NanoCAN & NanoJEasy

Software training
Our controllers are always CAN slaves. Therefore, we do not have as many possibilities as in NanoPro. The main work is done by the CAN Master (Beckhoff, Siemens, etc.).

NanoCAN is a useful tool for:

- Testing
- Troubleshooting
- Firmware updates
The bottom of the screen shows the states of the drive and the communication.

The start tab of NanoCAN is similar to the Communication tab of NanoPro.

Its main function is to establish the communication to the controller.
Motor & Drive Settings:

These are the main settings of the motor:

- Phase current
- Hardware
- Encoder
- Brake (only SMCI47-S)
- BLDC parameters
- Display properties
Node Configuration

Node Settings & Error:

You can change the Node ID and baud rate here.

In addition, you can read out active errors and the error history.
Closed Loop:

This tab is equivalent to the CL-Parameter tab in NanoPro.

- PID parameters
- Position error
- Following error

The only difference is that you cannot start the Wizard here.
You can read out and save all values of the controller.

**SDO List:**

All parameters of the controller can be found in the SDO list.

This is like a register: each parameter has an address, a data type and a value.

The addresses and most of the data types are standardized in the CANopen protocol.
The main communication between master and our controllers takes place with PDO messages.

PDO Mapping:

This page is for the PDO mapping.

This means you decide which SDOs you want the controller to send or read automatically.
PDO Received:

This page gives an overview of all the mapped PDOs.

You can also decide if and which PDOs you want to see in the small window at the top right of the NanoCAN screen.
Homing Mode:

On this page you can test all the different homing (reference) modes.

- Internal homing
- External homing
- Homing on block
- Homing without movement

In addition, it is possible to carry out the Closed Loop setup and to switch to closed loop mode.
Homing Mode:

Test the position mode relative and absolute.

They are equivalent to these modes in NanoPro.

A change in the target position can be set immediately or when the first position is reached.
Homing Mode:

Test the speed mode.

This is equivalent to the speed mode in NanoPro.
Interpolated Position Mode:

This mode is designed to synchronize two or more motors.

The master sends a new position every timestamp. The controller calculates the speed to get to this position before the new position is set.

This mode must not be combined with Closed Loop.
Closed Loop is necessary.

Torque Mode:

The behavior of the torque mode is equal to NanoPro.

But the maximum torque is set as a value, not with the analogue input. In addition, a maximum speed can be defined.
This tab shows the status of the inputs and outputs.

Ranges and a filter for the analogue input can be set.

The analogue input cannot be used by the controller in CANopen, but it is possible to read out the value on the input through a SDO.

The digital inputs also cannot be used by the firmware, besides input 6, which is the limit and reference switch.
Special firmware is available through our support team.

This tab is set for firmware updates and changes.

As opposed to NanoPro, NanoCAN has no data file with firmware versions. You need a firmware file.

A firmware update is possible to newer versions or for a change from RS485 to CANopen. This is very important for controllers which support RS485 and CANopen.

Special firmware is available through our support team.
To change from RS485 to CANopen, please use the "Start Bootloader" function and follow the instructions.
Firmware update
starting Bootloader.....

The bootloader will be started.
Firmware update

Finished
The update may take 1-2 minutes.

This is the entrance point if you just want to update your CANopen firmware to a newer version.

Upload the firmware and click on “Write Firmware”.

writing Firmware.....
At the end you will get a message that the update was successful.
Here are some typical problems you may face at the customer site:
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? NanoCAN does not find my controller.
Here are some typical problems you may face at the customer site:

? NanoCAN cannot find my controller.
! The costumer might not be using the necessary terminating resistor between CAN+ and CAN- (120 ohm).
NanoJEasy is a small but very useful tool to implement some PLC functions into our devices. (only with serial communication)

NanoJEasy is based on the Java-programming language. The program runs in the background parallel to the firmware.

The provided functions are, for example, read out of the inputs, position or status. With this information it is possible to trigger a reaction, like starting or stopping a profile, changing the speed, setting an output, etc.

The small example above starts profile 1 at the moment the controller is switched on.
The Firmware Utility is a firmware updating tool. It is useful if the update with NanoPro did not work properly.

You can find this tool together with the most commonly used firmware files and a step-by-step manual in the troubleshooting area of our homepage.
Thanks for your attention!