



by UL Solutions

MARKING FOR CONVERTERS

CE, UKCA & UKNI

WWW.CERECERTIFICATION.COM

CERE, by UL Solutions is a Testing, Simulation and Certification body that was originally set up as a Certification Entity in 2015.

CERE, by UL Solutions was created in its beginnings as a Certification Entity for Renewable Energies, with the purpose of being the access key to the different countries where certification of components, full installations certificates, modeling and software validation of components and facilities was required.

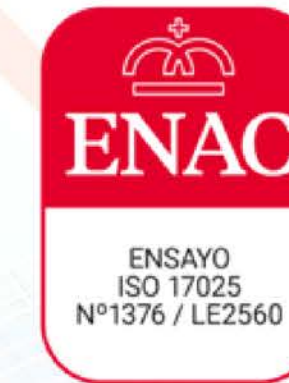
Currently **CERE**, by UL Solutions has expanded its capabilities and is dedicated not only to Renewable Energies, but also to Electric Vehicle chargers, Industrial Machinery, Medical Devices and Electrical and Electronic Products.

Accreditations

We have accreditations that verify our technical competences as a Certification Body and Testing Laboratory. This fact ensures a deep knowledge of the international requirements for components and installations.

CERE, by UL Solutions is accredited by ENAC and a2la (IAF/ILAC members) as a Certification Body according to ISO 17065; and as an Accredited Testing Laboratory according to ISO 17025. We also belong to the IEC Scheme being CBTL Testing Laboratory and NCB Certification Entity.

In addition, we can provide solutions to countries such as North America, Israel, Colombia, Korea, Australia, etc.



Our team

Our team has a long-accumulated experience in testing, simulation and certification for all its business areas, including an in-depth knowledge of grid integration standards, design, safety, EMC and grid quality.

All this knowledge is applicable in renewable energy generators and controllers, electric vehicle chargers, photovoltaic trackers, household appliances, industry, industrial machinery, electrical and electronic products and medical devices, among others.



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What's CERE Renewables?

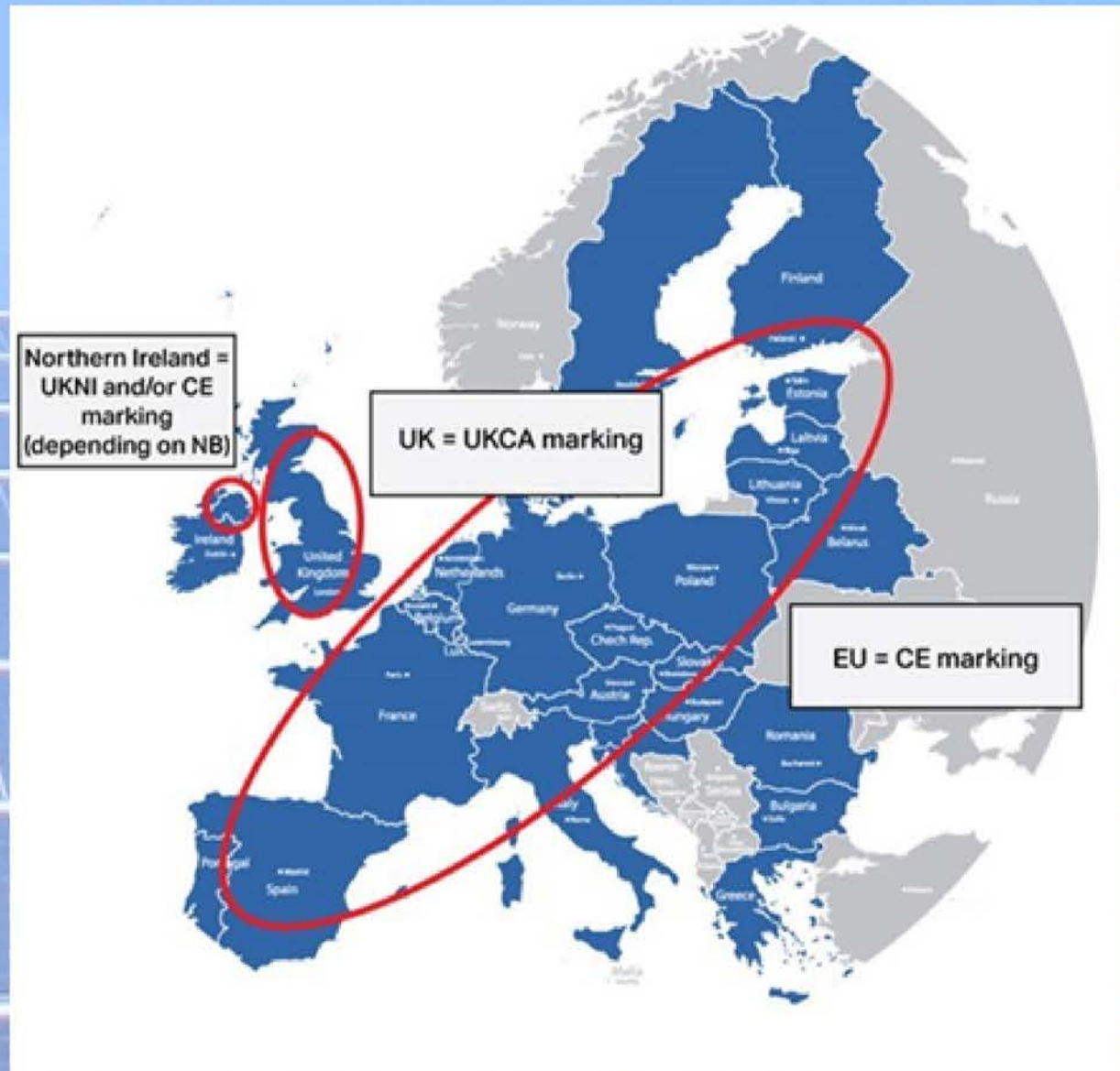
CERE, by UL Solutions Renewables is a department created to cover the demand of services for renewable energies components inside of **CERE** (Certification Entity for Renewable Energies)

CERE, by UL Solutions Renewables and particularly the solution for converters for the European market was created to provide support and trust at any stage of certification and testing for EMC and Safety requirements and the Client to be able to provide a self declaration CE Marking and/or UKCA & UKNI Marking.

Our services include Testing and Certification according different standards.

This process includes testing, certification and verification of converters and their components.

The electrical laboratory has developed a section with expert technicians in this field. We have carried out tests for Safety, EMC, grid quality and Grid connection market.



Applicable Standards

Depending on the applicability of the converter, there will be different standards to fulfill for getting the products into the different installations and Markets.

DEPENDING ON THE AREA OF EUROPE TO INTALL THE PRODUCT:

CE Marking and CE self declaration for all Europe except United Kingdom

UKCA Marking and UKCA self declaration for Great Britain since January 1st 2021

UKNI Marking and UKNI self declaration for North Ireland since January 1st 2021

FOR ANY OF THE ABOVEMENTIONED MARKING PROCESSES, THE CONVERTER SHALL FULFIL THE FOLLOWING REQUIREMENTS

Safety requirements for Marking and self declaration.

- Low Voltage 2014/35/UE
- UK Legislation; Electrical Equipment (Safety) Regulations 2016.

EMC requirements for Marking and self declaration.

- Electromagnetic Compatibility 2014/30/UE
- UK Legislation; Electromagnetic Compatibility Regulations 2016

SAFETY

Safety Standards for converters and safety requirements for Marking & self declaration:

IEC 62477-1:2012+AMD1:2016 Safety requirements for power electronic converter systems and equipment - Part 1: General.

Standalone and / or Grid connected converters

IEC 62109-1:2010 Safety of power converters for use in photovoltaic power systems - Part 1: General requirements

Standalone and / or Grid connected converters

IEC 62109-2:2011 Safety of power converters for use in photovoltaic power systems - Part 2: Particular requirements for inverters

Standalone and / or Grid connected converters

IEC 62909-1:2017 Bi-directional grid connected power converters - Part 1: General requirements.

EMC

EMC Standards for converters and EMC requirements for Marking & self declaration:

IEC 61000-6-1:2016 Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity standard for residential, commercial and light-industrial environments.

IEC 61000-6-2:2016 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments.

IEC 61000-6-3:2016 Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for equipment in residential environments.

IEC 61000-6-4:2018 Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments.

EN 55011:2016 Industrial, scientific and medical equipment Radio-frequency disturbance characteristics – Limits and methods of measurement. (Electromagnetic Compatibility Regulations 2016).

CISPR-11:2015+AMD1:2016+AMD2:2019 Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement.

Laboratory Capabilities



EMC

- ✓ Full Anechoic Chamber of 3 meters and up to 6GHz both in emission and radiated immunity.
- ✓ Complete test capacity of IEC 61000 in both radiated and conducted.



Test Benches

- ✓ Test bench up to 500kVA for converters
- ✓ 3 test benches up to 166kVA with parallel connection capacity.
- ✓ DC voltage range up to 1500V and AC voltage range up to 800V and 400Hz
- ✓ Passive loads up to 100kVA and electronic load up to 500kVA for island testing.



Environmental and Climate Laboratory

**TEMPERATURE RANGE FROM -40°C TO 85°C WITH
85%RH OR 125°C WITHOUT HUMIDITY REFERENCE.**

- ✓ Low temperature chamber
- ✓ High temperature chamber
- ✓ Temperature chamber
- ✓ Dycometal temperature chamber

- ✓ Binder temperature chamber
- ✓ IP and Nema Camera
- ✓ Vibration table
- ✓ Saline atmospheres chamber

Disclaimer

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