FAULHABER

SC Programming Board
**6501.00088**

# Technical Manual

EN

WE CREATE MOTION

# Imprint

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by Dr. Fritz Faulhaber GmbH & Co. KG
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This technical manual has been prepared with care. Dr. Fritz Faulhaber GmbH & Co. KG cannot accept any liability for any errors in this technical manual or for the consequences of such errors. Equally, no liability is accepted for direct losses or consequential damages resulting from improper use of the devices.

The pertinent regulations regarding
safety engineering and interference suppression as well as the specifications in this technical manual must be complied with when using the equipment.

Subject to change without notice.

The respective current version of this technical manual is available on FAULHABER's internet site:
www.faulhaber.com

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# 1 Important Information

This technical manual describes the installation, configuration and use of the Programming Board 6501.00088 from FAULHABER.

- Please read through the complete technical manual before using the board.
- Keep this technical manual in a safe place for later use.
- FAULHABER is not liable for any data loss, damage or other problems which arise due to use of this board.

***NOTE***

*This Board is designed for configuration use only.*

## 1.1 Symbols used in this technical manual

***NOTE*** ***Note***

*This "Note" pictogram provides tips and recommendations for use and handling of the component.*

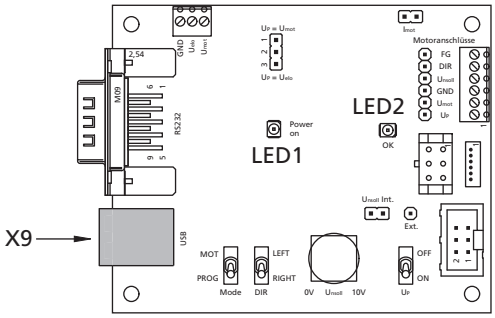
# 2 Install Motion Manager 5 Software

Install the respective current version of the FAULHABER Motion Manager software onto your PC. It can be downloaded from the FAULHABER internet site: www.faulhaber.com.

The appropriate USB driver which is needed to communicate with the board is automatically installed on your PC with the Motion Manager installation.

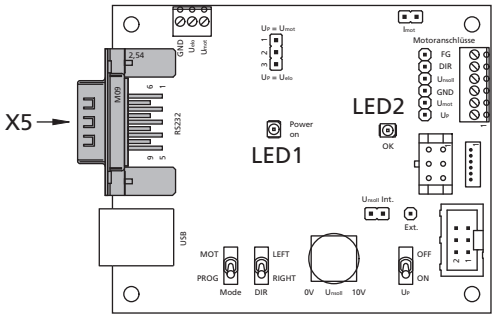
## 2.1 Using the USB interface (X9)

- Connect the Programming Board to a PC USB port via an USB cable type B.




## 2.2 Using the RS232 interface (X5)

- Connect the Programming Board to a PC RS232 COM port via a Null modem cable.

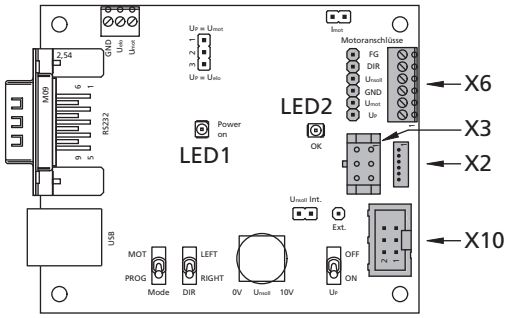


# 3 Connect the periphery

## 3.1 Speed Controller

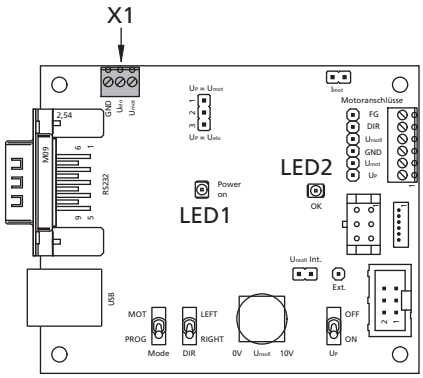
Connect your Speed Controller to the fitting terminal or connector:

- X2
- X3
- X6
- X10




## 3.2 Power supply (X1)

Connect the power supply to $U_{mot}$ and GND (X1).



# 3 Connect the periphery

## 3.2 Power supply (X1)

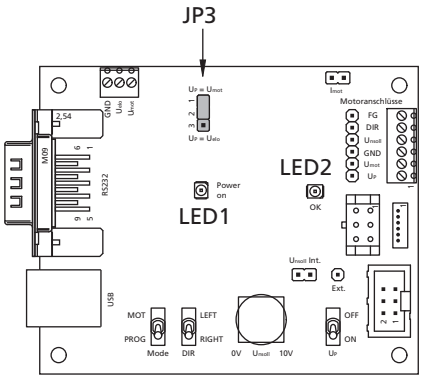
***Note***

*Pay attention to the correct position of Jumper JP3 (1-2; $U_P = U_{mot}$).*

*The maximum voltage of $U_{mot}$ depends on the speed controller.*

*It is recommended to use at least 10.5 V as minimum voltage of $U_{mot}$ to get 0 V – 10 V as setpoint voltage (= $U_{nsoll}$) via the potentiometer.*

*If you want to work with a lower motor voltage ($U_{mot}$), a second supply voltage (minimum 10.5 V) connected to $U_{elo}$ is needed and the Jumper JP3 has to be replugged to 2-3; $U_P = U_{elo}$.*



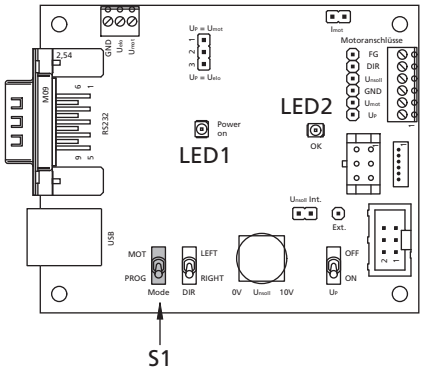
# 4 Establish Communication

Open the Motion Manager program and configure the software:

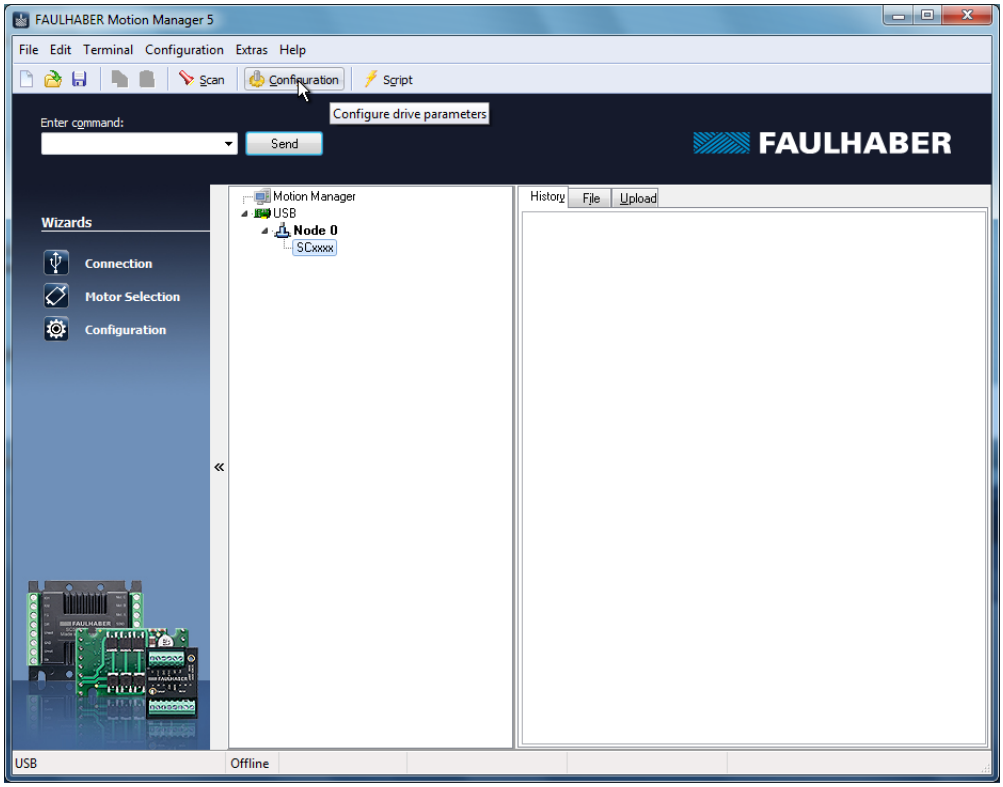
1. Choose the controller type “Speedcontroller” from the connection wizard and select the COM or USB Port and the baud rate.

   If the wizard doesn’t appear, click the connection button on the wizard bar.

2. Turn switch S1 to “PROG”

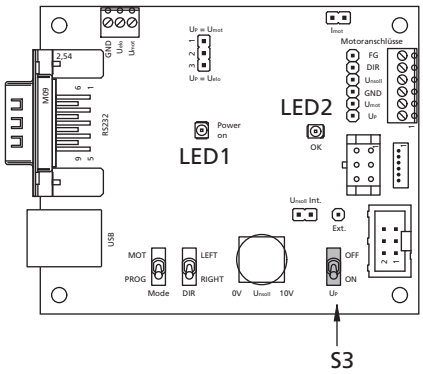


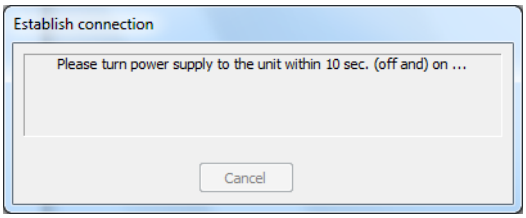

3. Click the “Configuration” button in the Motion Manager program.



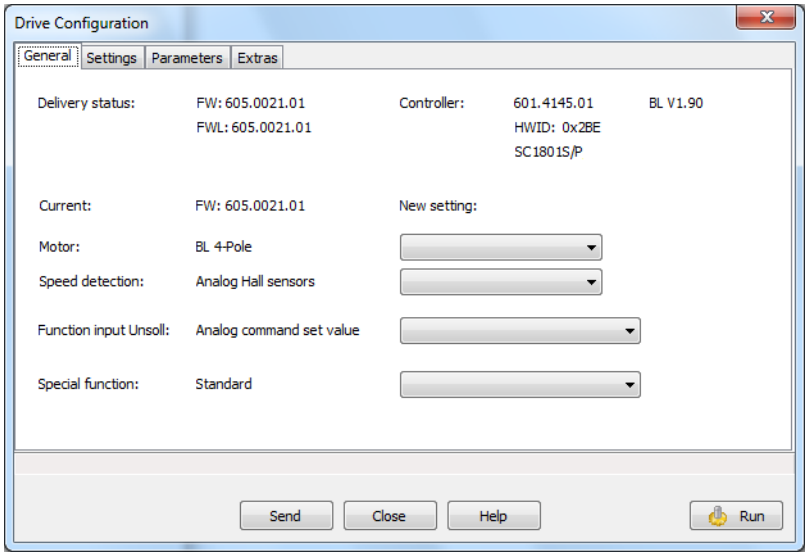
# 4 Establish Communication

4. Turn the power supply switch S3 “OFF” and “ON” again.




Now settings and parameters can be configured.




The changes are transferred to the Speed Contoller by using the button “Send”. By using the button “Run” the communication to the PC is disconnected and the Speed Contoller is activated.

The “Run” button changes to “Stop”. By pressing this button again you’ll return to config mode.

***Note***

*For detailed descriptions of all parameters and settings see the technical manual of the speed controller.*

# 5 Installing the USB Driver

## 5.1 System Requirements

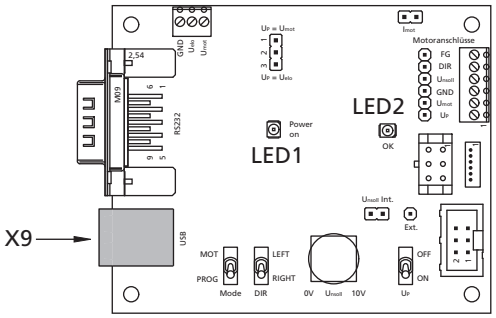
- PC running Microsoft Windows XP, Vista, 7 or 8.
- A free USB 1.1 or 2.0 connector.
- 10 MB hard disk space.

The driver "FAULHABER USBX Adapter" is used to operate the programming board via the USB interface.

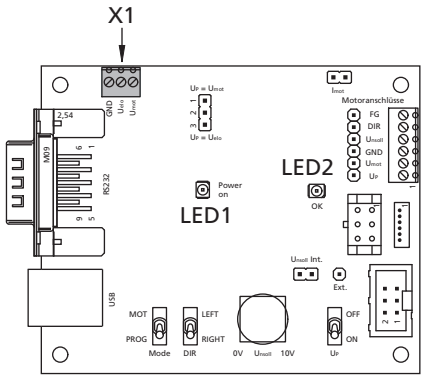
This driver is included in the setup package of FAULHABER Motion Manager and will be automatically installed during the installation process.

## 5.2 Setup technicals

1. Connect the programming board with a standard USB cable type B to the PC.




2. Connect the power supply to $U_{mot}$ and GND.



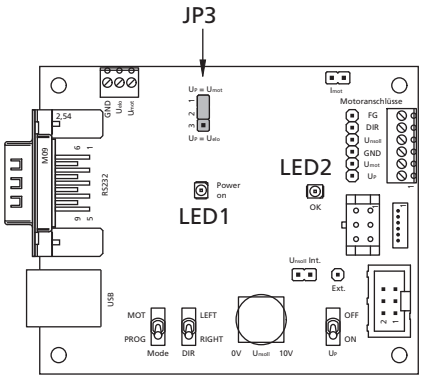
# 5 Installing the USB Driver

## 5.2 Setup technicals

***Note***

*Pay attention to the correct position of Jumper JP3 (1-2; $U_P = U_{mot}$).*

*The maximum voltage of $U_{mot}$ depends on the speed controller.*




3. A new hardware will be found.

4. The Motion Manager is now useable together with the programming board.

# 6 Additional Information

## 6.1 Speed setpoint input via analog voltage

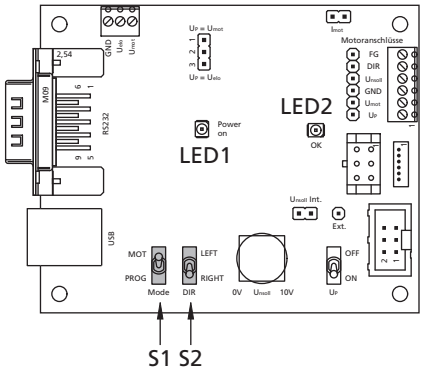
***Note***

*This configuration ist standard as delivered condition.*

The setpoint speed is proportional to the voltage $U_{nsoll}$, which can be adjusted via the potentiometer. The voltage range of $U_{nsoll}$ is defined from 0 … 10 V. The maximum speed value at 10 V can be adjusted via the parameter $N_{setMax}$.

## 6.2 Direction of Rotation

The direction of rotation of the motor depends on switch S1 and S2.




To change the direction of rotation, turn switch S1 to “MOT” and choose the direction via switch S2. If S1 is turned to “PROG” the motor will always rotate clockwise.

***Note***

*For detailed descriptions of all parameters and settings see the technical manual of the speed controller.*

# 7 EC Product Safety Directives

***REGULATION!*** The following EC Product Safety Directives are important for users of the described products:

§

**Machinery Directive (2006/42/EC):**

Due to their small size, small standard electrical drives cannot cause any noteworthy risk of injuries to people.

Therefore, the Machinery Directive does not apply to our products.

The products described here are not “part machines” or “incomplete machines”.

Therefore, Faulhaber does not provide a standard Declaration of Incorporation.

**Low-Voltage Directive (2014/35/EU):**

It applies to all electrical equipment with a nominal voltage from 75 to 1 500 V DC, or from 50 to 1 000 V AC. The products described in this technical manual do not fall within the scope of this Directive as they are designed for smaller voltages.

**EMC Directive (2014/30/EU):**

The Electromagnetic Compatibility (EMC) Directive applies to all electronic and electrical equipment, plant and systems sold to end users (consumers). In addition, CE marking can be undertaken for built-in components according to the EMC Directive. Compliance is documented by the Declaration of Conformity.

# 8 Warranty

## Note

Dr. Fritz Faulhaber GmbH & Co. KG products are produced to state of the art production methods and are subject to strict quality control.

All sales and deliveries made exclusively on the basis of our general Terms and Conditions of Business. These are available to view and download on the FAULHABER homepage at www.faulhaber.com/agb.

## Notes

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