



26.07.2024

GVI Gen 1

Mobile Inverter

Application Note: How to use Clone Inverter function on GVI Gen1



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Non-warranty clause

We checked the contents of this publication for compliance with the associated hardware and software. We can, however, not exclude discrepancies and do therefore not accept any liability for the exact compliance. The information in this publication is regularly checked, necessary corrections will be part of the subsequent publications.

English Master created.

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1 Introduction

1.1 About this document

The purpose of this application note is to describe how does the “Clone Inverter” function in the software GVI Config Tool work. With the “Clone Inverter” function, the parameters from one GVI Gen1 inverter will be saved as a clone file and can be duplicated on another same type of inverter.

Note: The firmware files, including update EDS files, are available on request from Parker.

Please contact: EMPD.MobileSystemsTech@support.parker.com

2 Procedure

In this application note, the two definitions of the GVI inverter are mentioned. The **original inverter** is the inverter which configuration/parameters are copied and saved as a clone file. The created clone file will be used for cloning/duplicating of the configuration on the **target inverter**. In other words, the configuration of the **original inverter** will be duplicated on the **target inverter**.

The “Clone Inverter” function has a two main steps. The first step, chapter “2.2 Creating a new clone file”, describes how to create a new clone file from the original inverter parameters. The second step, chapter “2.3 Cloning the parameter on the target inverter”, describe how to duplicate the configuration from the clone file on target inverter. Additionally, the chapters “2.1 Turning OFF the pre-charge option on original inverter” and “2.4 Turning ON the pre-charge option on target inverter” are necessary only for the low-voltage GVI inverter if the pre-charge option is used. For the high-voltage GVI inverter, these two steps are not relevant.

Every parameter on the GVI Gen1 inverter has a category called **CloneCategory**. This object defines the behavior of the parameter during a clone process. There is a five different **CloneCategory** types:

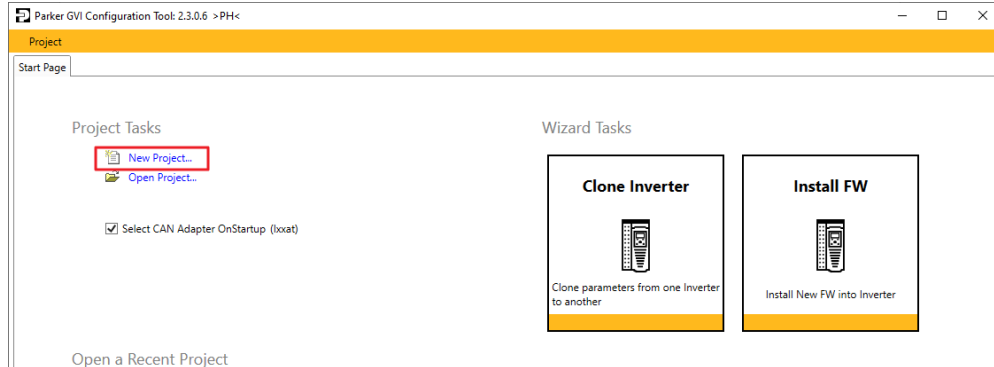
- **NEVER**, the parameters with this category will never be cloned,
- **ALWAYS**, the parameters with this category will always be cloned,
- **MOTOR, APPLICATON** and **CONNECTION**, during the cloning process, for each of these three parameter types can be separately decided, whether they will be cloned or not.

As already mentioned, for the low-voltage GVI inverter with the used pre-charge option, before creating a new clone file, it is necessary to turn OFF the pre-charge option on the original inverter, which configuration will be cloned/duplicated. The pre-charge option is used if the parameter **0x2060:06 MainContactor** in the original inverter configuration have different value than **0**. The necessary steps are described in the chapter “2.1 Turning OFF the pre-charge option on original inverter”. After cloning the file on the target inverter, it is necessary to turn ON the pre-charge option on the inverter, described in the chapter “2.4 Turning ON the pre-charge option on target inverter”.

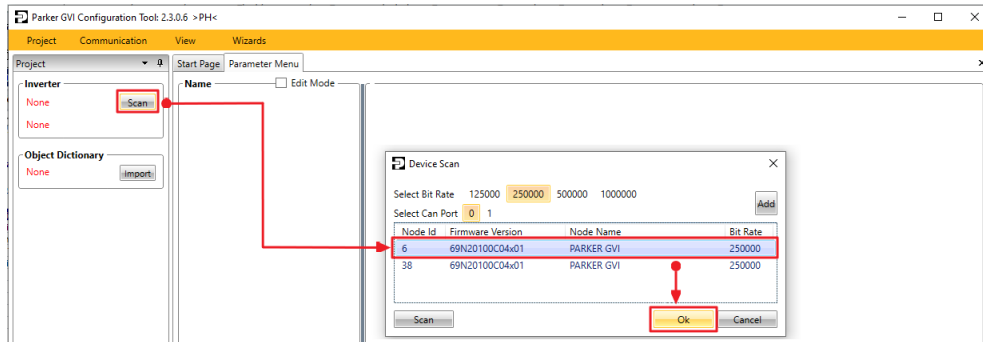
If the clone file already exists, please proceed with the steps in the chapter “2.3 Cloning the parameters on the target inverter”.

2.1 Turning OFF the pre-charge option on original inverter

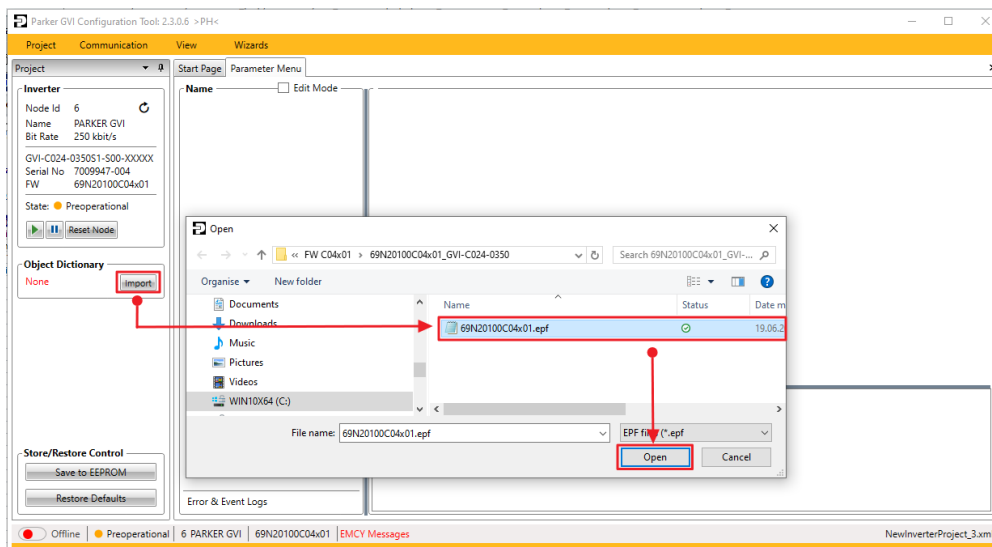
1. In the GVI Config Tool, on the **Start Page**, select **New Project**.



2. In the **Project/Inverter** section, select **Scan** to open the **Device Scan** window, **Scan** the network, select the original inverter, and click **Ok**.

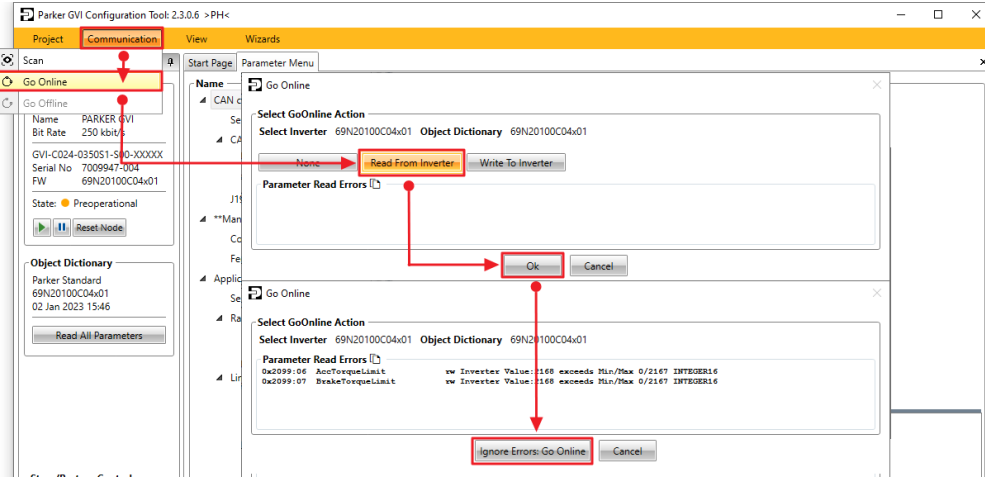


3. In the **Project/Object Dictionary** section, select **Import**, then select the Object Dictionary with the correct firmware file and select **Open**.

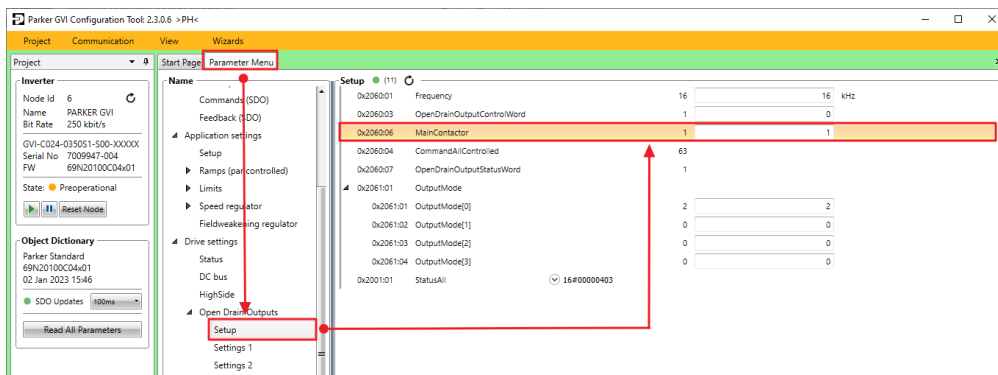


*Note: The name of the firmware file (.epf file) is related to the type of the GVI inverter and firmware version. For the different GVI types, the firmware file will be different, but for all of them the last letters represent the firmware version. For the used GVI in this example **GVI-C024-0350**, the name of the Object Dictionary will be **69N20100C04x01** for the firmware version **C04x01**.*

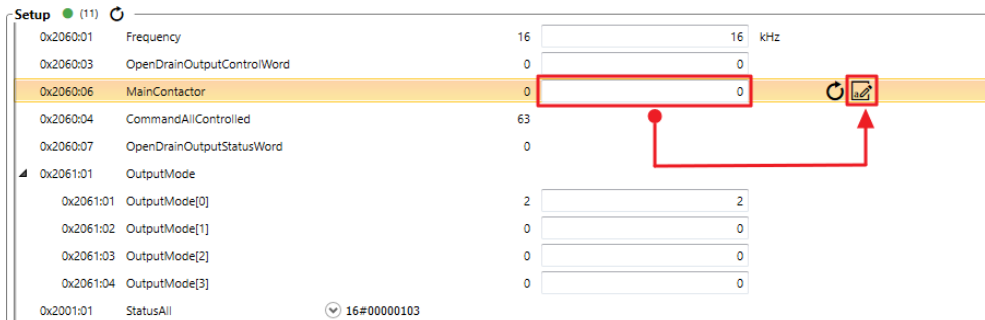
- In the **Menu Bar/Communication**, select **Go Online**, select **Read from Inverter**, select **Ok**, then select **Ignore Errors: Go Online**.



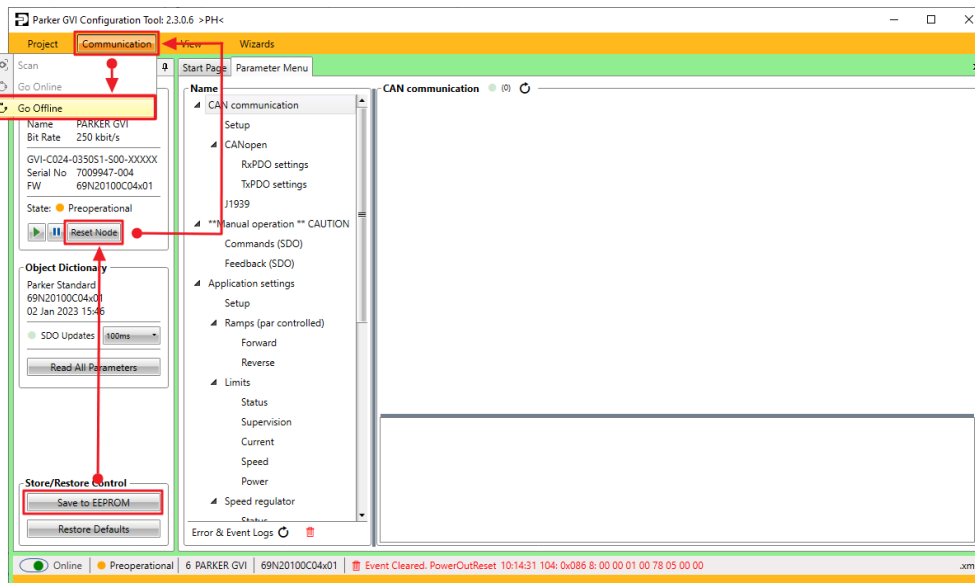
- In the **Parameter Menu/Open Drain Outputs/Setup** or in the **Object Dictionary** check the value of the parameter **0x2060:06 MainContactor**.



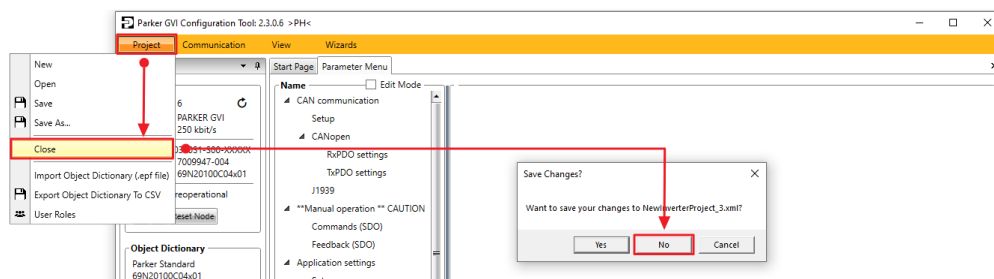
- If the value of the parameter **0x2060:06 MainContactor** is different than **0**, change the value to **0** and select **Write to Inverter**.



7. Select **Save to EEPROM**, then select **Reset Node** and in the **Menu Bar/Communication** select **Go OFFLINE**.



8. In the **Menu Bar/Project**, select **Close** to close the project. Don't save the project by selecting **No**.

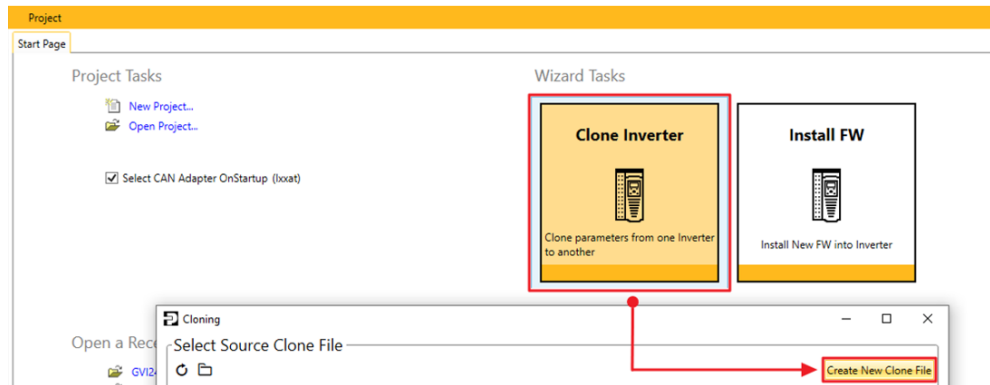


9. **Power OFF/Power ON** the GVI.

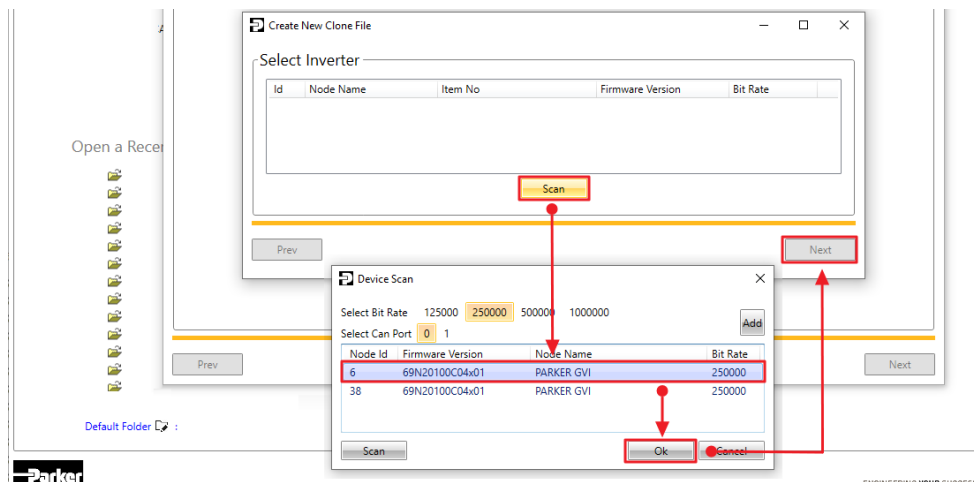
*Note: If the pre-charge option is used on the original inverter, after creating the clone file, the pre-charge option needs to be turn ON again. To do so, the parameter **0x2060:06 MainContactor** needs to have the same value as before turning OFF the pre-charge option.*

2.2 Creating a new clone file

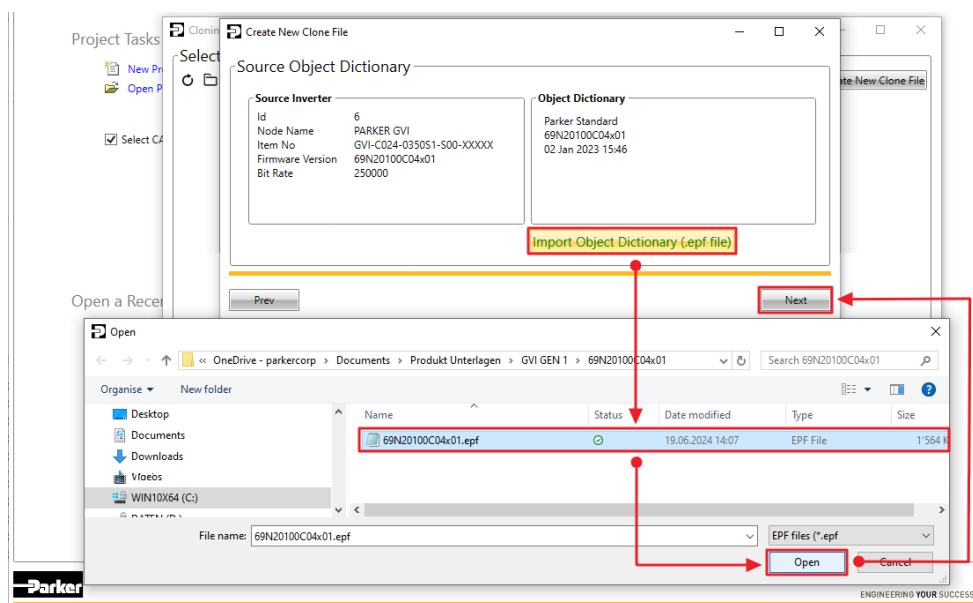
1. On the **Start Page**, select **Clone Inverter**, then select **Create New Clone File**.



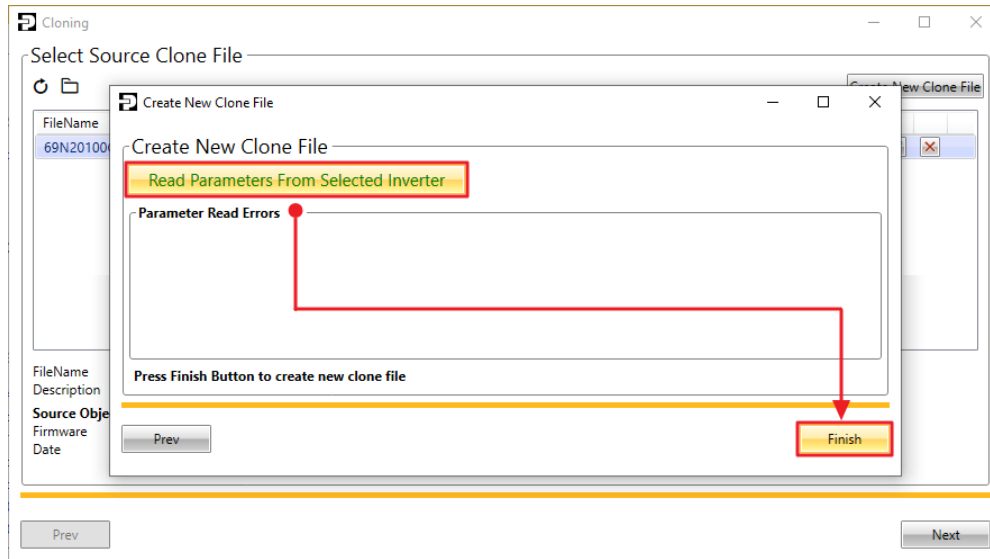
2. Select **Scan** in the **Create New Clone File** window. In the **Device Scan** window, choose the original inverter, confirm with **Ok**, and select **Next** in **Create New Clone File** window.



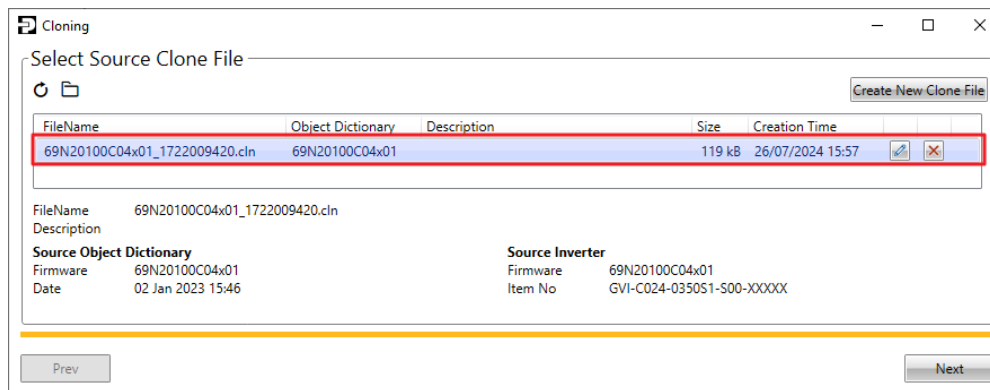
3. Select **Import Object Dictionary (.epf file)**, select the Object Dictionary with the correct firmware version, **Open** the file, and then select **Next**.



4. Select **Read Parameter From Selected Inverter**. After the parameters have been read, select **Finish**.

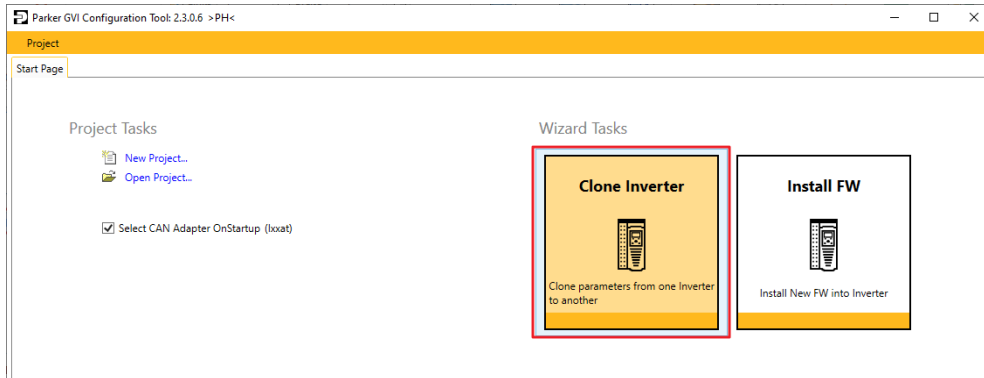


5. After this step, the clone file will be created in the window **Cloning**.

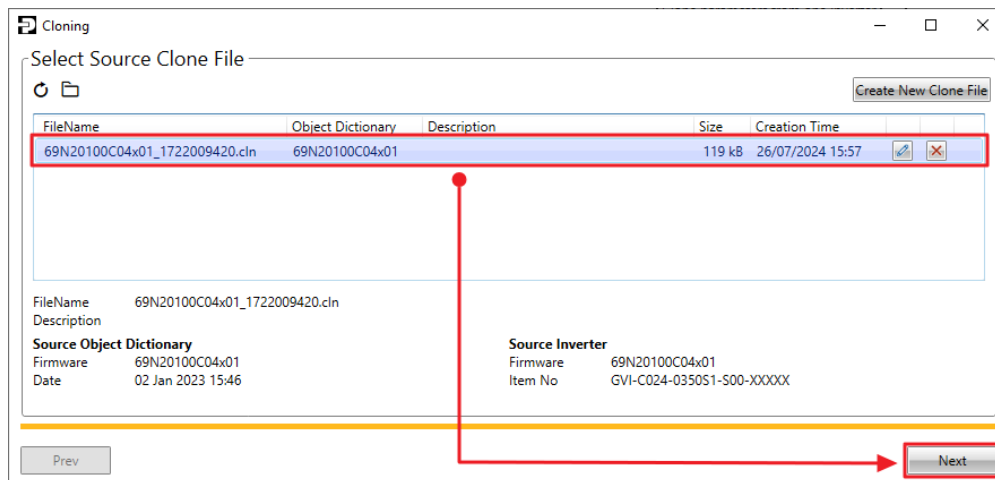


2.3 Cloning the parameters on the target inverter

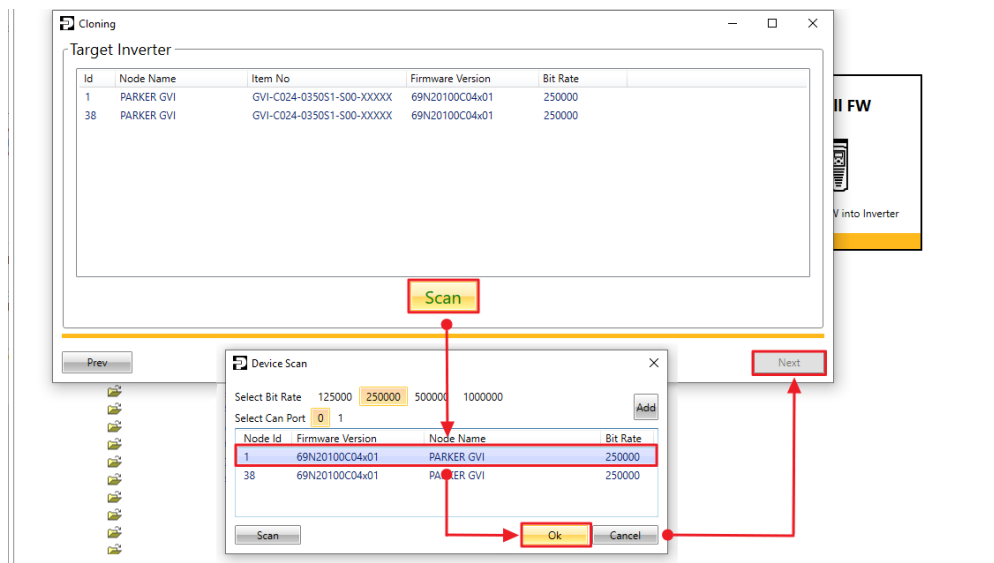
1. From the **Start Page**, select **Clone Inverter**.



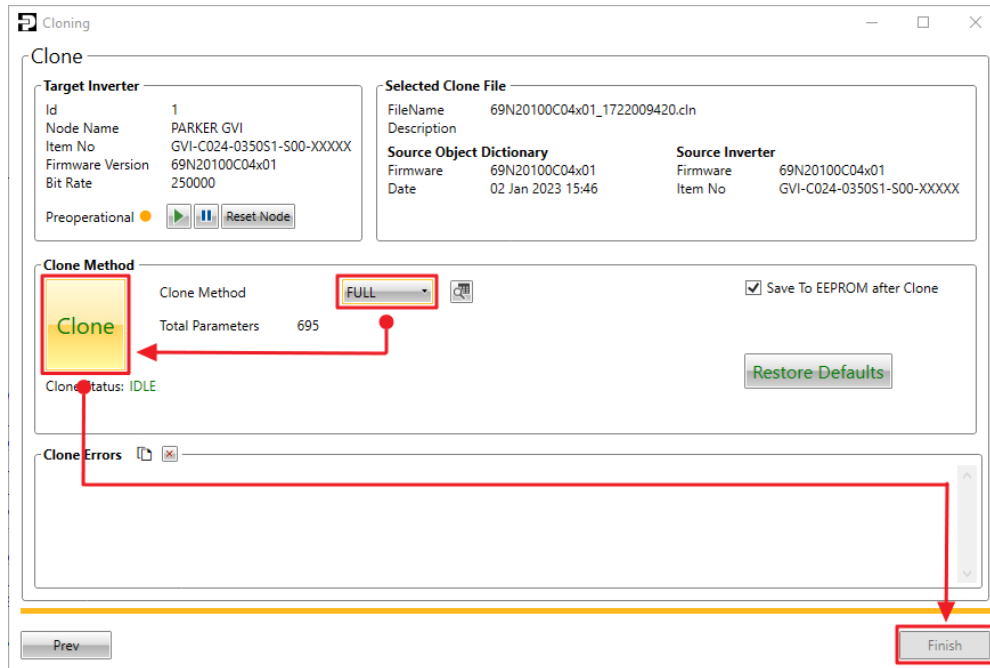
2. Choose the right clone file and select **Next**.



3. Select **Scan**, select the target inverter, select **Ok** and select **Next** in the **Cloning** window.



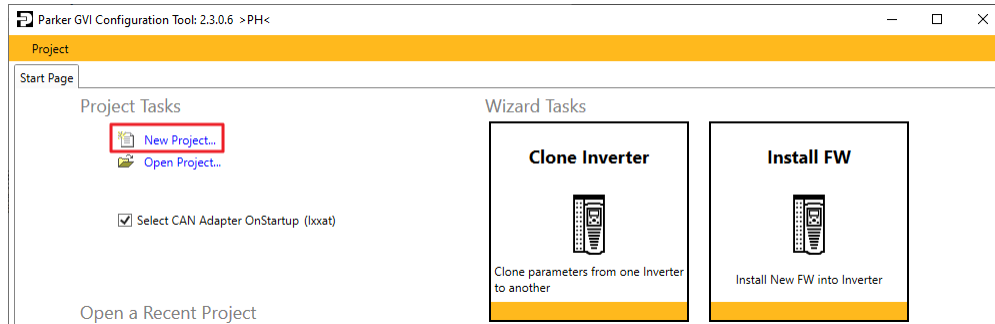
- Choose the **Clone Method** to define which parameters will be duplicated and select **Clone**. The parameters will be written on the inverter. After successful cloning, the Clone Status will change to **IDLE**. Select **Finish** to finish the cloning process.



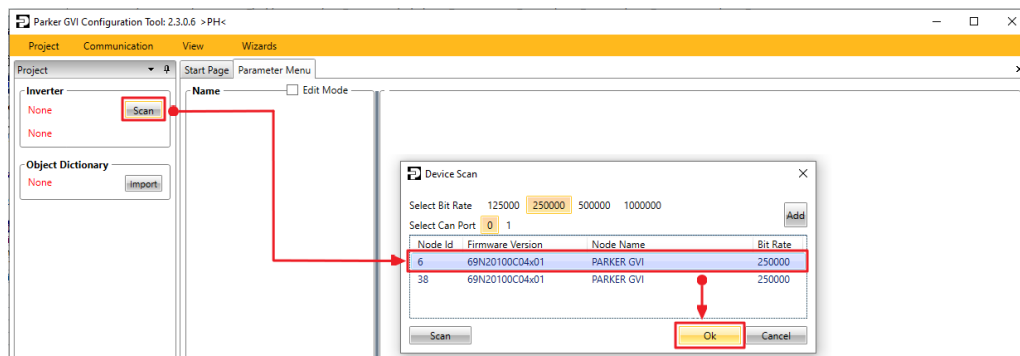
- Power OFF/Power ON** the GVI.

2.4 Turning ON the pre-charge option on target inverter

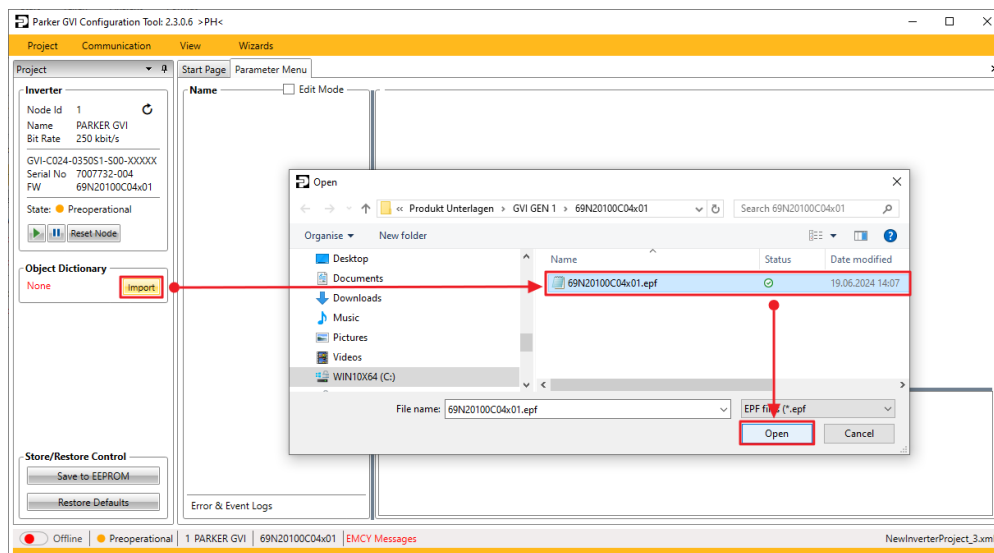
1. From the **Start Page**, select **New Project**.



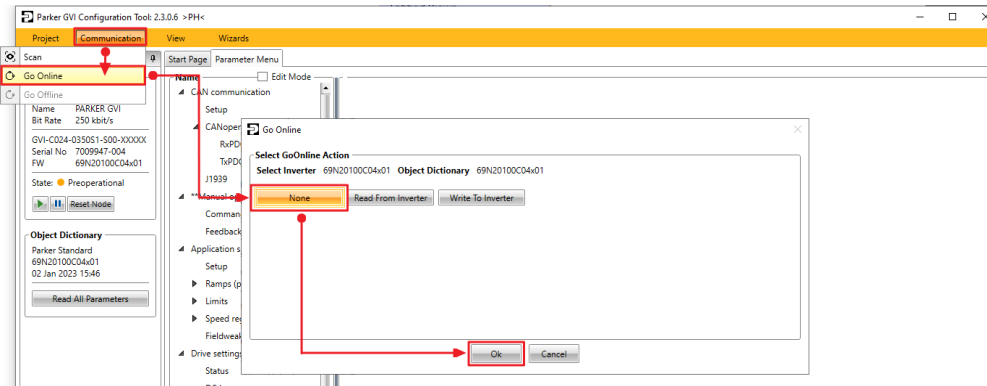
2. In the **Project/Inverter** section, select **Scan** to open the **Device Scan** window, **Scan** the network, select the target inverter, and click **Ok**.



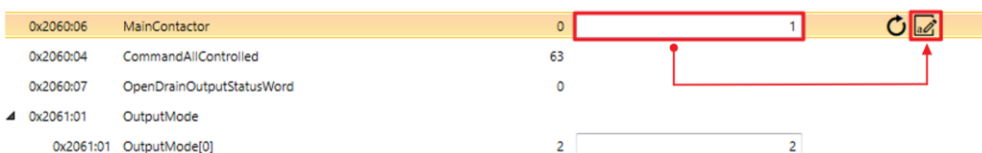
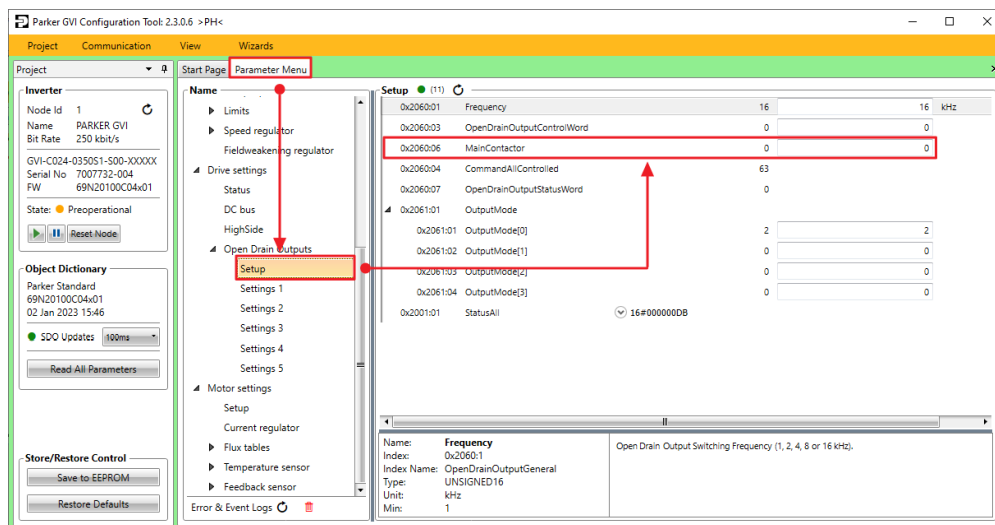
3. In the **Project/Object Dictionary** section, select **Import**, then select the Object Dictionary with the correct firmware file and select **Open**.



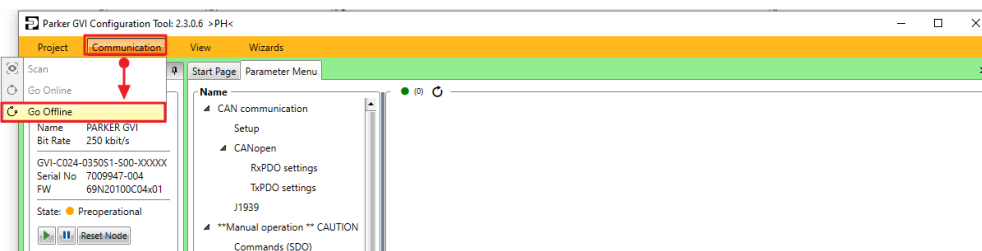
- In the **Menu Bar/Communication**, select **Go Online**, then select **None** and confirm with **Ok**.



- In the **Parameter Menu/Open Drain Outputs/Setup** change value of the objects **0x2060:06 MainContactor** from **0** to **1**, then select **Write To inverter**.



- Select **Save to EEPROM**,
- In the **Menu Bar/Communication**, select **Go Offline**.



8. In the **Menu Bar/Project**, select **Close** to close the project. Don't save the project by selecting **No**.

