

# Create and manage your own components

Below, you'll find full instructions on how to add and manage each type of component in Easy PV.

Note that Easy PV does not support adding custom **optimisers** or **mounting systems**. To use custom mounting, you will need to select no mounting in the panels task and add the mounting to the financial task, but it will not be included in any calculations or designs Easy PV generates.

- [Custom solar panels](#)
- [Custom inverters](#)
- [Custom battery](#)
- [Custom accessories and other components](#)

# Custom solar panels

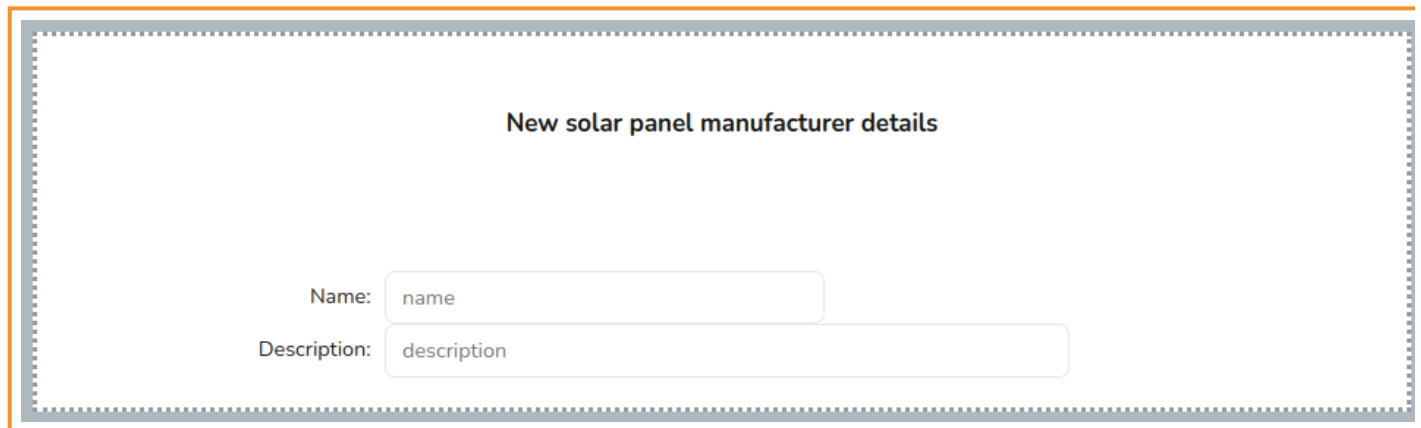
This guide applies to the [easy-pv.co.uk](https://easy-pv.co.uk) and [beta.easy-pv.ie](https://beta.easy-pv.ie) versions of Easy PV. The information provided here may not be accurate for [easy-pv.com](https://easy-pv.com) and [easy.pv.ie](https://easy.pv.ie).

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

You will need the **datasheet** from the manufacturer so Easy PV can appropriately perform calculations for inverter 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

When adding any custom panel in Easy PV you first need to add a custom manufacturer category which allows you to organise your custom components. The components added will be categorised by their manufacturer when it comes to select them in a project.



The screenshot shows a form titled "New solar panel manufacturer details". It contains two input fields: "Name:" with a placeholder "name" and "Description:" with a placeholder "description". The form is enclosed in a dashed border.

After inputting the name for the manufacturer, re-open your custom manufacturer and you will see the additional option to add a solar panel.



Custom manufacturer

Not used in any projects

Name: Custom manufacturer

Description: description

[+] Add solar panel

## Inputting information from datasheet

You will then need to input the technical information found in the datasheet for the panel. This is a list of potential variations for each value required to add a custom panel:

Technical info	Variations
<b>Power:</b> power of the panel at STC in Watts	<ul style="list-style-type: none"> <li>Peak Power Watts</li> <li>Maximum Power Pmax</li> <li>Power at MPP</li> </ul>
<b>I<sub>sc</sub></b> : short circuit current of the panel at STC in A	<ul style="list-style-type: none"> <li>Short Circuit Current</li> <li>Short Circuit Current Isc</li> </ul>
<b>I<sub>mpp</sub></b> : maximum power point current of the panel at STC in A	<ul style="list-style-type: none"> <li>Maximum Power Current</li> <li>Current at MPP</li> </ul>
<b>ΔI<sub>sc</sub>/°C</b> : the temperature coefficient of the panel short circuit current	<ul style="list-style-type: none"> <li>Temperature Coefficient of I<sub>sc</sub></li> </ul>
<b>V<sub>oc</sub></b> : open circuit voltage of the panel at STC	<ul style="list-style-type: none"> <li>Open Circuit Voltage</li> </ul>
<b>V<sub>mpp</sub></b> : maximum power point voltage of the panel at STC	<ul style="list-style-type: none"> <li>Maximum Power Voltage</li> <li>Voltage at MPP</li> </ul>
<b>ΔV<sub>oc</sub>/°C</b> : temperature coefficient of the open circuit voltage of the panel	<ul style="list-style-type: none"> <li>Temperature Coefficient of V<sub>oc</sub></li> </ul>

The panel will auto-save once all the required fields are completed. Once you have added a panel successfully, you'll be able to select it in the list of panels when creating a new project in the panels task, listed under your custom manufacturer name.

## Additional details and rules

- The **photo** and **description** for the panels will show up on your final customer proposal, to edit the image of the c and upload from your files: t image
- There is a set of rules which can be configured for each panel. The default

Rules:

☐ Requires birdblocker clips for square tube

☐ Selected inverter groups only

☐ Selected specific inverters only

☒ Compatible with renusol console

☐ Restrict mounting systems

☐ Disallow orientations

☒ Compatible with GSE

settings for new panels:

# Custom inverters

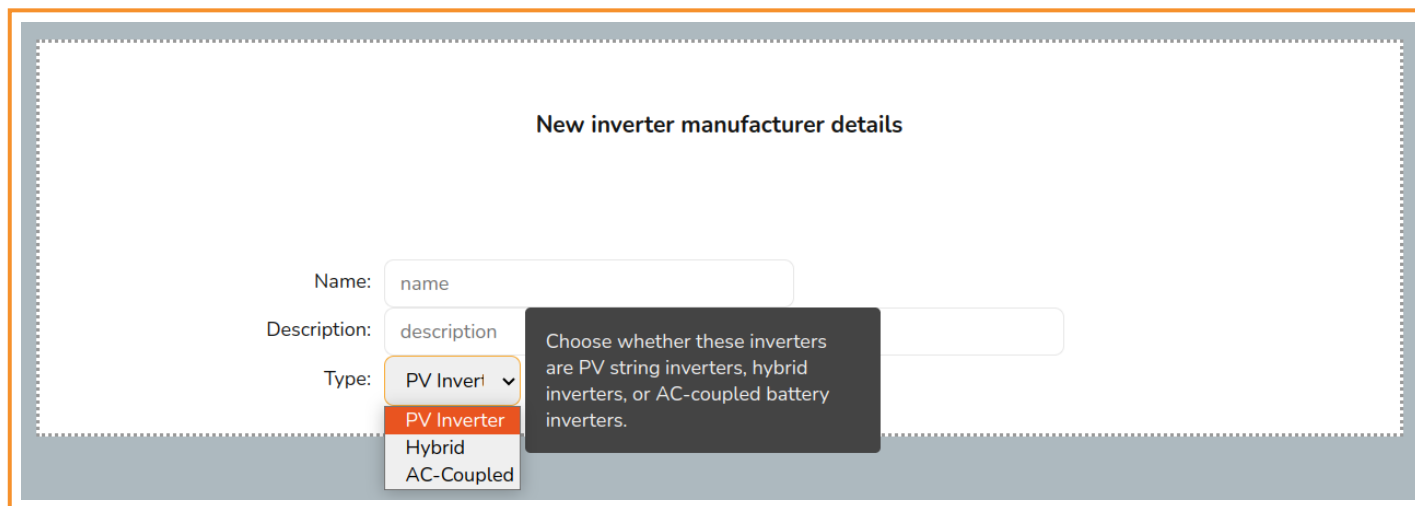
This guide applies to the [easy-pv.co.uk](https://easy-pv.co.uk) and [beta.easy-pv.ie](https://beta.easy-pv.ie) versions of Easy PV. The information provided here may not be accurate for [easy-pv.com](https://easy-pv.com) and [easy-pv.ie](https://easy-pv.ie).

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

## 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
<b>Tracker, V<sub>mpp</sub> range:</b> the range of V <sub>mpp</sub> values (maximum power point voltage of the panels at STC) compatible with this inverter	<ul style="list-style-type: none"><li>• MPP voltage range</li><li>• Operating voltage range</li><li>• MPPT range</li></ul>
<b>Tracker, Max V<sub>oc</sub>:</b> maximum open circuit voltage	<ul style="list-style-type: none"><li>• Max DC voltage</li><li>• Max input voltage</li><li>• Max DC input power</li></ul>
<b>Max I:</b> maximum current	<ul style="list-style-type: none"><li>• Max input current per MPP tracker</li><li>• Max input current</li></ul>

## Battery

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

Technical info	Variations
----------------	------------

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

# Custom battery

This guide applies to the [easy-pv.co.uk](https://easy-pv.co.uk) and [beta.easy-pv.ie](https://beta.easy-pv.ie) versions of Easy PV. The information provided here may not be accurate for [easy-pv.com](https://easy-pv.com) and [easy.pv.ie](https://easy.pv.ie).

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

You will need the datasheet from the manufacturer, below you will find guidance on how the information in the datasheet corresponds to the values Easy PV asks for.

If your custom battery is not showing up in the inverter task, see the 'Additional details' section and check the compatibility is correct.

## Inputting information from datasheet

Below is a list of definitions and potential variations for each value on different manufacturer data sheets:

Technical info	Variations
<b>Battery Capacity:</b> total battery capacity. Usable capacity may be less if there is a max permitted discharge depth.	<ul style="list-style-type: none"><li>Battery module energy</li><li>Battery system capacity</li></ul>
<b>Max Discharge:</b> maximum depth to which the manufacturer recommends that this battery is discharged. Typically 80 or 90%.	<ul style="list-style-type: none"><li>Depth of discharge</li></ul>
<b>Round Trip Efficiency:</b> percentage of electricity recovered from the battery in a charge-discharge cycle. Around 95% is typical for lithium ion batteries.	<ul style="list-style-type: none"><li>Peak round-trip efficiency</li></ul>

The battery will auto-save once all the required fields are completed.

## Additional details

Notice you can select a variety of rules for the battery. Some key points:

- It is important you select which inverter groups or which specific inverters the battery is compatible with - either by checking 'Selected inverter groups only' or 'Selected specific inverters only' and selecting from the menu which inverters it is compatible with.
- If your hybrid inverter is an **all-in-one system** and you would like it to appear in one line in the quote then make sure to input the price in the **inverter** and then select 'exclude

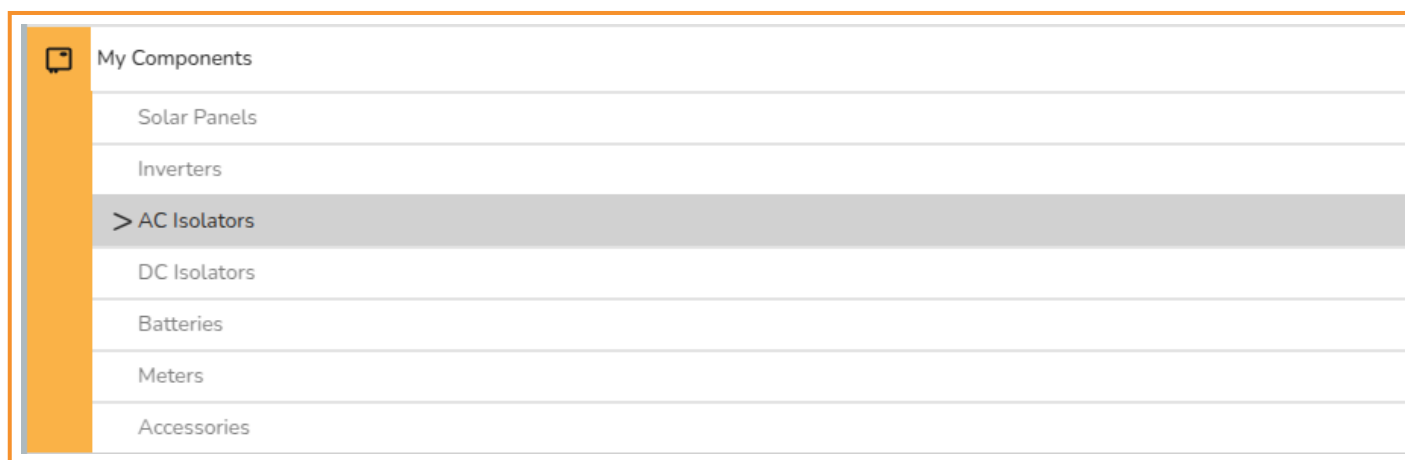


from shopping cart' in the **battery** rules - this means it will only include and list the cost of the inverter and not the batteries. Note that this will mean additional batteries will not be priced if more than one battery can be included.

# Custom accessories and other components

This guide applies to the [easy-pv.co.uk](https://easy-pv.co.uk) and [beta.easy-pv.ie](https://beta.easy-pv.ie) versions of Easy PV. The information provided here may not be accurate for [easy-pv.com](https://easy-pv.com) and [easy.pv.ie](https://easy.pv.ie).

In Easy PV you can also add custom AC isolators, DC isolators, meters and additional accessories. Each of these will be available to select in the electrical task, with accessories in the **Extras** section of the electrical task.



These are largely more straight forward than other components in Easy PV. However, when adding a custom accessory, there are many different rules you can select. To determine what each rule changes, select the rule and a window will appear which details what the rule will change about how the component can be used.