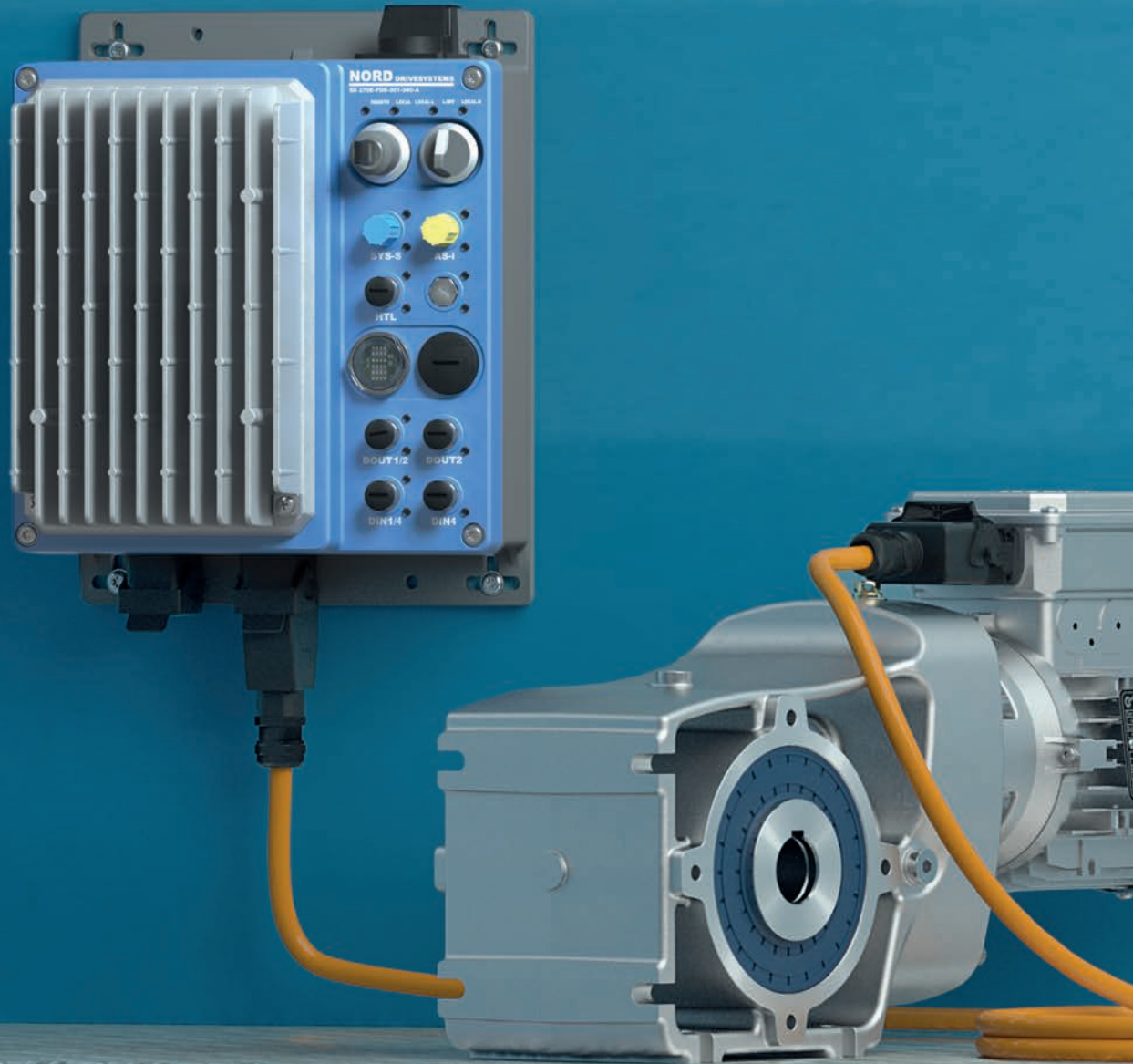


Intelligent Drivesystems, Worldwide Services

# THE VARIABLE SOLUTION FOR HIGH-VOLUME APPLICATIONS



US

**NORDAC® LINK**  
**FIELD DISTRIBUTOR**  
**VFDs and MOTOR STARTERS**

**NORD®**  
DRIVESYSTEMS

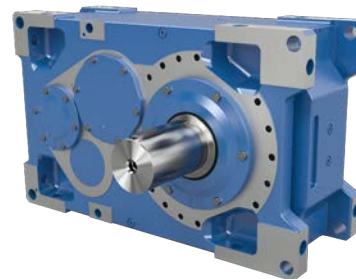
# NORD DELIVERS COMPLETE DRIVE SOLUTIONS FROM A SINGLE SOURCE

Introduction



## NORD Delivers

NORD offers full-featured drive solutions that can tackle the toughest requirements. All components are carefully selected and precisely configured to meet your exact specifications. In the rare case that standard components won't meet your needs, our in-house engineering team will work with you to design custom components or a complete customized system.



NORDAC PRO SK 500P



NORDAC PRO SK 500E

## Reduce Lead Times and Decrease Inventory

- 25% of orders ship same day or next day with NO expedite fees
- 47% of orders ship within 5 working days
- 81% of orders ship in 2-3 weeks



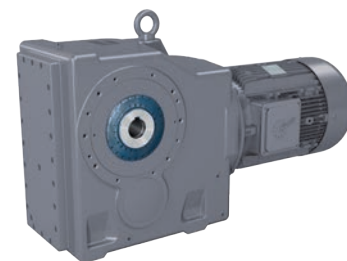
NORDAC LINK



NORDAC FLEX

## Global Product Designs, Standards, and Support

- Innovative product range (one-stop shop)
- Global connected presence
- Mechanical and electrical application engineers ready to assist you
- Online resources



NORDAC BASE



NORDAC START

## Increase Efficiency and Reduce Operation Costs

- First-class customer service and support, plus myNORD online tools
- Product flexibility through standard components and customizations
- Program personalization, such as weekly shipment schedules and custom nameplates
- Partner with a company that is easy to do business with and wants to see you succeed!



Accessories



Appendix

## High-performance Solutions

NORD's extensive product portfolio is continuously evolving to meet the needs of today's fast-changing markets, but NORD does far more than manufacture the world's finest drive components. We provide our customers with optimum drive configurations for their specific purposes, providing each and every one of them with complete and efficient systems at a price/quality ratio that's unmatched.

By continuing to invest in the latest research, manufacturing, and automation technology, we are able to deliver innovative drive systems with the highest quality, reliability, and value found in the marketplace today. In short, we never stop improving.

## On-time Delivery

NORD's linked global network of assembly and manufacturing operations gives you the best of both worlds – a world leader with local representatives. NORD has subsidiaries and sales partners in 98 countries on five continents, ensuring local inventory, assembly centers, technical support, and customer service.

This approach also allows us to provide the shortest lead times in the industry. As a NORD customer, you can rest assured that your order will be delivered on time and on spec. We offer our customers:

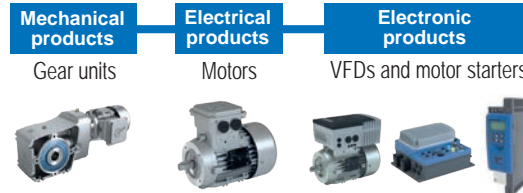
- Fast, accurate, reliable service
- Unmatched product versatility and customizations
- Short lead times
- Technical guidance from experienced engineers
- MyNORD online tools (configure, price, quote, and track your order)
- 24/7/365 after hours emergency support via the NORD 911 hotline

## Peace of Mind

NORD's customer-first approach means superior drive solutions and peace of mind are just a call or click away. Put NORD's global team of engineers, manufacturing, service and support technicians to work for you. Together, we'll build something great!



**Headquarters and technology center**  
in Bargteheide, near Hamburg



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



**7 production locations with cutting-edge technology**  
produce gear units, motors, VFDs, and more to provide complete drive systems from a single source.



**Subsidiaries and sales partners in 98 countries on 5 continents**  
provide local inventory, assembly, technical support, and industry-leading customer service.

The map shown above is for information only and does not claim to be created for or applicable to any legal purpose. For this reason, we do not assume any liability for legality, correctness and completeness.



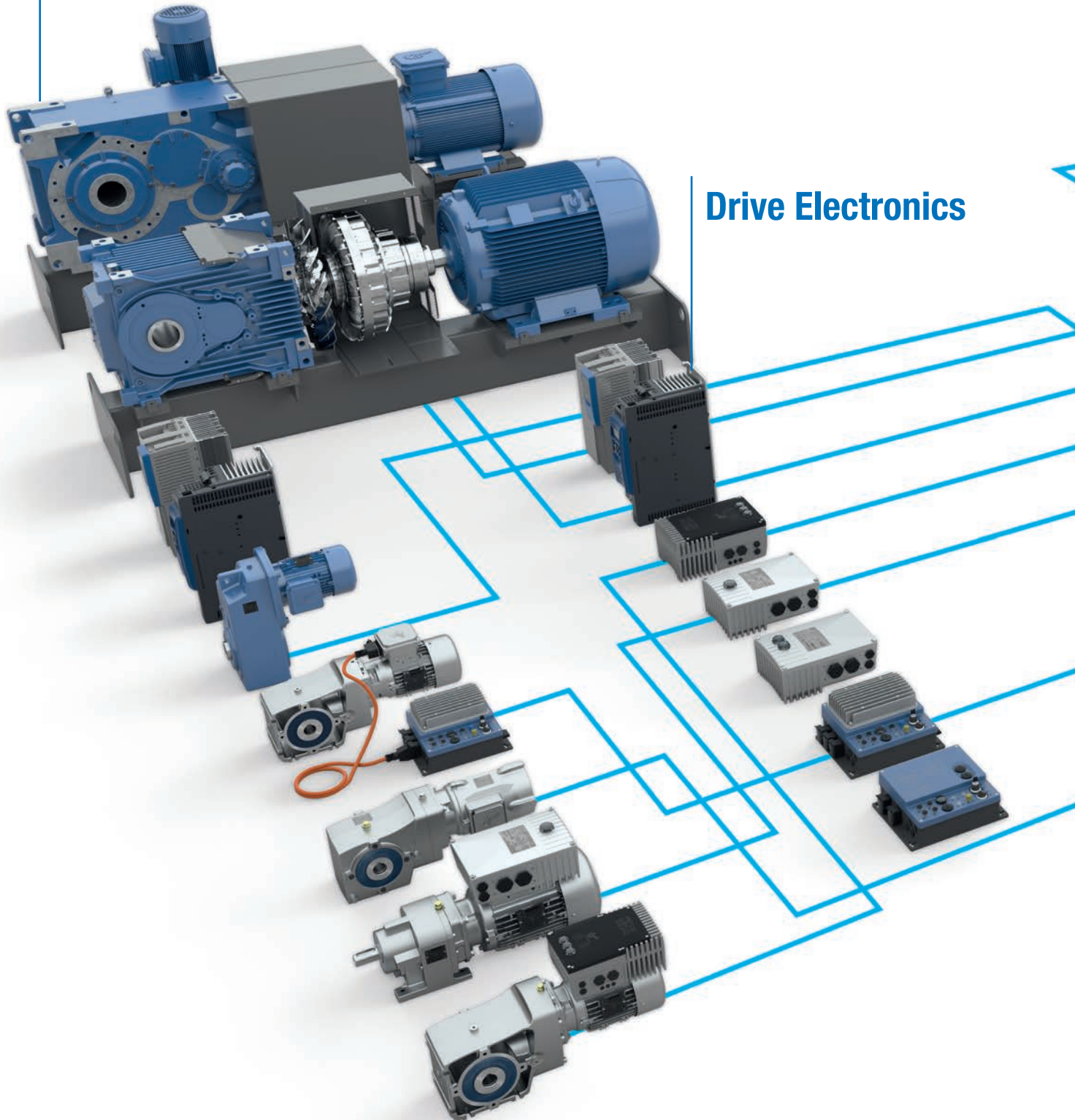
**More than 4,000 employees throughout the world**  
create customized solutions.

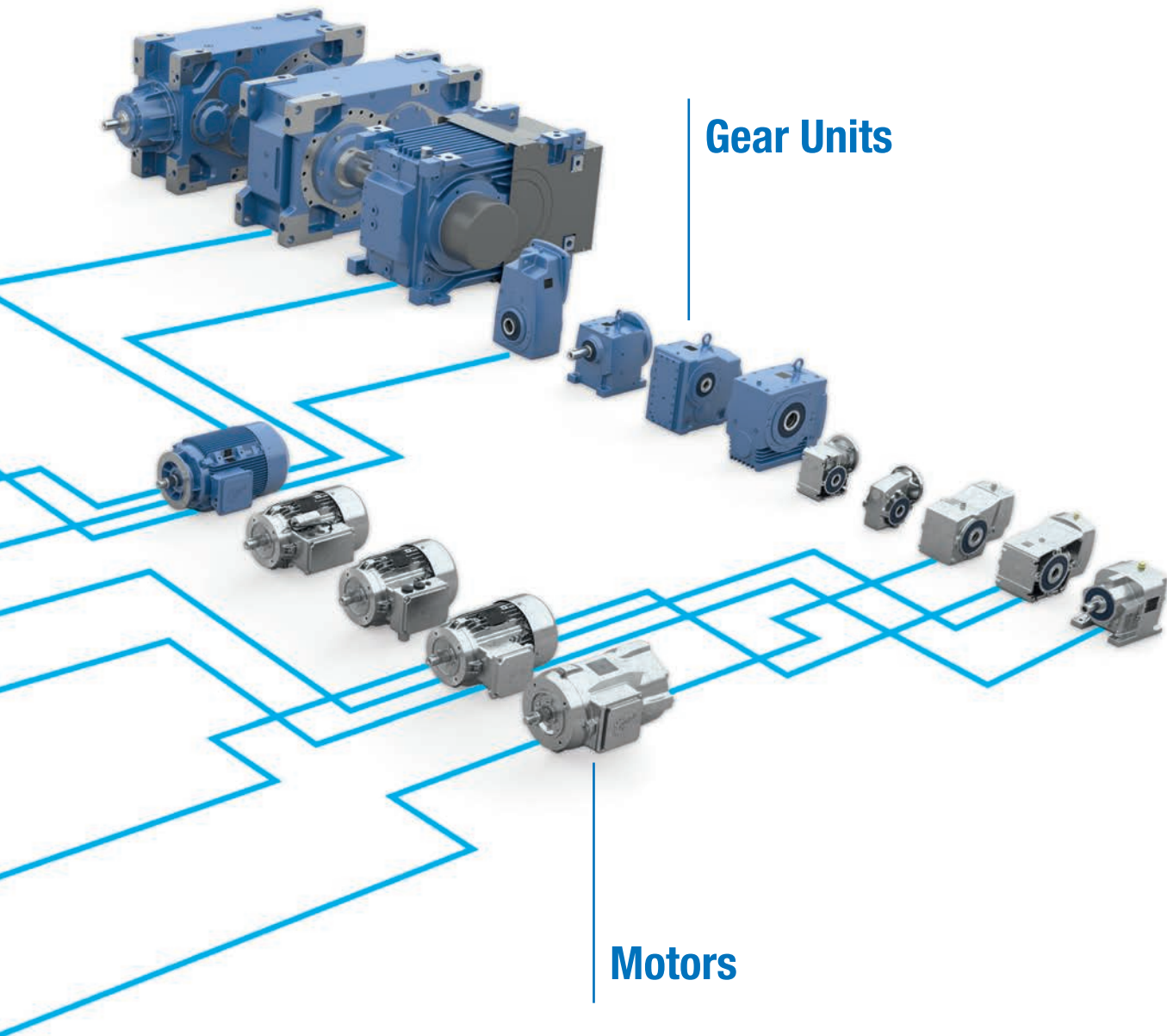


**Contact Us Today! 888.314.6673**  
[info.us@nord.com](mailto:info.us@nord.com)

# Drive Solutions

# Drive Electronics





## Gear Units

## Motors



Our products are available in ATEX certified versions.

An optimum and individual drive solution can therefore be created using the modular NORD system consisting of the gear unit, motor and drive electronics. The modular products are perfectly matched and can be combined in many variants. In addition, we offer planning, project management, installation, and service from a single source.

If required, industry solutions can be configured as a complete logistics package, programmed and ready for use. Each modular NORD product combines: highest product quality, short planning and assembly times, high delivery availability, and a good price/performance ratio. Our products are also available in ATEX certified versions.

# NORDAC® LINK

## FIELD DISTRIBUTOR

- Introduction
- NORDAC PRO SK 500P
- NORDAC PRO SK 500E
- NORDAC LINK**
- NORDAC FLEX
- NORDAC BASE
- NORDAC START
- Accessories
- Appendix



Conveyor technology and intralogistics require drive control systems that are easy to install, access, and maintain. The NORDAC LINK field distribution system supplements the NORD DRIVESYSTEMS product range and provides customers with a drive control that can be conveniently installed close to the motor. System costs can be significantly reduced thanks to decentralized drive technology.

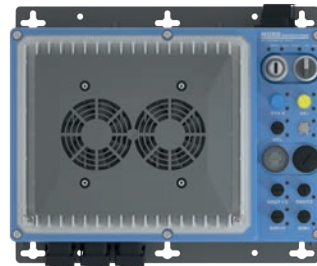
- Flexible configuration and function – freely configurable according to requirements and the application
- Available as VFDs (up to 7.5 kW or 10 HP) and motor starters (up to 3 kW or 4 HP)
- Fast commissioning due to simple operation
- Simple and reliable plug-in capability
- Simplified system maintenance due to integrated maintenance switch and local manual control facility
- Can be integrated into all common bus systems



**Motor starters**  
Size 1  
up to 3.0 kW



**VFDs**  
Size 0  
up to 0.75 kW (1 HP)  
Size 1  
up to 3.0 kW (4 HP)



**VFDs**  
Size 2  
up to 7.5 kW (10 HP)

# NORDAC® LINK

## EXTENSIVE BASIC EQUIPMENT



<ul style="list-style-type: none"> <li>■ Monitoring of calculated load torque depending on the output frequency</li> <li>■ Individual adaptation of load monitoring to protect the system from overload</li> </ul> <p><b>Available with SK 250E and higher</b></p>	<p><b>Load monitor</b></p>	<p>Introduction</p>
<ul style="list-style-type: none"> <li>■ High efficiency in partial load operation</li> <li>■ Simple setting</li> </ul> <p><b>Available with SK 250E and higher</b></p>	<p><b>Energy-saving function</b></p>	<p>NORDAC PRO SK 500P</p>
<ul style="list-style-type: none"> <li>■ High-precision current vector control for rapid and precise load take-up</li> <li>■ Integrated brake chopper to divert generated energy to a brake resistor (brake resistor optional)</li> <li>■ Brake management for optimum control of an electro-mechanical holding brake for wear-free brake actuation</li> </ul> <p><b>Available with SK 250E and higher</b></p>	<p><b>Lifting gear functions</b></p>	<p>NORDAC PRO SK 500E</p>
<ul style="list-style-type: none"> <li>■ Feedback and evaluation of actual values for implementation of closed circuit control e.g. flow or compensator control</li> <li>■ P and I components can be set separately</li> </ul> <p><b>Available with SK 250E and higher</b></p>	<p><b>Process controller, PI controller</b></p>	<p>NORDAC LINK</p>
<ul style="list-style-type: none"> <li>■ Control of one or more follower drives by a master drive</li> <li>■ Communication via USS or CANopen with control word and setpoint values</li> </ul> <p><b>Available with SK 250E and higher</b></p>	<p><b>Master / Follower operation</b></p>	<p>NORDAC FLEX</p>
<ul style="list-style-type: none"> <li>■ High-precision speed regulation</li> <li>■ Highest possible acceleration due to direct feedback of the actual speed characteristics to the variable frequency drive. Also includes:             <ul style="list-style-type: none"> <li>■ Full torque down to standstill (speed 0)</li> <li>■ Digital speed controller with wide range of settings</li> </ul> </li> </ul> <p><b>Available with SK 250E and higher</b></p>	<p><b>Encoder feedback (Servo Mode)</b></p>	<p>NORDAC BASE</p>
<ul style="list-style-type: none"> <li>■ Simple adaptation to control systems through optional interfaces</li> <li>■ Quick and simple diagnosis via LED indicators</li> <li>■ Various control boxes available for display, operation and parameterization</li> <li>■ Simple operation and parameterization through logical parameter structure and intuitive layout of control elements</li> </ul> <p><b>Available with SK 250E and higher</b></p>	<p><b>Handling and communication</b></p>	<p>NORDAC START</p>
<ul style="list-style-type: none"> <li>■ Bus systems – NORD supports all common bus systems to enable simple installation in the system design</li> </ul>	<p><b>Bus systems</b></p>	<p>Accessories</p>
<ul style="list-style-type: none"> <li>■ Functional safety - STO, SS1: Integrated, TÜV-certified safety functions simplify system design.</li> </ul> <p><b>Available with SK 260E and SK 280E</b></p>	<p><b>Functional safety</b></p>	<p>Appendix</p>

# THE ENTIRE TEAM

## NORDAC® LINK VERSIONS AT A GLANCE

Introduction			SK 155E-FDS	SK 175E-FDS	SK 250E-FDS	SK 260E-FDS	SK 270E-FDS	SK 280E-FDS		
			Motor starters 0.55 - 3.0 kW	VFDs 0.37 - 7.5 kW						
NORDAC PRO SK 500P	Basic functions	Plug connection of AC line, motor and control cables	✓	✓						
		Energy bus - loop-through of AC line supply cables	○	○						
		Repair/maintenance switch	○	○						
		Sensorless current vector control (ISD control)		✓						
		Brake chopper (brake resistor optional)		✓						
		RS-232/ RS-485 parameterization and diagnostic interface (optional USB)	✓	✓						
		4 parameter sets, which can be switched over during operation		✓						
		Parameters pre-set with standard values	✓	✓						
		Automatic determination of motor data		✓						
		Energy-saving function, optimized efficiency in partial load operation		✓						
		EMC performance	Class A up to max. motor cable length 20 m	C2 up to max. motor cable length 10 m <sup>1</sup>						
		Drive unit monitoring function, including motor monitoring, motor thermistor evaluation	✓	✓						
		Reversing function		✓	✓					
		Process controller / PI controller		✓						
		NORDAC PRO SK 500E	Basic functions	Speed control (closed loop) with incremental encoder (HTL)		✓				
POSSICON positioning with incremental encoder (HTL) or absolute encoder (CANopen)				✓						
PLC functionality	✓			✓						
Synchronous motor operation (PMSM)				✓						
Modification for operation in IT network <sup>2</sup>	✓			✓						
NORDAC LINK	Options			Plug-in parameter storage (EEPROM) for additional data backup		○				
				All common field bus systems		○	○	○	○	
				Brake management for mechanical holding brake	○	○				
				Lifting gear functionality		○				
				Safe Stop function (STO, SS1)			✓		✓	
		Torque control and limitation		✓						
		AS-Interface on board		○ <sup>3</sup>		✓	✓			
		PROFIBUS DP on board		○ <sup>3</sup>						
		Internal 24 V power supply unit to supply the control board	○	○						
		Internal / external braking resistors		○						
NORDAC FLEX	Options	Local control elements (e.g. switches, key switches)	○	○						

<sup>1</sup> Cable-bound transmission only  
<sup>2</sup> Must be taken into account for the order  
<sup>3</sup> Either AS-Interface or PROFIBUS DP

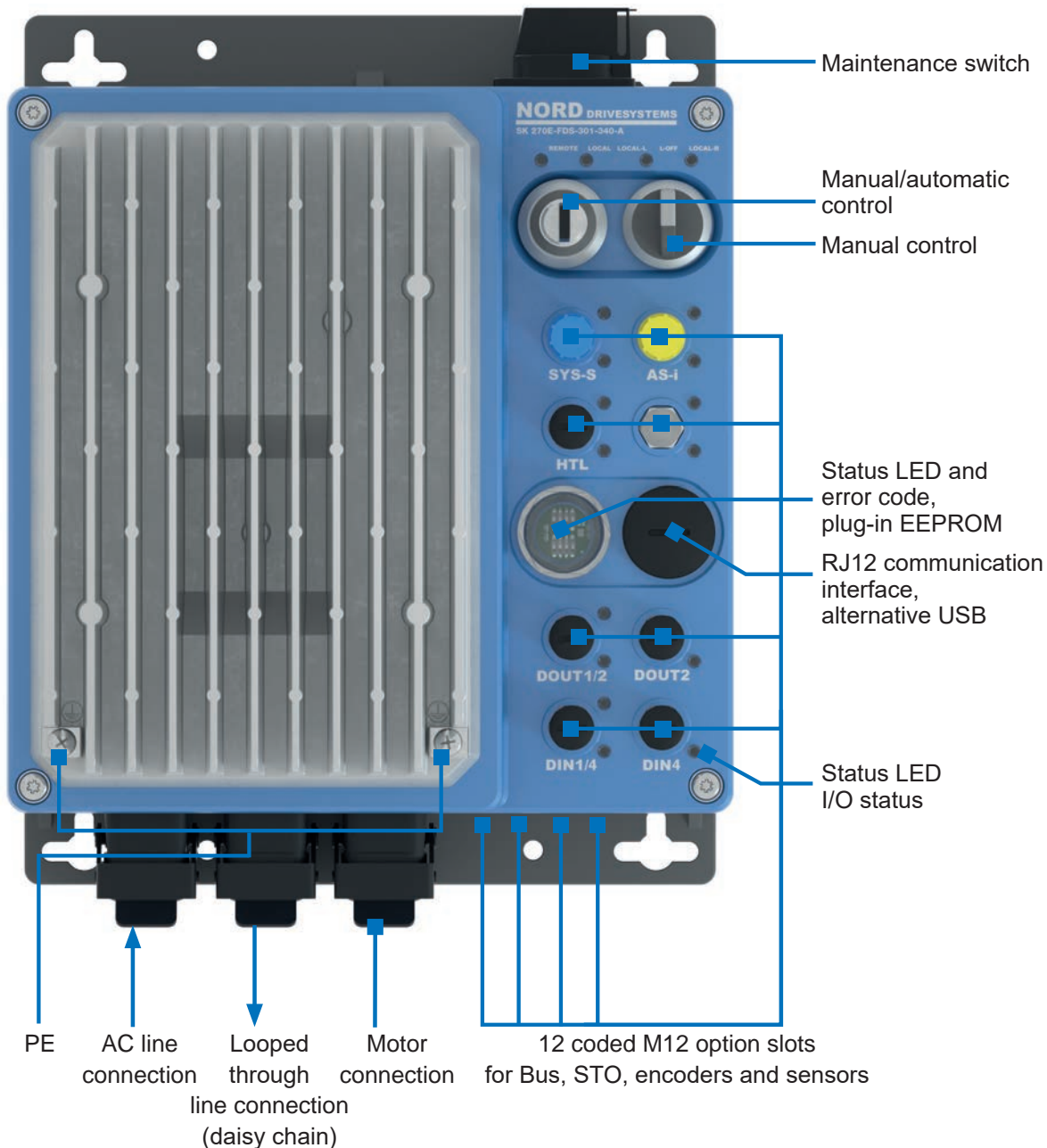
✓ Available as standard  
○ Optional  
– Not available



	SK 155E-FDS	SK 175E-FDS	SK 250E-FDS	SK 260E-FDS	SK 270E-FDS	SK 280E-FDS
	Motor starters 0.55 - 3.0 kW		VFDs 0.37 - 7.5 kW			
Number of digital inputs	3 (+2 sensor inputs for Bus) <sup>2</sup>		5+2 <sup>1,2</sup>			
Number of analog inputs			2 <sup>1</sup>			
Number of digital outputs	2		2			
CANopen			○			
HTL			○			

<sup>1</sup> Alternatively, the analog inputs can also be used as digital inputs (not PLC-compatible).

<sup>2</sup> If necessary, individual inputs can be defined at the factory by the use of certain optional modules.



Introduction

NORDAC PRO  
SK 500P

NORDAC PRO  
SK 500E

NORDAC LINK

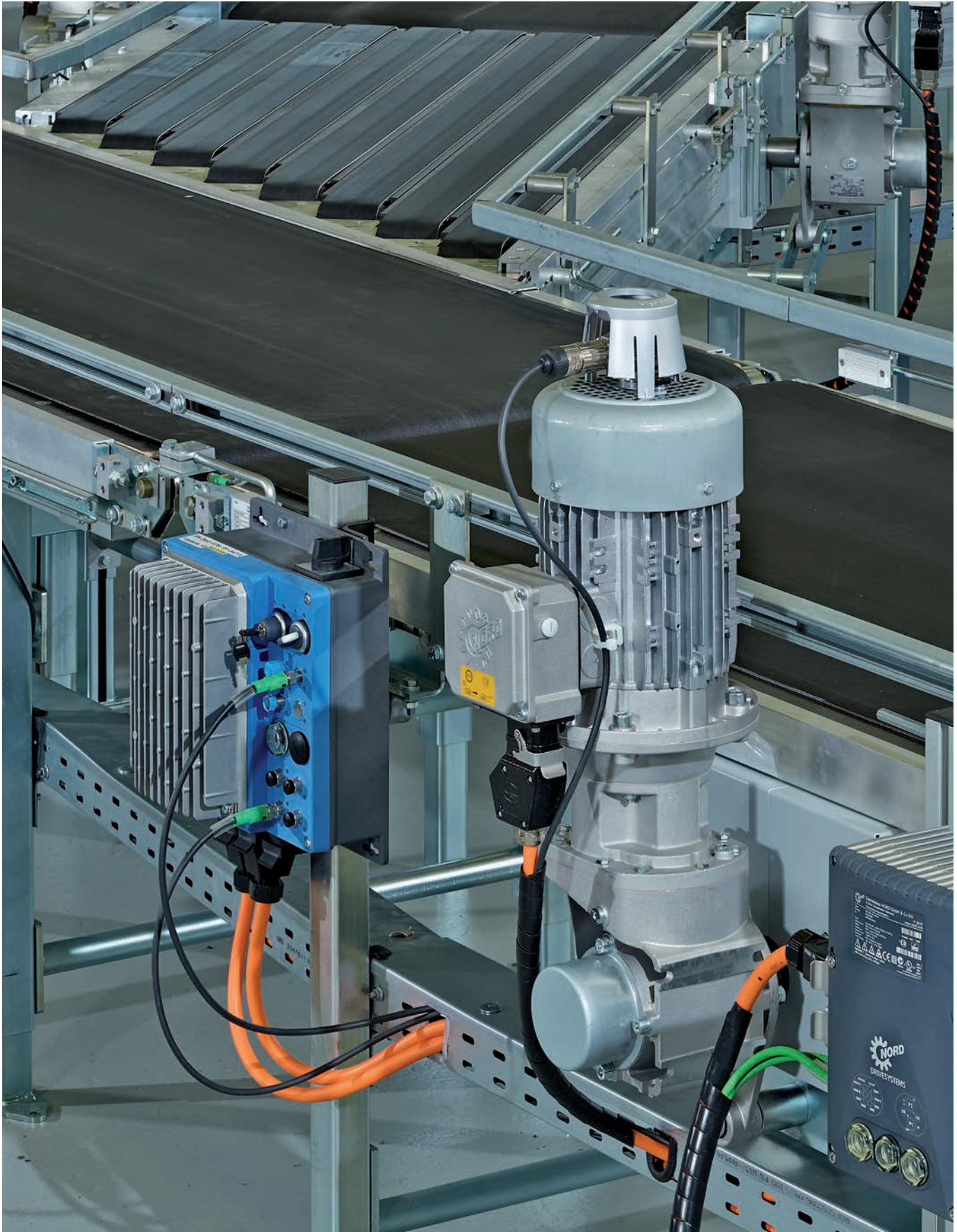
NORDAC FLEX

NORDAC BASE

NORDAC START

Accessories

Appendix

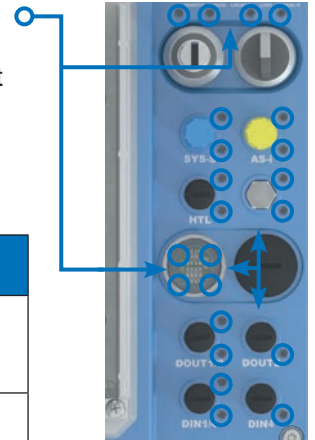


# LED- STATUS INDICATORS

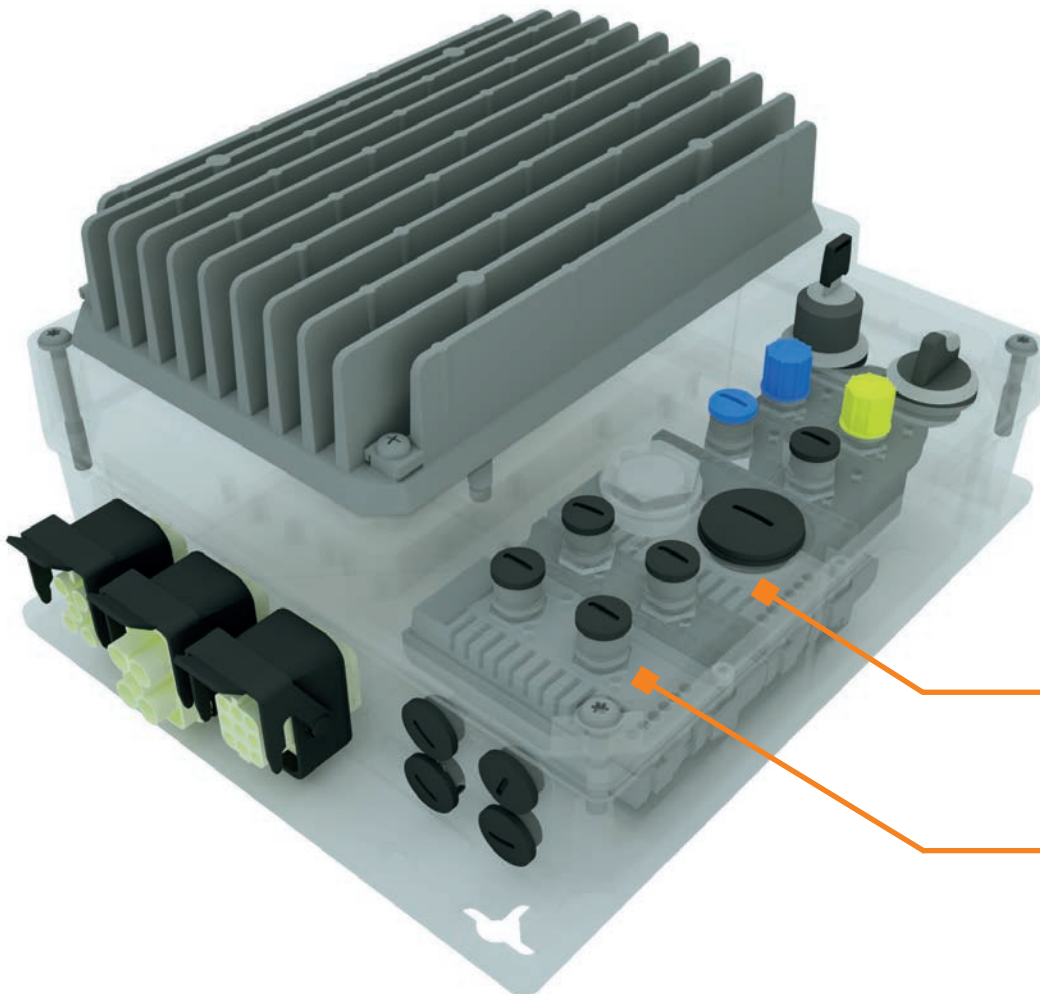
## USE/MEANING

The variable frequency drive is equipped with LED indicator lights used to indicate the signal statuses of the relevant option slot.

One option slot is closed with a transparent screw cap. The LED status indicator lights act as diagnostic LEDs and are therefore always visible.



LED indicators	Use/Meaning
<b>Yellow</b> - Single color - Static	Indication of the signal status ("ON" / "OFF") or the associated function of the IOs.
<b>Red/Green</b> - Single or dual color - Static or dynamic	Indication of the operating statuses on the variable frequency drive or communication level.



Can be extended with a maximum of two additional option modules (SK CU4)

# NORDAC® LINK MOTOR STARTER

## 3~ 380 ... 500 V

Introduction  
NORDAC PRO SK 500P  
NORDAC PRO SK 500E  
NORDAC LINK  
NORDAC FLEX  
NORDAC BASE  
NORDAC START  
Accessories  
Appendix

**Typical overload capacity** 150% for 9 s  
up to 170 s (adjustable (shut-down class 5, 10 A, 10))

**Motor starter efficiency** > 98 %

**Ambient temperature** -25 °C...+50 °C (S1)

**Protection class** IP65

**Protective measures against**

- AC line phase failure
- Motor phase failure
- Flux monitoring
- Motor over temperature (PTC)
- Motor overload
- AC line over/under voltage

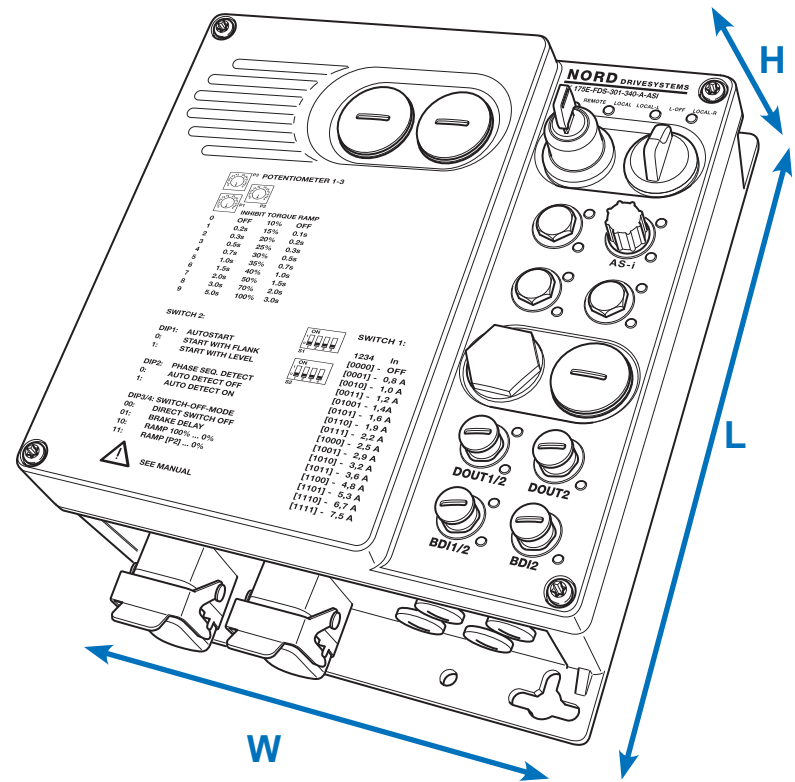
**Motor temperature monitoring** I<sup>2</sup>t Motor  
PTC / bi-metal switch

**Integrated Class A line filter** For motor mounting or wall mounting with motor cable length up to 20 m

**Leakage current** < 20 mA

Motor starters SK 155E-FDS... / SK 175E-FDS...	Nominal motor power		Nominal output current rms [A]	AC line voltage / output voltage	Weight [kg]	Dimensions L x W x H
	[kW]	[hp]				
-301-340-B	up to 3.0	up to 4	7.5	3~ 380 V ... 500 V, -20 % / +10 %, 47 ... 63 Hz	approx. 3	312 <sup>1</sup> x 243 x 104 <sup>2</sup> mm 12.28 x 9.56 x 4.09 in

<sup>1</sup> Without maintenance switch L=307 mm  
<sup>2</sup> With key switch and key inserted H=125 mm



<b>Output frequency</b>	0.0 ... 400.0 Hz
<b>Pulse frequency</b>	3.0 ... 16.0 kHz
<b>Typical overload capacity</b>	150 % for 60 s, 200 % for 3.5 s
<b>Efficiency</b>	> 95%
<b>Ambient temperature</b>	-25 °C ... +40 °C (S1)

**Protection class** IP65 devices up to 2 HP however not with option -FANO<sup>1</sup>  
IP55 devices of 3 HP and higher as well as devices <3 HP, with option -FANO<sup>1</sup>

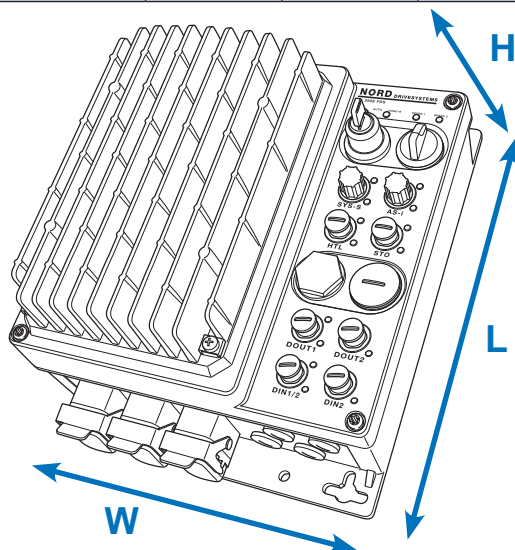
**Regulation and control** Sensorless current vector control (ISD), linear V/f characteristic

**Motor temperature monitoring** I<sup>2</sup>t Motor  
PTC / bi-metal switch

**Leakage current** < 30 mA

<sup>1</sup> (heat sink with mounted fan)

Variable frequency drives SK 2xxE-FDS...	Nominal motor power		Nominal output current rms [A]	Line voltage/ Output voltage	Weight [kg / lbs]	Dimensions L x W x H	Size
	400 V [kW]	480 V [hp]					
-370-340-A	0.37	1/2	1.1	3 ~ 380...500 V, -20 % / +10 %, 47 ... 63 Hz  3 ~ AC 0 V up to AC line voltage	3.8 / 8.3	312 x 243 x 130 mm 12.28 x 9.56 x 5.11 in	0
-550-340-A	0.55	3/4	1.7		4.6 / 10.1		
-750-340-A	0.75	1	2.3		4.6 / 10.1		
-111-340-A	1.1	1 1/2	3.1		4.6 / 10.1	312 x 243 x 175 <sup>2</sup> mm 12.28 x 9.56 x 6.88 in	1
-151-340-A	1.5	2	4.0		4.6 / 10.1		
-221-340-A	2.2	3	5.5		4.8 / 10.5		
-301-340-A	3.0	4	7.0		4.8 / 10.5		
-401-340-A	4.0	5	8.9		6.8 / 14.9	312 x 358 x 184 mm 12.28 x 14.09 x 7.24 in	2
-551-340-A	5.5	7	11.7		6.8 / 14.9		
-751-340-A	7.5	10	15		6.8 / 14.9		



<sup>2</sup> VFDs up to 2 HP (1.5 kW), without -FANO option (optional fan on heat sink) H=155

# INTERFACES FOR OPERATION, PARAMETERIZATION AND COMMUNICATION

## Operation and parameterization

Optional modules with up to 14 languages for displaying status and operational indicators, parameterization and operation of the variable frequency drive. In addition to variants for direct mounting on the device or installation in a control cabinet door, handheld versions are also available.

Type Designation Material No.	Description	Remarks
Parameter Box SK PAR-3E 275 281 414	Suitable for control and parameterization, includes LCD screen, plain text display in 14 languages, direct control of up to 5 devices, memory for 5 device data sets, and convenient control keypad.	Connection for data exchange with NORDCON on a PC via RS-232 (USB 2.0), including 1 m connection cable, 4.5 ... 30 V DC/1.3 W Supply e.g. directly via the VFD. Control cabinet installation
Simple Control Box SK CSX-3E 275 281 413	Suitable for control and parameterization, 4-digit, 7-segment display, direct control of a VFD, and convenient control keypad.	Electrical data: 4.5 ... 30 V DC / 1.3 W, Supply e. g. directly via the VFD. Control cabinet installation
Control and parameterization software NORDCON	Software for control and parameterization as well as support for commissioning and fault analysis of NORD electronic drive technology. Parameter names in 14 languages	Free download: <a href="http://www.nord.com">www.nord.com</a>
Bluetooth stick NORDAC® ACCESS BT SK TIE5-BT-STICK 275 900 120	Interface for wireless connection to a mobile device via Bluetooth. With the aid of the NORDCON APP, the NORDCON software enables smart operation and parameterization as well as commissioning assistance and fault analysis of NORD electronic drive technology.	Free download via App Store for iOS and Google Play for Android users

# BRAKE RESISTORS

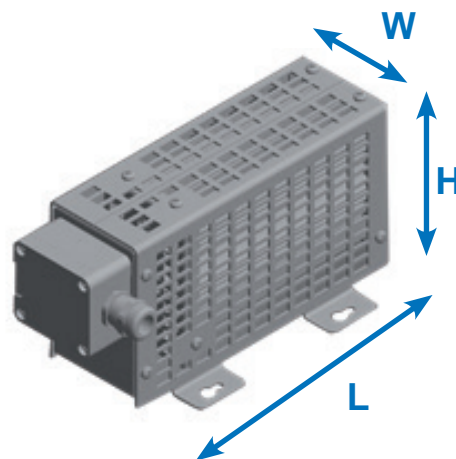
## FOR DYNAMIC DRIVE CHARACTERISTICS

### Chassis brake resistors, SK BRW5

The resistor elements are integrated into a housing cage and must be connected to the VFD via a separate connecting cable.

The brake resistors must be mounted horizontally. A shielded cable, kept as short as possible, should be used for this purpose.

The brake resistors have protection class IP65.



Variable frequency drives SK 2xxE-FDS ...	Resistor type Material No.	Resistance [Ω]	Continuous output [W]	Short-term power [kW] <sup>1</sup>	L x W x H
...1.1kW ...1.5 HP	SK BRW5-1-300-225 278 281 070	300	225	4	245 x 120 x 123 mm 9.64 x 4.72 x 4.84 in
1.5 kW ... 7.5 kW 2.0 ... 10 HP	SK BRW5-2-150-450 278 281 071	450	150	8	405 x 120 x 123 mm 4.13 x 4.72 x 4.84 in
Temperature monitoring for SK BRW5 resistors integrated (2 terminals 4 mm)		Bimetallic switch as contractor			

<sup>1</sup> Once within 120 s,  
for a maximum duration of 1.2 s

### Internal brake resistors

Internal brake resistors are intended for applications with instances of slight, sporadic and brief braking, such as continuous conveyor equipment or mixing equipment. In addition, they enable the use of the VFD in very confined spaces or in an explosive atmosphere.

NOTE: Internal brake resistors cannot be retrofitted and must therefore be taken into account in the order.

For thermal reasons, the rated continuous output is limited to 25%.

Variable frequency drives SK 2xxE-FDS-...	Resistance [Ω]	Continuous power P <sub>n</sub> [W]	Power consumption <sup>1</sup> P <sub>max</sub> [kWs]
... 750-340-	400 Ω	100 W	1.0 kWs
... 151-340- to ... 301-340-	400 Ω	100 W	1.0 kWs
... 401-340- to ... 751-340-	200 Ω	200 W	2.0 kWs

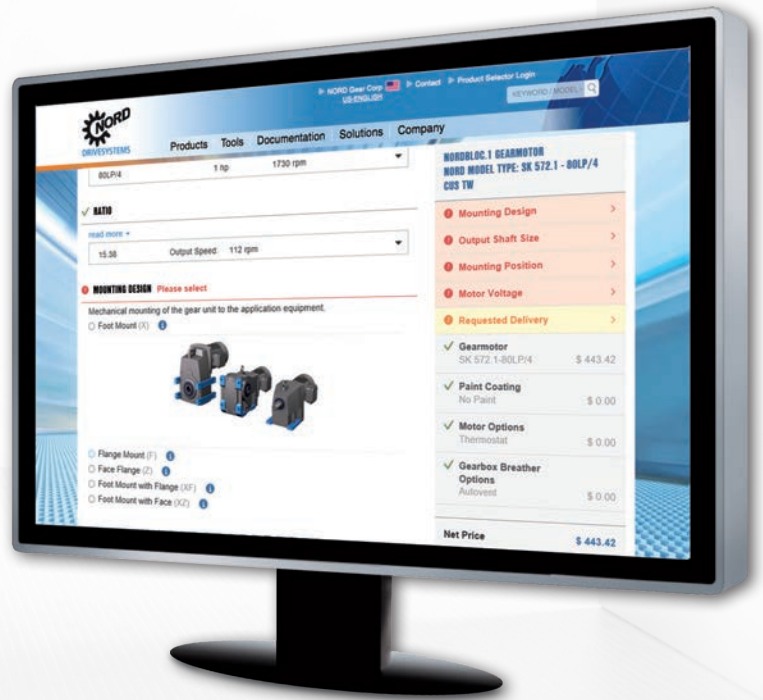
<sup>1</sup> maximum once within 10s



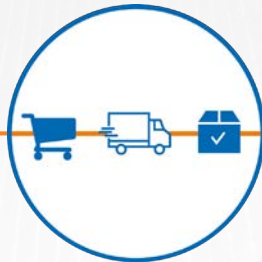
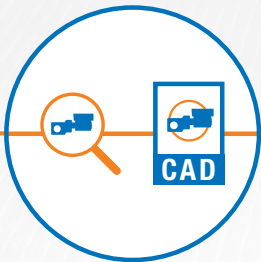


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- Create quotes with account-specific net pricing
- Order-specific documentation
- 24/7/365 order tracking
- Select and order spare parts



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