



# ACCREDITATION CERTIFICATE

Issued under the authority of Bangladesh Accreditation Act, 2006  
by Bangladesh Accreditation Board (BAB), Ministry of Industries to

**Instrumentation Engineering Services Ltd.**

**Building: 296/A (Unit: D1, D2 & E1) & Building: 297 (Ground Floor),**

**Road: 19/B, New DOHS, Mohakhali, Dhaka-1206.**

This is to certify that this

## **Calibration Laboratory**

is accredited in accordance with the international standard  
**ISO/IEC 17025:2017**

in respect of the associated scope, subject to the terms and  
conditions governing the relevant conformity assessment  
body (CAB) accreditation.

Certificate Number : **02.005.15**  
Accreditation Date : **25 October 2015**  
Date of Issuance : **23 March 2020**  
Date of Expiration : **24 October 2021**



**Md. Monwarul Islam**  
**Director General**

This certificate must be returned on request; reproduction must follow BAB guidelines. For the specific scopes to which this accreditation applies, please refer to the Directory of CABs at BAB website.

## SCOPE OF ACCREDITATION

### (For Calibration Laboratory)

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**Last Amended on:** 28 June 2021      **Valid until:** 24 October 2021  
**Amendment no:** 05

S.N.	Measured quantity Instrument/Gauge	Reference to Method	Measurement range/value	Measurement Capabilities expressed as expanded uncertainty U (k=2)
<b>Field: Thermal</b>				
01	<b>Temperature</b> Semi Standard Platinum Resistance Thermometer	IESL CP 01	0°C to 200 °C	±0.20 °C
02	<b>Humidity</b> Hygrometer	IESL CP 19	(5 to 95) %	±2%
<b>Field: Mechanical</b>				
03	<b>Pressure</b> Digital Pressure Gauge	IESL CP 02	0 Bar to 60 Bar 61 to 90 Bar	±0.05Bar ±0.07Bar
04	<b>Measuring Tape</b> Tape Calibrator	IESL CP 03	Up to 50 mtr	±{490+(√L/1000)} μm Up to 1000mm ±{490*(√L/1000)} μm >1000mm (L is in mm)
05	<b>Steel Scale</b> Tape Calibrator	IESL CP 04	Up to 150 cm	±{490+(√L/1000)} μm (L is in mm)
06	<b>External Micrometer</b> Gauge Block	IESL CP 05		
	LC-0.001mm		0-600mm	±1μm
	LC-0.01mm		0-600mm	±7μm
07	<b>Plunger Dial Gauge</b> Gauge Block	IESL CP 06		



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S.N.	Measured quantity Instrument/Gauge	Reference to Method	Measurement range/value	Measurement Capabilities expressed as expanded uncertainty U (k=2)
	LC-0.001mm		0-120mm	±4µm
	LC-0.01mm		0-100mm	±10µm
08	<b>Vernier Caliper</b> Gauge Block	IESL CP 07		
	LC-0.01mm		0-600mm	±12µm
	LC-0.01mm		0-600mm	±18µm
	LC-0.02mm		0-600mm	±25µm
09	<b>Mass Weights</b> (Conventional Weights)	IESL CP 08		
			1-5mg	±0.06mg
			10mg	±0.08mg
			20mg	±0.10mg
			50mg	±0.12mg
			100mg	±0.16mg
			200mg	±0.20mg
			500mg	±0.25mg
			1g	±0.3mg
			2g	±0.4mg
			5mg	±0.5mg
			10g	±0.6mg
			20g	±0.8mg



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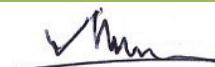
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S.N.	Measured quantity Instrument/Gauge	Reference to Method	Measurement range/value	Measurement Capabilities expressed as expanded uncertainty U (k=2)
			50g	±1.0mg
			100g	±1.6mg
			200g	±3.0mg
			500g	±8.0mg
			1kg	±16mg
			2kg	±30mg
			5kg	±80mg
			10kg	±160mg
			20kg	±300mg
10	<b>Balance</b> <b>E1/E2/M1 Class Weight</b> (On sight & lab)	IESL CP 09	0 to 220g Readability ≥0.01 mg	±0.04mg
			0 to 1.2kg Readability =0.01 g	±0.02g
			0 to 1.2kg Readability ≥1 g	±01.6g
			0 to 100kg Readability =5 g	±5.5g
11	<b>Time</b> Stop Watch	IESL CP 13	0-30min	±1.5 s
12	<b>Light Intensity</b> Lux Meter	IESL CP 24	Up to 16000 Lux	±4.1%



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13	<b>RPM</b> Digital Tachometer	IESL CP 25	100-12000 RPM	± 1.6RPM
14	<b>Volumetric Glassware</b> Analytical Balance	IESL CP 12	Up to 500 ml	± (0.06-0.5) ml
15	<b>Torque Wrench</b> Torque Sensor & Indicator	IESL CP 41	50.00 ~ 250 Nm 300.00 ~ 500.00 Nm	±0.7 Nm ±0.6 Nm
16	<b>Sound Level Meter</b> Sound Level Meter and Sound Calibrator	IESL CP 28	94dB 114dB	±0.6 dB ±0.6 dB
17	<b>Universal/Tensile/ Compression Testing Machine</b> Digital Load Cell with Indicator	IESL CP 94	0 ~ 100000kg / 1000 kN	±0.7%
18	<b>Force Gauge / Load Cell</b> Standard Weight	IESL CP-43	0 ~ 2000 kg / 2 kN	±0.9%
19	<b>Liquid Flow Meter</b> Ultrasonic Flow Meter	IESL CP 14	0 ~ 450000 lph	±0.67%
20	<b>Bevel Protector/Digital/Analog ue Angle Gauge</b> Bevel Protector/ Digital Angle gauge	IESL CP 93	0 ~ 90 Degree	±0.17°

**Field: Electro-technical**

21	<b>AC/DC Current Measure</b>	IESL CP 15	<b>AC Current</b> Range	@ Frequency
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S.N.	Measured quantity Instrument/Gauge	Reference to Method	Measurement range/value	Measurement Capabilities expressed as expanded uncertainty U (k=2)
	Multi-product Calibrator		29 ~ 330 $\mu$ A	10 Hz ~ 1 kHz 0.2 $\mu$ A
			330 $\mu$ A ~ 3 mA	10 Hz ~ 1 kHz 0.00063 mA
			3 mA ~ 33 mA	10 Hz ~ 1 kHz 0.017 mA
			33 mA ~ 330 mA	10 Hz ~ 1 kHz 0.13 mA
			330 mA ~ 3 A	10 Hz ~ 440 Hz 0.0016 A
			3 A ~ 20 A	10 Hz ~ 1 kHz 0.0098 A
			20 A ~ 100 A (Using 50 turn coil)	10 Hz ~ 1 kHz 0.061 A
			100 A ~ 990 A (Using 50 turn coil)	50 Hz 0.073 A
			<b>DC Current</b>	
				29 ~ 330 $\mu$ A 0.010 $\mu$ A
				330 $\mu$ A ~ 3 mA 0.00031 mA
				3 mA ~ 33 mA 0.0017 mA
				33 mA ~ 330 mA 0.0098 mA
				330 mA ~ 20 A 0.061 A
			20 A ~ 100 A (Using 50 turn coil) 0.061 A	
			100 A ~ 990 A (Using 50 turn coil) 0.08 A	
22	<b>Resistance Measure</b> Multi-product Calibrator	IESL CP 16	1 $\Omega$	0.00061 $\Omega$
			10 $\Omega$	0.0061 $\Omega$
			100 $\Omega$	0.062 $\Omega$
			1 k $\Omega$	0.00073 k $\Omega$
			10 k $\Omega$	0.0080 k $\Omega$
			60 k $\Omega$	0.0058 k $\Omega$
			100 k $\Omega$	0.000092 k $\Omega$
			300 k $\Omega$	0.00023 k $\Omega$



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S.N.	Measured quantity Instrument/Gauge	Reference to Method	Measurement range/value	Measurement Capabilities expressed as expanded uncertainty U (k=2)
			500 kΩ	0.00049 kΩ
			800 kΩ	0.00092 kΩ
			2 MΩ	0.000024 MΩ
			10 MΩ	0.000013 MΩ
			100MΩ	0.000134 MΩ
23	<b>Frequency Measure</b> Multi-product Calibrator	IESL CP 17	20 Hz	0.0084 Hz
			50 Hz	0.0092 Hz
			500 Hz	0.58 Hz
			1000 Hz	0.58 Hz
			10 kHz	0.0058 KHz
			50 kHz	0.0097 KHz
24	<b>AC/DC Voltage source</b> Digital Multimeter (6.5 Digit Multimeter)	IESL CP 18	AC Voltage	
			Range @ Frequency	
			10 mV	0.00013 V
			50 mV	0.00015 V
			100 mV	0.00017 V
			1 V	0.00035 V
			10 V	0.00062 V
			15 V	0.00064 V
			100 V	0.0085 V
			200 V	0.068 V
			400 V	0.075 V
			750 V	0.079 V
			DC Voltage	
			0.01 V	0.00012 V



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S.N.	Measured quantity Instrument/Gauge	Reference to Method	Measurement range/value	Measurement Capabilities expressed as expanded uncertainty U (k=2)
			0.05 V	0.00012 V
			0.10 V	0.00012 V
			2 V	0.00030 V
			10 V	0.00064 V
			15 V	0.00064 V
			100 V	0.0082 V
			200 V	0.061 V
			400 V	0.061 V
			800 V	0.061 V
			990 V	0.061 V
24	<b>AC/DC Voltage measure</b> Multi-product Calibrator	IESL CP 52	AC Voltage	
			0.01 V	0.0070 V
			0.05 V	0.014 V
			0.1 V	0.059 V
			1 V	0.00063 V
			2 V	0.00063 V
			20 V	0.0063 V
			220 V	0.0063 V
			300 V	0.063 V
			50 V	0.063 V
			100 V	0.062 V
			200 V	0.063 V
			400 V	0.073 V
			800 V	0.61 V
			996 V	0.61 V

  
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			DC Voltage	
			0.01 V	0.0000064 V
			0.05 V	0.0000065 V
			0.1 V	0.0000064 V
			2 V	0.000021 V
			20 V	0.00018 V
			300 V	0.0063 V
			400 V	0.061 V
			800 V	0.61 V
			995 V	0.61 V
25	<b>AC/DC current source</b> Digital Multimeter (6.5 Digit Multimeter)	IESL CP 53	AC Current	
			Range @ Frequency	
			0 ~ 100 $\mu$ A	0.16 $\mu$ A
			100 $\mu$ A ~ 1 mA	0.0017 mA
			1 mA ~ 10 mA	0.016 mA
			10 mA ~ 100 mA 3 Hz ~10 kHz	0.16 mA
			100 mA ~ 1 A	0.0016 A
			1 A ~ 3 A	0.023 A
			3 A ~ 10 A	0.026 A
			DC Current	
			0 ~ 100 $\mu$ A	0.012 $\mu$ A
			100 $\mu$ A ~ 1 mA	0.011 mA
			1 mA ~ 10 mA	0.57 mA
			10 mA ~ 100 mA	0.63 A
			100 mA ~ 1 A	0.00076 A



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S.N.	Measured quantity Instrument/Gauge	Reference to Method	Measurement range/value		Measurement Capabilities expressed as expanded uncertainty U (k=2)
			1 A ~ 3 A		0.0095 A
			3 A ~ 22 A		0.075 A
26	<b>Resistance source</b> Digital Multimeter (6.5 Digit Multimeter)	IESL CP 54	100 Ω		0.019 Ω
			1k Ω		0.0016 Ω
			100k Ω		0.015 Ω
			1M Ω		0.019 Ω
			100 MΩ		0.94 Ω
28	<b>Frequency Source</b> Digital Multimeter (6.5 Digit Multimeter)	IESL CP 55	5 Hz		0.014 Hz
			50 Hz		0.060 Hz
			500 Hz		0.060 Hz
			1 kHz		0.0058 kHz
			10 kHz		0.024 kHz
29	<b>RTD temperature indicator/controller Source</b> Digital Multimeter (6.5 Digit Multimeter)	IESL CP 59	Types of RTD	No. of Wires	Range (°C)
			Pt100 (3926)	-200 to 630	
			Ni120 (672)	-80 to 260	
			Pt200 (385)	2 wires/ 3 wires/ 4 wires	-200 to 630
			Pt500 (385)		-200 to 630
			Pt1000 (385)		-200 to 630
			Cu10 (427)	-100 to 260	
Pt100 (3916)	-200 to 630				
30	<b>Thermocouple Temperature indicator/controller Source</b> Digital Multimeter	IESL CP 60	Types of Thermocouples	Range (°C)	
				B	600~1820
				C	0~2316

  
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	(6.5 Digit Multimeter)	E	-250~1000	
		J	-210~1200	
		K	-200~1372	
		T	-350~400	
		L	-200~900	
		N	-200~1300	
		R	0~1767	
		S	0~1767	
		T	-250~400	
		U	-200~600	
31	<b>Capacitance source</b> Digital Multimeter (6.5 Digit Multimeter)	IESL CP 62	1 nF	0.002 nF
			100 nF	2.2 nF
			1 μF	0.0074 μF
			10 μF	0.0074 μF
			100 μF	0.0074 μF
32	<b>Capacitance Measure</b> Multi-product Calibrator	IESL CP 63	3.5 μF	0.002 μF
			10 μF	0.032 μF
			100 μF	0.12 μF
			500 μF	1.23 μF
			995 μF	5.23 μF
34	<b>RTD temperature indicator/controller measure</b> Multi-product Calibrator	IESL CP 88	Types of RTD	No. of Wires
			Pt100 (385)	Range (°C)
				-200 to 800
			Pt100 (3926)	2 wires/ -200 to 630
			Ni120 (672)	3 wires/ -80 to 260
			Pt200 (385)	4 wires -200 to 630

  
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			Pt500 (385)	-200 to 630
			Pt1000 (385)	-200 to 630
			Cu10 (427)	-100 to 260
35	<b>Thermocouple Temperature indicator/controller measure</b> Multi-product Calibrator	IESL CP 89	Types of Thermocouples	Range (°C)
			B	600~1820
			C	0~2316
			E	-250~1000
			J	-210~1200
			K	-200~1372
			T	-350~400
			L	-200~900
			N	-200~1300
			R	0~1767
			S	0~1767
			T	-250~400
			U	-200~600
36	<b>Insulation Resistance Tester</b> Insulation Resistance Tester Calibrator	IESL CP 81	5 MΩ ~ 200 MΩ	2.88%
			500 MΩ	3.95%
			1 GΩ	3.98%
			10 GΩ	4.07%
			100 GΩ	10.21%
37	<b>Earth Tester</b> Earth Tester Calibrator	IESL CP 82	1 mΩ ~ 1000 Ω	0.73 %

\*End\*

  
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