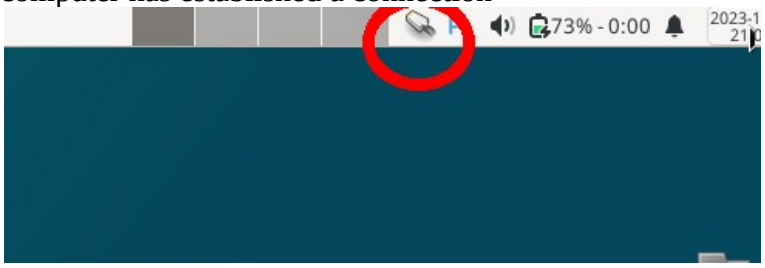
First launch of Linumeric-LPT V3 EN

If the device is purchased completely and assembled by the manufacturer, it is immediately ready for operation. If the device is self-made, it requires authorization from the manufacturer after programming. To perform authorization, connect the device to the power supply and to the computer via an Ethernet cable.
The computer should be configured according to instructions **5 - Linumeric-LPT V3 computer configuration** and the Linumeric-LPT V3 support package should be installed according to instructions: **6 - Linumeric-LPT V3 installation**
The **LLPTV3 configurator** application is required on the computer and is installed automatically during the installation of linumeric-LPT V3.

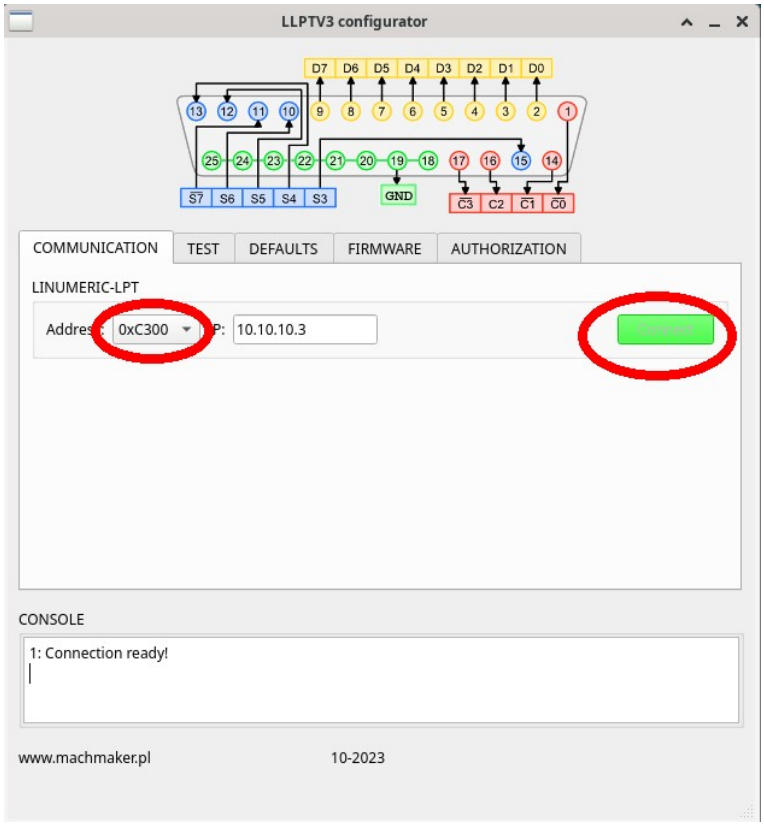
1. Connect the **Linumeric-LPT V3** device using an Ethernet cable directly to the computer's network card
2. Connect power to the device's USB port (DC 5V) – it can be a USB cable from a computer or other power source The green POWER LED should light up on the device and the red ERR LED should blink for a few seconds Then the green ETH LED should blink for a few seconds If the device establishes a connection, all 3 LEDs should be lit continuously in the idle state. If the ERR LED flashes quickly 3 times after connection is established, it means that the device is not authorized and **the authorization procedure must be performed to gain unlimited access to the device** (procedure described later in this manual). Without carrying out the authorization procedure, the device can also operate with full functionality, but after an hour of operation the device will stop and the ERR LED will blink. Restarting the power supply will reset the counter and the device can be tested for another hour. The time-limited operation mode is used only to test the device. **The manufacturer does not agree to use the device commercially without authorization.**

The device is ready and is delivered authorized by the manufacturer. Authorization is needed if you make the device yourself.

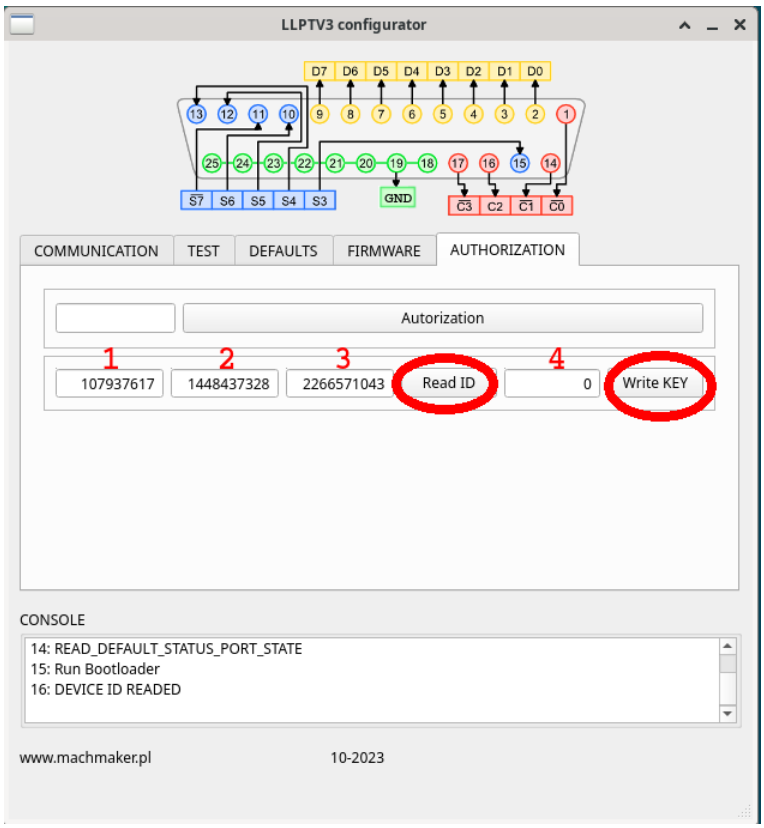
3. Check if the computer has established a connection



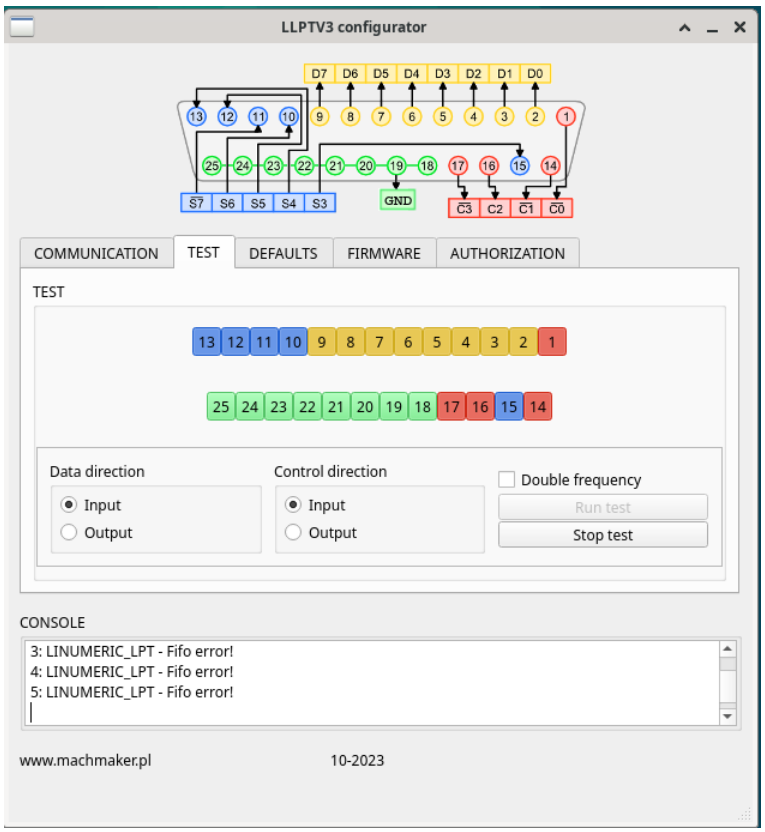
4. Run the **LLPTV3 configurator** application
5. Select the device with the address (0xC300) 10.10.10.3 and press Connect (the button should light up green)



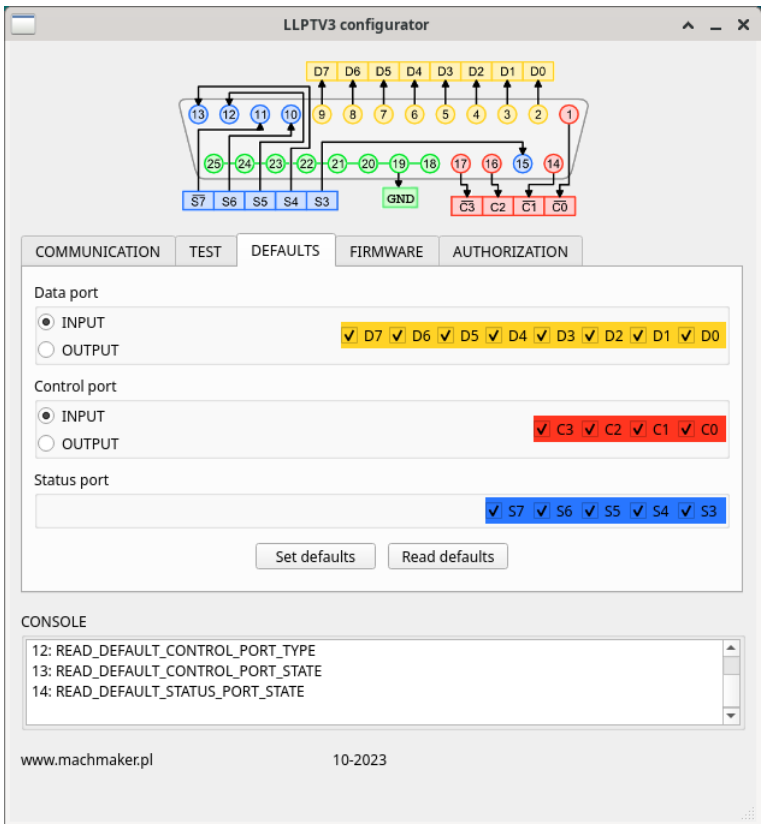
6. If the device is not authorized, go to the AUTHORIZATION tab. If the device is authorized, skip the next step in this manual.
7. To authorize the device, click the Read ID button and send the read values from fields 1, 2 and 3 in the appropriate order to biuro@machmaker.pl with a request for the authorization code.
   After receiving the code, enter it in field number 4 (fields 1, 2 and 3 should also be entered) and click the Write KEY button. After proper authorization, the red ERR LED on the device should stop blinking.



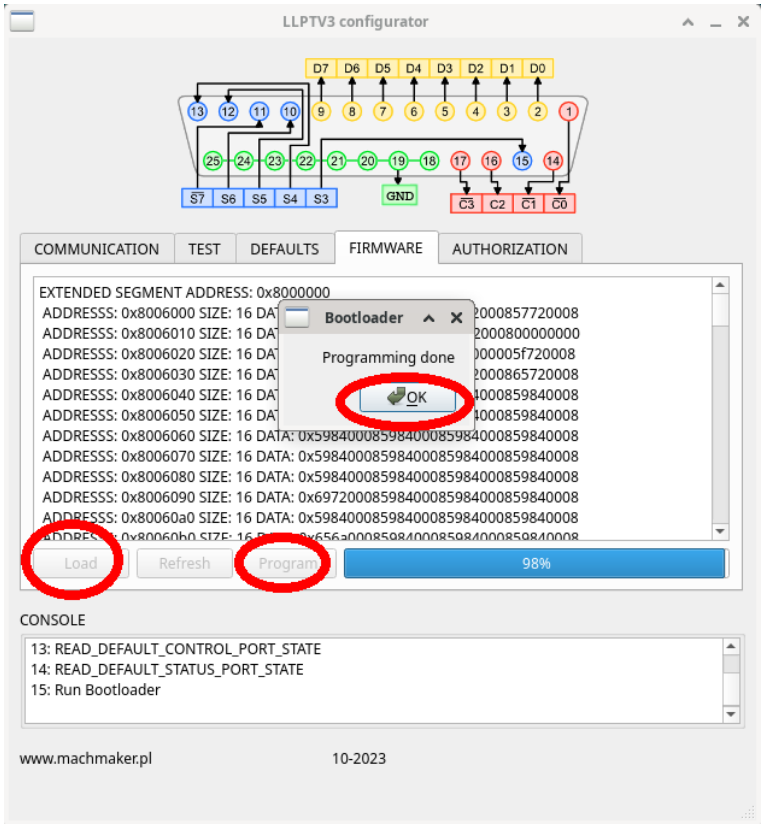
8. In the TEST tab you can test the device's inputs and outputs. You can set the operating direction of the DATA (yellow) and CONTROL (red) ports as inputs or outputs and control their status by pressing the buttons of the appropriate pins or read the input status. For the test to run, click the **Run test** button. After running the test, the ERR LED should turn off and the ETH LED should blink.
   To stop, press the **Stop test** button.



9. In the DEFAULTS tab, you set the default states and operation of the inputs/outputs.
   The default state is the state in which the device is after turning on the power but before starting the LinuxCNC application. You can set whether the DATA or CONTROL port should be the input or output port in this state. If the port has been set as output, a marked "tick" next to the appropriate pin means a high state at the output, an unchecked check mark means a low state at the output.
   If the port has been set as input by default, a marked "tick" next to the appropriate pin means pull-up to the upper power supply rail (3.3V), an unchecked check mark means pull-down to the lower power rail (0V GND).
   The status port can only work as an input.
   Additionally, this pull-up or pull-down setting for inputs also works when LinuxCNC is started, once LinuxCNC has configured individual pins as inputs.



10. In the FIRMWARE tab you can update the device software.
    The most up-to-date software can be downloaded at:
    https://machmaker.pl/data/files/LINUMERIC_LPT_V3_STABLE.hex
    If the device was purchased from the manufacturer, it always has the most up-to-date software installed. However, if you made the device yourself, a software update is recommended.
    To update the firmware, click the Load button and select the LINUMERIC_LPT_V3_STABLE.hex file
    Then click the Program button and wait for the message confirming correct programming.


LLPTV3 configurator
D7 D6 D5 D4 D3 D2 D1 D0
13 12 11 10 9 8 7 6 5 4 3 2 1
25 24 23 22 21 20 19 18 17 16 15 14
S7 S6 S5 S4 S3
GND
C3 C2 C1 C0
COMMUNICATION
TEST
DEFAULTS
FIRMWARE
AUTHORIZATION
EXTENDED SEGMENT ADDRESS: 0x8000000
ADDRESSS: 0x8006000 SIZE: 16 DA
ADDRESSS: 0x8006010 SIZE: 16 DA
ADDRESSS: 0x8006020 SIZE: 16 DA
ADDRESSS: 0x8006030 SIZE: 16 DA
ADDRESSS: 0x8006040 SIZE: 16 DA
ADDRESSS: 0x8006050 SIZE: 16 DA
ADDRESSS: 0x8006060 SIZE: 16 DATA: 0x5984000859840008598400085984000859840008
ADDRESSS: 0x8006070 SIZE: 16 DATA: 0x5984000859840008598400085984000859840008
ADDRESSS: 0x8006080 SIZE: 16 DATA: 0x5984000859840008598400085984000859840008
ADDRESSS: 0x8006090 SIZE: 16 DATA: 0x6972000859840008598400085984000859840008
ADDRESSS: 0x80060a0 SIZE: 16 DATA: 0x5984000859840008598400085984000859840008
Bootloader
Programming done
OK
Load
Refresh
Program
98%
CONSOLE
13: READ_DEFAULT_CONTROL_PORT_STATE
14: READ_DEFAULT_STATUS_PORT_STATE
15: Run Bootloader
www.machmaker.pl
10-2023