

*Application Note*

# Complying with Earth Fault Alarm Requirements of AS/NZS 5033:2014

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## 1. Introduction

In Australia the installation of an earth fault alarm system is required for photovoltaic systems. This safety function is meant to detect if there is a fault or short circuit between one of the DC circuits and ground/earth.

Clause 3.4.3 of AS/NZS 5033:2014 states the requirements as follows:

- An earth fault alarm system shall be installed
- The alarm system shall cause an action to be initiated to correct the earth fault
- The alarm shall repeat at least hourly until the fault is corrected
- The alarm shall either be audible, visual or another form of communication
- If using audible or visual alarms, they shall be installed at a location where the system owner or operational staff will be aware of the signal

KATEK Memmingen GmbH has implemented simple measures to meet the earth fault alarm requirements with coolcept fleX and coolcept<sup>3</sup> fleX inverters:

1. Using the audible and visual alarm integrated into the inverter
2. Accessing the integrated webserver over local network connection

If an earth fault occurs the system operator should inform the installer.

### **Please be aware:**

**The installation and commissioning instructions in the manual of Steca inverters are not being replaced by the information in this document.**



KATEK Memmingen GmbH recommends installers purchase a copy of the relevant standard AS/NZS 5033:2014 to make sure they are fully aware of the requirements.

## 2. Using the audible and visual alarm integrated into the inverter

Coolcept fleX and coolcept<sup>3</sup> fleX inverters feature a built in visual and audible alarm. With these it can be possible to comply with earth fault alarm requirements without the need of installing dedicated components. However this variant of compliance requires installing the inverter in a compliant location according to the standard.

In case of a fault the display of the inverter acts as a visual warning light by blinking red in addition to showing the error information. An optional audible alarm can be activated in the Settings menu. If it has been activated the inverter will alarm the operator in case of an error with four short *beeps*.

Both the visual and audible alarm will remain active until the fault has been corrected.

Additionally the error type, date and time is stored in the event memory of the "Event log" menu of the inverter.

The optional audible alarm can be activated in the menu:

"Settings" -> "Alarm"



This variant of compliance requires installing the inverter in a compliant location according to the standard. The installer is responsible for the compliance to the standard.

### 3. Accessing the integrated webserver over local network connection

Coolcept fleX and coolcept<sup>3</sup> fleX inverters feature a built in webserver which can be accessed over a wired local network connection. For this webserver to be accessible the leftmost RJ45 port named **LAN** of the inverter has to be connected to a local network using an Ethernet cable.

The webserver can then be accessed from any device on the network by connecting to the IP address of the inverter, which is displayed on the inverter display on the bottom left of the home screen.



Depending on the configuration of the local area network, settings in the network menu of the inverter may have to be changed.

In case of doubt contact the responsible network administrator or a specialist.

The webserver shows the same information visible on the display of the inverter itself, including the blinking red background during active faults.

Additionally every currently active and every formerly active fault can be seen on the events subpage with their corresponding date and time of occurrence and clearance.



This variant of compliance requires installing the device used to connect to the webserver in a compliant location according to the standard.