

# Interface Protection Guidance for SolShare Installations

Version A.5

## DISCLAIMER

This document is intended to provide guidance on how to design a safe and effective shared solar system requiring interface protection (NPUs) with the SolShare. This document does not override the local electrical safety standards and wiring rules. It is the responsibility of the installer to ensure the shared solar installation meets the relevant electrical safety and wiring standards in the installation locality.

## INTERFACE PROTECTION GUIDANCE FOR SOLSHARE INSTALLATIONS

As with other solar installations more generally, Interface Protection may be required in installations involving a SolShare, based on rules set out by the relevant DNSP, Australian Standards or other regulations. Below is some guidance surrounding the design of a system with SolShares and Interface Protection to complement what is provided in standards and other official guidance.

Interface Protection may be required when the total system size behind a single grid connection point exceeds 30kVA (an exception exists in South Australia - please see the SAPN section of this document for more information). Each site typically has a single connection point to the grid, even if it is unmetered. A connection point does not correspond to an NMI. Therefore, if there are multiple systems that sum to greater than 30kVA, even if their generation is spread across multiple NMIs, an Interface Protection Unit is typically required.

### A. AUSTRALIA (NOT INCLUDING SAPN)

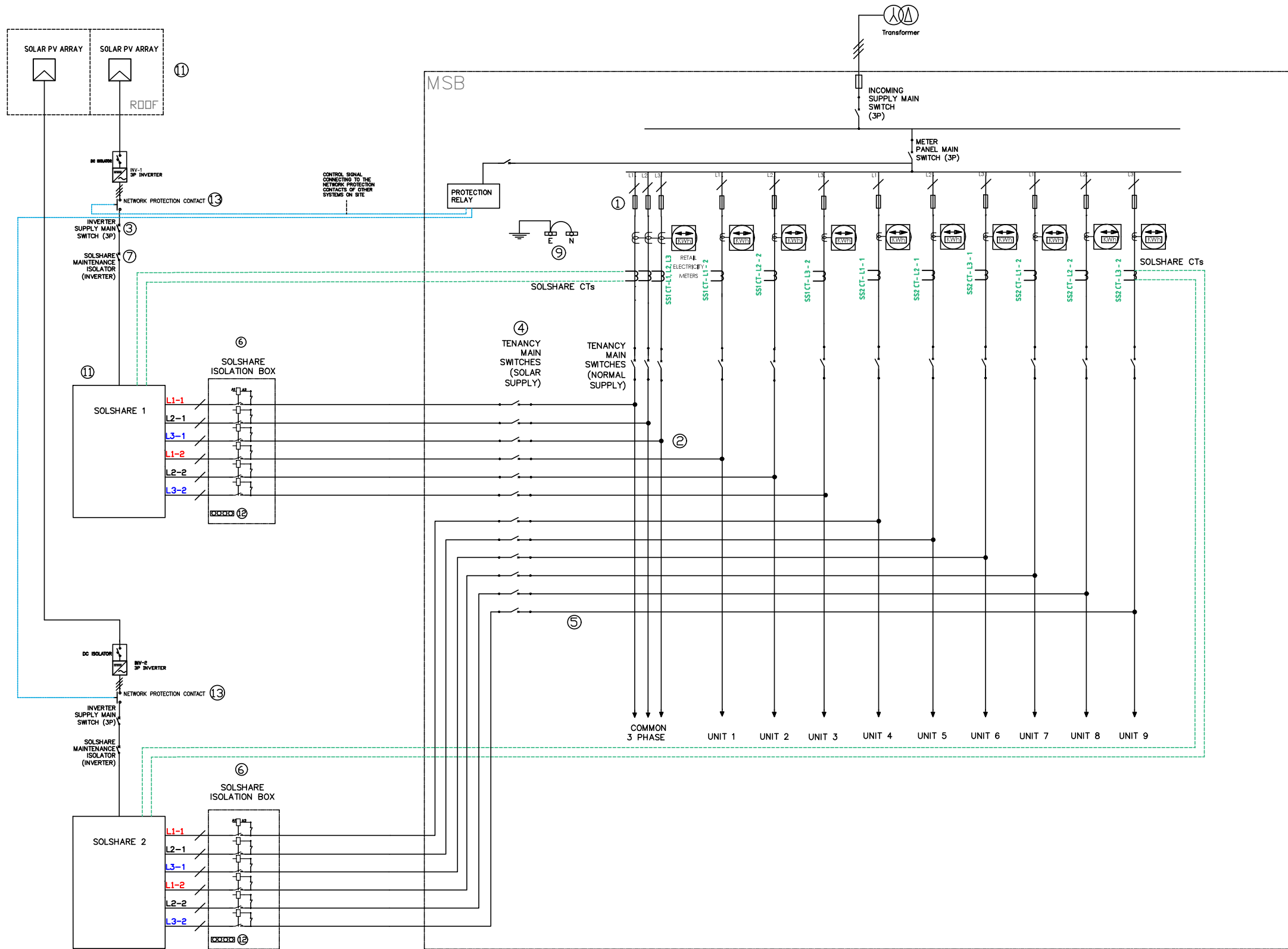
When installing Interface Protection with 1 or more SolShares, a network protection contactor should be placed between the inverter and the SolShare for each SolShare unit. An interface/network protection relay is included to monitor the incoming supply and control the network protection contactor(s). To save cost, it is recommended that a single interface/network protection relay is used to control multiple contactors, forming a multichannel NPU. Multichannel NPUs can be used in installations with more than 1 SolShare. With the exception of South Australia, the contactor and network protection relay do not have to be co-located.

This configuration is shown in the snippet below of an example site – please note that some of the aspects of this drawing will be different to your projects.

## B. SAPN

The Office of the Technical Regulator (OTR) has provided an exemption to Interface/Network Protection Unit (NPU) requirements in certain conditions, namely, for multi-tenant buildings with multiple NMIs where the total inverter nameplate does not exceed 200kVA and each NMI is associated with at most 30kVA of inverter capacity. More information is available at: <https://www.sapowernetworks.com.au/data/314589/central-protection-exemption/>.

For installations where network protection is required in South Australia, the requirement by SAPN to use certified NPUs (as opposed to the certification being required on the network protection relay only) applies. This typically makes it more challenging to install a distributed multi-channel NPU like the one described in the section above. Allume recommends reaching out to an NPU manufacturer (such as CleanTech Controls or Greenwood) for information on certified multi-channel NPUs suitable for use in South Australia.



**NOTES**

- In South Australia Service Side fuses will be replaced by meter isolators. If this is the case the system shall be configured for SYSTEM LEVEL ANTI-ISLANDING.
- The solar point of connection is on the load side of the Main Switch (Normal Supply) for each tenancy. Tenancy Main Switch (Normal Supply) will isolate both grid and solar supply to tenancy. Clear labelling must be included on the meter panel to indicate this wiring configuration (label provided with SolShare).
- The Inverter Supply Main Switch shall be labelled clearly and be able to provide overcurrent protection rated to the inverter's maximum output current.
- Tenancy Main Switches (Inverter Supply) shall be housed in the MSB, next to the Tenancy Main Switches (Normal Supply) for that connection/unit.
- The cables shall be size correctly to meet AS/NZS 4777.1:2024, AS/NZS 3000:2018 and AS/NZS 3008.1.2:2017 requirements.
- SolShare Isolation box shall be installed, by utilizing the 40A, 240VAC coil contactors provided as part of the installation kit.
- SolShare Maintenance Isolator (Inverter) is required if Inverter Supply Main Switch is not easily accessible from SolShare.
- Inverter phase connections shall match the grid phases for each tenancy connection on the SolShare.
- SolShare requires a direct connection to MEN. Neutral and Earth shall be connected to the Main Neutral Bar and Main Earth Bar respectively which has the MEN link installed at the main switchboard.
- All output cables of the SolShare must be sized for the inverters maximum current, as at points in time the SolShare may direct all current to one unit on each phase.
- Each SolShare requires its own solar PV array and dedicated inverter/inverters.
- The Neutral connection of the coil (A2) shall be terminated at the neutral bar in the isolation box and linked back to the Main Neutral Bar that has the MEN present at the MSB.
- Connect one contactor per SolShare when there are multiple SolShare connected to an interface protection

**LEGEND**

	Circuit Breaker
	Meter
	SolShare CT
	CT Cable
	MEN Link
	Fuse
	Contactor Coil
	Neutral Bar

For installation design

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