

# NORD NORDAC LINK SK 250E-FDS

## Quick Parameterization Guide

Only for decentralized frequency inverters SK 2XXE-FDS



# SK 250E-FDS

## Material Needed



- PC with administration rights.

- Operator Panel SK PAR-3H for NORD SERIES SK with RJ12 serial cable.

or

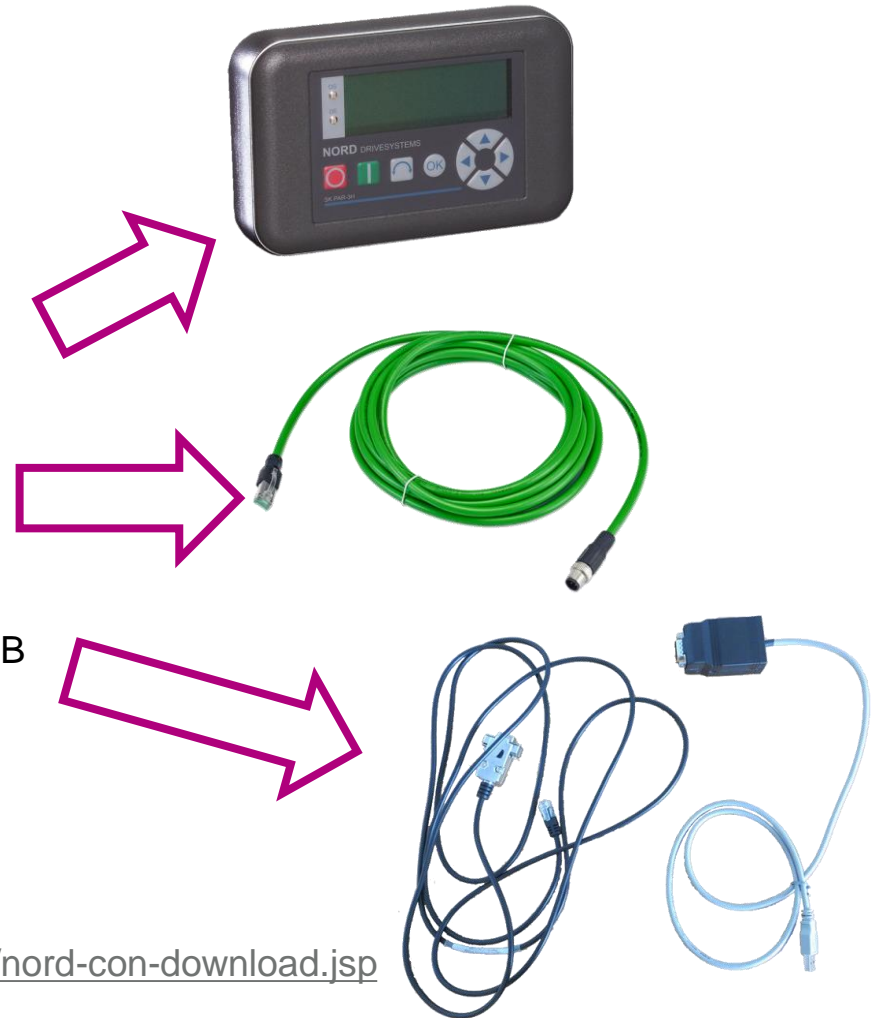
- An Ethernet Cable RJ45 Male to M12 4 pin D-coded Male. Such as the or SICK YM2D24-020PN1MRJA4

or

- USB Adapter for NORD Drives NORD SK TIE4-RS232-USB with adapter RJ12 to RS232(SUB-D9).

- NORDCON software tool, downloadable at

<https://www.nord.com/en/documentation/software/nordcon/nord-con-download.jsp>

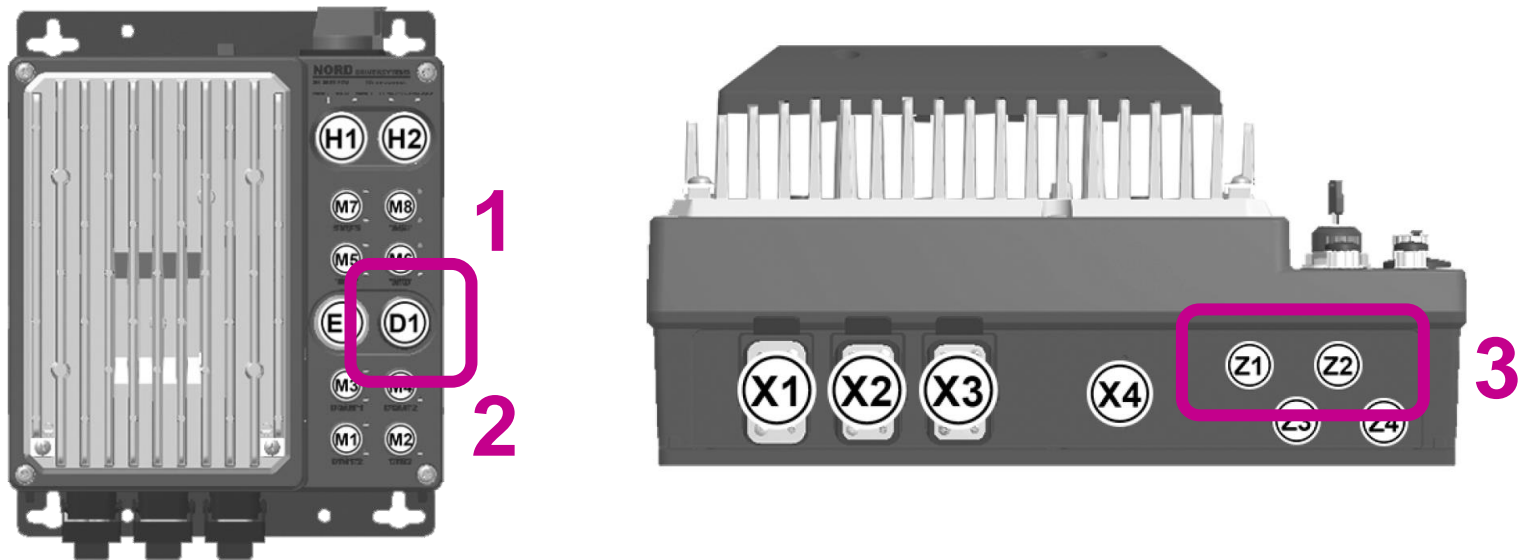


**There are three ways to establish a connection with the Inverter:**

**1** - Using the Operator Panel SK PAR-3H, through the RJ12 Service Port D1 .

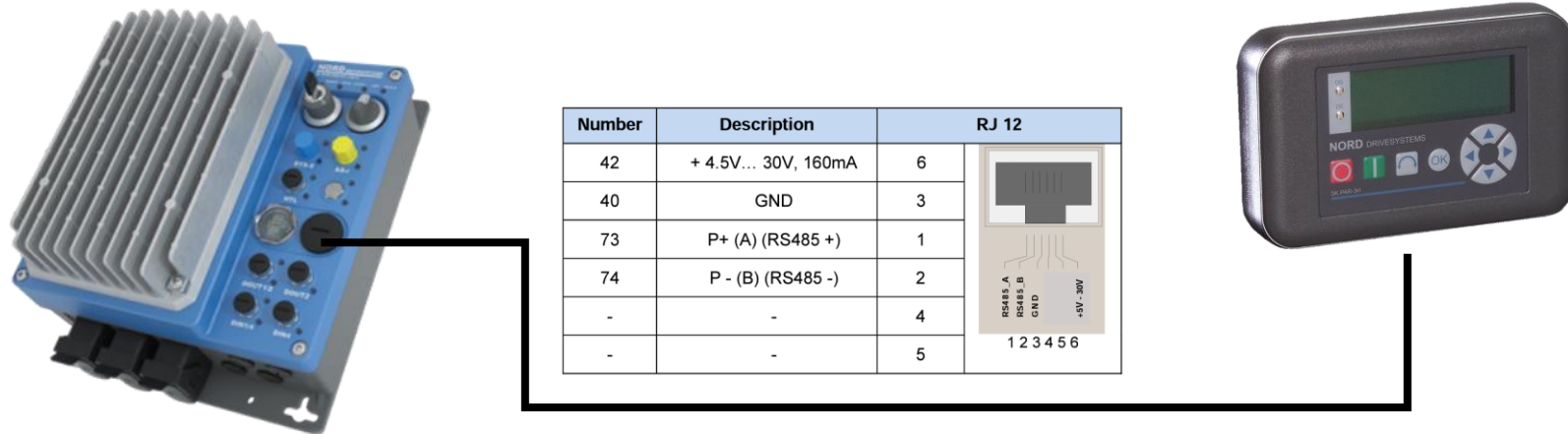
**2** - Using NORDCON via USB Adapter NORD SK TIE4-RS232-USB Application, through the RJ12 Service Port D1.

**3** – Using NORDCON via Ethernet Cable RJ45 Male to M12 4 pin D-coded Male, through the M12 signal ports Z1 or Z2.



## 1 - Connecting the SK PAR-3H Panel

Connect the Operator Panel SK PAR-3H at the Service Port D1 using the included RJ12 cable

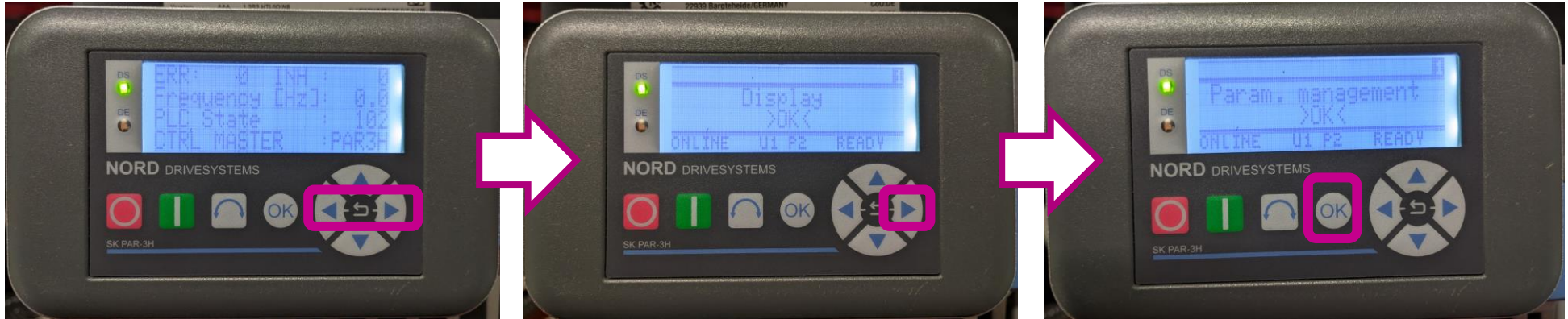


Wait until the panel turn on and the loading bar is at 100%

## SK 250E-FDS

### Copy the inverter Configuration into the Panel

Press simultaneously **Left&Right** to enter the menu, press **Right** twice until the *Param. Management* menu appears, then press **OK**.



Make sure that the *Source* is sets to *U1*, press **Right** and make sure that *Destination* is sets to *S1*, press **Right** and **Up**.





### Copy the inverter Configuration into the Panel

Make sure that the *Start* text appears, then press **OK**.  
Press **OK** if asked to overwrite.



The operator panel will save the Inverter configuration (*U1*) into the memory slot 1 (*S1*).  
The cable can be disconnected, and the operator panel will turn off.

## SK 250E-FDS

### Copy the Configuration from the Panel into the Inverter

Press simultaneously **Left and Right** to enter the parameters menu, press **Right** until the *Param. Management* menu appears, then press **OK**.



Push the **Up** or **Down** to scroll until the *Source* is sets to S1, press **OK** then press **Right**.

Push the **Up** or **Down** to scroll until the *Destination* is sets to U1, press **OK**, **Right** then **Up**.



### Copy the inverter Configuration into the Panel

Make sure that the *Start* text appears, then press **OK**.  
Press **OK** if asked to overwrite.



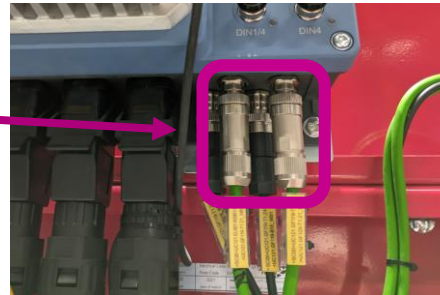
The operator panel will write the saved configuration from the memory slot 1 (S1) into the Inverter (U1).  
Once the operation is over, the cable can be disconnected, and the operator panel will turn off.



## Manually controlling the motor with the Panel

In the FIVES dedicated configuration once the Profinet is disconnected, the NORD Drive automatically switch the control mode from the PC to the PAR-3H via PLC Script, allowing the SK PAR-3H panel to manually control the motor:

1 - Remove all the Profinet cables.



Green: start the motor.  
Red: Stop the motor.

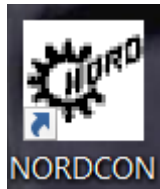
2 – Connect the PAR-3H.  
Wait the for main screen to load.



Up: Increase the Frequency.  
Down: decrease the frequency.  
The positive or negative reference is  
the running direction reference.

3 – Once finish, remove the Panel and reconnect the Profinet cables, the Drive automatically returns into automatic mode.

Connect your laptop at the D1 port located under the Black plastic cap via the USB-RJ12 Adapter.



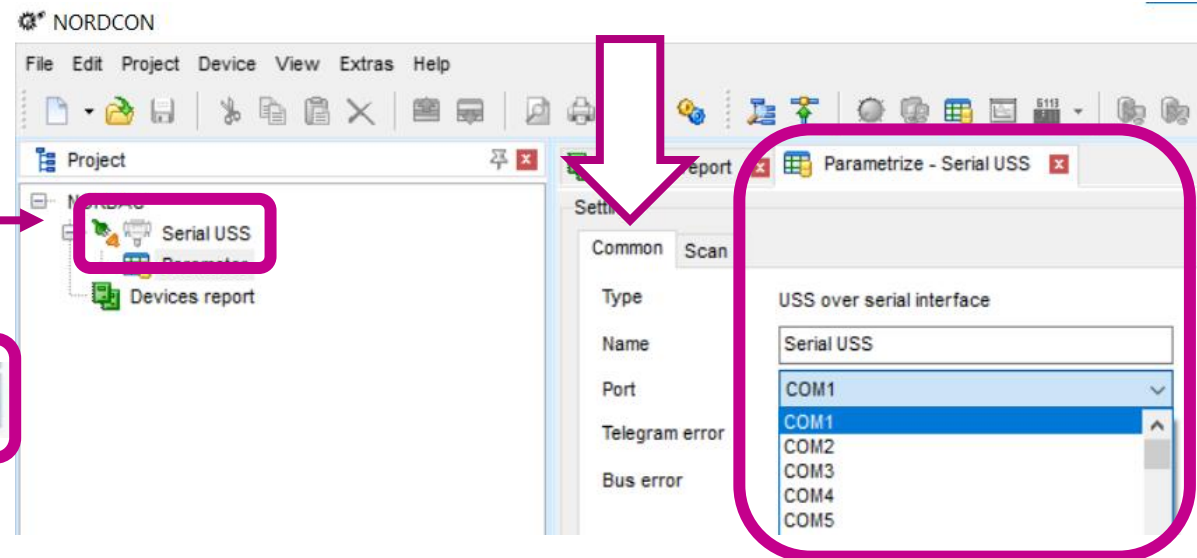
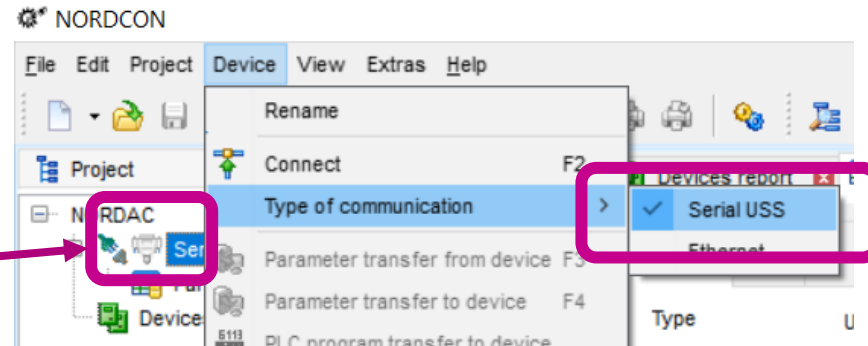
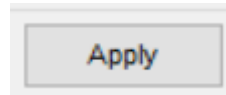
Launch the NORDCON application  
click once on the port **Icon**  
make sure that under

**Device -> Type of communication**  
The **Serial USS** option is selected

Double click on the port **Icon**  
In **Parametrize – Serial USS -> Common**  
make sure that the right **COM Port** is selected  
(the USB converter should be present in the list)



Click on **Apply**

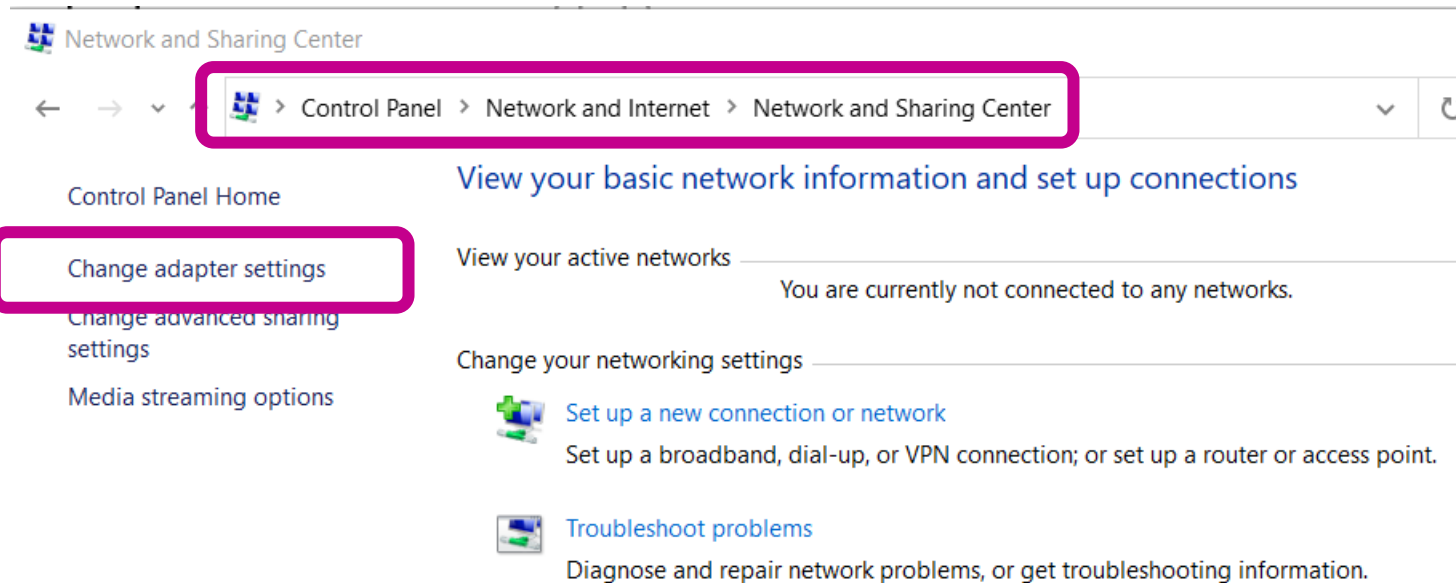


## 3– Ethernet/Profinet Connection

To connect via Ethernet/Profinet, the IP address of the Inverter is needed.  
Siemens PRONETA can be used to identify this IP Address.

Prepare your computer Ethernet connection before connecting to the Inverter:

Open the **Windows Control Panel**  
Click on **Network and Internet**  
Click on **Network and Sharing Centre**  
Click on **Change adapter settings**



### 3 – Ethernet/Profinet Connection

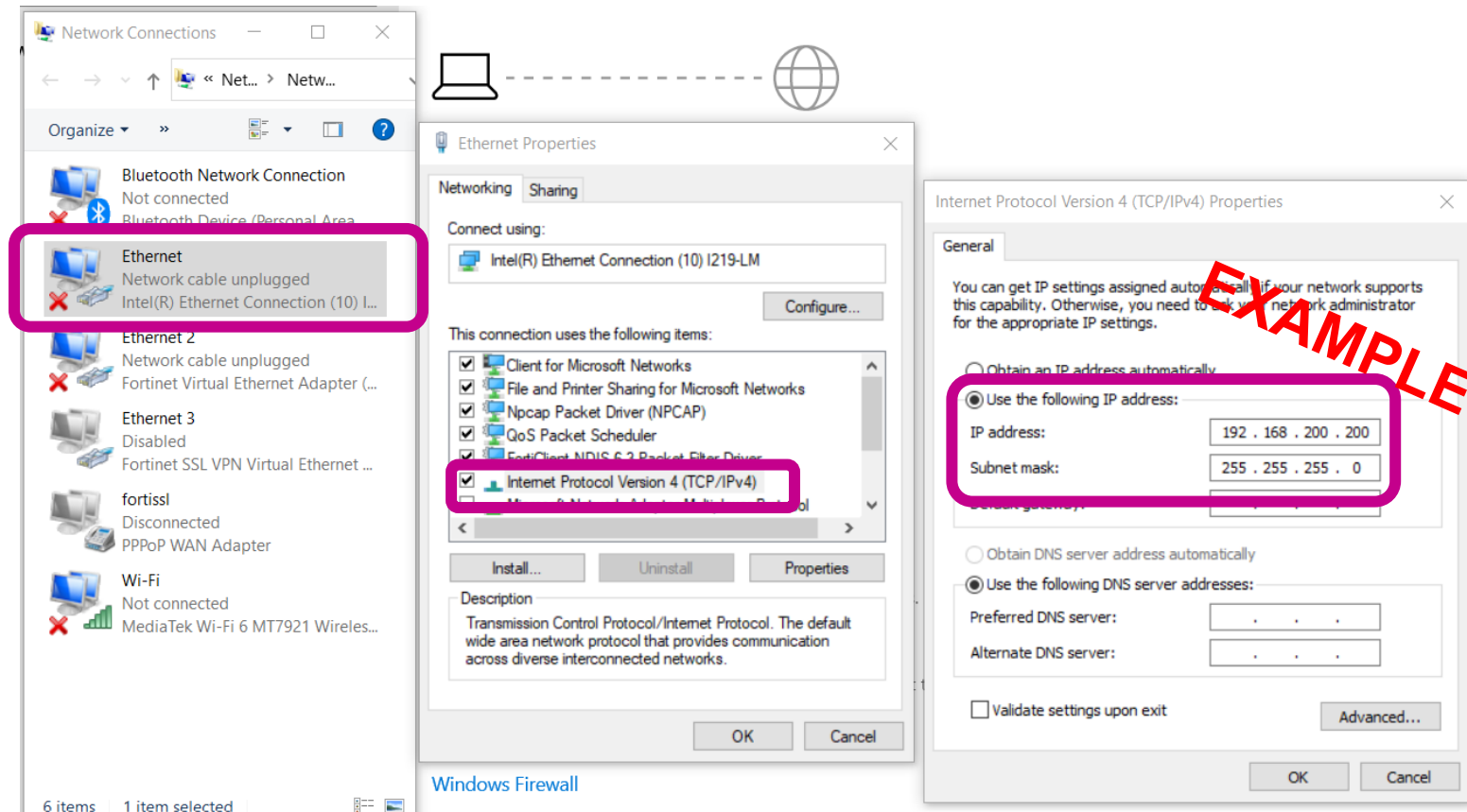
Prepare your computer Ethernet connection before connecting to the Inverter

Double Click on **Ethernet**

Double Click on  
**Internet Protocol Version 4  
(TCP/IPv4)**  
Flag  
Use the following IP  
address

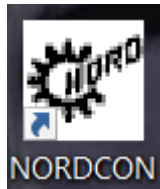
Fill the following data:  
**IP address**  
**Subnet mask**

According to the Inverter  
Profinet address  
(the last part of the IP  
Address must differ from the  
Inverter IP)  
All the others fields can be  
left empty

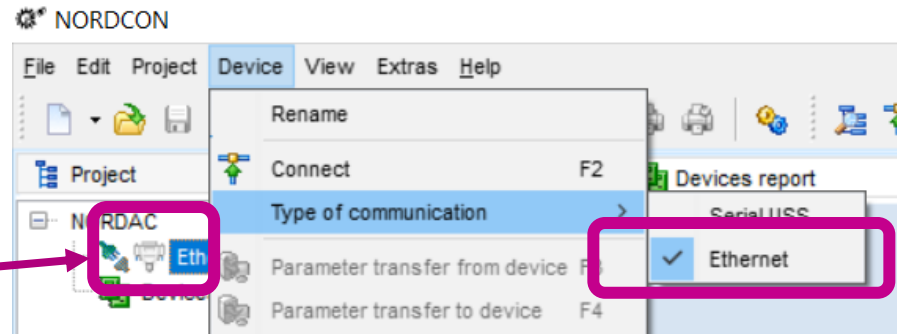


### 3 – Ethernet/Profinet Connection

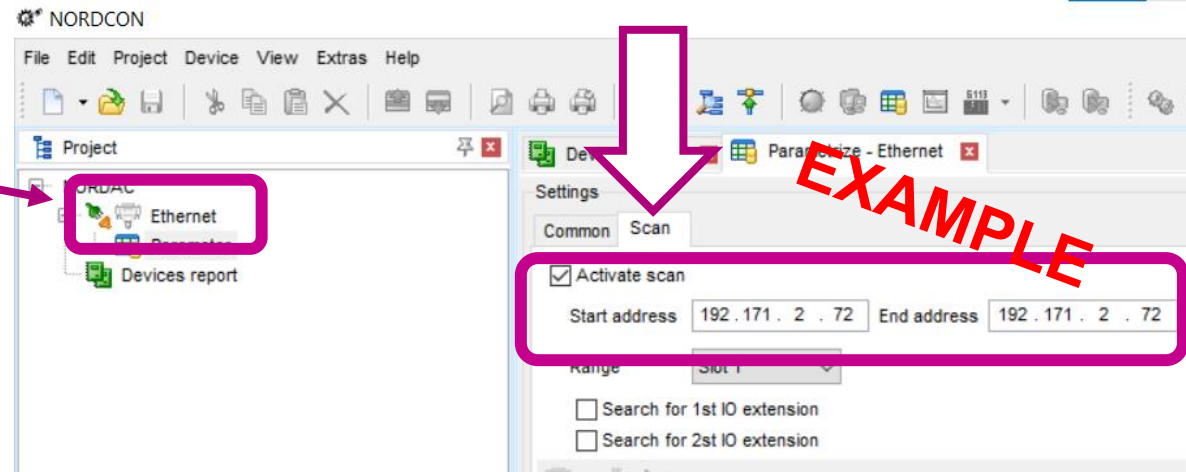
Connect your laptop at the Z1 or Z2 ports located under the Inverter via the RJ45-M12 Ethernet cable.



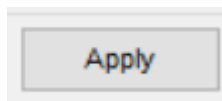
Launch the NORDCON application  
click once on the port **Icon**  
make sure that under  
**Device -> Type of communication**  
The **Ethernet** option is selected



Double click on the port **Icon**  
In **Parametrize – Ethernet -> Scan**  
flag the Activate scan option  
fill the Inverter IP address in the **address** fields



Click on **Apply**





## SK 250E-FDS

### Connect to the Inverter with NORDCON

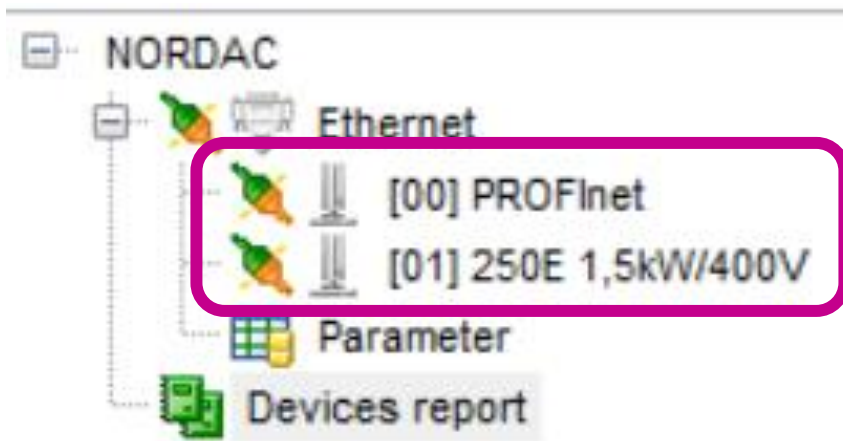
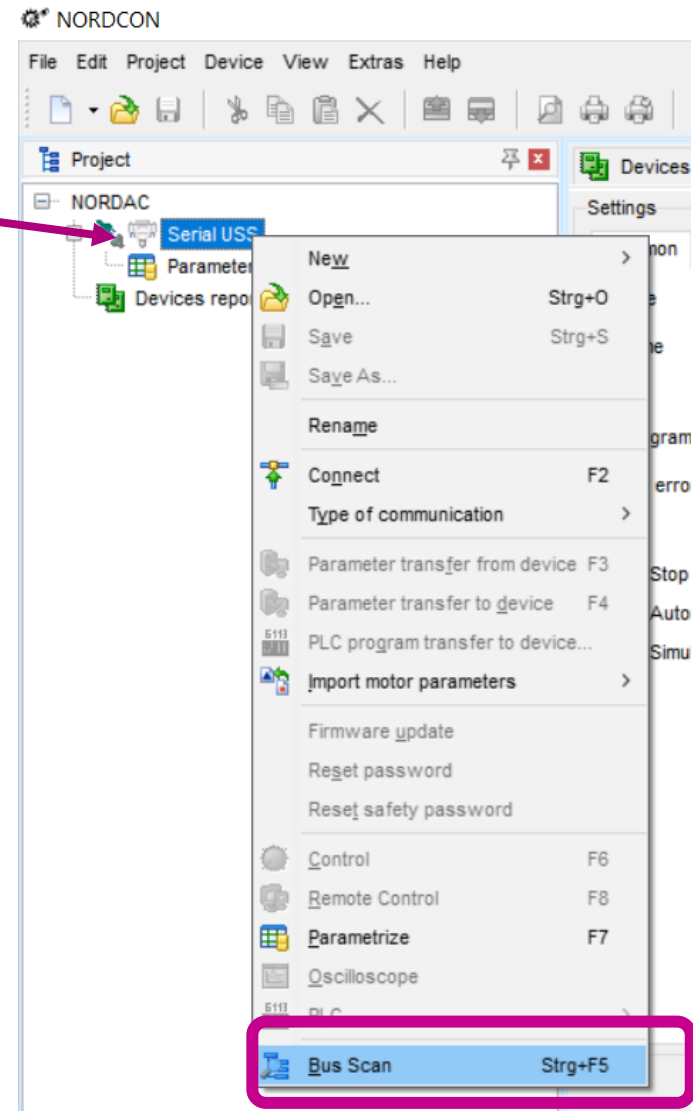


Right Click on the port **Icon**  
and select **Bus Scan**

Two elements will appear:

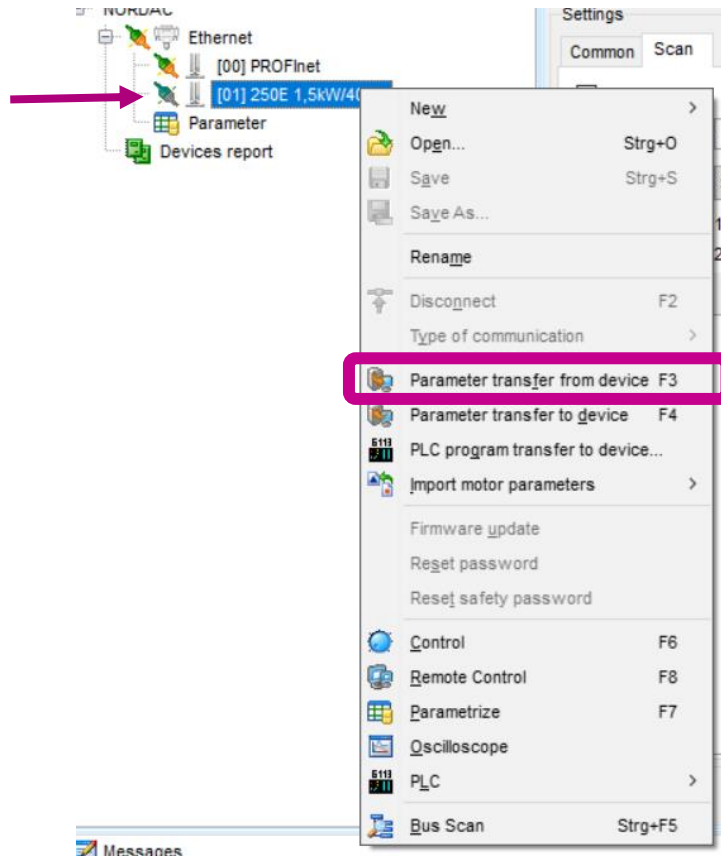
**[00] PROFinet:** The Profinet interface.

**[01] 250E....:** The Inverter part,  
containing the inverter parameters.

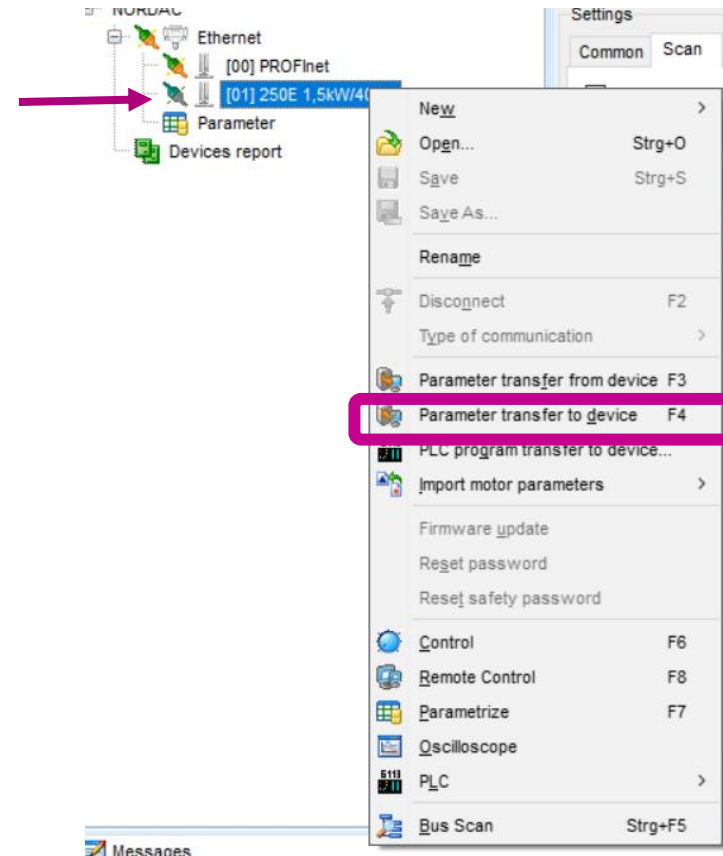


## Save and Load parameters configuration files with NORDCON

To save a file on your computer containing the Inverter Parameters, click on the Inverter part and select **Parameter transfer from device**



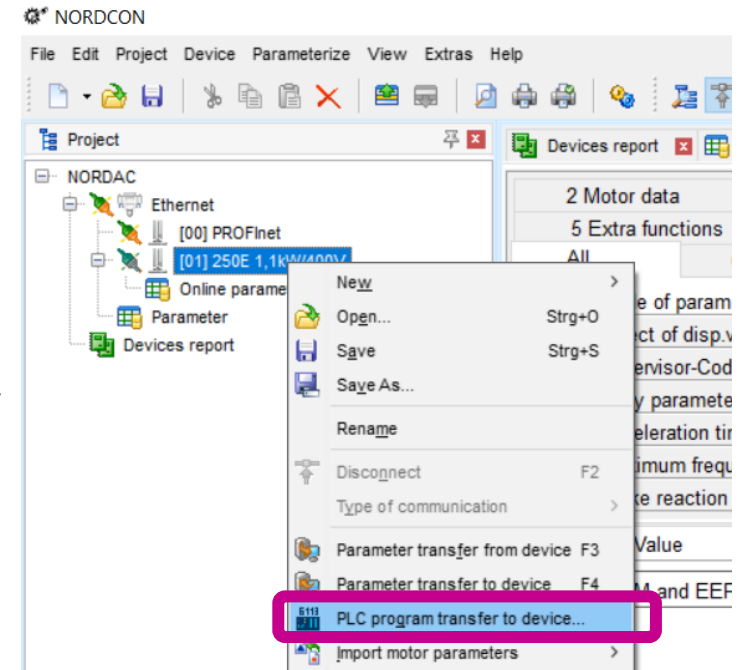
To load a file into the inverter from your computer containing the parameters, click on the Inverter part and select **Parameter transfer to device**



## Loading The PLC Script

All the NORD Drives ordered by FIVES have a dedicated configuration installed via PLC Script (0580000478\_FIVES1\_250E\_104.nstx) to allow the SK PAR-3H panel to manually control the motor.

If the configuration is missing, this can be loaded into the Drive via NORDCON by clicking on the Inverter and **PLC Program Transfer to Device...** then selecting the right PLC File.



Some particular configurations may be equipped with an additional PLC Script, such as the VertiSwitch (0580000478\_FIVES1\_500E\_Tilting\_V44.nstx)

### IMPORTANT

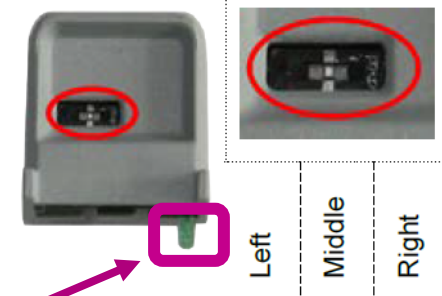
A PLC Script file cannot be downloaded from an existing Drive.  
The original file is needed.

## Use of the EEPROM

The Plug-in EEPROM operates in parallel with the Drive internal memory and can be used to backup the internal data (Inverter parameters and PLC Scripts) for quick replacement with an identical device.



The EEPROM is equipped with a 3-stage DIP switch. This can be used to set the function of the EEPROM. The DIP switch can be adjusted with the aid of a small flat-tip screwdriver.



Coding Pin

## Use of the EEPROM

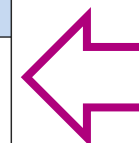
*DIP switch Left position (coding pin pointing downwards)*

Function sequence	LED
After starting the frequency inverter the data are copied once from the frequency inverter to the EEPROM.	Alternately flashing <b>red</b> / <b>green</b>
After this, the plug-in EEPROM switches to operation in parallel with the internal EEPROM of the frequency inverter – all data are written to both storage media simultaneously.	Lights up <b>orange</b>
To use the copying function, the plug-in EEPROM must be temporarily operated with a different DIP switch position. <b>Note the section “Disassembly/assembly” (see above)!</b>	

*DIP switch Middle position (coding pin pointing downwards)*

**Factory setting**

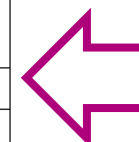
Function sequence	LED
The plug-in EEPROM operates in parallel with the internal EEPROM of the frequency inverter – all data are written to both storage media simultaneously.	Lights up <b>green</b>



As factory setting.  
Suggested position.

*DIP switch Right position (coding pin pointing downwards)*

Function sequence	LED
After starting the frequency inverter the data are copied once from the plug-in EEPROM to frequency inverter.	Alternately flashing <b>red</b> / <b>green</b>
After this, the plug-in EEPROM remains write-protected.	Lights up <b>red</b>
To use the copying function again, the plug-in EEPROM must be temporarily operated with a different DIP switch position. <b>Note the section “Disassembly/assembly” (see above)!</b>	



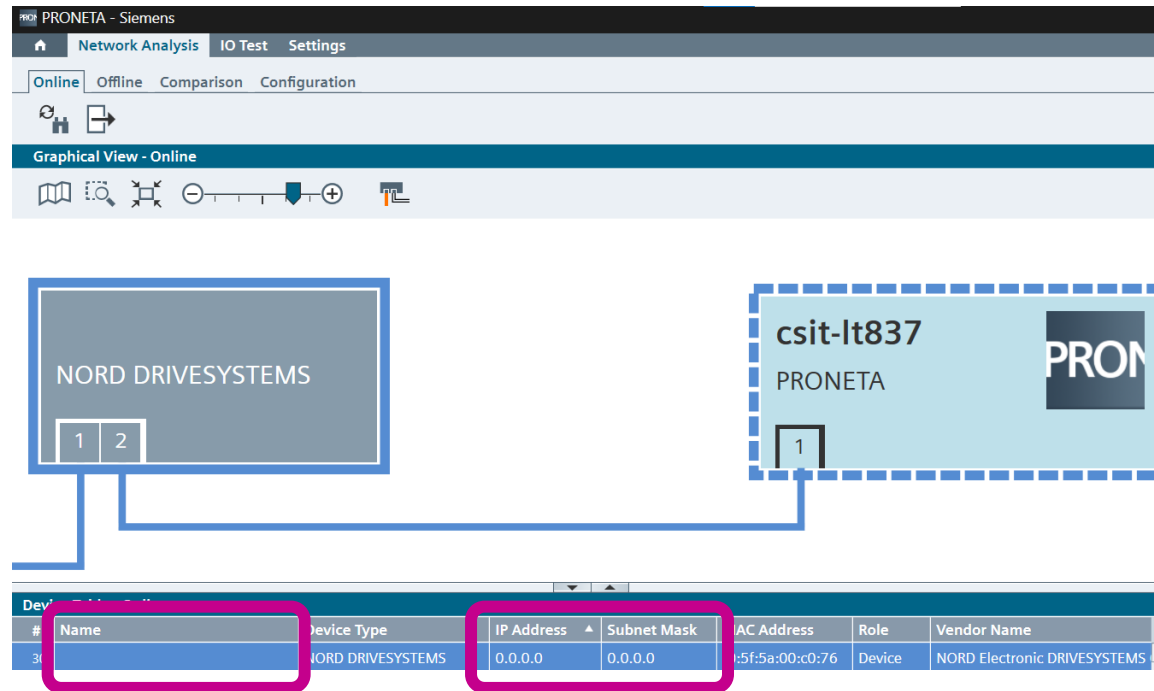
This function allows to transfer the parameters to a new, blank, device. Once completed, it's suggested to move the DIP switch back in the middle position.



## Addressing the unit (PROFINET)

### IMPORTANT

The NORD Parameter file or the NORD EEPROM do not contain the Profinet Names and Addresses.  
Remember to use Proneta or a similar software and fill the proper Name and IP Address

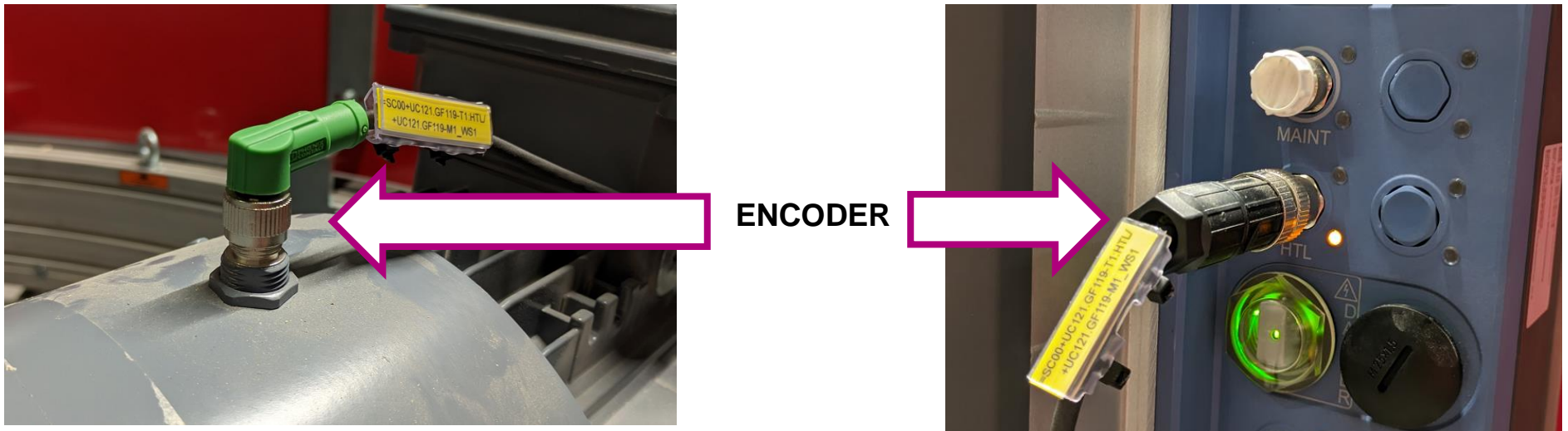


### Internal Encoder bypass

The NORD gearmotors may be equipped with an internal encoder (Resolver) externally connected to the HTL port (position M5) on the Drive.

This encoder is used internally by NORD for internal diagnostic (**Slip Error/Slip Delay**) and not by the FIVES applications, but if the Encoder is missing, damaged or not connected (damaged connector) the motor cannot run.

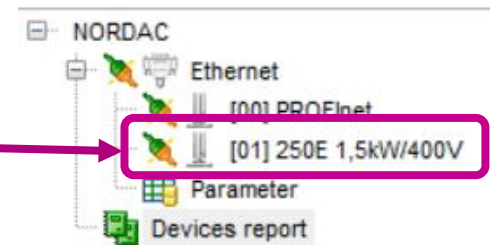
To run the motor without the Encoder, these inverter parameters must be changed via NORDCON or SK PAR-3H:



## Internal Encoder bypass

Double click on the Inverter to open the Parameterize screen

In order to bypass the Encoder, the parameter in  
**3 Speed Control** parameters section must be changed:

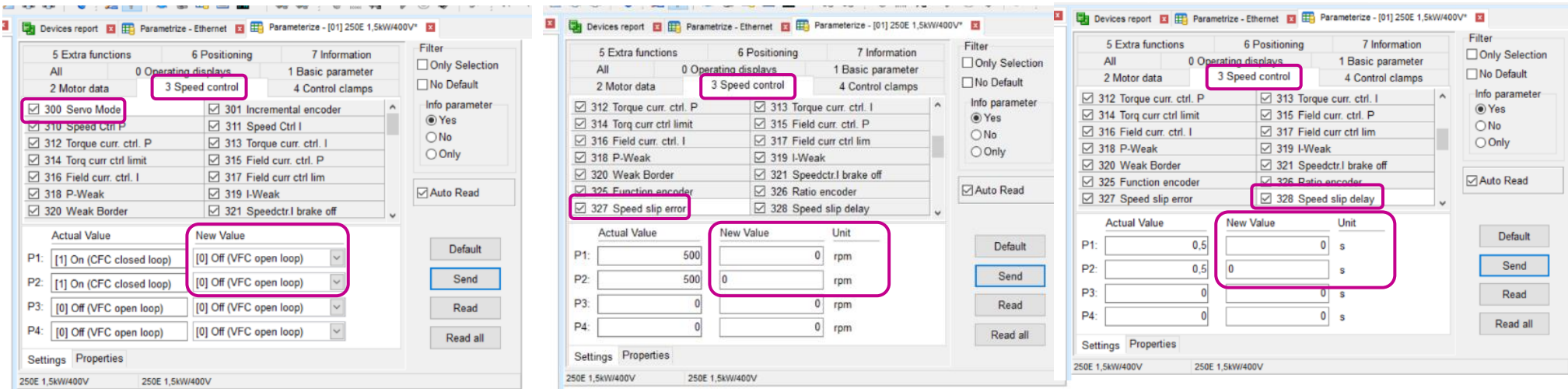


**P300 (Servo Mode):** change **P1** and **P2** to value «**[0] Off (VFC Open Loop)**».

**P327 (Speed Slip Error):** change **P1** and **P2** to value «**0**» rpm.

**P328 (Speed Slip Delay):** change **P1** and **P2** to value «**0**» s.

Remember to click on **Send** to apply the modifications.



The following table summarizes the parameter changes shown in the screenshots:

Parameter	Actual Value	New Value	Unit
P1: [1] On (CFC closed loop)	[1] On (CFC closed loop)	[0] Off (VFC open loop)	
P2: [1] On (CFC closed loop)	[1] On (CFC closed loop)	[0] Off (VFC open loop)	
P3: [0] Off (VFC open loop)	[0] Off (VFC open loop)	[0] Off (VFC open loop)	
P4: [0] Off (VFC open loop)	[0] Off (VFC open loop)	[0] Off (VFC open loop)	
P1: 500	500	0	rpm
P2: 500	500	0	rpm
P3: 0	0	0	s
P4: 0	0	0	s