GETRIEBEBAU NORD
Member of the NORD DRIVESYSTEMS Group

V/I CONVERTER 10V/20mA

Part number: 278 910 315

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	V/I converter

Field of use

The module is used to convert analog (0 – 10 V) output signals of a frequency inverter into equivalent current signals (0 – 20 mA). This makes it possible to evaluate analog actual values of the frequency inverter, e.g. with a PLC with a current signal input (0/4 – 20 mA).

Technical data

Module

Ambient temperature	0°C … +50 °C
Protection class	IP00

Weight	50 g
Dimensions [mm]	L x W x H: 87 x 25 x 73

Electrical data

Electrical connection	Screw terminals
Supply voltage	24 VDC ± 10 %
Analog signal (input)	0 - 10 V
Analog signal (output)	0 – 20 mA (corresponding to 0 - 10 V)

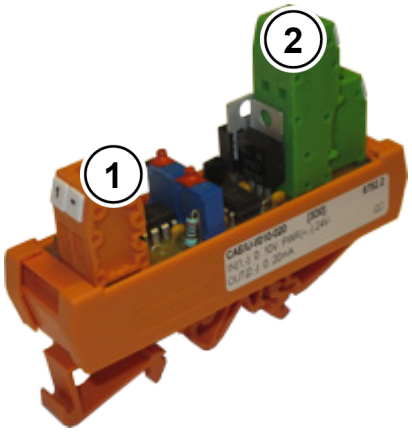
Cross-section Connection terminals	22-14 AWG (0.2 – 2.5 mm^2)
Power consumption	25 mA (own consumption)
Load resistance	< 500 Ω

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)

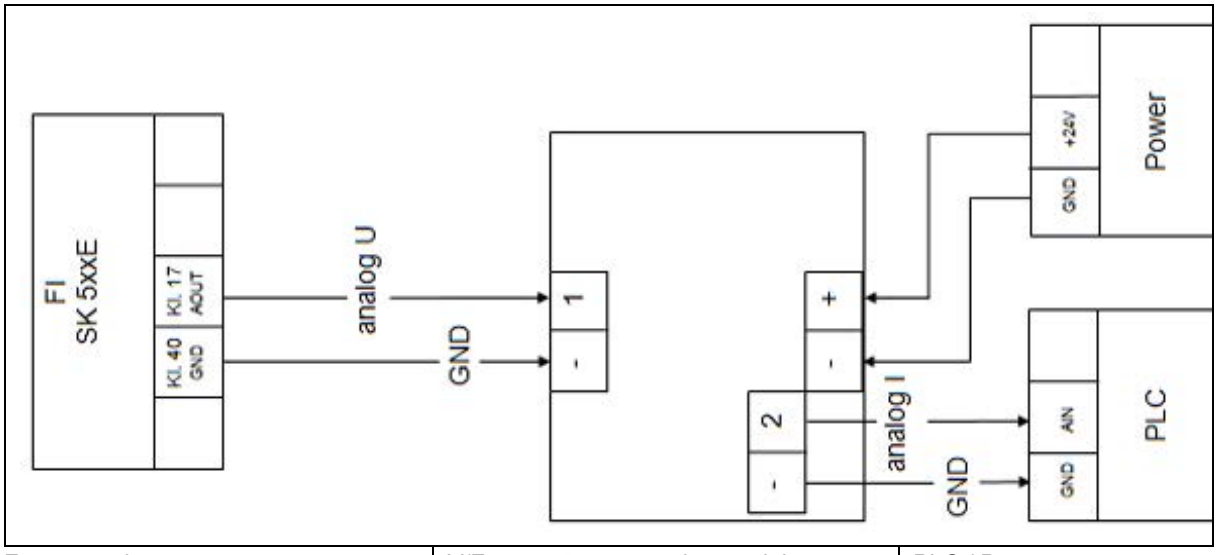
Connections

Connect the signal cable according to the adjacent illustration.



1	*Frequency inverter (signal source)*	
	Terminal **1**:	0 – 10 V analog signal from device (FI analog output)
	Terminal **-**	GND
2	*Evaluation device (e.g. PLC) (signal load)*	
	Terminal **2**:	0 – 20 mA analog signal (PLC analog input)
	Terminal **-**	GND
	Terminal **+**:	24V supply voltage
	Terminal **-**	GND

Electrical connection (example)



Frequency inverter | V/F converter connection module | PLC / Power

Parameters

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

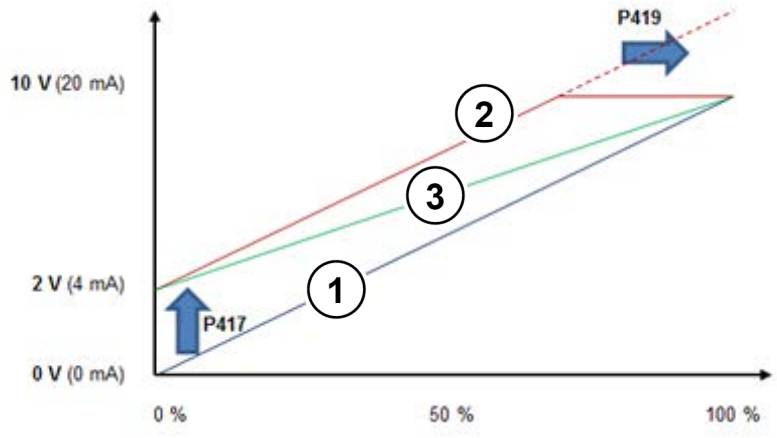
Parameter	Meaning	Remarks
P417	Analog output offset	
P418	Functional Analogue output	Refer to manual for function*
P419	Standard Analogue output	Standardisation of analog signal

* For details, refer to the frequency inverter manual.

Value	Description*
00	No function
01	Actual frequency
02	Actual speed
03	Current
…	

Note

In order to depict a signal which is fail-safe in case of wire break (2 – 10 V → 4 – 20 mA), an offset of 2 V (P417 = 2.0) must be parameterised. In this case, the output must also be standardised in order to correct for the associated shift of the maximum value from 10 to 12 V (Parameter P419 = 120%), see diagram below.



1 =	**Signal curve (0 … 10 V)**
2 =	Shift due to offset (P417)
3 =	Correction due to standardisation (P419) **Signal curve (2 … 10 V)**

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