

Changing Settings on Fronius Primo and Fronius Symo Inverters – Hawaiian Electric Advanced Inverter Requirements

This document contains step-by-step instructions on changing Fronius inverters from the IEEE-compliant factory settings to the full ride-through and fixed power factor settings required by the Hawaiian Electric utilities Rule 14 from January 2016.

Submit AC Trip Limits Form

Provide Fronius Technical Support with completed AC Change Request Form.

Perfect Welding / Solar Energy / Perfect Charging	Gra	nius	/ Perfect Welding / Solar Energy / Perfect Charging	Fronius		
Request Form to Change Inverter AC	Trip Limit Parameters	THE LIMITS	Request Form to Change Inverter AC Tr	ip Limit Parameters		
Interactive France			Freq Outer Limit Min	56.000 Hz		
Introduction: Fromia inverters have internal AC Voltage and Frequency range settings in order to comply with IEEE and utility interconnection terms and regulations. All Fromia inverters are field adjustable to change the type ports according to the UL. 1411 and IEEE 1547 Strauback. So inverters are testical indicated at the the additubule and inference vaters. The TREE 1547 strauback 1547 Strauback. So inverters are testical indicated at the the additubule and inference vaters. The TREE 1547 strauback 1547 Strauback. So inverters are testical indicated at the the additubule and inference vaters. The TREE 1547 strauback inverters have separate anti-stranding protection, which terms the inverter of in case of a power outage. Product Types: Frontius Galivo, Primo, Symo Factory Setting and your Proposed Changes: Protect effects devised the testic table 15 for right column Steel Yee Volues'.			Freq OL Min TripTime	10 cyl		
			Const. Cos Phi	- 0.950		
			Frequency Reconnect Max	Hz		
			Frequency Reconnect Min	H7		
			Initial Start Time	950		
			Democrat Time	050		
Please note: U is the European nomenclature for Volta	Q9.		Reconnect Time	SEC		
Parameters	New Values					
U Inner Limit Max		v				
U IL Max TripTime	60	cyl	Accept the Proposal: I am applying to Fronius USA, LLC to receive an access code	to change the AC voltage limits on the Fronius inverters listed		
U Inner Limit Min		V	below. By signing this form, I certify that all of the following is t	rue and accurate:		
U IL Min TripTime	1260	cyl	 Iam a licensed electrician and the utility company has endorsed the change in AC voltage values. Iwill treat the orde confidential and use it only for the PU (writer(a) which I and/ord for on this form). 			
U Outer Limit Max		v	And Examples and the second dominant and all all all of the second blocks			
U OL Max TripTime	10	cyl	Applicant Name:			
U Outer Limit Min		v	Company:			
U OL Min TripTime	30	cyl	Street Address:			
U Reconnect Min		SEC	City:	, State:, ZIP Code:		
U Reconnect Max		SEC	Email: Phone:	Fax:		
Freq Inner Limit Max	63.000	Hz	Serial Number(s) of Fronius Inverter(s) Proposing to Change:			
Freq IL Max TripTime	1260	cyl				
Freq Inner Limit Min	57.000	Hz				
Freq IL Min TripTime	1260	cyl				
Freq Outer Limit Max	64.000	Hz	Signature of Applicant	Date:		
Freq OL Max TripTime	10	cyl	Return this completed form via fax to: (219) 734-5502 or scan	and email		
L I	Proxime DNA L1 6797 Tronate Dr Porrage, DF 455 00 00 70 70 arc 4 2 7 70 arc 4 2 7 71 and 5 arc 4 2 7 71 and 5 arc 6 2 7 71 arc 6 3 7 71 arc 71 arc 7	C Ine 8 376.6487 5902 8.com	To: pv-support-usa@fronius.com	Freedom URA LLC 6/97 Freedom Drome Perruga, DF 46:06 USA Tall Pres 41 307 376 64157 Perr 41 307 376 64157 Perr 41 307 376 5932 selected drome Dr		

Fronius Technical Support will provide the access code once they have received the completed document.

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Select Setup

Step 1: When the inverter initializes, it will ask to select the language. Press the button to make your selection.

Step 2: Select Country should be displayed on the screen. Press the - button until the correct selection is displayed. For Primo inverters, this will be HI1 US-HI 240V with N. For Symo inverters, select HI1 US-HI 240V with N, HI2 US-HI 208V with N or HI3 US-HI 480V with N depending on the inverter and voltage of the system. Press the button to make your selection. All the correct voltage and frequency ride through settings will automatically be adjusted.



Verify Setup

Step 1: When the inverter display is on, navigate to and enter the INFO menu. Arrow down until Device Info is selected. Press the _____ button.



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Step 2: General will be displayed. Arrow down until Country Setup is displayed.



Step 3: Take a picture of the screen for verification to the utility that the correct settings have been used.

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Accessing the Hidden Menu

Step 1: When the inverter is displaying wattage, press the \int button, scroll over to SETUP and press _____.



Step 2: STANDBY should be displayed on the screen. Press the \square button 5 times.



Step 3: Access Code should now be displayed. Enter the code provided by the Technical Support team. Using + and - change the first number and press to move onto the next number. Once you are on the last number, press and the entire number will flash. Press once more to enter the hidden menu.



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Changing Power Factor to -0.95

Step 1: Press the down arrow until you select Reactive Power Mode.



Step 2: Press

. React. P Mode should be displayed.



Step 3: Press

. **OFF** will be displayed.



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Step 4: Press the down arrow until you select C. Cos ϕ and press



Step 5: Press the down arrow until you select Const. Cos ϕ and press _____ .



Step 6: Change **+ 1.000** to **- 0.950** by pressing **+** and **-** and *_____* to move onto the next space. Press *_____* on the last number. This will make the entire number flash. *Take a picture of the display as proof for the utility that the setting has been changed.*



Step 7: Press again and Const. Cos φ should be displayed. Press \frown twice to exit the menu and return to normal operation with the new settings.

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To verify that the correct settings have been made, the above instructions can be used to access each parameter. Exit each parameter without changing it by pressing \leq _____.

If you need any assistance, please call the Fronius Technical Support at 877-376-6487, then press 1 for solar, and 1 for technical support. They will gladly assist you with these changes. Or you may email at <u>pv-support-usa@fronius.com</u>.

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Request Form to Change Inverter AC Trip Limit Parameters

Introduction:

Fronius inverters have internal AC Voltage and Frequency range settings in order to comply with IEEE and utility interconnection terms and regulations. All Fronius inverters are field adjustable to change the trip points according to the UL 1741 and IEEE 1547 standards. Our inverters are tested and certified with the default Voltage and Frequency settings. The IEEE 1547 standard allows an authorized technician to change the operational parameters of the inverter with utility approval. Note that all Fronius inverters have separate anti-islanding protection, which turns the inverter off in case of a power outage.

Product Types: Fronius Primo, Symo

Factory Setting and your Proposed Changes:

Please enter your desired changes in the below table's far right column titled "New Values".

Please note: U is the European nomenclature for Voltage.

Parameters	New Values	
U Inner Limit Max		V
U IL Max TripTime	60	cyl
U Inner Limit Min		V
U IL Min TripTime	1260	cyl
U Outer Limit Max		V
U OL Max TripTime	10	cyl
U Outer Limit Min		V
U OL Min TripTime	30	cyl
U Reconnect Min		V
U Reconnect Max		V
Freq Inner Limit Max	63.000	Hz
Freq IL Max TripTime	1260	cyl
Freq Inner Limit Min	57.000	Hz
Freq IL Min TripTime	1260	cyl
Freq Outer Limit Max	64.000	Hz
Freq OL Max TripTime	10	cyl

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Request Form to Change Inverter AC Trip Limit Parameters

Freq Outer Limit Min	56.000	Hz
Freq OL Min TripTime	10	cyl
Const. Cos Phi	- 0.950	
Frequency Reconnect Max		Hz
Frequency Reconnect Min		Hz
Initial Start Time		SEC
Reconnect Time		SEC

Accept the Proposal:

I am applying to Fronius USA, LLC to receive an access code to change the AC voltage limits on the Fronius inverters listed below. By signing this form, I certify that all of the following is true and accurate:

1) I am a licensed electrician and the utility company has endorsed the change in AC voltage values.

2) I will treat the code confidential and use it only for the PV system(s) which I applied for on this form.

Applicant Name:				
Company:				
Street Address:				
City:		, State:	, ZIP Code:	
Email:	Phone:		Fax:	
Serial Number(s) of Fronius Inverter(s) Proposing to Chan	ge:		
Signature of Applicant:			Date:	
Return this completed form via fax to: To: pv- support-usa@fronius.com	(219) 734-5502 or so	can and email		
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