

Copy Card v1.0.4: User manual

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Introduction

Main features

Copy Card is a program designed to write the card code of the EM-Marine, HID (ProxCardII) standards to IL-05T, IL-06T, IL-07T cards using a Z-2 (mod. RD_ALL) / Z-2 USB or Z-2 (mod. E HTZ RF) / Z-2 EHR.

The program allows you to perform the following actions:

- Creating a copy of a key (card)
- Creating multiple identical keys using a sample key
- Creating a series of keys with sequential numbers
- Creating a key with a custom number

System requirements

Supported reader models:

- Z-2 (мод. RD_ALL) / Z-2 USB
- Z-2 (мод. E HTZ RF) / Z-2 EHR

Reader firmware: factory versions only.

Readers must have default VID/PID for FTDI (VID 0x403, PID 0x6001) and must have the description string "Manufacturer" equal to "iLogic" or "IL". These parameters can be changed using the utility https://ftdichip.com/utilities/#ft_prog [FT_Prog]:

- In Windows OS, download and install the FT_Prog program

- Connect the device. To avoid errors, disconnect the “extra” devices with the FTDI chip (if any)
- Install the drivers that came with it or download them from the website. <https://ironlogic.ru>. The instructions for installing the drivers are in the driver archive file
- Run FT_Prog. In the "Devices" menu, select "Scan and Parse" (or press F5). A list of found devices appears
- For the desired device, select "USB_Device_Descriptor" on the left. Then, on the right, in the "Custom VID/PID" properties, select "FTDI_Default"
- On the left, select "USB_String_Descriptors". Then enter "iLogic" in the "Manufacturer:" field
- In the "Devices" menu, select "Program" (or press Ctrl+P)
- A recording window appears. In the window, check the box next to the device in the "Device List" list
- Uncheck the "Only Program Blank Device" box at the bottom
- Click the "Program" button
- Turning off the device. It will now be identified as the "FTDI Serial port".

To work with USB readers, give access to the port. By default, users from the dialout group have access to /dev/tty* devices. You can verify this by typing

```
ls -l /dev/ttyUSB0
```

The response will appear

```
crw-rw---- 1 root dialout 188, 0 Feb 25 20:56 /dev/ttyUSB0
```

From where you can see that read and write access is open for the root user and for the dialout group. Add yourself to this group:

```
sudo usermod -a -G dialout $USER
sudo reboot
```

where \$USER is the user's name, for example administrator. It is not necessary to reboot the system, it is enough to log out and log in again.

Working with the program

After launching the Copy Card, the main program window will appear on the screen:

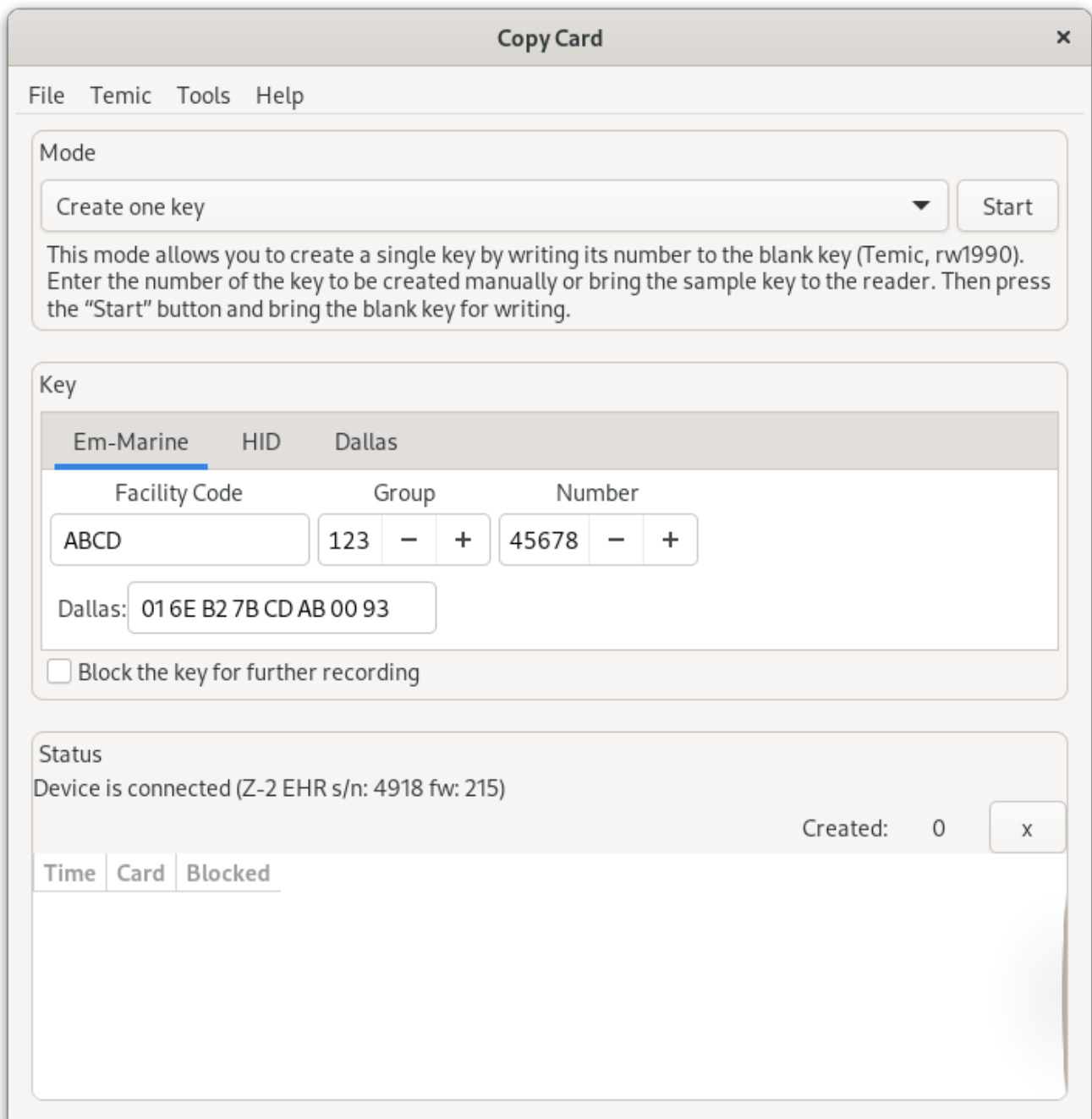


Figure 1. Main window

The title bar displays the program name and the "Close" button.

The main menu bar offers the following commands:

- **File**
 - **Quite** – closes the Copy Card program
- **Temic**
 - **Find Temic** – reads the UID of the Temic card
 - **Clear Temic** – erases the Em-Marine/HID number from the Temic card
- **Tools**
 - **Settings...** – opens the "Settings" window, for more information, see [Program settings](#)

- **Help**

- **About** – opens the "About the program" window, shows the version of the Copy Card, links to the program's website and to the support email.

Group "Mode"

Allows you to select one of three key generation modes and allows you to start/stop the creation process.

Modes:

- Create one key
- Create multiple identical keys
- Create multiple unique keys

The "Start" button starts the key creation process. This button is displayed when the process is stopped, and the "Key" group becomes unavailable.

The "Stop" button stops the key generation process, this button is displayed when the process is running.

Group "Key"

Allows you to select the type and number of the key to be created.

The "Lock key for further writing" checkbox makes the key number permanently non-rewritable.

Group "Status"

Shows the current status of the key generation process, the number of keys generated, and a list of these keys.

The "Created" group shows the number of keys created, the number can be reset using the "x" button.

The table displays a list of created keys. When a new row is added to the table, it automatically scrolls to the bottom if it was already scrolled to the bottom before being added.

Mode "Create one key"

In this mode you can:

- Create one copy of an existing card
- Create a card with a custom number.

Create one copy of an existing key

- In the Key group, select the tab that corresponds to the type of key you are creating: Em-Marine, HID, or Dallas

- Present an existing key (Em-Marine, HID, DS1990) to the reader. Upon detecting the key, the reader will beep, and the key's number will appear in the program
- Remove the existing key (sample) from the reader
- Select the "Create one key" mode
- Click the "Start" button.
- Present the rewritable key (Temic for Em-Marine and HID, rw1990 for Dallas). The program will write the copied number to the key (Temic, rw1990) and display "Successfully written" upon completion. If an error occurs, the program will make two more writing attempts, and if the error persists, it will display an error message. The program will then exit creation mode.

NOTE

To prevent the key from being rewritten (after copying), select the "Block key for further writing" checkbox. Or uncheck the box to leave the key (Temic, rw1990) writable.

Create a card with a custom number

- In the Key group, select the tab that corresponds to the type of key you are creating: Em-Marine, HID, or Dallas
- Enter the key number
- Select the "Create one key" mode
- Click the "Start" button.
- Present the key (Temic, rw1990) to the reader. The program will write the specified number to it and display "Successfully written" upon completion. If an error occurs, the program will make two more writing attempts, and if the error persists, it will display an error message. The program will then exit creation mode.

NOTE

To prevent the key from being rewritten (after copying), select the "Block key for further writing" checkbox. Or uncheck the box to leave the key (Temic, rw1990) writable.

Mode "Create multiple identical keys"

Creating multiple identical keys

- In the Key group, select the tab that corresponds to the type of key you are creating: Em-Marine, HID, or Dallas
- Enter the key number or hold the sample key to the reader
- Select the "Create multiple identical keys" mode and click the "Start" button.
- Bring the rewritable key (Temic, rw1990) to the reader
- The program will write the entered key number to it. When finished, it will display the message "Successfully written."
- Remove the completed key, and then bring the next key (Temic, rw1990) to the recording location. To stop the recording mode, press the "Stop" button.

NOTE

To prevent the key from being rewritten (after copying), select the "Block key for further writing" checkbox. Or uncheck the box to leave the key (Temic, rw1990) writable.

Режим "Create multiple unique keys"

Generating multiple unique keys

- Select the type of keys to be created (click on the appropriate tab: Em-Marine or HID in the "Key" group)
- Enter the initial key number or present a sample key to the reader
- Select the "Create multiple unique keys" mode and click the "Start" button
- Bring the rewritable key (Temic, rw1990) to the reader
- The program will write the entered key number to it. When finished, it will display the message "Successfully written." The program will then increase the key number in the "Key" group by one.
- Remove the completed key, and then bring the next key (Temic, rw1990) to the recording location. To stop the recording mode, press the "Stop" button.

NOTE

To prevent the key from being rewritten (after copying), select the "Block key for further writing" checkbox. Or uncheck the box to leave the key (Temic, rw1990) writable.

NOTE

After each entry, the entered key number will increase. For Em-Marine cards: first the "Number" increases, after the value 65535 there is a transition to 1 and the "Group" value increases by one, and if the "Group" was 255, then the next value will be 1. For HID cards: the "Number" is increased by 1, after the value 65535 the transition to 1 occurs. For Dallas: the number (6-byte unsigned integer, from the second to the sixth byte) is incremented, after the value 0xffffffff there is a transition to 1.

Program settings

To open the program settings, in the main menu "Tools" select the command "Settings..." The "Settings" window will appear.

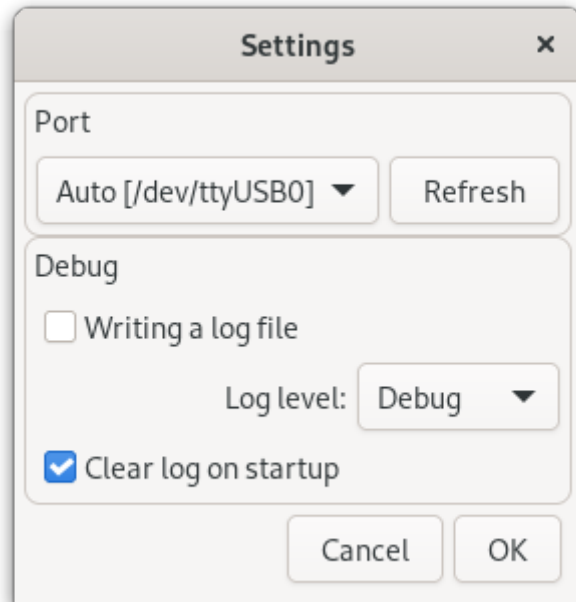


Figure 2. The Settings window

Port

The reader port name. If "Auto" is selected, the port is detected automatically. The default is "Auto." The "Refresh" button refreshes the port list.

Group "Debug"

Write debug log

If this flag is set, the program writes debugging information to the log file. It's unset by default.

Log level

Filters the written debug information by type:

- **Error** – Only error messages are written to the log;
- **Warning** – Error and warning messages are written to the log;
- **Info** – Error messages, warnings, and regular informational messages are written to the log;
- **Debug** – All information is written to the log without filtering.. Default is **Debug**.

Clear log on startup

If this flag is set, Place Card clears the log file contents upon startup. This flag is set by default.