

### **CERTIFICATE OF ACCREDITATION**

# **AI ENGINEERING SERVICES LIMITED**

has been assessed and accredited in accordance with the standard

# **ISO/IEC 17025:2017**

# "General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

HANGAR N. 3, 6TH FLOOR, OLD AIRPORT, MUMBAI, MAHARASHTRA, INDIA

in the field of

# CALIBRATION

Certificate Number: CC-2670

Issue Date:

28/02/2025

Valid Until: 27/02/2029

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL. (To see the scope of accreditation of thislaboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Entity: AI ENGINEERING SERVICES LIMITED

Signed for and on behalf of NABL



Anita Rani

Anita Rani Director

re tisr

N. Venkateswaran Chief Executive Officer



## SCOPE OF ACCREDITATION

Laboratory Name :

AI ENGINEERING SERVICES LIMITED, HANGAR N. 3, 6TH FLOOR, OLD AIRPORT, MUMBAI, MAHARASHTRA, INDIA

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S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable(Range and Frequency)	* Calibration and Measurement Capability(CMC)(±)
		2	Permanent Facility	An Or	
1	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Current @ 50 Hz	Using Multifunction Calibrator by Direct Method	0.330 A to 10 A	0.099 % to 0.11 %
2	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Current @ 50 Hz	Using Multifunction Calibrator by Direct Method	10 A to 19.99 A	0.11 % to 0.17 %
3	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Voltage @ 400 Hz	Using Multifunction Calibrator by Direct Method	0.330 V to 329.99 V	0.045 % to 0.024 %
4	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Current @ 400 Hz	Using Multifunction Calibrator by Direct Method	29 µA to 329.99 mA	0.55 % to 0.054 %
5	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Current @ 400 Hz	Using Multifunction Calibrator by Direct Method	0.330 A to 10 A	0.099 % to 0.15 %
6	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Current @ 400 Hz	Using Multifunction Calibrator by Direct Method	10 A to 19.99 A	0.15 % to 0.20 %
7	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Current @ 50 Hz	Using Multifunction Calibrator by Direct Method	29 µA to 329.99 mA	0.55 % to 0.054 %

This is annexure to 'Certificate of Accreditation' and does not require any signature.





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8	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Voltage @ 400 Hz	Using Multifunction Calibrator by Direct Method	2 mV to 329.99 mV	0.54 % to 0.021 %
9	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Voltage @ 400 Hz	Using Multifunction Calibrator by Direct Method	330 V to 1000 V	0.043 % to 0.037 %
10	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Voltage @ 50 Hz	Using Multifunction Calibrator by Direct Method	0.330 V to 329.99 V	0.045 % to 0.024 %
11	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Voltage @ 50 Hz	Using Multifunction Calibrator by Direct Method	2 mV to 329.99 mV	0.55 % to 0.021 %
12	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Voltage @ 50 Hz	Using Multifunction Calibrator by Direct Method	330 V to 1000 V	0.043 % to 0.037 %
13	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator by Direct Method	0.330 mA to 10 A	0.21 % to 0.086 %
14	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator by Direct Method	1 μA to 329.99 μA	2.4 % to 0.025 %



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15	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator by Direct Method	10 A to 20 A	0.086 % to 0.12 %
16	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Voltage	Using Multifunction Calibrator by Direct Method	0.1 mV to 1 mV	1.4 % to 0.14 %
17	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Voltage	Using Multifunction Calibrator by Direct Method	1 mV to 1000 V	0.14 % to 0.01 %
18	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	High Resistance @ 1000 V	Using Decade Mega Ohm Box by Direct Method	0.5 Mohm to 10 Gohm	1.18 % to 1.88 %
19	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 wire)	Using Multifunction Calibrator by Direct Method	1 Ohm to 10.90 Ohm	0.61 % to 0.053 %
20	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire)	Using Multifunction Calibrator by Direct Method	10.90 Ohm to 3.2999 Mohm	0.053 % to 0.009 %
21	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire)	Using Multifunction Calibrator by Direct Method	3.30 Mohm to 100 Mohm	0.18 % to 0.066 %



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22	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (4 Wire)	Using Multifunction Calibrator by Direct Method	0.1 Ohm to 1 Ohm	0.76 % to 0.21 %
23	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (4 Wire)	Using Multifunction Calibrator by Direct Method	1 Ohm to 100 kohm	0.21 % to 0.01 %
24	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	J Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 199 °C to 1200 °C	0.65 °C
25	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	K Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 199 °C to 1370 °C	0.77 °C
26	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Bore Gauge (L.C.: 0.0127 mm / 0.0005 inch) - Travel movement only	Using Dial Calibration Tester by Comparison Method	0 to 1.0 mm	4.1 μm
27	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth Gauge (L.C.: 0.0127 mm / 0.0005 inch)	Using Depth Checker and Slip Gauge Set by Comparison Method	0 to 304.8 mm (12 inch)	10.2 μm





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28	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth Micrometer ( L.C.: 0.00254 mm / 0.0001 inch)	Using Depth Checker and Slip Gauge Set by Comparison Method	0 to 304.8 mm (12 inch)	3.27 μm
29	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial Gauge (Lever type) (L.C. 0.0127 mm / 0.0005 inch)	Using Dial Calibration Tester by Comparison Method	0 to 1 mm	4.1 μm
30	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial Gauge (Plunger type) (L.C. 0.00127 mm / 0.00005 inch)	Using Dial Calibration Tester by Comparison Method	0 to 25.4 mm (1.0 inch)	2.72 μm
31	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Electronic Probe (L.C.: 0.001 mm / 0.000039 inch)	Using Dial Calibration Tester by Comparison Method	0 to 1 mm	1.45 μm
32	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (L.C.: 0.001 mm / 0.000039 inch)	Using Slip Gauge Set by Comparison Method	0 to 25.4 mm (1 inch)	0.78 μm
33	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (L.C.: 0.00254 mm / 0.0001 inch)	Using Length Bar & Slip Gauge Set by Comparison Method	0 to 609.6 mm (24 inch)	6.15 μm





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34	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (L.C.: 0.0254 mm / 0.001 inch)	Using Length Bar and Slip Gauge Set by Comparison method	0 to 762 mm (30 inch)	10.42 μm
35	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Gauge ( L.C. 0.0254mm / 0.001 inch	Using Caliper Checker and Slip Gauge Set by Comparison Method.	0 to 609.6 mm (24 inch)	9.47 μm
36	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Gauge (L.C. 0.0254 mm / 0.001 inch)	Using Lenght Bar & Slip Gauge Set by Comparison Method	0 to 1270 mm (50 inch)	13.47 μm
37	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Inside Micrometer / Stick Micrometer (2 Points) ( LC 0.0254 mm / 0.001 inch)	Using Comparator Stand, Dial Gauge, Long Gauge Block & Slip Gauge Set by Comparison Method	25 mm to 1016 mm (40 inch)	19.04 µm
38	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Inside Micrometer / Stick Micrometer (2 Points) (L.C.: 0.0254 mm / 0.001 inch)	Using Length Bar, Comparator Stand, Plunger Dial and Slip Gauge Set by Comparison Method	25 mm to 304.8 mm (12 inch)	8.1 μm
39	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Micrometer Head (L.C.: 0.001 mm / 0.000039 inch and coarser)	Using Slip Gauge Set with Comparator Stand by Comparison Method	0 to 25.4 mm (1 inch)	3.46 µm





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40	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Three Point Micrometer (L.C.: 0.00254 mm / 0.0001 inch)	Using Ring Gauge Set by Comparison Method	4 mm to 12.7 mm (0.5 inch)	4.53 μm
41	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Three Point Micrometer (L.C.: 0.00508 mm / 0.0002 inch)	Using Ring Gauge Set by Comparison Method	4 mm to 101.6 mm (4.0 inch)	4.36 μm
42	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Vernier Caliper (L.C.: 0.0127 mm / 0.0005 inch)	Using Length Bar & Slip Gauge Set by Comparison Method	0 to 1016.0 mm (40 inch)	9.64 µm
43	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Vernier Caliper (L.C.: 0.0254 mm / 0.001 inch)	Using Length Bar & Slip gauge set by Comparison Method.	0 to 2032.0 mm (80 inch)	33.6 µm
44	MECHANICAL- PRESSURE INDICATING DEVICES	Hydraulic Pressure - Hydraulic (Dial, Digital Pressure Gauge / Indicator)	Using Digital Pressure Gauge and Comparator by Comparison Method	0 to 199.95 bar	0.93 bar
45	MECHANICAL- PRESSURE INDICATING DEVICES	Hydraulic Pressure - Hydraulic (Dial, Digital Pressure Gauge / Indicator, Pressure Transducer / Transmitter)	Using Digital Pressure Gauge, Comparator and DMM by Comparison Method	0 to 344.74 bar	0.81 bar

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46	MECHANICAL- PRESSURE INDICATING DEVICES	Hydraulic Pressure - Hydraulic (Dial, Digital Pressure Gauge)	Using Digital Pressure Gauge and Comparator by Comparison Method	0 to 689.48 bar	2.26 bar
47	MECHANICAL- PRESSURE INDICATING DEVICES	Pneumatic Pressure - Pneumatic (Dial, Digital Pressure Gauge / Indiactor)	Using Digital Pressure Gauge and Comparator by Comparison Method	0 to 6.895 bar	0.021 bar
48	MECHANICAL- PRESSURE INDICATING DEVICES	Pneumatic Pressure - Pneumatic (Dial, Digital Pressure Gauge / Indicator)	Using Digital Pressure Gauge and Pneumatic Pressure Comparator by Comparison Method	0 to 13.79 bar	0.12 bar
49	MECHANICAL- PRESSURE INDICATING DEVICES	Pneumatic Pressure - Pneumatic (Dial, Digital Pressure Gauge / indicator)	Using Digital Pressure Gauge and Pneumatic Pressure Comparator by Comparison Method	0 to 34.473 bar	0.09 bar
50	MECHANICAL- TORQUE GENERATING DEVICES	Type I - Class A, B, C, D, E and Type II - Class A, B, C, D	Using Torque Analyser by Comparison Method as per BS EN ISO 6789:2017	1355 Nm to 2711.6 Nm (1000 to 2000 ftlb)	0.79 %
51	MECHANICAL- TORQUE GENERATING DEVICES	Type I - Class A, B, C, D, E and Type II - Class A, B, C, D	Using Torque Analyser by Comparison Method as per BS EN ISO 6789:2017	814 Nm to 1355.8 Nm (600 - 1000 ftlb)	0.75 %
52	MECHANICAL- TORQUE GENERATING DEVICES	Type I - Class A, B, C, D, E and Type II - Class A, B, C, D, E, F, G	Using Torque Analyzer by Comparison Method as per BS EN ISO 6789:2017	0.05 to 135.6 Nm (100 ftlb)	1.3 %



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53	MECHANICAL- TORQUE GENERATING DEVICES	Type I - Class A, B, C, D, E and Type II - Class A, B, C, D, E, F, G	Using Torque Analyzer by Comparison Method as per BS EN ISO 6789:2017	81 Nm to 814 Nm (60 to 600 ftlb)	0.85 %

\* CMCs represent expanded uncertainties expressed at approximately the 95% level of confidence, using a coverage factor of k = 2.

