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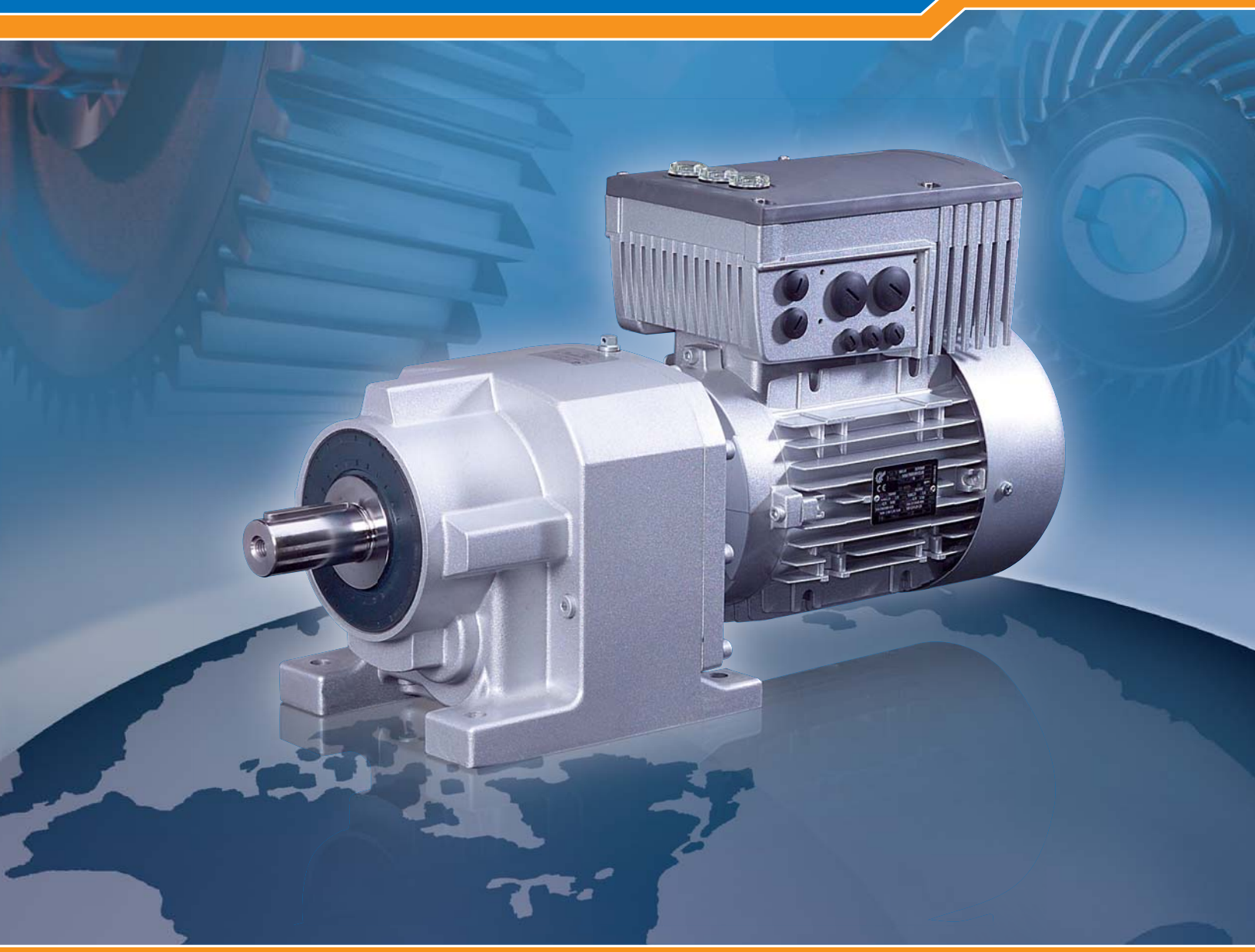

SK 205E QUICK START GUIDE

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QS Guide

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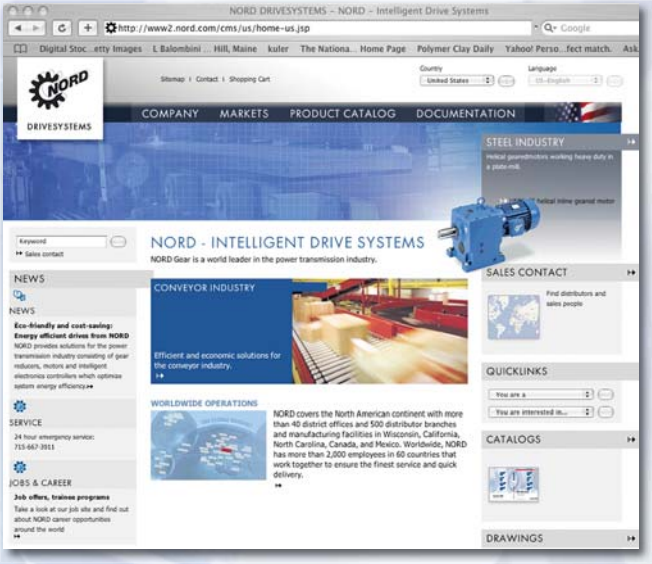

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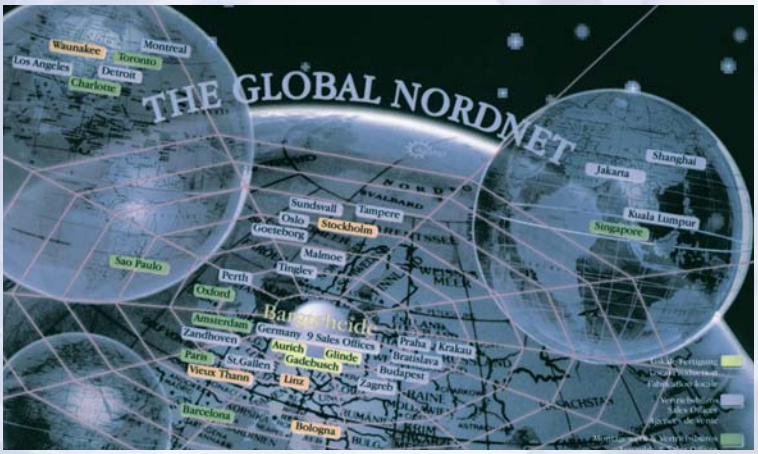

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Table of Contents

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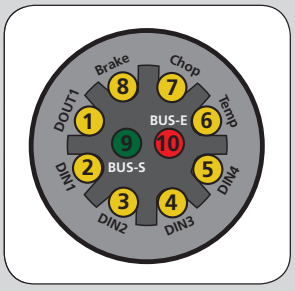


General Introduction

Introduction

The SK 205E Quick-Start Guide provides basic information and instructions regarding proper installation and operating procedures for the SK 205E AC Vector Drive only. This guide does not replace the user manual and is intended for qualified personnel only. If additional information concerning the SK 205E AC vector drive is required, the NORDAC SK 200E manual (BU 0200) should be consulted.

This guide assumes the SK 205E AC vector drive is factory mounted to a NORD motor of the same rating.

General Safety and Operating Precautions

⚠ GENERAL WARNINGS ⚠

- During operation, drive power converters may, depending on their protection class, have live, bare, moving, or rotating parts or hot surfaces.
- Unauthorized removal of covers, improper use, incorrect installation or operation causes a risk of serious personal injury, severe material or property damage, or loss of life.
- All transportation, installation, initialization, and maintenance work must be carried out by qualified personnel. For the purposes of these basic safety instructions, qualified personnel are persons who are familiar with the assembly, installation, commissioning, and operation of this product and who have relevant qualifications for their work.
- Installation and other maintenance work may only be carried out with the AC Vector Drive disconnected from mains supply voltage.
- Local and national electrical codes and regulations must be complied with for the installation of electrical equipment and accident prevention.
- The equipment continues to carry hazardous voltages for up to 5 minutes after being disconnected from mains supply voltage.
- Even during motor standstill, the line connection terminals, motor terminals, and braking resistor terminals may still conduct hazardous voltages. A motor standstill is not identical to electrical isolation from the mains.
- Control cables, line cables, and motor cables must be laid separately. In no circumstances should they be laid in the same protective conduit/cable trays.
- The AC Vector Drive must be properly grounded.
- Do not use AC Vector Drive in “Open-Delta” or “Corner-Grounded” systems.

Electrical Connections

In order to access the electrical connections, the SK 205E must be removed from the TI4 motor adapter unit. Proceed as follows:

1. Switch off the mains supply.
2. Loosen the 4 hex sockethead screws (4mm).
3. Carefully lift the AC vector drive off of the connection unit.
4. The electrical connections and the option slots are now freely accessible.

To re-install the AC vector drive, proceed in the opposite sequence:

1. Take special care that the PE pins are correctly connected to the cinch plugs.
2. The AC vector drive can only be placed on the TI4 motor adapter in one orientation.
3. Evenly tighten the hex sockethead screws.

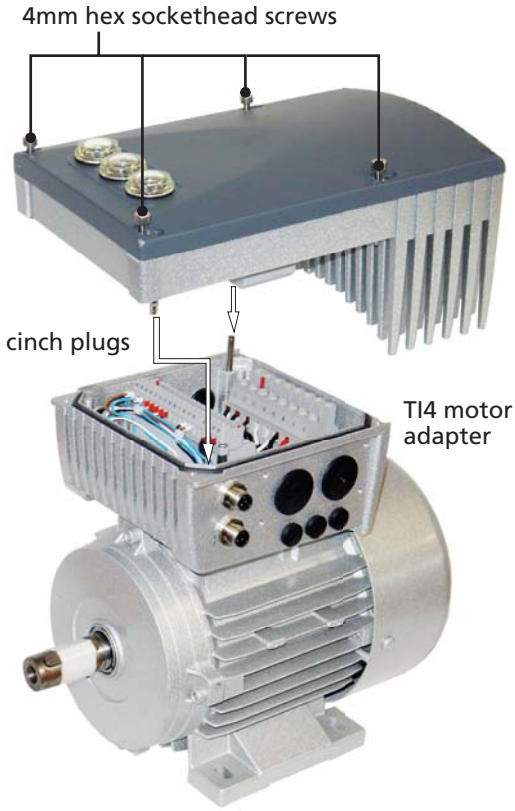


Figure 1 – AC Vector Drive Removal/Installation

Power Connections

All power connection terminals are located in the TI4 motor adapter and the earth/ground connections are located on the base in the cast housing of the TI4 motor adapter.

Before and while the device is connected, the following procedure must be observed:

1. Ensure the mains supply provides the correct voltage and is suitable for the AC vector drive being used.
2. Ensure that suitable circuit breakers or branch circuit protection are installed between the voltage source and the AC vector drive.
3. Connect the mains voltage directly to terminals **L1-L2/N-L3** & connect earth/ground to **PE** terminal.
4. Confirm motor leads are connected to terminals **U-V-W**.

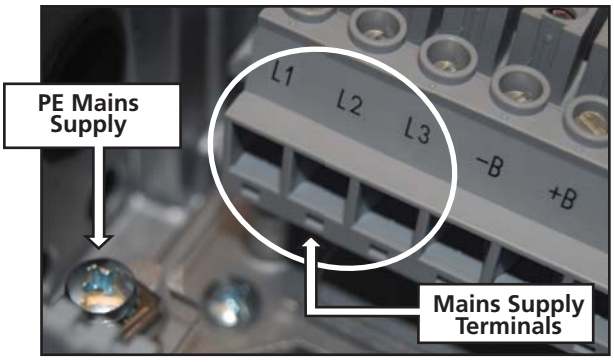


Figure 2 – Mains Supply Connection

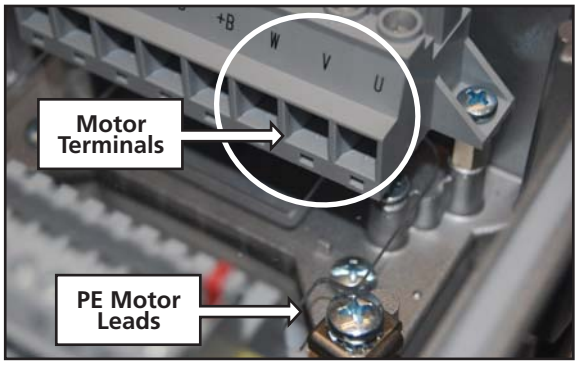


Figure 3 – Motor Leads Connection

Connections

Mains Connections (L1, L2, L3, PE)

115V devices	may only be used with a 110…120V (L/N = L1/L2) single phase supply.
230V devices	may be ordered either for single phase (…-123-, L/N = L1/L2) or three phase operation. (…-323-, L1/L2/L3) It is important to note the type designation when wiring power connections.
400V devices	are designed for 380…480V (L1/L2/L3) three phase supply.

Operation on a non-grounded distribution network (IT network)

The use of this AC vector drive on a power-supply that is not referenced to earth/ground (IT network) is possible after modifications my means of jumpers.

The operation of an AC vector drive in an ungrounded distribution network is only permissible if a brake resistor is connected. In order to prevent unallowable charging of the AC vector drive link circuit in case of a mains fault (short circuit to earth/ground). The prerequisite for the control of the brake resistor is the presence of a 24V control voltage. Therefore, in case of an external 24Vdc AC vector drive power supply, it is essential that this is always switched on ahead of the mains voltage or is switched off after disconnection from the mains.

To adapt the SK 205E to an ungrounded distribution network, the capacitors CY must be disconnected from earth/ground. This is carried out by changing a jumper position as shown in Figure 4.

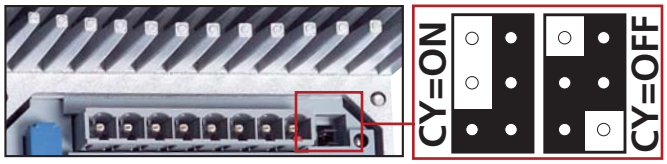


Figure 4 - Mains Supply Jumpers

Mains Connection Requirements

Connection cross section	0.5…6mm2 rigid/flexible cable, AWG 20-10. For looping of the mains voltage, a cable cross-section up to 2x 2.5mm2 (14 AWG) double wire end sleeves must be used.
Tightening torque	1.2…1.5Nm (10.7-13.2 lb-in)

Motor Connections (U, V, W, PE)

AC vector drive shall only be used with three-phase AC induction motors. The motor will be wired to the U-V-W terminals from the factory as standard.

Motor Connection Requirements

Connection cross section	0.5…6mm2 rigid/flexible cable, AWG 20-10.
Tightening torque	1.2…1.5Nm (10.7-13.2 lb-in)

Control Connections

The standard control terminals are located on the inside of the AC vector drive TI4 motor adapter unit.

Control Connection Requirements

Connection terminals	Screw terminals, 3.5mm slot-head screwdriver.
Connection cross-section	0.2…2.5mm2, AWG 24-14, rigid or flexible, without wire end sleeves.
Tightening torque:	0.5…0.6Nm (4.4-5.3 lb-in)
Control cable	Lay and shield cable separately from the mains/motor cables.
Control voltages, external	18…30Vdc, minimum 200mA. The current load increases according to the level of equipment.

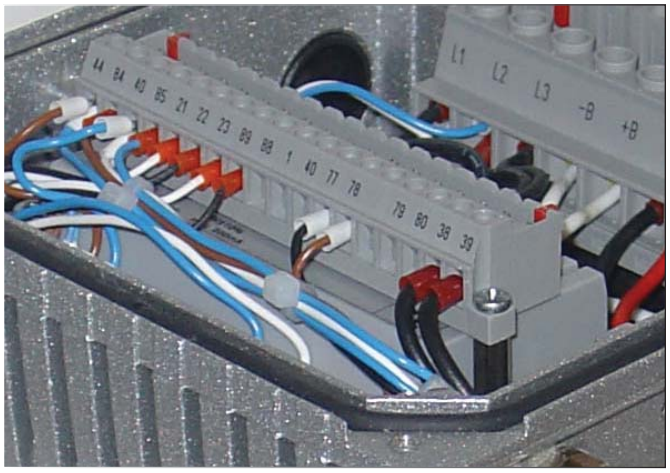
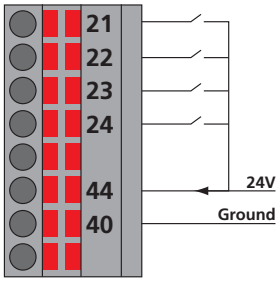


Figure 5 - Control Terminals

Control Connections

Table 1 provides information regarding the default functions of the control terminal strip.

Table 1 - SK 205E Control Connections

Terminal/Name	Function (Factory Setting)	Data	Description/Wiring Suggestion	Parameter
44 – 24V	External 24V supply	18V…30Vdc ±0% 200…800mA According to the AC vector drive load, the inputs/outputs, and the equipment with options	External supply voltage for the AC vector drive control unit and the DO1 output	-
40 – GND	Reference potential for digital signals			-
21 – DIN1	Digital input 1 (ON right)	Digital input as per EN 61131-2, Type 1 **Low:** 0-5V (~9.5kΩ) **High:** 15-30V (~2.5-3.5 kΩ) **Input capacitance:** Input 1 + 4 = 10nF Input 2 + 3 = 1.2 nF **Scanning time:** 1ms **Reaction time:** ≥ 4ms	 Inputs 1 + 4 react slowly Inputs 2 + 3 react quickly	P420 [01]
22 – DIN2	Digital input 2 (ON left)			P420 [02]
23 – DIN3	Digital input 3 (fixed freq. 1)			P420 [03]
24 – DIN4	Digital input 4 (fixed freq. 2)			P420 [04]
1 – DO1	Output 1 (Error)	Digital output 18-30V Max. 200mA Max. 100kΩ load	For evaluation in a control system	P434
38 – TF+	PTC resistor input	-	For monitoring the motor temperature by PTC.	-
39 – TF-	PTC resistor input			-
77 – SYS+	System bus	Up to 4 SK 200E can be operated on a system bus.	Internal AC vector drive system bus for communication with optional modules and other AC vector drives.	• P509/P510 • P514/P515
78 – SYS-	System bus			
79 – MB+	Brake control	Mains Voltage Brake 115/230V 105V 400V 180V 460/480V 205V Max Current: 0.5A	Controls an electro-mechanical brake by generating an output voltage at the terminals MB+/MB-. This depends on the supply voltage to the SK 205E. It is essential to take the correct brake coil voltage into account.	• P107 • P114 • P505
80 – MB-	Brake Control			

DIP Switch Configuration

The DIP switches provide the possibility of carrying out commissioning without additional control units. Additional settings and adjustments are made using the potentiometers on the top of the SK 205E.

For additional information on the DIP switch settings, please refer to the SK 200E manual BU 0200, section 5.1.2.

This Quick Start Guide will discuss a few examples of different DIP switch configurations and their effects on how the unit operates.

Potentiometers P1 & P2

The SK 205E comes with potentiometers that can be configured to adjust various operation setpoints and variables. The functions of these potentiometers depend on DIP switch or parameter settings.

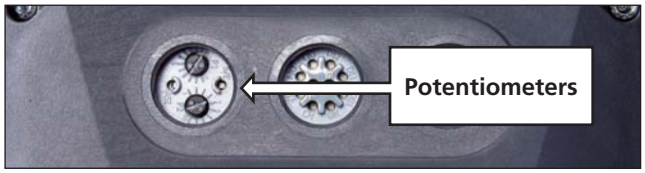


Figure 6

Diagnostic LEDs

The diagnostic LEDs are externally visible and indicate actual device status. Detail on these diagnostic LEDs can be seen in Figure Table 3 Illustration and functions can be seen in Table 3.

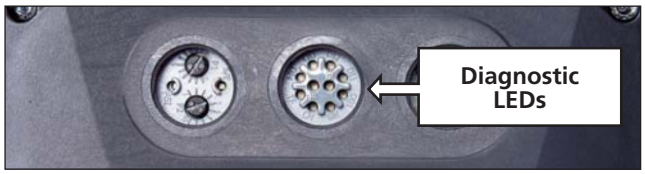


Figure 7

RJ12 Port

The RJ12 port can be used to connect a Parameter Box or Simple Box to the device, or can be used to connect to the NORD CON software.

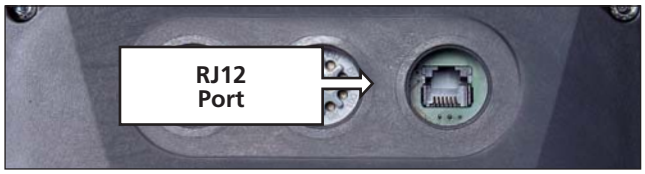


Figure 8

Additional information regarding the potentiometers and diagnostic LEDs can be found in the SK 200E manual BU 0200, section 5.1.3.

Error message descriptions and remedies may also be found in section 7 of the SK 200E manual BU 0200.

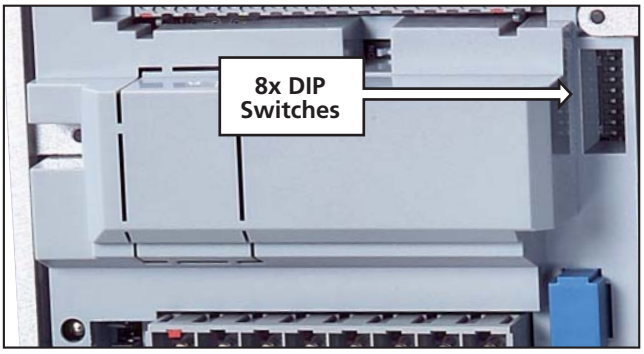


Figure 9

Table 2 - Potentiometer LED Functions

1	Green/Red	LED FI - Ready/Error Status
2	Green/Red	LED AS Interface - (not used with SK 205E)

Table 3 - Diagnostic LED Functions

1	Yellow	Digital Output
2	Yellow	Digital Input 1
3	Yellow	Digital Input 2
4	Yellow	Digital Input 3
5	Yellow	Digital Input 4
6	Yellow	Motor PTC
7	Yellow	Brake Chopper Active
8	Yellow	Mech. Brake Status
9	Green	Bus Status 1
10	Red	Bus Status 2

Potentiometer

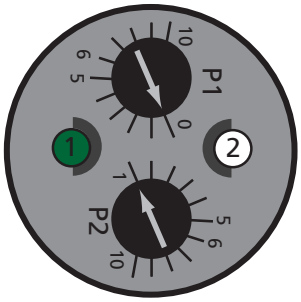


Table 2 Illustration

Diagnostic LEDs

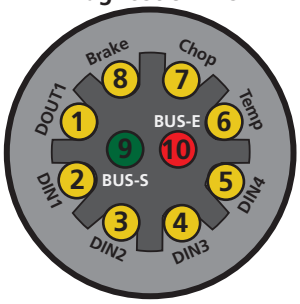


Table 3 Illustration

Configuration Example 1 – Basic equipment (requires external 24Vdc)

The most basic connection diagram of the SK 205E is shown in Figure 10. No option modules are included in this configuration and all devices shown (except motor) would be wired by customer, if required.

This configuration of the SK 205E requires an external 24Vdc supply for its control power source. The unit will not function unless this 24Vdc supply is present.

DIP switch 7 is placed in the "ON" position to set the AC Vector Drive to operate a 60 Hz motor. Otherwise, the unit would be set to operate a 50 Hz motor.

A **"Right"** or **"Forward"** run command is given by a contact closure between terminals DIN1 and 24V (21 and 44).

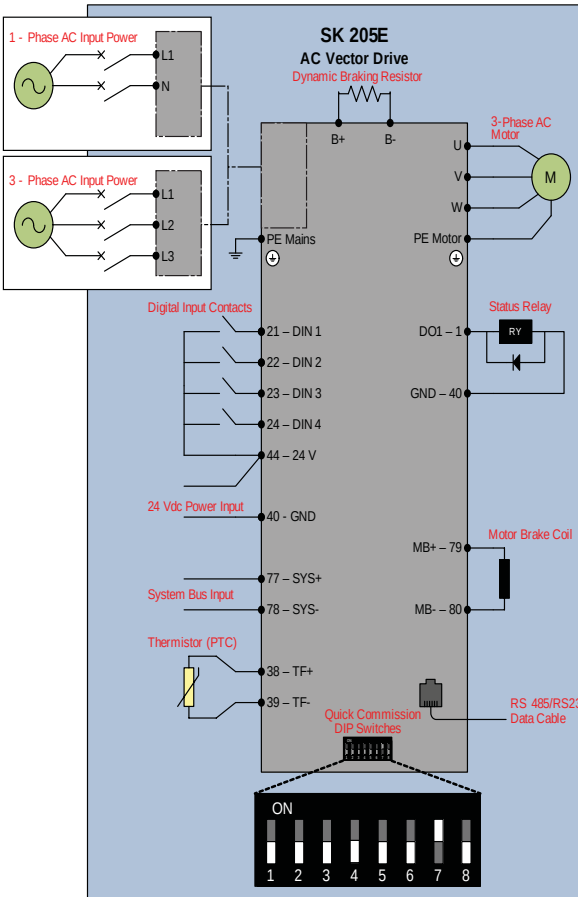
A **"Left"** or **"Reverse"** run command is given by a contact closure between terminals DIN2 and 24V (22 and 44).

Fixed frequency 1 & 2 are the default functions of DIN 3 & 4, respectively (23 and 24).

The **frequency setpoint source** is potentiometer P1 and the **ramp time** is set by P2. The specific potentiometer settings are shown in Table 4.

Table 4 - Potentiometer Settings 1

P1 (continuous)		P2 (stepped)	
0%	P105	-	-
10%	10 Hz	1	P102/103
20%	20Hz	2	0.2s
30%	30Hz	3	0.3s
40%	40 Hz	4	0.5s
50%	50Hz	5	0.7s
60%	60 Hz	6	1.0s
70%	70 Hz	7	2.0s
80%	80 Hz	8	3.0s
90%	90 Hz	9	5.0s
100%	100 Hz	10	7.0s



DIP Switch 7 ON – Motor data set corresponding to the rated power of the AC Vector Drive relative to 60 Hz. Maximum frequency is set to 60 Hz also.

Suitable for use on a circuit capable of delivering not more than 5000 rms symmetrical Amperes, 120 Volts maximum (SK 2xxE-xxx-112), 240 Volts maximum (SK 2xxE-xxx-323) or 500 Volts maximum (SK 2xxE-xxx-340) and when protected by J class fuses as indicated.

Figure 10

Configuration Example 2 – Basic equipment + internal 24Vdc module

This example shows the basic SK 205E device that is supplied with an internal 24Vdc module (SK CU4-24V-1xx-B). The required 24Vdc supply is now provided by the internal module. Figure 11 shows the wiring and DIP switch settings for this configuration.

AC mains voltage is connected to the SK CU4-24V-1xx-B via terminals L1 and L2. **The internal 24Vdc module will then produce 24Vdc control power** to the SK 205E via terminals 24V and GND (44 and 40).

The SK CU4-24V-1xx-B module has one analog input that is used as the **frequency setpoint source**. This can be either a 0-10Vdc or 0(4)-20mA input signal. The analog input terminals are AIN1+ and AIN1 GND (14 and 12). If a potentiometer is used, the 10Vdc it requires can be supplied from terminal +10V (11).

The 24Vdc module will take the analog signal and convert it to a pulse frequency signal. This signal is supplied to the SK 205E from terminal B1 of the 24Vdc module and connected to the DIN3 terminal (23) of the AC vector drive control terminal strip.

In order for the SK 205E to accept the pulse frequency input, **DIP Switch 4** must be placed in the "ON" position. **DIP Switch 7** is also in the "ON" position for 60 Hz motor operation.

With DIP switch 4 & 7 both set to "ON", Potentiometer P1 will set the **maximum output frequency** value and P2 will set **the minimum output frequency** value. The specific potentiometer settings are shown in Table 5.

A **"Right"** or **"Forward"** run command is given by a contact closure between terminals DIN1 and 24V (21 and 44).

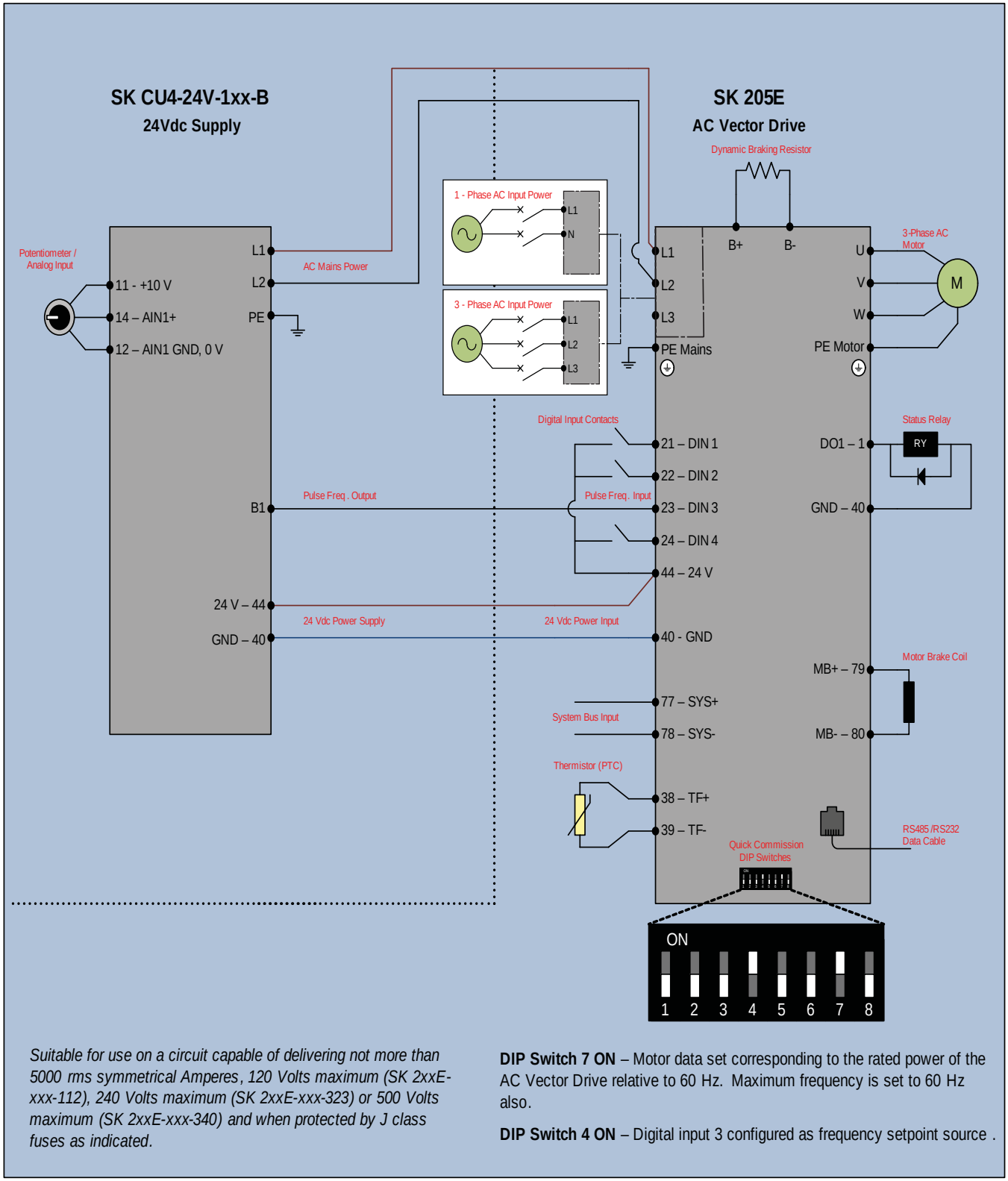
A **"Left"** or **"Reverse"** run command is given by a contact closure between terminals DIN2 and 24V (22 and 44).

A **"Quit"** or **error acknowledgement** command is given by contact closure between terminals DIN4 and 24V (24 and 44).

Table 5 - Potentiometer Settings 2

P1 (continuous)		P2 (stepped)	
0%	P105	-	-
10%	10 Hz	1	P104
20%	20Hz	2	2 Hz
30%	30Hz	3	5 Hz
40%	40 Hz	4	10 Hz
50%	50Hz	5	15 Hz
60%	60 Hz	6	20 Hz
70%	70 Hz	7	25 Hz
80%	80 Hz	8	30 Hz
90%	90 Hz	9	35 Hz
100%	100 Hz	10	40 Hz

Configuration Example 2 Diagram



Suitable for use on a circuit capable of delivering not more than 5000 rms symmetrical Amperes, 120 Volts maximum (SK 2xxE-xxx-112), 240 Volts maximum (SK 2xxE-xxx-323) or 500 Volts maximum (SK 2xxE-xxx-340) and when protected by J class fuses as indicated.

DIP Switch 7 ON – Motor data set corresponding to the rated power of the AC Vector Drive relative to 60 Hz. Maximum frequency is set to 60 Hz also.

DIP Switch 4 ON – Digital input 3 configured as frequency setpoint source .

Figure 11 - Basic SK 205E with Internal 24V Module

Configuration Example 3 – Basic equip + 24Vdc + speed pot & start/stop

This configuration is similar to that of Example 2, except the SK CU4-POT option is implemented.

The functions of the digital inputs and potentiometers (see Table 4 for settings) remain the same as in Example 2, but the SK CU4-POT provides the **"Right"** and **"Left"** run commands via rotary selector switch and the **frequency setpoint source** via analog signal from the potentiometer.

The Brown, White, and Blue wires of the potentiometer are connected to the SK CU4-24V-1xx-B module at terminals +10V, AIN1+, and AIN1 GND, respectively (11, 14, and 12).

The Black wire of the rotary switch is wired to terminal DIN1 (21) and the White wire of the rotary switch is connected to terminal DIN2 (22) of the SK 205E. The Brown wire of the rotary switch can be connected to any of the 24V terminals (44).

Figure 12 shows the wiring and DIP switch settings for this configuration.

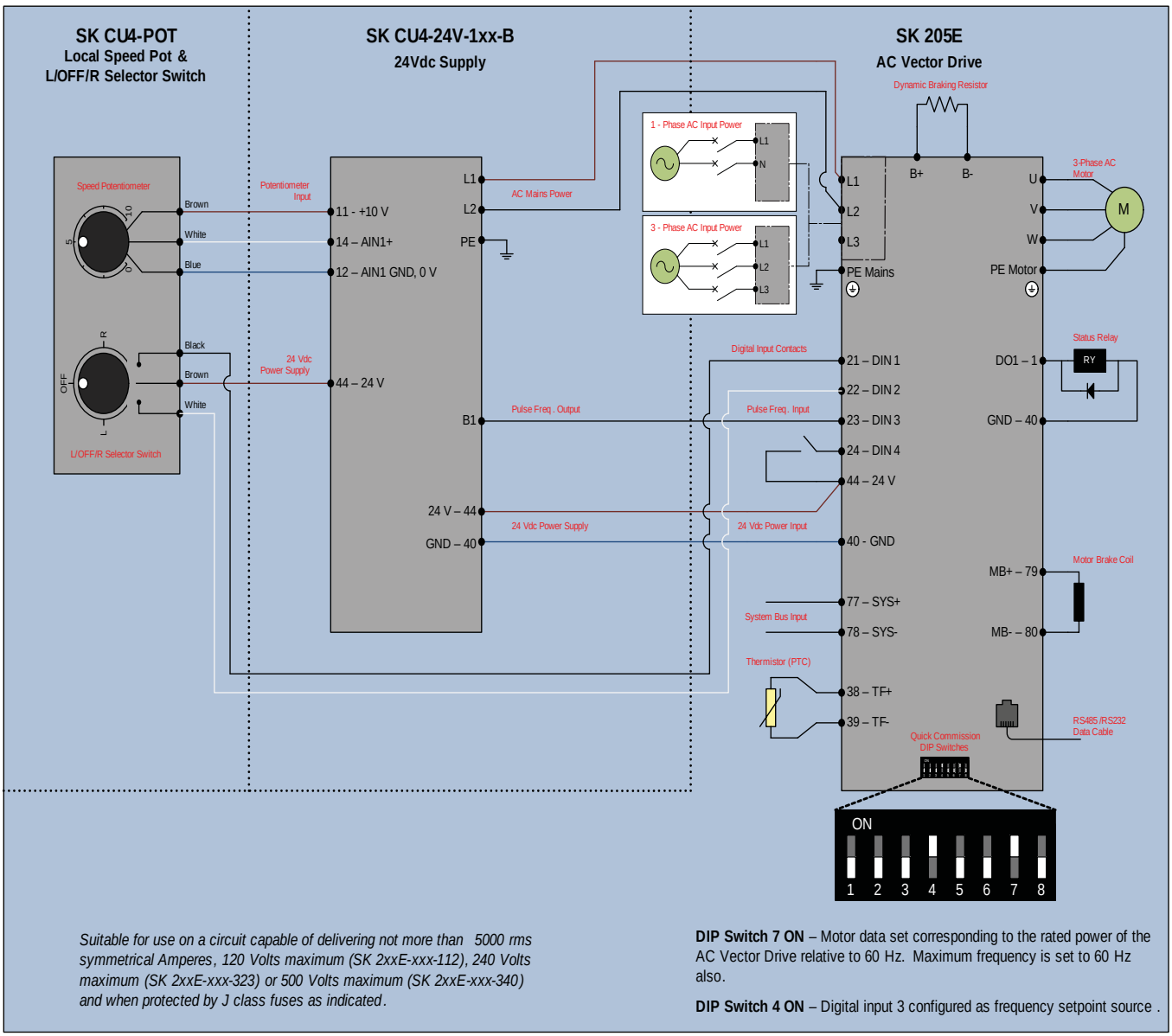


Figure 12 - Basic SK 205E with Internal 24V Module and R/Off/L Switch & Potentiometer

Branch Circuit Protection

Install the appropriate branch circuit protection according to applicable national and local codes. The circuit protection devices (fuses or circuit breakers) must be installed in the input line before the AC vector drive input terminals (L1, L2, & L3).

Recommended fuse and circuit breaker ratings are provided in the Electrical Data section in tables 6 through 9.

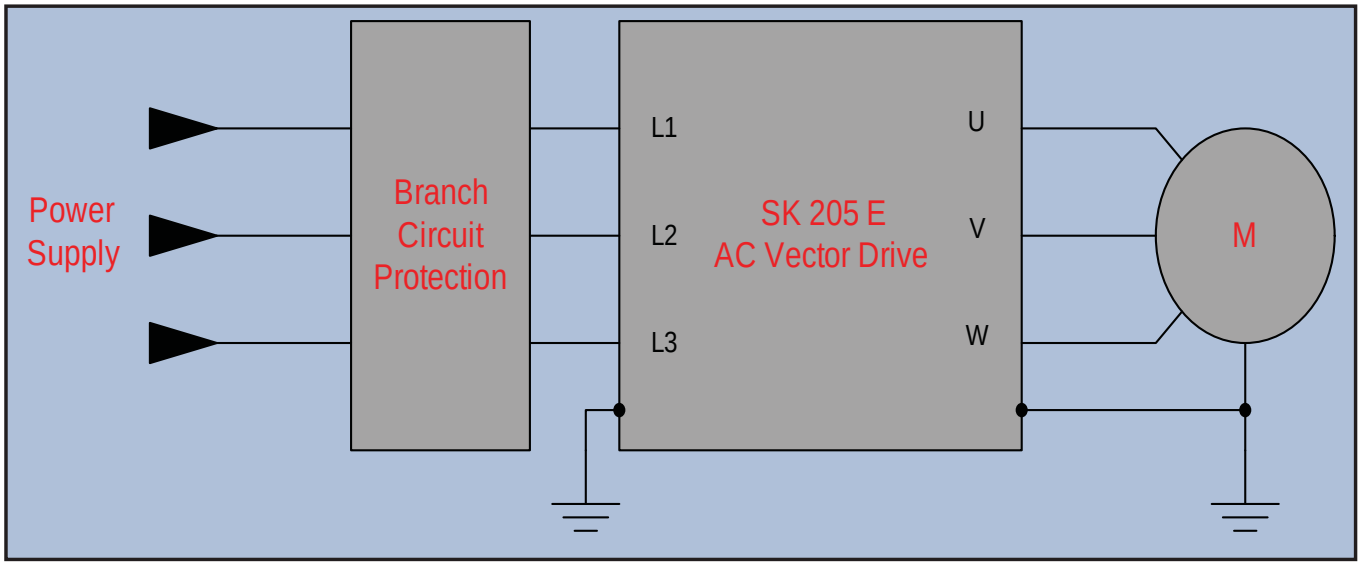


Figure 13 - Basic SK 205E/Motor Typical Connection Scheme

Electrical Data for AC Vector Drive

Table 6 - Electrical data 1~115V

		Size 1		Size 2	
Device type:	**SK 2xxE...**	**-250-112-O**	**-370-112-O**	**-550-112-O**	**-750-112-O**
Rated motor power	230V	0.25 kW	0.37 kW	0.55 kW	0.75 kW
(4-pole standard motor)	240V	1/3 hp	1/2 hp	3/4 hp	1 hp
Mains voltage		1 AC 110 ... 120V, ± 10%, 47 ... 63Hz			
Output voltage		3 AC 0 – 220 ... 240V			
Nominal output current	rms [A]	1.7	2.2	3.0	4.0
Typical input current	rms [A]	8.9 A	11 A	13.1 A	20.1 A
Rec. mains fuse	slow-blowing [A]	16 A	16 A	16 A	25 A
Max. mains fuse	RK5 or faster fuses, min 115V	30 A	30 A	30 A	30 A
	Bussmann	FRS-R-30	FRS-R-30	FRS-R-30	FRS-R-30
	Circuit breaker* min. 115V	25 A	25 A	25 A	25 A

***Circuit Breaker (inverse time trip type) as per UL489**

Table 7 - Electrical data 1~230V

		Size 1			Size 2	
Device type:	**SK 2xxE...**	**-250-123-A**	**-370-123-A**	**-550-123-A**	**-750-123-A**	**-111-123-A**
Rated motor power	230V	0.25 kW	0.37 kW	0.55 kW	0.75 kW	1.1 kW
(4-pole standard motor)	240V	1/3 hp	½ hp	¾ hp	1 hp	1½ hp
Mains voltage		1 AC 200 ... 240V, ± 10%, 47 ... 63 Hz				
Output voltage		3 AC 0 - Mains voltage				
Rated output current	rms [A]	1.7	2.2	2.9	4.0	5.5
Typical input current	rms [A]	3.9	5.8	7.3	10.2	14.7
Rec. mains fuse	slow-blowing [A]	10	10	16	16	16
Max. mains fuse	RK5 or faster fuses, min 230V	10 A	10 A	10 A	30 A	30 A
	Bussmann	FRS-R-10	FRS-R-10	FRS-R-10	FRS-R-30	FRS-R-30
	Circuit breaker* min. 115V	10A	10A	10A	25A	25A

***Circuit Breaker (inverse time trip type) as per UL489**

Electrical Data for AC Vector Drive

Table 8 - Electrical data 3~230V

		Size 1				
Device type:	**SK 2xxE…**	**-250-323-A**	**-370-323-A**	**-550-323-A**	**-750-323-A**	**-111-323-A**
Rated motor power	230V	0.25 kW	0.37 kW	0.55 kW	0.75 kW	1.1 kW
(4-pole standard motor)	240V	1/3 hp	1/2 hp	3/4 hp	1 hp	1-1/2 hp
Mains voltage		3 AC 200 ... 240V, ± 10%, 47 ... 63 Hz				
Output voltage		3 AC 0 - Mains voltage				
Rated output current	rms [A]	1.7	2.2	3.0	4.0	5.5
Typical input current	rms [A]	1.4	1.9	2.6	3.5	5.1
Rec. mains fuse	slow-blowing [A]	10	10	10	10	16
Max. mains fuse	RK5 or faster fuses, min 230V	5.0 A	5.0 A	10 A	10 A	10 A
	Bussmann	FRS-R-5	FRS-R-5	FRS-R-10	FRS-R-10	FRS-R-10
	Circuit breaker* min. 230V	5.0 A	5.0 A	10 A	10 A	10 A

		Size 2		Size 3	
Device type:	**SK 2xxE…**	**-151-323-A**	**-221-323-A**	**-301-323-A**	**-401-323-A**
Rated motor power	230V	1.5 kW	2.2 kW	3.0 kW	4.0 kW
(4-pole standard motor)	240V	2 hp	3 hp	4 hp	5 hp
Mains voltage		3 AC 200 ... 240, ± 10%, 47 ... 63 Hz			
Output voltage		3 AC 0 - Mains voltage			
Rated output current	rms [A]	7.0	9.5	12.5	16.0
Typical input current	rms [A]	6.6	9.1	11.8	15.1
Rec. mains fuse	slow-blowing [A]	16	20	20	25
Max. mains fuse	RK5 or faster fuses, min 230V	10 A	30 A	30 A	30 A
	Bussmann	FRS-R-10	FRS-R-30	FRS-R-30	FRS-R-30
	Circuit breaker* min. 230V	10 A	25 A	25 A	25 A

***Circuit Breaker (inverse time trip type) as per UL489**

Electrical Data for AC Vector Drive

Table 9 - Electrical data 3~480V

Device type:	SK 2xxE...	Size 1 -550-340-A	-750-340-A	-111-340-A	-151-340-A	-221-340-A
Rated motor power	400V	0.55 kW	0.75 kW	1.1 kW	1.5 kW	2.2 kW
(4-pole standard motor)	480V	3/4 hp	1 hp	1-1/2 hp	2 hp	3 hp
Mains voltage		3 AC 380 ... 500V, -20% / +10%, 47 ... 63 Hz				
Output voltage		3 AC 0 - Mains voltage				
Rated output current	rms [A]	1.7	2.3	3.1	4.0	5.5
Typical input current	rms [A]	1.6	2.2	2.9	3.7	5.7
Rec. mains fuse	slow-blowing [A]	10	10	10	10	10
Max. mains fuse	RK5 or faster fuses, min 230/400V	5.0 A	5.0 A	10 A	10 A	10 A
	Bussmann	FRS-R-5	FRS-R-5	FRS-R-10	FRS-R-10	FRS-R-10
	Circuit breaker* min. 230/400V	5.0 A	5.0 A	10 A	10 A	10 A

Device type:	SK 2xxE...	Size 2 -301-340-A	-401-340-A	Size 3 -551-340-A	-751-340-A
Rated motor power	400V	3.0 kW	4.0 kW	5.5 kW	7.5 kW
(4-pole standard motor)	480V	4 hp	5 hp	7-1/2 hp	10 hp
Mains voltage		3 AC 380 ... 500V, -20% / +10%, 47 ... 63 Hz			
Output voltage		3 AC 0 - Mains voltage			
Rated output current	rms [A]	7.5	9.5	12.5	16.0
Typical input current	rms [A]	7.0	8.3	11.7	15.0
Rec. mains fuse	slow-blowing [A]	16	16	20	25
Max. mains fuse	RK5 or faster fuses, min 230/400V	10 A	30 A	30 A	30 A
	Bussmann	FRS-R-10	FRS-R-30	FRS-R-30	FRS-R-30
	Circuit breaker* min. 230/400V	10 A	25 A	25 A	25 A

***Circuit Breaker (inverse time trip type) as per UL489**

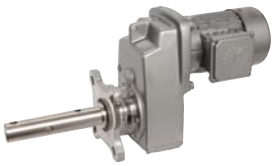
Product Overview

UNICASE™ SPEED REDUCERS

HELICAL IN-LINE
- Foot or Flange Mount
- Torque up to 205,000 lb-in
- Gear ratios – 1.82:1 to over 300,000:1

NORDBLOC®.1 HELICAL IN-LINE
- Foot or Flange Mount
- Torque up to 26,550 lb-in
- Gear ratios – 1.88:1 to over 370:1

PARALLEL HELICAL CLINCHER™
- Shaft, Flange or Foot Mount
- Torque up to 797,000 lb-in
- Gear ratios – 4.26:1 to over 300,000:1



SCP SCREW CONVEYOR PACKAGE
- Shaft, or Flange Mount
- Torque up to 53,100 lb-in
- Gear ratios – 4.32:1 to over 1500:1

RIGHT ANGLE HELICAL-BEVEL 2-STAGE
- Foot, Flange or Shaft Mount
- Torque up to 5,840 lb-in
- Gear ratios – 4.1:1 to 72:1

RIGHT ANGLE HELICAL-BEVEL
- Foot, Flange or Shaft Mount
- Torque up to 283,000 lb-in
- Gear ratios – 8.04:1 to over 300,000:1

RIGHT ANGLE HELICAL-WORM
- Foot, Flange or Shaft Mount
- Torque up to 27,585 lb-in
- Gear ratios – 4.40:1 to over 300,000:1

HIGH PERFORMANCE MOTORS & BRAKEMOTORS

INVERTER/VECTOR DUTY
- Standard or Energy Efficient
- Integral, NEMA or Metric IEC
- 1/6 to 250 hp

UNICASE™ SPEED REDUCERS

MINICASE™ RIGHT ANGLE WORM
- Foot, Flange or Shaft Mount
- Torque up to 3,540 lb-in
- Gear ratios – 5:1 to 500:1

FLEXBLOC™ WORM
- Modular bolt-on options
- Torque up to 4,683 lb-in
- Gear ratios – 5:1 to 3,000:1

MAXXDRIVE™ LARGE INDUSTRIAL GEAR UNITS PARALLEL HELICAL
- Modular bolt-on options
- Torque up to 4,683 lb-in
- Gear ratios – 5:1 to 3,000:1

MAXXDRIVE™ LARGE INDUSTRIAL GEAR UNITS HELICAL-BEVEL
- Modular bolt-on options
- Torque up to 4,683 lb-in
- Gear ratios – 5:1 to 3,000:1

NORDAC AC VECTOR DRIVES

SK200E FAMILY
- Decentralized, high performance
- 380-480V, 3-phase to 10 hp
- 200-240V, 3-phase to 5 hp
- 200-240V, 1-phase to 1.5 hp
- 100-120V, 1-phase to 1 hp

SK500E FAMILY
- Compact, high performance
- 380-480V, 3-phase, to 50hp
- 200-240V, 3-phase, to 15hp
- 200-240V, 1-phase, to 3hp
- 110-120V, 1-phase, to 1.5hp

SK700E FAMILY
- Flexible high performance
- 380-460V, 3-phase, to 200hp

DRIVESYSTEMS
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