



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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ELECTRICAL

Valid To: July 31, 2022

Certificate Number: 5314.01

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the organization's compliance with A2LA's FDA ASCA Accreditation Program¹ requirements), accreditation is granted to this laboratory to perform the following tests:

Test Technology:

Photovoltaics and other power conversion systems – Power Generating Units¹

Test Method(s)³:

Procedimiento de verificación, validación y certificación de los requisitos del PO 12.3 sobre la respuesta de las instalaciones eólicas y fotovoltaicas ante huecos de tensión” versión 10 de 26 de enero de 2012 de la Asociación Empresarial;
Eólica. Anexo III;
VDE-AR-N 4105;
VDE-V 0126-1-1;
UNE 206007-1 IN;
EN 50438;
UTE C 15-712-1;
C10/11;
NDU-013;
NDU-015;
ABNT NBR 16149;
ABNT NBR 16150;
INMETRO ordinances 004/2011;
INMETRO ordinances 357/2014;

Regulation 2016/631 of 14 of April 2016 establishing a network code on requirements for grid connection of generators;

COES SINAC, Procedimiento Técnico del Comité de Operación Económica del SEIN. Aprobado mediante Resolución OSINERGMIN N° 035-2013-OS/CD.

Test Technology:

Photovoltaics and other power conversion systems – Power Generating Units¹ (*cont.*)

Test Method(s)³:

EN 50530;
IEC 61683;
IEC 61727;
UL 1741;
IEC 62116;
IEEE 1547;
IEEE 929;

Norma Técnica de Conexión y Operación de PGMD en instalaciones de media tensión.

Norma Técnica de Seguridad y Calidad de Calidad de Servicio.;

Grid Connection code for Renewable Power Plants (RPPS) connected to the electricity transmission system (TS) or the distribution system (DS) in South Africa.;

NRS 097-2-1;
IRR-TIC;
IRR-DCC (MV);
CRE-3025;
G59;
CEI 0-16;
CEI 0-21;

Electric Rule 21:

Metropolitan electricity Authority. Grid-connected inverter regulation;

Provincial Electricity Authority's Regulation on the Power Network System Interconnection Code. Arrêté Relatif aux prescriptions techniques de conception et de fonctionnement pour le raccordement à un réseau public de distribution d'électricité en basse tension ou en moyenne tension d'une installation de production d'énergie électrique ;

DEWA. Standards for distributed renewable resources generators connected to the distribution network.;

Malaysian Grid Code:2015

Test Technology:

Photovoltaics and other power conversion systems – Power Generating Units¹ (*cont.*)

Test Method(s)³:

Código de Redes Fotovoltaico, Normas técnicas, operativas y de calidad, para la conexión de los sistemas de centrales solares y centrales solares con tecnología fotovoltaica al sistema interconectado nacional (SIN).;

ORDER 30/2013;

AS 4777.2;

AS 4777.3;

EN 50549-1;

EN 50549-2;

Phillipines Grid code:2016;

Solar Energy Plants Grid Connection Code (Egypt);

Kenya Electricity Grid Code.;

Official Gazette Communique - Number 28783. Communique on implementation of the regulation related with unlicensed electricity generation in electricity market;

The Grid Code for the Nigeria Electricity transmission system.

Indian Electricity Grid Code:2010;

UNE 217001 IN;

RD 244/2019;

UNE 206007-2 IN;

IEC 62109-1;

IEC 62109-2;

VDE-AR-N4110;

VDE-AR-N-4120;

FGW TG3, Determination of electrical characteristics of power generating units and systems connected to MV, HV and EHV grids.;

FGWTR4, Demands on modelling and validating. Simulation models of the electrical characteristics of Power Generating Units and Systems, storage systems as well as their components

VDE-ARN4130;

ENA-EREC G98;

ENA-EREC-G99;

IEC 61439-1;

IEC 61439-2;

Central Electricity Authority Notification, India

Test Technology:

Photovoltaics and other power conversion systems – Power Generating Units¹ (*cont.*)

Test Method(s)³:

Norma técnica de supervisión de la conformidad de los módulos de generación de electricidad según el Reglamento UE 2016/631;

IEC 61851-1;

UL2202;

UL2594;

UL 3703;

IEC 62817;

ISO 6858;

IEC 62909-1;

Portaria 73-2020;

TOR

UNE 217001;

UNE 217002

Product Safety – Medical Equipment⁴

UNE-EN 60601-1;

IEC 60601-1 Edition 3.0;

EN 60601-1;

ANSI AAMI ES60601-1:2005/(R)2012 and A1:2012

Product Safety-Electrical products

IEC 62368-1;

IEC 61010-1 Edition 3.1 2017-01;

IEC 61010-2-101;

IEC 60204-1;

IEC 60335-1;

IEC 62477-1

EMC¹

Conducted and Radiated Emissions

CISPR 11 (in-situ only, to 1 GHz only);

EN 55011 (in-situ only, to 1GHz only)

Harmonics Current Emissions
Fluctuation and Flicker

EN 61000-3-2; IEC 61000-3-2; EN 61000-3-3;

IEC 61000-3-3

Electrostatic Discharge (ESD)

EN 61000-4-2; IEC 61000-4-2

Electrical Fast Transient/Burst (EFT)

EN 61000-4-4; IEC 61000-4-4

Surge Immunity

EN 61000-4-5; IEC 61000-4-5

Conducted Immunity

EN 61000-4-6; IEC 61000-4-6

Power Frequency Magnetic Field

EN 61000-4-8; IEC 61000-4-8

Voltage Dips, Short Interruptions and Voltage
Variations Immunity

EN 61000-4-11; IEC 61000-4-11

Test Technology:

Family, Product or Industry Specific Specifications

Test Method(s)³:

IEC/EN 61000-6-1 (excluding Radiated Immunity); IEC/EN 61000-6-2 (excluding Radiated Immunity); IEC/EN 61000-6-3; IEC/EN 61000-6-4; IEC/EN 60601-1-2 Edition 4.0, 2014-02 (excluding Radiated Immunity); IEC/EN 60601-1-2 Edition 4.1, 2020-09 (excluding Radiated Immunity); IEC/EN 61326-1 (excluding Radiated Immunity); IEC/EN 62920 (excluding Radiated Immunity)

¹ This laboratory meets A2LA R104 – General Requirements: Accreditation of Field testing and Field Calibration Laboratories for these tests.

Testing Activities performed under the scope of the U.S FDA ASCA Pilot Program Specifications: <i>Basic Safety and Essential Performance of Medical Electrical Equipment, Medical Electrical Systems, and Laboratory Medical Equipment – Standards Specific Information for the Accreditation Scheme for Conformity Assessment (ASCA) Pilot Program</i> published on September 25th, 2020, and in accordance with all requirements of A2LA R256 Specific Requirements- FDA ASCA Program ²
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<u>Standards</u>

ANSI AAM ES60601-1:2005/(R)2012 and A1:2012 IEC 60601-1 Edition 3.0 IEC 60601-1-2 Edition 4.0, 2014-02 (excluding Radiated Immunity) IEC 60601-1-2 Edition 4.1, 2020-09 (excluding Radiated Immunity) IEC 61010-1 Edition 3.1 2017-01

²These methods have been assessed by A2LA according to A2LA’s FDA ASCA Program requirements. Accreditation by A2LA does not imply FDA ASCA-Accreditation. All ASCA-accreditation decisions for testing laboratory applications are made solely by the FDA, a list of approved laboratories can be found at FDA.gov.

³When the date, edition, version, etc. is not identified in the scope of accreditation, laboratories may use the version that immediately precedes the current version for a period of one year from the date of publication of the standard measurement method, per part C., Section 1 of A2LA R101 - *General Requirements- Accreditation of ISO-IEC 17025 Laboratories*.

⁴The laboratory is only accredited for testing activities outlined within the test methods listed above. Reference to any other activity within these standards, such as risk management or risk assessment, does not fall within the laboratory’s accredited capabilities.