

Custom inverters

This guide applies to the easy-pv.co.uk and easy-pv.ie versions of Easy PV. The information provided here may not be accurate for easy-pv.com.

To add a custom inverter in Easy PV navigate to **My Components > Inverters** on the left-side menu or **Components > Edit Inverters** from the top drop down menu.

You will need the datasheet from the manufacturer so Easy PV can appropriately perform calculations for inverter and battery sizing and system output. Below you will find guidance on how the information in the datasheet corresponds to the values Easy PV asks for.

Creating manufacturer

To add an inverter, first add a new inverter manufacturer category and then specify the type of inverter you are adding from the drop-down menu. If you would like to add additional inverters that are of a different type, then you must create a new manufacturer category.

New inverter manufacturer details

Name:

Description:

Type:

Choose whether these inverters are PV string inverters, hybrid inverters, or AC-coupled battery inverters.

After inputting the name and type for the manufacturer, re-open your custom manufacturer and you will see the additional option to add an inverter.

Inputting information from datasheet

Below is a list of definitions and the potential variations for each value on different manufacturer datasheets for each section for PV, hybrid and AC-coupled inverters.

AC output

As well as whether it is a single phase or three phase inverter, other than max power for AC inverters, all inverter types you will need to input the following information:

Technical info	Variations
Max current: maximum AC current in Amps that the inverter can output	<ul style="list-style-type: none">• Max output current• Max AC current
Max power: maximum AC power output in Watts of the inverter	<ul style="list-style-type: none">• Max recommended PV power• Max AC apparent power• Max apparent AC power• Nominal AC power• Rated output power
Power factor	<ul style="list-style-type: none">• This is 1 unless stated otherwise

Solar

For PV and Hybrid inverters you will also need to input information for the solar input:

After inputting the name, max current and max power the inverter will save and close, remember to re-open it and click **Add tracker** (under **Solar** on the right) for each MPPT input the inverter has. If the trackers are the same then you can simply click the copy icon next to the bin icon.

Technical info	Variations
Tracker, V_{mpp} range: the range of V _{mpp} values (maximum power point voltage of the panels at standard test conditions (STC)) compatible with this inverter	<ul style="list-style-type: none">• MPP voltage range• Operating voltage range• MPPT range
Tracker, Max V_{oc}: maximum open circuit voltage	<ul style="list-style-type: none">• Max DC voltage• Max input voltage• Max DC input power
Max I: maximum current	<ul style="list-style-type: none">• Max input current per MPP tracker• Max input current

Battery

For hybrid and AC-coupled inverters you will also need to input battery compatibility information:

Technical info	Variations
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Max Charge Rate: the maximum power at which the inverter can charge a battery	<ul style="list-style-type: none"> • Max charge power
Max Discharge Rate: the maximum power that the inverter can draw from a battery	<ul style="list-style-type: none"> • Max discharge power • Often the same as the maximum charge rate
Charge Efficiency: the efficiency of the charge process	<ul style="list-style-type: none"> • Datasheets may have several values; 'Euro' efficiency
Discharge Efficiency: the efficiency of the discharge process.	<ul style="list-style-type: none"> • Battery discharge • If no separate value is given on the datasheet, use the same value as for charge efficiency
Min Battery Capacity	<ul style="list-style-type: none"> • The capacity of the smallest battery bank that should be used with this inverter
Max Battery Capacity	<ul style="list-style-type: none"> • The capacity of the largest battery bank that should be used with this inverter
Max Discharge Depth: the maximum depth to which the inverter will discharge an attached battery	<ul style="list-style-type: none"> • If no figure is given in the datasheet, use 100%
Max Batteries: maximum number of batteries that can be connected	<ul style="list-style-type: none"> • Leave blank if there is no maximum

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