National Accreditation Board for Testing and Calibration Laboratories

(An Autonomous Body under Department of Science & Technology, Govt. of India)

CERTIFICATE OF ACCREDITATION

HI PHYSIX LABORATORY

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2005

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

K-12, Sector-2, DSIDC Industrial Area, Bawana, Delhi

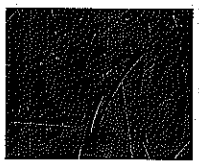
in the discipline of

ELECTRO-TECHNICAL CALIBRATION

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Certificate Number C-0507

Issue Date 23/11/2016



Valid Until 22/11/2018

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the additional requirements of NABL.

Signed for and on behalf of NABL

Avijit Das	Anil Relia	Prof. S. K. Joshi
Program Manager	Director	Chairman

रा.प्र.प्र.बो.

राष्ट्रीय परीक्षण और अंशशोधन प्रयोगशाला प्रत्यायन बोर्ड

(विज्ञान एवं प्रौद्योगिकी विभाग, भारत सरकार के अधीन स्वायत्तशासी निकाय)

प्रत्यायन प्रमाण-पत्र

हाई फिसिक्स लेबोरेटरी

का मूल्यांकन और प्रत्यायन निम्न मानक के अनुसार

आई.एस.ओ./आई.ई.सी. 17025:2005

"परीक्षण एवं अंशशोधन प्रयोगशालाओं की सक्षमता की सामान्य अपेक्षाएँ"

बवाना, दिल्ली

में स्थित इसकी सुविधाओं के लिए

विद्युत तकनीकी अंशशोधन

के विषय क्षेत्र में किया गया।

(इस प्रयोगशाला के प्रत्यायन के विषय क्षेत्र की जानकारी एन ए बी एल वेबसाइट www.nabl-india.org से भी प्राप्त कर सकते हैं)

प्रमाण-पत्र संख्या अ-0507

जारी करने की तिथि 23/11/2016

वैधता की तिथि 22/11/2018

यह प्रमाण-पत्र उपर्युक्त मानक तथा राष्ट्रीय परीक्षण और अंशशोधन प्रयोगशाला प्रत्यायन बोर्ड की अतिरिक्त अपेक्षाओं का निरंतर संतोषप्रद अनुपालन किए जाने पर अनुबंध में निर्दिष्टानुसार प्रत्यायन के क्षेत्र के लिए वैध रहेगा।

रा.प्र.प्र.बो. की ओर से हस्ताक्षरित

अविजीत दास	अनिल रेलिया	प्रो. श्रीकृष्ण जोशी
कार्यक्रम प्रबन्धक	निदेशक	अध्यक्ष

NABL
SCOPE OF ACCREDITATION

Laboratory	**Hi Physix Laboratory, K-12, Sector-2, DSIDC Industrial Area, Bawana, Delhi**		
Accreditation Standard	**ISO/IEC 17025:2005**		
Discipline	**Electro-Technical Calibration**	**Issue Date**	**23.11.2016**
Certificate Number	**C-0507**	**Valid Until**	**22.11.2018**
Last Amended on	**-**	**Page**	**1 of 3**

Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability (±)	Remarks
SOURCE			
1. **AC VOLTAGE#**	**50 Hz to 70 Hz**		
	5 V to 80 V	0.75 % to 0.16 %	Using Power Calibrator C 200B (4 ½ Digit) by Direct Method
	80 V to 420 V	0.16 % to 0.20 %	
2. **AC CURRENT#**	**50 Hz to 70 Hz**		
	100 mA to 1 A	0.78 %to 0.49 %	Using Power Calibrator C 200B (4 ½ Digit) by Direct Method
	1 A to 10 A	0.49 % to 0.28 %	
3. **FREQUENCY#**	45 Hz to 70 Hz	0.17 %	Using Power Calibrator C 200B (4 ½ Digit) by Direct Method
4. **POWER FACTOR#**	**50Hz**		
	0.2PF to UPF	0.011 PF	Using Power Calibrator C 200B (4 ½ Digit) by Direct Method
5. **RESISTANCE# (2 Wire)**	0.1 Ω to 1 MΩ	6.6 % to 1.13 %	Using Decade Resistance Box (2W) by Direct Method
	1 MΩ to 1 GΩ	1.13 % to 2.72 %	
MEASURE			
1. **DC VOLTAGE$**	0.1 V to 100 mV	4.1 %to 0.4 %	Using Tektronix 4020, 5½ Digit DMM by Direct/ Comparison Method
	100 mV to 1 V	0.4 % to 0.08 %	
	1 V to 100 V	0.08 %	
	100 V to 300 V	0.08 %to 0.035 %	
2. **DC HIGH VOLTAGE$**	1 kV to 5 kV	3.6 %	Using H.V. Probe & DMM by Direct Method

Rajeshwar Kumar
Convenor

Avijit Das
Program Manager

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	Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability (±)	Remarks
3.	**AC VOLTAGE$**	**50Hz** 1 V to 750 V	0.5 % to 0.48 %	Using Tektronix 4020, 5½ Digit DMM by Direct Method
4.	**AC HIGH VOLTAGE$**	**50Hz** 1 kV to 5 kV	3.9 %	Using H.V. Probe & DMM by Direct Method
5.	**DC CURRENT$**	1 µA to 100 µA 100 µA to 100 mA 100 mA to 1 A 1 A to 10 A	3.0 %to 0.085 % 0.085 % to 0.48 % 0.48 % to 0.49 % 0.49 %	Using Tektronix 4020, 5½ Digit DMM by Direct Method
6.	**AC CURRENT$**	**50 Hz to 1 kHz** 100 mA to 1 A 1 A to 10 A	0.75 %	Using Tektronix 4020, 5½ Digit DMM By Direct Method
7.	**RESISTANCE$ (2 Wire)**	0.1 Ω to 1 Ω 1 Ω to 10 Ω 10 Ω to 100 kΩ 100 kΩ to 10 MΩ 10 MΩ to 100 MΩ	3.45 % 3.45 % to 0.22 % 0.22 % 0.22 % to 0.88 % 0.88 % to 2.5 %	Using Tektronix 4020, 5½ Digit DMM by Direct Method
8.	**FREQUENCY$**	45 Hz to 70 Hz	0.16 % to 0.058 %	Using Tektronix 4020, 5½ Digit DMM by Direct Method
9.	**POWER FACTOR$**	**50 Hz** 0.2 to UPF	0.007 PF	Using Digital Power Meter by Direct Method
10.	**AC POWER SINGLE PHASE UPF$**	**50Hz** 10 V to 400 V 0.1 A to 20 A 1 W to 8 kW	1.08 % to 0.46 %	Using Digital Power Meter

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Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability (±)	Remarks
11. **CT RATIO**	2.5/5 A to 600/5 A	0.3 %	Using Digital Power Meter
&			
PHASE ERROR$	0.25 Min. to 400 Min	0.3 %	Using CT Test System & Standard CT by Comparison Method
12. **TIME INTERVAL$**	1 s to 9999 s	1 % to 0.15 %	Using Time Interval Meter by Comparison Method
13. **HARMONICS DISTORTION$ (V&I)**	2nd to 39th Order	0.35 %	Using Harmonic Analyzer V&I by Direct Method
14. **CAPACITANCE$**	1 nF to 3 mF	5.5 % to 1.9 %	Using 5½ Digit DMM, Rish Multi 20 by Direct Method

*** Measurement Capability is expressed as an uncertainty (±) at a confidence probability of 95%**
$Only in Permanent Laboratory
 # The laboratory is also capable for site calibration however, the uncertainty at site depends on the prevailing actual environmental conditions and master equipment used.

Rajeshwar Kumar
Convenor

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