

# Powering Up North American Market Access: Wallbox and UL Solutions

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



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 Solutions.

## 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 to which the device would need certification include:

- UL 2594, the Standard for Electric Vehicle Supply Equipment
- CSA C22.2 No. 280, Electric Vehicle Supply Equipment
- UL 2231-1, the Standard for Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits; Part 1: General Requirements
- CSA C22.2 No. 281.1, the Standard for Safety for Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits: General Requirements
- UL 2231-2, the Standard for Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits: Particular Requirements for Protection Devices for Use in Charging Systems
- CAN/CSA C22.2 No. 281.2-12, the Standard for Safety for Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits: Particular Requirements for Protection Devices for Use in Charging Systems
- UL 1998, the Standard for Software in Programmable Components
- UL 991, the Standard for Tests for Safety-Related Controls Employing Solid-State Devices



*“We’re a fast-growing tech company and wanted to choose a partner that could support our growth while offering top-of-class expertise,” said Wilmschen. “While we already apply best practice design and manufacture methodologies, working with UL Solutions has helped us reinforce and intensify the most effective of these throughout the life cycle of our products, like end-of-line tests, and development practices, such as risk analysis.”*

## The plan

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 Solutions. “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 Solutions. “This allowed the customer to make the proper adjustments and meet the test method. This was really a success case study in collaboration between the customer and UL Solutions.”

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

## The result

“We’re a fast-growing tech company and wanted to choose a partner that could support our growth while offering top-of-class expertise,” said Wilmschen. “While we already apply best practice design and manufacture methodologies, working with UL Solutions has helped us reinforce and intensify the most effective of these throughout the life cycle of our products, like end-of-line tests, and development practices, such as risk analysis.”

“We could have chosen any certification partner to help us enter the North American market,” continued Wilmschen, “but UL Solutions’ 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 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 [UL.com/services/electric-vehicle-ev-infrastructure-services](https://www.ul.com/services/electric-vehicle-ev-infrastructure-services).**



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