

CASE STUDY

Powering Up North American Market Access: Wallbox and UL

An electric vehicle smart charging company based in Spain wanted to accelerate access to the North American market and turned to UL for testing guidance.

wallbox  Barcelona-based Wallbox, a smart charging company, was founded in 2015 with a mission to liberate the world from fossil fuels. The company develops and manufactures electric vehicle (EV) charging solutions for homes, businesses and cities, supporting the world's transition to a planet powered by renewable energy. When the company wanted to enter the North American market, it sought out a certification partner that has deep and broad knowledge. They chose UL.

The challenge

According to Till Wilmschen, program manager at Wallbox, "After having launched our EV smart charger in Europe and China, Wallbox's biggest challenge to entering the North American market was certification. We understood the safety certification requirements for the markets we were currently in, but the knowledge in North America are more stringent. We needed a knowledgeable certification partner."

The charger is designed with an internal relay that directs power from the electrical grid to the vehicle and includes safety features that put the device in safe mode if something goes wrong. Wallbox realized that North American certification requirements would include not only the end product but also the firmware, software and other more theoretical aspects of their system throughout the entire development life cycle.



The standards that the device would need to be certified to include:

- UL2594, the Standard for Electric Vehicle Supply Equipment
- CSA C22.2 No. 280 Standard for Electric Vehicle Supply Equipment
- UL 2231-1, the Standard for Safety for Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits
- CSA C22.2 No. 281.1, the Standard for Safety for Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits
- UL 2231-2, the Standard for Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits
- CAN/CSAC22.2 No. 281.2-12, the Standard for Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits
- UL 1998, the Standard for Software in Programmable Components
- UL 991, the Standard for Tests for Safety-Related



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The solution

Wallbox wanted guidance on testing requirements contained within those standards.

“We started working with Wallbox on a component construction review,” said David Braeutigam, senior project engineer for UL. “And then we planned the testing. We worked closely with them to ensure they had the knowledge necessary to understand and conduct the tests in accordance with the standard.”

“We supplied Wallbox with support during the test setup and testing activities,” said Germán Moreno, senior sales executive for UL. “This allowed the customer to make the proper adjustments and meet the test method. This was really a success case study in collaboration between customer and UL.”

This was truly an international project: with UL engineers in the U.S. and our new EV laboratory in Frankfurt, Germany, working with Wallbox in Spain. UL was able to help Wallbox gain a deeper understanding of the test methods, and UL’s laboratories ultimately were able to meet the time constraints, thus allowing Wallbox to achieve North American certification before the end of the year.

The result

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“We could have chosen any certification partner to help us enter the North American market,” continued Wilmschen. “But UL’s reputation for quality, their recognized certification Mark and because they are opening an EV charging laboratory in Europe to support us in the future helped us make the decision to choose them. The certification process has helped us become more agile, and we will continue to work with our new certification and testing partner moving forward on future projects for that reason.”

For more information about certifying products for the North American market or virtually any market in the world, contact us at www.ul.com/services/electric-vehicle-ev-infrastructure-services or email us at EMEA.EPTESales@ul.com.



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