

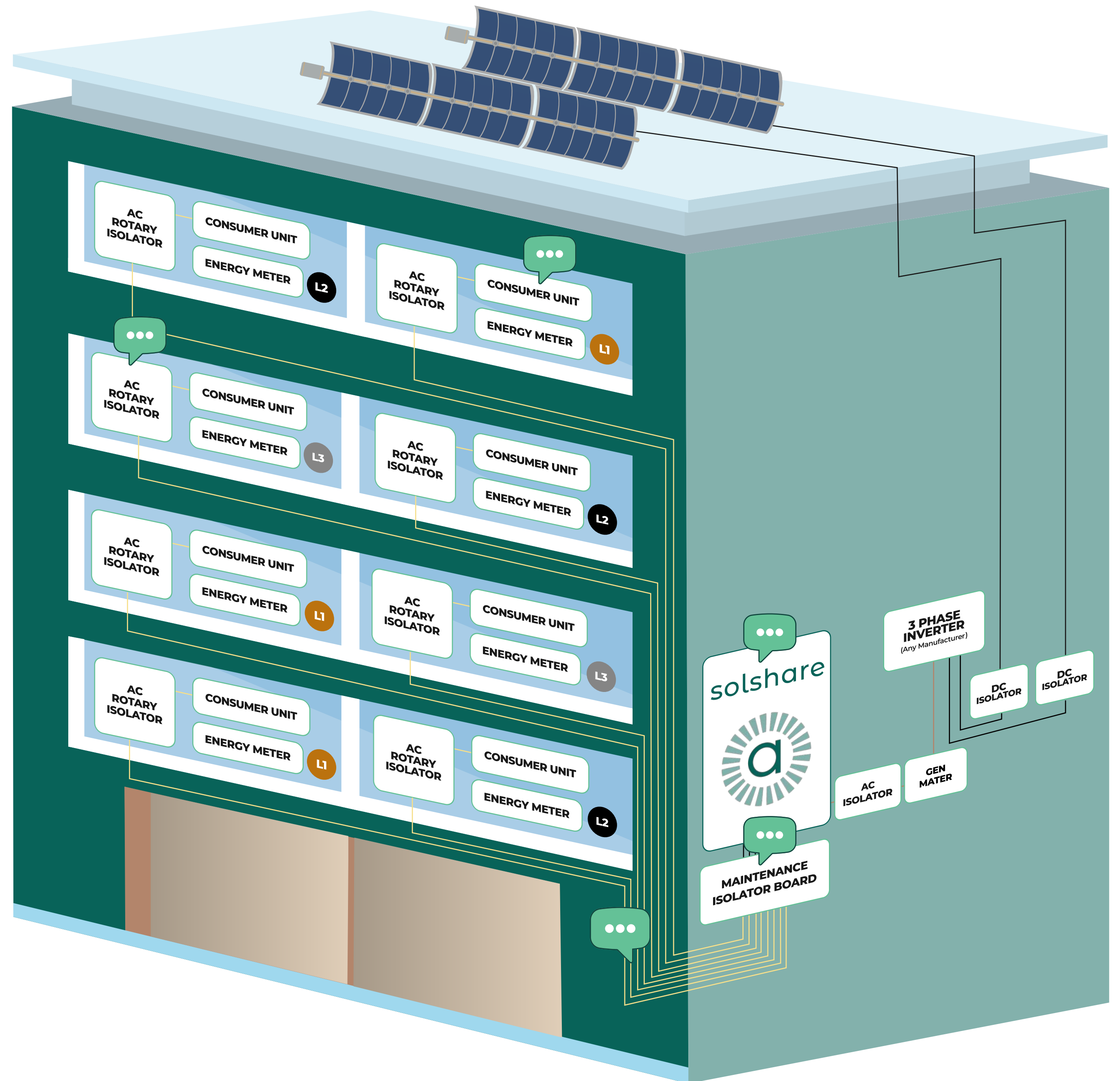


Meter location: In flats

Design guidance: Importance of phase arrangements in flats 

Example: How flat's phase arrangement affects kWp allocation

TYPICAL EXAMPLE	DNO	System size 12kWp (3-Phase inverter 4kWp per phase)
FLAT	SUPPLY PHASE	kWp Allocation
1	L1	1.33kWp (33% of phase generation)
2	L2	1.33kWp (33% of phase generation)
3	L3	2kWp (50% of phase generation)
4	L1	1.33kWp (33% off phase total)
5	L2	1.33kWp (33% of phase 1 total amount)
6	L3	2kWp (50% of phase total)
7	L1	1.33kWp (33% off phase total)
8	L2	1.33kWp (33% of phase 1 total amount)





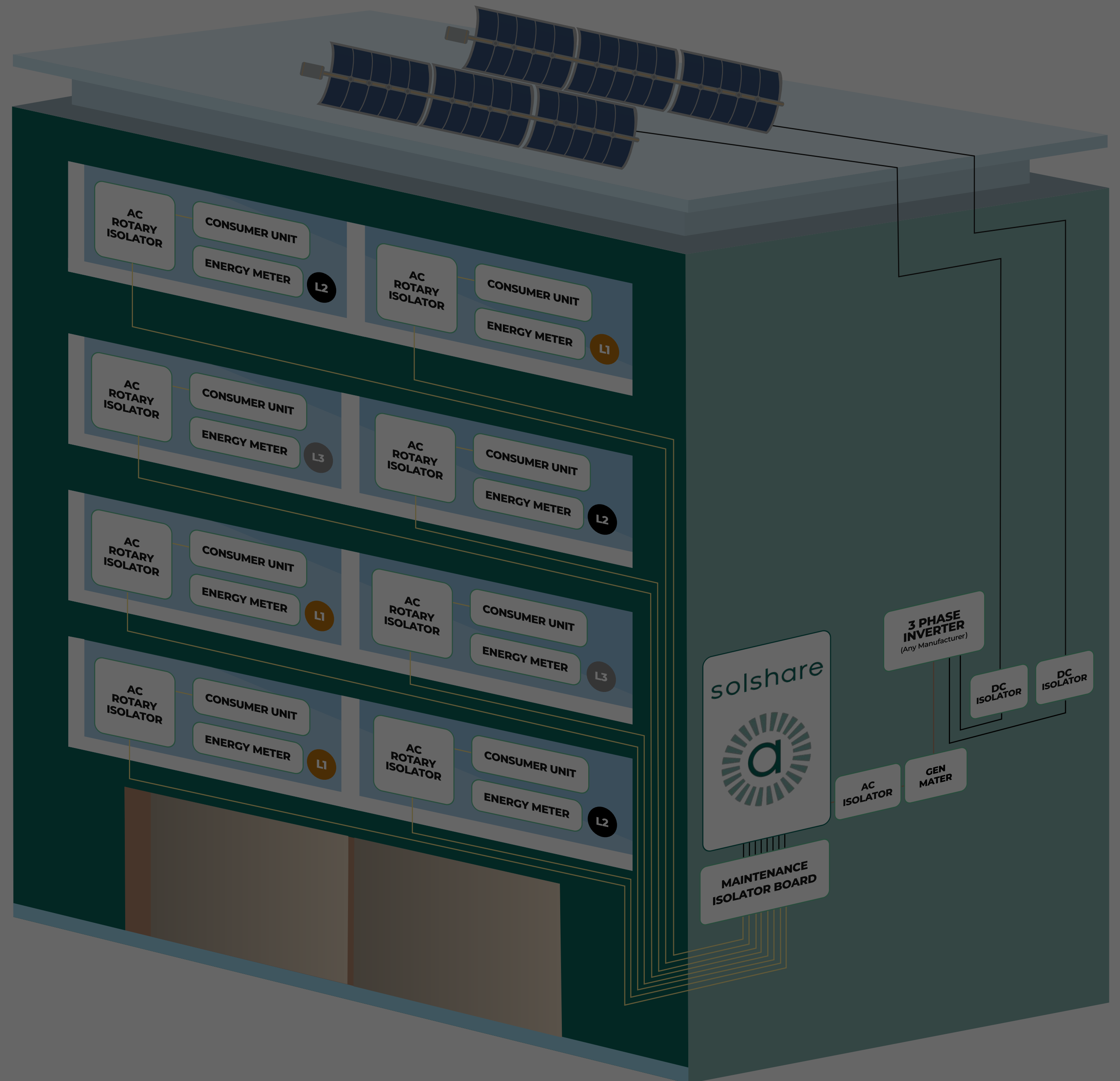
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When energy meters are located inside the flats, the SolShare supply cable can be installed into the consumer unit. There should be a rotary isolator installed to allow isolation of the consumer unit.

- Download the consumer unit SLD [here](#).

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Typical designer's objective:

Each flat requires 1.3 kWp of solar capacity to achieve an EPC rating of B on the project.

When designing a SolShare system for a building with multiple flats, it is essential to consider how the flats are connected to the electrical grid. This connection is typically defined by the Distribution Network Operator (DNO) and is referred to as the phase of the supply.

Example scenario:

In this case, a building has 8 flats supplied as follows:

- L1: 3 flats
- L2: 3 flats
- L3: 2 flats

To ensure the solar system meets the Energy Performance Certificate (EPC) targets for each flat, we need to calculate the total solar power generation capacity (kWp) required for each phase.

The EPC in this example has a set target for each flat, which in this case is 1.3 kWp.

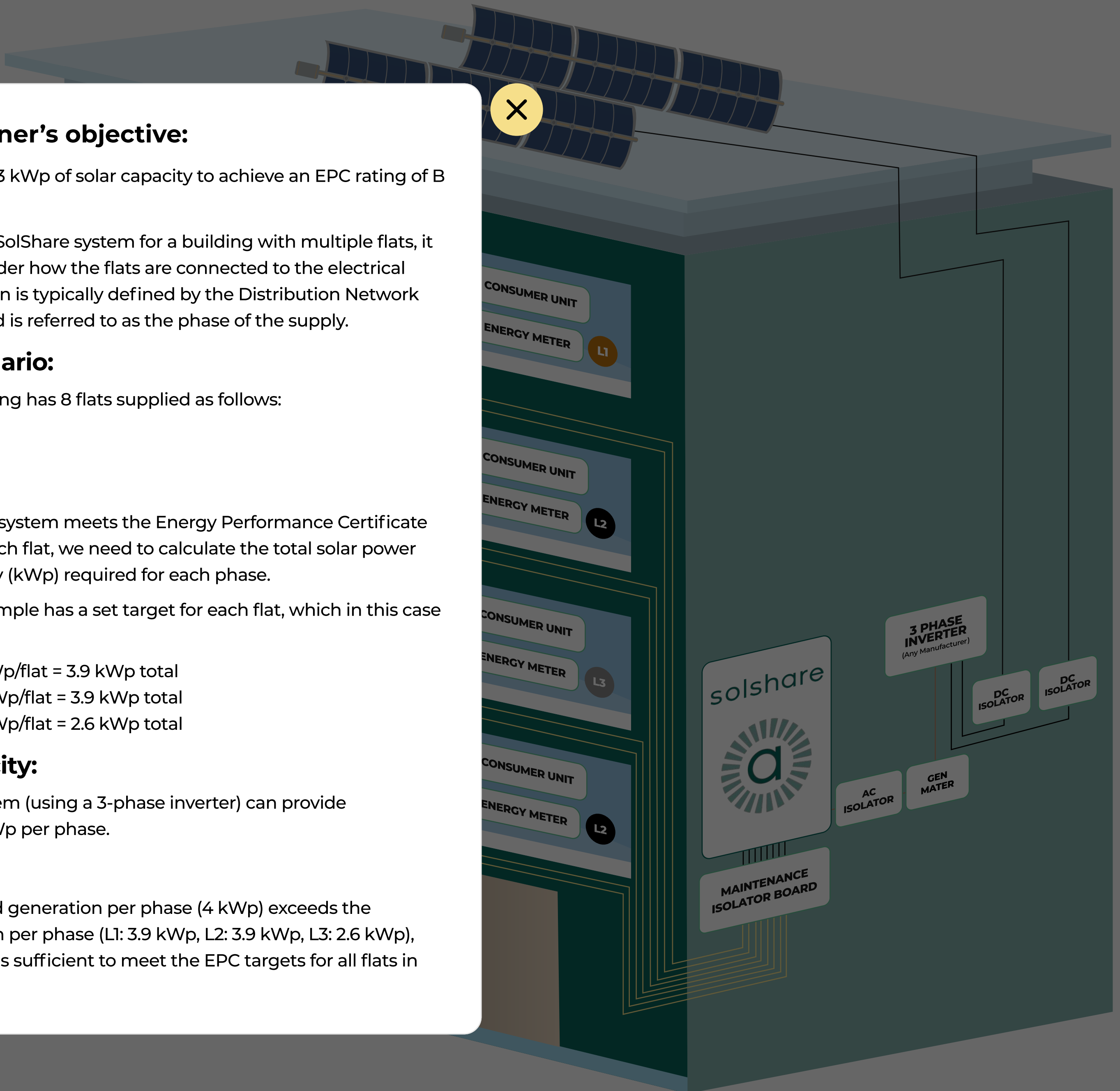
- L1: 3 flats x 1.3 kWp/flat = 3.9 kWp total
- L2: 3 flats x 1.3 kWp/flat = 3.9 kWp total
- L3: 2 flats x 1.3 kWp/flat = 2.6 kWp total

System capacity:

A 12 kWp solar system (using a 3-phase inverter) can provide approximately 4 kWp per phase.

Outcome

Since the estimated generation per phase (4 kWp) exceeds the required generation per phase (L1: 3.9 kWp, L2: 3.9 kWp, L3: 2.6 kWp), the 12 kWp system is sufficient to meet the EPC targets for all flats in the building.



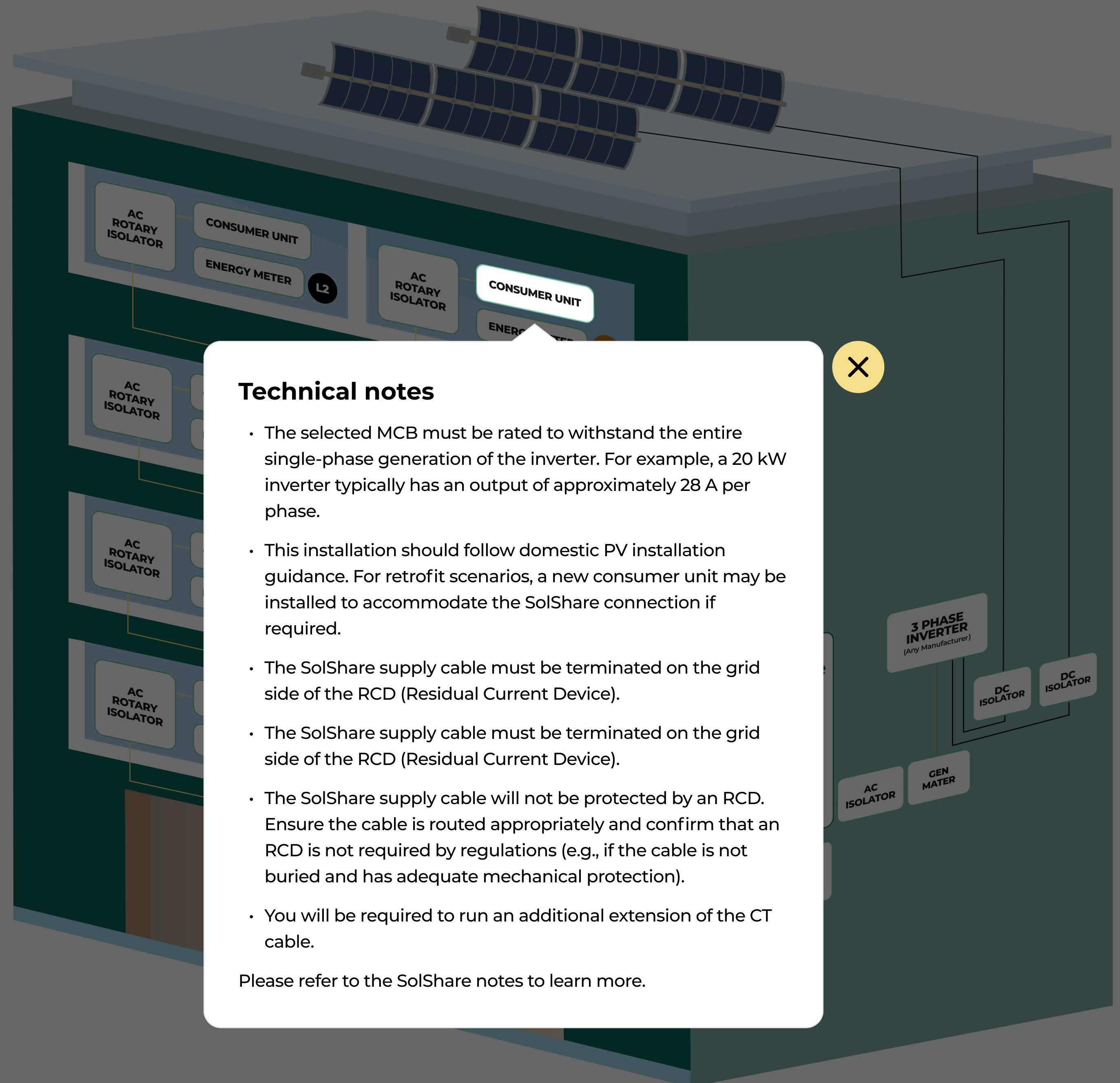


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8	L2	1.33kWp (33% of phase 1 total amount)



Technical notes

- The selected MCB must be rated to withstand the entire single-phase generation of the inverter. For example, a 20 kW inverter typically has an output of approximately 28 A per phase.
- This installation should follow domestic PV installation guidance. For retrofit scenarios, a new consumer unit may be installed to accommodate the SolShare connection if required.
- The SolShare supply cable must be terminated on the grid side of the RCD (Residual Current Device).
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- The SolShare supply cable will not be protected by an RCD. Ensure the cable is routed appropriately and confirm that an RCD is not required by regulations (e.g., if the cable is not buried and has adequate mechanical protection).
- You will be required to run an additional extension of the CT cable.

Please refer to the SolShare notes to learn more.

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Example: How

TYPICAL EXAM

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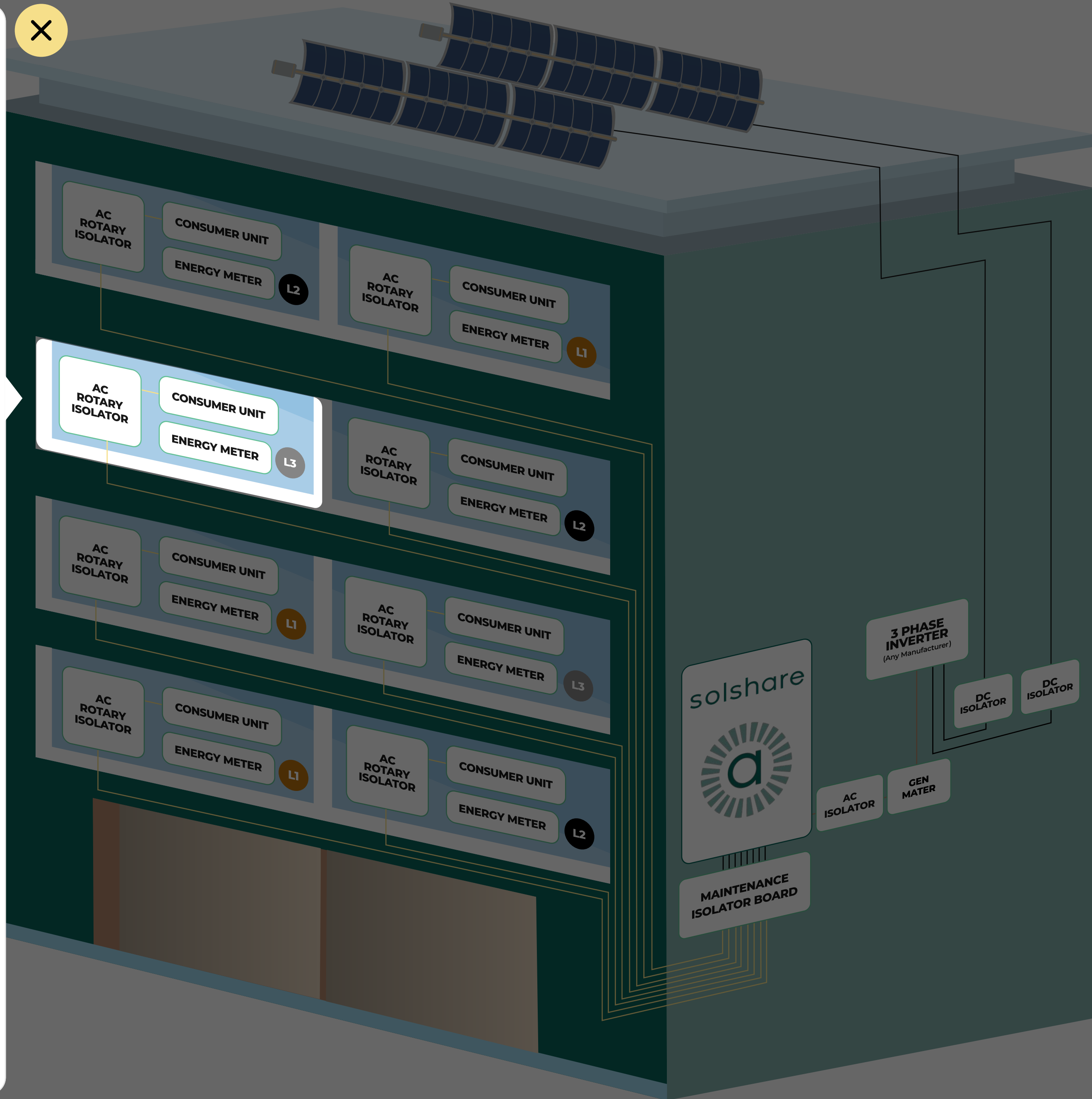
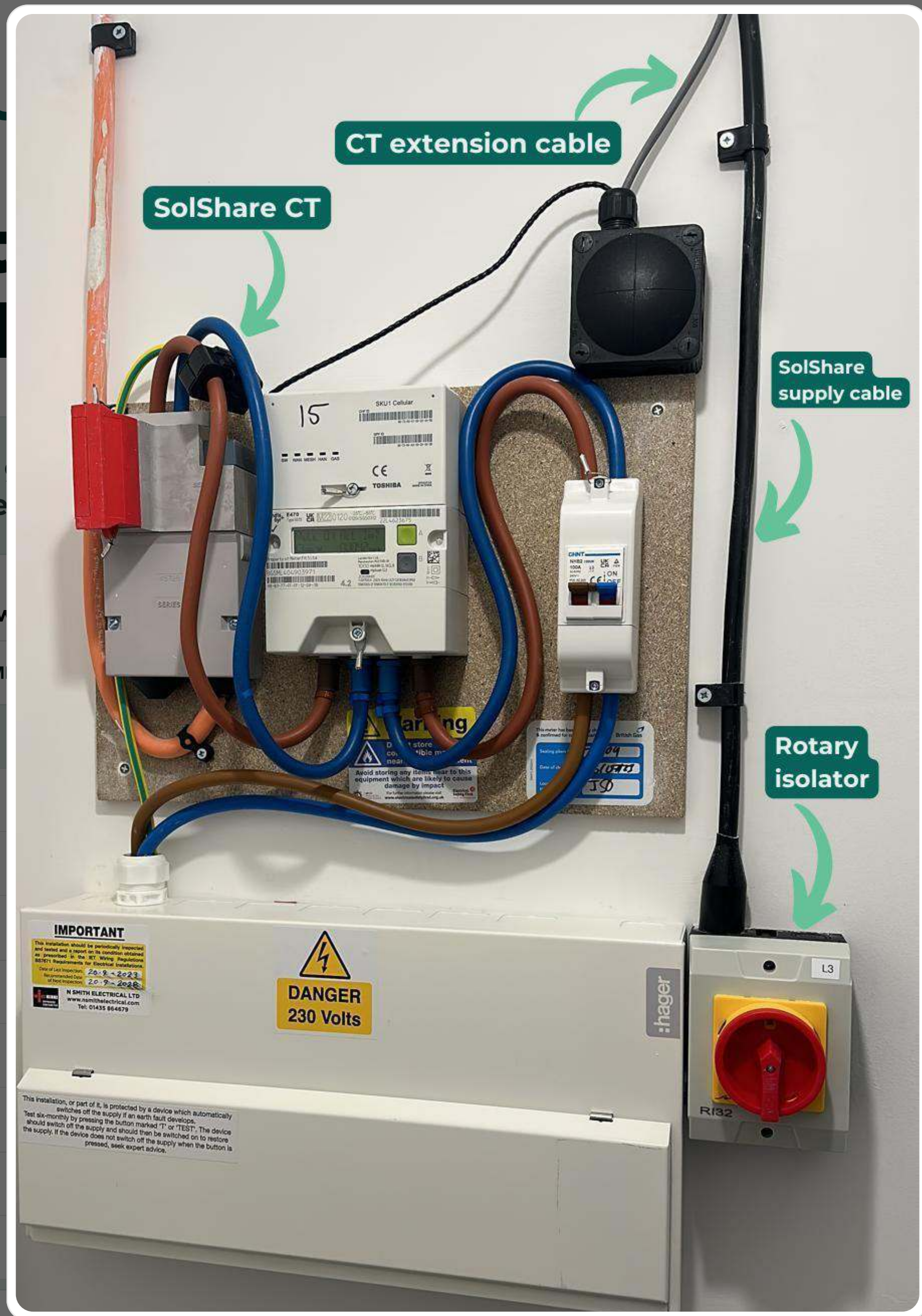
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8	L2	1.33kWp (33% of phase 1 total amount)



Cable notes

- The SolShare supply cable requires no neutral wire. The **CPC (Circuit Protective Conductor)** can be incorporated within this cable.
- **SWA (Steel Wire Armoured) cable is not suitable.**
- Suitable alternatives include **H07RNF** (or another Hi-Tuff cable without steel armouring), Copper Concentric, or other similar cables.

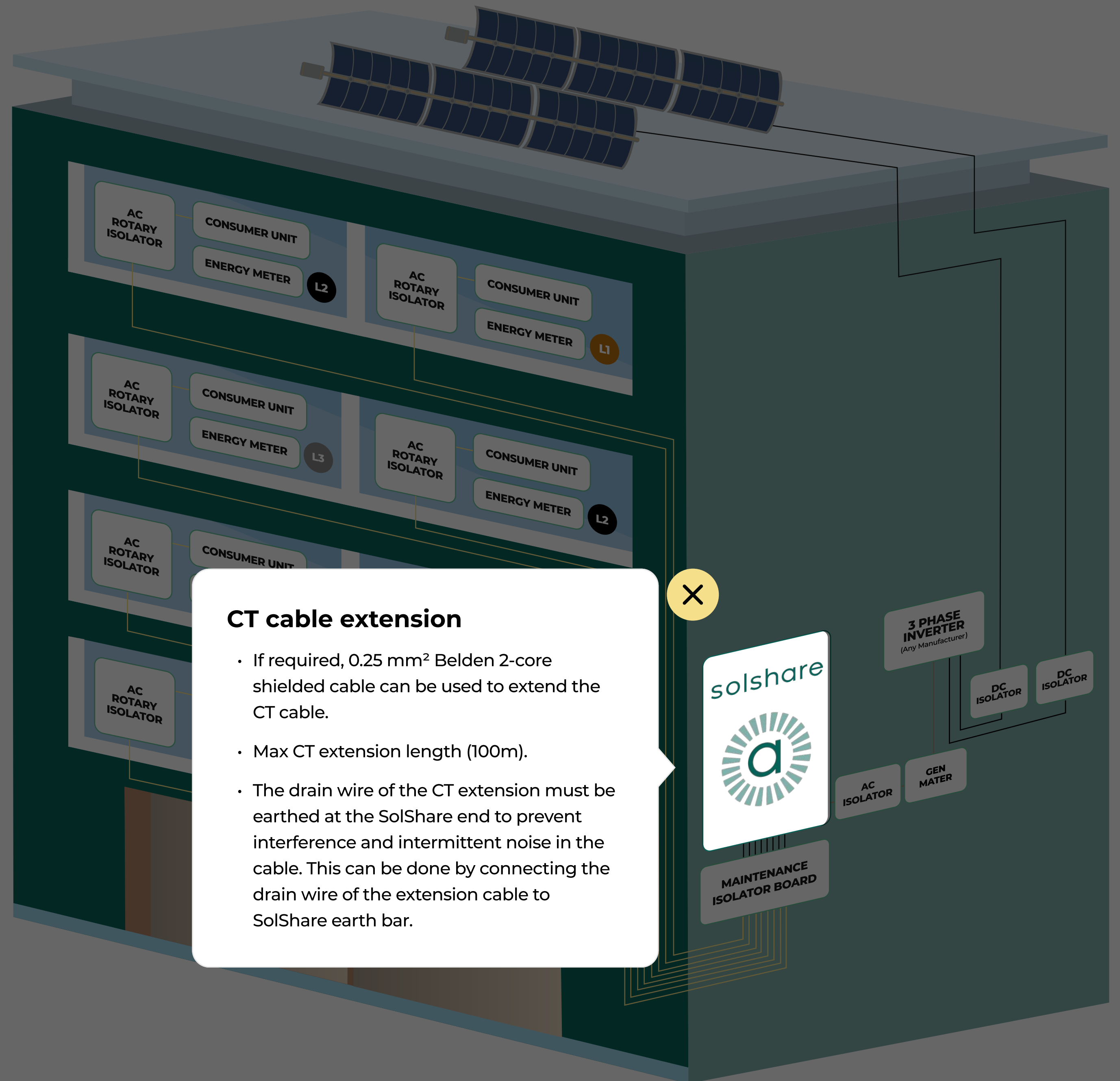


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CT cable extension

- If required, 0.25 mm² Belden 2-core shielded cable can be used to extend the CT cable.
- Max CT extension length (100m).
- The drain wire of the CT extension must be earthed at the SolShare end to prevent interference and intermittent noise in the cable. This can be done by connecting the drain wire of the extension cable to SolShare earth bar.



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