Energy storage solutions
Accurate and sustainable management of stored energy
By adding battery storage to an energy system, the produced energy can be used at any time according to user needs, providing flexibility and energetic independence.

In a renewable energy system, the battery storage is the most costly part. Studer power electronics maximize battery lifetime and obtains its maximum amount of energy, optimising the use of the renewable energy resources in the battery. In addition, the battery storage provides a reliable backup power and uninterrupted power supply for sensitive loads.
Many battery manufacturers recommend using their batteries with Studer inverters and charge controllers.

A standard installation only takes a minute to set up with Studer’s configuration assistant available on the remote control, RCC.

For advanced installations an extended menu with specific parameters for the configuration of battery management and cycles are available.

AJ Series
- AJ 275-12(-S)
- AJ 350-24(-S)
- AJ 400-48(-S)
- AJ 500-12(-S)
- AJ 600-24(-S)
- AJ 700-48(-S)
- AJ 1000-12(-S)
- AJ 1300-24(-S)
- AJ 2100-12(-S)
- AJ 2400-24(-S)

(-S) = Optional Built-In Solar Charge Controller

VarioTrack Series
- VT-65
- VT-80

VarioString Series
- VS-70
- VS-120

Xtender Series
- XTH 3000-12
- XTH 5000-24
- XTH 6000-48
- XTH 8000-48
- XTM 1500-12
- XTM 2000-12
- XTM 2400-24
- XTM 2600-48
- XTM 3500-24
- XTM 4000-48
- XTS 900-12
- XTS 1200-24
- XTS 1400-48
Freedom to choose any battery storage with Studer

Lead-acid, redox-flow, hydrogen or lithium batteries? In installations with Studer power electronics you can choose any type of battery storage.

Installation with nickel-iron batteries for self-consumption in an off-grid family house in Austria

Installation with lead-acid batteries for backup and uninterrupted power supply in the Islamic University of Gaza in Palestine
Lithium batteries are being used more and more in off-grid, self-consumption, mobile and energy storage applications. There are two main types of lithium batteries: with and without communication. Most lithium batteries require communication between their Battery Management System (BMS) and the rest of the system for an optimal management of the battery (safety and lifetime). Every battery uses its own specific protocol for communication.

For an effective communication with lithium batteries Studer has conceived the **Xcom-CAN**, which creates a bridge between the BMS and the Studer bus. The **Xcom-CAN** has several protocols implemented for lithium battery management, making Studer products compatible and highly effective with many lithium batteries.
To cycle a battery operating in a low state-of-charge drastically reduce the battery lifetime. Studer’s inverters and inverter/chargers are equipped with a special function, B.L.O (Battery Lifetime Optimizer), that significantly increase battery lifetime by gradually adjusting the battery’s LVD-level (Low Voltage Disconnect).

**Key advantages using the B.L.O function**

- **Capacity recovery**
  Rising the LVD

- **Longer life-time**
  Lower DOD (Depth of Discharge), higher cycle rate

- **Improved protection**
  Avoid hard sulfation and corrosion, loss of active material of plates, short circuit and energy loss.

- **Cost saving**
  Save up to 25% of battery costs

In short, the B.L.O. function protects the battery by teaching the user how to treat the battery better by temporarily restricting the battery use and gently increasing the LVD-level until the batteries are fully recharged again.
By making certain measurements directly in the battery, it is possible to know a battery's state-of-charge (SOC) in real-time, giving an indication to the user/installer regarding the battery status. The BSP (Battery Status Processor) is designed to monitor lead-acid batteries within an Xtender/Vario system, using an advanced algorithm. The BSP also acts as a centralised charging current controller, preventing the battery from being charged with too high currents, thereby avoiding an early ageing of the battery.
Call our specialists +41 27 205 60 80 or visit studer-innotec.com.

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