

SolShare system designers

Good to know

When designing systems involving the SolShare, here are some useful tips to remember.

Good to know #1: The importance of internet at the SolShare installation location

In order to commission and provide ongoing monitoring of the SolShare, by default, there must be 4G communications available at the SolShare installation location to allow its internal modem to access the internet and complete the commissioning process. This is the ideal case for 4G communications. If this is not the case (for example, if the SolShare is located underground in a basement), installers need to find a repeater or other suitable solution. Also consider this a design guideline that the installation location of a SolShare should not be under a large cable tray as we have seen this blocks 4G communications coverage.

It is possible to remove the 4G modem from the SolShare and locate it close enough that the SolShare can still reach it, but far enough away that the modem picks up signal from outside/near a door, etc. However, this process requires additional training, so please contact Allume if you anticipate this being the case.

For the cases where 4G communications are still not available, Allume can also provide additional training about how to connect to Wifi in the building.

Good to know #2: Choosing which SolShare operating mode to use

The SolShare can operate on 2 different operating modes, which dictate how solar is shared among tenants. Once the operating mode has been chosen during the commissioning process, this generally does not change over the life of the project.

1. The **optimised mode** sends power to whichever tenants most need it at any point in time, with the sole aim of minimising exported solar energy to the grid. The **optimised mode** will result in different tenants receiving different total energy from the solar system. This is a popular choice for projects such as social housing, which aim to provide the maximum collective social benefit from the solar system as a whole.
 2. The **optimised but even mode** builds on the previous mode, but will track how much solar generation has been provided to each tenant, and aim to equalise this over the course of each month. At the start of each month, the optimised but even mode will operate much the same as the optimised mode. As the month progresses, heavier energy user tenants will receive more energy than those lighter user tenants. As such, towards the end of the month, the lighter users will receive a larger portion of the solar generation to make total energy sent to each tenant over the month even. Any discrepancy at the end of the month (e.g. from rainy weather towards the end of the month, or some tenants going on holidays and having near-zero consumption, etc.) will be taken into account for the following month. This is a popular choice for projects such as retrofits on apartment buildings where participating tenants have all paid for an equal share of the solar system, and expect an equal share in the rewards.
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Good to know #3: Choosing which CTs to order with the SolShare

By default, the SolShare comes shipped with 15 current transformers (CTs) rated at 75A with tails of 10m length (see the SLD Guidelines document for more information on how to install these).

However, if due to the nature of your project, you **require CT tails that are longer than 10m, please inform Allume at the time of ordering a SolShare**. We can provide you with 15 alternative CTs, rated at 200A with default 10m tails, but installers can extend these up to a length of 50m for each CT tail. **Consider this a design guideline that the cable run length between the installation location of the SolShare's CTs and the SolShare itself must be no further than 50m, and where possible, under 10m.**

Also note that for each SolShare, **the CTs must either all be 75A default CTs or all be 200A alternative CTs**, i.e. you cannot have 6 x 75A CTs and 9 x 200A CTs being used for 1 SolShare. However, if you have more than 1 SolShare installed in a project, it would be acceptable to, for example, have 1 SolShare using all 75A CTs, and the other SolShares using all 200A CTs.

Please also take the physical dimensions of the two CT options into account when designing or assessing whether there is sufficient room in the meter panel/distribution board/MSB.

75A CTs: 22.5 x 26 x 39 mm

200A CTs: 45 x 34.4 x 65.5 mm

Good to know #4: Using batteries with the SolShare

The SolShare can be used with 1 or more batteries. Here are some important points to note:

- AC batteries, or DC batteries with battery/hybrid inverters can be used with the SolShare
- AC Batteries (or DC batteries + inverters) can be 3 phase, or 3 x single phase batteries can be connected with 1 battery on each phase.
- The point of connection of the battery/ies must be between the solar inverter and the SolShare (or a hybrid inverter may be used for both battery and solar).
- The total maximum output of the solar inverter and the battery inverter (or maximum output of the hybrid inverter) must be less than 22kW for each SolShare.
- Normal sizing guidelines apply for solar/battery sizing, taking into account expected loads.
- Battery CTs should be installed at the incoming supply (for the relevant phase in the case of using 3 x single phase AC batteries), which should correspond to the total load on that phase being supplied by the SolShare.
- Some DNSPs have additional requirements around the use of batteries with SolShare - please engage with your relevant DNSP.