

Schedule

Issue date: 18 March 2025
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LABORATORY LOCATION/ CENTRAL OFFICE:	Airod Sdn Bhd Jalan TUDM, Sultan Abdul Aziz Shah Airport 47200 Subang, Selangor , 47200, SELANGOR MALAYSIA
	
ACCREDITED SINCE :	18 MARCH 2025
FIELD(S) OF CALIBRATION:	DIMENSIONAL ELECTRICAL FORCE MASS 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	Airod Sdn Bhd Jalan TUDM, Sultan Abdul Aziz Shah Airport 47200 Subang, Selangor , 47200, Selangor
FIELD(S) OF CALIBRATION :	DIMENSIONAL, ELECTRICAL, FORCE, MASS, PRESSURE

SCOPE OF CALIBRATION : DIMENSIONAL

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
Caliper (vernier And Digital)	0 in to 12 in 12 in to 24 in 24 in to 36 in	6.3 x 1.5 x 103 pin 1.5 x 103 pin	Comparison using block gauge including accessories with reference to BS EN ISO 13385-1: 2019

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Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
	0 mm to 300 mm 300 mm to 600 mm	12 μ m 28 μ m	Comparison using block gauge including accessories with reference to BS EN ISO 13385-1: 2019
Dial Gauge	None	None	
	0mm to 10 mm 10 mm to 30 mm 30 mm to 75 mm	4.0 μ m 4.0 μ m 6.5 μ m	Comparison using calibration tester with reference to BS EN ISO 463 : 2006
	25 mm to 50 mm 50 mm to 75 mm	1.9 μ m	micrometer head as standards according
	75 mm to 100 mm	2.2 μ m	to JIS B7503:2017
Height Gauge (vernier And Digital)	0 in to 12 in 12 in to 24 in 0 mm to 300 mm 300 mm to 600 mm	3.6 x 102 nin 6.1 x 102 pin 6.5 μ m 11 μ m	Comparison using block gauge including accessories with reference to BS EN ISO 13225 : 2012
Ring Gauge (diameter Only)	11mm to 25 mm 25 mm to 50 mm 50 mm to 75 mm 75 mm to 100 mm	0.8 μ m	Comparison using block gauge including accessories with reference to (Inch units) BS 4064 ? 1966 (Metric Units)

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SCOPE OF CALIBRATION : ELECTRICAL

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
Ac Current	100 yA	None	
	10 Hz to 1 kHz 1 kHz to 5 kHz	0.0097 pA 0.016 pA	Direct measurement using Digital Multimeter Datron 1281
	2.2Ato11A 45 Hz to 65 Hz	1.00mA/A	Rev 01 using Direct Method
	65 Hz to 500 Hz	None	
	500 Hz to 1 kHz	None	
	11 A to 550 A (current coil) 45 Hz to 65 Hz 65 Hz to 440 Hz	3.4mA/A	Calibrated according to procedure LCP01705, Rev 01 using Direct Method
	100A	None	Calibrated according to
	1mAto3A	See Matrix D	procedure LCP01703, Rev 01 using Direct
	1mAto3A	None	Method
	3Ato 100A	None	Calibrated according to
	45 Hz to 65 Hz	2.4mA/A	procedure LCP01706, Rev 02 using Method
	45 Hz to 65 Hz	None	Method
	50 to3A	None	
	3Ato 100A	None	Calibrated according to
	45 Hz to 65 Hz	2.5mA/A	procedure LCP01706, Rev 04 using Direct
	45 Hz to 65 Hz	None	Method
	45 Hz to 65 Hz	None	
Ac Generate Ac Voltag	1mV 10 Hz to 31 Hz 32 Hz to 330 Hz 330 Hz to 10 kHz 10 kHz to 33 KHz 33 kHz to 100 kHz	0.0023 mV 0.0023 mV 0.0023 mV 0.0024 mV 0.0026 mV	Direct measurement using Digital Multimeter Datron 1281
	10 mV 10 Hz to 31 Hz 32 Hz to 330 Hz 330 Hz to 10 kHz 10 kHz to 33 kHz 33 kHz to 100 kHz	0.0036 mV 0.0034 mV 0.0034 mV 0.0044 mV 0.0060 mV	Direct measurement using Digital Multimeter Datron 1281
Ac Generate Ac Voltage (continued)	100 V 10 Hz to 31 Hz 32 Hz to 330 Hz 330 Hz to 10 kHz 10 kHz to 33 kHz 33 kHz to 100 kHz	0.0042 V 0.0028 V 0.0028 V 0.0031 V 0.0070 V	Direct measurement using Digital Multimeter Datron 1281

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Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
	1000 V 50 Hz to 300 Hz 300 Hz to 10 kHz 10 kHz to 33 KHz	0.040 V 0.040 V 0.040 V	Direct measurement using Digital Multimeter Datron 1281
Ac Measurement Ac Current	100 pA 10 Hz to 1 kHz 1 kHz to 5 kHz	0.014 pA 0.025 pA	Generate using Inoperative Fluke 5700A
	1mA 10 Hz to 1 kHz 1 kHz to 5 kHz	0.00012 mA 0.00017 mA	Generate using Inoperative Fluke 5700A
	10 mA 10 Hz to 1 kHz 1 kHz to 5 kHz	0.0011 mA 0.0017 mA	Generate using Inoperative Fluke 5700A
	100 mA 10 Hz to 1 kHz 1 kHz to 5 kHz	0.011 mA 0.016 mA	Generate using Inoperative Fluke 5700A
	1A 10 Hz to 1 kHz 1 kHz to 5 kHz	0.00023 A 0.00039 A	Generate using Inoperative Fluke 5700A
Ac Measurement Ac Voltag	100 mV 10 Hz to 100 Hz 100 Hz to 1 kHz 1 kHz to 10 kHz 10 kHz to 100 kHz	0.013 mV 0.013 mV 0.043 mV 0.043 mV	> Generate using Fluke 5700A
	iV 10 Hz to 100 Hz 100 Hz to 1 kHz 1 kHz to 10 kHz 10 kHz to 100 kHz	0.000036 V 0.000036 V 0.000065 V 0.000065 V	> Generate using Fluke 5700A
	10 V 10 Hz to 100 Hz 100 Hz to 1 kHz 1 kHz to 10 kHz 10 kHz to 100 kHz	0.00034 V 0.00032 V 0.00060 V 0.00060 V	> Generate using Fluke 5700A
Capacitanc Capacitance Generate	100 pF 1 nF 10 nF 100 nF	0.025 pF 0.00023 nF 0.0023 nF 0.022 nF	Direct Measurement Using RLC Digibridge QUADTECH 1693
	1 uF	0.00024 uF	
Capacitance Measurement	1 pF 10 pF 100 pF 1 nF 10 nF 100 nF	0.0099 pF 0.010 pF 0.027 pF 0.00024 nF 0.0025 nF 0.026 nF	Generation using: Standard Capacitor ARCO SS-32 GR 1413
	1 uF	0.00025 iF	
Dc Current	0 to 100 pV 0 to 0 to 10 mV 0 to 100 mV 0 to 1V 0 to 10 V 0 to 100 V 0 to 1000 V	None	Direct Measurement Method using Digital Multimeter Datron 1281 > Inoperative

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Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
	0 to 100 pA 0 to 1 mA 0 to 10 mA 0 to 100 mA 0 to 1 A	0.013 pA 0.00013 mA 0.0016 mA 0.028 mA 0.000028 A	\ Generation using calibrator model: > Inoperative Fluke 5700A
	0 mA to 3.3 mA 3.3 mA to 33 mA 33 mA to 0.330 A 0.330 A 2.2 A to 11 A	0.17 0.13 0.15 mA/A 0.37 mA/A 0.71 mA/A	Calibrated according to procedure LCP01701, Rev 01 using Direct Method
	0 mA to 3.3 mA 3.3 mA to 33 mA 33 mA to 0.330 A 0.330 A 2.2 A to 11 A	None	Calibrated according to
	11 A to 550 A (current coil)	None	procedure LCP01705, Rev 01 using Direct
	11 A to 550 A (current coil)	None	Method
	0.029 mA to 330 mA	See Matrix B	
	0.33 A to 2.2 A	None	
	10 Hz to 45 Hz	2.5 mA/A	
	45 Hz to 1 kHz 1 kHz to 5 kHz	None	Calibrated according to procedure LCP01701,
	100 mA to 1 A 1 A to 3 A	1.3 mA/A	LCP01715, Rev 01 using Direct Method
	100 mA to 1 A 1 A to 3 A	None	Calibrated according to
	100 A	None	procedure LCP01706,
	100 A	None	Rev 02 using V/I Method
	0 mA to 24 mA	0.95 mA/A	LCP01701, Rev 01
	0 mA to 24 mA	None	using Direct Method
	0 mA to 24 mA	12 mQ/Q	
	10 Q to 100 Q	8.8 mQ/Q	
	100 mA to 1 A 1 A to 3 A	1.3 mA/A 1.6 mA/A	using Direct Method
	100 mA to 1 A 1 A to 3 A	None	Calibrated according to
	100 A	2.5 mA/A	procedure LCP01706, Rev 04 using Direct
	100 A	None	Method
	100 A	None	Calibrated according to
	100 A	None	procedure LCP01703,
	50 to 3 A	See Matrix F	Rev 01 using Direct

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Dc Generate Dc Voltag	0 to 100 pV 0 to 0 to 10 mV 0 to 100 mV 00to1V 0 to 10 V 0 to 100 V 0 to 1000 V	0.57 μ V 0.00058 mV 0.00069 mV 0.00049 mV 0.0000026 V 0.000021 V 0.00029 V 0.0029 V	Direct Measurement Method using Digital Multimeter Datron 1281 > Inoperative
Dc Measurement Dc Voltag	0 to 00to1V 0 to 10 V 0 to 100 V 0 to 1000 V	0.00060 mV 0.0000030 V 0.000021 V 0.00031 V 0.0036 V	\ Generation using calibrator model: > Inoperative Fluke 5700A
Dc Power Supply	Voltag' 0V to 100 V 101 V to 1000 V	41 13	Standards Used: Digital Multimeter Datron HP 3457A Shunt Resistor L& N 4361 Load Resistors
	Current 1Ato10A 11Ato20A 30A 31Ato40A 41 51	0.5 mA/A 0.5 mA/A 0.5 mA/A 0.5 mA/A 0.5 mA/A 0.5 mA/A	Standards Used: Digital Multimeter Datron HP 3457A Shunt Resistor L& N 4361 Load Resistors
Dc Resistance	None	None	
Inductance	None	None	
Inductance Generate	1mH 10 mH 100 mH 1H 10H	0.023 mH 0.12 mH 0.68 mH 0.0068 H 0.068 H	Direct Measurement Using RLC Digibridge QUADTECH 1693 Standard Inductor: GR 1482-L
Inductance Measurement	1mH 10 mH 100 mH 1H 10H	0.00031 mH	
	10 mH	0.0031 mH	Method Used:
	100 mH 1H	0.031 mH 0.00031 H	Generation Using: Decade Inductor
	10H	0.0031 H	GR 1491-D
Insulation/resistance Tester	Test Voltag 1 to 250 Vde 251 to 500 Vde 501 to 1000 Vdc	0.3 Vde 0.5 Vde 0.6 Vde	Reference Standard Used: Calibrator: Fluke 5700A Standard Inoperative Resistor: Clarostat 240C Digital Multimeter: HP 3466A
	Resistance 0.1 MQ 10 MQ 100 MQ	0.0057 MQ 0.0057 MQ 0.058 MQ 0.58 MQ	Reference Standard Used: Calibrator: Fluke 5700A Standard Inoperative Resistor: Clarostat 240C Digital Multimeter: HP 3466A

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Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
Micrometer Including Digital	0mm to 50 mm 50 mm to 70 mm 75 mm to 125 mm 125 mm to 200 mm 200 mm to 300 mm	1.8 nin 1.9 nin 2.3 pin 2.6 pin 3.6 pin	Comparison using block gauge including accessories with reference to ISO 3611:2023
Resistance Generate	0.001 Q	0.00000081 Q	
	0.01 Q	0.00000091 Q	
	0.10	0.000014 Q	
	10 10Q 1002	0.0000029 Q 0.000091 Q 0.00064 2	Direct Measurement Method using Digital Multimeter Datron 1281
	1kQ 10 kQ	0.0000044 kQ 0.000043 kQ	Resistance Standard SR 104
	100 kQ	0.0011 kQ	
	1MQ.	0.000014 MQ	
	10 MQ	0.00023 MQ	
	100 MQ	0.019 MQ	
Resistance Measurement	100 MQ	None	
	0.001 Q	0.000012 Q	
	0.01 Q 0.10 10 10Q	0.000012 Q 0.0000014 Q 0.000029 Q 0.00018 Q	Generation using resistance standards: Model &N 4223B
	1002	0.0013. Q	&N 4222B
	1kQ 10 kQ 100 kQ 1MQ. 10 MQ	0.000011 kQ 0.00011 kQ 0.0011 Q 0.000017 MQ 0.00039 MQ	ESI RS 925D Fluke 742A-1 SR 104 Digital Multimeter - Datron 1281
	100 MQ	0.039 MQ	

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SCOPE OF CALIBRATION : FORCE

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
Indicating And Setting Torque Wrench	0 to 75 lbf.in 75 lbf.in to 200 lbf.in 200 lbf.in to 600 lbf.in 600 lbf.in to 1000 lbf.in 1000 lbf.in to 1800 lbf.in 1800 lbf.in to 3000 lbf.in 3000 lbf.in to 4200 lbf.in 4200 lbf.in to 6000 lbf.in 6000 lbf.in to 7200 lbf.in	0.97 lbf.in 2.4 lbf.in 3.0 lbf.in 13 lbf.in 17 lbf.in 27 lbf.in 42 lbf.in 43 lbf.in 110 lbf.in	King Nutronics 3695 torque and force calibrator Ref. Manual with reference to ISO 6789-1 2017
Torque Driver	4 lbf.in to 36 lbf.in	0.76 lbf.in	King Nutronics 3695 torque and force calibrator Ref. Manual with reference to ISO 6789-1 2017

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SCOPE OF CALIBRATION : MASS

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
Standard Weights	1mg	0.23 mg	
	5mg	0.23 mg	
	10 mg	0.23 mg	
	20 mg	0.23 mg	
	50 mg	0.23 mg	
	100 mg	0.23 mg	
	200 mg	0.23 mg	
	500 mg	0.23 mg	
	1g	0.23 mg	
	29 59 10g 20g	0.26 mg 0.29 mg 0.30 mg 0.30 mg	Comparison Method with reference standard weight (Class F1)
	50g	0.30 mg	
	100 g	0.30 mg	
	200 g	16 mg	
	500 g	16 mg	
	1kg	17mg	
	2kg	24 mg	
	5kg	25 mg	
	10 kg	0.21 g	
	20 kg	0.24g	

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SCOPE OF CALIBRATION : PRESSURE

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
Pressure Gauge	0 psi to 200 psi 200 psi to 500 psi 500 psi to 1500 psi 1500 psi to 2500 psi 2500 psi to 5000 psi 5000 psi to 10000 psi	0.24 psi 1.2 psi 3.2 psi 12 psi 29 psi 58 psi	Generation using calibrator p/no.: Pressurement M2800-3 Buddenberg 380-H FLUKE P3125-3 based on reference BS EN 837- 1 (1998)

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