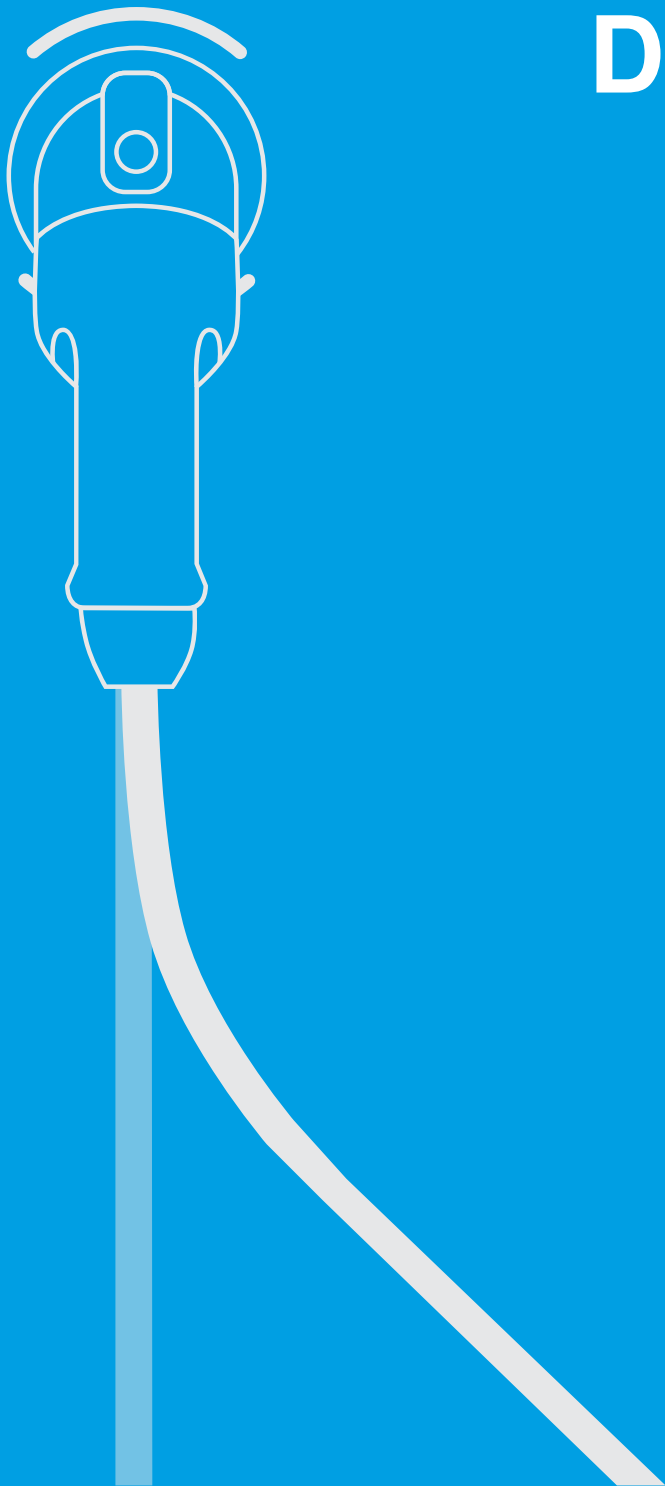


Utility: DealerToolbox

Instruction for using utility



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1. Installation

Enelion DealerToolbox is an RFID Reader and dedicated Enelion software that allows you to manage RFID cards and charger configurations.

To begin, unpack the file downloaded from <http://enelion.com/manuals> and launch the software using file with "DealerToolbox" icon, which is located inside the unpacked folder.

INFO

Windows users: DealerToolBox.exe executable file
Linux users: DealerToolBox extensionless file

INFO

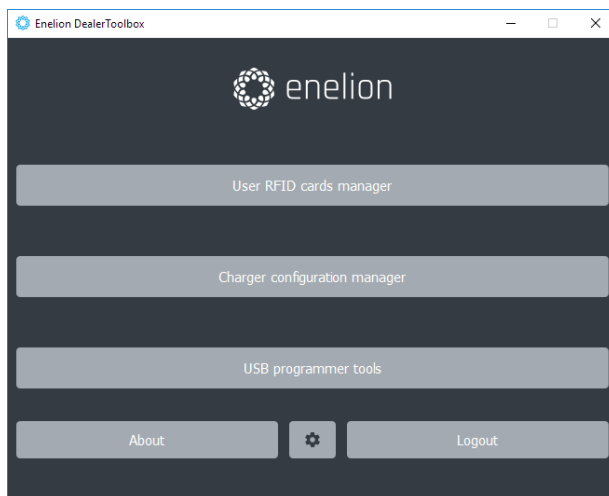
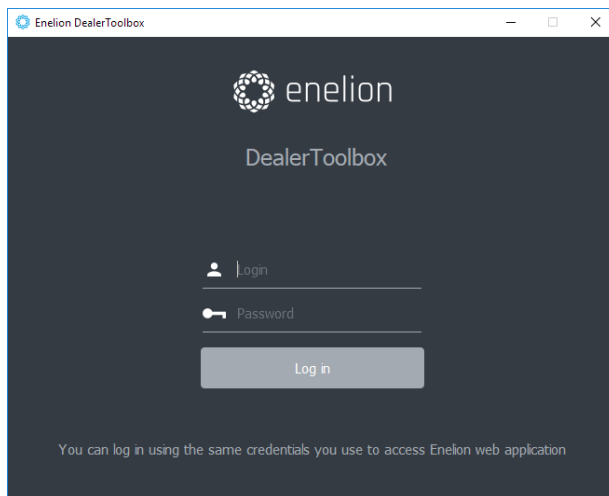
To login, use Enelion Administration Panel credentials. If your account is not authorized to use this software, please contact Enelion Support.

After successful authentication, you will be redirected to DealerToolbox Main Menu.

WARNING

Internet connection and a dedicated RFID reader connected to your computer is required to use this application.

After successful launch of the software, you will see a Login Screen.



2. RFID card activation

In order to use RFID card in Enelion chargers, it must be activated. In activation process UserID (unique RFID card identifier recognized by Enelion chargers and Enelion Administration Panel) is written to the RFID card.

UserID and other related data is transferred and stored on Enelion servers and can be managed in Enelion Administration Panel (<http://admin.enelion.com>).

To activate an RFID card:

- Proceed to User RFID Card Manager, where sections: Read card and Write card can be seen along with buttons:
 - Clear card — removes UserID from both RFID card and user account in Enelion Administration Panel.
 - Read card — checks UserID written to the card along with the user name assigned to it and the offline charger (serial number of one of the chargers that are in the group) that will accept this card. This data will be displayed in "Read card" section. If no user is assigned to the card or the card is not accepted by any offline charger, corresponding fields will remain empty.
 - Write card — this button writes UserID to a card based on data provided in 'Write card' section. If a card you want to write UserID to already has UserID written to it, you will need to clear it first.
- (optional) You can assign newly created card to a user account by checking "Assign card to a user" box and typing a user's e-mail address into the corresponding field. By default the cards are assigned to the account of the dealer that created them and it can be reassigned in the administration panel.
- (optional) By default the created card will be authorized by online chargers. In order to have it accepted by an offline charger or a group of offline chargers, check "Offline card" and type serial number of any charger that is already in the group into the corresponding field.
- Put an RFID card to the reader. You can also place the reader near the card — max. read range is approx. 5cm, which can be useful when the card is inside the box. As soon as the card

is recognized by the RFID reader, the reader will beep and the LED will turn green.

- In order to write data to the card press "Write card" button. If a user account with provided e-mail address doesn't exist in Enelion Administration Panel, there is a possibility to invite him/her to Enelion Administration Panel. After clicking "Yes", the user should receive an e-mail with an invitation.

i INFO

If a card with UserID is not already linked to any user, it can be assigned by:

1. Reading a card,
2. Typing a user's e-mail address to the "Card user" field (in the "Read card" section),
3. Pressing "Assign" button.

3. Creating a configuration card

Initialization or changing charger configuration can be done in "Charger configuration card" menu.

INFO

If the card already has configuration of another charger, the configuration has to be removed before writing a new one. The previous configuration needs to be removed in Charger configuration card manager using serial number of the charger it was written for.

1. In "Charger configuration card" menu type in a serial number of a charger to be configured. After pressing "Continue" button, serial number is validated by software. After successful validation configuration form will appear.
2. The form is similar to the label found on Enelion charger boxes. The picture and details of a configured charger are listed of the left. There are two configuration models: "basic" and "extended". The difference between them are explained below. If the charger has already been configured, the form will display the last known configuration.
3. Choose the desired configuration.
4. Put an RFID card to the reader.
5. Press "Write configuration" button. Charger configuration and UserID (in case RFID card authorization was chosen) will be written to the card.

Two configuration models can be distinguished:

1. **Basic mode**, allows the user to configure:
 - **Charging network addressing** — If the charger is a part of a charger network, the charger number in the network (the first field) has to be chosen along with the number of chargers that are in the network (last field). While configuring Enelion Duo charger both socket numbers can be chosen independently with the left and middle field.

WARNING

While configuring a network of chargers make sure every socket number is unique for the whole network.

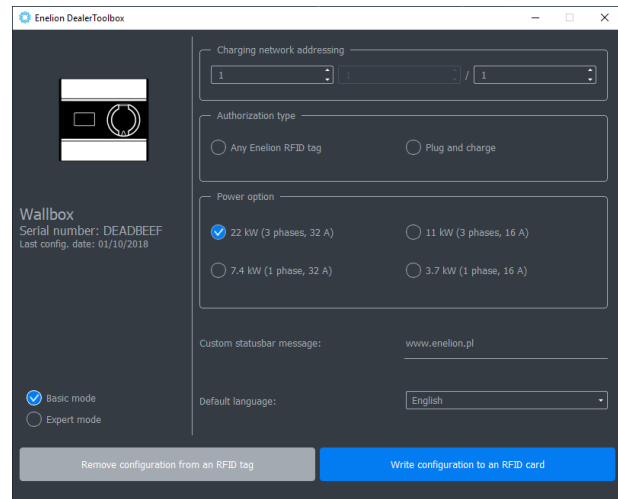
- **Authorization type:**
 - Any Enelion RFID tag — the charger will accept every card programmed with User RFID cards manager in DealerToolbox.
 - *Plug and charge* — the charger will start charging instantly after a car is connected. The cable will remain unlocked.
- **Power option** — choose maximum power that can be used for charging.
- **Custom statusbar message** — choose the text to be displayed at the bottom of the screen.
- **Default language** — choose the language in which messages should be displayed on the screen.

2. **Extended mode** extends Basic mode with:

- **Authorization type** — additional options:
 - Authorized RFID tag.
 - Plug and charge with lock - the charger will start charging instantly after a car is connected. The cable will be locked in the charger socket while charging.
- **Charger group configuration** (available only when "Authorized RFID tag" has been chosen in Authorization type). This feature requires a RFID tag without UserID and writes a new UserID based on selected options.
 - Create a new group — creates a new offline charger group and allows other chargers to be added to this group.
 - Add charger to existing group - after selecting this option and typing in any serial number that is already in the group, all RFID tags accepted by the chargers already in group will also be accepted by the charger that is being configured.

- **Deauthorization type**

- RFID that started charging — charging can be stopped only by the RFID tag that started it.
- Any Enelion RFID — charging can be stopped by every card programmed with User RFID cards manager in DealerToolbox software.
- Any RFID from the charger group — charging process can be stopped by any RFID card accepted by the charger.



- **Power option**

- Custom - Specifies number of phases and maximum current that can be used in charging. If the configuration of your charger triggers overcurrent protection in your household, it can be configured for lower power output below market standard values, e.g. margin of 2A can be added by setting 30A output.

- **Additional features**

- Dynamic load balancing (DLB) — enables charger cooperation in limiting total output power of all chargers in the network in order not to exceed the determined limit. Dynamic load balancing current limit can be set with the field the right side of the DLB checkbox.
- Additional RCD type B — determines existence of additional RCD type B in the charging station.
- Enable language menu — allow user to temporarily change charger language. After enabling sleep mode the charger will switch back to the default language.

- **Terminal blocks configuration** — determines the order in which phases are connected to the charger.

3.1. Authorization and the Bridge module

If a Bridge module is present in the network, it handles user authorization operations. Putting RFID card nearby charger screen will result in authorization request sent to the Bridge module. It consists, among others, of UserID (identifier written to RFID card).

The module will verify the card by itself or with OCPP server and will return the result to the charger. In *Plug and charge*, instead of sending RFID UserID (tag number), the charger sends its serial number.

4. Configuring a charger using a USB programmer

WARNING

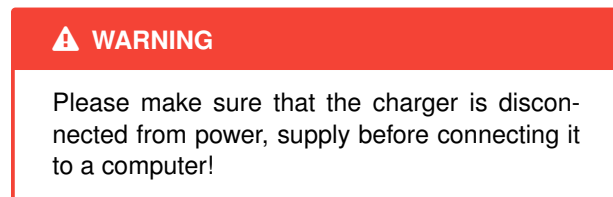
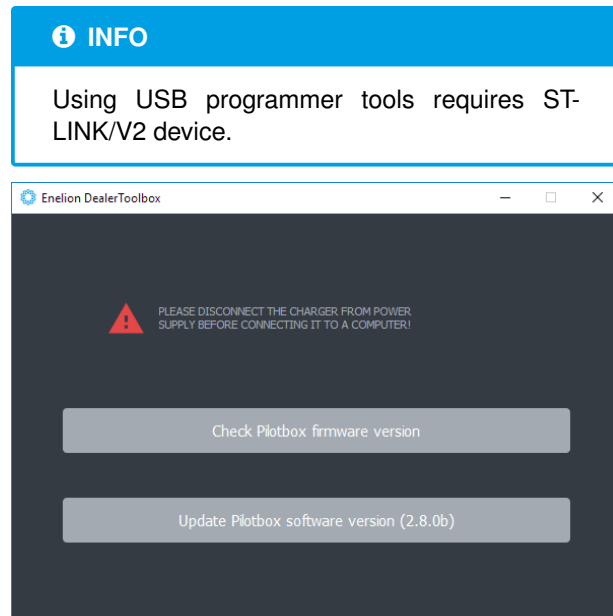
Please make sure that the charger is disconnected from power supply before connecting it to a computer!

The first four steps are the same as in creating the configuration card mentioned above (section 2). When completed:

1. Connect the programmer to a charger's main-board.
2. Press "Write configuration directly" button.
3. After preparing the configuration and UserID, the DealerToolbox will show a message that you can connect the charger to your computer with a programmer. Further steps do not require internet connection.
4. Connect a USB programmer to the computer and press "OK".
5. After a short time result message will appear on the screen.

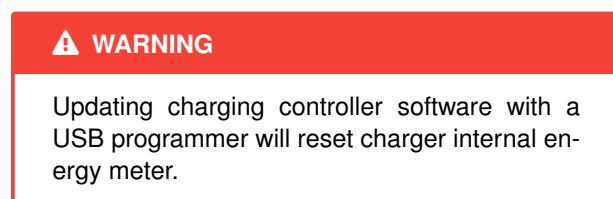
5. USB programmer tools

Authorized users also have access to USB programmer tools. These features do not require internet connection and are designed to be used in emergency situations, e.g. if it is impossible to update the charger using a Bridge module.



To use these features:

1. Connect programmer to a charging controller (charger motherboard).
2. Connect a USB programmer to the computer.
3. Click the button that corresponds to the feature you want to use.
4. After a short time result message will appear on the screen.



6. Example use cases and steps to execute

6.1. Configuring an offline network of two chargers with RFID tags working for both of them

Configuring the first charger

1. Open Charger configuration manager and type in a serial number of the first charger.
2. "Charging network addressing" choose 1 in the left field and 2 in the field on the right. This will set the socket as the first one in the network of two connectors.
3. Switch to the Extended mode.
4. In "Authorization type" section choose "Authorized RFID tag".
5. In "Charger group configuration" section choose "Create a new group".
6. Adjust other settings to your preferences.
7. Put an RFID card to the reader.
8. Press "Write configuration to an RFID card" button.
9. Putting this card to the first charger should result in configuring it. The charger does not remove UserID from the card, so the card can be used later for authorization in both chargers.

Configuring the second charger

1. Open Charger configuration manager and type in a serial number of the second charger.
2. In "Charging network addressing" choose 2 in the left field and 2 in the field on the right. This will set the socket as the second one in the network of two connectors.
3. Switch to the Extended mode.
4. In "Authorization type" section choose "Authorized RFID tag".
5. In "Charger group configuration" section choose "Add charger to existing group" option and type in a serial number of the first charger.
6. Adjust other settings to your preferences.
7. Put an RFID card to the reader.

8. Press "Write configuration to an RFID card" button.
9. Putting this card to the second charger should configure it. The card can be used later for authorization in both chargers too.

Generating more authorization cards for the network

1. Open User RFID cards manager.
2. Check "Offline card" checkbox and type in a serial number of any of the two previously configured chargers.
3. Put an RFID card to the reader.
4. Press "Write card" button.

6.2. Configuring a new charger added to existing charger network

1. Open Charger configuration manager and type in a serial number of the charger you want to add to the network.
2. In "Charging network addressing":
 - In the left field choose number of connector you want to assign to the charger.
 - In case you are configuring a Wallbox Duo, use the middle field to assign a number to the right socket as well.
 - Use the right field to indicate how many sockets will be connected in the network.
3. In "Charger group configuration" section choose "Add charger to existing group" option and type in a serial number of any of the chargers that are already assigned to the group.
4. Adjust other settings to your preferences.
5. RFID card must be placed on top of the RFID reader.
6. Press "Write configuration to an RFID card" button.
7. Putting this card to the second charger should configure it. The card can also be used later for authorization in all chargers in this group.

6.3. Configuring a charger for home use (group members can stop charging process started by another user)

1. Open Charger configuration manager and type in a serial number of the charger you want to add to the network.
2. Switch to the Extended mode.
3. In "Authorization type" section choose "Authorized RFID tag".
4. In "Charger group configuration" section choose "Create a new group".
5. In "Deauthorization type" section choose "Any RFID from charger group".
6. Adjust other settings to your preferences.
7. Put an RFID card to the reader.
8. Press "Write configuration to an RFID card" button.
9. Putting this card to the charger should configure it. The card can be used later for authorization in this and other chargers if added to the same group in their configuration.

6.4. Configuring charger for commercial use (Only user who started charging process can interrupt)

1. Open Charger configuration manager and type in a serial number of the charger you want to add to the network.
2. Switch to the Extended mode.
3. In "Authorization type" section choose "Authorized RFID tag".
4. In "Charger group configuration" section choose "Create a new group".
5. In "Deauthorization type" section choose "RFID that started charging".
6. Adjust other settings to your preferences.
7. Put an RFID card to the reader.
8. Press "Write configuration to an RFID card" button.
9. Putting this card to the charger should configure it. The card can be used later for authorization in this and other chargers if added to the same group in their configuration.

6.5. Configuring chargers network for symmetrical phase load

Two chargers can use different phases for charging one-phase EVs to avoid overcurrent of one phase. This case assumes the L1 input in the first charger is connected to grid L1 and L1 input in the second charger is connected to grid L2.

Configuring the first charger

1. Open Charger configuration manager and type in a serial number of the first charger.
2. Switch to the Extended mode.
3. In "Terminal blocks configuration" section make sure L1 is set up as the first phase.
4. Adjust other settings to your preferences.
5. Put an RFID card to the reader.
6. Press "Write configuration to an RFID card" button.
7. Putting this card to the charger should configure it. The card can be used later for authorization in this and other chargers if added to the same group in their configuration.

Configuring the second charger

1. Open Charger configuration manager and type in a serial number of the second charger.
2. Switch to the Extended mode.
3. In "Terminal blocks configuration" section make sure L2 is set up as the first phase. Other phases settings will adjust automatically.
4. Adjust other settings to your preferences.
5. Put an RFID card to the reader.
6. Press "Write configuration to an RFID card" button.
7. Putting this card to the charger should configure it. The card can be used later for authorization in this and other chargers if added to the same group in their configuration.

6.6. Configuring charger network to use Dynamic Load Balancing (DLB)

1. Open Charger configuration manager and type in a serial number of the charger you want to configure.
2. Switch to the Extended mode.
3. In "Additional features" option "Dynamic load balancing" should already be enabled. If you ordered DLB for this charger and the feature is not enabled, please contact Enelion support.
4. In the field on the right type in a maximum grid current that is available for charging.
5. Adjust other settings to your preferences.
6. Put an RFID card to the reader.
7. Press "Write configuration to an RFID card" button.
8. Putting this card to the charger should configure it. The card can be used later for authorization in this and other chargers if added to the same group in their configuration.

