

Case Study

Electric vehicle charging station

Spain



The Challenge

Elektra San Sebastián has installed a new electric vehicle charging station in the parking of its facilities. The charging station can be used by two vehicles simultaneously providing up to 22kW of power and charge in mode 1, 2 or 3. It contains Schucko and Type II connectors and is equipped with communications, energy meter and access system.



Elektra SA

The electric vehicle charging station is powered by BYD lithium batteries, which are charged by the surplus energy from Elektra's existing self-consumption system and the electric grid during less expensive periods. Three Studer inverter/chargers are used for the management of the charging and discharging of the lithium batteries.

The Studer inverters communicate with Elektra's energy management system (EMS) in the existing self-consumption installation through RS232. The EMS controls the system in the way that when surplus solar production is detected it is used to charge the batteries and when no surplus energy is available the EMS will allow to charge the batteries from the grid but only at off-peak periods when the electricity rates are low.

This installation reinforces Elektra S.A.'s commitment to improve energy consumption efficiency, in accordance with the Energy Management Program ISO 50 001 that they adopted in 2015.

Why Studer

STUDER products are recognized to withstand important starting peaks and ensure a perfect communication with BYD lithium batteries, in addition to being robust and reliable.

System components

The system contains the following components:

- 3 x STUDER XTH8000-48 inverter / chargers
- 1 x STUDER Xcom-CAN multi-protocol communication module
- 1 x STUDER Xcom-232i communication module
- 1 x STUDER RCC-02 control system
- 2 x 13.8kW BYD Lithium Batteries

The Solution

For this project it was decided to use 3 Studer XTH 8000-48 inverters/chargers, with CAN communication for the battery management and RS-232 communication to integrate the installation with Elektra's existing monitoring and control system. The inverters form a three-phase network that allows managing the charge and discharge of BYD lithium batteries and provides the 22kW needed to charge the electric vehicles.

Project outcome

This solution has allowed to charge electric vehicles with energy obtained, either from the surplus of the existing self-consumption installation or from the grid during tariff periods when electricity is more economical, thus allowing for a more efficient energy management.

The Company

The ELEKTRA GROUP is market leader in the distribution of electrical and electronic equipment, in addition to providing other value-added services. The group has more than 30 years of experience and is constantly growing, increasing its number of distributors and points of sale year after year.

The ELEKTRA GROUP has kept its technological spirit and enterprising nature, and have become a mature company that collaborates with its clients as a technological partner, trying to make them more competitive every day

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