



SHIFTING THE LIMITS

Wels, December 3rd, 2014

FRONIUS COMPLIANCE WITH HAWAIIAN ELECTRIC COMPANIES TOV MITIGATION REQUIREMENTS

Meeting the TOV Mitigation Check

The Hawaiian Electric Companies released a memo outlining new transient over-voltage (TOV) compliance reviews for systems connected to high-penetration circuits. To pass the "TOV Review" a project can include either a compliant inverter or automatic transfer switch. The requirement only exists for projects under 10kW, but larger Fronius inverters can also meet this need when the 120% over-voltage parameter is reprogrammed from its factory setting.

From the factory, each Fronius inverter is set to cease exporting power at 9 cycles when sensed voltage exceeds 120% of nominal. To comply with the Hawaiian Electric Companies' protection scheme, this trip point should be reprogrammed to 1 cycle. After a system disturbance causes the inverter to cease exporting power, automatic reset occurs after 5 minutes once voltage and frequency are restored to normal limits. To meet this requirement, the automatic reset time should be left at the factory setting and not adjusted.

Compliant Inverters

The following inverters include the ability to adjust the 120% over-voltage trip to 1 cycle. This ability is tested during UL 1741 certification from CSA:

Galvo 1.5-1	Symo 12.0-3 208-240	Symo 24.0-3 480
Galvo 2.0-1	Symo 12.5-3 480	Primo 3.8-1 208-240
Galvo 2.5-1	Symo 15.0-3 480	Primo 5.0-1 208-240
Galvo 3.1-1	Symo 17.5-3 480	Primo 6.0-1 208-240
Symo 10.0-3 208-240	Symo 20.0-3 480	Primo 7.6-1 208-240
Symo 10.0-3 480	Symo 22.7-3 480	Primo 8.2-1 208-240

Changing Set Points

When a technician wishes to change these settings from the default, Fronius Technical Support should be contacted at 1-877-FRONIUS or pv-support-usa@fronius.com. The serial number of each inverter to be changed will be needed to obtain the necessary forms, instructions and access code for entering the settings menu. If possible, this is best done before arriving at the job site.

Verifying Set Points

Once the 120% overvoltage clearing time parameter (*UOLMaxTripTime*) is adjusted, a photograph of the inverter display may be needed to verify to the utility that the change was made. The parameter will be shown as "1cyl" if adjusted properly.

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