

Schedule

Issue date: 13 April 2026
Valid until: 13 April 2031



NO: SAMM 1249

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LABORATORY LOCATION/ CENTRAL OFFICE: 	TORR LABORATORY TORR ENERGY SDN. BHD. LOT 806, FIRST FLOOR, BLOCK D & E, BANGUNAN SLIPWAYS, PIASAU INDUSTRIAL ESTATE, 98000 MIRI, SARAWAK, MALAYSIA
ACCREDITED SINCE:	13 APRIL 2026
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:	TORR LABORATORY, TORR ENERGY SDN. BHD. LOT 806, FIRST FLOOR, BLOCK D & E, BANGUNAN SLIPWAYS, PIASAU INDUSTRIAL ESTATE. 98000 MIRI SARAWAK
FIELD(S) OF CALIBRATION:	ELECTRICAL

SCOPE OF CALIBRATION: ELECTRICAL

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty (\pm)*	Remarks
<u>Measuring Instruments</u>	11 Ω	1.1 m Ω	Generate using Multi-Product Calibrator
DC Resistance (4 Wire)	33 Ω	1.9 m Ω	
	110 Ω	3.6 m Ω	
	330 Ω	8.2 m Ω	
	1.1 k Ω	0.03 Ω	
	3.3 k Ω	0.09 Ω	
	11 k Ω	0.30 Ω	
	33 k Ω	0.90 Ω	
	110 k Ω	2.6 Ω	
330 k Ω	9.7 Ω		

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SCOPE OF CALIBRATION: ELECTRICAL

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty (\pm)*	Remarks
DC Resistance (2 Wire)	1.1 M Ω	0.040 k Ω	Generate using Multi- Product Calibrator
	3.3 M Ω	0.23 k Ω	
	11 M Ω	1.2 k Ω	
	33 M Ω	13 k Ω	
	110 M Ω	22 k Ω	
DC Voltage	0 mV to 100 mV	2.3 μ V	
	100 mV to 200 mV	4.0 μ V	
	200 mV to 330 mV	6.0 μ V	
	0 V to 1 V	12 μ V	
	0 V to 10 V	0.11 mV	
	0 V to 100 V	0.90 mV	
	0 V to 1000 V	17 mV	
DC Current	0 μ A to 100 μ A	33 nA	
	100 μ A to 330 μ A	53 nA	
	0 mA to 1 mA	20 nA	
	0 mA to 10 mA	0.30 μ A	
	0 mA to 100 mA	9.4 μ A	
	0 mA to 330 mA	79 μ A	
	0 A to 1 A	0.010 mA	
	0 A to 5 A	0.90 mA	
	5 A to 10 A	3.8 mA	
10 A to 20 A	59 mA		
DC Capacitance	1 μ F	2.7 nF	
	10 μ F	21 nF	
	100 μ F	0.50 μ F	
	200 μ F	1.0 μ F	
	300 μ F	0.10 μ F	
	1 mF	0.010 mF	
	3 mF	0.013 mF	
	10 mF	0.038 mF	

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Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty (\pm)*	Remarks
AC Voltage	3 mV - 1000 V (See Matrix A)	(See Matrix A)	Generate using Multi-Product Calibrator
AC Current	10 mA - 20 A (See Matrix B)	(See Matrix B)	
Frequency Sinewave	119 Hz	59 mHz	
	120 Hz	59 mHz	
	1000 Hz	0.13 mHz	
	100 kHz	56 Hz	

Matrix A

AC Voltage Measurement (Normal)

Range	Frequency									
	9.5 Hz	10 Hz	45 Hz	1 kHz	10 kHz	18 kHz	20 kHz	50 kHz	90 kHz	100 kHz
33 mV	25 μ V	7.0 μ V	10 μ V	8.5 μ V	8.5 μ V		9.5 μ V	28 μ V		44 μ V
330 mV		29 μ V	17 μ V	17 μ V	17 μ V		18 μ V	32 μ V		84 μ V
3.3 V		0.90 mV	0.40 mV	0.40 mV	0.40 mV		0.50 mV	0.80 mV		1.7 mV
33 V		8.6 mV	8.2 mV	4.0 mV	9.5 mV		6.0 mV	8.5 mV	22 mV	
330 V			82 mV	50 mV	82 mV	70 mV		80 mV		0.49 V
1000 V			0.23 V							

Matrix B

AC Current Measurement

Range	Frequency							
	10 Hz	45 Hz	65 Hz	50 Hz	500 Hz	1 kHz	5 kHz	10 kHz
10 mA	5.1 μ A	2.6 μ A			0.50 μ A	2.7 μ A	5.1 μ A	13 μ A
100 mA	46 μ A				3.6 μ A	12 μ A	22 μ A	52 μ A
1 A						0.22 mA	2.2 mA	9.9 mA
3 A	4.2 mA	1.7 mA				1.7 mA	14 mA	60 mA
10 A					4.3 mA	4.3 mA	76 mA	
20 A		44 mA	55 mA	44 mA				

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Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty (\pm)*	Remarks
Portable Gas Detector			
(i) Carbon Monoxide, CO	100 ppm	2.2 ppm	Calibration using reference gaseous with reference to IEC 60079-29-1
(ii) Methane, CH ₄	50% LEL	1.1 % of reading	
(iii) Hydrogen Sulphide, H ₂ S	25 ppm	1.3 ppm	
(iv) Oxygen, O ₂	20.9% Vol	0.40 % of reading	

Notes:

IEC: The standard of International Electrotechnical Commission for electrical, electronic and related technologies.