



National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name :

GOVERNMENT ELECTRICAL STANDARDS LABORATORY, O/O THE CHIEF ELECTRICAL INSPECTOR TO GOVT., THIRU.VI.KA. INDUSTRIAL ESTATE, GUINDY, CHENNAI, CHENNAI, TAMIL NADU, INDIA

Accreditation Standard

ISO/IEC 17025:2017

Certificate Number

CC-3520

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Validity

31/01/2023 to 30/01/2025

Last Amended on

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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)(±)
Permanent Facility					
1	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Active Power, 1 Phase , Pf = 0.5 to 1, 240 V, 1 mA to 60 A @ 50 Hz	Using Three Phase Reference Standard Meter By Comparison Method	0.12 W to 14.4 KW	0.39 % to 0.017 %
2	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Active and Reactive Energy, 3 Phase , Pf= ±0.5 to 1, 60 V to 240 V, 1 mA to 10 mA @ 50 Hz	Using Three Phase Reference Standard Meter By Comparison Method	0.095 Wh/VARh to 7.2 W/VAR	0.22 % to 0.029 %
3	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Active and Reactive Energy, 3 Phase , Pf= ±0.5 to 1, 60 V to 240 V, 10 mA to 120 A @ 50 Hz	Using Three Phase Reference Standard Meter By Comparison Method	0.95 Wh/VARh to 86.4 KWh/KVARh	0.042 % to 0.015 %
4	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Active and Reactive Power, 3 Phase , Pf= ±0.5 to 1, 60 V to 240 V, 1 mA to 10 mA @ 50 Hz	Using Three Phase Reference Standard Meter By Comparison Method	0.097 W/VAR to 7.2 W/VAR	0.6 % to 0.095 %



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5	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Active and Reactive Power, 3 Phase , Pf= ±0.5 to 1, 60 V to 240V, 10 mA to 120 A @ 50Hz	Using Three Phase Reference Standard Meter By Comparison Method	0.95 W/VAR to 86.4 KW/KVAR	0.16 % to 0.016 %
6	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Active Energy, 1 Phase ,pf = 0.5 to 1, 240 V, 1 mA to 60 A @ 50 Hz	Using Three Phase Reference Standard Meter By Comparison Method	0.12 Wh to 14.4 KWh	0.029 % to 0.011 %
7	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Apparent Power, 3 Phase ,60 V to 240 V, 1 mA to 10 mA @ 50 Hz	Using Three Phase Reference Standard Meter By Comparison Method	0.19 VA to 7.2 VA	0.45. % to 0.21 %
8	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Apparent Power, 3 Phase ,60 V to 240 V, 10 mA to 120 A @ 50 Hz	Using Three Phase Reference Standard Meter By Comparison Method	1.9 VA to 86.4 KVA	0.051 % to 0.016 %
9	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Apparent Energy, 3 Phase , 60 V to 240 V, 1 mA to 10 mA @ 50 Hz	Using Three Phase Reference Standard Meter By Comparison Method	0.19 VAh to 7.2 VAh	0.13 % to 0.045 %



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10	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Apparent Energy, 3 Phase , 60 V to 240 V, 10 mA to 120 A @ 50 Hz	Using Three Phase Reference Standard Meter By Comparison Method	1.9 VAh to 86.4 KVAh	0.04 % to 0.016 %
11	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 50 Hz	Using 8.5 Digit Reference Multimeter By Direct Method	1 A to 20 A	0.12%
12	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 50 Hz	Using 8.5 Digit Reference Multimeter By Direct Method	1 mA to 100 mA	0.05 % to 0.04 %
13	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 50 Hz	Using 8.5 Digit Reference Multimeter By Direct Method	100 mA to 1 A	0.04 % to 0.12 %
14	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage@ 50 Hz	Using 8.5 Digit Reference Multimeter By Direct Method	100 mV to 100 V	0.025 % to 0.032 %



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15	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Voltage@ 50 Hz	Using 8.5 Digit Reference Multimeter By Direct Method	100 V to 1000 V	0.032 % to 0.038 %
16	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Current @ 50 Hz	Using Multi Product Calibrator by Direct Method	1 A to 20 A	0.08 % to 0.17 %
17	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Current @ 50 Hz	Using Multi Product Calibrator by Direct Method	1 mA to 100 mA	0.22 % to 0.07 %
18	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Current @ 50 Hz	Using Multi Product Calibrator by Direct Method	100 mA to 1 A	0.07 % to 0.08 %
19	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Voltage @ 50 Hz	Using Multi Product Calibrator by Direct Method	1 V to 1000 V	0.07 % to 0.06 %



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20	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Voltage @ 50 Hz	Using Multi Product Calibrator by Direct Method	10 mV to 1 V	0.35 % to 0.07 %
21	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Source)	Capacitance @ 10 Hz to 1kHz	Using Multi Product Calibrator by Direct Method	100 nF to 1 µF	0.41 % to 0.79 %
22	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Source)	Capacitance @ 10 Hz to 80 Hz	Using Multi Product Calibrator by Direct Method	1 µF to 100 µF	0.79 % to 0.71 %
23	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Source)	Capacitance@ 10 Hz to 1kHz	Using Multi Product Calibrator by Direct Method	1 nF to 100 nF	1.56 % to 0.41 %
24	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Source)	Frequency	Using Multi Product Calibrator by Direct Method	1 Hz to 1 kHz	0.13 % to 0.007 %
25	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Source)	Frequency	Using Multi Product Calibrator by Direct Method	1 kHz to 500 kHz	0.007 % to 0.006 %



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26	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8.5 Digit Reference Multimeter By Direct Method	1 A to 20 A	0.023 % to 0.048 %
27	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8.5 Digit Reference Multimeter By Direct Method	100 μ A to 100 mA	0.002 % to 0.007 %
28	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8.5 Digit Reference Multimeter By Direct Method	100 mA to 1 A	0.007 % to 0.023 %
29	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Resistance	Using 8.5 Digit Reference Multimeter By Direct Method	10 Mohm to 100 Mohm	0.14 % to 0.015 %
30	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Resistance	Using 8.5 Digit Reference Multimeter By Direct Method	10 Ohm to 100 Ohm	0.0046 % to 0.001 %
31	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Resistance	Using 8.5 Digit Reference Multimeter By Direct Method	100 Kohm to 10 Mohm	0.0012 % to 0.14 %



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32	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Resistance	Using 8.5 Digit Reference Multimeter By Direct Method	100 Mohm to 1 Gohm	0.015 % to 0.18 %
33	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Resistance	Using 8.5 Digit Reference Multimeter By Direct Method	100 Ohm to 100 Kohm	0.001 % to 0.0012 %
34	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8.5 Digit Reference Multimeter By Direct Method	1 V to 1000 V	0.0006 % to 0.0007 %
35	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8.5 Digit Reference Multimeter By Direct Method	10 mV to 100 mV	0.003 % to 0.0007 %
36	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8.5 Digit Reference Multimeter By Direct Method	100 mV to 1 V	0.0007 % to 0.0006 %
37	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	1 A to 20 A	0.05 % to 0.12 %



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38	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	100 μ A to 100 mA	0.04 % to 0.016 %
39	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	100 mA to 1 A	0.016 % to 0.05 %
40	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance	Using High Precision Decade Resistance Box by Direct Method	0.1 Ohm to 1 Ohm	5.8 % to 0.58 %
41	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance	Using High Precision Decade Resistance Box by Direct Method	1 Gohm to 10 Gohm	5.77 % to 5.8 %
42	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance	Using Multi Product Calibrator by Direct Method	1 Ohm to 10 Ohm	0.17 % to 0.03 %
43	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance	Using Multi Product Calibrator by Direct Method	10 Ohm to 100 Kohm	0.03 % to 0.013 %



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44	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance	Using Multi Product Calibrator by Direct Method	100 Mohm to 1000 Mohm	0.58 % to 1.8 %
45	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance	Using Multi Product Calibrator by Direct Method	100 Kohm to 100 Mohm	0.013 % to 0.58 %
46	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multi Product Calibrator by Direct Method	1 V to 1000 V	0.009%
47	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multi Product Calibrator by Direct Method	10 mV to 1 V	0.042 % to 0.006 %

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