Installation of Linumeric-LPT V1/V2/V3/V3.2

To make installation as easy as possible, a special distribution of Debian 12 has been prepared, dedicated to LinuxCNC and Linumeric-LPT. After installing this system, the user will receive a fully working Debian system with RT kernel with linuxCNC 2.9.3, all interfaces configured, and with linumeric-LPT V1/V2/V3 and V3.2 support installed.

To install the system:

-Download the system image by clicking the link below:

debian-live-Linumeric-amd64-xfce.iso

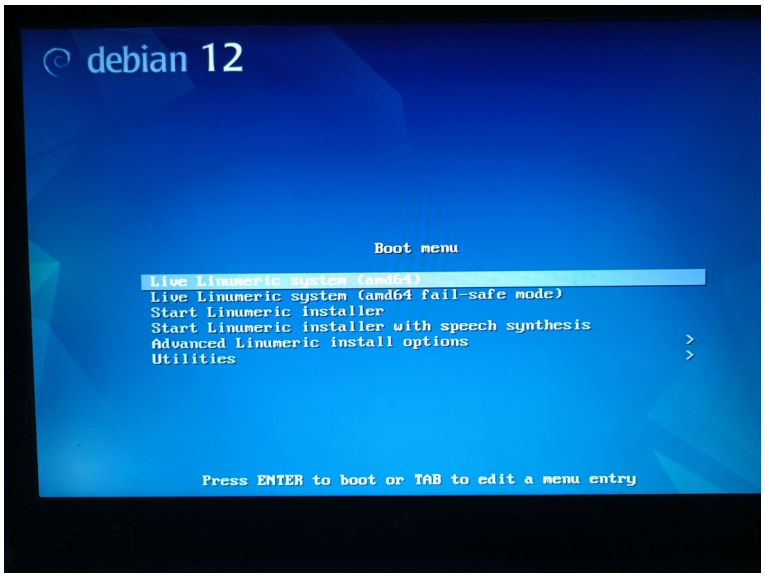
NOTE:

Please do not worry about the system version number, as it may change with each update.

-Create a bootable media with the downloaded image

-Turn on the computer that will be tested with the option to boot from USB or CD (depending on the media we have)

-When the boot menu appears, select **Live Linumeric system (amd64)** and press TAB or e (Check out the hint at the bottom)

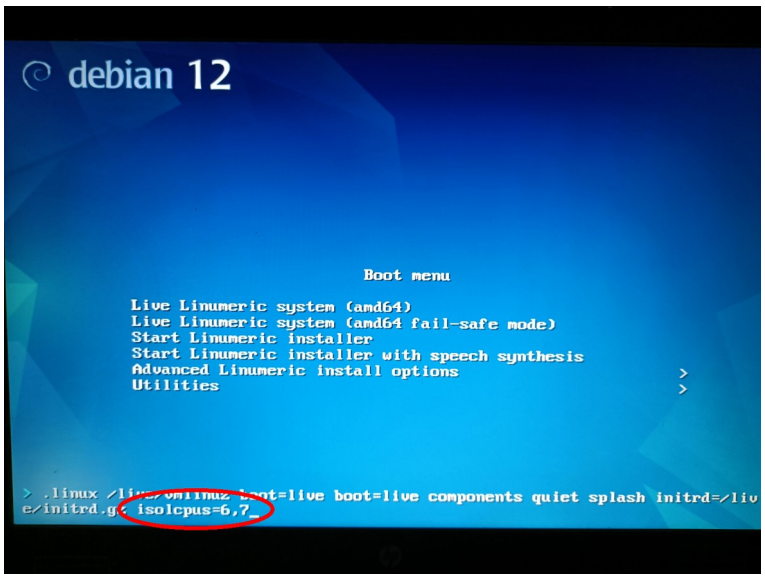


-Enter the isolation of the 2 processor cores with the highest number, via the isolcpus option.

Cores are numbered from 0, so if there are 4 cores, enter isolcpus=2,3, if there are 8 cores, enter isolcpus=6,7.

It is about the number of cores available for the system, i.e. if the computer has 4 physical cores with 2 threads per core, then the system has 8 cores.

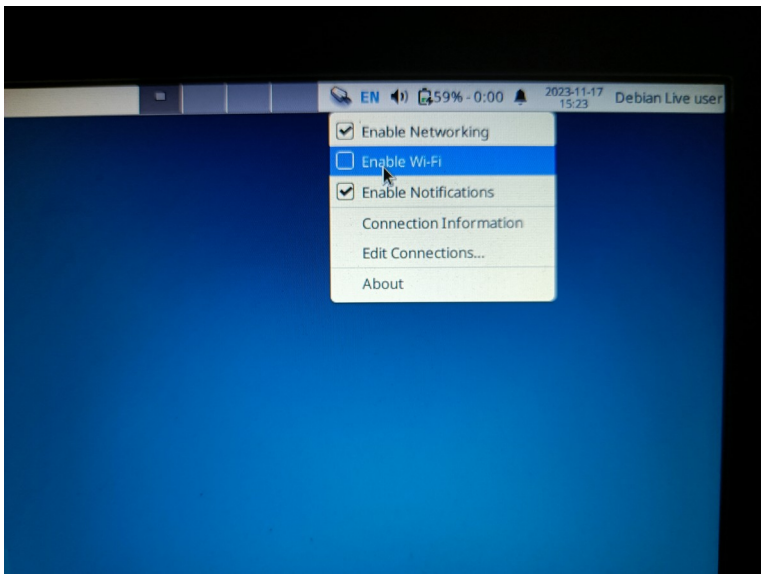
Isolcpus means that the system does not use these cores and thanks to this they can devote all their time to servicing realtime processes.



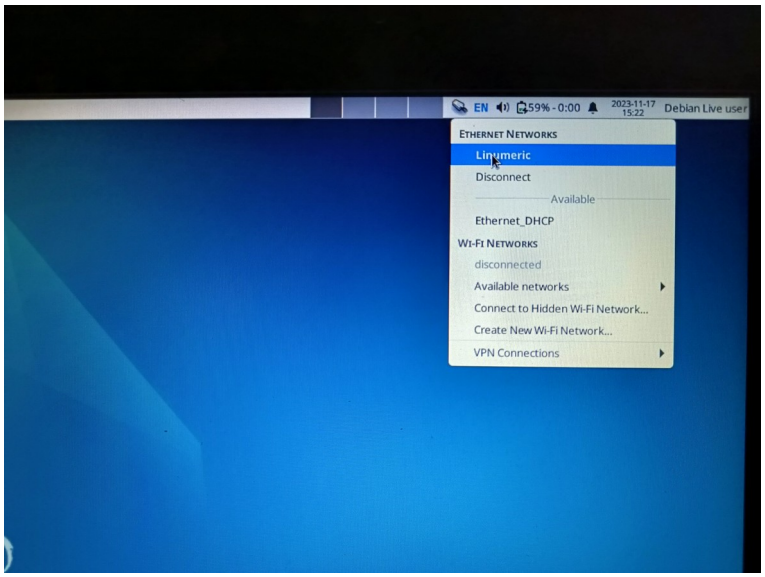
Press Enter and a fully working system will boot, with Linumeric-LPT support installed.

At this point you can start testing the Linumeric device.

To test, turn off wifi



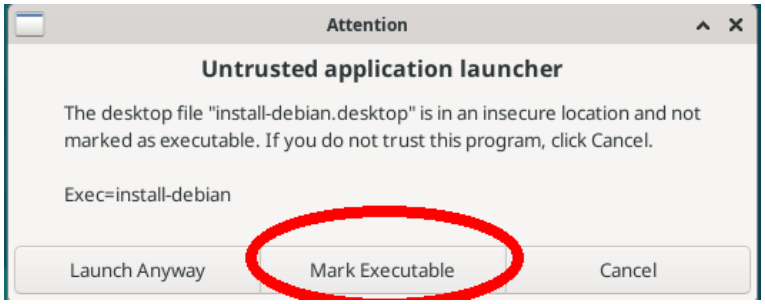
and select an Ethernet connection profile called Linumeric.



To learn how to test and prepare your first LinuxCNC configuration, please read the following instructions.

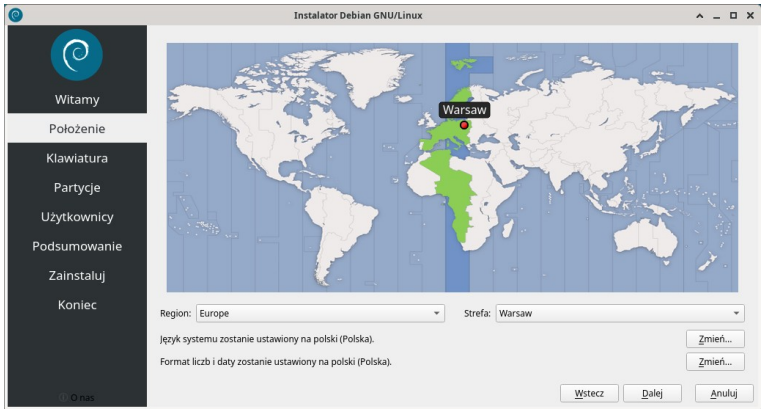
To install the system, connect to the Internet (either via Wifi or via Ethernet using the Ethernet_DHCP profile)

To start the installation, run the **Install Debian** installer from your desktop

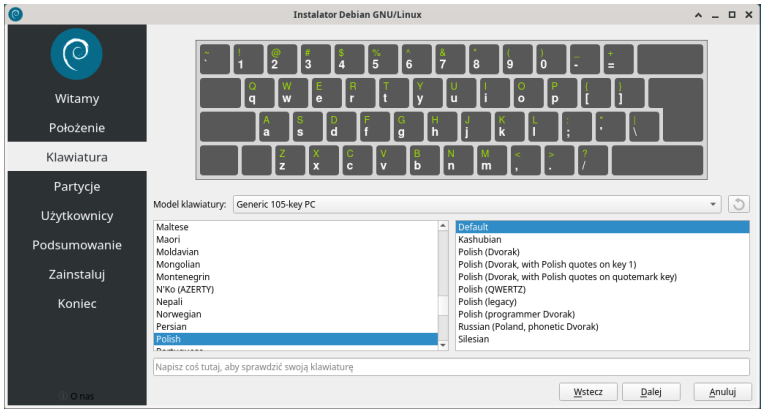


Select a language

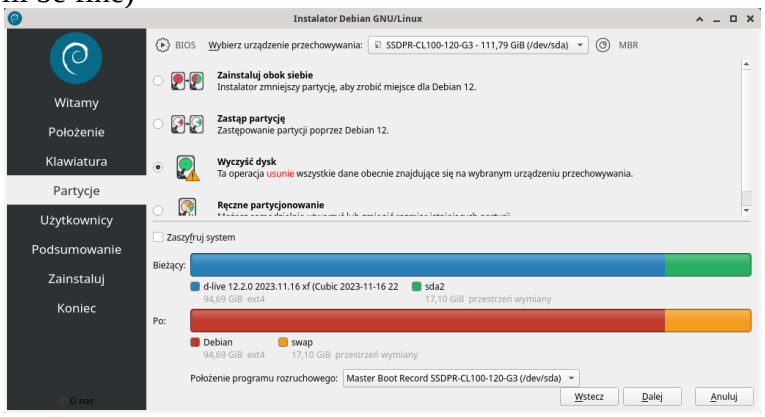
Region and time zone



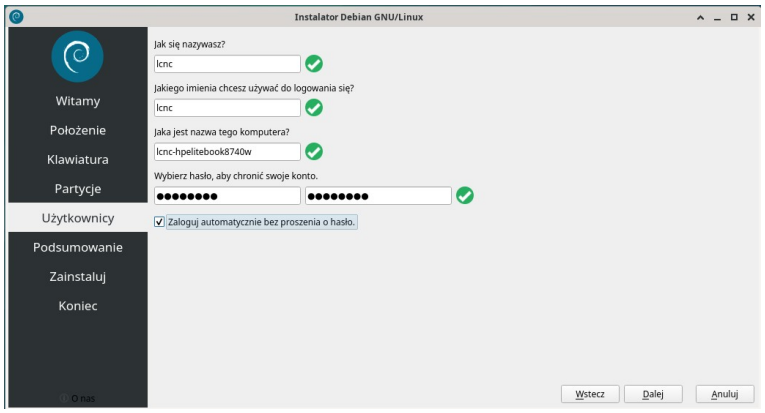
Keyboard layout



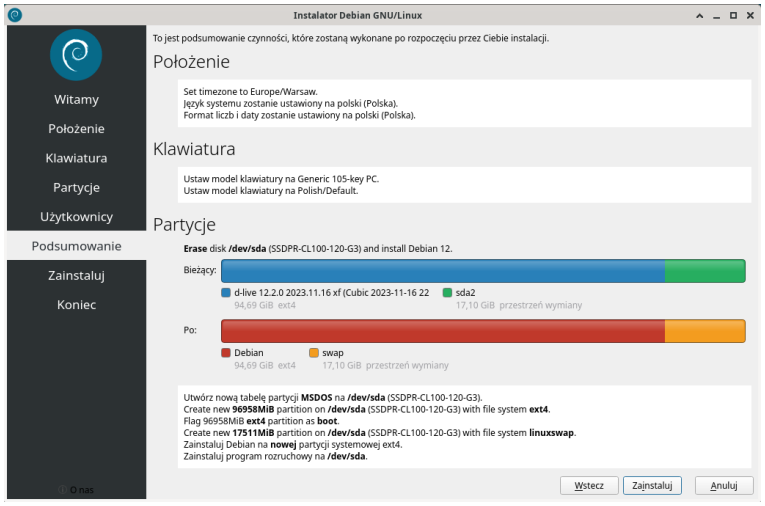
Select or create a partition (for beginners, the best option is to install only this system on the computer, so it will be the **Erase disk** option, advanced users if they want to choose a different combination, they will be fine)



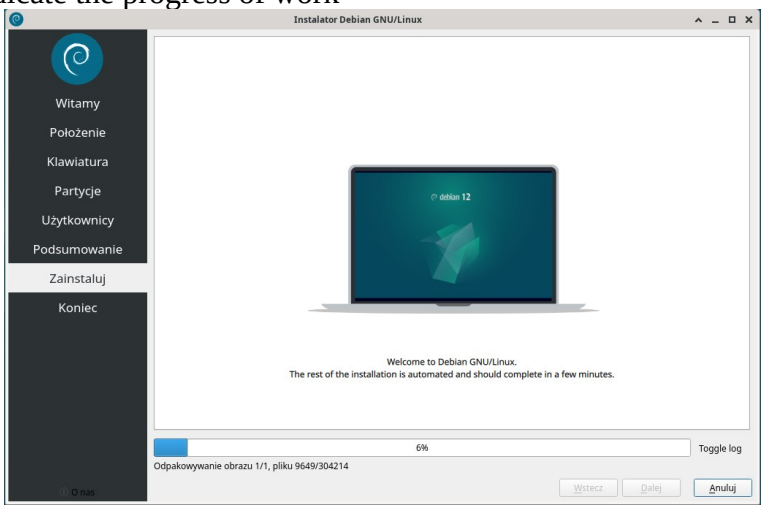
Set username, password, automatic login option



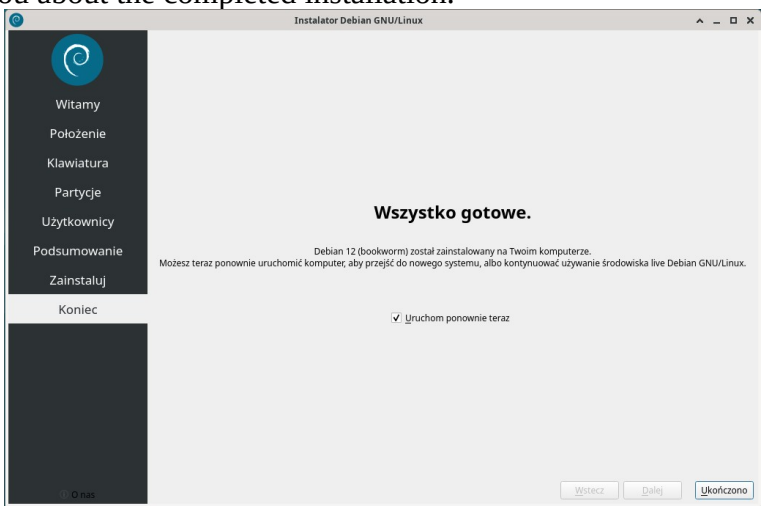
And run the installation



The installer will indicate the progress of work



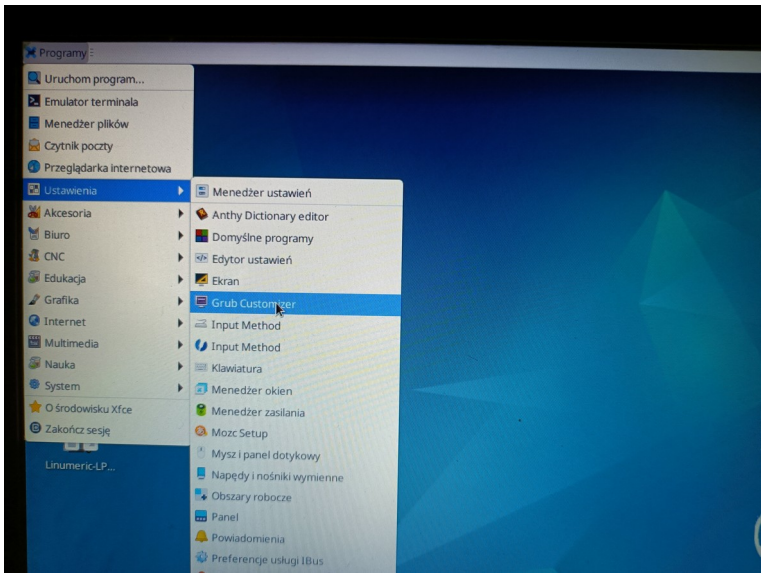
And it will inform you about the completed installation.



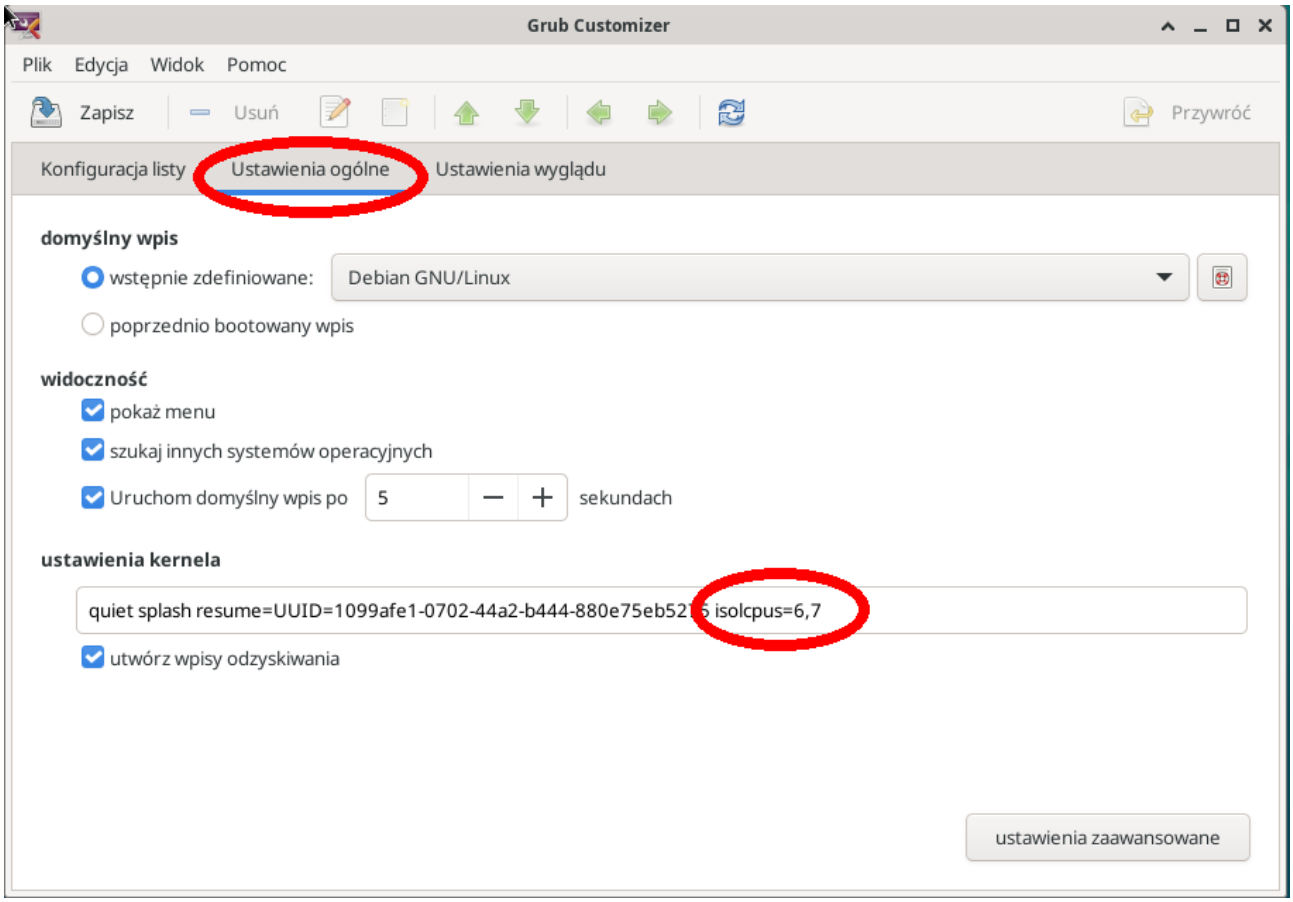
You can restart your computer or continue with the test.

After restarting (without the installation disk), the system will start.

In order not to edit the options every time you turn it on, you should permanently set the processor core isolation. To do this, run the **Grub-customizer** application



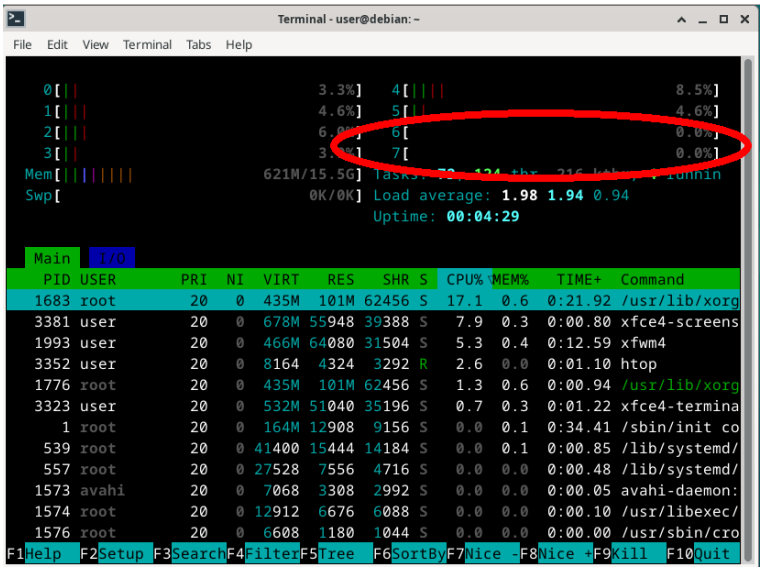
And in the General Settings tab, add the isolation command for the default configuration.



Once entered, click Save and restart your computer.

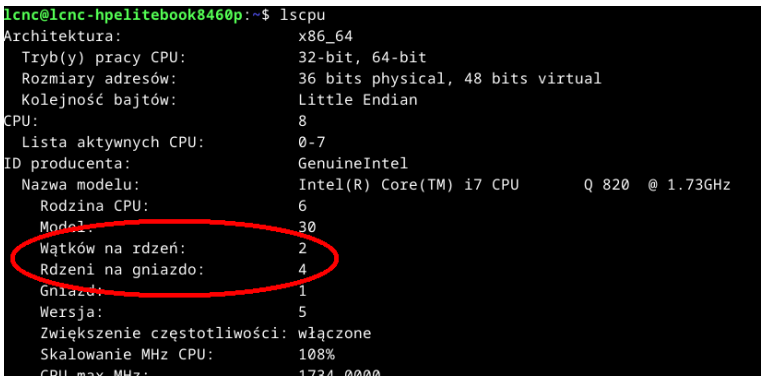
After restarting, the finished system will start with core isolation.

To confirm that the cores are properly isolated, you can run the application in the terminal by typing:
htop
and check if the last 2 cores have zero load.



The computer is ready to work!

If we don't know how many cores we have, something went wrong with the insulation, you can check it by entering the command in the terminal:
lscpu
and check how many cores your computer has



In this case, the processor has 4 physical cores, 2 threads per core, so 8 logical cores.

If there are issues connecting to the Linumeric-LPT V1 or V2 device, please open the terminal and enter the following command:

sudo adduser $(whoami) dialout

and press enter, then enter the password if necessary.

Restart the computer.