measuring using precision multimeter Model Fluke 8845 A Measuring using DC Electronic Load Model BK Precision 8600
dc Current	1 A to 10 A	0.5 mA/A + 0.27 mA	
	10 A to 29 A	0.001 mA/A + 0.058 A	

Schedule

Issue date: 17 September 2025
Valid Until: -



NO: SAMM 240

Page: 11 of 13

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques	Remarks
Timer	30 sec to 60 sec	0.70 sec	Calibrated by using comparison method according to NIST stopwatch and timer calibration
	1 min to 5 min	0.70 sec	
	5 min to 10 min	0.70 sec	
	10 min to 15 min	0.70 sec	
	15 min to 30 min	0.70 sec	
	30 min to 1 hour	0.70 sec	

SCOPE OF CALIBRATION : MASS

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques	Remarks
Analytical Electronic Balance And Weighing Machine	Up to 200g	0.0002 g	1. The calibrated covers the instrumental error, repeatability and eccentricity test based on NATA Technical Note 13. 2. The CMC has been evaluated based on uncertainty contributions from the three tests, and the standards used. 3. Weighing balances and scales with ranges intermediate from the values tabulated can be calibrated with uncertainty interpolated from the next higher and lower range values.
	Up to 1kg	0.01 g	
	Up to 5kg	0.02 g	
	Up to 10kg	0.1 g	
	Up to 30kg	0.2 g	
	Up to 60kg	2 g	

SCOPE OF CALIBRATION : HEAT & TEMPERATURE

Schedule

Issue date: 17 September 2025
Valid Until: -



NO: SAMM 240

Page: 12 of 13

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques	Remarks
Temperature Controlled Enclosures	-40 -°C to 50 -°C	0.8 -°C	Calibrated using thermocouples and multifunctional recorder with reference to TLAS-g-20
	Above 50 -°C to 450 -°C	0.9 -°C	
	Above 450 -°C to 950 -°C	1.2 -°C	
	950 -°C to 1200 -°C	2.4 -°C	
Humidity Controlled Enclosure	25 % RH to 95 % RH @ 25 -°C	3 % RH	Calibrated by data logger with humidity sensor.

SCOPE OF CALIBRATION : FORCE

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques	Remarks
Universal Testing Machine; Compression Mode	0 kN to 1 kN	0.33 % of reading	1. Parameters measured: indication error, relative indication error, relative repeatability error and relative reversibility error. 2. Forces may be applied by increment and decrement and the hysteresis errors determined. 3. Calibration is based on ISO 7500-1. 4. Calibrations may be made in terms of Newton (N), or kilogram-force (kgf).
	Above 1 kN to 10 kN	0.28 % of reading	
	Above 10 kN to 50 kN	0.32 % of reading	
	Above 50 kN to 100 kN	0.39 % of reading	

Schedule

Issue date: 17 September 2025
Valid Until: -



NO: SAMM 240

Page: 13 of 13

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques	Remarks
Universal Testing Machine; Tension Mode	0 kN to 1 kN	0.31 % of reading	1. Parameters measured: indication error, relative indication error, relative repeatability error and relative reversibility error. 2. Calibration is based on ISO 7500-1. 3. Calibrations may be made in terms of Newton (N), or kilogram-force (kgf).
	Above 1 kN to 10 kN	0.32 % of reading	
	Above 10 kN to 50 kN	0.33 % of reading	
	Above 50 kN to 100 kN	0.43 % of reading	

Scan this QR Code or visit <https://accreditation.jsm.gov.my/public/listing/cab/samm-cl/30003791> for the current scope of accreditation