Accessories
Adapter board

For combination with
Brushless DC-Servomotos with
integrated Motion Controller:
3242 ... BX4 Cx, 3268 ... BX4 Cx, 3564 ... B Cx

Part No.: 6501.00065

	6501.00065	
Temperature range:		
– Operating temperature	– 10 … + 65	°C
Dimension and Weight:		
– Dimension (L x B x H)	64 x 44,5 x 13,8	mm
– Weight	29,5	g

Note: The board has installation feet for 35 mm mounting rails.
All switches are in the "OFF" position in the as-delivered condition. These switches must be set accordingly depending on the application.

General information

The adapter board is used to connect Brushless DC-Servomotors with integrated Motion Controller and a serial RS232 or CAN interface.

The different operating modes can be selected using the 6 DIP switches.
A Brushless DC-Servomotor with integrated Motion Controller can be connected to each adapter board.

Description of DIP switch (S1) settings

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

Connection

Pin	Connection X1
1	3. In
2	GND
3	+24V
4	An In
5	Fault
6	AGND

Pin	Connection X2	Wires
1	RS-232 TxD	green
2	RS-232 RxD	yellow
3	AGND	grey
4	Fault	white
5	An In	brown
6	+24V	pink
7	GND	blue
8	3. In	red

at RS232 operation [1]

Pin	Connection X3
2	RS-232 / RxD
3	RS-232 / TxD
5	GND

at CAN operation [1]

Pin	Connection X3
2	CAN_L
3	GND
7	CAN_H

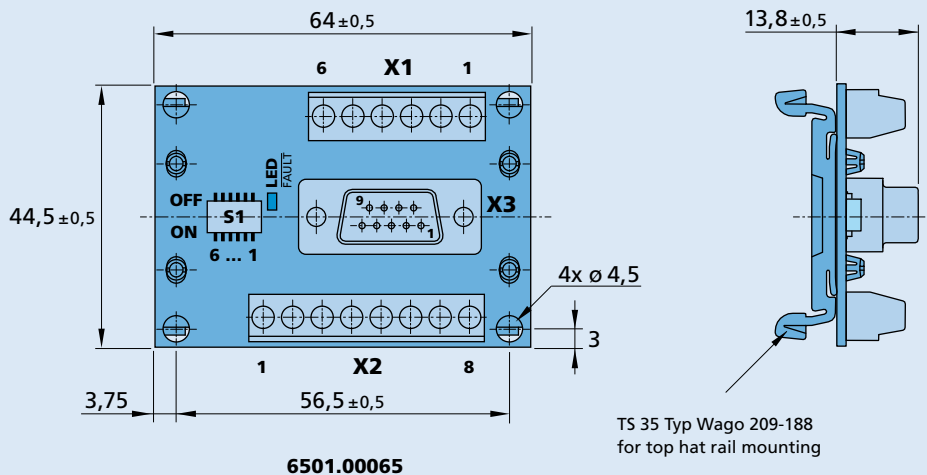| LED	Status		
■	LED illuminates	no error	fault output switched to GND
□	LED does not illuminate	error	fault output high-impedance

[1] The pin assignments of X3 depend on the position of switches 3 and 4 of DIP switch S1.

Dimensional drawing and connection information

Scale reduced

64±0,5
6 X1 1
LED FAULT
OFF S1 X3
ON
6 ... 1
44,5±0,5
4x ø 4,5
3
1 X2 8
3,75
56,5±0,5
13,8±0,5

TS 35 Typ Wago 209-188
for top hat rail mounting

6501.00065

Connection

Nr.	Function
X1	Supply connector; I/O
X2	Motor connector
X3	RS-232 / CAN

Nr.	Switch
S1	DIP-switch (6 switches)

For notes on technical data and lifetime performance
refer to "Technical Information".
Edition 2016

Accessories
Programming Board

Part No.: 6501.00088

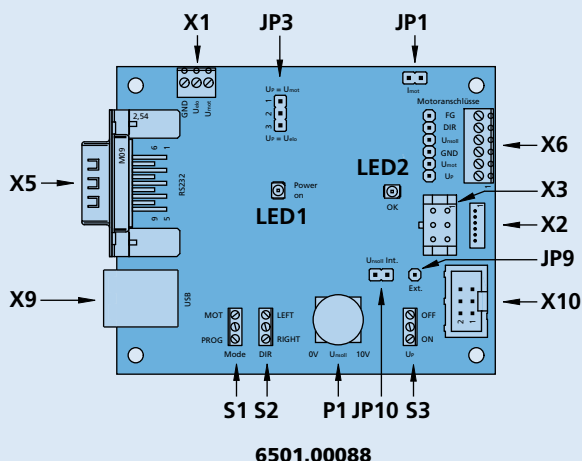|		6501.00088	
Power supply for electronics	U_{elo}	3,5 ... 30	V
Power supply for motor	U_{mot}	0 ... 30	V
Current consumption of electronics	I_{el}	0,1	A
Temperature range:			
– Operating temperature		0 … + 65	°C
Dimensions and weight:			
– Dimensions (L x B x H)		80 x 65 x 31	mm
– Weight		45	g

General information

Description of connectors / controls:

X1   Terminals for power supplies
    Pin 1: GND Ground connection of power supply / supplies
    Pin 2: U_{elo} Power supply for electronics
    Pin 3: U_{mot} Power supply for motor winding

X2, X3, X6, X10   Terminals for motor / motor controller
    Pin 1: U_P Power supply for motor electronics
    Pin 2: U_{mot} Power supply for motor winding
    Pin 3: GND Power supply negative pole
    Pin 4: U_{nsoll} Output for nominal speed setting 0...10V
    Pin 5: DIR Output for direction of rotation setting
    Pin 6: FG Input for speed signal from motor controller

X5   RS232 connector, may optionally be used instead of X9 in PROG mode for programming

X9   USB connector, may optionally be used instead of X5 in PROG mode for programming

JP1   Jumper can be removed and connected to an amperemeter for motor current measurement at U_{mot}.

JP3   Jumper to separate power supply for electronics and motor
    1-2: $U_P = U_{mot}$ » Joint power supply to electronics and motor winding via terminal U_{mot}
    2-3: $U_P = U_{elo}$ » Power supply to electronics via separate terminal U_{elo} (separate power supply for electronics and motor winding). Power supply for adapter board also via the terminal selected for U_P

JP9   Connector for external signal for Unsoll, e.g. PWM signal for speed setting. Note: JP10 must then be removed.

JP10   Jumper for selection of the source for U_{nsoll}. Closed: U_{nsoll} adjustable with P1.

S1   Switch for setting the operating mode
    PROG mode = software update
    MOT mode = motor operation

S2   Switch for setting the direction of rotation of the motor

S3   Switch for switching the power supply U_P for the electronics on / off

P1   P1 is used to set U_{nsoll} from 0 ...10V. JP10 must be closed. The power supply U_P must be at least 10,5V.

LED 1   Indicates the adapter board is ready for operation

LED 2   Indicates the external controller status.
    ON = ready for operation, OFF = error

Start-up

- Connect operating voltage to X1. Use alternatively joint or separate operating voltage for electronics and motor.
  Note: Pay attention to correct setting of JP3.
  Pay attention to minimum / maximum values for U_{mot} and U_{elo}.
- S3 in position OFF; JP1 and JP10 closed.
- Connect motor / motor controller to X2, X3, X6 or X10.
- For PROG mode, connect to a Windows PC at X5 (null modem cable) or X9 (USB connection cable type B).
- LED 1 and LED 2 lights up after power-on for U_{mot} or U_{mot} and U_{elo}.

Driver installation:

If the adapter board is to be operated via the USB connector X9, a special USB driver must be installed if using Windows XP (further details on request).

Dimensional drawing and connection information

scale reduced

6501.00088

Connection

No.	Function
LED 1	Ready for operation
LED 2	Status external controller
Terminals	
X1	Power supply
X2, X3, X6, X10	Connector for motor or SC controller
X5	RS232 connector
X9	USB connector, type B
Jumpers	
JP1	Motor current measurement
JP3	Separation of U_P from U_{mot}
JP9	U_{nsoll} external input signal
JP10	U_{nsoll} int. setting with P1
Switches	
S1	Operating mode
S2	Direction of motor rotation
S3	Power switch on / off
Potentiometer	
P1	U_{nsoll} setting

PROG mode

Settings	
S1	PROG
S2	RIGHT
S3	OFF
P1	0V
JP1	Closed
JP10	Closed

MOT mode

Settings	
S1	MOT
S2	RIGHT or LEFT
S3	OFF - ON
P1	0V ... 10V
JP1	Opt. current measurement
JP10	Select source for U_{nsoll}

For notes on technical data and lifetime performance refer to "Technical Information".
Edition 2016

Accessories

USB Programming Board

For combination with
Speed Controller:
SC 1801 S / F, SC 2804 S, SC 5008 S

Part No.: 6501.0009x

		6501.00096 and 6501.00097	
Power supply for electronics	U_{elo}	5 … 30	V
Power supply for motor	U_{mot}	0 … 30	V
Current consumption of electronics	I_{el}	20	mA
Temperature range:			
– Operating temperature		0 … + 65	°C
Dimensions and weight:			
– Dimensions (L x B x H)		55 x 48 x 18	mm
– Weight		35	g

General information

Standard programming board for configuration and changes of the operating modes for Speed Controller series SC 1801 S / F, SC 2804 S and SC 5008 S.

Automatic parameter download in connection with FAULHABER Motion Manager (from version 4.2) via USB interface.

Immediate test operation after successful data transfer within the customers application is feasible.
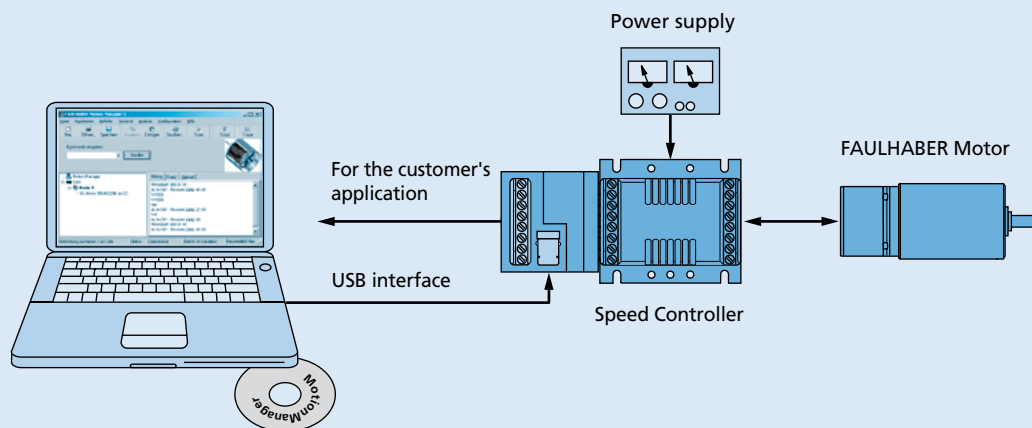
The programming board is to be operated via an USB interface. Therefore the installation of a special USB driver is required.
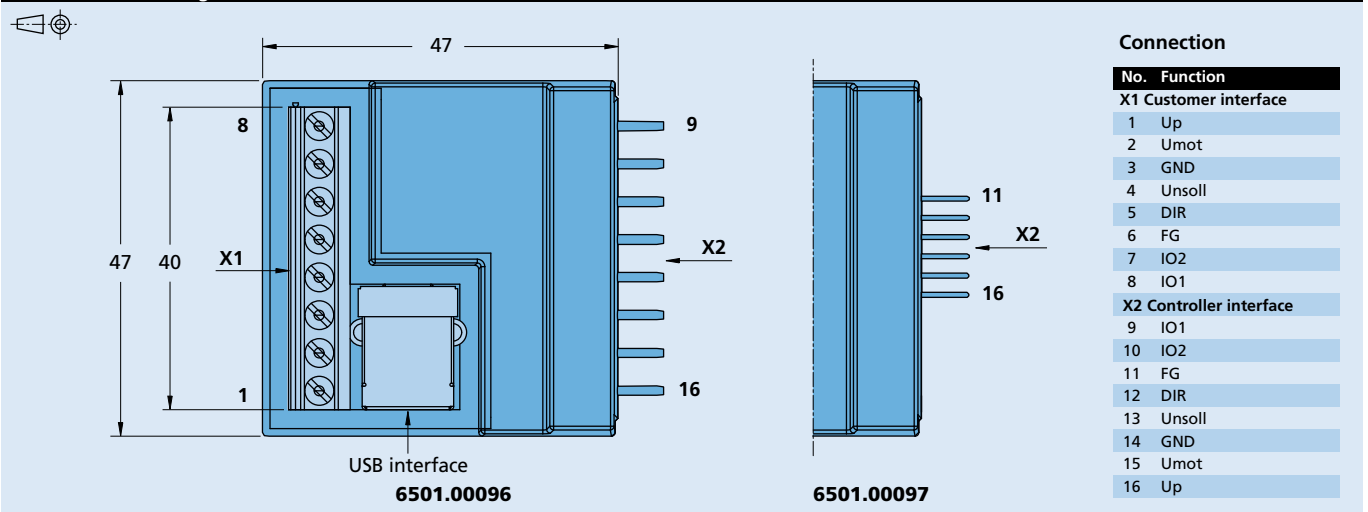
Driver installation

The driver is included in the setup package of FAULHABER Motion Manager (from version 4.2), which can be downloaded from the FAULHABER internet site www.faulhaber.com/MotionManager.

For detailed informations to install the driver please see instruction manual of SC programming board USB.

Connection diagram

Dimensional drawing and connection information

6501.00096

6501.00097

Connection

No.	Function
X1 Customer interface	
1	Up
2	Umot
3	GND
4	Unsoll
5	DIR
6	FG
7	IO2
8	IO1
X2 Controller interface	
9	IO1
10	IO2
11	FG
12	DIR
13	Unsoll
14	GND
15	Umot
16	Up

Accessories

USB Programming Board

For combination with
Speed Controller:
SC 1801 S / F, SC 2804 S, SC 5008 S

Part No.: 6501.0009x

		6501.00096 and 6501.00097	
Power supply for electronics	U_{elo}	5 ... 30	V
Power supply for motor	U_{mot}	0 ... 30	V
Current consumption of electronics	I_{el}	20	mA
Temperature range:			
– Operating temperature		0 … + 65	°C
Dimensions and weight:			
– Dimensions (L x B x H)		55 x 48 x 18	mm
– Weight		35	g

General information

Standard programming board for configuration and changes of the operating modes for Speed Controller series SC 1801 S / F, SC 2804 S and SC 5008 S.

Automatic parameter download in connection with FAULHABER Motion Manager (from version 4.2) via USB interface.

Immediate test operation after successful data transfer within the customers application is feasible.
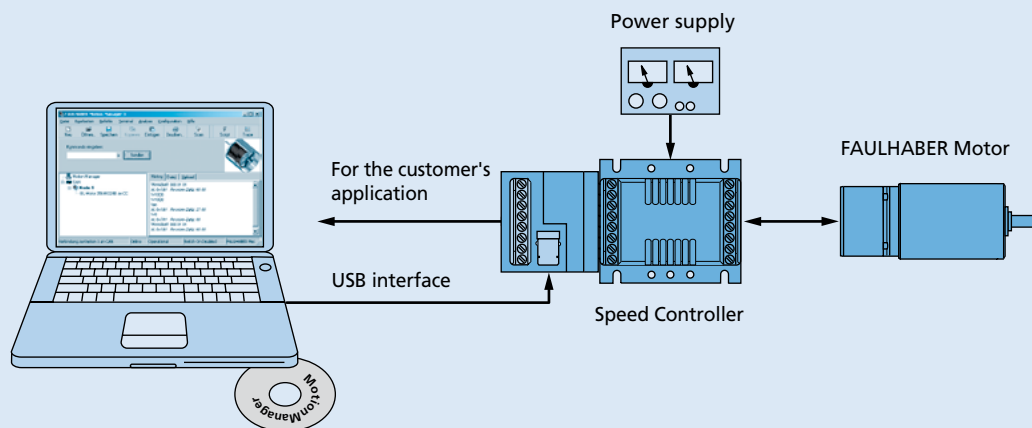
The programming board is to be operated via an USB interface. Therefore the installation of a special USB driver is required.
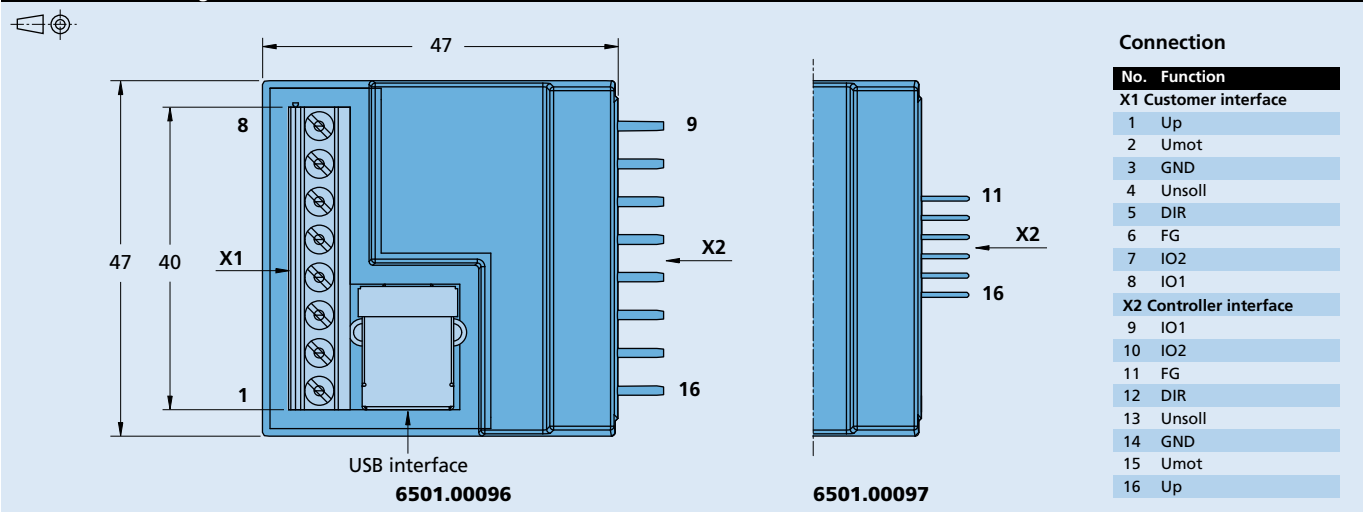
Driver installation

The driver is included in the setup package of FAULHABER Motion Manager (from version 4.2), which can be downloaded from the FAULHABER internet site www.faulhaber.com/MotionManager.

For detailed informations to install the driver please see instruction manual of SC programming board USB.

Connection diagram

Dimensional drawing and connection information

6501.00096

6501.00097

Connection

No.	Function
X1 Customer interface	
1	Up
2	Umot
3	GND
4	Unsoll
5	DIR
6	FG
7	IO2
8	IO1
X2 Controller interface	
9	IO1
10	IO2
11	FG
12	DIR
13	Unsoll
14	GND
15	Umot
16	Up

Accessories
Adapter board BX4 CxD

For combination with
Brushless DC-Servomotos with
integrated Motion Controller:
2232...BX4 CxD, 2250...BX4 CxD

Part No.: 6501.00113

	6501.00113	
Temperature range:		
– Operating temperature	– 10 … + 65	°C
Dimension and Weight:		
– Dimension (L x B x H)	60 x 50 x 15	mm
– Weight	30	g

Note: All switches are in the "OFF" position in the as-delivered condition. These switches must be set accordingly depending on the application.

General information

The adapter board is used to connect Brushless DC-Servomotors with integrated Motion Controller and a serial RS232 or CAN interface.

The different operating modes can be selected using the 6 DIP switches.
A Brushless DC-Servomotor with integrated Motion Controller can be connected to each adapter board.

Description of DIP switch (S1) settings

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

[1] The pin assignments of X3 depend on the position of switches 3 and 4 of DIP switch S1.

Connection

Pin	Connection X1
1	3. In
2	+24V
3	GND
4	An In
5	AGND
6	Fault
7	RS-232 RxD / CAN-L
8	RS-232 TxD / CAN-H

Pin	Connection X2
1	3. In
2	+24V
3	GND
4	An In
5	AGND
6	Fault
7	RS-232 RxD / CAN-L
8	RS-232 TxD / CAN-H
9	n.c.
10	n.c.

at RS232 operation [1]

Pin	Connection X3
2	RS-232 / RxD
3	RS-232 / TxD
5	GND

at CAN operation [1]

Pin	Connection X3
2	CAN_L
3	GND
7	CAN_H

Pin	Connection X4
1	+24V
2	GND
3	An In
4	AGND
5	Fault
6	3. In

LED	Status
■	LED illuminates no error fault output switched to GND
□	LED does not illuminate error fault output high-impedance

Dimensional drawing and connection information

Scale reduced

6501.00113
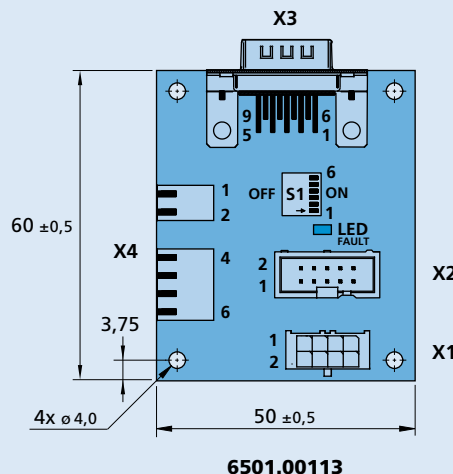
Connection

Nr.	Function
X1, X2	Motor connector
X3	RS232 / CAN
X4	Supply connector; I/O

Nr.	Switch
S1	DIP-switch (6 switches)

Accessories

Adapter board MCxx 3002

For combination with
Motion Controller:
MCDC 3002 S / F, MCBL 3002 S / F, MCLM 3002 S / F

Part No.: 6501.00121

	6501.00121	
Temperature range:		
– Operating temperature	– 10 … + 65	°C
Dimension and Weight:		
– Dimension (L x B x H)	47,5 x 31,5 x 15	mm
– Weight	21	g

Note: All switches are in the "OFF" position in the as-delivered condition. These switches must be set accordingly depending on the application.

General information

The adapter board is used to connect and for the parameter set-up of Motion Controller series MCxx 3002 S / F with serial RS232 or CAN interface.
The different operating modes can be selected using the 6 DIP switches.
A Motion Controller can be connected to each adapter board.

Description of DIP switch (S1) settings

| 1: Fault | ON | Pull-up resistor with LED connected to adapter board. |
| | OFF | Open collector |

| 2: Term | ON | 120 Ω terminating resistor for the final node in the CAN network connected to the adapter board. |
| | OFF | Terminating resistor not connected |

| 3: CAN [1] | ON | Operation with CAN interface |
| | OFF | Deactivated |

| 4: RS232 [1] | ON | Operation with RS232 interface |
| | OFF | Deactivated |

| 5: NETMODE | ON | Pull-down resistor (2,2 kΩ) for RS232 wiring connected. This may only be connected to a node in the RS232 network. |
| | OFF | Deactivated |

| 6: AGND | ON | AGND and GND interconnected. |
| | OFF | AGND and GND disconnected (with separate ground). |

Connection

at RS232 operation [1]

Pin	Connection X1
2	RS-232 / RxD
3	RS-232 / TxD
5	GND

Pin	Connection X2 / X3
1	+24V
2	GND
3	An In
4	AGND
5	Fault
6	3. In

at CAN operation [1]

Pin	Connection X1
2	CAN_L
3	GND
7	CAN_H

| Pin	Connection X4
1	RS232 TxD / CAN-H
2	RS232 RxD / CAN-L
3	AGND
4	Fault
5	AnIn
6	U_b
7	GND
8	3. In

LED	Status	
LED illuminates	no error	fault output switched to GND
LED does not illuminate	error	fault output high-impedance

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

Dimensional drawing and connection information

Scale reduced

6501.00121

Connection

Nr.	Function
X1,	RS232 / CAN
X2 / X3	Supply connector; I/O
X4	Controller connector

Nr.	Switch
S1	DIP-switch (6 switches)

Edition 2016

Accessories

Adapter board MCxx 3002

For combination with
Motion Controller:
MCDC 3002 S / F, MCBL 3002 S / F, MCLM 3002 S / F

Part No.: 6501.00136

	6501.00136	
Temperature range:		
– Operating temperature	– 10 … + 65	°C
Dimension and Weight:		
– Dimension (L x B x H)	47,5 x 31,5 x 15	mm
– Weight	21	g

Note: All switches are in the "OFF" position in the as-delivered condition. These switches must be set accordingly depending on the application.

General information

The adapter board is used to connect and for the parameter set-up of Motion Controller series MCxx 3002 S / F.
One Motion Controller can be connected to each adapter board.

The programming board is to be operated via an USB interface. Therefore the installation of a special USB driver is required.

Driver installation

The driver is included in the setup package of FAULHABER Motion Manager (from version 5.2), which can be downloaded from the FAULHABER internet site www.faulhaber.com/MotionManager.

For detailed informations to install the driver please see instruction manual of programming board USB.

Description of DIP switch (S1) settings

1: Fault	ON	Pull-up resistor with LED connected to adapter board.
	OFF	Open collector
2: N.C.		
3: N.C.		
4: USB	ON	Operation with USB interface
	OFF	Deactivated
5: N.C.		
6: AGND	ON	AGND and GND interconnected.
	OFF	AGND and GND disconnected (with separate ground).

Connection

Connection X1
USB

Pin	Connection X2 / X3
1	+24V
2	GND
3	An In
4	AGND
5	Fault
6	3. In

Pin	Connection X4
1	RS232 TxD
2	RS232 RxD
3	AGND
4	Fault
5	AnIn
6	U_b
7	GND
8	3. In

LED	Status	
LED illuminates	no error	fault output switched to GND
LED does not illuminate	error	fault output high-impedance

Dimensional drawing and connection information

Scale reduced

6501.00136
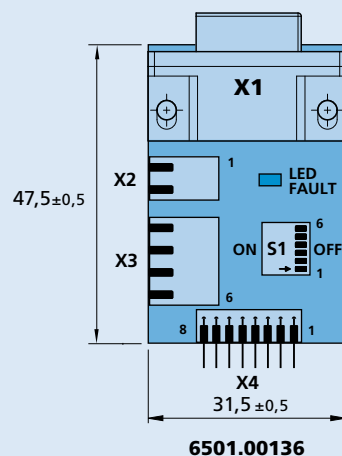
Connection

Nr.	Function
X1,	USB
X2 / X3	Supply connector; I/O
X4	Controller connector

Nr.	Switch
S1	DIP-switch (6 switches)

For notes on technical data and lifetime performance refer to "Technical Information".
Edition 2016

Accessories

Adapter board

For combination with
Brushless DC-Servomotos with
integrated Motion Controller:
3242 ... BX4 Cx, 3268 ... BX4 Cx, 3564 ... B Cx

Part No.: 6501.00159

	6501.00159	
Temperature range:		
– Operating temperature	– 10 … + 65	°C
Dimension and Weight:		
– Dimension (L x B x H)	64 x 48 x 23,6	mm
– Weight	29,5	g

Note: The board has installation feet for 35 mm mounting rails.
All switches are in the "OFF" position in the as-delivered condition. These switches must be set accordingly depending on the application.

General information

The adapter board is used to connect Brushless DC-Servomotors with integrated Motion Controller. One Brushless DC-Servomotor with integrated Motion Controller can be connected to each adapter board.

The programming board is to be operated via an USB interface. Therefore the installation of a special USB driver is required.

Driver installation

The driver is included in the setup package of FAULHABER Motion Manager (from version 5.2), which can be downloaded from the FAULHABER internet site www.faulhaber.com/MotionManager.

For detailed informations to install the driver please see instruction manual of programming board USB.

Description of DIP switch (S1) settings

1: Fault	ON	Pull-up resistor with LED connected to adapter board.
	OFF	Open collector
2: N.C.		
3: N.C.		
4: USB	ON	Operation with USB interface
	OFF	Deactivated
5: N.C.		
6: AGND	ON	AGND and GND interconnected.
	OFF	AGND and GND disconnected (with separate ground).

Connection

Pin	Connection X1
1	3. In
2	GND
3	+24V
4	An In
5	Fault
6	AGND

Pin	Connection X2	Wires
1	RS-232 TxD	green
2	RS-232 RxD	yellow
3	AGND	grey
4	Fault	white
5	An In	brown
6	+24V	pink
7	GND	blue
8	3. In	red

Connection X3

USB

LED	Status	
LED illuminates	no error	fault output switched to GND
LED does not illuminate	error	fault output high-impedance

Dimensional drawing and connection information

Scale reduced

64 ±0,5
6 **X1** 1
48 ±0,5
X3
LED FAULT
S1 OFF
ON
6 ... 1
X2
1 8
4x ø 4,5
3
3,75
56,5 ±0,5
6501.00159

23,6 ±0,5

TS 35 Typ Wago 209-188
for top hat rail mounting
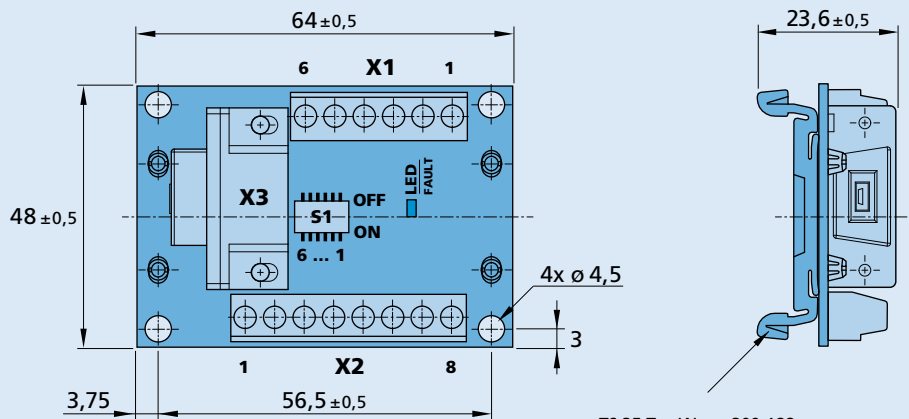
Connection

Nr.	Function
X1	Supply connector; I/O
X2	Motor connector
X3	USB

Nr.	Switch
S1	DIP-switch (6 switches)

For notes on technical data and lifetime performance refer to "Technical Information".
Edition 2016

FAULHABER

Accessories
Adapter board MCS, RS232/CAN

Part No.: 6501.00283

	6501.00283	
Temperature range:		
– Operating temperature	– 10 … + 65	°C
Dimension and Weight:		
– Dimension (L x B x H)	52 x 80	mm
– Weight	56	g

Note: All switches are in the "ON" position in the as-delivered condition. These switches must be set accordingly depending on the application.

General information

The adapter board is used to connect and for the parameter set-up of Motion Controller series MCS with serial RS232 or CAN interface.

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

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	120 Ω terminating resistor for the final node in the CAN network connected to the adapter board.	
	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 adapter board.	
	OFF	Open collector	
7: DigOut1	ON	Pull-up resistor with LED connected to adapter board.	
	OFF	Open collector	

[1] The pin assignments of X1 depend on the position of switches 3 and 4 of DIP switch S1.
[2] Jumper connected: common power supply for motor and electronics.

Connection

at RS232 operation [1]

Pin	Connection X1
2	RS-232 / RxD
3	RS-232 / TxD
5	GND

Pin	Connection X3 [2]
1	U_{mot}
2	U_p

Pin	Connection X5
1	GND
2	U_p
3	U_{mot}
4	EGND

Pin	Connection X7
1	GND
2	RxD / CAN_L
3	TxD / CAN_H
4	+5V
5	DigOut1
6	DigOut2
7	DigIn1
8	DigIn2
9	DigIn3
10	AnIn1
11	AGND
12	AnIn2

at CAN operation [1]

Pin	Connection X1
2	CAN_L
3	GND
7	CAN_H

Pin	Connection X4
1	GND
2	U_p

Pin	Connection X6
1	GND
2	U_{mot}

Pin	Connection X8
1	GND
2	+5V
3	DigOut1
4	DigOut2
5	DigIn1
6	DigIn2
7	DigIn3
8	AnIn1
9	AGND
10	AnIn2

Dimensional drawing and connection information

Scale reduced

6501.00283

Connection

Nr.	Function
X1	RS232 / CAN
X3	Jumper voltage supply
X4	Voltage supply electronics
X5	Voltage supply MCS
X6	Voltage supply motor
X7	I/O MCS
X8	I/O application

Nr.	Switch
S1	DIP-switch (7 switches)

Accessories
Adapter board MCS, USB

Part No.: 6501.00284

	6501.00284	
Temperature range:		
– Operating temperature	– 10 … + 65	°C
Dimension and Weight:		
– Dimension (L x B x H)	52 x 80	mm
– Weight	56	g

Note: All switches are in the "ON" position in the as-delivered condition. These switches must be set accordingly depending on the application.

General information

The adapter board is used to connect and for the parameter set-up of Motion Control Systems series MCS.

The programming board is to be operated via an USB interface. Therefore the installation of a special USB driver is required.

Driver installation

The driver is included in the setup package of FAULHABER Motion Manager (from version 6), which can be downloaded from the FAULHABER internet site www.faulhaber.com/MotionManager.

The driver files are included in the installation register of the FAULHABER Motion Manager.

Description of DIP switch (S1) settings

1: N.C.	OFF	
2: N.C.	OFF	
3: USB	ON	Operation with USB interface
	OFF	Deactivated
4: N.C.	OFF	
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 adapter board.
	OFF	Open collector
6: DigOut2	ON	Pull-up resistor with LED connected to adapter board.
	OFF	Open collector

[1] Jumper connected: common power supply for motor and electronics.

Connection

Connection X1

USB

Pin	Connection X3 [1]
1	U_{mot}
2	U_p

Pin	Connection X4
1	GND
2	U_p

Pin	Connection X5
1	GND
2	U_p
3	U_{mot}
4	EGND

Pin	Connection X6
1	GND
2	U_{mot}

Pin	Connection X7
1	GND
2	RxD
3	TxD
4	+5V
5	DigOut1
6	DigOut2
7	DigIn1
8	DigIn2
9	DigIn3
10	AnIn1
11	AGND
12	AnIn2

Pin	Connection X8
1	GND
2	+5V
3	DigOut1
4	DigOut2
5	DigIn1
6	DigIn2
7	DigIn3
8	AnIn1
9	AGND
10	AnIn2

Dimensional drawing and connection information

Scale reduced

80±0,3

52 ±0,3
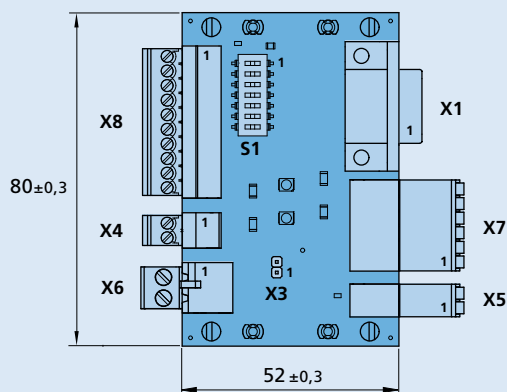
6501.00284

Connection

Nr.	Function
X1	USB
X3	Jumper voltage supply
X4	Voltage supply electronics
X5	Voltage supply MCS
X6	Voltage supply motor
X7	I/O MCS
X8	I/O application

Nr.	Switch
S1	DIP-switch (7 switches)

Edition 2016 Apr. 01

Accessories
Braking chopper

For combination with
Speed Controller
Motion Controller

Series BC 5004

		BC 5004	
Power supply		16 … 50	V
Switching threshold	V_{th}	28 / 56	V
Max. continuous power losses [1]	P_{cont}	10	W
Max. peak current [1]		10	A
Total standby current, max.		20	mA
Temperature range:			
– Operating temperature		-25 … +60	°C
– Storage temperature		-25 … +85	°C
– Dimensions (L x W x H)		65 x 58 x 22	mm
– Weight		160	g

[1] at 22°C ambient temperature

General information

The function of the braking chopper BC 5004 is to limit the supply voltage of 4 quadrant controllers and other ancillary devices such as programming adapters. When braking the drive, a voltage is generated and these controllers can feed this voltage back into the power supply.

Typical power supplies do not have the ability to absorb this energy and this can lead to an overvoltage and damage to the power supply. The braking chopper limits this voltage to an allowable level. The resulting energy losses are converted into heat by the braking resistors. In this way, damage to the power supply and other devices can be prevented.

The braking chopper can be used with 24V and 48V power supplies. The voltage limit can be adjusted using the jumper included with the braking chopper.

Description of jumper setting:

Mode 24V   Jumper between IN 1 and IN 2 installed
for 24V power supply, switching threshold V_{th} 28V

Mode 48V   Jumper between IN 1 and IN 2 **not** installed
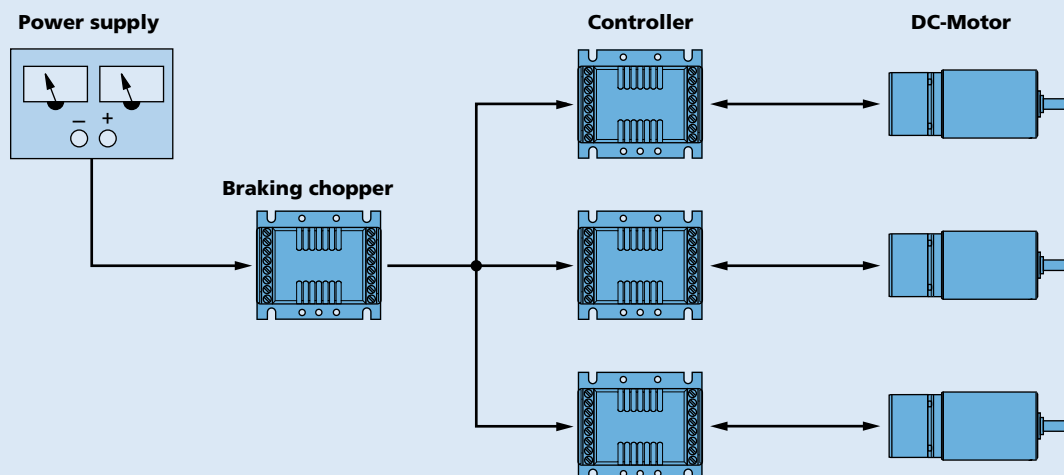for 48V power supply, switching threshold V_{th} 56V

Status description:

The LED's indicate the status of the braking chopper.
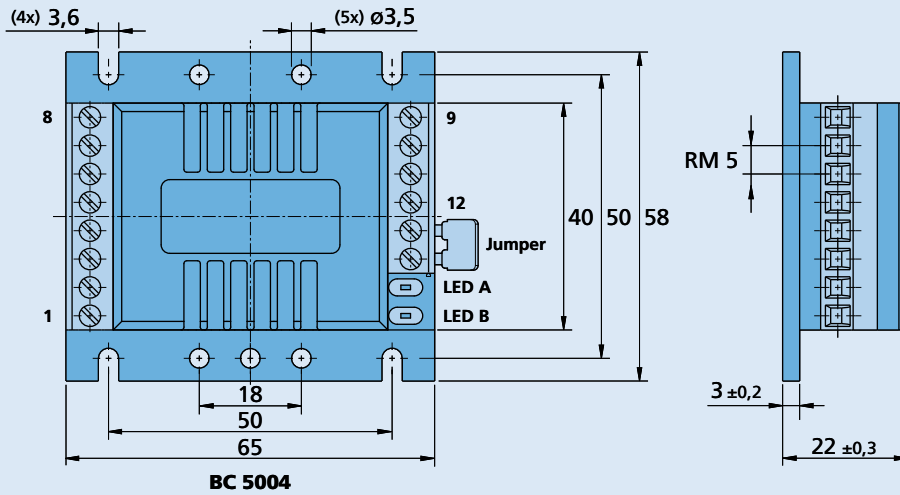
LED A (green), LED B (red)

	LED A	LED B	LED A	LED B
Mode	24V		48V	
Not active	On	Off	On	On
Active	Blinking	Off	Blinking	On
Error	On	Blinking	On	Blinking

"Not active"   Switching threshold not reached

"Active"   Switching threshold exceeded; braking chopper limitation on

"Error"   Overload; braking chopper limitation off

Connection diagram

For notes on technical data and lifetime performance refer to "Technical Information".
Edition 2016

Dimensional drawing

Scale reduced

(4x) 3,6   (5x) ø3,5

8

9

12   Jumper

LED A

LED B

40 | 50 | 58

18

50

65

BC 5004

RM 5

3 ±0,2

22 ±0,3

Connection

No.	Function
1	GND
2	GND
3	GND
4	GND
5	U_{mot}
6	U_{mot}
7	U_{mot}
8	U_{mot}
9	U_{mot}
10	U_{mot}
11	GND
12	GND
13	IN 1
14	IN 2