

GETRIEBEBAU NORD

Member of the NORD DRIVESYSTEMS Group



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SK HE5-EMC-MS-HSxx

SK HE5-EMC-IS-HSxx

SK HE5-EMC-CS-HSxx

Part number:

**275 292 300, 275 292 301,
275 292 304, 275 292 305,
275 292 306, 275 292 310,
275 292 311**

EMC kits for NORDAC PRO SK 5xxP



Field of use

Frequency inverters have been developed for operation in industrial environments. In these environments, the device may be subject to electromagnetic interferences or emit them itself.

Advantages

Using an optional EMC kit facilitates or improves the basis for an optimal and EMC-compliant wiring. They depend on the size and configuration level of the respective frequency inverter type. As an alternative, the EMC kit can also be used as a strain relief (e.g. for the connection cable of an encoder and IO signals).

Application

For the EMC-compliant connection to the NORDAC PRO SK 5xxP frequency inverter of shielded:

- Motor cables
- Control cables (IO ports)
- Signal cables (STO and encoder connections)
- Connecting cables for optional accessories (e.g. braking resistors)

It only is allowed for qualified electricians to install and commission the module. An electrician is a person who, because of their technical training and experience, has sufficient knowledge relating to

- switching on, switching off, isolating, earthing and marking power circuits and devices,
- proper maintenance and use of protective devices in accordance with defined safety standards.

Technical Information / Datasheet		SK HE5-EMC-xx-HSxx			
EMC kit	2752923xx	V 1.0	0421	en	

! DANGER!

Danger of electric shock

The frequency inverter continues to carry hazardous voltages for up to 5 minutes after it was switched off.

- Work must not be carried out unless the device has been disconnected from the voltage and at least 5 minutes have elapsed since the mains was switched off!

! CAUTION

Danger of burns

The module and all other metal components can heat up to temperatures above 70 °C.

- Sufficient cooling time must be allowed for when working on the components in order to avoid injuries (local burns) to parts of the body coming into contact with the components.
- In order to avoid damage to neighbouring objects, sufficient clearance must be maintained during installation.

NOTICE

Validity of this document

This document is only valid in combination with the operating instructions for the relevant frequency inverter. Safe commissioning of this module and the frequency inverter depends on the availability of this information.

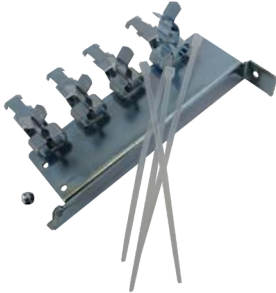
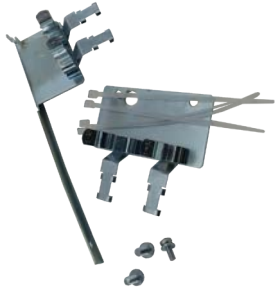
The following optional EMC kits are available depending on the size:

Size assignment


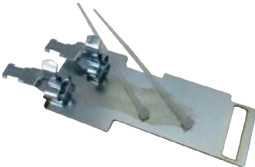
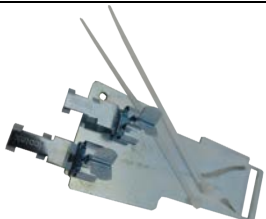
SK 5xxP	EMC kit		
	Motor connection (MS)	Control connections (IS)	Signal and encoder connection (CS) ¹⁾
	Part No.	Part No.	Part No.
Frequency inverter			
Size			
1	SK HE5-EMC-MS-HS12 275 292 300	SK HE5-EMC-IS-HS1 275 292 304	SK HE5-EMC-CS-HS1 275 292 310
2	SK HE5-EMC-MS-HS12 275 292 300	SK HE5-EMC-IS-HS2 275 292 305	SK HE5-EMC-CS-HS23 275 292 311
3	SK HE5-EMC-MS-HS34 ²⁾ 275 292 301	SK HE5-EMC-IS-HS3 275 292 306	SK HE5-EMC-CS-HS23 275 292 311

1) For SK 530P and higher with customer unit SK CU5-...



2) Two-part

Motor connection (MS)		Frequency inverter	
Designation	Scope of delivery	Size	Permissible type
SK HE5-EMC-MS-HS12		1	SK 5xxP-250-...-A SK 5xxP-370-...-A SK 5xxP-550-...-A SK 5xxP-750-...-A
		2	SK 5xxP-111-...-A SK 5xxP-151-...-A SK 5xxP-221-...-A
SK HE5-EMC-MS-HS34		3	SK 5xxP-301-340-A SK 5xxP-401-340-A SK 5xxP-501-340-A

Motor connection (MS)	Screw type			Mounting	EMC shielding plate
	Countersunk head		Fillister head		
Designation	M 3 x 5	M 3 x 8	M 4 x 8	2.5 mm x 100 mm	Size
SK HE5-EMC-MS-HS12	1	-	-	4	Motor and encoder connection Size 1 + Size 2
SK HE5-EMC-MS-HS34	-	1	2	4	Motor connection + encoder connection Size 3

Control connection (IS)		Frequency inverter	
Designation	Scope of delivery	Size	Permissible type
SK HE5-EMC-IS-HS1		1	SK 5xxP-250-...-A SK 5xxP-370-...-A SK 5xxP-550-...-A SK 5xxP-750-...-A
SK HE5-EMC-IS-HS2		2	SK 5xxP-111-...-A SK 5xxP-151-...-A SK 5xxP-221-...-A
SK HE5-EMC-IS-HS3		3	SK 5xxP-301-340-A SK 5xxP-401-340-A SK 5xxP-501-340-A


Control connection (IS)	Mounting	EMC shielding plate
Designation	Cable ties 2.5 mm x 100 mm	Type Size
SK HE5-EMC-IS-HS1	1	IO port Size 1
SK HE5-EMC-IS-HS2	2	IO port Size 2
SK HE5-EMC-IS-HS3	2	IO port Size 3

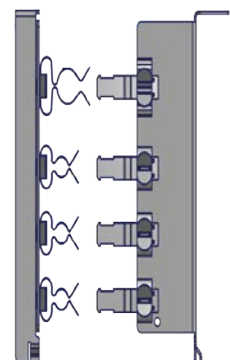
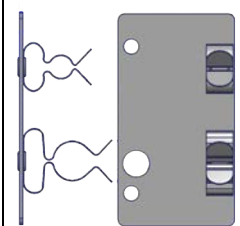
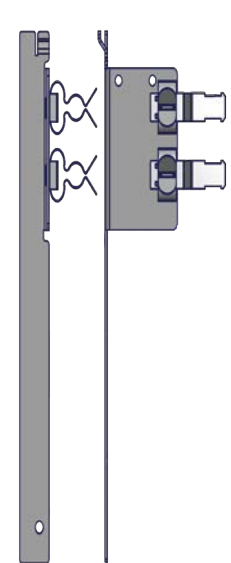
Signal and encoder connection (CS)		Frequency inverter	
Designation	Scope of delivery	Size	Permissible type
SK HE5-EMC-CS-HS1		1	SK 5xxP-250-...-A SK 5xxP-370-...-A SK 5xxP-550-...-A SK 5xxP-750-...-A
SK HE5-EMC-CS-HS23		2	SK 5xxP-111-...-A SK 5xxP-151-...-A SK 5xxP-221-...-A
		3	SK 5xxP-301-340-A SK 5xxP-401-340-A SK 5xxP-501-340-A


Signal and encoder connection (CS)	Screw/nut type		Mounting Cable ties 2.5 mm x 100 mm	EMC shielding plate Type Size
	Cylinder M 3 x 5	Hexagonal M 3		
Designation				
SK HE5-EMC-CS-HS1	2	2	2	Signal/encoder connection, size 1
SK HE5-EMC-CS-HS23	2	2	2	Signal/encoder connection, sizes 2 + 3

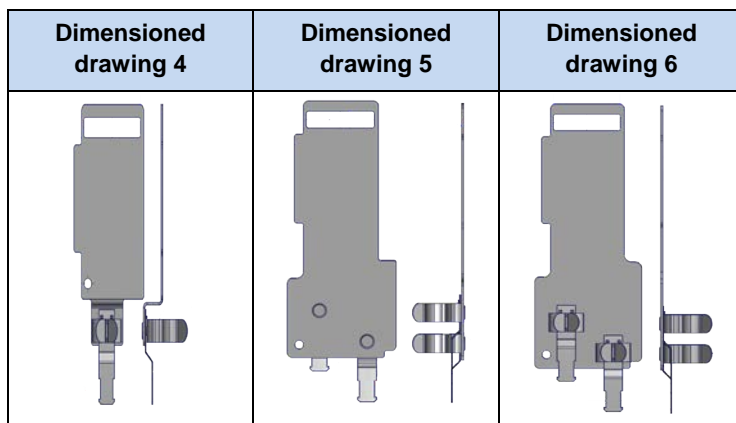
Technical Data


Material	Galvanised EMC plates, 1 mm thick
Mounting	Fastening screws and nuts Icotek terminals

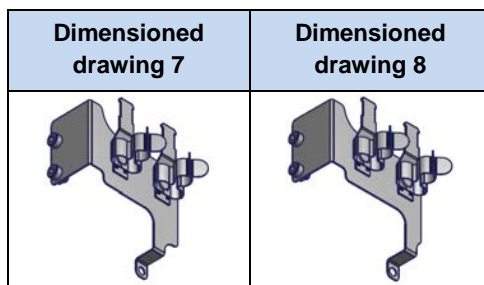
Motor connection (MS)	Dimensioned drawing 	Dimensions [mm]			Icotek Terminals Quantity	Weight [g]
		H	W	D		
SK HE5-EMC-MS-HS12	1	115.3	76.0	41.0	4	59
SK HE5-EMC-MS-HS34	2	64.5	35.0	28.0	2	65
	3	145.3	60.0	33.5	2	

Dimensioned drawing 1	Dimensioned drawing 2	Dimensioned drawing 3
		

Control connection (IS)	Dimensioned drawing 	Dimensions [mm]			Icotek Terminals Quantity	Weight [g]
		Overall dimensions				
		H	W	D		
SK HE5-EMC-IS-HS1	4	82.0	35.3	21.5	1	26
SK HE5-EMC-IS-HS2	5	108.0	45.8	21.5	2	42
SK HE5-EMC-IS-HS3	6	114.0	45.8	21.5	2	44



Signal and encoder connection (CS)	Dimensioned drawing 	Dimensions [mm]			Icotek Terminals Quantity	Weight [g]
		Overall dimensions				
		H	W	D		
SK HE5-EMC-CS-HS1	7	70.0	52.0	42.5	2	30
SK HE5-EMC-CS-HS23	8	70.0	53.0	42.5	2	29



Installation

Installation location	Bottom, front and back of the frequency inverter housing
Mounting	By using supplied fastening screws Large-area connection of cable screen to the Icotek terminal device Securing connecting cable to the Icotek terminal/shield angle bracket using cable ties

Installation steps*

Information


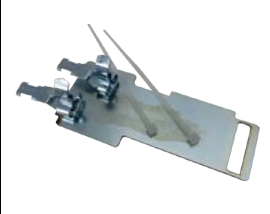
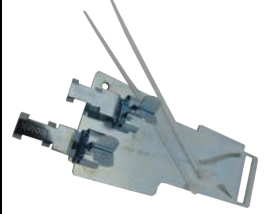
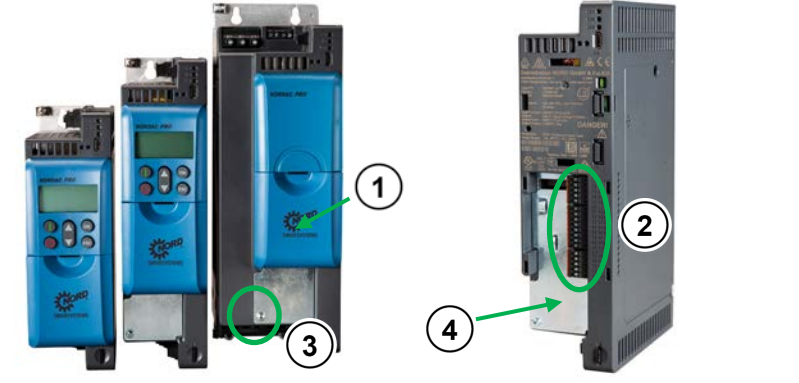
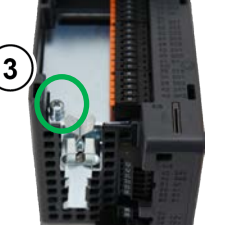


EMC kits of type SK HE5-MS-HSxx must be mounted before the installation of the frequency inverter.

Motor connection (MS)	Size 1	Size 2	Size 3
	SK HE5-EMC-MS-HS12		SK HE5-EMC-MS-HS34
1. EMC kit Shield angle and fastening screws ② / ③			
2. <ul style="list-style-type: none"> Latch shield angle at the bottom of the housing using sheet metal bracket ① Tighten screw ② at the back/bottom of the housing 			
	<ul style="list-style-type: none"> 2. Latch shield angle at the bottom of the housing Tighten screw ③ at the bottom of the housing 		
3. <ul style="list-style-type: none"> Strip connection cable sheath and insert shield into the Icotek terminal 			
4. <ul style="list-style-type: none"> Fasten connection cable to the shield angle bracket using cable ties 			

* Illustration similar for different sizes

i Information

EMC kits of type SK HE5-IS-HSx cannot be installed when using an SK CU5-... customer unit, or installing an EMC kit of type SK HE5-CS-HSxx!










Control connection (IS)		Size 1	Size 2	Size 3
		SK HE5-EMC-IS-HS1	SK HE5-EMC-IS-HS2	SK HE5-EMC-IS-HS3
1.	EMC kit Shield angle and fastening material			
2.	<ul style="list-style-type: none"> Remove control terminal cover ① Loosen and remove all control terminal plugs ② Loosen screw ③ Disassemble standard shielding plate from frequency inverter ④ 			
3.	<ul style="list-style-type: none"> Install shield angle on the front Tighten screw ③ Installation of disassembled components ① / ②, see installation step 2 			
4.	<ul style="list-style-type: none"> Strip connection cable sheath and insert shield into the Icotek terminal 			
5.	<ul style="list-style-type: none"> Fasten connection cable to the shield angle bracket using cable ties 			

* Illustration similar for different sizes

i Information

EMC kits of type SK HE5-CS-HSxx can only be installed when using or after the installation of an EMC kit of type SK HE5-MS-HSxx!

The installation of the EMC kit for the motor connection is assumed for the following description.

Signal and encoder connection (CS)		Size 1	Size 2	Size 3
		SK HE5-EMC-CS-HS1	SK HE5-EMC-CS-HS23	
1.	EMC kit Shield angle and fastening screws			
2.	<ul style="list-style-type: none"> Remove control terminal cover ① (size 1 only) Loosen and remove screw ② 			
3.	<ul style="list-style-type: none"> Install EMC shield angle on the front Tighten screw ② Installation of disassembled control terminal cover ①, see installation step 2 			
	<ul style="list-style-type: none"> Tighten screws ③ and nuts ④ at the shield angle of the motor connection (MS) 			
4.	<ul style="list-style-type: none"> Strip connection cable sheath and insert shield into the Icotek terminal 			
5.	<ul style="list-style-type: none"> Fasten connection cable to the shield angle bracket using cable ties 			

* Illustration similar for different sizes

Further documentation and software (www.nord.com)

Document	Description	Document	Description
BU 0600	Manual for frequency inverter NORDAC <i>PRO</i> SK 5xxP	TI 275298000	Technical information NORDAC <i>PRO</i> SK CU5-STO Safety extension
BU 0610	Supplementary instructions for frequency inverter NORDAC <i>PRO</i> SK 5xxP POSICON Positioning control	TI 275298200	Technical information NORDAC <i>PRO</i> SK CU5-MLT Multi IO extension
BU 0630	Supplementary instructions for frequency inverter NORDAC <i>PRO</i> SK 5xxP Functional safety	TI 80_0011	Technical information EMC-compliant installation of NORD components

Flyer	Description
E3000	NORDAC – Electronic drive technology
E3060	NORDAC <i>PRO</i> – SK 500P frequency inverter