

**Laboratory** Quality Services & Laboratories, Plot No-10, DSIDC Scheme No.- III, Okhla Industrial Area, Phase – II, New Delhi

**Accreditation Standard** ISO/IEC 17025: 2005

**Discipline** Electro-Technical Calibration **Issue Date** 19.08.2014

**Certificate Number** C- 1106 **Valid Until** 18.08.2016

**Last Amended on** 18.08.2015 **Page** 1 of 3

Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
<b>1. SOURCE DC CURRENT<sup>#</sup></b>	500 µA to 1 mA 1 mA to 200 mA 200 mA to 1A 1A to 10A  10 A to 900 A	0.41% to 0.13% 0.13% to 0.16% 0.16% to 0.24% 0.24% to 0.1%  1.35 %	Using MultiFunction Calibrator 5½ Digits by Direct Method    With Current Coil
<b>2. AC CURRENT<sup>#</sup></b>	<b>50 Hz</b> 1 mA to 200 mA 200 mA to 1A 1 A to 10 A  10 A to 900A	0.60% to 0.6% 0.6% 0.6% to 2.4%  1.52%	Using MultiFunction Calibrator 5½ Digits by Direct Method   With Current Coil
<b>3. DC VOLTAGE<sup>#</sup></b>	100 mV to 100 V 100 V to 1000 V	0.68% 0.68 % to 0.21%	Using MultiFunction Calibrator 5½ Digits by Direct Method
<b>4. AC VOLTAGE<sup>#</sup></b>	<b>50 Hz</b> 100 mV to 100 V 100 V to 750V	0.37% to 0.2% 0.2% to 0.4%	Using MultiFunction Calibrator 5½ Digits by Direct Method
<b>5. DC RESISTANCE<sup>§</sup> (2 Wire &amp; 4 Wire)</b>	0.01 Ω to 10 Ω 10 Ω to 100 Ω 100 Ω to 100 kΩ 100 kΩ to 200 MΩ 200 MΩ to 900 MΩ	5.8 % to 0.31 % 0.31 % to 0.45 % 0.45 % to 0.3 % 0.3 % to 4.5 % 4.5 % to 5.5 %	Using Decade Resistance Box, Megohm box & Std. Resistance By Direct Method

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	Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
6.	FREQUENCY <sup>#</sup>	45 Hz to 1 kHz	0.6 %	Using MultiFunction Calibrator 5½ Digits by Direct Method
7.	INDUCTANCE <sup>#</sup>	<b>1 kHz</b> 100 µH to 10 H	2.6 %	Using Capacitance Box by Direct Method
8.	CAPACITANCE <sup>#</sup>	<b>1 kHz</b> 1 nF to 10 µF	2.5 % to 2.9 %	Using Standard Inductance Box by Direct Method
9.	STOP WATCH/TIMER <sup>#</sup>	1s to 2 hrs	0.09 s to 4 s	Using Stop Watch/Timer by Direct Method
10.	TEMPERATURE SIMULATION <sup>#</sup> (Temperature Indicator/ Controller/Recorder)			
	RTD (Pt -100)	100°C to 800°C	0.6°C	Using Calibrator By Direct Method
	T/C- K Type	50°C to 1000°C	1.75°C	
	T/C- J Type	10°C to 700°C	1.1°C	
	T/C -T Type	50°C to 500°C	1.2°C	

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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
<b>MEASURE</b>			
<b>1. DC CURRENT<sup>#</sup></b>	100 µA to 1 mA 1 mA to 200 mA 200 mA to 1A 1A to 10A	0.08% to 0.056% 0.056% to 0.085% 0.085 to 0.163% 0.163% to 0.2 %	Using 6½ Digit Multimeter by Direct Method
<b>2. AC CURRENT<sup>#</sup></b>	<b>50 Hz</b> 100 µA to 1 mA 1 mA to 200 mA 200 mA to 1A 1 A to 10 A	0.7% to 0.15% 0.15% to 0.1% 0.1% 0.9% 0.9% to 0.24%	Using 6½ Digit Multimeter by Direct Method
<b>3. DC VOLTAGE<sup>#</sup></b>	100 mV to 100V 100 V to 1000V	0.033 % to 0.01 % 0.01 % to 0.015 %	Using 6½ Digit Multimeter by Direct Method
<b>4. AC VOLTAGE<sup>#</sup></b>	100 mV to 100 V 100 V to 1000V	0.13 % to 0.1 % 0.1 %	Using 6½ Digit Multimeter by Direct Method
<b>5. DC RESISTANCE<sup>#</sup> (2 Wire)</b>	10 Ω to 100 kΩ 100 kΩ to 10 MΩ 10 MΩ to 100 MΩ	0.57% to 0.013% 0.013% to 0.08% 0.08% to 1.0%	Using 6½ Digit Multimeter by Direct Method
<b>6. FREQUENCY<sup>#</sup></b>	500 Hz to 1 kHz	0.02% to 0.09%	Using 6½ Digit Multimeter by Direct Method
<b>7. AC HIGH VOLTAGE<sup>*</sup></b>	>1 kV to 20 kV	3.75 %	Using Hv Probe by Direct Method

\* Measurement Capability is expressed as an uncertainty (±) at a confidence probability of 95%

\*Only for Site Calibration

# The laboratory is also capable for site calibration however, the uncertainty at site depends on the prevailing actual environmental conditions and master equipment used.

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