



FAQs

DC Combiner Boxes

1. What is a functional earthed system?

Functional earthed system has the negative connection though out the system connected to earth or ground. This means in a DC combiner box there is only protective fuse link in the positive leg only.

2. What is a protective earthed system?

Protective earthed system are a floating system with fuse links in the positive and in the negative leg.

3. How to select string fuse ratings?

DC combiner boxes are typically subjected to extreme temperatures, therefore a 1.56 multiplying factor is used with the panel I_{sc} . For additional information follow the link [here](#).

4. What is DC-PV2 rating?

DC-PV2 rating is a specific tested rating to ensure the DC isolators are capable of breaking the voltages and currents of a PV array under specific fault conditions. Tested according to AS 60947.3. DC Isolators in PV systems are required to have a DC-PV2 rating when isolating solar arrays.

5. What Australian Standard covers PV installations?

The Australian Standard for PV installations is AS 5033.

6. Can we use 2P Isolators in DC combiners?

2P Switches can be used in a DC isolators so long as the DC-PV2 rating meets the requirement of circuit its installed on.

7. Does a DC Combiner need to have a AS 61439 rating?

As per the requirements of AS 3000 wiring rules enclosures with protective devices are classified as a switchboard and therefore need to comply with the requirement of AS 61439.



FAQs

Grid Protection and AC Combiners

1. What is an AC Combiner?

AC Combiners is an assembly which combines small AC outputs to a common larger AC output. Typically used to combine several solar inverter outputs before feedback to the one larger output to the grid.

2. What is secondary grid protection?

Secondary grid protection is an additional protection system (relay) installed on solar PV systems to prevent "Islanding" and ensuring the output of the inverters is within set operating limits.

3. What is interface protection?

This is a new term for Secondary Grid Protection (based on IEC terminology), this term its now included in Australian Standard 4777 2024.

4. What Standard covers secondary grid protection?

Grid Protection comes under the requirements of Australian Standard is AS 4777. The latest revision of the Standard was released in 2024.

5. What Australian Standard covers PV installations?

The Australian Standard for PV installations is AS 5033.

6. Do grid protection boards need to comply with AS 61439?

Yes, for switchboards over 125A and with a fault level greater than 10kA compliance with AS 61439 is a requirement as per the Australian Wiring Rules.

7. What is emergency back stop?

In some jurisdictions PV systems must provide a mechanism to shut down the PV system in the event of an emergency initiated by the DSPN.



FAQs

Grid Protection and AC Combiners

8. Where are grid boards installed?

As PV systems are normally an engineered solution, they can be mounted in many different locations all dependent on the position of the string inverters, proximity to the main switchboard and the point of attachment. Care should be taken to ensure that the enclosure material of the grid protection board is fit for purpose for the environment its installed in.

9. What is a distributed grid protection system?

A DGP is a PV system where multiple inverter AC outputs are not combined at the one point but feed to the installation network at multiple points. The control of these multiple points needs to be via the one grid protection relay.

10. What is central grid protection?

Central Grid Protection (CGP) is where the AC inverter outputs are combined at the one point before feeding back the grid.

11. What are the set points IPD uses on their systems?

IPD sets our ABB relay to the below settings when wiring in a standard or custom assembly. If you have a unique requirement to vary from these settings, the exact setting will need to be provided at time of order. For additional information follow the link [here](#).