Testing the Onboard Charger Controller

Like any other device or technology that can be charged, electric vehicles (EVs) need a charger to keep their batteries charged. EV charging infrastructure is a system of stations that connects EVs or plug-in hybrids to a source of energy, allowing them to be recharged. Different types of chargers offer varied current and voltage levels to suit vehicle-specific battery requirements.

The growth of EV charging stations can be attributed to the rapidly accelerated production and sales of EVs during the past decade. The global policy support for zero-emission vehicles also helps accelerate EV sales in the market.

ALIARO has included this technology as a part of the xMove platform to enable simulation of the Electric Vehicle Supply Equipment (EVSE) to be used when performing functional testing of the vehicle.

The ALIARO Advantage

- Minimize cost and ensure reliability with test methodology reducing the need for costly real-world tests
- Reduce test development time and enjoy quick startup with a turnkey system built with ALIARO's integration and NI's modular platform
- Maximize system reuse with a flexible tester designed to be extended and customized to meet your changing requirements

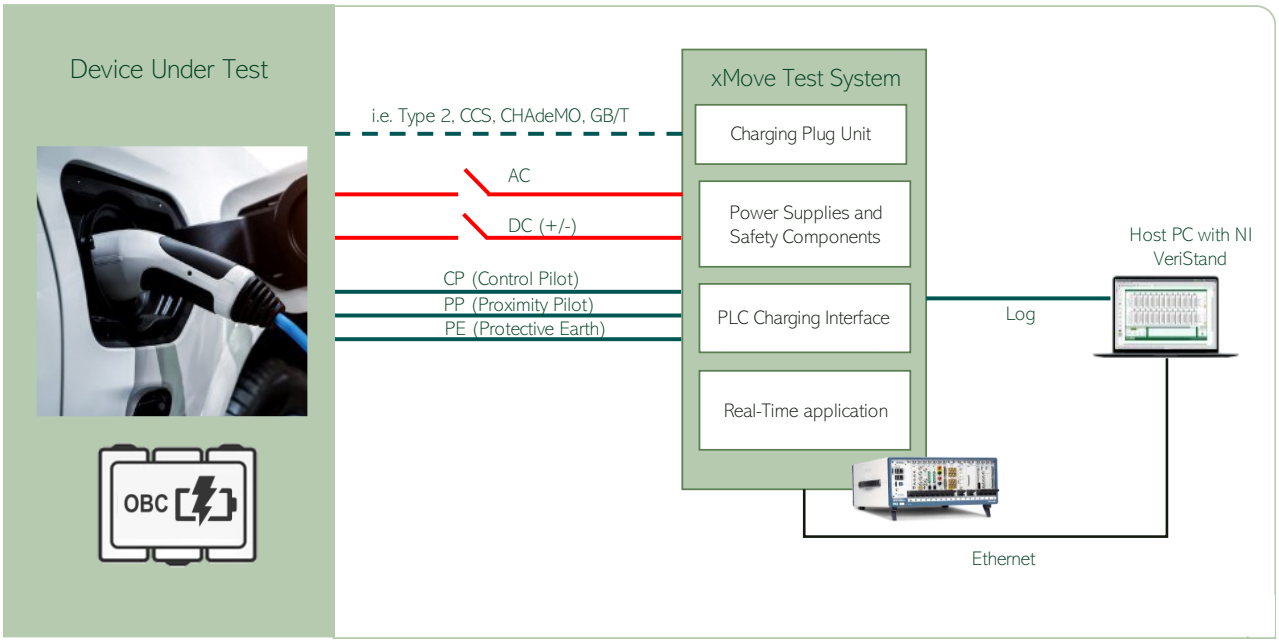
Application Challenges

- Verification of multiple standards using one test system
- Simulation and manipulating the Power Line Communication
- Conduct fault insertion and signal conditioning

The NI + Partner Solution

- The HIL operator can easily replace the charging plug unit on the test system for the actual requirement.
- The test system logs the CP data and measure the current/voltage between the vehicle and charger station.
- Due to the reconfigurability of the test system, it can easily be used on component, system or integration testing

Overview of the Solution



Key Specifications

OS Support	NI Linux Real-Time (64-bit))
Bi-directional DC Power Supply	From 1 500V, 30A, 15kW (can be modified)
OS Support	NI Linux Realtime
Industry	Complies with standards CCS Type 2, Type1 (CHaDeMo, GB/T is planned later in Q4/24)
No of Low-Voltage I/O channels	64, multi-function I/O, configured to either AIO/DIO, 60V, 10A per channel
Low-voltage Electrical fault simulation	Any pins, Low-Voltage I/O and PLC/CP channel
Software Compatibility	VeriStand, LabVIEW, Python
Sizes	Standard 19” rack, 24HU or 38HU (configurable)
Available accessories	Portable Man-in-the-middle PLC data logger for verification in the field

For more information on the solution, click the contact partner link below.

CONTACT PARTNER

ALIARO