

OPERATING INSTRUCTION
BACKUP POWER SUPPLY

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ENGLISH

Read this operating instruction carefully before installation. Failure to do so may result in personal injury and damage to property or invalidate the warranty and product guarantee. Installation requires specialist knowledge and may therefore only be carried out by appropriately qualified and authorized specialists!

The general handling of the product, its use or the exact installation methods are beyond the control of NGEN. Therefore, NGEN cannot accept any responsibility for damages, losses or cost resulting from improper installation, improper handling of the incorrect use!

1. Hints for this Manual

1.1. Range of Validity

The document explains how to use the emergency power function of the inverters and provides guidance on connection. It also includes recommendations for suitable consumer devices as well as information on maximum power, depending on the specific inverter model.



Note: Please keep these instructions in a place where they are always accessible.

1.2. Target Group

This manual is intended for qualified electricians. The tasks described in this manual can only be performed by qualified electricians.

1.1. Used Symbols

The following types of safety instructions and general information appear in this document as described below:

	<p>Warning! "Warning" indicates a situation which, if not avoided, could result in incorrect operation of the EPS mode.</p>
	<p>Note! "Note" provides important tips and instructions.</p>

2. System Authorisation

The Emergency Power Supply Function (EPS) may only be carried out with hybrid inverters and batteries from NGEN (models Inverter: NGEN-STAR H1, H3, H3-PRO / models Batteries: EP5, EP11, ECS4300, ECS4800) or NGEN's approved hybrid inverters.


3. Emergency Power Supply - General Description

In the event of a grid failure, the inverters emergency power function disconnects the inverter from the grid and supplies all loads connected to the EPS output (EPS = Emergency Power Function). The emergency power supply function is three-phase or one-phase and already integrated in the hybrid inverters. Its primary function is to ensure reliable and uninterrupted operation of key devices and systems even in the event of a power failure.

4. Connection of Appliances


It is important to consider the maximum allowable load of the system, which depends on the inverter model:


- **STAR-H3-12.0-E:** 3x22 A, meaning the maximum total current for consumers that can be connected is 22 A per phase.
- **STAR-H3-15.0-PRO:** 3x22 A, meaning the maximum total current for consumers that can be connected is 22 A per phase.
- **STAR-H3-22.0-PRO:** 3x33 A, meaning the maximum total current for consumers that can be connected is 33 A per phase.
- **STAR-H3-29.9-PRO:** 3x45 A, meaning the maximum total current for consumers that can be connected is 45 A per phase.
- **STAR-H3-30.0-PRO:** 3x45 A, meaning the maximum total current for consumers that can be connected is 45 A per phase.
- **STAR-H1-6.0-E:** 1x27 A, meaning the maximum total current for consumers that can be connected is 27 A.

	<p>Note! Check the power consumption of each device you want to connect and make sure that the total power does not exceed the maximum permissible value.</p>
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4.1. Recommended Appliances

- Refrigerators and freezers
- Computers and modems
- Communication devices
- Lighting fixtures
- Video surveillance equipment

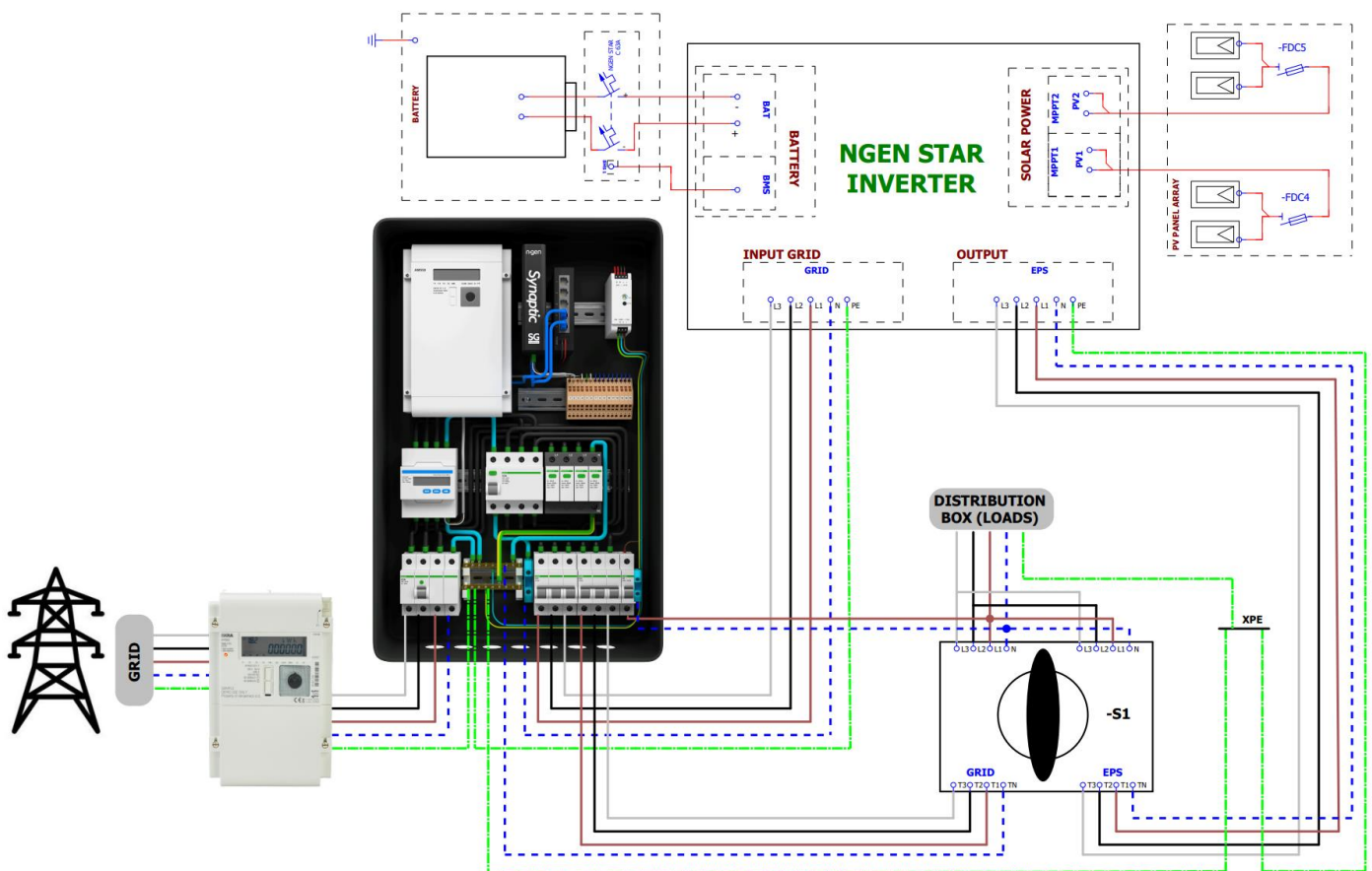
	<p>Warning! Connecting inductive appliances such as electric motors or transformers requires special caution. Due to their nature, inductive appliances can have a higher starting current during startup, which may exceed the maximum allowable load of the EPS system, resulting in overload and automatic shutdown of the EPS connection. Therefore, it is recommended to connect inductive appliances with a current approximately 50% lower than the maximum allowable value. This ensures safe operation of the system, prevents overloads, and avoids potential equipment damage.</p>
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	<p>Note! Consult with the manufacturer of your appliances regarding their compliance with the requirements of our EPS power supply. We recommend having a qualified electrical contractor handle the connection of your appliances to ensure proper installation and adherence to safety guidelines</p>
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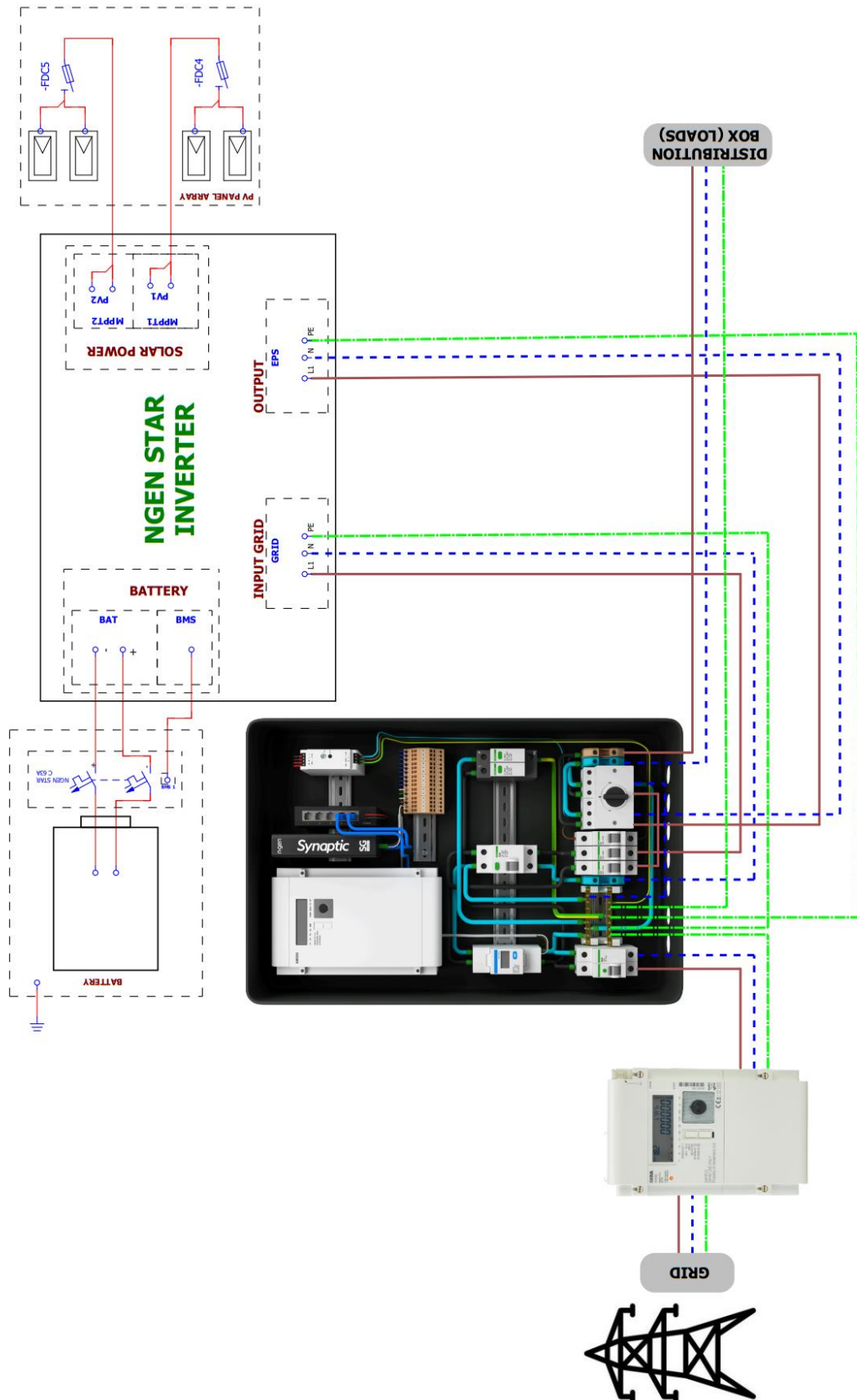
5. Electrical Connection of the EPS-Function in a NGEN-Star System

The EPS power supply, which is provided by the Star inverter, is connected to a transfer switch that has two positions - position "GRID" and position "EPS". Connect the EPS cable to position "EPS", while the mains power cable, connected to the electrical grid, is connected to position "GRID". This setup ensures functionality for switching between power supply modes in the event of an inverter failure or grid outage. In the event of a power outage, the switch is flipped to position "EPS", allowing consumers to be powered by the EPS system. Under normal operating conditions, the switch is usually in position "GRID", allowing consumers to be powered by the electrical grid. An exception is the H3-PRO inverter, where, due to its increased capacity, the switch can remain permanently in position "EPS" in most households. As a result, all consumers have uninterrupted power supply even in the event of a grid outage.

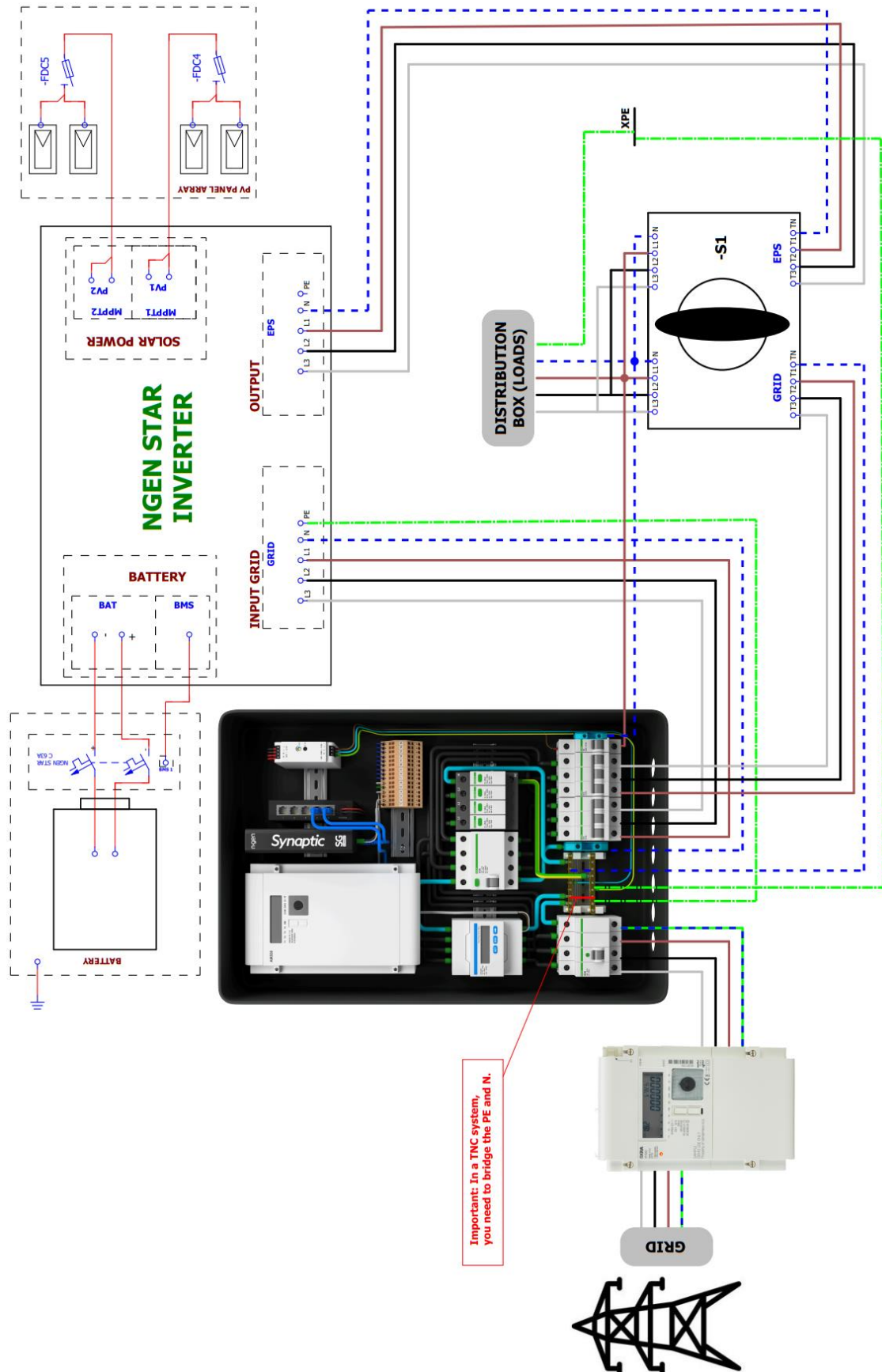
5.1. Connection Diagram for a TNS network topology 3-Phase



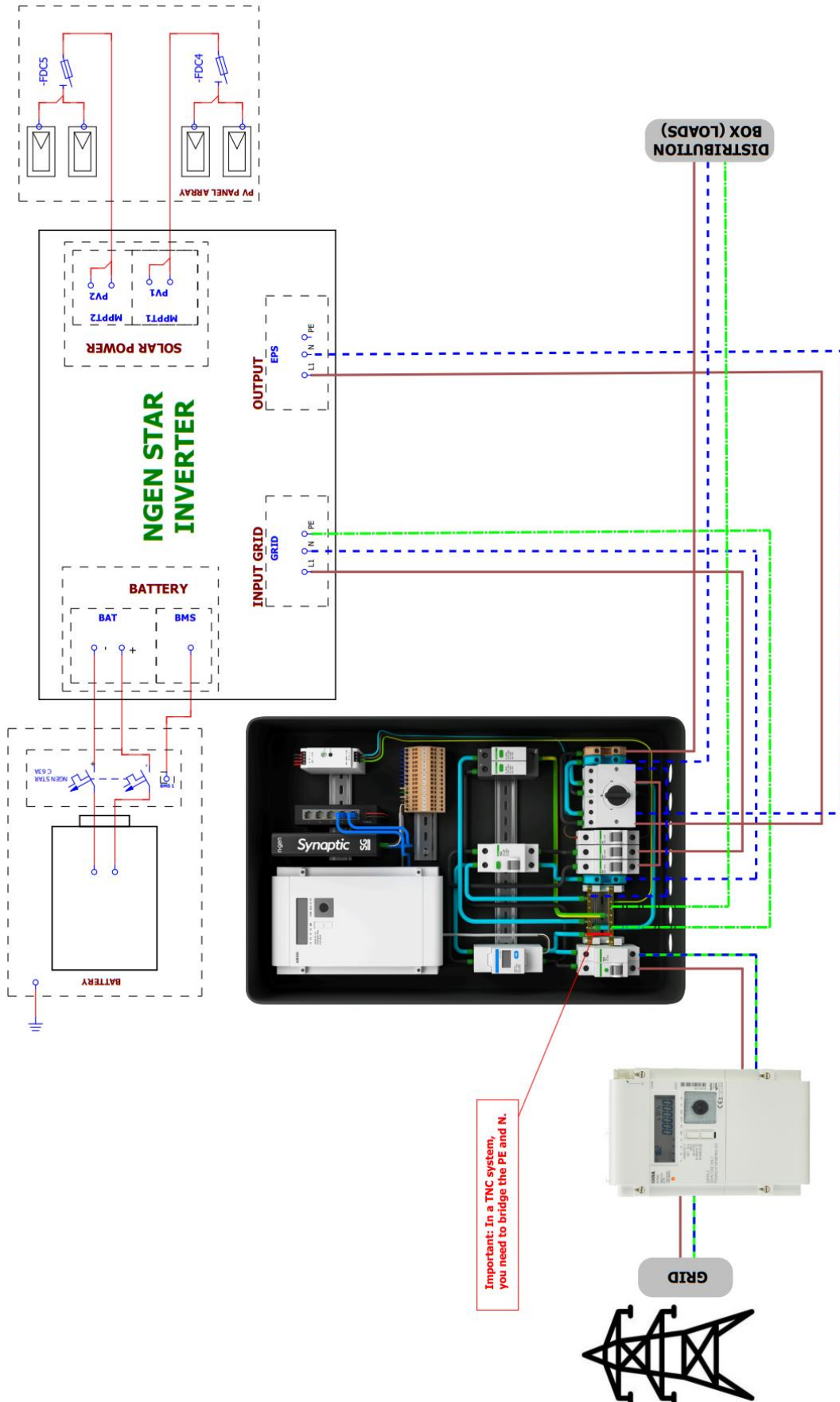
5.2. Connection Diagram for a TNS network topology 1-Phase



5.3. Connection Diagram for a TNC network topology 3-Phase



5.4. Connection Diagram for a TNC network topology 1-Phase



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