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 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 Informatio

Organization	Challenge Industrial Co., Ltd.
Laboratory	Advanced Electricity Lab
TAF Accreditation Number	1181
Address	Tauyuan City, Taoyuan Hsien, 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 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 ◎ 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℃ to 85℃ 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

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▪ Testing Field Awaiting Accreditation:

Electrical & Electronic Products	Change of temperature -40℃ to +110℃
Tension Test	0 ~ 3000kg
Torsional Strength Test	≤ 20kgf - m
Environmental Reliability Test	· Accelerated aging by exposure to light IEEE C62.11 · Accelerated aging by exposure to electrical stress IEEE C62.11 (12 kV)
Motor Starter Compensator	≤ 12 kV 2500kW
Reactor Teat	≤ 25 kV 180kVA

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