

Laboratory Testing and Calibration Laboratory, HPL Electric & Power Ltd.,
Plot 357Q, Pace City II, Sector 37, Gurugram, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2500 (In lieu of C-1304)

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Validity 21.12.2017 to 20.12.2019

Last Amended on 26.12.2017

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
<u>ELECTRO TECHNICAL CALIBRATION</u>				
I.	MEASURE			
1.	DC Voltage [§]	1 mV to 10 mV 10 mV to 1000 V	1.2% to 0.3%	Using Digital Multimeter 5.5 Digit (Fluke 4020A) by Direct/Comparison Method
2.	AC Voltage [§]	50 Hz 10 mV to 700 V	1.5% to 0.4%	Using Digital Multimeter 5.5 Digit (Fluke 4020A) by Direct/Comparison Method
3.	AC High Voltage [§]	50 Hz 1 kV to 5kV	1.5%	Using Std. PT with DMM (4020A) by Direct/Comparison Method
4.	DC Current [§]	10 μ A to 20 mA 20 mA to 10A	0.7% to 0.4%	Using Digital Multimeter 5.5 Digit (Fluke 4020A) by Direct/Comparison Method
5.	AC Current [§]	50 Hz 1 mA to 2 A 2 A to 10 A	1.8% to 0.6% 0.6% to 0.9%	Using Digital Multimeter 5.5 Digit (Fluke 4020A) by Direct/Comparison Method
6.	Frequency [§]	45 Hz to 65 Hz	0.25%	Using Digital Multimeter 5.5 Digit (Fluke 4020A) by Direct/Comparison Method

Ram Ashray
Convenor

Avijit Das
Program Director

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
7.	Inductance ^s	1 kHz 1mH to 10 H	0.6%	Using Digital LCR meter (Hamag HM8118) by Direct/Comparison Method
8.	Capacitance ^s	1 kHz 1nF to 10 μ F	0.6 %	Using Digital LCR meter (Hamag HM8118) by Direct/Comparison Method
9.	DC Resistance ^s	1 Ω to 200k Ω 200k Ω to 20 M Ω 20 M Ω to 50M Ω 50M Ω to 100 M Ω	2% to 0.05% 0.05% to 0.4% 0.4% to 2.1% 2.1% to 1.5%	Using Digital Multimeter 5.5 Digit (Fluke 4020A) by Direct/Comparison Method
10.	AC Resistance ^s	1 kHz 10 Ω to 100k Ω	0.6 %	Using Digital LCR meter (Hamag HM8118) by Direct/Comparison Method
11.	AC Power / Energy ^{s#} (1 Phase & 3 Phase) Active COS $\emptyset \pm 0.5$ to 1 Reactive SIN $\emptyset \pm 0.5$ to 1	45Hz to 65Hz 40V to 300V 10mA to 120A COS \emptyset / SIN \emptyset - ± 0.5 to 1 Active 0.2W to 108kW Reactive 0.2VAr to 108kVAr	0.04% to 0.03%	Using 3 Phase Reference Standard (Applied RS2310E) by Comparison Method

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
12	AC Voltage*	50Hz 40V to 300V	0.1%	Using 3 Phase Reference Standard (Applied RS2310E) by Comparison Method
13	AC Current*	50Hz 1mA to 120A	0.1%	Using 3 Phase Reference Standard (Applied RS2310E) by Comparison Method
14	Frequency*	45Hz to 65Hz	0.1%	Using 3 Phase Reference Standard (Applied RS2310E) by Comparison Method

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

\$Only in Permanent Laboratory.

*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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