NABL

National Accreditation Board for Testing and Calibration Laboratories

Department of Science & Technology, India

CERTIFICATE OF ACCREDITATION

YOUNG ENGINEERING & CALIBRATION SERVICES PVT. LTD.

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

Kamardanga Road, Ichapur, Howrah, West Bengal

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-0621

Issue Date 20/03/2014

Valid Until 19/03/2016

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

Shally Sharma	Anil Relia	Prof. K. VijayRaghavan
Convenor	Director	Chairman

रा.प्र.प्र.बो.

राष्ट्रीय परीक्षण और अंशशोधन प्रयोगशाला प्रत्यायन बोर्ड

विज्ञान एवं प्रौद्योगिकी विभाग, भारत

प्रत्यायन प्रमाण-पत्र

यंग इंजीनियरिंग एंड कैलिब्रेशन सर्विसेस् प्रा. लि.

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"

हावड़ा, पश्चिम बंगाल

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-0621

जारी करने की तिथि 20/03/2014

वैधता की तिथि 19/03/2016

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

शैली शर्मा
संयोजक

अनिल रेलिया
निदेशक

के विजयराघवन
अध्यक्ष

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SCOPE OF ACCREDITATION

Laboratory	**Young Engineering & Calibration Services Pvt. Ltd., Kamardanga Road, Ichapur, Howrah, West Bengal**		
Accreditation Standard	**ISO/IEC 17025:2005**		
Discipline	**Electro-Technical Calibration**	**Issue Date**	**20.03.2014**
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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
SOURCE#			
1. DC VOLTAGE	1 mV to 100 mV	0.5% to 0.016%	Using MFC
	100 mV to 1000 V	0.016%	By Direct Method
2. DC CURRENT	1 µA to 100 µA	1.5% to 0.35%	Using MFC 9100
	100 µA to 1 A	0.35% to 0.085%	By Direct Method
	1A to 20 A	0.085% to 0.12%	Using 50 T Coil
	20 A to 1000 A	0.12% to 0.7%	
3. RESISTANCE (2W)	1Ω to 10Ω	0.83% to 0.05%	Using MFC 9100
	10Ω to 100Ω	0.05% to 0.08%	By Direct Method
	100 Ω to 10 kΩ	0.08% to 0.05%	
	10 kΩ to 400 MΩ	0.05% to 0.35%	
	400 MΩ to 18 GΩ	0.35% to 0.9%	
4. AC VOLTAGE	**50 Hz to 10 kHz**		
	10 mV to 20 mV	4.5% to 0.6%	Using MFC 9100
	20 mV to 20 V	0.6 % to 0.08%	By Direct Method
	20 V to 1000 V	0.08% to 0.19%	
5. AC CURRENT	**50 Hz to 1 kHz**		
	30 µA to 100 µA	3.6% to 0.85%	Using MFC 9100
	100 µA to 1 A	0.85% to 0.18%	By Direct Method
	1A to 20 A	0.18% to 0.8%	Using 50 T Coil
	50 Hz / 60 Hz		
	20 A to 1000 A	0.8% to 1.2%	

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	Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
6.	**FREQUENCY**	10 Hz to 1MHz	0.07% to 1.1%	Using MFC 9100 By Direct Method
7.	**CAPACITANCE**	**1kHz**		
		1 nF to 1.0 µF	5% to 1.4%	Using MFC 9100
		1.0 µF to 10 mF	1.4% to 1.86%	By Direct Method
8.	**AC POWER**	**50 Hz**		
	Single Phase	**10V to 640 V**	0.66% to 1.5%	Using MFC 9100
	(0.2PF to UPF)	**0.1A to 20 A**		By Direct Method
		0.2 PF to Unity PF		
		1 W to 12.5 kW		
9.	**PHASE ANGLE / POWER FACTOR**	0.2 PF to Unity PF (Lead & Lag)	0.35% to 0.07%	Using MFC 9100 By Direct Method
10.	**TEMPERATURE SIMULATION (Indicator/ Controller/ Recorder)**			
	Thermocouples			
	J, K, S, R & N Type	20 °C to 1700 °C	0.6 °C to 1.2 °C	Using MFC 9100 + ITS-90
	RTD	-200 °C to 800 °C	0.3 °C to 0.6 °C	By mV & Ω method

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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
MEASURE			
11. DC VOLTAGE#	1 mV to 10 mV 10 mV to 100m V 100mV to 1 V 1V to 1000 V	0.45% to 0.06% 0.06% to 0.01% 0.01% to 0.007% 0.007% to 0.008%	Using 6 ½ DMM 8846A Fluke By Direct/ Comparison Method
12. DC CURRENT#	10 µA to 100 µA 100 µA to 100 mA 100 mA to 1 A 1A to 10 A	0.36% to 0.015% 0.015% to 0.08% 0.08% 0.08% to 0.2%	Using 6 ½ DMM 8846A Fluke By Direct/ Comparison Method
13. RESISTANCE# (2W)	1Ω to 10 Ω 10Ω to 1 MΩ 1 MΩ to 100 MΩ 100 MΩ to 1 GΩ	0.7% to 0.1% 0.1% to 0.02% 0.02% to 1% 1% to 3%	Using 6 ½ DMM 8846A Fluke By Direct/ Comparison Method
14. AC VOLTAGE#	**50 Hz to 10 kHz** 10 mV to 100 mV 100 mV to 1000 V	 5% to 0.5% 0.5% to 0.2%	Using 6 ½ DMM 8846A Fluke By Direct/ Comparison Method
15. AC CURRENT#	**50 Hz to 1 kHz** 10 µA to 100 µA 100 µA to 10 mA 10mA to 1 A 1A to 10 A	 2.7% to 0.3% 0.3% 0.3% to 0.2% 0.2% to 0.3%	Using 6 ½ DMM 8846A Fluke By Direct/ Comparison Method

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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
16. **FREQUENCY#**	10 Hz to 1 MHz	0.08% to 0.02%	Using 6 ½ DMM 8846A Fluke By Direct/ Comparison Method
17. **TEMPERATURE SIMULATION# (Indicator/ Controller/ Recorder)**			
Thermocouples (J, K, R, S & N Type)	20°C to 1700°C	0.6°C to 1.2°C	Using 6 ½ DMM 8846A Fluke + ITS-90 By mV & Ω method
RTD	-200°C to 800°C	0.3°C to 0.6°C	
18. **TIME#**	10s to 60s 60s to 24h	0.5s to 1.5s 1.5s to 6.1s	Dig Stop Watch By Direct/ Comparison Method
19. **DC HIGH VOLTAGE***	>1 kV to 15 kV	7.5%	Using High Voltage Probe with DMM By Direct/ Comparison Method
20. **AC HIGH VOLTAGE***	>1 kV to 25 kV	6%	Using High Voltage Probe with DMM By Direct/ Comparison 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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