

PV Fact Sheet

10 | Emergency Power for Fronius Primo GEN24 Plus

How does a simple emergency power supply work?

This fact sheet focuses on photovoltaic installations on top of buildings within the European Union. More and more often, homeowners want to be supplied with power from their own PV system even in the event of a power failure. In its Primo GEN24 Plus product series, the inverter manufacturer Fronius therefore offers the option of supplying consumers in the event of an emergency power failure.

Function of the Primo GEN24 Plus

If there is a power grid failure, the inverter detects this condition. In this state, a separately installed emergency power line is then activated. Consumers such as a refrigerator or charging cables for mobile phones can then be connected to this single-phase emergency power line. It is then possible to use the PV electricity from the roof directly or to feed it into a battery. At the same time, electricity from the battery can also be used if no solar electricity is generated. With this simple solution, no separate grid disconnection device needs to be installed after the grid connection. Of course, it is important to ensure here that no energy-intensive consumers such as a heat pump, cannot be connected. Also, only consumers that can cope with an interruption in the power supply should be connected. If there is not enough power available from the solar modules, interruptions may occur.

Installation of the emergency power devices

If you want to use the emergency power function of the hybrid inverter, the following installations must be made on the AC side. First, a 1-phase line **(A)** must be run from the inverter to the connection box **(B)**. This line is part of the scope of delivery of the connection box **(B)**. From there, a 1-phase line **(C)** is to be pulled to the consumers in case of emergency. The connection box **(B)** has an integrated electric socket for this purpose. In addition, this box is equipped with a leakage current circuit breaker for the emergency circuit to protect the inverter in the event of a fault.



Figure 1: Installations of emergency power devices

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The connection of the 1-phase line **(A)** to the inverter is described in detail in the Fronius Primo GEN24 Plus installation manual. In order to be able to carry out the installation on the inverter completely, an earth bridge is included in the accessories of the connection box **(B)**. This earth bridge can be wired in the inverter as shown in Fig. 2.

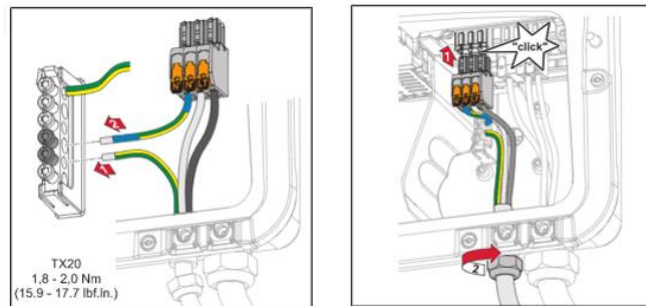


Figure 2: Wiring of the earth terminal inside the Primo GEN24 Plus

PV Solutions from Weidmüller

Weidmüller is offering a wide range of solutions for PV installations. These range from combiner boxes and surge protection solutions to emergency power boxes. The aim is to offer a comprehensive product portfolio for the connection and protection of a PV system.



Figure 3: Emergency Box TYPE F CEE 7/3



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