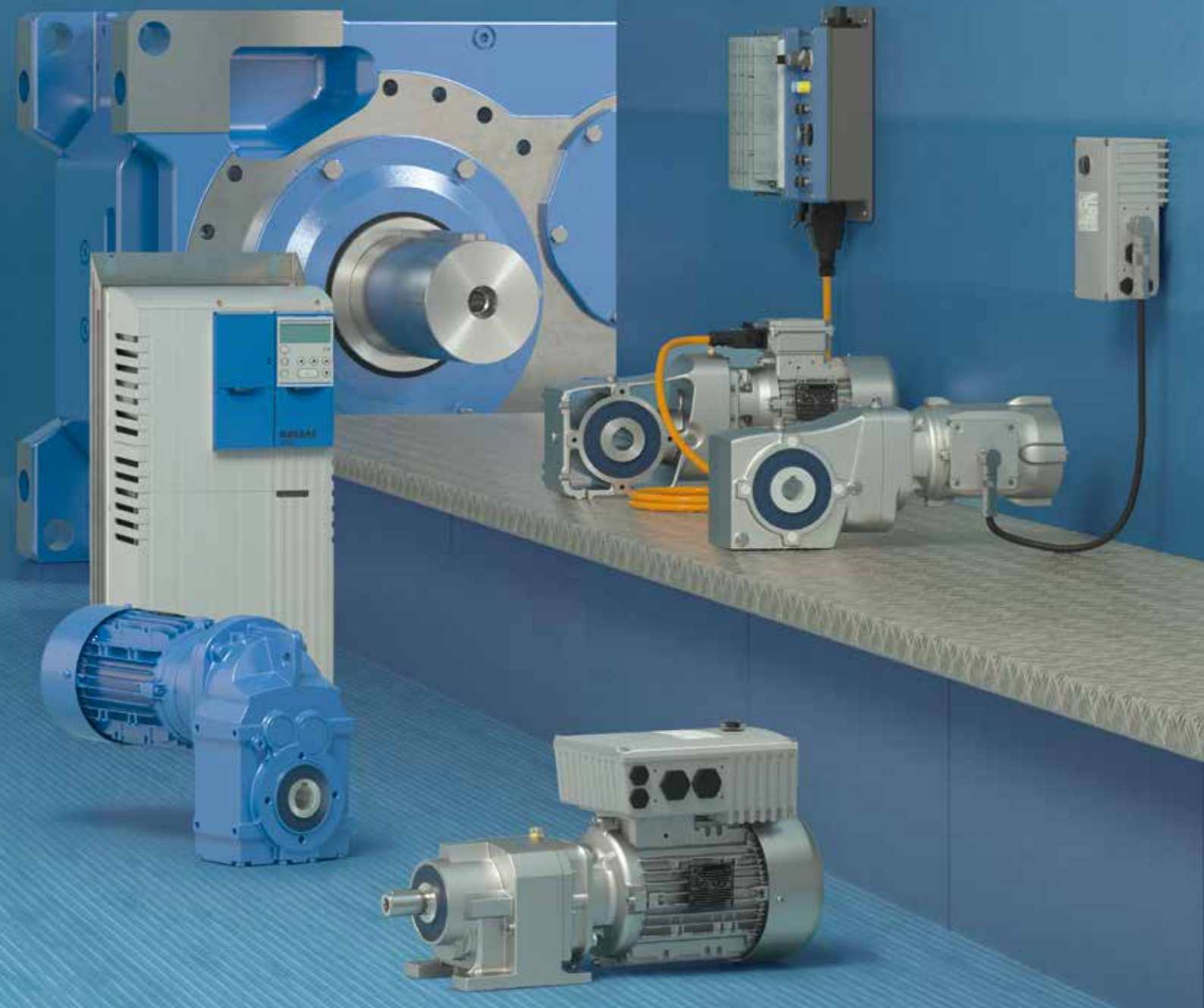


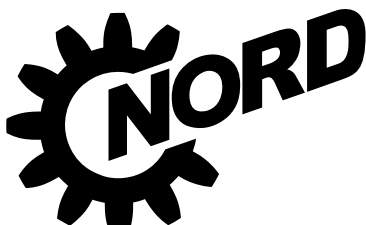
Intelligent Drivesystems, Worldwide Services

# GEARED MOTORS AND FREQUENCY INVERTERS

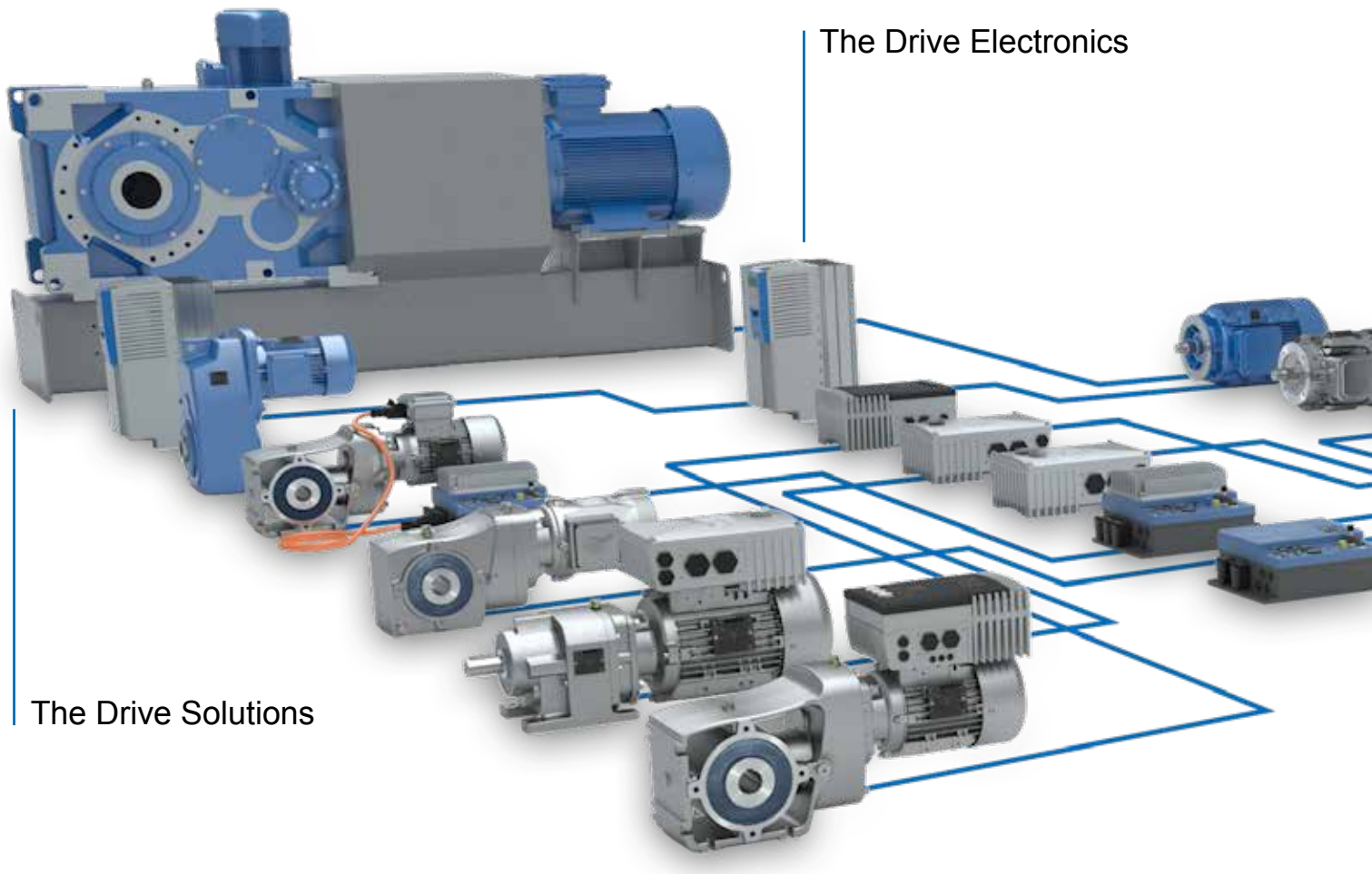


EN

**COMPLETE  
DRIVE SYSTEMS  
FROM A SINGLE SOURCE**

  
**DRIVESYSTEMS**

# COMPLETE DRIVE SOLUTIONS FROM A SINGLE SOURCE



The Drive Electronics

The Drive Solutions



Reliable gear unit with one-piece UNICASE housing can cater for any load.

- 2-stage, high efficiency bevel gear design
- High power density
- Long service life



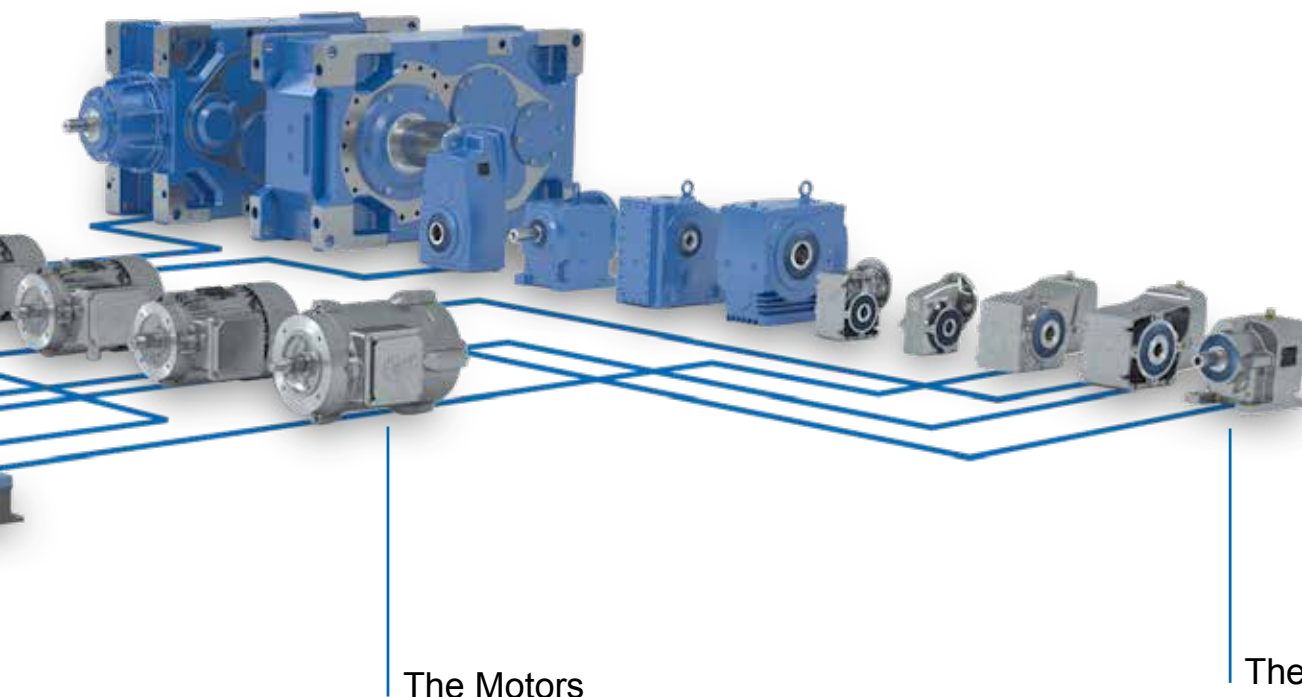
Powerful motors up to IE4 keep the drive systems moving in any operating situation.

- Designed in compliance with international standards
- High overload capacity
- Energy-efficient



Intelligent drive electronics provide exactly the control facilities you need.

- Scalable functions
- Full field bus connection facilities
- Wide power range
- PLC integrated at no extra cost



The Motors

The Gear Units

From the three components - gearbox, motor and drive electronics - the NORD product package provides an optimal and individual drive solution. Each of the variants combines: the highest product quality, short planning and assembly times, high delivery availability, and a good price/performance ratio.



Extensive communication options enable access to the drive units from all levels, providing a wide range of adjustments.

- All common bus systems
- Quick and simple commissioning with plug-in control box or using NORD CON software
- Convenient handheld console for local operation
- Optionally with intralogistics options



Switches and buttons are located directly on the drive units and enable direct starting, stopping or mode changes.

- Mains switch
- Selector switch for local or remote control
- Start/Stop and Forward/Reverse switch
- Energy-efficient



All interfaces designed for ease of operation. The drives can be easily configured and installed.

- Simple Plug-and-Play with all common quick connection plugs
- Plug-in supply cable and motor output
- Plug-in sensors and encoders
- Pre-assembled cables
- PLC integrated at no extra cost

# NORD DRIVESYSTEMS

## GEARED MOTORS

As early as 1981 NORD DRIVESYSTEMS developed the revolutionary UNICASE construction. A closed housing manufactured from a single block combines all the elements of the gear unit.

- Single housing which integrates all bearings
- Complete machining in one step
- High output torques
- High axial and radial loads
- High reliability
- Long service life
- Quiet running

### UNICASE Helical gear units (Catalogue G1000)



- ✓ Foot or flange-mounted
- ✓ Long life, low maintenance
- ✓ Optimum sealing
- ✓ UNICASE housing

Sizes	11
Power	0.12 – 160 kW
Torque	10 – 26,000 Nm
Ratio	1.35:1 – 14,340.31:1

### NORDBLOC.1® Helical gear units (Catalogue G1000)



- ✓ Foot or flange-mounted
- ✓ Die-cast aluminium housing
- ✓ UNICASE housing
- ✓ Industry standard dimensions

Sizes	13
Power	0.12 – 37 kW
Torque	30 – 3,300 Nm
Ratio	1.07:1 – 456.77:1

### UNICASE Parallel shaft gear units (Catalogue G1000)



- ✓ Foot mounted, flange mounted or hollow shaft mounted
- ✓ Hollow or solid shaft
- ✓ Compact design
- ✓ UNICASE cast-iron housing

Sizes	15
Power	0.12 – 200 kW
Torque	110 – 100,000 Nm
Ratio	4.03:1 – 6,616.79:1

### UNICASE Bevel Gear Units (Catalogue G1000)



- ✓ Foot mounted, flange mounted or hollow shaft mounted
- ✓ Hollow or solid shaft
- ✓ UNICASE cast-iron housing

Sizes	11
Power	0.12 – 200 kW
Torque	180 – 50,000 Nm
Ratio	8.04:1 – 13,432.68:1

### NORDBLOC.1® 2-stage bevel gear units (Catalogue G1014)



- ✓ Foot mounted, flange mounted or hollow shaft mounted
- ✓ Hollow or solid shaft
- ✓ UNICASE aluminium housing

Sizes	6
Power	0.12 – 9.2 kW
Torque	50 – 660 Nm
Ratio	3.03:1 – 70:1

### UNICASE Helical worm gear units (Catalogue G1000)



- ✓ Foot mounted, flange mounted or hollow shaft mounted
- ✓ Hollow or solid shaft
- ✓ UNICASE cast-iron housing

Sizes	6
Power	0.12 – 15 kW
Torque	94 – 3,058 Nm
Ratio	4.40:1 – 7,095.12:1

### UNIVERSAL SI worm gear units (Catalogue G1035)



- ✓ Modular
- ✓ Universal attachment
- ✓ Life-long lubrication
- ✓ IEC versions

Sizes	5
Power	0.12 – 4.0 kW
Torque	21 – 427 Nm
Ratio	5.00:1 – 3,000.00:1

### UNIVERSAL SMI worm gear units (Catalogue G1035)



- ✓ Modular
- ✓ Universal attachment
- ✓ Life-long lubrication
- ✓ IEC versions

Sizes	5
Power	0.12 – 4.0 kW
Torque	21 – 427 Nm
Ratio	5.00:1 – 3,000.00:1

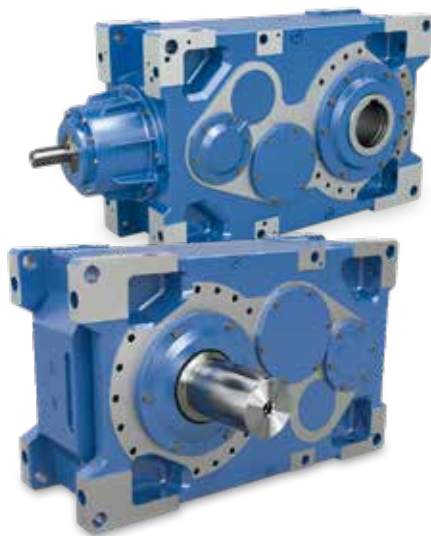
# NORD DRIVESYSTEMS

## MAXXDRIVE™ INDUSTRIAL GEAR UNITS

**Up to  
250,000 Nm**

NORD DRIVESYSTEMS is the only manufacturer which produces modular industrial gear units with an output torque of up to 250,000 Nm in a one-piece Unicase housing.

### MAXXDRIVE™ Industrial gear units (Catalogue G1050)

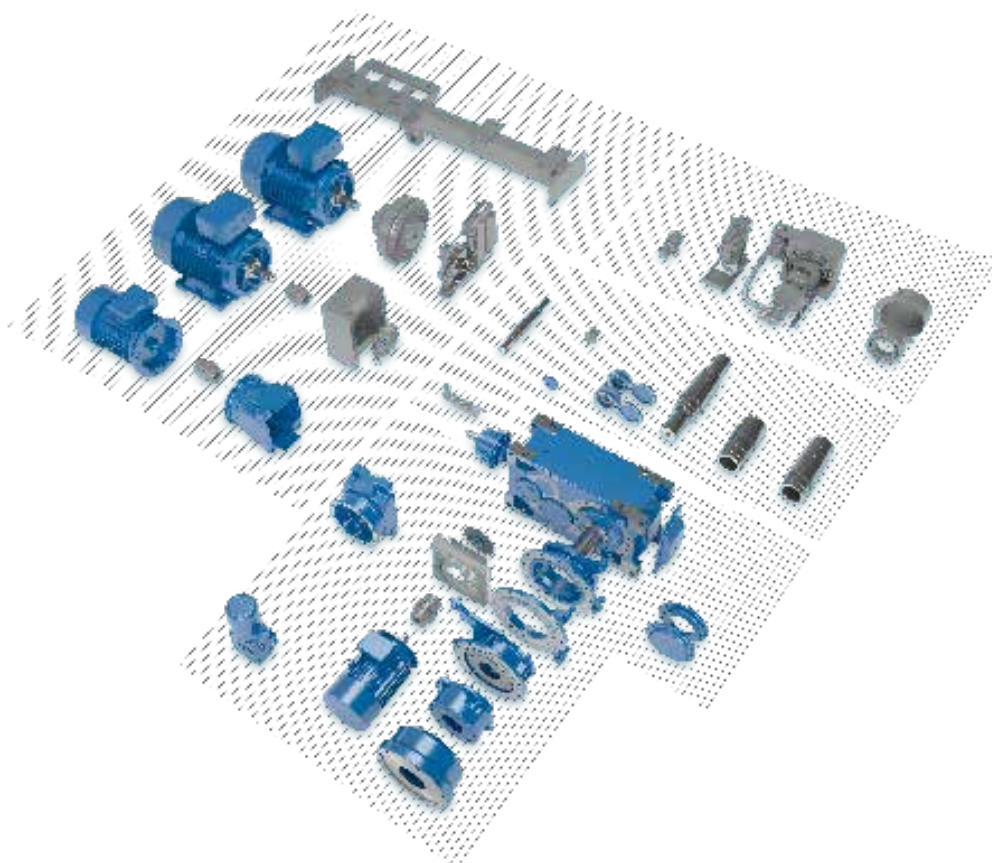


- ✓ All bearing points and sealing surfaces are machined in a single operation
- ✓ No separating joints in the housing, no sealing surfaces subject to torque
- ✓ High-precision axis alignment for quiet running
- ✓ Long life, low maintenance
- ✓ Gear ratio range 5.54 to 400:1 with the same foot dimensions
- ✓ Parallel axis and right-angled gear units

Sizes	11
Power	1.5 – 4,000 kW
Torque	15,000 – 250,000 Nm
Ratio	5.60:1 – 30,000:1

### Modular Industrial Gear Units



The optimally matched individual components form the basis for a wide range of versions, great flexibility and short planning and installation times. This enables the drive solutions to be individually tailored to the customer's requirements with short delivery times, even for large gear units.



# NORD DRIVESYSTEMS



## SYNCHRONOUS AND ASYNCHRONOUS MOTORS





<b>Energy-saving motors</b> (Catalogue M7000 und M7002)	<b>Switchable pole motors</b> (Catalogue M7000 und M7002)
	

NORD DRIVESYSTEMS develops its own motors and supplies them to all major markets throughout the world.

This ensures a high level of independence from external suppliers and therefore provides our customers with the decisive advantage of short and highly dependable delivery times.

<b>Single phase motors</b> (Catalogue M7000 und M7002)	<b>Smooth motors</b> (Catalogue M7010)
	



<b>Explosion protected motors gas atmosperes</b> (Catalogue M7003)	<b>Explosion protected motors dust atmosperes</b> (Catalogue M7000)
	

In combination with motor and motor control system in accordance with Ecodesign directive EN50598



### International energy efficiency standards

- EU: IE1 – IE4 as per IEC 60034-30
- US: ee labeling as per EISA 2007 (Dept. of Energy)
- CA: CSA energy verified as per EER 2010
- CN: CEL as per GB 18613
- KR: KEL as per REELS 2010
- BR: Alto Rendimento as per Decreto n° 4.508
- AU: MEPS as per AS/NZS 1359.5

# NORD DRIVESYSTEMS

## FREQUENCY INVERTERS AND MOTOR STARTERS



### DRIVESYSTEMS

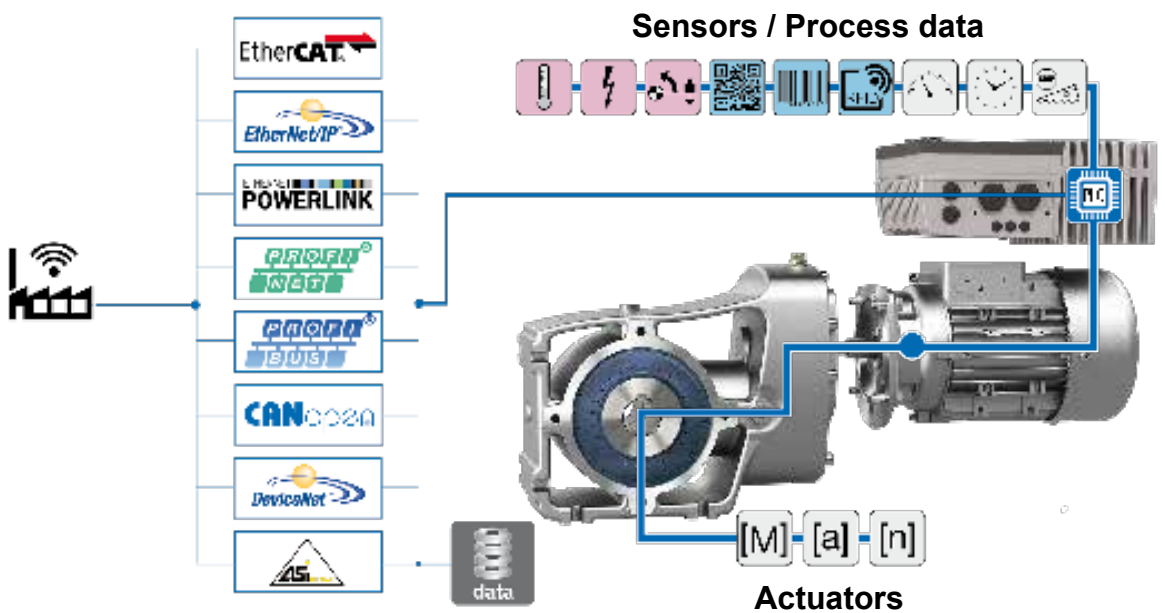
We have the drive units for intelligent processes: Networked – Autonomous – Scalable. Intelligent drive units from NORD DRIVESYSTEMS now play an important role in highly networked systems, in order to advance the so-called fourth industrial revolution, which focuses on the extensive exchange of information at all levels.

### NORD DRIVESYSTEMS – INDUSTRY 4.0 READY!

“NORD 4.0 READY!” means that NORD drive units are networked, autonomous and scalable. The key to this are our frequency inverters with their powerful processors and comprehensive equipment with interfaces and functions. Frequency inverters not only monitor themselves and the motor, but also their effect on the load situation within the plant segments and beyond.

The integrated PLC processes the data from the sensors and actuators and if necessary initiates a sequence control and communicates high quality drive and application data to the control centre and other networked components. For example, intelligent sequence controls can enable the drive unit to decide independently on a branch position and act accordingly. However, the drive units can also communicate with each other: “Attention, I am directing a package toward you; start your conveyor belt.” A slave drive can then synchronise to a master for a certain task and then return to normal operation. Hundreds of typical functions and parameters are saved and can be simply adopted.

In this way, the frequency inverter can coordinate both simple and complex applications independently from the plant control system and if necessary can respond to changes to the process or remedy many process faults independently without external intervention.



### NORDAC PRO frequency inverter SK 500E (Catalogue F3050)



- ✓ Stand-alone operation
- ✓ Energy-saving function
- ✓ Integrated “POSICON” positioning control
- ✓ Plug-in communication modules (field bus)

Sizes	11
Voltage	1~ 110 – 120 V
	1~ 200 – 240 V
	3~ 200 – 240 V
	3~ 380 – 480 V
Power	0.25 – 160 kW



### NORDAC *START* motor starter SK 135E (Catalogue F3015)



- ✓ Integrated electronic brake rectifier
- ✓ Consistent parameter structure
- ✓ Reversing starter with soft start function

Sizes	2
Voltage	3~ 200 – 240 V 3~ 380 – 500 V
Power	0.12 – 3 kW or up to 7.5 kW

NORD DRIVESYSTEMS produces frequency inverters and motor starters for the necessary power electronics. Inverter solutions are available for traditional installation in the control cabinet as well as for decentralised and fully-integrated drive units.

### NORDAC *BASE* frequency inverter SK 180E (Catalogue F3018)



- ✓ Stand-alone operation
- ✓ 4 parameter sets
- ✓ Sensorless current vector control (ISD control)
- ✓ Integrated PLC

Sizes	2
Voltage	1~ 110 – 120 V 1~ 200 – 240 V 3~ 200 – 240 V 3~ 380 – 500 V
Power	0.25 – 2.2 kW

### NORDAC *FLEX* frequency inverter SK 200E (Catalogue F3020)



- ✓ Energy-saving function
- ✓ Integrated “POSICON” positioning control
- ✓ Integrated PLC

Sizes	4
Voltage	1~ 110 – 120 V 1~ 200 – 240 V 3~ 200 – 240 V 3~ 380 – 500 V
Power	0.25 – 22 kW

### NORDAC *LINK* field distribution system SK 250E (Catalogue F3025)



- ✓ Frequency inverter or motor starter
- ✓ All connections in plug-in version for easy commissioning and maintenance
- ✓ PLC functionality for drive-integrated functions

Sizes	2
Voltage	3~ 380 – 500 V
Power	Frequency inverter 0.75 – 7.5 kW
	Motor starter 0.12 – 3 kW

# THE ALTERNATIVE TO STAINLESS STEEL

## nsd tupH SURFACE TREATMENT



**NORD geared motors with nsd tupH are the optimal choice for use in challenging environmental conditions:**

- Easy to clean surfaces
- Resistant to acids and alkalis (wide pH range)
- No blistering, even if damaged
- No flaking
- Corrosion resistant, prevents contact corrosion
- Alternative to stainless steel
- Conforms to FDA Title 21 CFR 175.300
- Free from chromates

**The complete solution for extreme conditions:**

- Surface-treated housing components
- DIN and standard components made from stainless steel
- Wash-down housing (gear unit and motor)
- Stainless steel shafts

### Sealed Surface Conversion System

- Special shaft sealing rings
- Food-compatible oil

**nsd tupH for extreme requirements:**

- Food & beverage industry
- Dairies
- Pharmaceutical industry
- Water and sewage plants
- Car wash equipment
- Offshore and coastal areas
- Cleaning with chemicals (Wash-down, wide pH range)

**Tests performed on surface-treated aluminium housing components:**

- ASTM D714 Blister formation
- ASTM D610-08 Corrosion
- ASTM D1654-08 Scratching
- ASTM B117-09 Salt spray test
- ASTM D3170 Gravelometer test
- DIN EN ISO 9227 Salt spray mist test
- DIN EN ISO 2409 Cross-cut test

**Products available with nsd tupH:**



**NORDBLOC.1®**  
Helical bevel gear units (up to size 6)



**NORDBLOC.1®**  
2-stage bevel gear units



**UNIVERSAL**  
SMI Worm gear units



Smooth motors



Frequency inverter  
SK 180E



Motor starter  
SK 135E



NORD smooth motor with nsd tupH



**Headquarters and Technology Centre** in Bargteheide, close to Hamburg

Mechanical products	Electrical products	Electronical products
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Gear units



Motors



Inverters, motors starters and field distribution systems



**Innovative drive solutions** for more than 100 branches of industry



Gear unit production



Motor production



Inverter production

**7 state-of-the-art production plants** produce gear units, motors and inverters also for complete drive solutions from a single source.



The map image above is for information purpose and may not have been prepared or be suitable for legal purpose and we do not own any responsibility for correctness or authenticity of the same.

**Subsidiaries and sales partners in 98 countries on 5 continents** provide local stocks, assembly, production, technical support and customer service.



**More than 3,600 employees throughout the world** create customer oriented solutions.

## **NORD DRIVESYSTEMS Group**

**Headquarters and Technology Centre**  
in Bargteheide, close to Hamburg

**Innovative drive solutions**  
for more than 100 branches of industry

**Mechanical products**  
parallel shaft, helical gear, bevel gear and worm gear units

**Electrical products**  
IE2/IE3/IE4 motors

**Electronic products**  
centralised and decentralised frequency inverters,  
motor starters and field distribution systems

**7 state-of-the-art production plants**  
for all drive components

**Subsidiaries and sales partners**  
**in 98 countries on 5 continents**  
provide local stocks, assembly, production,  
technical support and customer service.

**More than 3,600 employees throughout the world**  
create customer oriented solutions.

[www.nord.com/locator](http://www.nord.com/locator)

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**Member of the NORD DRIVESYSTEMS Group**

