TAF:1181

ADVANCED ELECTRICITY LAB

Testing Laboratory
1181

Advanced Electricity Lab

Introduction

The ***Advanced Electricity Lab*** (AEL), of Challenge Industrial Co., Ltd. (CIC), was established in 2003 in Taoyuan City, Taiwan, for the purpose of performing reliable electrical testing according to various national and international standards such as IEC, IEEE/ANSI, CNS, etc., both for CIC's own products and for the testing needs of other manufacturers.

Since 2003, the laboratory has received accreditation by the Taiwan Accreditation Foundation (TAF), a member of the International Laboratory Accreditation Cooperation (ILAC) and a signatory to the ILAC Mutual Recognition Arrangement (ILAC MRA).

Laboratory Information

Laboratory	Advanced Electricity Lab
TAF Accreditation Number	1181
Location	Taoyuan City, Taiwan
Accreditation Criteria	ISO / IEC 17025: 2017; CNS 17025: 2018

Testing Services Available

- **CIC' s Advanced Electricity Lab has been accredited by TAF to perform the following tests:**
  - Routine Tests and Type Tests for Current Transformers and Potential Transformers
  - Routine Tests for Distribution Transformers
  - Routine Tests for Electricity Meters
  - Routine Tests for Surge Protection Devices (SPD)
  - Damp Heat, Steady State Test for Electrical and Electronic Products
- **Standards according to which the above accredited tests are performed may include the following:**
  - IEEE / ANSI, IEC, CNS, etc. (Tests for Electricity Meters are according to CNMV 46.)

Detailed Listing of Testing Services

▪ Testing Field Accredited by TAF:

Note: ◉ Routine Test ◎ Type Test

Current Transformers (≤ 72 kV)	**Potential Transformers, also called Inductive Voltage Transformers** (≤ 72 kV)	**Distribution Transformers** (≤ 24 kV)
◉ Verification of terminal markings ◉ Induced overvoltage test (Inter-turn overvoltage test) ◉ Power-frequency withstand tests ◉ Polarity test ◉ Determination of errors ◉ Partial discharge measurement ◎ Exciting current test ◎ Temperature-rise test ◎ Lightning impulse voltage test ◎ Secondary winding open-circuited test ◎ Short-time current test	◉ Verification of terminal markings ◉ Induced overvoltage test (Inter-turn overvoltage test) ◉ Power-frequency withstand tests ◉ Polarity test ◉ Determination of errors ◉ Partial discharge measurement ◎ Temperature-rise test ◎ Lightning impulse voltage test ◎ Short-circuit withstand capability test	◉ Measurement of winding resistance ◉ Measurement of voltage ratio and check of phase displacement ◉ Measurement of short-circuit impedance and load loss ◉ Measurement of no-load loss and current ◉ Separate source AC withstand voltage test ◉ Induced AC voltage tests ◉ Design and visual checks ◉ Measurement of insulation resistance
Electricity Meters (60 A)	**Surge Protection Devices (SPD)** 40 kA max. (8×20 μs) 15 kV max. (1.2×50 μs)	**Electrical & Electronic Products** 20°C to 85°C 40%RH to 95%RH
◉ Construction check ◉ Insulation resistance test ◉ Creeping test ◉ Starting current test ◉ Accuracy test	◉ Residual voltage with current impulses ◉ Front-of-wave sparkover voltage ◉ Limiting voltage with the combination wave	◎ Damp heat, steady state

2024.11

▪ Testing Field Awaiting Accreditation:

Temperature & Humidity Cycling Test for Electrical and Electronic Products	-40°C ~ +110°C
Tension Test	0 ~ 3000 kg
Torsional Strength Test	≤ 20 kgf-m
Environmental Reliability Test	· Accelerated aging by exposure to light according to IEEE C62.11 · Accelerated aging by exposure to electrical stress according to IEEE C62.11 (12 kV)
Testing of Motor-Starting Autotransformers (Compensators) and Motor-Starting Reactors	≤ 12 kV, ≤ 2500 kW
Testing of Air-Core Reactors	≤ 25 kV, ≤ 180 kVA

2024.11

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