National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name:	Precision Metrology Solutions Pvt. Ltd. Plot No. 214, Phase IV, Udyog Vihar Industrial Area, Gurugram, Haryana 122015, India		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	CC-1625	**Page No**	1 of 11
Validity	15/03/2025 to 14/03/2028	**Last Amended on**	-

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)(±)
PERMANENT FACILITY					
1	**ELECTRO-TECHNICAL - ALTERNATING CURRENT (< 1 GHz) (Measure)**	AC Current @ (50 Hz, 1 kHz)	Using 6½ Digital Multimeter by Direct Method	1µA to 10 A	0.17% to 0.34%
2		AC Current @ 50 Hz	Using Three Phase Energy logger with I flex Cable by Direct Method	100 A to 1000 A	1.48% to 1.45%
3		AC High Voltage @ 50 Hz	Using High Voltage Probe with 4½ DMM by Direct Method	1 kV to 28 kV	8.42% to 6.13%
4		AC Voltage @ (50 Hz, 1 kHz, 10 kHz)	Using 6½ Digital Multimeter by Direct Method	1 mV to 1000 V	0.09% to 2.49%
5		Inductance @ 1 kHz	Using LCR Meter by Direct Method	100µH to 10 H	0.9% to 0.73%

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6		Power Factor @ 50 Hz (230 V, 10 A)	Using Three Phase Energy Logger by Direct Method	0.1 PF (Lead / Lag) to UPF	0.03 PF
7		Single Phase AC Active Energy @ 50 Hz (240 V, 1 A to 100 A)	Using Three Phase Energy Logger by Direct Method	300.8 Wh to 3 kWh	2.46% to 4.01%
8		Single Phase AC Active Power @ 50 Hz (240 V, 1 A to 100 A)	Using Three Phase Energy Logger by Direct Method	0.12 kW to 24 kW	1.2% to 1.42%
9		Three Phase AC Active Energy & Power @ 50 Hz (240 V, 1 A to 100 A)	Using Three Phase Energy logger with I flex Cable by Direct Method	900 Wh to 9 kWh; 0.36 kW to 72 kW	1.39% to 3.38%
10	**ELECTRO-TECHNICAL - ALTERNATING CURRENT (< 1 GHz) (Source)**	AC Current	Using Multi Product Calibrator by Direct Method and with Current Coil	29µA to 1000 A	0.07% to 1.96%
11		AC Voltage @ (50 Hz, 1 kHz, 10 kHz)	Using Multi Product Calibrator by Direct Method	1 mV to 1000 V	0.06% to 2.5%

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12		Capacitance @ 1 kHz	Using Multi Product Calibrator by Direct Method	220 pF to 100µF	0.84% to 5.84%
13		Power Factor @ (50 Hz, 240 V, 10 A)	Using Multi Product Calibrator by Direct Method	0.1 PF (Lead/Lag) to UPF	0.007 PF
14		Single Phase AC Active Power @ (50 Hz, 30 V to 1000 V, 1 mA to 20 A)	Using Multi Product Calibrator by Direct Method	30 mW to 20 kW	0.19% to 1.85%
15	**ELECTRO-TECHNICAL - DIRECT CURRENT (Measure)**	DC Current	Using 6½ Digital Multimeter by Direct Method	1µA to 10 A	0.06% to 0.71%
16		DC High Voltage	Using High Voltage Probe with 4½ Digit Multimeter by Direct Method	1 kV to 40 kV	3.31% to 6.65%
17		DC Voltage	Using 6½ Digit Precision Multimeter by Direct Method	0.1 mV to 1000 V	0.005% to 4.81%
18		Resistance (2 Wire & 4 Wire)	Using 6½ Digit Precision Multimeter by Direct Method	1Ω to 1000 MΩ	0.009% to 3.9%

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19	**ELECTRO-TECHNICAL - DIRECT CURRENT (Source)**	DC Current	Using Multi Product Calibrator by Direct Method and with Current Coil	1µA to 1000 A	0.02% to 2.42%
20		DC Power (1 V to 1000 V, 1 mA to 20 A)	Using Multi Product Calibrator by Direct Method	1 mW to 20 kW	0.17% to 9.4%
21		DC Resistance (2 Wire & 4 Wire)	Using Multi Product/Decade/Standard/High Resistance Box by Direct Method	10µΩ to 100 GΩ	0.02% to 11.61%
22		DC Voltage	Using Multi Product Calibrator by Direct Method	0.1 mV to 1000 V	0.008% to 3.86%
23	**ELECTRO-TECHNICAL - ELECTRICAL EQUIPMENT (Source)**	Conductivity Meter (without electrode)	Using Decade Resistance Box by Simulation Method	1µS to 10000µS	0.71%
24		Oscilloscope - Amplitude, Bandwidth, DC Signal, Time Base	Using Multi Product Calibrator by Direct Method	5 mVpp to 120 Vpp; 50 kHz to 600 MHz; (±)5 mV to (±)120 V; 10 ns to 1 s	0.06% to 8.61%

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25		pH meter (without electrode)	Using Process calibrator by Simulation Method	0 to 7 pH	0.03 pH
25	**ELECTRO-TECHNICAL - ELECTROMAGNETIC FIELD MEASUREMENT**	Electromagnetic Radiation Sensor / EMF Meter	Using Standard Field Generator and Reference EMF Meter by Comparison Method	1 MHz to 6 GHz; 0.1 V/m to 1000 V/m	±5% to ±8%
26		Electrostatic Field Meter / ESD Meter	Using High Voltage Source and Reference Electrostatic Field Meter by Comparison Method	0.1 kV/m to 200 kV/m	±3% to ±5%
27	**ELECTRO-TECHNICAL - TEMPERATURE SIMULATION (Measure)**	Thermocouples (B, J, K, N, R, S, T Types)	Using Multi Product Calibrator by Direct Method	(-) 200°C to 1800°C	0.32°C to 0.73°C
28		RTD (PT100) (4 Wire)	Using 6½ Digit Precision Multimeter by Direct Method	(-) 200°C to 800°C	0.32°C
29	**ELECTRO-TECHNICAL - TEMPERATURE**	Thermocouples (J, K, N, R, S, T Types)	Using Portable/Multi Product Calibrator by direct method	(-) 200°C to 1760°C	0.33°C to 1.2°C

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	SIMULATION (Source)				
30		RTD (PT100) (4 Wire)	Using Multi Product Calibrator by Direct Method	(-) 200°C to 800°C	0.06°C to 0.33°C
31	**ELECTRO-TECHNICAL - TIME & FREQUENCY (Measure)**	Frequency @ 3V	Using 6½ Digital Multimeter by Direct Method	3 Hz to 300 kHz	0.02% to 0.21%
32		Time	Using Universal Time Calibrator / Digital Timer by Comparison Method	0.1 s to 86400 s	0.003 s to 11.33 s
33	**ELECTRO-TECHNICAL - TIME & FREQUENCY (Source)**	Frequency @ 3V	Using Multi Product Calibrator by Direct Method	1 Hz to 1 MHz	0.06% to 5.78%
34	**FLUID FLOW - FLOW MEASURING DEVICES**	(Analog/Digital) Flow Meter / Rotameter / Dry Gas Meter / Flow Calibrator / Flow Sensor	Using Digital Flow Calibrator by Comparison Method as per ASTM D3195: 2015	1.0 CCM to 50 LPM	1.29% to 2.29%

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35		Flow Rate (Medium Air): Air Sampler PM 10	Using Orifice Top Loading Calibrator by Comparison Method as per IS 5182: 1999 Part 4	0.6 m³/minute to 1.4 m³/minute	3.97%
36		Volume Flow Rate (Medium Water): Digital / Ultrasonic / Magnetic Water Flow Meter	Using Ultrasonic Hand Held Water Flow Meter by Comparison Method as per IS 6784: 1982	2 m³/hr to 700 m³/hr	1.79%
37		Volumetric Flow Rate (Medium Air): Flow Meter	Using Digital Mass Flow Meter by Comparison Method as per ASTM D3195: 2015	30 LPM to 3000 LPM	1.61%
38	**MECHANICAL - ACCELERATION AND SPEED**	RPM of Vibrating Machine / Table / Centrifuge / Sieve Shaker	Using Digital Tachometer by Comparison Method	10 RPM to 15000 RPM	0.17% to 13.12%
39		Tachometer (Contact & Non Contact mode)	Using Standard Digital Tachometer and RPM Source by comparison method	6 RPM to 90000 RPM	0.17% to 11.04%
40		Vibration Meter with Sensor - Displacement, Acceleration, Velocity	Using Vibration Calibrator with Indicator by Comparison Method	10µm to 500µm; 0.5 g to 5.09 g; 5 mm/s to 50 mm/s	4.80%

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41	**MECHANICAL - ACOUSTICS**	Sound Level Meter @ 1 kHz	Using Sound Level Calibrator by Direct Method	94 dB & 114 dB	0.58 dB
42	**MECHANICAL - DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)**	Elongation Gauge / Flakiness Gauge / Test Sieve	Using Digital Vernier Caliper by Comparison Method	14.7 mm to 150 mm	19.5µm to 38.1µm
43		Surface Plate	Using Electronic Level Meter by Comparison Method	1600×1600 mm	1.9(L+W)/150 µm
44		Vicat Test Apparatus Plunger Diameter (Needle)	Using Digital Micrometer by Direct Method	0.5 mm to 10 mm	8.5µm
45	**MECHANICAL - DIMENSION (PRECISION INSTRUMENTS)**	Optical Microscope, Profile Projector, Video Measuring Machine (Angle, Linear, Magnification)	Using Glass Scale, Angle Gauge, Gauge Block by Comparison Method	1 X to 1000 X; 0° to 360°; 0 to 300 mm	1.5% to 8.8%; 0.5 to 1.5 min of arc; 4.5µm to 5.05µm
46	**MECHANICAL - PRESSURE INDICATING DEVICES**	Hydraulic & Pneumatic Pressure: (Analog / Digital) Pressure Gauge, Calibrator, Transmitter	Using Digital Pressure Gauge, Hydraulic/Pneumatic Pump by Comparison Method as per DKD R 6-1	0 to 700 bar	0.008 bar to 0.36 bar

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47		Absolute Pressure & Vacuum Gauges	Using Absolute/Digital Pressure Meter & Hand Pump by Comparison Method as per DKD R 6-1	300 mbar (abs) to 1050 mbar (abs); (-) 0.95 bar to 0 bar	3.1 mbar; 0.003 bar
48	**MECHANICAL - UTM, TENSION CREEP AND TORSION TESTING MACHINE**	Uniaxial Static Testing Machine (UTM, CTM, etc.) - Tension & Compression Mode	Using Class 0.5 & Class 1 Force Proving Instrument / Ring as per IS 1828-1: 2022	10 N to 3000 kN	0.31% to 0.86%
49	**MECHANICAL - WEIGHING SCALE AND BALANCE**	Electronic Weighing Balance (Class I, II, III and Coarser)	Using E1, E2, F1, M1 Class Standard Weights by Comparison Method as per OIML R 76-1	1 mg to 300 kg	0.005 mg to 56 g
50	**OPTICAL - OPTICAL**	Digital Lux Meter / Light Meter / Illuminance Meter	Using Standard LUX Meter and Halogen Light Source Chamber by Comparison Method	1 lx to 20000 lx	3.39%
51		Spectrophotometer / UV-VIS Spectrophotometer	Using Certified Reference Materials and Standard Optical Filters by Comparison Method	200 nm to 1100 nm (Wavelength); 0.0 to 4.0 A (Absorbance)	±1 nm (Wavelength); ±0.005 A (Absorbance)

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52		Colorimeter / Photoelectric Concentration Colorimeter	Using Certified Reference Standards and Optical Density Filters by Comparison Method	400 nm to 700 nm (Wavelength); 0.0 to 2.0 OD (Optical Density)	±2 nm (Wavelength); ±0.01 OD
53		Infrared Power Meter / IR Radiation Meter	Using Calibrated IR Source and Reference Power Meter by Comparison Method	0.1 mW to 2000 mW (0.8 µm to 20 µm)	±3% to ±5%
54	**THERMAL - SPECIFIC HEAT & HUMIDITY**	Humidity/Temperature Indicator with Sensor of Humidity Chamber/Generator (Single Position)	Using Temperature & RH Sensor with Indicator by comparison method	10°C to 50°C @ 50%RH; 20%RH to 95%RH @ 25°C	0.3°C to 0.86°C; 1.4%RH to 1.63%RH
55	**THERMAL - TEMPERATURE**	RTD/Thermocouple with or without Indicator/Controller for Furnace, Chamber, Oven, Freezer, Bath, etc. (Single & Multi-Position)	Using 4 Wire RTD / S Type Thermocouple Sensor with Data Logger/Indicator by Comparison Method	(-) 80°C to 1200°C	0.085°C to 3.91°C; 9°C (Multi-position)
56	**CHEMICAL - ANALYTICAL INSTRUMENTS**	Ion Selective Analyzer / Liquid Analyzer (Fluoride, Chloride, etc.)	Using Certified Reference Solutions and Standard Addition Method	0.1 mg/L to 1000 mg/L (Ion Concentration)	±2% to ±5%

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57		pH/Ion Meter with Ion Selective Electrodes	Using Standard Buffer Solutions and Certified Reference Solutions	pH: 1.0 to 13.0; Ion: 0.01 mg/L to 10000 mg/L	±0.02 pH; ±3% Ion

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