

NORD drive electronics with integrated PLC

Matured – NORDAC PRO SK 500P



- Cabinet frequency inverter
- ▶ Power range up to 5,5 kW
 - ▶ Control cabinet installation
 - ▶ IP20

Versatile – NORDAC FLEX SK 200E



- Decentralised frequency inverter
- ▶ Power range up to 22 kW
 - ▶ Wall or motor mounted
 - ▶ IP55, IP66

Economical – NORDAC BASE SK 180E



- Decentralised frequency inverter
- ▶ Power range up to 2,2 kW
 - ▶ Wall or motor mounted
 - ▶ IP55, IP66, IP69K

Convenient – NORDAC LINK SK 250E – FDS



- Decentralised frequency inverter
- ▶ Power range up to 7,5 kW
 - ▶ Field installation
 - ▶ IP55, IP65

Ingeniously simple – NORDAC LINK SK 155E – FDS



- Decentralised motor starter
- ▶ Power range up to 3 kW
 - ▶ Field installation
 - ▶ IP55

Software tool NORDCON

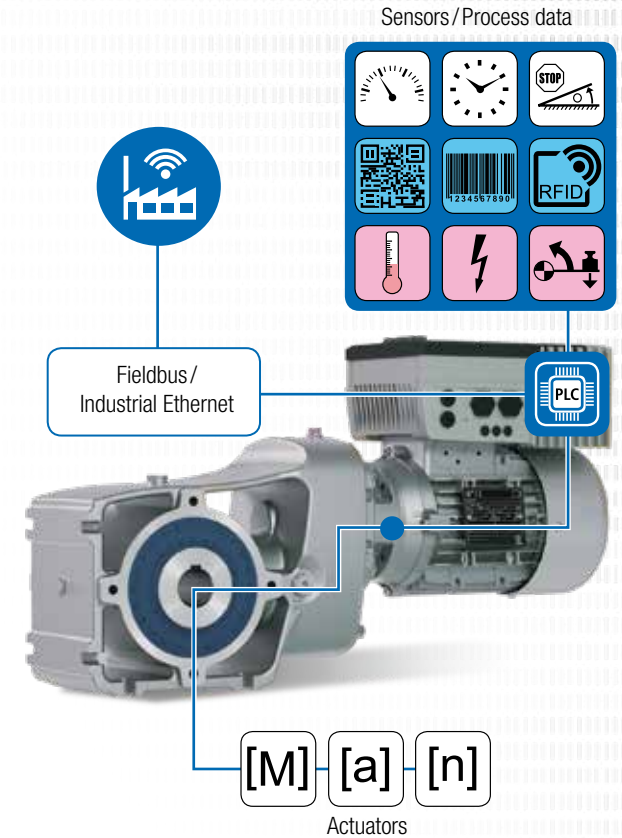
The NORD system solution is extended with functions for IEC 61131-3 programming (“Structured Text“ and “Instruction List“) by use of the software tool NORDCON. The tool follows the trend towards „high-level programming languages“ in the field of automation. The use of the PLC and the NORDCON programming tool does not involve any extra costs.

Free programming of the integrated PLC is supported by an extensive selection of Motion Control function blocks which are integrated into the firmware. The function blocks are based on PLCopen Motion Control (www.plcopen.org) and simplify control of the drive unit.

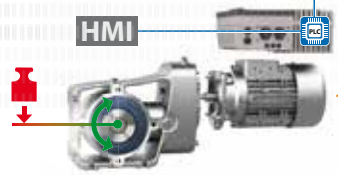
The PLC enables control and evaluation of the I/Os of the frequency inverter. The logical control of movement sequences, for example a positioning application, enables implementation of complex functions close to the drive unit. The development of an application-specific firmware, which would require intensive verification and validation, can therefore be avoided.



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1 Hybrid control concept for a drive system – decentralised frequency inverter in a centralised automation concept

NORD drive units can be used in both centralised automation concepts as well as for autonomous operation. In this model the inverter can be disconnected from the central control system. After this, the drive continues to operate autonomously. For example it can take on a specified operating state or can perform a defined sequence of movements. This also includes independent movement to various positions, for example the starting position. The Integrated PLC converts the combination of a NORD frequency inverter and a geared motor into a complete system solution.

2 Autonomous and networked operation of a NORD drive unit

A drive unit, for example a pump, detects a blockage. The drive unit automatically attempts to clear the blockage. If this is not possible, the blockage is reported to the central control unit and a networked replacement drive is started.

3 Decentralised control system

A decentralised control concept can be realised in a simple way. NORD frequency inverters play a decisive role in this. Thanks to their integrated PLC function, they operate independently from a central control system, both as individual drives or in defined groups.

4 Positioning with a decentralised frequency inverter

POSICON positioning control is available in many NORD frequency inverters. In combination with the integrated PLC, the solution for applications close to the drive unit (e.g. sequence control for turntables) are practically included directly in the frequency inverter.

INDUSTRY 4.0 READY! with integrated PLC

With integration of the PLC into the frequency inverter application-specific functions close to the drive unit can be efficiently programmed and parameterised in the same way as all other frequency inverter functions. This enables direct access to the parameters as well as the analogue and digital inputs and outputs of the frequency inverter, for example the pre-processing of signals is possible.

