SETPOINT CONVERTER ± 10V

Part number: 278 910 320

Adapter module

NOTICE	Validity of this document

This document is only valid in combination with the operating instructions of the relevant drive unit and under strict compliance with the safety and warning instructions which they contain. All of the information that is relevant for a safe start-up of this module and the drive unit is only available under these conditions.

Scope of delivery

1 x	Module	Setpoint converter

Usage area

The analog inputs of type SK 500E frequency inverters of size 1 to 4 can only process unipolar 0 - 10 V signals. If a bipolar analog signal (± 10 V) is available, this must be previously transformed by the setpoint converter.

Technical data

Module

Ambient temperature	0°C … +50 °C		Weight	50 g
Protection class	IP00		Dimensions [mm]	L x W x H: 60 x 45 x 40

Electrical data

Electrical connection	Screw terminals		Cross-section	20-16 AWG
Supply voltage	15 V DC		Connection terminals	(0.5 – 1.5 mm^2)
Analog signal (input)	± 10 V		Power consumption	10 mA (own consumption)
Analog signal (output)	0 - 10 V			

Installation

| Installation location	Inside of a control cabinet, in the immediate vicinity of the relevant frequency inverter
Fastening	Standard TS 35 mounting rail (snap-on rail according to EN 50022)

Connections

Connect the signal cables as follows.

Terminal 1:	AIN 1, 0…10 V signal (OUT)
Terminal 2:	n. c.
Terminal 3:	+/- 10 V signal (IN, setpoint source)
Terminal 4:	n. c.
Terminal 5:	15 V supply voltage
Terminal 6:	GND
Terminal 7:	10 V Reference voltage
Terminal 8:	GND

Electrical connection (example)
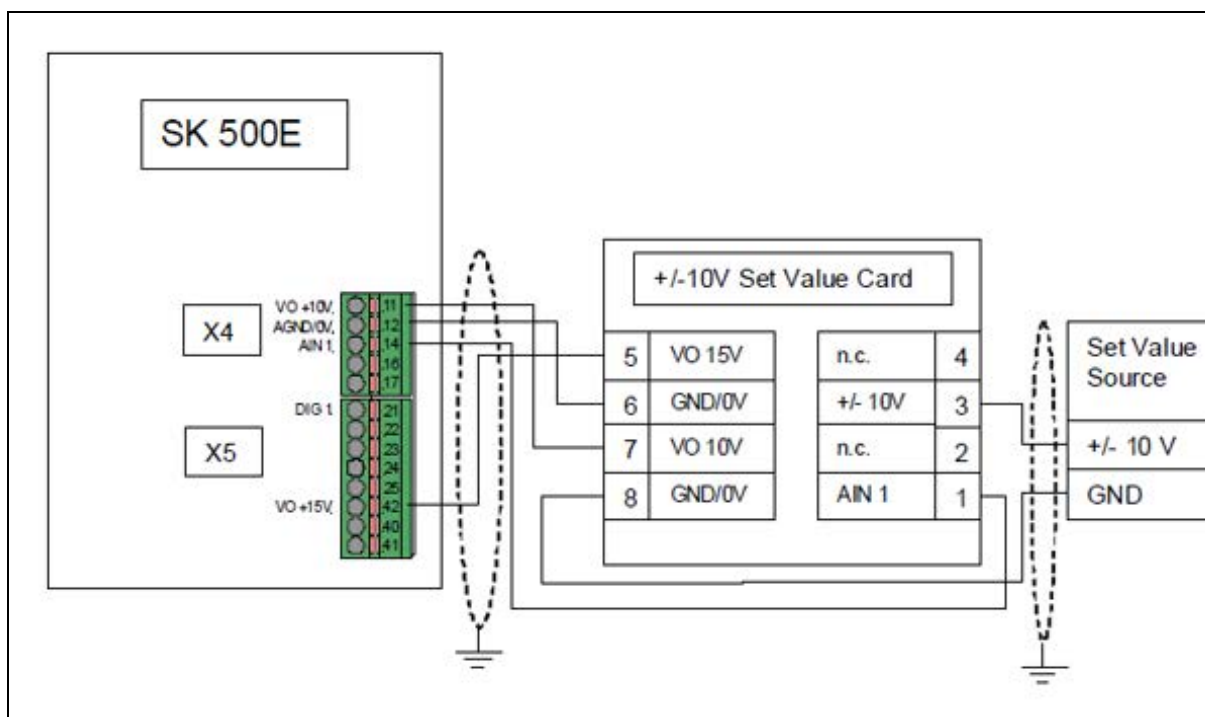
Connection should preferably be made with a shielded cable.

The +/- setpoint input is referenced to ground.

Contact 3 and 8 must be bridged if the analog setpoint is not used.

Parameters

The following parameters of the frequency inverter are relevant for adaptation of the analog input function to the particular requirements:

| Parameter	Meaning	Remarks	Setting
P400	Function Analogue input	Analog input function *	1
P401	Mode analog input	Definition of working profile	1
P402	Adjustment 1: 0 %	Definition of 0% value	5.0
P403	Adjustment 1: 100 %	Definition of 100% value	0.0

Value	Description*
00	No function
01	Setpoint frequency
…	

* For details, refer to the frequency inverter manual.

Note

The bipolar signal (± 10 V) is converted into a unipolar 0 – 10 V signal by the module. The signal is depicted inverted. For correct processing, the parameterisation of the frequency inverter must be adapted accordingly → *P402 therefore corresponds to 100 % adjustment, P403 corresponds to 0 % - adjustment*.

In order to correctly depict the entire setting range in spite of the 50% smaller value range, the 100% value should not be set to 10 V, but rather to 5 V (P402), see diagram below.
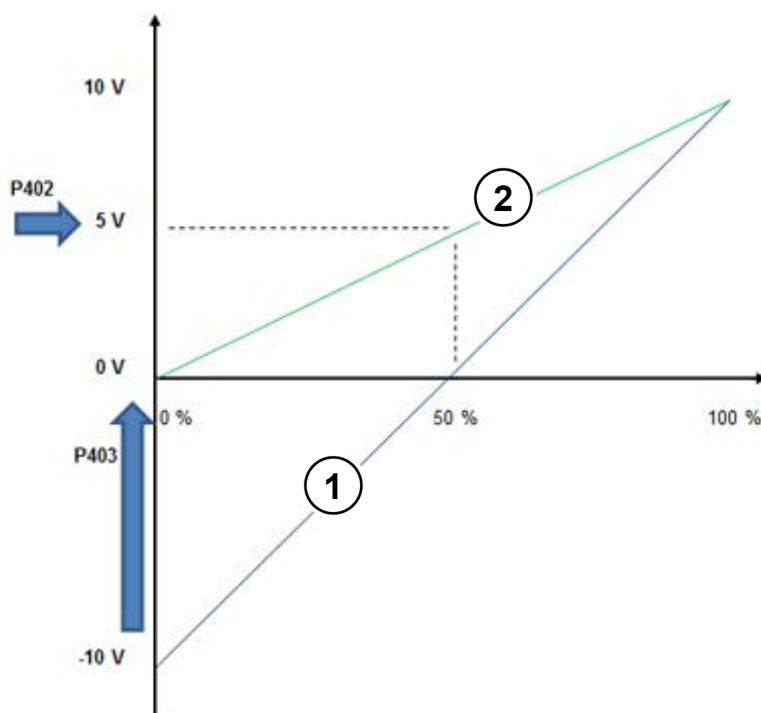
1 =	**Signal curve (-10 … +10 V)** Original curve
2 =	**Signal curve (0 … 10 V)** Converted curve

Additional documentation and software (www.nord.com)

Document	Designation
BU 0500	SK 500E - SK 535E frequency inverter manual
BU 0505	SK 540E - SK 545E frequency inverter manual

Software	Meaning
NORD CON	Parameterisation and diagnostic software