COMPLYING WITH AS/NZS 5033:2014 EARTH FAULT ALARM REQUIREMENTS

Beginning on the 11th July 2015 all PV systems with an array peak power @ STC of 240kWp or less, will need to meet new requirements regarding earth fault alarm. An earth fault alarm is a safety requirement designed to detect if there is a fault or short-circuit between the DC circuit/s of a PV system and ground (earth).

SMA Solar Technology AG has made it possible to simply and cheaply meet earth fault alarm requirements for systems using SMA inverters a number of methods. These are:

1. Using the Webconnect module to connect the PV system to Sunny Portal.
   [Note: Webconnect included at no additional cost with all SMA inverters]
2. Purchasing a multi-function relay and configuring specific settings using Sunny Explorer.
3. Installation of the inverter in a suitable location to meet alarm location requirements.
   [Note: this option is only possible for inverters with a graphical display].

An earth fault alarm system is now required because of changes to the Australian standard for PV arrays. It relates to Clause 3.4.3 of AS/NZS 5033:2014 which has the following requirements:

- an earth fault alarm system shall be installed.
- the system shall, in the event of an earth fault, initiate action to correct the fault by means of an alarm.
- the alarm can be either audible, visual or another form of communication (e.g. email).
- the alarm shall operate at least hourly until the fault is rectified.
- if using an audible or visual alarm, it shall be installed in a place where the system owner will be aware of the alarm signal.

SMA has taken care to review all the requirements for earth fault alarms, and have integrated them into a special reporting function in Sunny Portal. By connecting the PV system to Sunny Portal and activating this earth fault alarm, installers can be sure they will comply with all safety and legal requirements relevant to this clause. This method of compliance should be used as the first option for complying with the standard.

SMA also recognises it will not always be possible to connect a system to Sunny Portal. In such cases a multifunction relay can be purchased and configured to facilitate the use of an audible or visual alarm. This option will require the installer to identify a suitable alarm to connect to the multi-function relay. The installer will also need to take care the alarm is installed in a compliant location according to the standard.

For SMA inverters with a graphical display, it can be possible to comply with earth fault alarm requirements without additional components. In this instance, the visual warning light and error information on the graphical display can be relied upon; however this method of compliance requires the inverter be installed in a compliant location according to the standard.

To make sure they are fully aware of the requirements of in the standard, SMA recommend installers purchase a copy from SAI Global here: http://infostore.saiglobal.com/store/details.aspx?ProductID=1764523