

Intelligent Drive Systems, Worldwide Services



SK 700E

F 3070 GB



Universal application

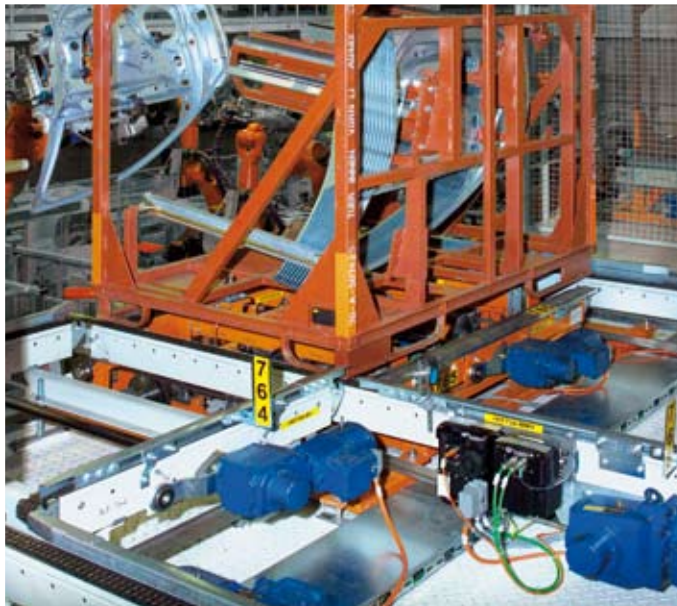
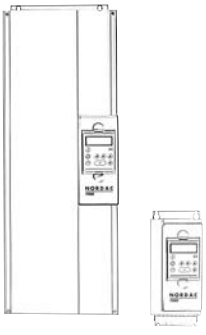
Modular High-Performance Inverter NORDAC SK 700E

The NORDAC SK 700E frequency inverter is designed for the power range between 1.5 kW and 160 kW. The system works with sensorless current vector regulation (ISD). The typical overload capacity is 150% for 60 s or 200% for 3.5 s. As standard, the devices are equipped with a brake chopper and line filter (for limit curve A according to EN 55011, up to 22 kW). The combination of a powerful control module and comprehensive protection and monitoring systems for the controller and the motor ensure great system reliability.



The open, modular concept of the NORDAC series enables the use of SK 700E inverters in a wide range of applications. Via internal modules for I/O and field bus connection, and by means of external plug-in technology units, the units can be individually configured and extended according to requirements. In combination with an incremental and/or absolute encoder, high-precision process applications can also be achieved. If necessary, the inverter can even handle positioning tasks, which can be performed without PLC control.





Flexible through modular design

Technology boxes for inverter operation

For parameterisation and control, technology boxes ensure optimum flexibility: According to the complexity of the application and the required degree of comfort, parameter orientated operation (ControlBox), instruction-free commissioning (ParameterBox) or potentiometer operation (PotentiometerBox) are possible.



ParameterBox

- Instruction-free commissioning
- Plain text display
- Stores 5 data sets
- Control of the frequency inverter
- Display of operating data



ControlBox

- 4-digit, 7-segment display
- Stores 1 data set
- Rapid and direct parameterisation
- Display of operating data



PotentiometerBox

- Direct on/off switching and setting of specified values (e.g. motor speed)
- Simple operation without access to parameters

Technology unit for communication

By means of external plug-in technology units, SK 700E inverters can be adapted to the requirements of specific applications. Optional modules are available to suit all common field buses, so that the inverters can be smoothly integrated into existing automation architectures.



RS 232

- Control, parameterisation and diagnosis of the frequency inverter
- Connecting plug: SUB-D 9-pin
- Baud rate: 38,400 Bit/s
- Internal power supply



Profibus

- Control, parameterisation and diagnosis of the frequency inverter.
- Connecting plug: SUB-D 9-pin
- Baud rate: 1.5 MBit/s
- Internal power supply



Profibus 24V

As for Profibus, but:

- Baud rate: 12 MBit/s, externally adjustable
- External, 24V power supply, 2-pin screw terminal
- Adjustable Bus address





CANBus

- Control, parameterisation and diagnosis of the frequency inverter
- Connecting plug: SUB-D 9-pin
- Baud rate: 500 KBit/s
- Internal power supply
- Dip switch for the terminating resistor



CANopen

- Control, parameterisation and diagnosis of the frequency inverter.
- Connecting plug: SUB-D 9-pin
Baud rate: 1 MBit/s, externally adjustable
- External power supply via SUB-D plug
- Bus address can be externally set
- Dip switch for the terminating resistor
- Status LEDs: DR,DE



DeviceNet

- Control, parameterisation and diagnosis of the frequency inverter
- Plug-in 5-pin connecting terminal
- Baud rate: 500 MBit/s, externally adjustable
- External 24V power supply via connecting terminals
- Bus address can be externally set
- Status LEDs: MS, NS, DS, DE



InterBus

- Control, parameterisation and diagnosis of the frequency inverter.
- Connecting plug: SUB-D 9-pin IN and OUT
- Baud rate: 500 KBit/s (optional 2MBit/s)
- External 24V supply, 2-pin plug-in terminal
- PPO-Type can be adjusted externally
- Status LEDs: UL,RC,BA,RD,TA



AS interface

- Control, parameterisation and diagnosis of the frequency inverter.
- Plug-in 5-pin connecting terminals (PWR, AUX) and 8-pin (I/O)
- Slave profile 7.4 with cyclic 4 bit I/O data, string transfer
- Max. 31 frequency inverters (Standard Slave Technology), Cycle time $\leq 5\text{ms}$
- External 24V power supply
- 4x Dig In, 2x Dig Out to terminals (sensors/actuators)
- Status LEDs: Device S/E, AS-Int, PWR/FLT, Digital I/O IN 1-4 / Out1-2, AS-I I/O In1-4 / Out1-4

Customer interfaces

I/O Modules

Customer interfaces for the I/O and the field bus connection are also available for configuring the inverters. The optional plug-in modules, whose slots are located inside the frequency inverter, offer graduated I/O functionalities: One customer interface per device may be used.



SK CU1-BSC

Basic I/O

- 1x multi-function relay
- 3x Digital input
- 1x Analog input 0...10V

Standard I/O

- 2x multi-function relay
- 4x Digital input
- 1x Analog input (0...10V, 0/4...20mA)
- 1x Analog output 0...10V
- 1x RS 485



SK CU1-STD

Multi I/O

- 2x multi-function relay
- 6x Digital input
- 2x Analog input (-10...+10V, 0/4...20mA)
- 2x Analog output (0...10V, or 0/4...20mA)



SK CU1-MLT

BUS Modules

Profibus, CANbus and USS interfaces can be supplied as field bus expansions.



SK CU1-PBR

Profibus

- 1x multi-function relay
- 1x Digital input
- 1x Profibus to terminal
- Baud rate 1.5 Mbit/s

CANbus

- 1x multi-function relay
- 5x Digital input
- 2x RJ45 for data cable
- 1x Dip for terminal resistor



SK CU1-CAN-RJ



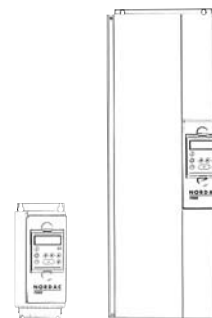
SK CU1-USS

USS

- 1x multi-function relay
- 1x Digital input
- 1x Data cable to terminal



Special extensions



Incremental encoder input

A further option is the encoder card, which allows the direct connection of encoders - therefore SK 700E inverters can be used for applications which require high-precision control of speed and torque (e.g. lifting gear applications, torque to zero speed).



SK XU1-ENC

Encoder

- 1x Digital input
- 1x TTL incremental encoder input

Positioning control

In order to implement simple but precise positioning control with a frequency inverter, the SK 700E provides the optional extension POSICON. Due to the simple principle of this positioning, the corresponding applications can be implemented by anyone. With this, there is no need for servo-solutions if the dynamics and precision of the asynchronous motor are sufficient.

A relative (e.g. pulse operation, rotating platform) or absolute regulation of position (finite axis, linear movement axes) can be carried out. The module contains one input each for an incremental encoder (TTL) and an absolute encoder (SSI interface). The switching of movement and positioning signals is carried out optionally by means of binary (terminals) via the bus system.

Posicon

- 1x multi-function relay
- 6x Digital input
- 1x Absolute encoder SSI
- 1x TTL incremental encoder input

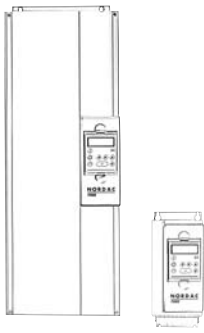


SK XU1-POS

Overview SK 700E

Inverter type SK 700E...	Material number	Mains voltage	Nominal motor output 400 V [kW]
...151-340-A	278 100 150	3 ~ 380...480V, -20%/+10%, 47...63Hz	1,5
...221-340-A	278 100 220		2,2
...301-340-A	278 100 300		3,0
...401-340-A	278 100 400		4,0
...551-340-A	278 100 550		5,5
...751-340-A	278 100 750		7,5
...112-340-A	278 101 100		11
...152-340-A	278 101 500		15
...182-340-A	278 101 850		18,5
...222-340-A	278 102 200		22
...302-340-O	278 103 000		30
...372-340-O	278 103 700		37
...452-340-O	278 104 500		45
...552-340-O	278 105 500		55
...752-340-O	278 107 500		75
...902-340-O	278 109 001		90
...113-340-O	278 111 000		110
...133-340-O	278 113 200		132
...163-340-O-VT	278 116 000		160





Nominal motor output 480 V [hp]	Nominal output current* rms [A]	Typical input current rms [A]	Dimensions L x B x D [mm]
2	3,6	6	size1: 281 x 123 x 219
3	5,2	8	
4	6,9	11	
5	9,0	13	
7,5	11,5	17	size2: 331 x 123 x 219
10	15,5	21	
15	23	30	size3: 386 x 123 x 219
20	30	40	
25	35	50	size4: 431 x 201 x 268
30	45	60	
40	57	70	size5: 599 x 263 x 263
50	68	88	
60	81	105	
75	103	125	
100	133	172	size6: 736 x 263 x 336
125	158	200	
150	193	240	size7: 1207 x 354 x 263
175	230	280	
200	280	340	

*Overload capacity: 1,5 ... 22 kW: 200% for 3.5s, 150% for 60s
 30 ... 132 kW: 150% for 60s
 160 kW: 125% for 60s

