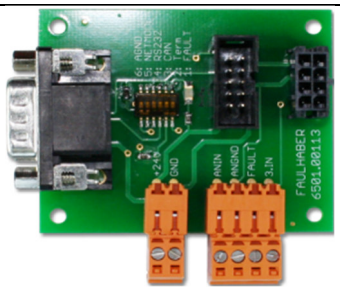
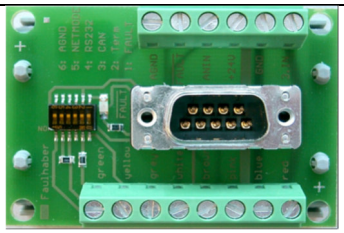
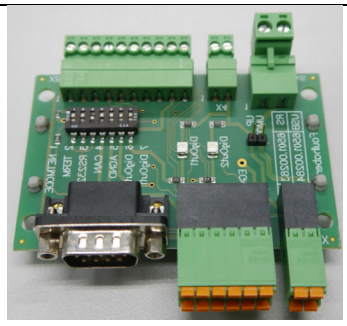
Adapter settings for Motion Control Systems

Summary

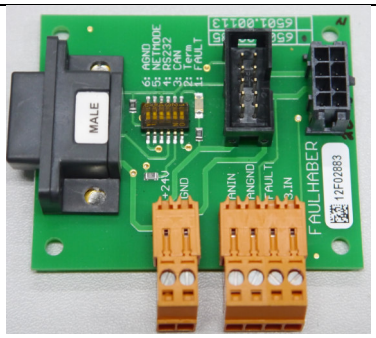
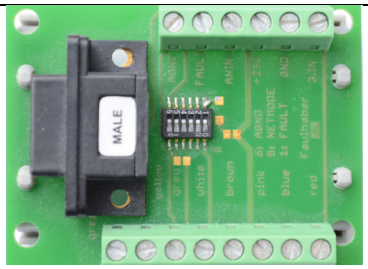
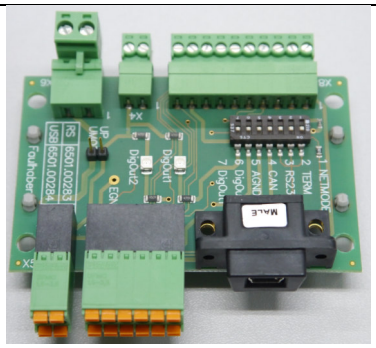
This application note describes the necessary steps to get a communication with a Motion Control System in the combination with according adapter board.

Applies To

FAULHABER Motion Control Systems: Interfaces CANopen or the RS232

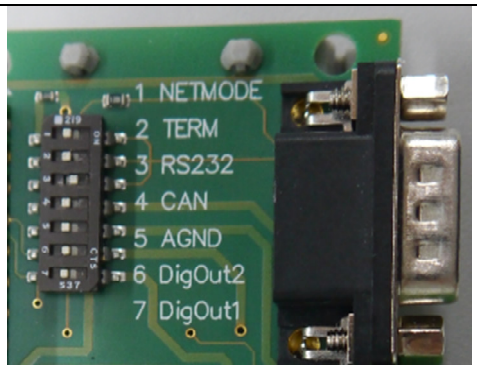
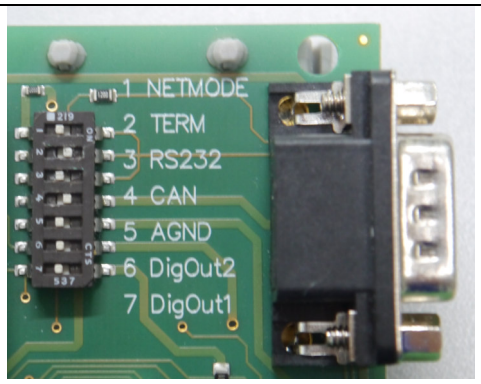
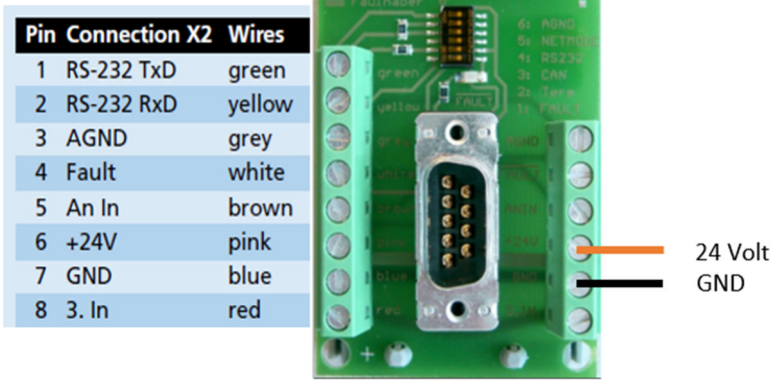
Motion Control Systems	Picture	Comment
22XX BX4 CSD/COD Part Number : 2232S024BX4 CSD 3830	 Product number 6501.00113	necessary motor-connector(option number 3830)  Interfaces: CANopen or the RS232 https://www.faulhaber.com/fileadmin/Import/Media/EN_6501_00113_DFF.pdf
32XX BX4 CS/CO	 Product number 6501.00065	Interfaces: CANopen or the RS232 https://www.faulhaber.com/fileadmin/Import/Media/EN_6501_00065_DFF.pdf
MCS32XX..BX4 RS/CO	 Product number 6501.00283	Interfaces: CANopen or the RS232 https://www.faulhaber.com/fileadmin/Import/Media/EN_6501_00283_DFF.pdf Motor cable: 6501.00255 6501.00258

FAULHABER Motion Control Systems: Interface USB
In this USB version no dip switches for the communication must be activated.
The USB is always routed. A communication via RS232 or CANopen is not possible.

Motion Control Systems	Picture	Comment
22XX BX4 CSD/COD Part Number : 2232S024BX4 CSD 3830	 Product number 6501.00115	necessary motor-connector(option number 3830)  Interface: USB https://www.faulhaber.com/fileadmin/Import/Media/EN_6501_00115_DFF.pdf
32XX BX4 CS/CO	 Product number 6501.00159	Interface: USB https://www.faulhaber.com/fileadmin/Import/Media/EN_6501_00159_DFF.pdf
MCS32XX..BX4 RS/CO	 Product number 6501.00284	Interface: USB https://www.faulhaber.com/fileadmin/Import/Media/EN_6501_00284_DFF.pdf Motor cable: 6501.00255 6501.00258

Description

All switches are in the “OFF” position in the as-delivered condition.
These switches must be set accordingly depending on the application.
Before it is possible to get a communication to a Motion Control System the following steps are necessary.

No.	Screenshot	Description
1a		To communicate with **RS232** the DIP switch 3 must be activated (right side➔ON). TXD and RXD are connected to the Sub-D connector.
1b		Operation with the **CAN** interface the DIP switch 4 and 2 must be activated (right side➔ON). CAN_H and CAN_L are connected to the Sub-D connector. The DIP switch 2 connect a 120 ohm terminal resistor between CAN_L and CAN_H for the CAN network.
2		**Motion Control System side** The Motion Control System must be connected to the adapter board for establish the communication. **Power supply side** 24 Volt and GND must be Connected to the adapter board. The MCS32XX..BX4 RS/CO version need 24 Volt for the PIN Umot and Up

Additional functionality

The different operating modes can be selected using the 7 DIP switches.
A Motion Control System can be connected to each programming adapter.

Description of DIP switch (S1) settings

1: NETMODE	ON	Pull-down resistor (10 kΩ) for RS232 wiring connected. This may only be connected to a node in the RS232 network.
	OFF	Deactivated
2: TERM	ON	120Ω terminating resistor for the final node in the CAN network connected to the programming adapter.
	OFF	Terminating resistor not connected
3: RS232 [1)]	ON	Operation with RS232 interface
	OFF	Deactivated
4: CAN [1)]	ON	Operation with CAN interface
	OFF	Deactivated
5: AGND	ON	AGND and GND interconnected.
	OFF	AGND and GND disconnected (with separate ground).
6: DigOut2	ON	Pull-up resistor with LED connected to programming adapter.
	OFF	Open collector
7: DigOut1	ON	Pull-up resistor with LED connected to programming adapter.
	OFF	Open collector

[1)] The pin assignments of X1 depend on the position of switches 3 and 4 of DIP switch S1.

Trouble shooting: Checking the interface voltage

MCS-RS232	RX Voltage (depends on PC)	TX Voltage (driven by MC)
32xx BX4 CS 3564 BCS MCS32XX..BX4 RS	typically -5V… -9V	- 5,5V
22xx BX4 CSD	typically -5V… -9V	- 3,8V … - 4V

MCS-CAN	CAN_H Voltage	CAN_L Voltage
32xx BX4 CO 3564 BCO 22xx BX4 COD MCS32XX..BX4 CO	2,5 V (idle level)	2,5 V (idle level)

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