National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : CENTRAL POWER RESEARCH INSTITUTE (C P R I), PROF. SIR C.V. RAMAN ROAD, SADASHIVNAGAR POST OFFICE, BENGALURU, KARNATAKA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2249 **Page No** 1 of 6

Validity 10/06/2024 to 09/06/2026 **Last Amended on** 12/09/2024

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 (Single Phase / Three Phase)	Three Phase Comparator by Direct / Comparison method	10 mA to 120 A	0.018 % to 0.013 %
2	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 50 Hz (Single Phase / Three Phase)	Three Phase Comparator by Direct / Comparison method	30 V to 480 V	0.015 % to 0.013 %
3	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Harmonics in Voltage and Current circuits (10% to 40%) Fundamental Frequency @ 50 Hz	Using Three Phase Comparator by Direct/Comparison method	2nd to 21st (63.5 V to 240 V)	0.3 %
4	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Power Factor (Single Phase / Three Phase) @ 50 Hz	Using Three Phase Comparator by Direct / Comparison method	Cos Phi / Sin Phi: 0.25 (Lead / Lag) PF to 1	0.00031 PF to 0.00035 PF

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5	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Single phase, AC Active Energy @ 50 Hz (63.5 V to 240 V, 10 mA to 120 A, Cos Phi: 0.25 (Lead / Lag) to 1)	Using Three Phase Comparator by Direct/Comparison method	0.159 Wh to 28.8 kWh	0.061 % to 0.015 %
6	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Single phase, AC Active Power @ 50 Hz (63.5 V to 240 V, 10 mA to 120 A, Cos Phi: 0.25 (Lead / Lag) to 1)	Using Three Phase Comparator by Direct/Comparison method	0.159 W to 28.8 kW	0.064 % to 0.015 %
7	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Single phase, AC Reactive Energy @ 50 Hz (63.5 V to 240 V, 10 mA to 120 A, Sin Phi: 0.25 (Lead / Lag) to 1)	Using Three Phase Comparator by Direct / Comparison method	0.159 VArh to 28.8 kVarh	0.064 % to 0.015 %
8	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Single phase, AC Reactive Power @ 50 Hz (63.5 V to 240 V, 10 mA to 120 A, Sin Phi: 0.25 (Lead / Lag) to 1)	Using Three Phase Comparator by Direct / Comparison method	0.159 Var to 28.8 kVar	0.064 % to 0.015 %
9	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Three phase, AC Active Energy @ 50 Hz (63.5 V to 240 V, 10 mA to 120 A, Cos Phi: 0.25 (Lead / Lag) to 1)	Using Three Phase Comparator by Direct / Comparison method	0.476 Wh to 86.4 kWh	0.061 % to 0.015 %

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10	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Three phase, AC Active Power @ 50 Hz (63.5 V to 240 V, 10 mA to 120 A, Cos Phi: 0.25 (Lead / Lag) to 1)	Using Three Phase Comparator by Direct/Comparison method	0.476 W to 86.4 kW	0.064 % to 0.015 %
11	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Three phase, AC Reactive Energy @ 50 Hz (63.5 V to 240 V, 10 mA to 120 A, Sin Phi: 0.25 (Lead / Lag) to 1)	Using Three Phase Comparator by Direct / Comparison method	0.476 Varh to 86.4 kVarh	0.064 % to 0.015 %
12	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Three phase, AC Reactive Power @ 50 Hz (63.5 V to 240 V, 10 mA to 120 A, Sin Phi: 0.25 (Lead / Lag) to 1)	Using Three Phase Comparator by Direct/Comparison method	0.476 Var to 86.4 kVar	0.064 % to 0.015 %
13	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Frequency	Three Phase Comparator by Direct/Comparison method	45 Hz to 65 Hz	0.016 %

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Site Facility					
1	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 50 Hz (Single Phase / Three Phase)	Using Three Phase Portable Test System by Direct /Comparison Method	10 mA to 120 A	0.034 % to 0.026 %
2	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 50 Hz (Single Phase / Three Phase)	Using Three Phase Portable Test System by Direct/Comparision method	30 V to 480 V	0.028 % to 0.026 %
3	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Harmonics in Voltage and Current Circuit (10% to 40%) Fundamental Frequency @ 50 Hz	Using Three Phase Portable Test System by Direct / Comparison method	2nd to 21st (63.5 V to 240 V)	0.3 %
4	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Power Factor (Single Phase / Three Phase) @50 Hz	Using Three Phase Portable Test System by Direct / Comparison method:	Cos Phi / Sin Phi: 0.25 (Lead / Lag) PF to 1	0.00039 PF to 0.00040 PF

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5	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Single phase, AC Active Energy @ 50 Hz (63.5 V to 240 V, 10 mA to 120 A, Cos Phi: 0.25 (Lead / Lag) to 1)	Using Three Phase Portable Test System by Direct / Comparison method	0.159 Wh to 28.8 kWh	0.049 % to 0.028 %
6	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Single phase, AC Active Power @ 50 Hz (63.5 V to 240 V, 10 mA to 120 A, Cos Phi: 0.25 (Lead / Lag) to 1)	Using Three Phase portable test system by Direct / Comparison method	0.159 W to 28.8 kW	0.067 % to 0.028 %
7	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Single phase, AC Reactive Energy @ 50 Hz (63.5 V to 240 V, 10 mA to 120 A, Sin Phi: 0.25 (Lead / Lag) to 1)	Using Three Phase Portable Test System by Direct / Comparison method	0.159 VArh to 28.8 kVarh	0.049 % to 0.028 %
8	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Single phase, AC Reactive Power @ 50 Hz (63.5 V to 240 V, 10 mA to 120 A, Sin Phi: 0.25 (Lead / Lag) to 1)	Using Three Phase Portable test system by Direct / Comparison method	0.159 Var to 28.8 kVar	0.067 % to 0.028 %
9	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Three phase, AC Active Energy @ 50 Hz (63.5 V to 240 V, 10 mA to 120 A, Cos Phi: 0.25 (Lead / Lag) to 1)	Using Three Phase Portable Test System by Direct / Comparison method	0.476 Wh to 86.4 kWh	0.049 % to 0.028 %

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13	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Frequency	Three Phase Portable Test System Direct/Comparision method	45 Hz to 65 Hz	0.029 %

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