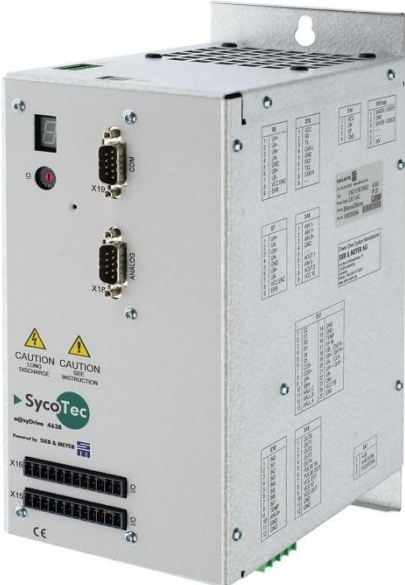


# Short Instruction For Use HF Inverter e@syDrive® 4638

EN



INDUSTRIAL DRIVES





*This short instruction for use includes only the essential control functions.*

*It does not however replace the Sieb & Meyer Hardware Description "Drive System SD2S" that must be downloaded before commissioning:*

*- on the SycoTec homepage at the download area under*  
<https://www.sycotec.eu/en/about-sycotec/downloads2/>

*respectively*

*- at Sieb & Meyer under*

<https://www.sieb-meyer.com/file-detail.html?item=421>

► *The safety information have to be observed before commissioning!*

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**1.0 Scope of Supply and Accessories**

1.1 Scope of Supply

HF Inverter e@syDrive® 4638  
 (Drive System SD2S / device variant 0362121EC)

Material no. 2.001.6091

SycoTec – Short Instruction For Use  
 HF Inverter e@syDrive® 4638

Material no. 2.001.8020

1.2 Accessories

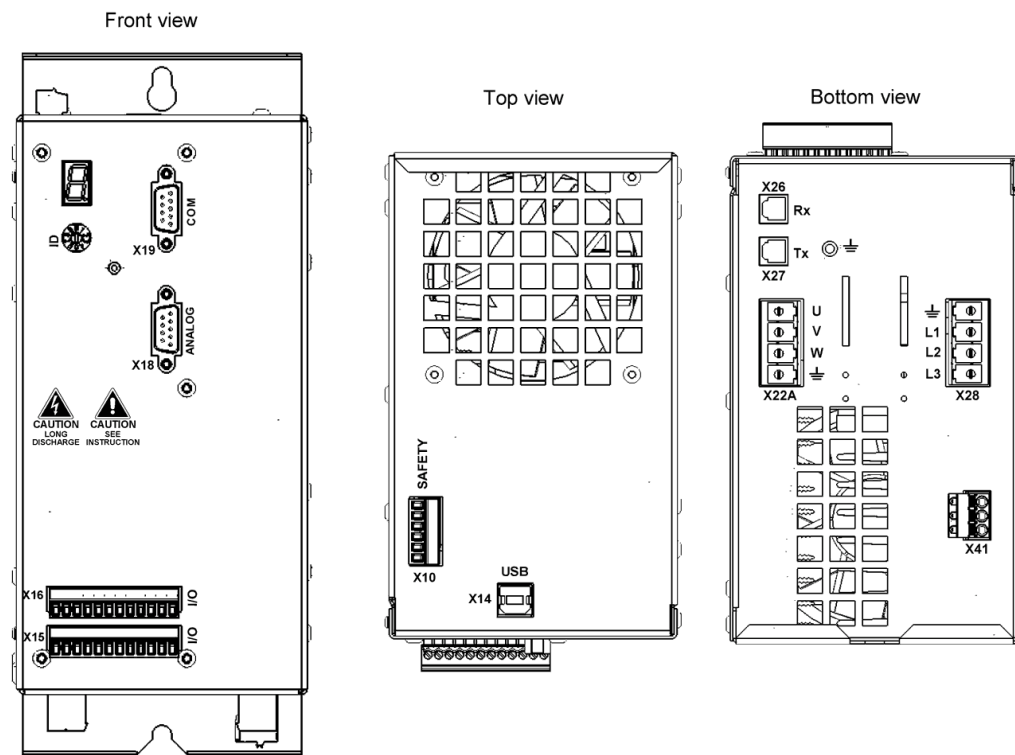
Motor choke (220 µH, 12 A<sub>eff</sub>)

Material no. 2.002.2384

Ballast resistor (400 W, 10 Ohm)

Material no. 2.002.2385

**2.0 Connections**



**3.0 Safety Circuit and Restart Lock**

The power supply unit is only activated when SAFEA and SAFEB are connected. If the safety function is not required, pin1 and pin 3 must be bridged to pin 5.

Name	I/O	Meaning	Pin
SAFEA	I	Enable of safety circuit	X10/1
SAFEB	I	Enable of safety circuit	X10/3
24 V	O	Logic voltage 18 – 28 V	X10/6

The 24V output is not suited to supply external safety circuits.



#### 4.0 Motor

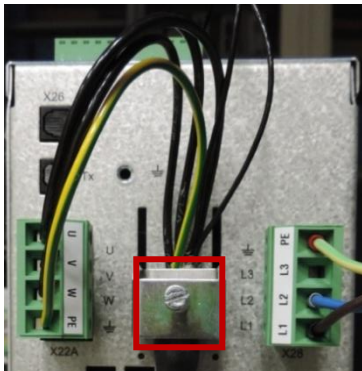
Name	I/O	Meaning	Pin
U	0	Motor phase U	X22A/U
V	0	Motor phase V	X22A/V
W	0	Motor phase W	X22A/W
PE		Protective conductor	X22A/PE

#### 4.1 Motor Temperature Sensor

Name	I/O	Meaning	Pin
Temp	I	Motor temperature sensor (towards GND)	X16/9
GND	I/O	Ground	X16/11,12

#### 4.2 Assignment of the Parameter Sets

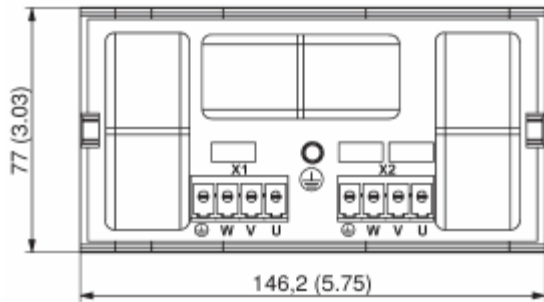
Assignment	Parameter set of motor spindle	Remark
P00	4060 E	
P01	4060 ER	
P02	4060 ER-S	
P03	4060/4061 AC	
P04	4060 AC-T	
P05	50100 AC-duo	
P06	4060/4061 DC-S_SVC	Motor spindle must be operated with an upstream choke / external inductance of 220 $\mu$ H
P07	4060/4061 DC-T_SVC	
P08	4064 DC SK_SVC	
P09	4064 DC HSK_SVC	
P10	5045 DC-HV 60.P4_SVC	
P15	4060/4061 DC-S_HSPWM	Alternative function types, without choke
P16	4060/4061 DC-T_HSPWM	
P17	4064 DC_HSPWM	



### 4.3 Connection choke

The connection X22A (Motor) of the frequency inverter is connected to connection X1 (Drive) of the choke. The motor phases are connected to X2 (Motor) of the choke.

X1 (Drive)			X2 (Motor)		
Name	Meaning	Pin (Choke)	Name	Meaning	Pin (Choke)
U	Motor phase U	X1/U	U	Motor phase U	X2/U
V	Motor phase V	X1/V	V	Motor phase V	X2/V
W	Motor phase W	X1/W	W	Motor phase W	X2/W
PE	Protective conductor	X1/⊕	PE	Protective conductor	X2/⊕



### 5.0 Power Supply

Name	I/O	Meaning	Pin
L1	I	Main supply	X28/L1
L2	I	Main supply	X28/L2
PE		Protective conductor	X28/PE

Voltage range: 150 V AC -10% to 230 V AC +10%

### 6.0 Digital and Analog Inputs / Outputs

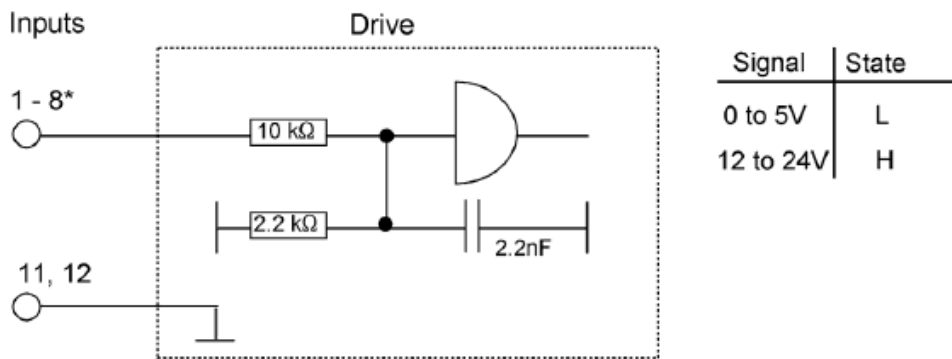
If you want to make use of the digital inputs and outputs, connect pin x15/9 to 24 V.

The functions / assignments of the inputs and outputs can be configured via the "drivemaster2" software. By default, the following functions / assignments are set.

6.1 Digital Inputs

Name	I/O	Function / Assignment	Pin
IN0	I	Switch on	X16/1
IN1	I	Operation enable	X16/2
IN2	I	Error reset	X16/3
IN6	I	Speed direction	X16/7
GND	I/O	Ground	X16/11,12
VCC-IO	I	24 V supply for IO	X15/9
VCC-OUT	O	24 V output for IO (max. 0,3 A)	X15/10

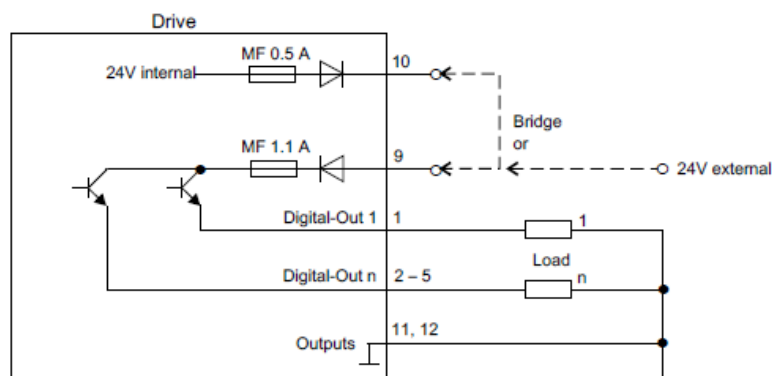
IN0 "Switch on" activates the controller, the holding current is applied to the motor spindle. If the controller is active, the motor spindle can be started with IN1 "Operation enable".



[\*] Yet another digital input is located at the connector X15, pin 6.

6.2 Digital Outputs

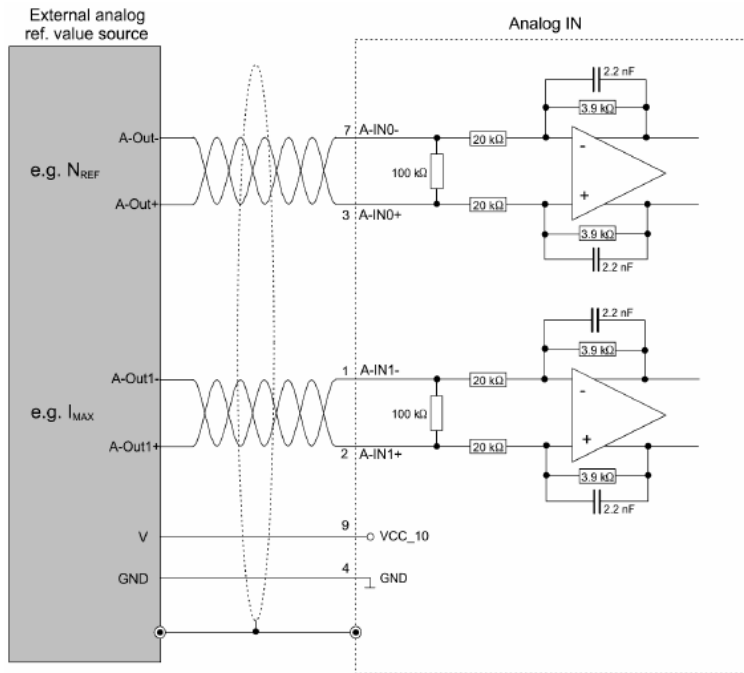
Name	I/O	Function/Assignment	Pin
OUT0	O	Ready type 1	X15/1
OUT1	O	M02 - Message operation enabled	X15/2
OUT2	O	M12 - Speed zero	X15/3
OUT3	O	M10 - Ref. value reached	X15/4
VCC-IO	I	24 V supply for IO	X15/9
VCC-OUT	O	24 V output for IO (max. 0,3 A)	X15/10
GND	I/O	Ground	X15/11,12



Every output can be loaded with 100 mA.

6.3 Analog Inputs

Name	I/O	Function/Assignment	Pin
AIN0+	I	Speed reference value	X18/3
GND	I/O	Ground	X18/4
AIN0-	I	Reference point for AIN0+ (bridge with ground)	X18/7
VCC_10	O	10 V supply voltage	X18/9

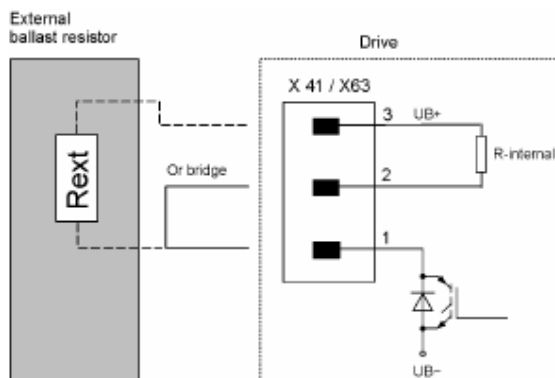


Voltage interface with input voltage range:  $\pm 10$  V  
 Can also be connected to potentiometer (500 Ohm – 5 kOhm)

7.0 External Ballast Resistor

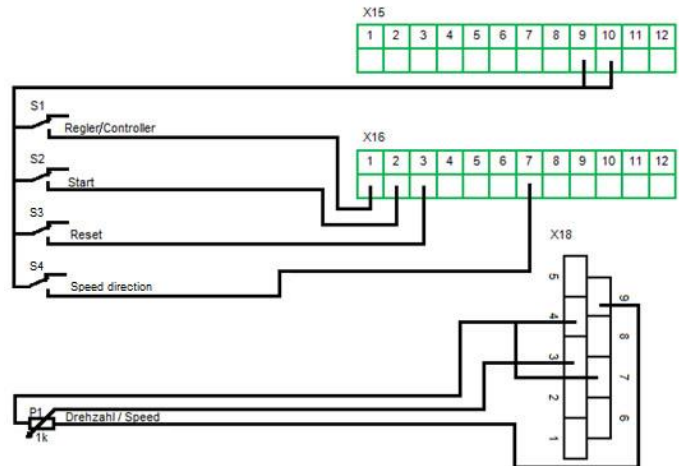
Name	Function / Assignment	Pin
Rextern	External ballast resistor	X41/1
Rintern	Internal ballast resistor	X41/2
UB+		X41/3

If no external ballast resistor is used, pin 1 and pin 2 of connector X41 must be bridged.  
 The technical data of the optionally connected external ballast resistor must be entered via the "drivemaster2" software.  
 By default no external ballast resistor is set.



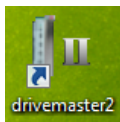


**8.0 Example of remote control element**

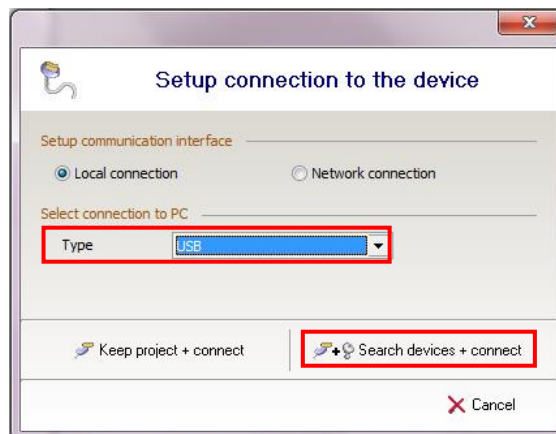
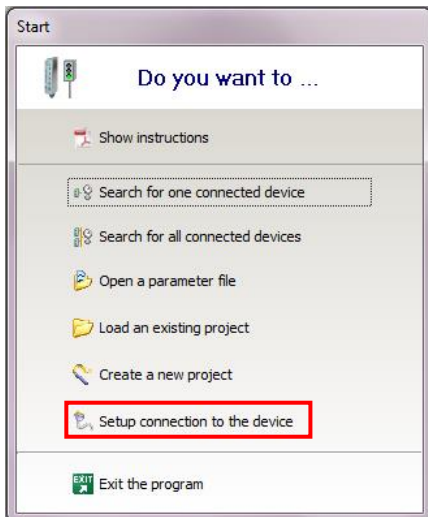


**9.0 Connecting to the computer**

- Connect the inverter via USB interface to the computer
- Plug in the inverter
- Start Sieb & Meyer "SD2 Windows software drivemaster2"  
<https://www.sieb-meyer.com/file-detail.html?item=413>

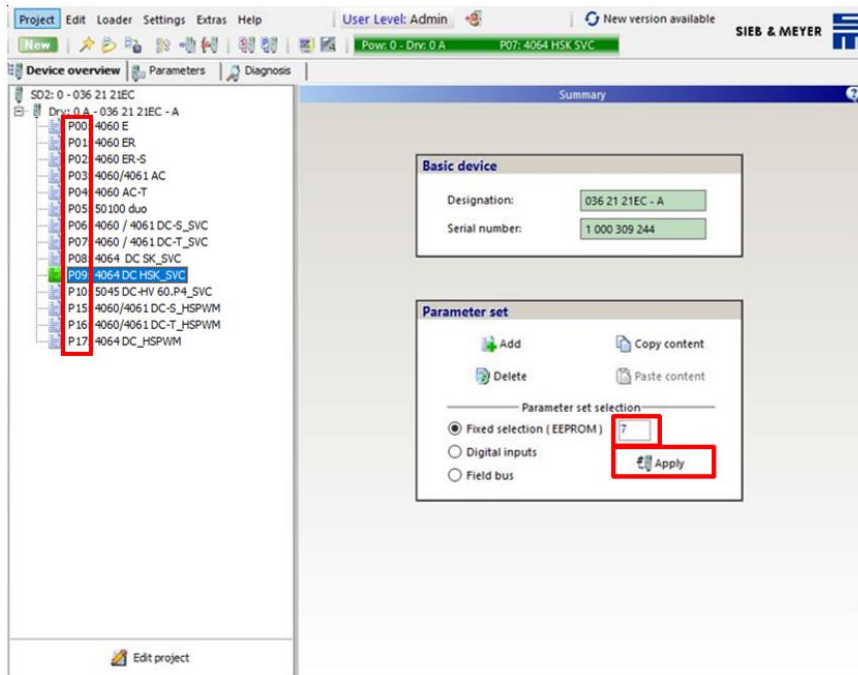


To establish a connection to the device click "Setup connection to the device", adjust "USB" for connection type and select "Search devices + connect".



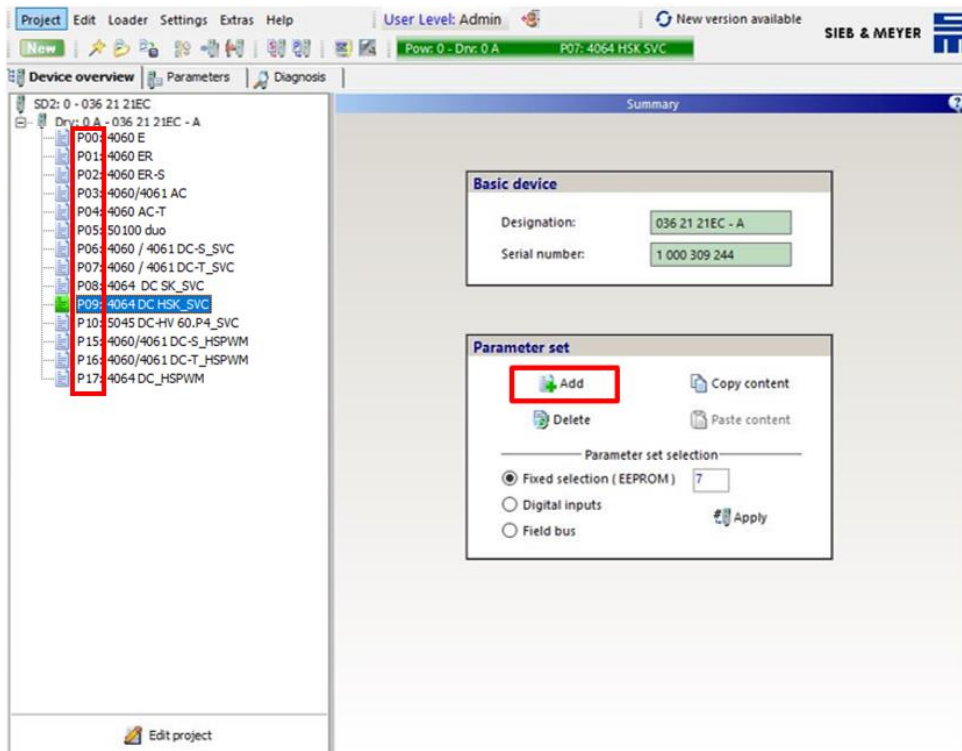
## 11.0 Activate another parameter set

To activate a different parameter file, enter the number (P00 ... Pxx) of the required parameter file and click "Apply".

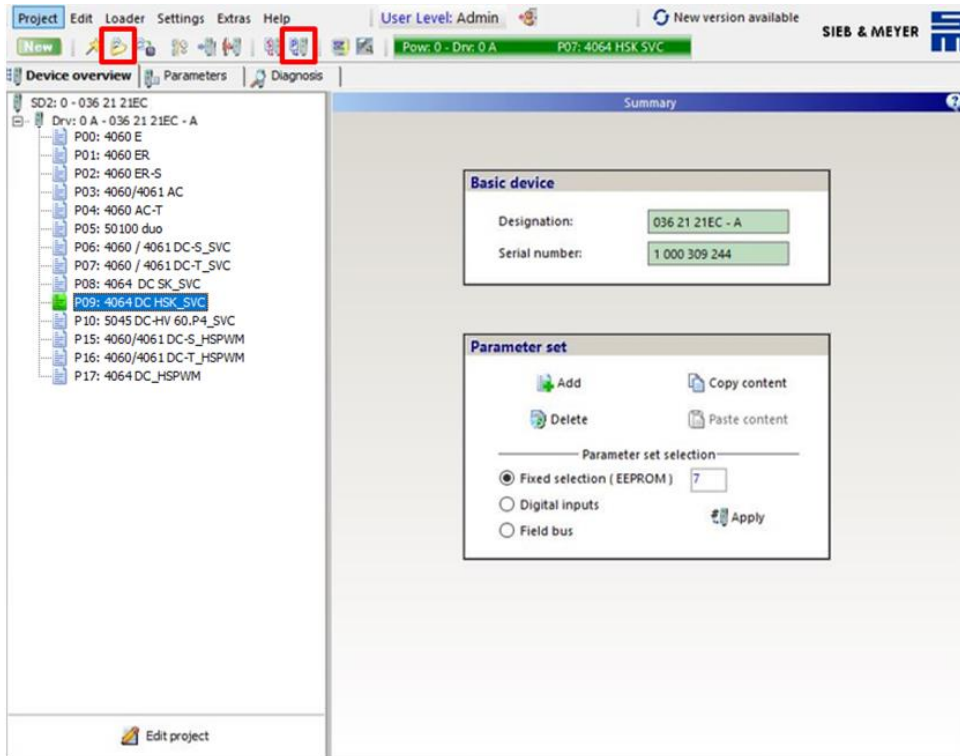


## 11.0 Load parameter file

Before opening the parameter file select the right position (Pxx) or add a new parameter set.

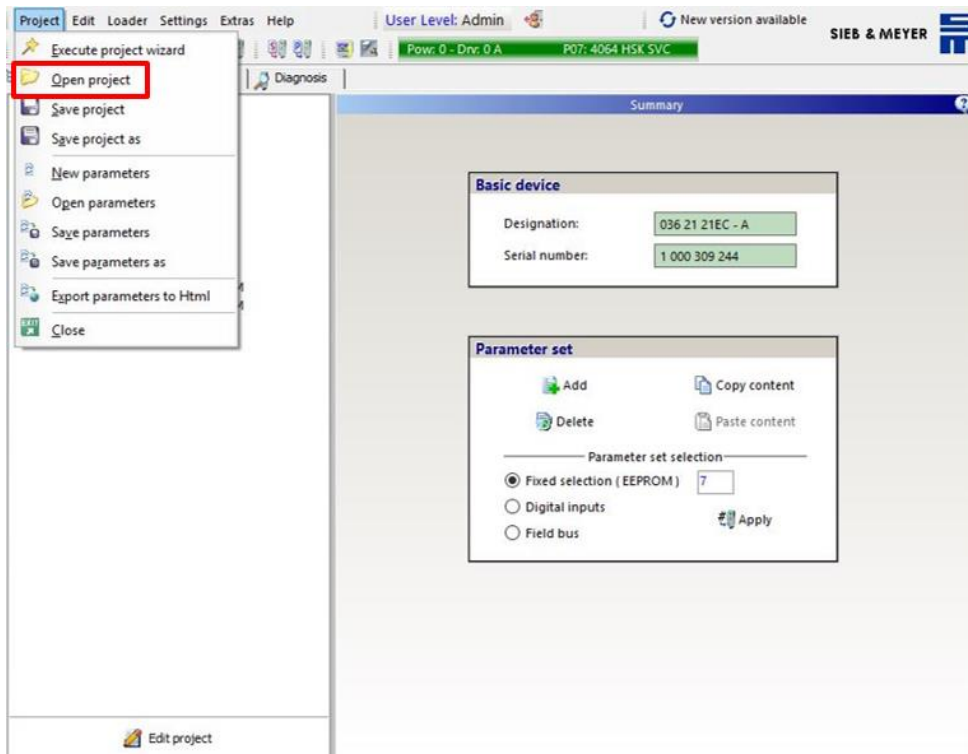


To open a parameter file click "Open parameters" on the toolbar and select the required parameter file.  
To write the parameter file into the inverter click "Write parameters to drive" on the toolbar.

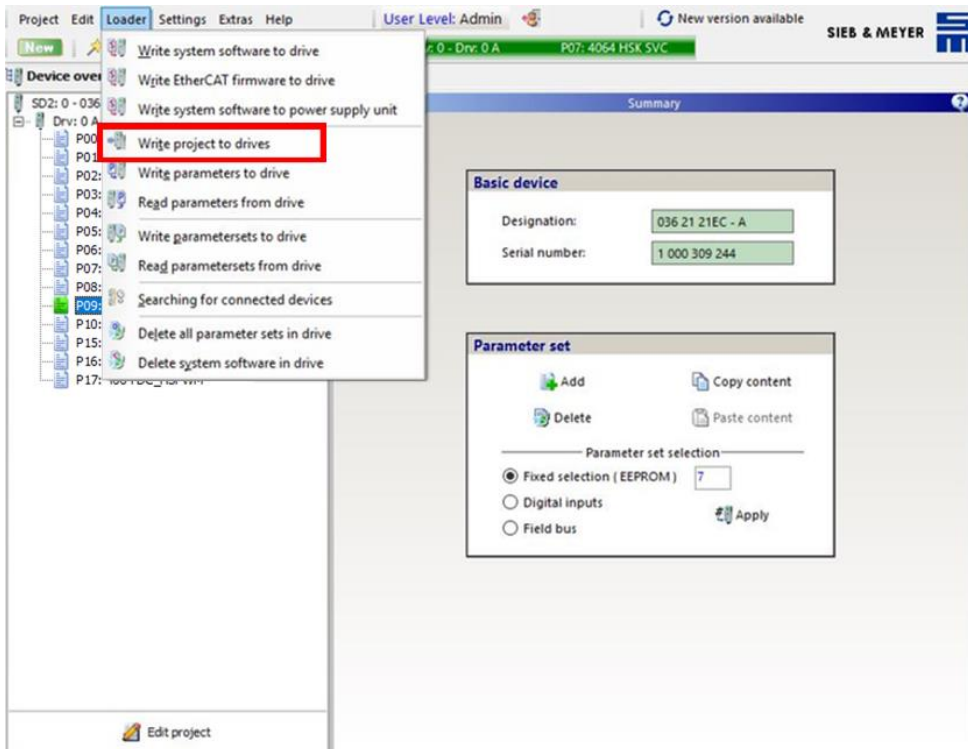


## 12.0 Load Project

To open a project select "Project" and then "Open project". Select the required project file and click "Open".



To write the project to the inverter select "Loader" in the menu bar and then "Write project to drive".



### 13.0 Status Display and Error Messages

The 7-segment display shows status and error messages.

All messages end with dot behind the last digit. When the first digit is "E.", there is a permanent error.

Examples:

1.		Startup Message - Controller is in boot loader mode: Display appears short-time when the device is booted and when the system software is loaded.
2.		Ready To Switch On - Controller is switched off - No error
3.		Controller Active - Controller is switched on - No error
4.		Error Message - Controller is switched off due to error E40 The error is not present anymore
5.		Persistent Error Message - Controller is switched off due to error E40 - The error is still present

**Warranty Conditions**

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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**

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The CE Declaration of conformity may be requested or downloaded from [www.sycotec.eu](http://www.sycotec.eu).

2.001.8020 / 2019-06

(DE = original)

## INDUSTRIAL DRIVES

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