

Quick guide PV Point & PV Point Comfort

Application guide

Fronius International GmbH

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Business unit or organizational unit

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Gender-specific formulations refer equally to the female and male form.

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1 Introduction

The PV Point is the basic backup power supply for the Fronius GEN24 & GEN24 Plus series and is integrated into the device as standard. A socket can be installed on the PV Point, which is supplied in the event of a grid outage based on the currently available PV generator output (or existing battery). Switching is automated by the inverter and does not require any additional grid switching components. The PV Point can be used to supply all important single-phase loads in the household up to 3 kW. The PV Point does not require the installation of a storage unit - but it can also be installed with a storage unit as an option.

By installing the **PV Point Comfort**, the supplied socket or circuit can also be supplied **permanently, i.e. in parallel grid operation**, unlike the PV Point. To do this, an additional circuit board must be installed in the connection area of the inverter. This can also be retrofitted at any time at a later date.

The functional diagram of the PV Point & PV Point Comfort is shown in Figure 1:

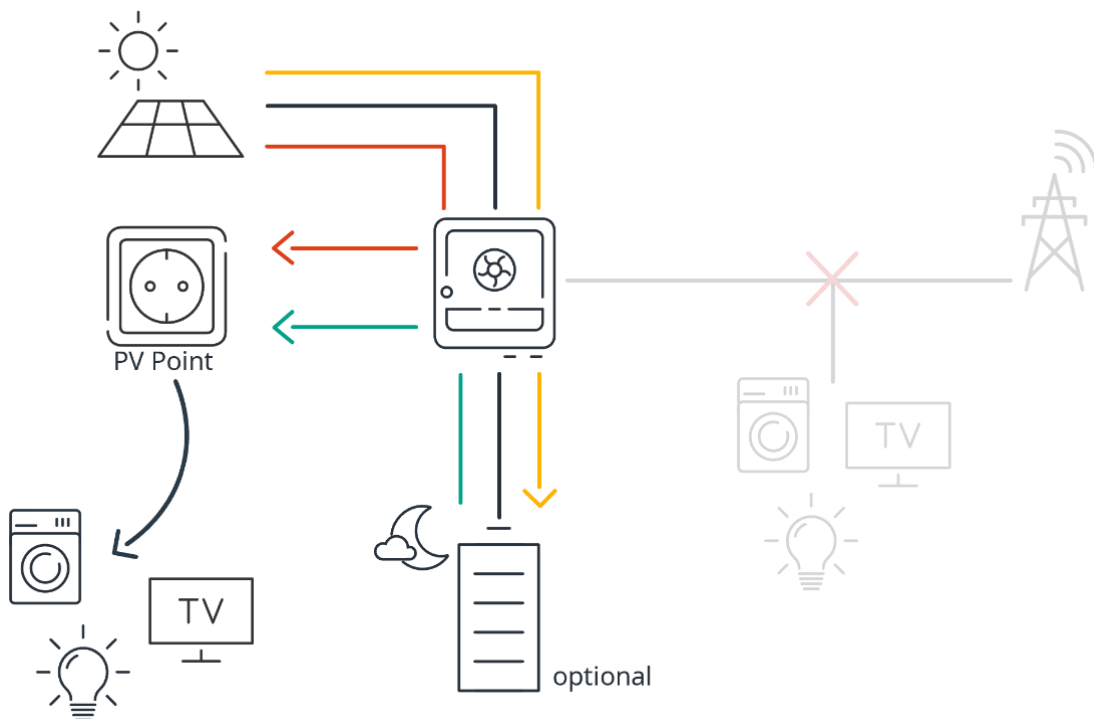


Figure 1: Schematic of the basic backup power supply (PV Point & PV Point Comfort) of the Fronius GEN24 & GEN24 Plus series

2 Installation

2.1 Hardware preparation

The installation of the PV Point [Comfort] requires a **modification to the basic shell**. Four predefined outputs are marked on the underside of the inverter for this purpose, which can be used for the PV Point [Comfort] installation. The underside of the GEN24 series with the outputs is shown in Figure 2:

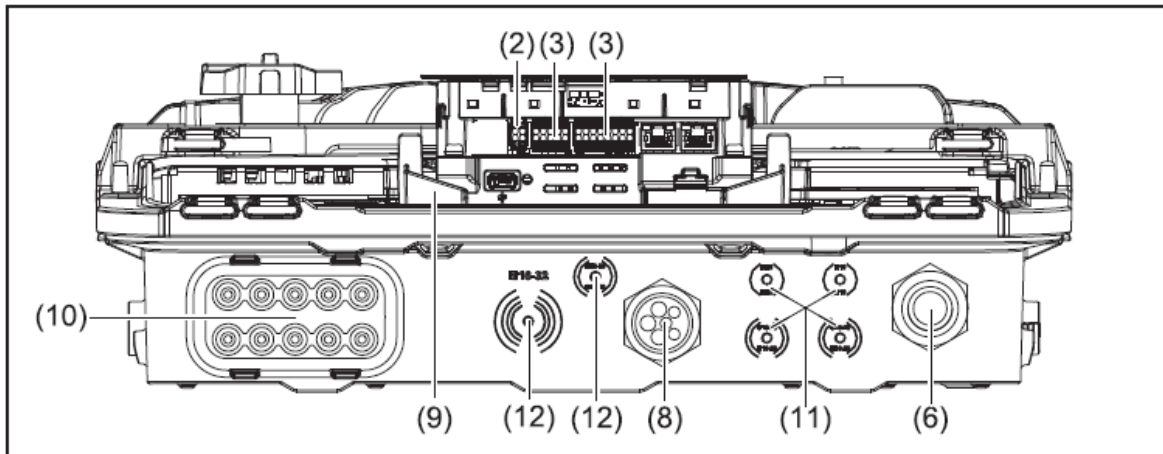


Figure 2: Inverter underside of the Fronius GEN24 & GEN24 Plus series with the four predefined outputs

The first step is to drill a hole through one of the four outlets on the base shell. We recommend using a **step drill (M16 / 16 mm diameter)** for this. As soon as the hole has been drilled, a PG cable gland must be fitted to the drilled-through base shell in order to continue to ensure the highest protection class IP66. Figure 3 shows the drilling process and the base shell with the PG cable gland inserted:



Figure 3: Drilling through the base shell and PG screw fitting inserted at the drilled-through point

2.2 PV Point cabling

Once the cable gland has been successfully inserted, the cable can be fed through and connected in the inverter. In the GEN24 & GEN24 Plus series, a separate output / push-in spring-loaded terminal is provided for the PV Point on the AC side, which is shown in Figure 4:

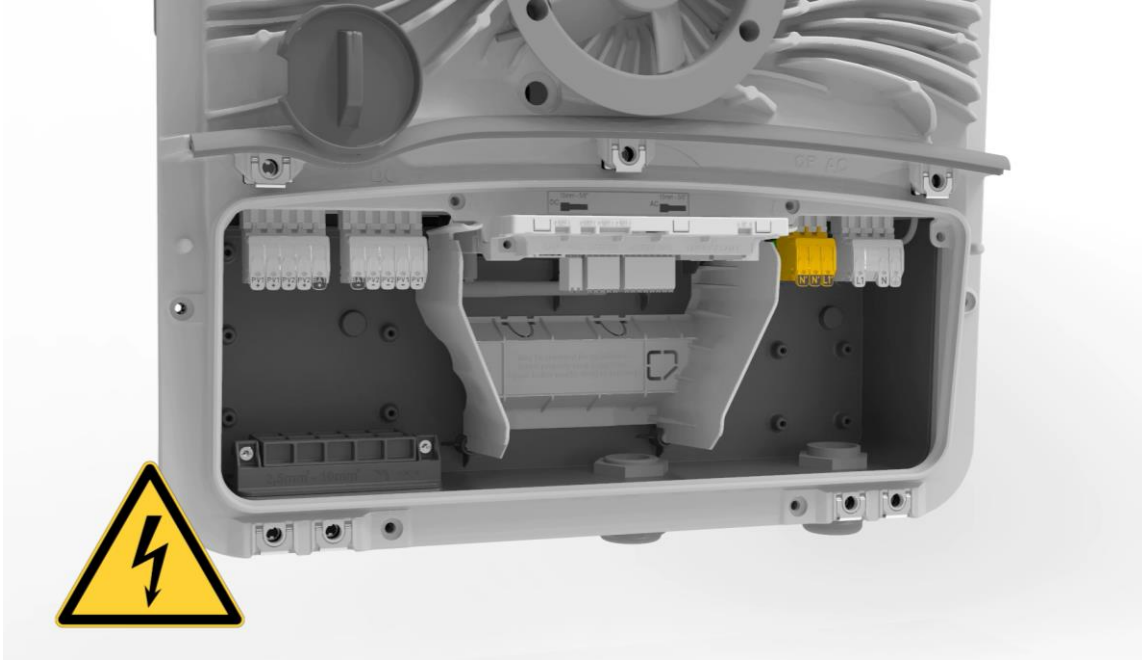
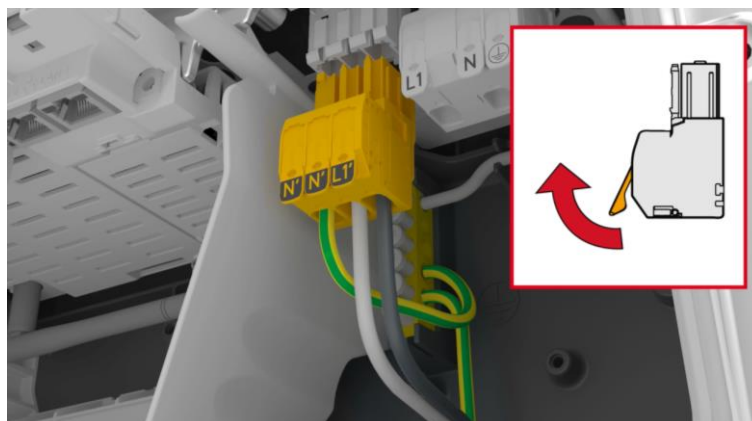


Figure 4: Connection area of the Fronius GEN24 & GEN24 Plus with PV Point Push-in spring clamp

The push-in spring terminals are characterized by their **ease of use**, which enables **quick installation**. No special tools are required to install the PV Point and no ferrules need to be fitted to the cables. With regard to cables, Fronius recommends the use of a copper cable with a **cable cross-section of min. 1.5 mm² to max. 10 mm² for direct connection**. Figure 5 shows the requirements for the cable as well as the handling and function of the spring-loaded terminals:



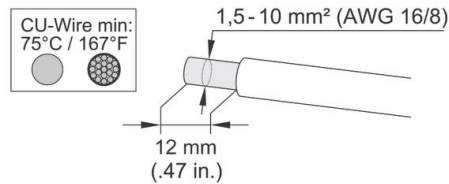


Figure 5: Push-in spring clamp and cable requirements for installing the PV Point

The PV Point's push-in spring-loaded terminal can be removed by pressing the catch on the back. For the subsequent cabling, the earthing of the PV Point must be connected to the internal earthing terminal block in the inverter. An additional earthing cable must be run from the earthing terminal block to the PV Point terminal (PEN conductor). The cable cross-section of the PEN connection must be dimensioned to match the minimum cross-section of the inverter. The wiring in the inverter is shown in Figure 6:

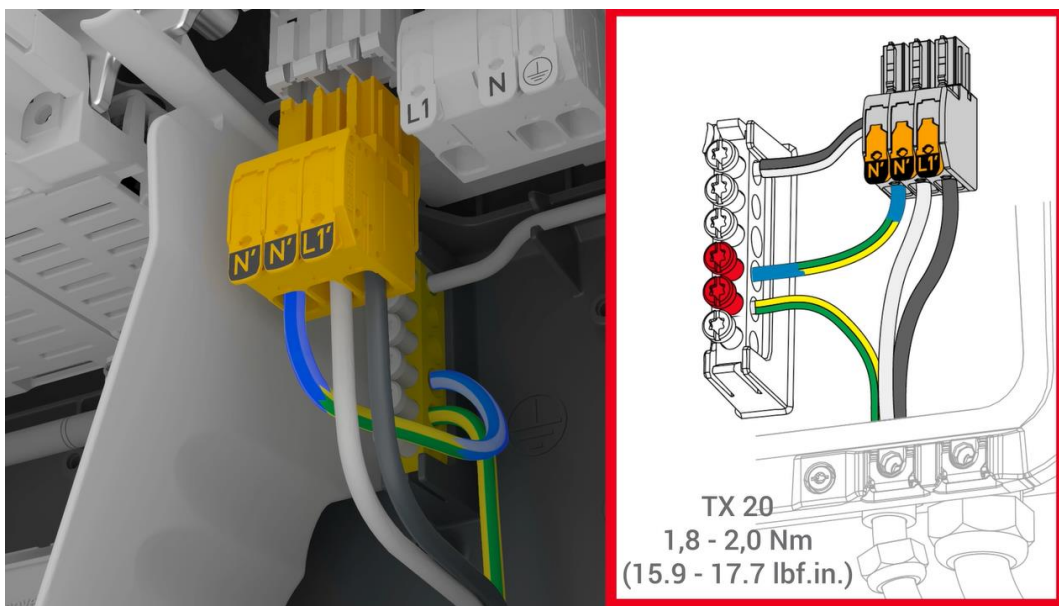


Figure 6: Wiring of the PV Point in the inverter

The installation is completed by screwing in the cable gland, which is shown in Figure 7:

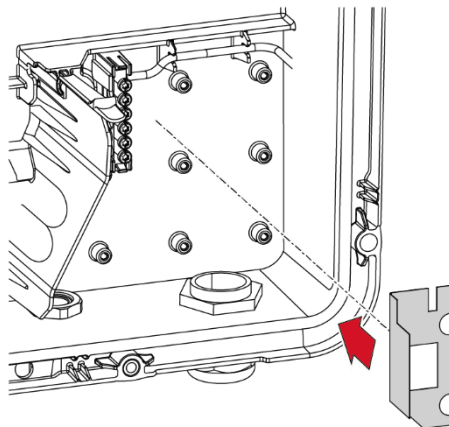


Figure 7: Screw connection of the cable gland

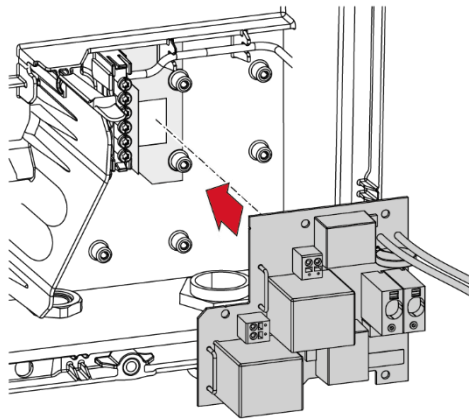
2.3 PV Point Comfort cabling

The PV Point Comfort is installed and wired into the GEN24 as follows:

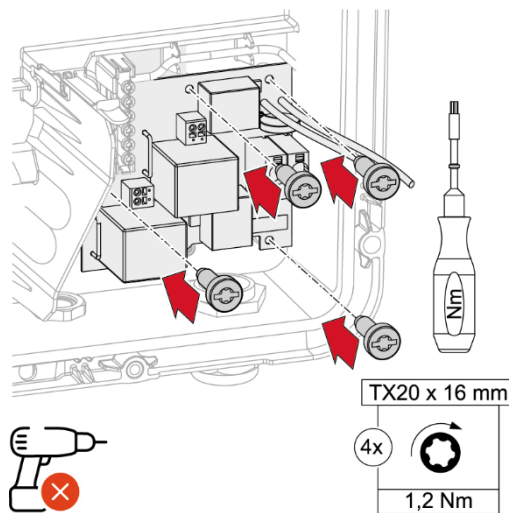
1. First insert the insulation foil.



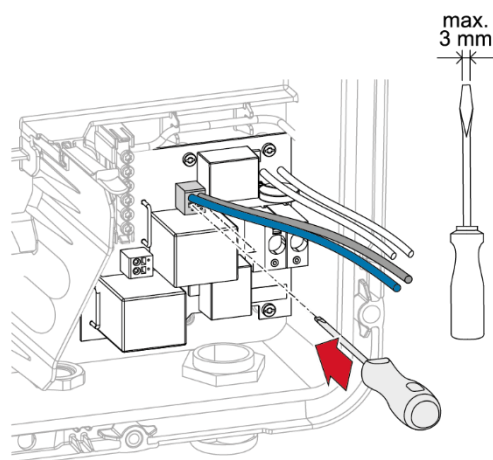
2. Place the PV Point Comfort Print on the AC side of the GEN24 [Plus].



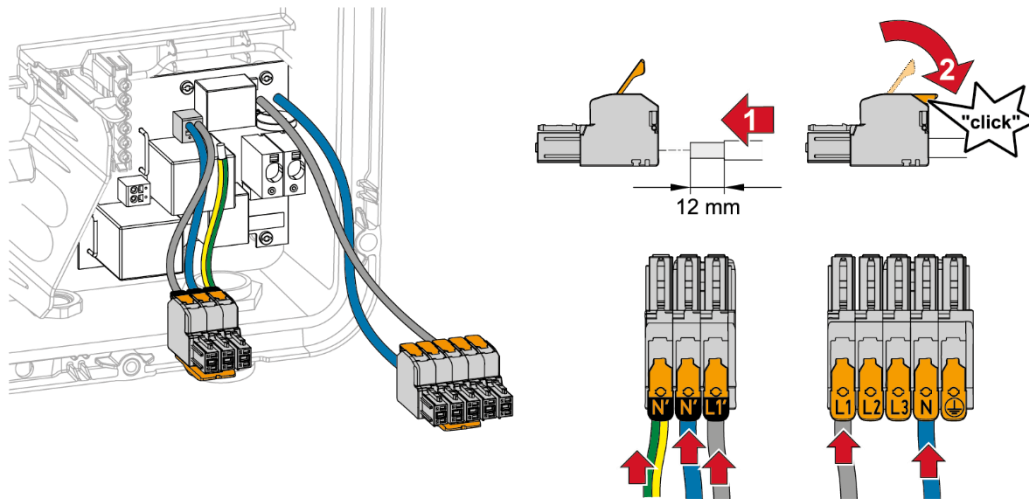
3. Fasten the PV Point Comfort to the inverter using four screws.



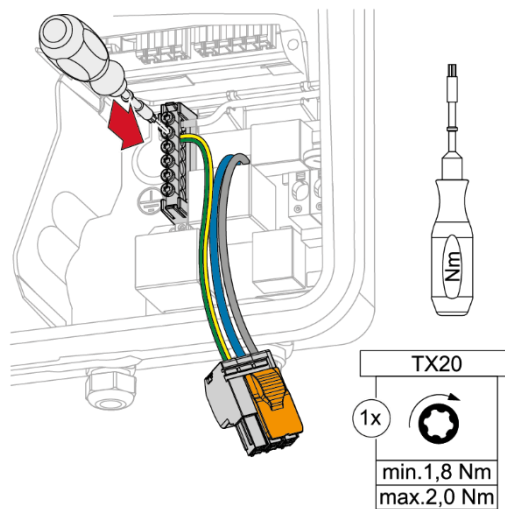
4. Plug the enclosed cables for the connection between the PCB and the inverter into the terminal provided.



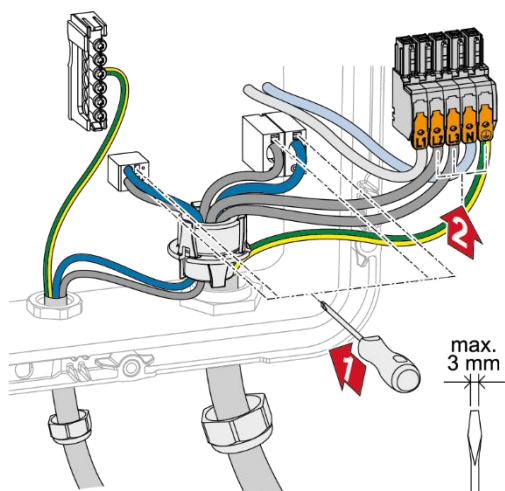
5. Connect the two pairs of cables on the PCB to the PV Point terminal and the AC terminal of the inverter (L and N respectively).



6. The PEN connection is supplied and must be connected according to the instructions in chapter 2.2 with the earthing terminal block.



7. For three-phase inverters, L2 and L3 are wired directly past the PV Point Print, while L1 and N are looped via the Print, as this must also provide power in parallel grid operation. As a final step, connect L1 and N coming from the grid directly to the terminal of the Comfort Print.



3 Commissioning

The PV Point [Comfort] is commissioned via the web interface of the inverter and can be activated both during initial commissioning and at a later stage. Fronius recommends carrying out commissioning with the "**Fronius Solar.start**" app, which is available free of charge in the Google Play Store and for iOS. The Fronius Solar.start app is identified by the following icon (Figure 8):

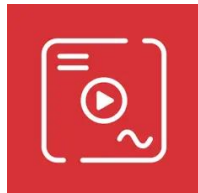


Figure 8: Icon of the Fronius Solar.start app

The basic requirement for both of the following variants is access to the web interface of the Fronius GEN24/GEN24 Plus device. By quickly pressing the button on the front of the device once, the inverter automatically opens its local network, to which you can then connect with any mobile device (laptop, smartphone, etc...). Figure 9 shows the LED communication interface with its functions:



Figure 9: Opening the local network (Wifi access point) of the Fronius GEN24 or GEN24 Plus inverter series and description of the functions of the LED patterns

The feedback from the inverter is indicated by the communication light flashing blue and the connection to the inverter (via app or WLAN/LAN) can be established. The network can be recognized (with a WLAN connection) by the following parameters:

Name: FRONIUS_Pilot serial number

Password for devices with production date before 08/2023: 12345678

Password for devices with production date from 08/2023: visible on the **nameplate**

Opening a web browser (Fronius recommendation: Google Chrome) and entering the IP address **192.168.250.181** opens the installation wizard. In a LAN connection, the required IP address is 169.254.0.180.

3.1 Activation of the PV Point [Comfort] during initial commissioning

The PV Point [Comfort] can already be activated during initial commissioning in the commissioning wizard under the "Product Wizard" in the "Functions and I/Os" menu item. Here it is important to **activate** the basic backup power function and the **"PV Point" mode**. This selection applies to both PV Point and PV Point Comfort. Figure 10 shows the photo gallery of the most important steps and settings:

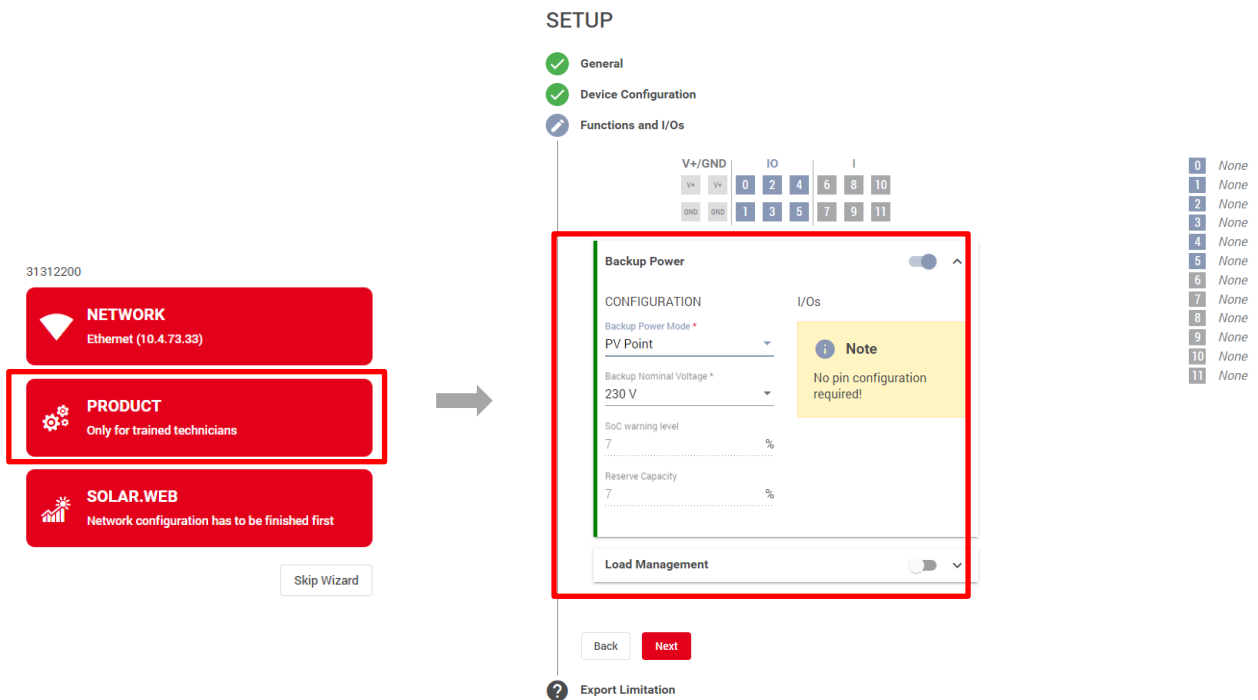


Figure 10: Activation of the PV Point [Comfort] in the commissioning wizard during initial commissioning of the GEN24 & GEN24 Plus inverter

3.2 Activation of the PV Point [Comfort] at a later date

The PV Point [Comfort] can also be installed and activated retrospectively at any time. In this case, it is also necessary to connect to the web interface of the inverter after installation. To activate, navigate away from the start page via the "Device configuration" menu item to the "Functions and I/Os", where you can again set the basic backup power function and the "PV Point" mode. Figure 11 shows the photo gallery of the most important steps and settings:

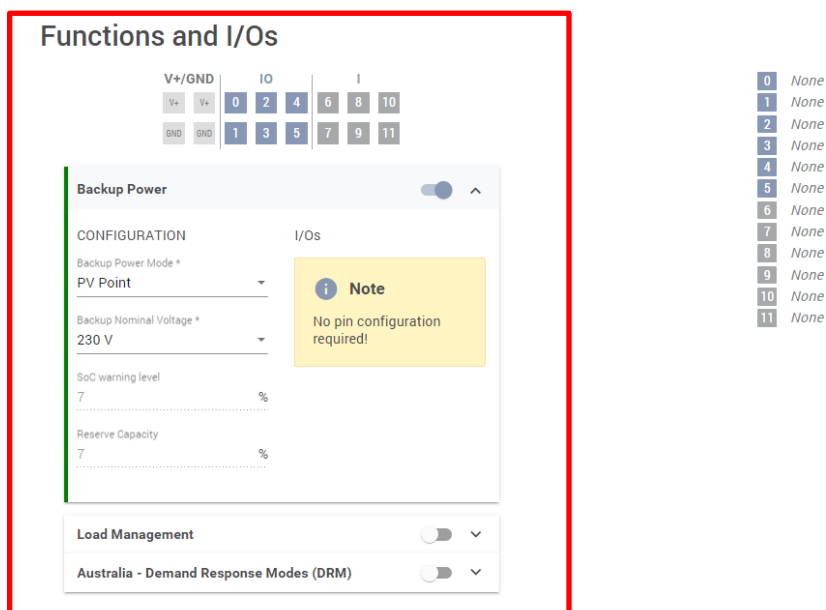
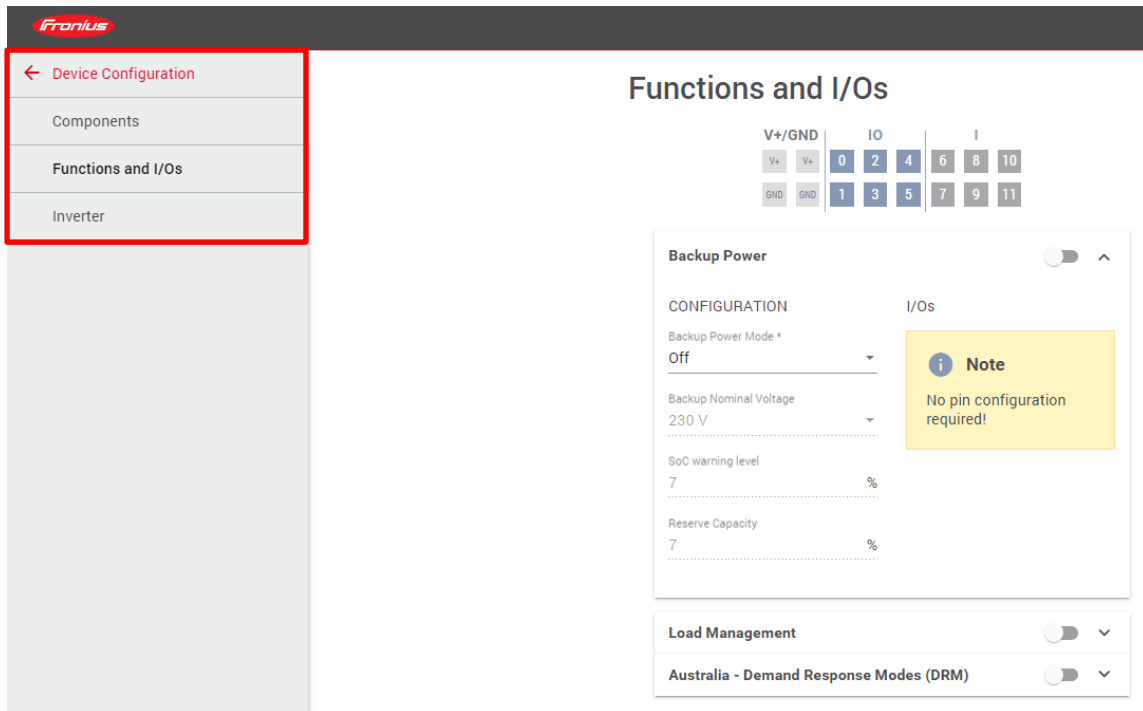


Figure 11: Activation of the PV Point [Comfort] in the web interface at a later time

After successful installation and commissioning, Fronius recommends a **functional test** of the PV Point [Comfort]. The **switching time** is **less than 23 seconds**.

4 Fuse protection for the socket or circuit

4.1 PV Point

With regard to the PV Point socket outlet, it is important that it is protected with an **RCD (type A 30 mA)** **in order to** guarantee personal protection and ensure compliance with standards. RCD sockets with an integrated RCD are a simple variant, as shown in Figure 12:



Figure 12: RCD integrated socket

A possible manufacturer of RCD circuit breakers would be (type designation):

- Busch-Jaeger 3120 EWB-53 FI-SCHUKOMAT Schuko socket outlet with residual current circuit breaker

In addition to the solution with a ready-made RCD circuit breaker, there is also the cheaper option of installing the necessary components in a small distribution cabinet. The following components, for example, can be used for this:

- 1 piece surface-mounted housing with 5 dividing units and transparent cover
- 1 RCD type A 30mA
- 1 earthed socket outlet for top-hat rail

4.2 PV Point Comfort

As the PV Point Comfort also supplies the phase in mains parallel operation, the circuit or socket must **also** be protected with a **13A miniature circuit breaker in** addition to the **RCD (type A 30 mA)**. **There is** a space-saving solution for this from ABB with the article designation "ABB DS301CC13A30".

Of course, any other combination of RCD and circuit breaker that meets the technical requirements can also be used.

If, for example, a circuit is supplied, the existing 16A MCB in the main distribution board can also be used. In backup power mode, however, a maximum of 13A is made available. If the backup power load exceeds 13A, backup power operation stops.