National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name :	APC SYSTEMS & TECHNOLOGIES PVT. LTD, 209, REENA COMPLEX, RAMDEV NAGAR, MUMBAI, MAHARASHTRA, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	CC-4004	**Page No**	1 of 12
Validity	01/08/2024 to 31/07/2026	**Last Amended on**	14/08/2024

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	Using 8 ½ Digit Multimeter with Current Shunt by V/R Method	1 A to 10 A	0.28 % to 0.08 %
2	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 50 Hz	Using 8 ½ Digit Multimeter by Direct Method	10 mA to 1 A	0.83 % to 0.28 %
3	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 50 Hz	Using 8 ½ Digit Multimeter with Multifunction Calibrator and Current Shunt by comparison Method	10 mA to 10 A	0.8 % to 0.1 %
4	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 900 Hz	Using 8 ½ Digit Multimeter with Multifunction Calibrator by Comparison Method	10 mA to 1 A	0.8 % to 0.64 %

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5	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 900 Hz	Using 8 ½ Digit Multimeter by Direct Method	10 mA to 1 A	0.82 % to 0.74 %
6	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC High Voltage @ 50 Hz	Using HV Probe with DMM by Direct Method	1 kV to 5 kV	6 %
7	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 50 Hz	Using 8 ½ Digit Multimeter by Direct Method	10 mV to 750 V	0.10 % to 0.06 %
8	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 50 Hz	Using 8 ½ Digit Multimeter with Multifunction Calibrator by Comparison Method	10 mV to 750 V	0.12 % to 0.044 %
9	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 900 Hz	Using 8 ½ Digit Multimeter by Direct Method	10 mV to 750 V	0.11 % to 0.06 %

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10	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 900 Hz	Using 8 ½ Digit Multimeter with Multifunction Calibrator by Comparison Method	10 mV to 750 V	0.12 % to 0.04 %
11	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Capacitance @ 1 kHz	LCR Meter with Decade Capacitance Box by Substitution Method	100 pF to 1 mF	2.13 % to 0.25 %
12	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Capacitance @ 1 kHz	Using LCR Meter by Direct Method	100 pF to 1 mF	0.2 % to 0.6 %
13	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Inductance @ 1 kHz	LCR Meter with Decade Inductance Box by Substitution Method	100 µH to 10 H	0.8 % to 0.19 %
14	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Inductance @ 1 kHz	Using LCR Meter by Direct Method	100 µH to 10 H	1 % to 0.5 %

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15	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8 ½ Digit Multimeter with Current Shunt by direct Method	1 A to 10 A	0.11 % to 0.08 %
16	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8 ½ Digit Multimeter by Direct Method	10 mA to 1 A	0.14 % to 0.11 %
17	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8 ½ Digit Multimeter with Multifunction Calibrator and Current Shunt by Comparison Method	10 mA to 10 A	0.08 % to 0.14 %
18	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC High Voltage	Using HV Probe with DMM by Direct Method	1 kV to 6 kV	2.8 %
19	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8 ½ Digit Multimeter by Direct Method	10 mV to 1000 V	0.05 %

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20	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8 ½ Digit Multimeter with Multifunction Calibrator by Comparison Method	10 V to 1000 V	0.09 % to 0.07 %
21	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2-Wire & 4-Wire)	Using 8 ½ Digit Multimeter by Direct Method	1 ohm to 100 kohm	0.8 % to 0.6 %
22	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2-wire & 4-wire)	Using 8 ½ Digit Multimeter with Decade Resistance Box by Substitution Method	1 ohm to 100 kohm	0.81 % to 0.57 %
23	ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source)	Oscilloscope - Bandwidth @ 50 kHz to 200 MHz	Using Function Generator by Direct Method	1 Vp-p	3.4 %
24	ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source)	Oscilloscope - Horizontal Deflection (Time Base)	Using Time/Event Calibrator by Direct Method	1 ms to 5 s	0.15 % to 0.06 %
25	ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source)	Oscilloscope AC Amplitude (1 kHz) - 1 Mohm output	Using Function Generator by Direct Method	10 mV p-p to 10 V p-p	0.72 %

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26	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Frequency	Using Frequency Counter by Direct Method	10 Hz to 200 MHz	0.007 % to 0.059 %
27	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time Base	Using Frequency Counter by Direct Method	10 ns to 100 ms	0.007 %
28	ELECTRO-TECHNICAL-TIME & FREQUENCY (Source)	Frequency	Using Function Generator by Direct Method	10 Hz to 200 MHz	0.001 %
29	ELECTRO-TECHNICAL-TIME & FREQUENCY (Source)	Time	Using Time/Event Calibrator by Direct Method	5 s to 50 s	0.15 % to 0.06 %

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Site Facility					
1	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 50 Hz	Using 8 ½ Digit Multimeter with Current Shunt by V/R Method	1 A to 10 A	0.28 % to 0.08 %
2	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 50 Hz	Using 8 ½ Digit Multimeter by Direct Method	10 mA to 1 A	0.83 % to 0.28 %
3	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 50 Hz	Using 8 ½ Digit Multimeter with Multifunction Calibrator and Current Shunt by comparison Method	10 mA to 10 A	0.8 % to 0.1 %
4	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 900 Hz	Using 8 ½ Digit Multimeter with Multifunction Calibrator by Comparison Method	10 mA to 1 A	0.8 % to 0.64 %

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