Laboratory	**Instruments Calibration and Test Centre, 88-C, 5th Cross, Barathi Colony, Peelamedu, Coimbatore, Tamil Nadu**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Discipline	**Electro-Technical Calibration**	**Issue Date**	**16.06.2014**
Certificate Number	**C-0810**	**Valid Until**	**15.06.2016**
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	Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
	SOURCE			
1.	**DC VOLTAGE$**	1mV to 10mV	0.58% to 0.068%	Using DMM Fluke 8846A by Comparison Method
		10mV to 100mV	0.068% to 0.011%	
		100mV to 1V	0.011% to 0.0071%	Using Fluke 5500A Calibrator by Direct Method
		1V to 10V	0.0071% to 0.0084%	
		10V to 100V	0.008%	
		100V to 1000V	0.0084% to 0.007%	
2.	**DC CURRENT$**	1mA to 10mA	0.021%	Using Fluke 5500A Calibrator by Direct Method
		10mA to 100mA	0.021%	
		100mA to 1A	0.021% to 0.042%	
		1A to 10A	0.042% to 0.073%	
		10A to 100A	0.073% to 0.10%	Using Current Calibrator 2555A by Direct method
		100A to 900A	0.10% to 2.85%	Using 10 Turn Current Coil by Comparison Method
3.	**RESISTANCE$**	0.5Ω to 1Ω	0.13% to 0.058%	Using Decade Resistance Box by Direct Method
		1Ω to 10Ω	0.058% to 0.11%	
		10Ω to 100Ω	0.11% to 0.058%	
		100Ω to 1kΩ	0.058%	
		1kΩ to 10kΩ	0.058%	
		10kΩ to 100kΩ	0.058%	
		100kΩ to 1MΩ	0.058% to 2.31%	
		1MΩ to 10MΩ	2.31%	Using Decade Meg Ohm Box by Direct Method
		10MΩ to 100MΩ	2.31%	
		100MΩ to 1000MΩ	2.31% to 2.36%	

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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
4. AC VOLTAGE[$]	**50Hz**		
	1mV to 10mV	2.54% to 0.41%	Using Fluke 5500A Calibrator by Direct Method
	10mV to 100mV	0.41% to 0.098%	
	100mV to 1V	0.098% to 0.043%	
	1V to 10V	0.043% to 0.058%	
	10V to 100V	0.058% to 0.0981%	
	100V to 1000V	0.98% to 0.071%	
	10 kHz		
	1mV to 10mV	2.58% to 0.41%	Using Fluke 5500A Calibrator by Direct Method
	10mV to 100mV	0.41% to 0.085%	
	100mV to 1V	0.085% to 0.043%	
	1V to 10V	0.043% to 0.06%	
	10V to 100V	0.06% to 0.098%	
	1kHz		
	100V to 1000V	0.098% to 0.071%	Using Fluke 5500A Calibrator by Direct Method
5. AC CURRENT[$]	**50 Hz**		
	1mA to 10mA	0.36% to 0.15%	Using Fluke 5500A Calibrator by Direct Method
	10mA to 100mA	0.15%	
	100mA to 1A	0.15% to 0.17%	
	1A to 10A	0.17% to 0.11%	
	10A to 70A	0.11% to 0.85%	Using Current Calibrator 2555A by Direct method
	70A to 700A	0.85% to 2.08%	Using 10 Turn Current Coil by Comparison method

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	Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
		1kHz		
		1mA to 10mA	0.19% to 0.15%	Using Fluke 5500A
		10mA to 100mA	0.15%	Calibrator
		100mA to 1A	0.15% to 0.58%	by Direct Method
		1A to 10A	0.58% to 0.41%	
6.	**AC POWER$**	**50Hz @ UPF**		
	Unity Power Factor	**120V to 240V**		
		10mA to 10A		
		120W to 1.2kW	0.31% to 0.18%	Using Fluke 5500A
		1.2kW to 2.4kW	0.18%	Calibrator
				by Direct Method
7.	**FREQUENCY$**	10Hz to120Hz	0.45% to 0.67%	Using Fluke 8846A by Comparison Method
		120Hz to 1kHz	0.67% to 0.068%	Using Fluke 5500A
		1kHz to 10kHz	0.068% to 0.03%	Calibrator by Direct
		10kHz to 100kHz	0.03% to 0.021%	Method
8.	**CAPACITANCE$**	**1kHz**		
		1nF to 10nF	1.74% to 0.70%	Using Fluke 5500A
		10nF to 100nF	0.70% to 0.41%	Calibrator
		100nF to 1µF	0.41%	by Direct Method
		100 Hz		
		1µF to 10µF	0.41% to 0.52%	Using Fluke 5500A
		10µF to 100µF	0.52% to 0.7%	Calibrator
		10µF to 300µF	0.70% to 0.93%	by Direct Method

	Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
9.	**TEMPERATURE SIMULATION$**			
	J TYPE	-200° C to 740° C	1.115 to 0.41%	Using Temperature
	K TYPE	-200° C to 1300° C	1.12% to 0.26%	Source CC-01
	T TYPE	-200° C to 400° C	1.16% to 0.64%	By Direct Method
	R TPE	100° C to 1600° C	3.75 to 0.28%	
	S TYPE	250° C to 1600° C	1.5% to 0.3 %	
	PT-100 TYPE	100° C to 800° C	0.81% to 0.15%	
10.	**TIME INTERVAL$**	9 Sec to 90 Sec	0.70% to 0.15%	Using Time
		90 Sec to 3600Sec	0.15% to 0.060%	Totalizer
		3600Sec to 9000 Sec	0.06% to 0.077%	by Direct Method
11.	**POWER$@ UPF**	**50Hz**		
		0.11kW to 1.5kW	0.75% to 0.31%	Using 3 Phase
		1.5kW to 3.0kW	0.31% to 1.95%	Calibration by Direct
		0.11kW to 1.5kW	0.75% to 0.31%	Method
		1.5kW to 3.0kW	0.31% to 1.95%	
		0.11kW to 1.5kW	0.75% to 0.31%	
		1.5kW to 3.0kW	0.31% to 1.95%	
	POWER FACTOR$	LEAD		
	R,Y,B PHASE	0.5	0.30%	Using 3 Phase
		0.8	0.25%	Calibration by Direct
		LAG		Method
		0.5	0.30%	
		0.8	0.25%	
		Unity		
		1.0	0.25%	

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	Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
	MEASURE			
1.	**DC VOLTAGE$**	1mV to 10mV	1.28% to 0.18%	Using DMM Fluke 8846A by Direct Method
		10mV to 100mV	0.18% to 0.008%	
		100mV to 1V	0.008% to 0.005%	
		1V to 10V	0.005%	
		10V to100V	0.0051% to 0.008%	
		100V to 1000V	0.008% to 0.006%	
		1kV to 10 kV	1.44% to 1.52%	Using High Voltage Probe & DMM Fluke 8846A by Direct Method
2.	**DC CURRENT$**	1mA to 10mA	0.064% to 0.081%	Using DMM Fluke 8846A by Direct Method
		10mA to 100mA	0.081% to 0.065%	
		100mA to 1A	0.065% to 0.082%	
		1A to 2A	0.082% to 0.18%	
		2A to 10A	0.18% to 0.20%	
3.	**AC VOLTAGE$**	**50Hz**		
		100mV to 1V	0.12% to 0.11%	Using DMM Fluke 8846A by Direct Method
		1V to 10V	0.11%	
		10V to 100V	0.11%	
		100V to 1000V	0.11%	
		>1 kV to 5 kV	6.19% to 6.64%	Using High Voltage Probe & DMM Fluke 8846A by Direct Method
		1kHz		
		100mV to 1V	0.13% to 0.11%	Using DMM Fluke 8846A by Direct Method
		1V to 10V	0.11%	
		10V to 100V	0.11%	
		100V to 1000V	0.11%	

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	Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
4.	**AC CURRENT[$]**	**50Hz**		
		1mA to 10mA	0.17% to 0.25%	Using DMM Fluke
		10mA to 100mA	0.25% to 0.18%	8846A
		100mA to 1A	0.18%	by Direct Method
		1A to 2A	0.185 to 0.34%	
		2A to 10A	0.34% to 0.26%	
		1kHz		
		10mA to 100mA	0.26% to 0.18%	Using DMM Fluke
		100mA to 1A	0.18% to 0.36%	8846A
		1A to 2A	0.36% to 0.48%	by Direct Method
		2A to 10A	0.48% to 0.27%	
5.	**RESISTANCE[$]**	0.5Ω to 1Ω	1.35% to 0.36%	Using DMM 8846A
		1Ω to 10Ω	0.36% to 0.05%	by Direct Method
		10Ω to 100Ω	0.05% to 0.017%	
		100Ω to 1kΩ	0.017%	
		1kΩ to 10kΩ	0.017%	
		10kΩ to 100kΩ	0.017% to 0.019%	
		100kΩ to 1MΩ	0.019% to 0.060%	
		1MΩ to 10MΩ	0.060% to 0.074%	
		10MΩ to 100MΩ	0.074% to 0.94%	
		100MΩ to 1000MΩ	0.94% to 2.33%	

*** Measurement Capability is expressed as an uncertainty (±) at a confidence probability of 95%**
[$]Only in Permanent Laboratory

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