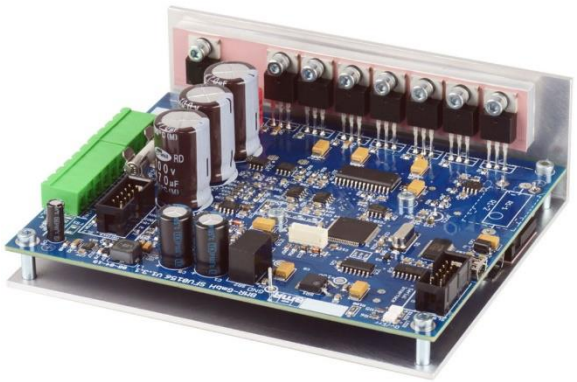
Short Instruction for Use
HF Inverter e@syDrive® 4310 (IP 00)

EN



INDUSTRIAL DRIVES

SycoTec

CAUTION

This short instruction for use includes only the essential control functions. It does not however replace the manual "Frequency Converter SFU 0156" which comes with the supplied CD!

► *The safety information has to be observe before commissioning!*

Content

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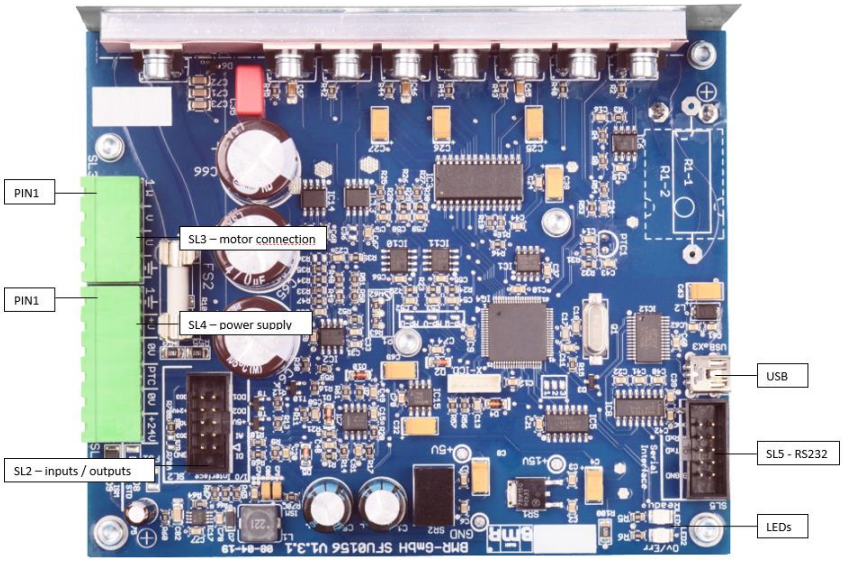
CE

1 Scope of Supply

HF Inverter e@syDrive® 4310 (IP 00) (Drive System SFU 0156)	Material no. 2.001.2287
SycoTec – Short Instruction For Use HF Inverter e@syDrive® 4310 (IP 00)	Material no. 2.001.2333
BMR – CD "Manuals & Software"	

2 Connections



3 Motor

Name	I/O	Meaning	Pin
W	O	Motor phase W	SL3/1
V	O	Motor phase V	SL3/2
U	O	Motor phase U	SL3/3
PE		Protective conductor	SL3/4

3.1 Motor Temperature Sensor

Name	I/O	Meaning	Pin
PTC / KTY / PT1000	I	Temperature sensor motor	SL4/4
GND PTC / KTY / PT1000		Temperature sensor motor (GND)	SL4/5

3.2 Assignment of the spindle characteristics

Assignment	Type of motor spindle
1	4010, 4025, 4026, 4029
2	4033 AC, 4033 AC-ESD
3	4033 AC-2ST-60, 4033 AC-ESD-LS-2ST-60
4	4033 AC-LN15, 4033 AC-LN15-ESD
5	4015 DC, 4015 DC-G, 4015 DC-M, 4015 DC-R
6	4020 DC
7	4025 DC-T, 4025 DC-T "sealing air"
8	4033 DC
9	4033 DC-T

4 Voltage Supply

4.1 Power supply

Name	I/O	Meaning	Pin
+U	I	Supply voltage +	SL4/2
0V	I	Supply voltage -	SL4/3

Voltage range: 24 up to 85 V DC

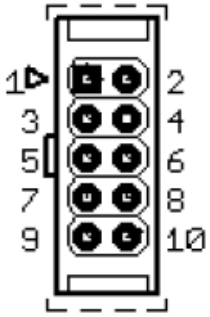
⚠ *CAUTION*
Not protected against voltage reversal.

4.2 Logic supply

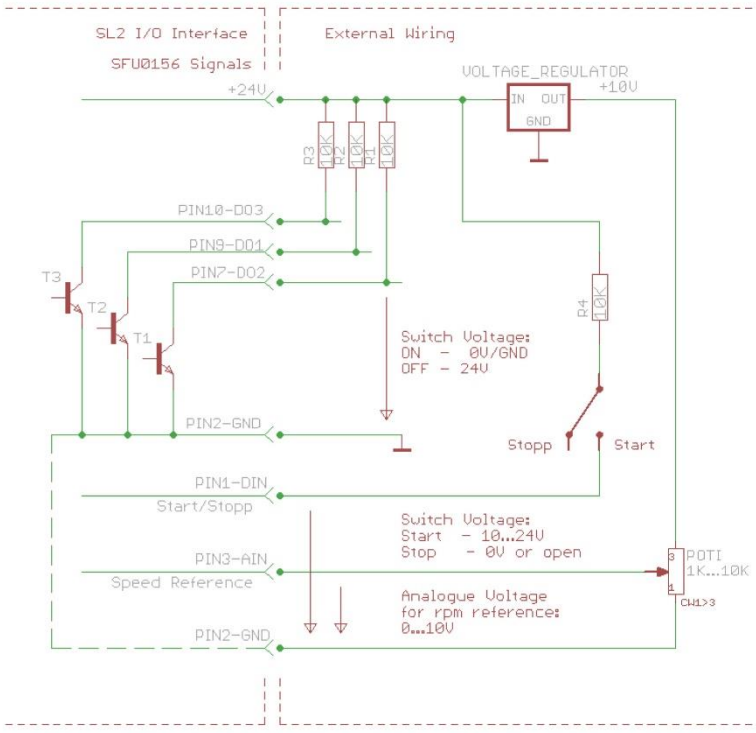
Name	I/O	Meaning	Pin
0V (24V)	I	Logic Supply voltage -	SL4/5
+24V (max. 30V)	I	Logic Supply voltage +	SL4/6

5 Digital and Analog Inputs / Outputs

Name	I/O	Meaning	Pin
DIN1	I	Start/Stop	SL2/1
DOUT1	O	Inverter ready (for free configuration)	SL2/9
DOUT2	O	Overload (for free configuration)	SL2/7
DOUT3	O	Speed Reached (for free configuration)	SL2/10
AIN1	I	Set value for rotational speed	SL2/3
AOUT	O	Load percent 0…10V (for free configuration)	SL2/6
GND	I/O	Ground	SL2/2,4
+24V	O	Auxiliary supply +24 V (10mA$_{max}$)	SL2/8
+5V	O	Auxiliary supply +5 V (10mA$_{max}$)	SL2/5



6 Example for I/O Wiring



6.1 Example of Remote Control Element

7 Operation

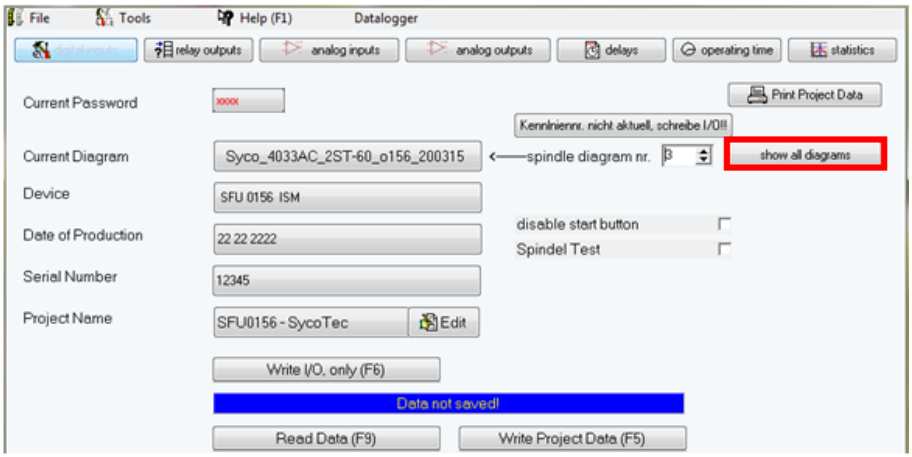
Start / Stop
Start and Stop of the motor spindle with digital input 1 (SL2.1).
The switching levels for "OFF=0" are 0…7V and for "ON=1" are 18…24V.

Set value of rotational speed
There are two possibilities for scaling the rotational speed:

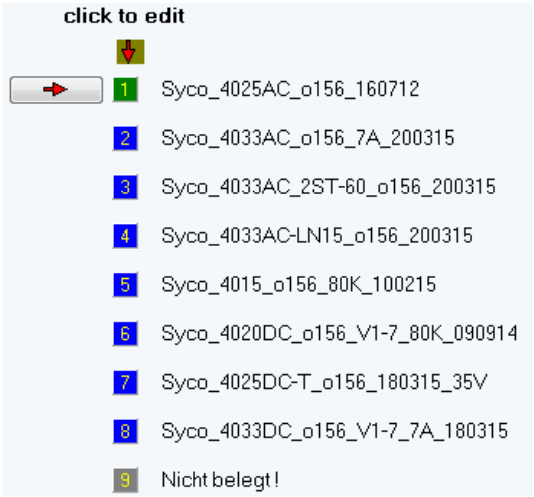
0–10V / Min-Max	U < 0.8V -> standstill	U = 0.8V -> minimum speed
1V / 10,000 rpm	U > 0.5V -> minimum voltage	

8 Spindle Selection

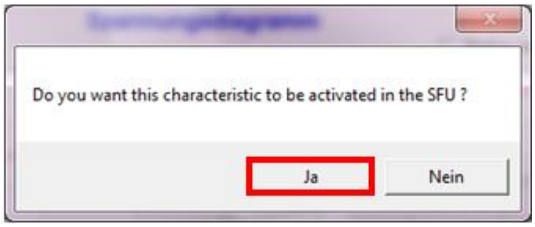
The desired motor spindle will be selected with the Windows PC software SFU-Terminal (http://www.bmr-gmbh.de/software.htm) via a USB mini port.
To activate a different spindle select "show all diagrams".



Click on the desired characteristic.



Confirm selection.

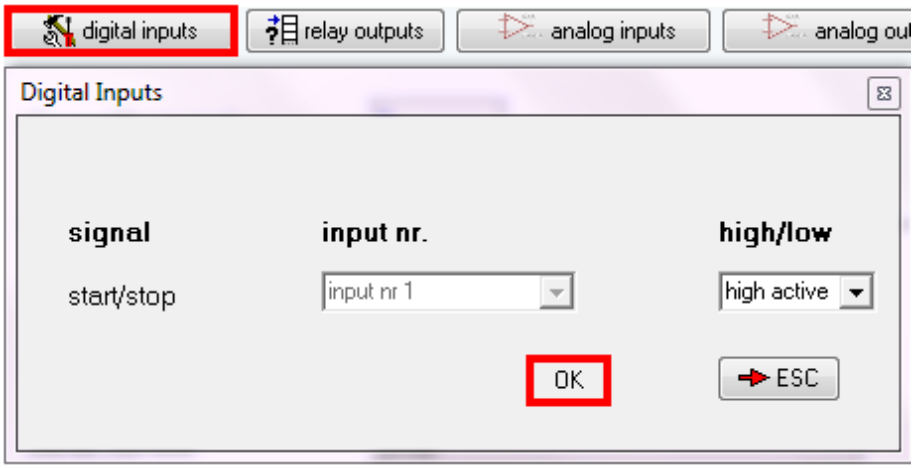


9 Configuration of Digital and Analog Inputs and Outputs

The digital and analog inputs and outputs are freely configurable with the Windows PC software SFU-Terminal (http://bmr-gmbh.de/download%20sfu.htm) via a USB mini port.
The scaling of the analog input can be modified, as well as the function of the open collector outputs can be defined freely.
The functions of the table "Digital and analog inputs and outputs" are the factory default setup.

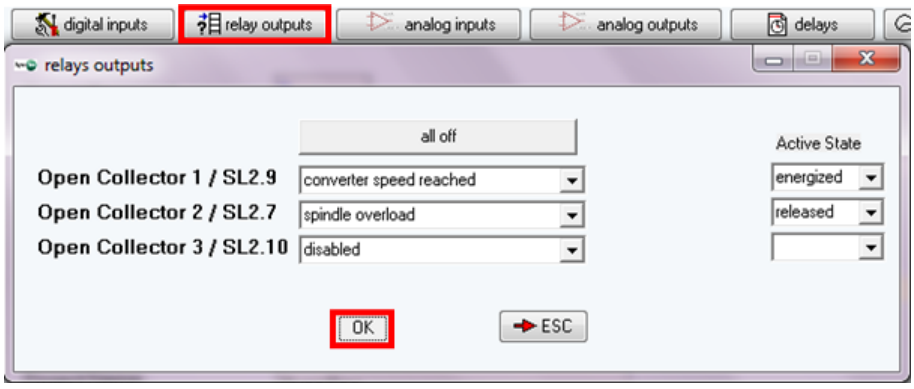
9.1 Digital Inputs

With the "digital inputs" button assign the desired signal to the "input nr." and define the logic level.
Confirm with "OK".



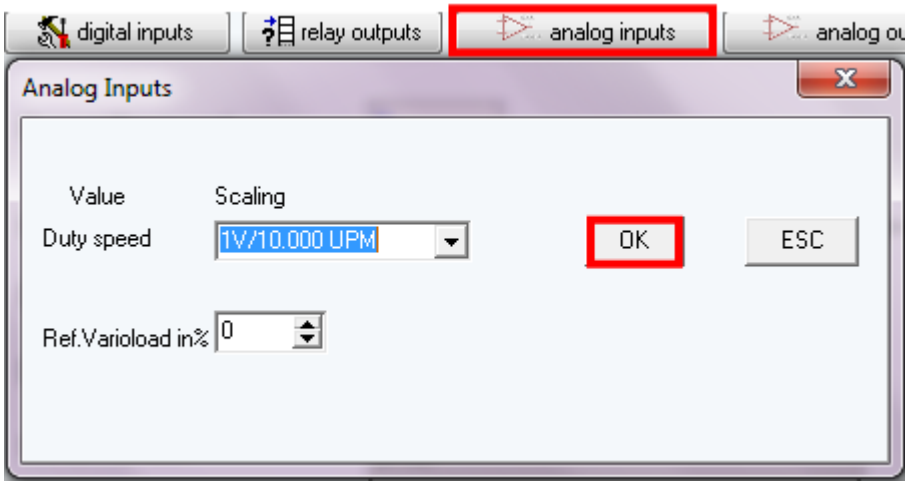
9.2 Digital Outputs

With the "relay outputs" button assign the desired message to the relay. Confirm with "OK".



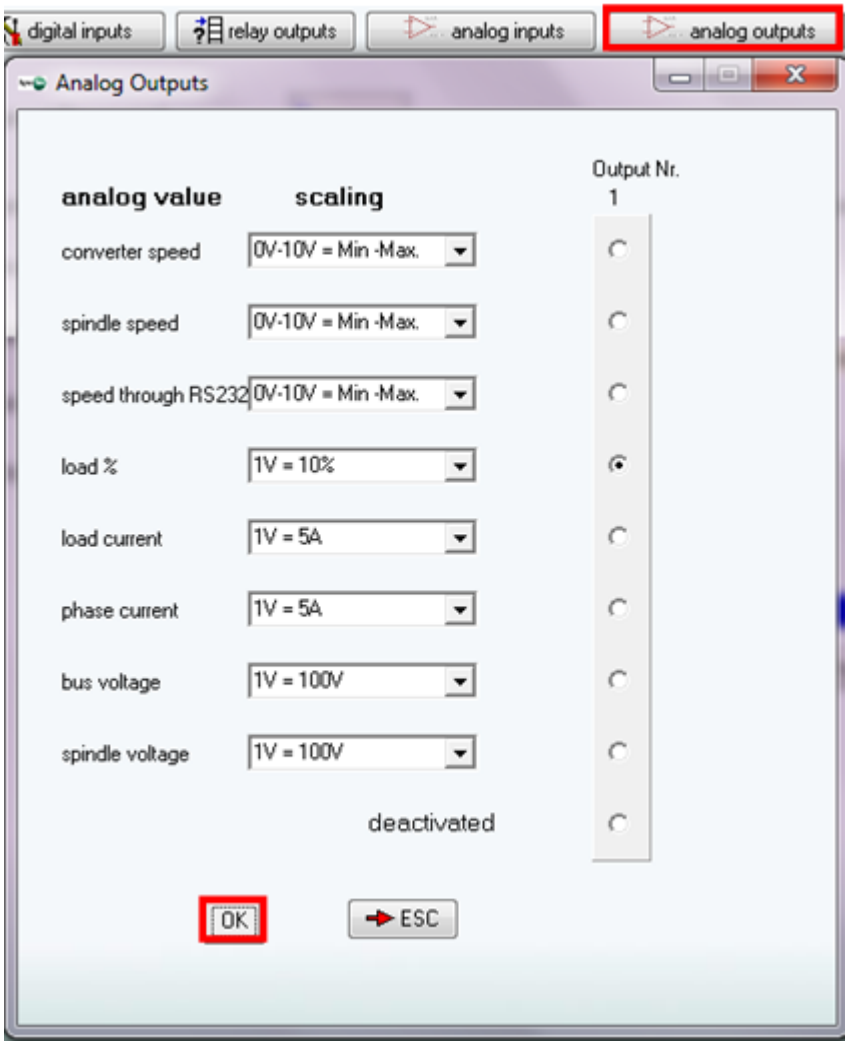
9.3 Analog Inputs

With the "analog inputs" button for the duty speed setting select the analog input and set the required scaling.
Confirm with "OK".



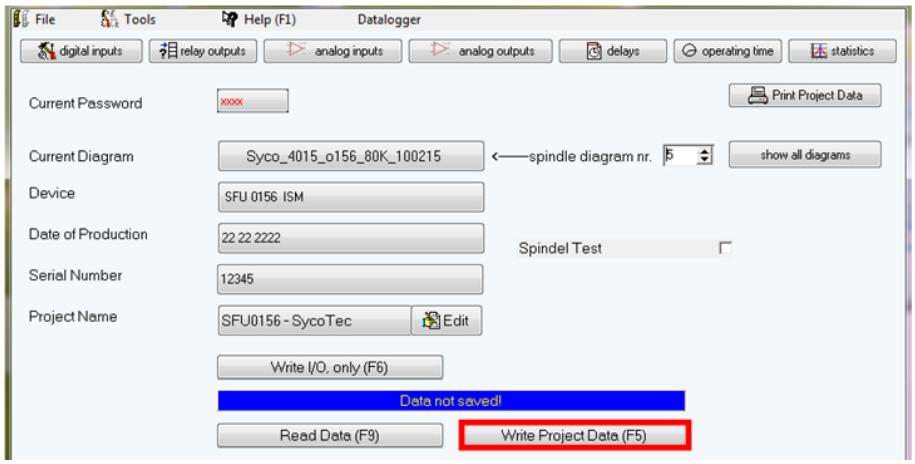
9.4 Analog Outputs

With the "analog outputs" button select the desired analog value and set the required scaling.
Confirm with "OK".



9.5 Write Configuration into the Inverter

To write the configured inputs and outputs into the inverter select "Write Project Data (F5)".



10 Status Display

The LEDs are indicating the current operational status of the inverter.

GREEN	RED	Function
OFF	OFF	Inverter not ready
ON	OFF	Inverter ready
ON	ON	Overload or error
OFF	ON	Inverter not ready, switch off because of error
OFF	Blinking	Internal error

11 Safety Functions

The following safety functions bring about controlled stop of the motor spindle according to predefined deceleration times:

- Safety stop because of inverter excess temperature
- Safety stop by overload
- Immediate safety stop by exceeding the maximum admissible motor spindle current
- Disabling the output stage for self-protection during breaking an AC motor spindle when regenerative feedback voltage of the spindle is generated, that exceeds the allowable internal limits.

Warranty Conditions

Under current SycoTec delivery and payment conditions, SycoTec undertakes warranty for satisfactory function and freedom from faults in material and manufacture for a period of 12 months from the date of sale certified by the vendor.
In the event of justifiable complaints, SycoTec shall supply spare parts or carry out repairs free of charge under warranty. SycoTec accepts no liability for defects and their consequences which have arisen or could have arisen as a result of natural wear and tear, improper handling, cleaning or maintenance, non-compliance with the maintenance, operating or connecting instructions, corrosion, impurities in the air supply or chemical or electrical influences which are unusual or not admissible in accordance with SycoTec's standards. The warranty claims shall become null and void if defects or their consequences can be attributed to interventions in or modifications to the product. Warranty claims can only be validated if they are notified immediately in writing to SycoTec.
A copy invoice or delivery note clearly showing the manufacture number shall be attached if products are returned.

CE Declaration of Conformity

The CE Declaration of conformity may be requested or downloaded from www.sycotec.eu.

2.001.2333 / 2022-03

(DE = original)

INDUSTRIAL DRIVES

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