Electrical Vehicle Charger

Who we are

CERE was originally set up as a Certification Entity for Renewable Energies.

CERE was created to be the access key on the target countries for Renewable Energies, where certification of components, full installations certificates, modeling and software validation of renewable Power Plants, were required.

The company is accredited as Testing Laboratory and Certification Body.

Our services include Testing and Certification according Safety, EMC, Grid Quality, grid connection requirements, design certification and complete installations Certificates, complementary simulations, modelling validation, electromagnetic transient analysis.

This full process includes Inspection, Testing and Certification of Components such as PV modules, Wind and PV converters, trackers, transformers, string boxes, combiner boxes, etc., and the Certification for full Power Plants according particular country, DSO or TSO requirements and / or According Client Requests

CERE Profile

The Company is managed by Miguel Martínez. Its team has a large experience in Certification for more than 10 years, including renewable energy's components and installations for worldwide grid integration, design, safety, EMC and grid quality, among others.

During the last 6 years CERE has grown exponentially, diversifying its services until the actual company structure:

- Certification
- Converters
- Grid Code & safety
- Simulation
- Trackers
- Batteries
- EMC

- Electrical Vehicle Charger
- Transformers
- Medical devices
- Electric and Electronic devices
- Quality System certification

CERE Capabilities

CERE's Facilities in Getafe, Madrid, Spain have the following installations:

- Test site up to 500kVA for all kind of converters and Battery testing
- Test site up to 250kVA for all kind of converters including frequency variators up to 400Hz
- Test site up to 100kVA for DC-AC converters
- Test site up to 50kVA for all kind of converters and Battery testing. The source can act as DC source and AC source and electronic loads
- Test site up to 10kVA for single phase and three phase converters
- Passive loads up to 100kVA
- Electronic loads for Antiislanding up to 500kVA
- EMC Chamber and EMC laboratory
- Safety laboratory
- Simulation laboratory including Power Factory, PSSE and MATLAB

What's CERE Electrical Vehicle Charger?

CERE Electrical Vehicle Charger is a department created to cover the demand of services for electrical vehicle charger system inside of CERE (Certification Entity for Renewable Energies)

CERE Electrical Vehicle Charger was created to provide support and trust at any stage of certification and testing of Electrical vehicle charger systems.

Our services include Testing and Certification according Safety standards.

This process includes testing, certification and verification of Electrical Vehicle Charger systems and their components.

The electrical laboratory has developed a section with expert technicians in this field. We have carried out tests for Spanish, Portuguese and German manufacturers, for the European and US market.

CERE's Accreditations

- CERE is accredited by ENAC and a2La (IAF/ILAC members) as Certification Body According ISO 17065 and Testing Laboratory according ISO 17025 for Power Generating Units. This fact ensures a deep knowledge in international requirements for components and Renewable Energies Power Plants.
- CERE is also CBTL and NCB for the IEC Scheme.
- MET approval for the North American market
- Sunspec approval
- SII approval for Israel
- RETIE approved certification body for PV inverters (Colombia)
- Corean Approval

CERE's Accreditation can be checked in:
http://www.cerecertification.com/accreditations

ENAC
CERTIFICACIÓN
ISO 17065
Nº147 / C-PR335

ENAC
ENSAYO
ISO 17025
Nº1376 / LE2560

a2LA ACCREDITED
CERTIFICATE #5314.03

SUNSPEC ALLIANCE

ilac-MRA

a2LA ACCREDITED
CERT #5314.01

MET
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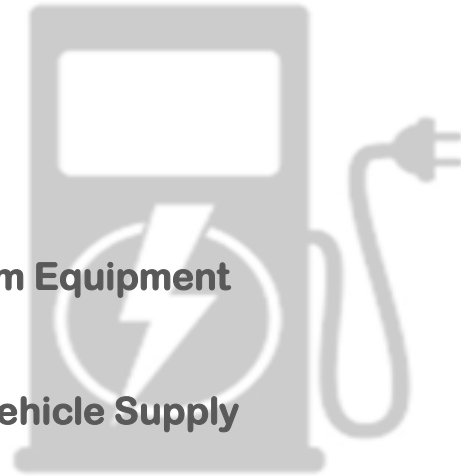
IEC IECEE

Applicable Standards for USA Projects

CERE is accredited as Certification Body and Testing Laboratory for Electrical Vehicle Charger according the following standards:

Safety,
for North American Market



UL 2202:2012 Standard for Electric Vehicle (EV) Charging System Equipment

UL 2594:2016 / CSA C22.2 NO. 280 / NMX-J-677-ANCE Electric Vehicle Supply Equipment. (Incluye requisitos para USA, CAN y México)

Applicable Standards for IEC Projects

CERE is accredited as Certification Body and Testing Laboratory for Electrical Vehicle Charger according the following standards:

Safety

IEC 61851-1:2017 Electric vehicle conductive charging system - Part 1: General requirements.

EMC

IEC 61851-21-2:2018 Electric vehicle conductive charging system - Part 21-2: Electric vehicle requirements for conductive connection to an AC/DC supply - EMC requirements for off board electric vehicle charging systems.

Own communication

IEC 61851-23:2014 Electric vehicle conductive charging system - Part 23: DC electric vehicle charging station

IEC 61851-24:2014 Electric vehicle conductive charging system - Part 24: Digital communication between a d.c. EV charging station and an electric vehicle for control of d.c. charging

Applicable Standards

Scope according standard IEC61851-1:2017

This part of IEC 61851 applies to EV supply equipment for charging electric road vehicles, with a rated supply voltage up to 1 000 V AC or up to 1 500 V DC. and a rated output voltage up to 1000 V AC. or up to 1500 V DC.

Electric road vehicles (EV) cover all road vehicles, including plug-in hybrid road vehicles (PHEV), that derive all or part of their energy from on-board rechargeable energy storage systems (RESS).

This standard also applies to EV supply equipment supplied from on-site storage systems (e.g., buffer batteries).

The aspects covered in this standard include:

- ✓ The characteristics and operating conditions of the EV supply equipment
- ✓ The specification of the connection between the EV supply equipment and the EV
- ✓ The requirements for electrical safety for the EV supply equipment.

Additional requirements may apply to equipment designed for specific environments or conditions, for example:

- ✓ EV supply equipment located in hazardous areas where flammable gas or vapour and/or combustible materials, fuels or other combustible, or explosive materials are present.
- ✓ EV supply equipment designed to be installed at an altitude of more than 2000 m
- ✓ EV supply equipment intended to be used on board on ships

The IEC 61851 series covers all EV supply equipment except for in-cable control and protection devices for mode 2 charging of electric road vehicles (IC-CPD) which are covered by IEC 62752.

The tests are carried out by CERE Laboratory, and test can be performed either at the client's facilities or in our laboratory.

Applicable Standards

Scope according standard IEC 61851-21-2:2018

This part of IEC 61851 defines the EMC requirements for any off-board components or equipment of such systems used to supply or charge electric vehicles with electric power by conductive power transfer (CPT), with a rated input voltage, according to IEC 60038:2009, up to 1 000 V AC or 1 500 V DC and an output voltage up to 1 000 V AC or 1 500 V DC.

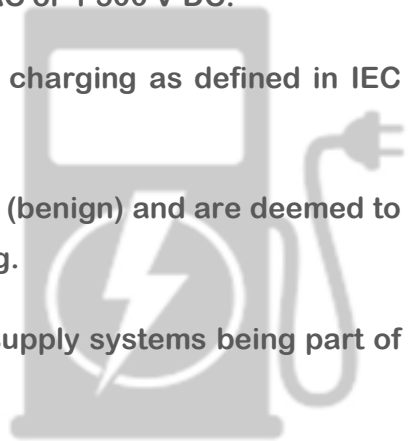
This document covers off-board charging equipment for mode 1, mode 2, mode 3 and mode 4 charging as defined in IEC 61851-1:2017.

Cables where there is no electronic or no electric/electronic switching are considered as passive (benign) and are deemed to comply with the emission and immunity requirements of this document without any need for testing.

This document does not apply to any on-board components or equipment of charging or power supply systems being part of the vehicles. The EMC requirements for such equipment are covered by IEC 61851-21-1: 2017.

Compliance with the emission and immunity requirements of this document is verified where it can be demonstrated that the equipment under test (EUT) meets the respective limits, during type tests in the measuring arrangement of this document.

Requirements for electric vehicle wireless power transfer (WPT) systems are covered in IEC 61980 (all parts).



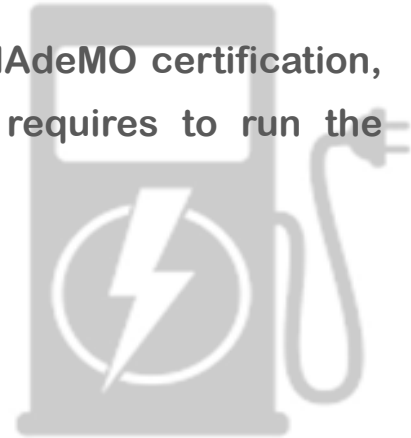
The tests are carried out by CERE Laboratory's department

Applicable Standards

Scope according standard IEC 61851-23:2014 and IEC 61851-24:2014

It consists of verifying how a charger interacts with the vehicle. With indicators to communicate when the vehicle is fully loaded, for example.

In this section there is an international protocol. There is a private CHAdeMO certification, this certification has been generated by a German company and requires to run the CHAdeMO trials or specific testing.



Applicable Standards

Scope according standard UL 2202:2012

These requirements cover conductive charging system equipment intended to be supplied by a branch circuit of 600 volts or less for recharging the storage batteries in over-the-road electric vehicles (EV). The equipment includes off board and on board chargers. Off-board equipment may be considered for indoor use only or indoor/outdoor use. On board equipment is always considered outdoor use. Off board equipment is intended to be installed in accordance with the National Electrical Code, NFPA 70.

For the purposes of this standard, the term “electric vehicle”, designated throughout by the initials “EV”, is considered to cover electric vehicles, hybrid electric vehicles, and plug-in versions of these vehicles.

Electric vehicle charging system equipment that is not a complete assembly and depends upon installation in an end product for compliance with the requirements in this standard is investigated under the requirements of this standard and the standard for the end product. On board chargers that rely upon specific installation requirements within an EV for compliance with the requirements in this standard, are to be evaluated based on those installation requirements and equipment.

CERE is the only available Laboratory with capability to perform this test in Spain and provide a certificate through our partner MET, recognized NRTL certification company in United States.

Applicable Standards

Scope according standard UL 2202:2012

These requirements do not cover battery chargers covered by the Standard for Battery Chargers for Charging Engine-Starter Batteries, UL 1236, or the Standard for Industrial Battery Chargers, UL 1564.

The requirements for devices or systems intended to reduce the risk of electric shock to the user in grounded or isolated circuits for charging electric vehicles are covered in the Standard for Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits; Part 1: General Requirements, UL 2231-1, and the Standard for Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits; Part 2: Particular Requirements for Protective Devices for Use in Charging Systems, UL 2231-2.

The requirements in clauses 2 – 84 apply directly to off board charging equipment. Supplement SA applies directly to on board charging equipment.

CERE is the only available Laboratory with capability to perform this test in Spain and provide a certificate through our partner MET, recognized NRTL certification company in United States.

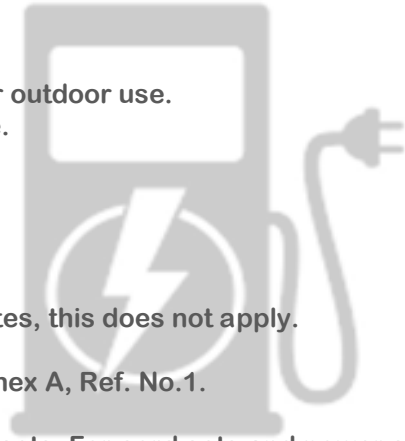
Applicable Standards

Scope according standard UL 2594:2016 / CSA C22.2 NO. 280 / NMX-J-677-ANCE

This Standard covers conductive electric vehicle (EV) supply equipment with a primary source voltage of 600 V ac or less, with a frequency of 50 or 60 Hz, and intended to provide ac power to an electric vehicle with an on-board charging unit. This Standard covers electric vehicle supply equipment intended for use where ventilation is not required.

The following list of examples of electric vehicle supply equipment are included in this Standard:

- ✓ EV Cord Sets – Rated 125 Vac maximum, 16 A maximum, intended for indoor and outdoor use.
- ✓ Fastened in place EV Charging Stations – Rated 250 Vac maximum, 40 A maximum, intended for indoor or outdoor use.
- ✓ Fixed in place EV Charging Stations – Rated 600 Vac maximum, intended for indoor or indoor/outdoor use.
- ✓ Fixed in place EV Power Outlet – Rated 600 Vac maximum, intended for indoor or indoor/outdoor use.



This Standard does not cover electric vehicle charging equipment. For EV charging equipment not covered by this Standard, refer to Annex A, Ref. No. 4.

For Mexico, use 127 Vac where 120 or 125 Vac is referenced in this Standard. In Canada and the United States, this does not apply.

The products covered by this Standard are intended for use in accordance with the Installation Codes in Annex A, Ref. No.1.

This Standard does not cover cord sets or power supply cords for applications other than EV charging cord sets. For cord sets and power supply cords not covered by this Standard, refer to Annex A, Ref. No. 2 and No. 3.

This Standard does not cover electric vehicle connectors. For electric vehicle connectors not covered by this Standard, refer to Annex A, Ref. No. 5

This Standard does not cover regular-use power outlets. For regular-use power outlets not covered by this Standard, refer to Annex A, Ref. No. 6.

This Standard does not cover equipment intended for wireless power transfer, which may also be designated as wireless charging, inductive charging, magnetic resonance charging, or any other similar designation indicating the transfer of power from the EVSE to the vehicle through other than a conductive connection.

CERE is the only available Laboratory with capability to perform this test in Spain and provide a certificate through our partner MET, recognized NRTL certification company in United States.

Applicable Standards Summary

CERE is accredited as Certification Body and Testing Laboratory for the electric vehicle charger solution, both nationally and internationally, being accredited for the IEC safety standard:

- IEC 61851-1:2017
- IEC 61851-21-2:2018
- IEC 61851-23:2014

CERE is also the only entity in Spain providing a solution for the North American market thanks to its accreditation for UL standards:

- UL 2202:2012
- UL 2594:2016 / CSA C22.2 NO. 280 / NMX-J-677-ANCE

References

CERE Electrical Vehicle Charger has a wide expertise in the field of testing.

Some of the most important projects carried out recently are in Spain, Germany and Portugal.

The offered testing include:

- ✓ NRTL MET certification and testing according to North American market.
- ✓ CB Certificate and testing according to Spanish market.
- ✓ CHAdeMO's certificate.
- ✓ Evaluation of communication protocol.

Most Recent Clients

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Jema Irizar Group

FIMER

POWER ELECTRONICS

ORBIS energía inteligente

DELTRIX building the e-world

CIRCONTROL Mobility & eMobility

ELINTA CHARGE

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i-charging

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