

## Energy Meter Calibration Laboratory

The energy meter is an electrical measuring device, which is used to record Electrical Energy Consumed over a specified period of time in terms of units. Every house, small factory, business establishment, shops, offices etc. need at least one energy meter to register power consumption. The supplier of electrical raises the bill on the basis reading shown by this meter. The producer of electricity sale the electricity to the electricity boards and boards have to sale this energy to the consumer. Consumer needs to pay the amount against the bill raised by the supplier. The data generate by the energy meter is the base to raise the bill by power supplier. The Energy Meter is available in single phase and three phases at different current rating as per customer's requirement. The newly developed electronic energy meter is also available in the market. The calibration ensures that the instrument's displayed error fulfils the requirements. Energy meter calibration is a process required to determine the error when the energy is measured.

Energy Meter Calibration Laboratory (EMCL) of Energy Management Centre- Kerala has been accredited in accordance with the standard ISO/IEC 17025:2017. The National Accreditation Board for Testing and Calibration Laboratories (NABL) has issued the certificate for accreditation (certification number: CC 3211).

Energy Meter Calibration Lab consisting of Three Phase Fully Automatic Test System with 0.1 Accuracy class and reference meter of 0.2 Accuracy. The lab personnel are well trained in ISO 17025:2017 and well versed in relevant BIS standards for energy meters. The environmental condition of lab stipulated by NABL is maintained and in the process of NABL accreditation. LAB is capable of calibrating/ testing all type of HT and LT energy meters upto an accuracy class of 0.2/0.2s which includes the following types.

- Bidirectional Meter/ Net Meter- Three phase and Single phase
- Direct current Three Phase and Single Phase meter
- Three Phase CT Type meter
- Trivector meter

### IMAGES





National Accreditation Board for  
Testing and Calibration Laboratories

**CERTIFICATE OF ACCREDITATION**

**ENERGY METER CALIBRATION LAB**

has been assessed and accredited in accordance with the standard

**ISO/IEC 17025:2017**

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

for its facilities at

ENERGY MANAGEMENT CENTRE, THIRUVANANTHAPURAM, KERALA, INDIA

in the field of

**CALIBRATION**

Certificate Number: CC-3211

Issue Date: 03/02/2021

Valid Until: 02/02/2023

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.  
(To see the scope of accreditation of this laboratory, you may also visit NABL website [www.nabl-india.org](http://www.nabl-india.org))

Name of Legal Identity : ENERGY METER CALIBRATION LAB

Signed for and on behalf of NABL



N. Venkateswaran  
Chief Executive Officer



# National Accreditation Board for Testing and Calibration Laboratories

## SCOPE OF ACCREDITATION

**Laboratory Name :** ENERGY METER CALIBRATION LAB, ENERGY MANAGEMENT CENTRE,  
THIRUVANANTHAPURAM, KERALA, INDIA

**Accreditation Standard** ISO/IEC 17025:2017

**Certificate Number** CC-3211 **Page No** 1 of 1

**Validity** 03/02/2021 to 02/02/2023 **Last Amended on** -

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable(Range and Frequency)	* Calibration and Measurement Capability(CMC)(±)
Permanent Facility					
1	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Active and Reactive Power/ Energy (1/3 Phase) 240V, 0.02A - 100A, 0.5 PF to 1 (Lag/ Lead) .	Three phase portable reference standard by direct method	2.4 W/Var/Wh to 24 kW/kVar/kWh	0.24 %
2	ELECTRO-TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Active and Reactive Power/ Energy (1/3 Phase) 60V- 250V, 0.02A - 120A, 0.5 PF to 1 (Lag/ Lead) .	Portable Three Phase Fully Automatic Test System with Integrated Current and Voltage Source by direct method	0.6 W/Var/Wh to 30 kW/kVar/kWh	0.12 % to 0.16 %

\* CMCs represent expanded uncertainties expressed at approximately the 95% level of confidence, using a coverage factor of k = 2.

# INAUGURATION OF ENERGY METER CALIBRATION LABORATORY

The Energy Meter Calibration Laboratory (EMCL) of Energy Management Centre- Kerala has been inaugurated by Honourable Minister for Electricity, Shri. K Krishnankutty on 14.07.2021. The inaugural function was presided by Honourable MLA, Shri. Kadakampilly Surendran and Special address by Kum. Arya Rajendran. The inaugural function was followed by 2 webinars.

Topic	Time	Faculty
Needs of Calibration	1.30PM- 2.30PM	Mr. Shailendra Goyal Managing Director ZERA India Pvt Ltd.
Features of ISO/IEC 17025:2017	2.45PM- 3.45PM	Mr. R C Mathew Director (retd) Bureau of Indian Standards.

**INAUGURATION OF**  
**ENERGY METER CALIBRATION LABORATORY**  
NABL ACCREDITED IN ACCORDANCE WITH ISO/IEC 17025:2017  
**2021 JULY 14 - 13:00 HOUR ONWARDS**  
BY  
**SRI. K. KRISHNANKUTTY**  
HON'BLE MINISTER FOR ELECTRICITY, KERALA

**PRESIDED BY**  
**SRI. KADAKAMPALLY SURENDRAN**  
HON'BLE MLA, KAZHAKOOTAM CONSTITUENCY

**SPECIAL ADDRESS**  
**KUM. ARYA RAJENDRAN**  
HON'BLE MAYOR, TRIVANDRUM CORPORATION

INAUGURATION WILL BE FOLLOWED BY 2 WEBINARS

**MR. SHAILENDRA GOYAL**  
Managing Director, ZERA INDIA  
**NEEDS OF CALIBRATION**  
(TIME : 1:30PM - 2:30PM)

**MR. R. C. MATHEW**  
Director (Retd), BIS, Gol  
**FEATURES OF ISO /IEC 17025:2017**  
(TIME : 2:45PM - 3:45PM)

To Join the Webinars click on the link below  
<https://meet.google.com/ptt-ajcc-zus>

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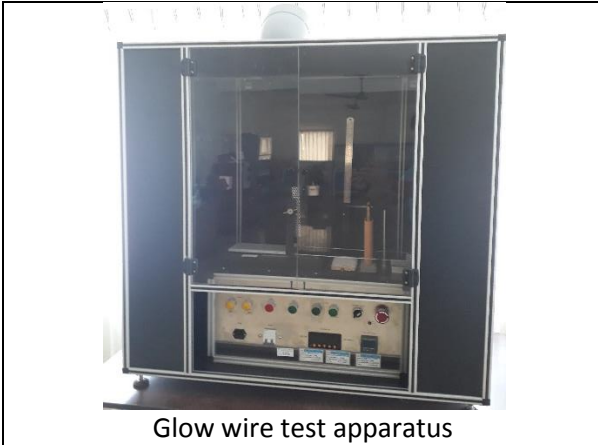


## LED Testing Laboratory

Significant improvements in the quality and performance of light emitting diodes (LEDs) has made it the preferred technology for lamps and lighting products used in consumer, commercial and industrial applications. LED lighting is more energy efficient, and the rapidly growing use of LED lighting will help to reduce energy demand. Like other lighting products, LEDs are typically subject to electrical safety, electromagnetic compatibility, and energy efficiency testing. In addition, product performance issues related to the color and intensity of emitted light or exposure to extreme environmental conditions are important considerations for **LED lighting products** used in demanding applications such as transportation and infrastructure projects.

Our aim is to offer competent independent an NABL accredited testing services focused on energy-efficient lighting, particularly the new generation of LED lighting products". EMC is setting up a complete LED Test setup with the help of Central Power Research Institute, Bangalore. The following test setup has been purchased and some of the equipment are to be commissioned.

1. Integrated Sphere
2. Goniophotometer
3. Glow wire test Apparatus
4. Endurance Test High Temp (45 degree C) Life Test System cum switching cycle test system
5. Dimension Check
6. Ball Pressure Test Unit
7. Torsion Test Equipment
8. Axial Pull Test Apparatus
9. Bending Test
10. Electric Shock Test Unit
11. Deep Freezer
12. Hot Air Oven
13. Cap Temp Rise Test Equipment For Led Lamps
14. Humidity Chamber
15. LISN



Glow wire test apparatus



Cap temperature rise measuring equipment



Torsional test, Axial pull test, protection against shock



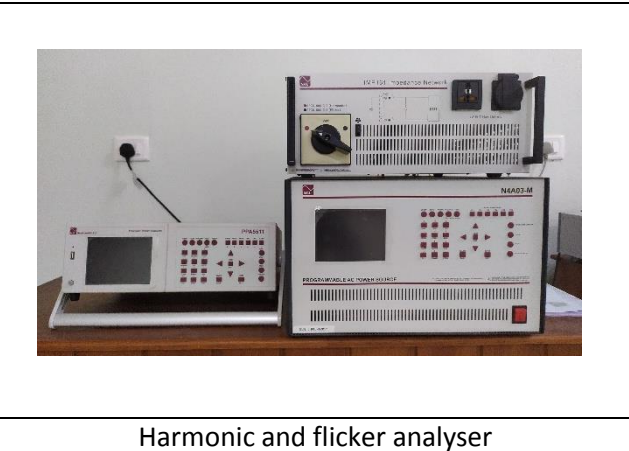
Van Veen loop antenna



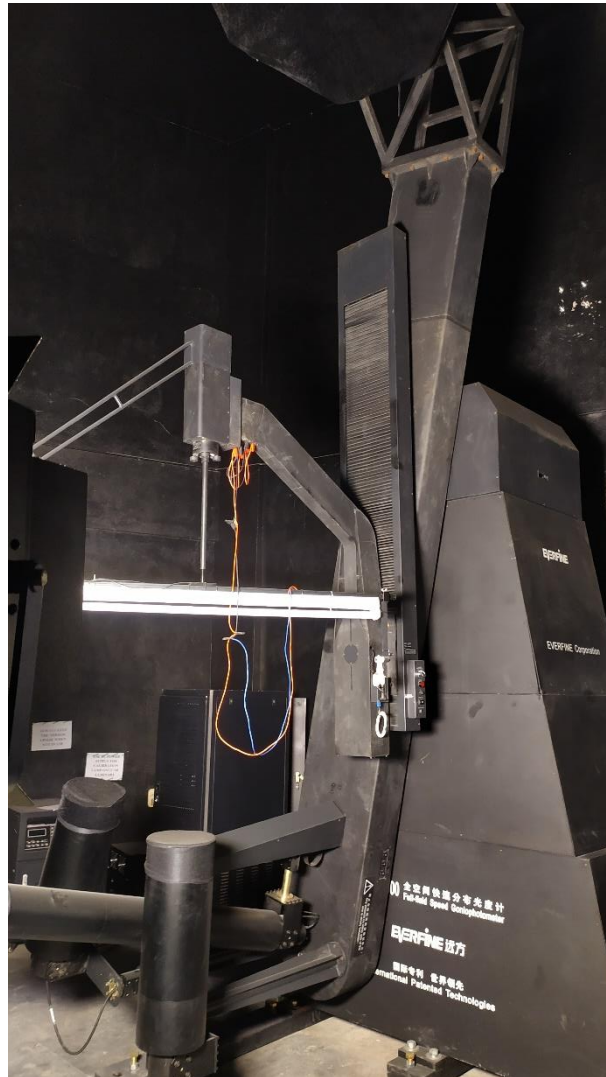
Life test system



Protection Against Shock



Harmonic and flicker analyser



Gonio Photometer



Integrating Sphere



Electric Oven



Hot air Oven



Deep freezer



## **ENERGY EFFICIENT LIFT**

Mar Athanasius College of Engineering, Kothamangalam proposed a study in the area of Lifts and its energy efficiency. Objectives of carrying out such a study was to,

- a) Identify the evolution of technology in the case of lifts,
- b) Identifying building-codes available with respect to energy conservation,
- c) Specifications of energy efficient lifts and
- d) Identifying the pros and cons of various existing technologies

Based on the study preliminary report, EMC is planning to install a 6 passenger Energy Efficient Lift at EMC campus. The detailed specification of the energy efficient lift was prepared by EMC Engineers with MACE, Kothamangalam team lead by Dr. Kurian John. The technical specification was finalised and invited tender for erection and installation of lift. On behalf of this study, a webinar series on energy efficient lift was also conducted.

# Webinar Series on Energy Efficient Elevators

Webinar on 14<sup>th</sup> to 16<sup>th</sup> December 2020, 10.30 AM to 11.30 AM



## Key Takeaways

- Energy Efficient technologies for Elevators
- Case studies on Best Practices

For more details, please contact

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rajeev@keralaenergy.gov.in

## Targeted Audience:-

- Engineers from Construction Sector
- MEP Designers and Estimators
- Site Engineers / Site Supervisors
- Engineers from Public Work Department
- Engineers from Regional development authorities
- Town Planning Authorities
- Electrical Inspectors / Statutory Agencies

For Registration:

<https://forms.gle/WABNNdJCd6jnzdCh8>

or scan QR code



Conserve Energy to Consume Forever

