



NABL

**National Accreditation Board for
Testing and Calibration Laboratories**

Department of Science & Technology, India

CERTIFICATE OF ACCREDITATION

YOUNG ENGG. & 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

HOWRAH

in the field of

ELECTRO-TECHNICAL CALIBRATION

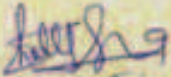
Certificate Number **C-0621**


Issue Date **11/02/2010**

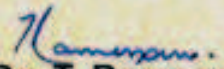
Valid Until **10/02/2012**

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
Convenor


Anil Relia
Director


Dr. T. Ramasami
Chairman



रा.प्र.प्र.बो.

राष्ट्रीय परीक्षण और अंशशोधन
प्रयोगशाला प्रत्यायन बोर्ड
विज्ञान एवं प्रौद्योगिकी विभाग, भारत

प्रत्यायन प्रमाण-पत्र

यंग इंजीनियरिंग एण्ड 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

में स्थित इसकी सुविधाओं के लिए

विद्युत-तकनीकी अंशशोधन

के क्षेत्र में किया गया।

प्रमाण-पत्र संख्या **अ-0621**
जारी करने की तिथि **11/02/2010**

वैधता की तिथि **10/02/2012**

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
शैली शर्मा

अनिल रेलिया
अनिल रेलिया

डा. टी. रामसामी
डा. टी. रामसामी

संयोजक

निदेशक

अध्यक्ष



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Department of Science & Technology, India

SCOPE OF ACCREDITATION

Laboratory	Young Engg. & Calibration Services Pvt. Ltd., 'Utsav Bhawan', Kamardanga Road, Ichapur, Howrah		
Accreditation Standard	ISO/IEC 17025:2005		
Field	Electro-Technical Calibration	Issue Date	11.02.2010
Certificate Number	C-0621	Valid Until	10.02.2012
Last Amended on	08.09.2011	Page	1 of 5

Quantity Measured / Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
<u>AT LAB</u>			
<u>SOURCE</u>			
1. DC VOLTAGE	1 mV to 100 mV 100 mV to 1000 V	0.5% to 0.016% 0.016% to 0.011%	Using MFC 9100 by Direct Method
2. DC CURRENT	1 μ A to 100 μ A 100 μ A to 1 A 1 A to 20 A 20 A to 1000 A	1.4% to 0.35% 0.35% to 0.085% 0.085% to 0.12% 0.12% to 0.7	Using MFC 9100 by Direct Method Using Current Coil by Direct Method
3. RESISTANCE	1 Ω to 10 Ω 10 Ω to 100 Ω 100 Ω to 10 k Ω 10 k Ω to 100 M Ω 100 M Ω to 400 M Ω	3.0% to 0.35% 0.35% to 0.08% 0.08% to 0.05% 0.05% to 0.35% 0.35% to 0.9%	Using MFC 9100 by Direct Method
4. AC VOLTAGE	50Hz to 10 kHz 10 mV to 20 mV 20 mV to 20 V 20 V to 1000 V	4.4% to 0.6% 0.6% to 0.08% 0.08% to 0.17%	Using MFC 9100 by Direct Method
5. AC CURRENT	50 Hz to 1kHz 30 μ A to 100 μ A 100 μ A to 1 A 1 A to 20 A 50 Hz to 60 Hz 20 A to 1000 A	3.5% to 0.85% 0.85% to 0.18% 0.18% to 0.8% 0.8% to 1.2%	Using MFC 9100 by Direct Method Using Current Coil by Direct Method

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Quantity Measured / Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
6. FREQUENCY	10 Hz to 1 MHz	0.06% to 0.015%	Using MFC 9100 by Direct Method
7. CAPACITANCE	1kHz 1.0 nF to 1.0 μ F 1.0 μ F to 10 mF	3.0% to 0.7% 0.7% to 0.8%	Using MFC 9100 by Direct Method
8. AC POWER SINGLE PHASE (0.5 PF to UPF)	50 Hz 10 V to 640 V 0.1A to 20A 1 W to 12.5 kW	(UPF to 0.5 PF) 0.66% to 1.4%	Using MFC 9100 by Direct Method
9. PHASE ANGLE/ POWER FACTOR	0.5 PF to Unity PF (Lead & Lag)	0.65 PF	Using MFC 9100 by Direct Method
10. TEMPERATURE SIMULATION (INDICATOR/ CONTROLLER/ RECORDER)			
THERMOCOUPLES	-200 °C to 1700 °C	0.6%	Using MFC 9100 by Direct Method
RTD	-200 °C to 800 °C	0.3% to 0.6%	
MEASURE			
11. DC VOLTAGE	1 mV to 10 mV 10 mV to 100 mV 100 mV to 1V 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 $\frac{1}{2}$ DMM 8846A Fluke by Direct/ Comparison Method

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Quantity Measured / Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
12. DC CURRENT	10 μ A to 100 μ A 100 μ A to 100 mA 100 mA to 1 A 1 A to 10 A	0.3% to 0.015% 0.015% to 0.08% 0.08% 0.08% to 1.2%	Using 6 $\frac{1}{2}$ DMM 8846A Fluke by Direct/ Comparison Method
13. RESISTANCE	1 Ω to 10 Ω 10 Ω to 1M Ω 1M Ω to 100 M Ω 100 M Ω to 1G Ω	0.7% to 0.075% 0.075% to 0.015% 0.015% to 1.0% 1.0% to 3.0%	Using 6 $\frac{1}{2}$ DMM 8846A Fluke by Direct/ Comparison Method
14. AC VOLTAGE	50Hz to 10 kHz 1 mV to 100 mV 100 mV to 1V 1V to 1000 V	0.5% to 0.25% 0.25% to 0.1% 0.1% to 0.2%	Using 6 $\frac{1}{2}$ DMM 8846A Fluke by Direct/ Comparison Method
15. AC CURRENT	50 Hz to 1kHz 10 μ A to 100 μ A 100 μ A to 10 mA 10 mA to 1 A 1 A to 10 A	0.9% to 0.25% 0.25% 0.25% to 0.17% 0.17% to 0.25%	Using 6 $\frac{1}{2}$ DMM 8846A Fluke by Direct/ Comparison Method
16. FREQUENCY	10 Hz to 1 MHz	0.08% to 0.02%	Using 6 $\frac{1}{2}$ DMM 8846A Fluke by Direct/ Comparison Method
17. AC HIGH VOLTAGE	1 kV to 5 kV	5.4%	Using High Voltage Probe with DMM by Direct/ Comparison Method
18. TIME	10 s to 60 s 60 s to 24 hr	0.5s to 1.5s 1.5s to 6.1s	Using Digital Stop Watch

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Quantity Measured / Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
<u>AT SITE</u>			
<u>SOURCE</u>			
19. DC VOLTAGE	1 mV to 100 mV 100 mV to 1000 V	1.0% to 0.015% 0.015% to 0.02%	Using MFC 9100 by Direct Method
20. DC CURRENT	10 μ A to 100 μ A 100 μ A to 1 A 1 A to 20 A 20 A to 1000 A	1.0% to 0.03% 0.03% to 0.05% 0.05% to 0.3% 0.3% to 0.7%	Using MFC 9100 by Direct Method
21. RESISTANCE	1 Ω to 10 Ω 10 Ω to 1M Ω 1M Ω to 100 M Ω 100 M Ω to 400 M Ω	2.0% to 0.4% 0.4% to 0.05% 0.05% to 0.5% 0.5% to 1.2%	Using MFC 9100 by Direct Method
22. AC VOLTAGE	50 Hz to 10 kHz 10 mV to 20 mV 20 mV to 20 V 20 V to 1000 V	4.4% to 0.4% 0.4 to 0.15% 0.15%	Using MFC 9100 by Direct Method
23. AC CURRENT	50 Hz to 10 kHz 30 μ A to 1 A 1 A to 20 A 50 Hz to 65 kHz 20 A to 1000 A	3.5% to 0.2% 0.2% to 0.8% 0.8% to 1.2%	Using MFC 9100 by Direct Method
24. FREQUENCY	10 Hz to 10 MHz	0.06% to 0.016%	Using MFC 9100 by Direct Method

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Quantity Measured / Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
25. CAPACITANCE	1 kHz 0.5 nF to 1.0 μ F 1.0 μ F to 10 mF	3.0% to 0.7% 0.7% to 0.8%	Using MFC 9100 by Direct Method
26. AC POWER SINGLE PHASE (0.5 PF to UPF)	50 Hz 100 V to 640 V 0.1A to 20 A 1W to 12.8 kW	(0.5 PF to UPF) 0.66% to 1.5%	Using MFC 9100 by Direct Method
27. PHASE ANGLE/ POWER FACTOR	0.5 PF to Unity PF (Lead & Lag)	0.65 PF	Using MFC 9100 by Direct Method
28. TEMPERATURE SIMULATION (INDICATOR/ CONTROLLER/ RECORDER)			
THERMOCOUPLES	-200 $^{\circ}$ C to 1700 $^{\circ}$ C	0.6%	Using MFC 9100 by Direct Method
RTD	-200 $^{\circ}$ C to 800 $^{\circ}$ C	0.3% to 0.6%	
MEASURE			
29. DC HIGH VOLTAGE	1 kV to 15 kV	4.0%	Using High Voltage Probe with DMM by Direct/ Comparison Method
30. AC HIGH VOLTAGE	1 kV to 15 kV	7.5%	Using High Voltage Probe with DMM by Direct/ Comparison Method
31. TIME	10 s to 60 s 60 s to 6 hr	0.5s to 1.5s 1.5s to 6.1s	Using Digital Stop Watch by Direct/ Comparison Method

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


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