

Quick Reference - Add a Generator to the Enphase Energy System

Please note: We recently simplified our product and services naming across the Enphase Energy System. For a quick reference chart to map old names to new, please visit <u>this article</u>.

Workflow for Integrating an AC Home Standby Generator with the Enphase Energy System



Commissioning a Generator with the Enphase Installer App

Adding a Generator to the system

Follow the below steps to add a Generator to the Enphase system using the Installer App:

- A. Launch the Installer app and tap Systems.
- B. Select the system you are working with or tap [+] to add a system.
- C. Make sure that the system details are added (Step 1) and that an appropriate grid profile is set for the system.
- D. Go to Devices & Array (Step 2) and add the total number of devices of each type in the system. Tap 'Add **Device**' if you need to edit previously entered data.
- E. Tap on device type Generator and add all the Generator details Manufacturer name, Model, Serial Number etc.
- F. Enter the Maximum Continuous Gen Amps value, Generator Efficiency Set Point¹ and Generator Nameplate rating.
- G. If you select a generator of Autostart type, you need to select the Mode of operation and can also set values for advanced settings such as Exercise Mode etc.
- H. Tap on 'Done'
- I. Connect to Gateway/Envoy in AP mode and update the Gateway software to v7.0.66 or higher in Step 4
- J. Start Provisioning devices in Step 5. Once provisioned, you can see the line "Generator details updated"
- K. In Step 6 Meter Configuration, follow the wizard to enable the Generator meter
- L. Note: You must wait for the IQ System Controller or Enpower firmware upgrade to finish before you start enabling the generator meter.
- M. Installer App v3.0.22 or higher will ensure you do not inadvertently start enabling the generator meter before the IQ System Controller firmware upgrade has finished. However, Installer App v3.0.21 does not have this safeguard.
- N. If you are using Installer App v3.0.22 for early access to the generator feature you must ensure that the IQ System Controller firmware has upgraded to 21.19.90 or higher before you start enabling the generator meter. If you start enabling the generator meter before the IQ System Controller has upgraded this will lead to the system being stuck in an off-grid state. The system will need a power cycle and intervention from Enphase customer support to recover.
- O. In Step 7 complete Functional validation by following the steps shown
- P. Confirm that the system summary report generated in Step 8 includes Generator details

10:07 🗣	@ www. 🔌 🖄 🖹 🛙	3:49 🔎 🚾 🕸 📽 🛔
← Devices & Arra	ау	← Generator
Add the number of devices to	be installed.	Disconnected from Envoy. Connect again to continue.
Envoy	- 2 +	Details
Microinverters	- 10 +	Manufacturer name * Enphase
Encharge		Model *
(1 Unit = 3.3 kWhr)	- 1 +	123456789
Enpower	- 1 +	
Generator	- 1 +	Max Continuous Generator Amps (up to 64A) * 56
·		Max Generator Efficiency Set Point * 100
		Min Generator Efficiency Set Point *
		Generator Nameplate Rating (in KW) * 10
Do	one	Generator type * Diesel
Systems Support	Feedback Settings	Systems Support Feedback Settings
<		
Add Device instal	es to be led	Add Generator Information

¹ Max Generator Efficiency Set point is calculated as a percentage of the value entered in Max Continuous Generator Amps field. System will try to ensure that the use of Generator is within this limit. If the Generator is loaded beyond this limit, then the system stops charging batteries. If the limit is exceeded after stopping the charging, then the batteries start discharging to support loads.

Figure 1: Adding a generator to a system using Installer APP

				Conciator
Disconnect	ted from Envoy.	Connect again to cor	ntinue.	Details
				and cype
Evorcico	Sotting	c.		Auto
Exercise	Setting	5		
nterval to keep	it in good wor	tor automatically or king condition.	n a regular	Smart Profile
				Select a smart profile to control your Kohler 12RESVI -1001 C12
Day in a week		Time		
Sunday	*	12:00 AM		 Autostart
Duration		Frequency		Use if you want to turn on your generator as soon as your
30 mins	-	Aweeks	-	system switches to Off Grid mode
Cool dov	vn perio	d		Start Based on Battery Level
Cool dov Minutes of cool 8 mins	vn perio I down before shu	d utting down	•	Start Based on Battery Level Use if you want to turn on your generator only when the battery charge is below a certain level and your system is Off Grid.
Cool dow Minutes of cool 8 mins Warm up	vn perio	d utting down	•	Start Based on Battery Level Use if you want to turn on your generator only when the battery charge is below a certain level and your system is Off Grid. Battery Charge Threshold: Lower Limit: 30 % Upper Limit: 50 %
Cool dov Minutes of cool 8 mins Warm up Minutes of cool	vn perio I down before shu o period	d utting down	•	Start Based on Battery Level Use if you want to turn on your generator only when the battery charge is below a certain level and your system is Off Grid. Battery Charge Threshold: Lower Limit: 30% Upper Limit: 50%
Minutes of cool 8 mins Warm up Minutes of cool 20 mins	vn perio I down before shu D period	d utting down	•	Start Based on Battery Level Use if you want to turn on your generator only when the battery charge is below a certain level and your system is Off Grid. Lower Limit: 30% Upper Limit: 50% O% 50% 50% 50% 50%
Minutes of cool 8 mins Warm up Minutes of cool 20 mins	vn perio I down before shu o period I down before sta	d atting down rting up.	•	Start Based on Battery Level Use if you want to turn on your generator only when the battery charge is below a certain level and your system is Off Grid. Battery Charge Threshold: Lower Limit: 30% Upper Limit: 50% 0% 50% 50% 50% 100%
Minutes of cool 8 mins Warm up Minutes of cool 20 mins	vn perio I down before shu O period I down before sta	d utting down rtting up: VE	•	 Start Based on Battery Level Use you want to turn on your generator only when bottery or bage is balow a certain level and you Battery Charge Threshold: Lower Limit: 30% Upper Limit: 50% 0x 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Minutes of cool 8 mins Warm up Minutes of cool 20 mins	vn perio down before sh o period d down before sta	d utting down tting up. ve	•	 Start Based on Battery Level Use if you want to turn on your generator only when the battery charge is below a certain level and your is off off. Battery Charge Threshold: Lower Limit: 30% Upper Limit: 50% 0% 6 6 6 5 0% 6 6 6 100% Ox 6 0 Cuiet Time O

Figure 2: Adding a generator to a system - continued

Configuring the generator meter



Figure 3: Configuring generator meter



Figure 4: Configuring generator meter - continued

Generator Meter configuration steps:

Note: You must wait for the IQ System Controller or Enpower firmware upgrade to finish before you start enabling the generator meter.

- A. Go to Step 6 **Meter configuration** and tap on **Generator Meter** to configure it. Tap on Go off-grid and observe the consumption reading drop close to zero. Tap on 'Next' once it is enabled ('Next' button gets enabled once the system goes off-grid. It might take up to 40s for the system to go off-grid)
- B. If the Generator used is autostart based, then tap on 'Turn On Generator' to automatically turn on the Generator.
- C. Open the IQ Battery or Encharge breaker, switch off PV. Select the check boxes on the screen and tap on Next
- D. Increase the load and observe Generator meter readings rise. Validate the readings, select the checkbox, and tap on Next
- E. Close the IQ Battery or Encharge breaker and select the checkbox. Switch ON the PV breakers and wait for 5 mins. Once the timer expires, tap on Next
- F. Tap on 'turn off generator' -> 'Go on grid', enable Generator meter