SolShare and Batteries

This document provides technical guidance for integrating SolShare systems with battery storage.

There are two primary options for installing batteries with SolShare:

1. Communal Batteries
2. Individual Batteries per Flat

This guide outlines the advantages and disadvantages of each approach and includes sample Single Line Diagrams (SLDs) to illustrate how to integrate SolShare with battery storage systems.

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Option 1: Communal battery (preferred)

This option involves using a hybrid inverter and a DC-coupled battery or an all-in-one battery/inverter. When using multiple inverters, ensure the combined current of all inverters **does not exceed 35A per phase**.

Pros	Cons
✓ **No hardware in the flats** – All equipment is installed outside the flats, simplifying installation and reducing costs associated with fireproofing regulations. No flat access or dedicated space in flat is required. ✓ **Compact** – 15 inverters and batteries can be replaced by a single unit, reducing the number of potential failure points and simplifying commissioning. ✓ **Single point for monitoring** – Allume's SolCentre platform provides a single point for monitoring faults, performance, and generating reports. ✓ **Flexible configuration** – Batteries can be divided based on kWp allocation, allowing for fine-tuning of SAP point increases and benefits to suit individual flat needs. ✓ **Optimisation sharing** – SolShare's optimisation ensures fair and efficient battery usage, maximizing its potential regardless of occupancy patterns.	× **Limited grid charging** – Communal batteries currently do not support grid charging, but this feature is expected to be available in future updates and can be retrofitted to existing systems.

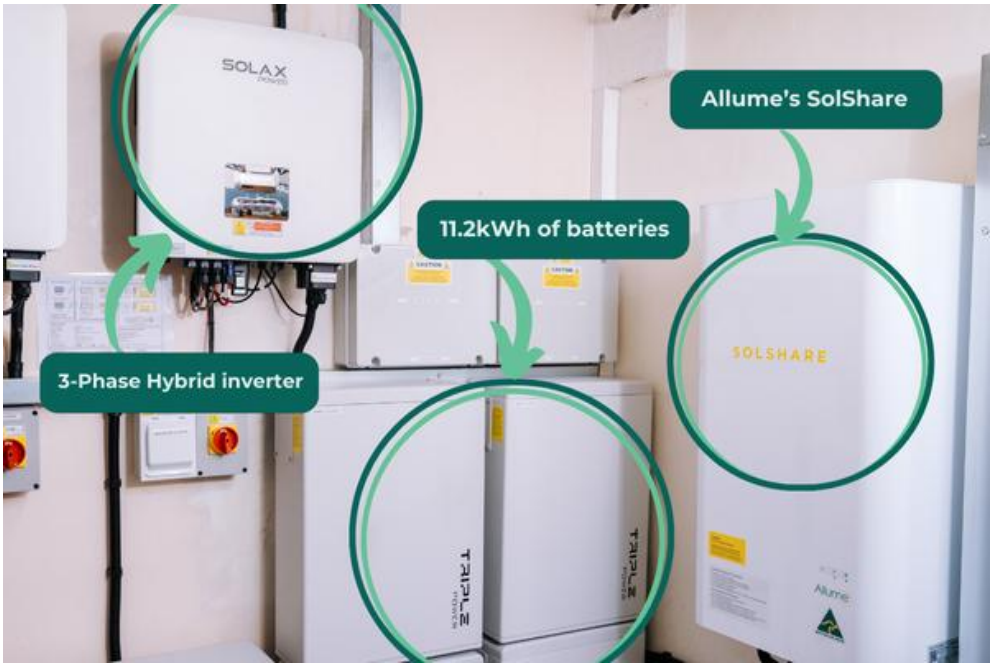

Figure 1: Showing how compact a SolShare installation is with batteries.

SLD

An SLD can be download from here.

Technical considerations

Grid Charging

The inverter **must** be configured to prohibit charging from grid. Only charging from PV is permitted at this point in time.

Battery CTs

A communal battery must accurately measure the combined energy demand of all the flats it powers. Therefore, the CTs for the battery should be positioned to monitor the total energy consumption of these flats.

If a single SolShare supplies the entire building, the CTs can be placed on the main building's incoming supply.

However, if multiple SolShares are present, there are various methods for grouping the flats' loads. It's important to get this right so please contact Allume for project specific assistance.

Option 2: AC batteries each flat

AC batteries can be installed individually in each flat, providing a dedicated system for each unit.

Pros	Cons
✓ **Supports grid charging** – Each flat can utilise off peak tariffs to charge battery.	× **Hardware in flats** – Multiple, expensive components need to be installed in each flat. × **Fireproofing requirements** – Extensive fireproofing measures are required to comply with PAS regulations for batteries stored within flats. × **Increased Failure and Monitoring Points** – More components in the system increase the likelihood of failures and require more complex monitoring.