

**NEW**

# Motion Controller

## V2.5, 4-Quadrant PWM

### with RS232 or CAN interface

**For combination with:**  
Brushless DC-Servomotors  
with absolute encoder

### Series MCBL 3006 AES

		MCBL 3006 S AES	
Power supply	U <sub>B</sub>	12 ... 30	V DC
PWM switching frequency	f <sub>PWM</sub>	78,12	kHz
Efficiency	η	95	%
Max. continuous output current <sup>1)</sup>	I <sub>dauer</sub>	6	A
Max. peak output current	I <sub>max</sub>	10	A
Total standby current	I <sub>el</sub>	0,06	A
Speed range		5 ... 30 000	rpm
Scanning rate	N	100	μs
Encoder resolution with AES encoder		≤ 4 096	inc./rev.
Resolution with external encoder		≤ 65 535	inc./rev.
Input/output (partially free configurable)		3	
Program memory: <sup>2)</sup>			
– memory size		3,3	kWord
– Number of instructions		ca. 1 000	instructions
Operating temperature range		– 40 ... + 85	°C
Housing material		zinc, black coated	
Weight		160	g

<sup>1)</sup> at 22°C ambient temperature

<sup>2)</sup> Only for version with serial interface

#### Connection information

<b>Connection communication:</b>			
Interface		RS232	CAN
Communication profile		Faulhaber - ASCII	CANopen
Max. transfer speed rate RS232		115 200	baud
Max. transfer speed rate CAN			1 Mbit/s
<b>Connection 3 "AGND":</b>			
– analog ground		analog GND	
– digital input	external encoder	channel B	
	R <sub>in</sub>	10	kΩ
	f	≤ 400	kHz
<b>Connection 4 "Fault":</b>			
– digital input	R <sub>in</sub>	100	kΩ
– digital output (open collector)	U	≤ U <sub>B</sub>	V
	I	≤ 30	mA
	clear	switched to GND	
	set	high-impedance	
fault output	no error	switched to GND	
	error	high-impedance	
signal output	f	≤ 2	kHz
	resolution	1...32	inc./rev.
<b>Connection 5 "AnIn":</b>			
– analog input	set speed value	U <sub>in</sub>	± 10 V
– digital input	PWM set speed value	f	100 ... 2 000 Hz
	external encoder	T	50% ± 0 rpm
			channel A
	step frequency input	f	≤ 400 kHz
		f	≤ 400 kHz
		R <sub>in</sub>	5 kΩ
<b>Connection 6 "U<sub>B</sub>":</b>			
	U <sub>B</sub>	12 ... 30	V DC
<b>Connection 7 "GND":</b>			
		ground	
<b>Connection 8 "3. In":</b>			
– digital input	R <sub>in</sub>	22	kΩ
– electronic supply voltage	U <sub>EL</sub>	12 ... 30	V DC

### Connection information

#### Connection 9-11 „DATA, CS, CLK“:

DATA	U <sub>In</sub>	≤ 5	V
CS	U <sub>Out</sub>	0 ... 5	V
CLK	U <sub>Out</sub>	0 ... 5	

#### Connection 12 “U<sub>cc</sub>“:

Output voltage for external use <sup>1)</sup>	U <sub>Out</sub>	5	V
Load current	I <sub>Out</sub>	≤ 60	mA

#### Connection 13 “SGND“:

Signal GND		Signal ground	
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#### Connection 14-16 „Motor A, B, C“:

Motor connection	Motor A Motor B Motor C	Phase A Phase B Phase C	
PWM switching frequency	U <sub>Out</sub> f <sub>PWM</sub>	0 ... U <sub>B</sub> 78,12	V DC kHz

<sup>1)</sup> E.g. encoder

The signal level (PLC or TTL) of the digital inputs can be set over the interface (see operating instruction manual).  
Standard (PLC): Low 0...7V / High 12,5V...U<sub>B</sub>, TTL: Low 0...0,5V / High 3,5V...U<sub>B</sub>

### D-SUB-connector information

Connection D-SUB-connector:	RS232	CAN
Pin 2	RxD	CAN-L
Pin 3	TxD	GND
Pin 5	GND	-
Pin 7	-	CAN-H

#### Options

- Separate power supply (Option no.: 3085)


#### Accessories

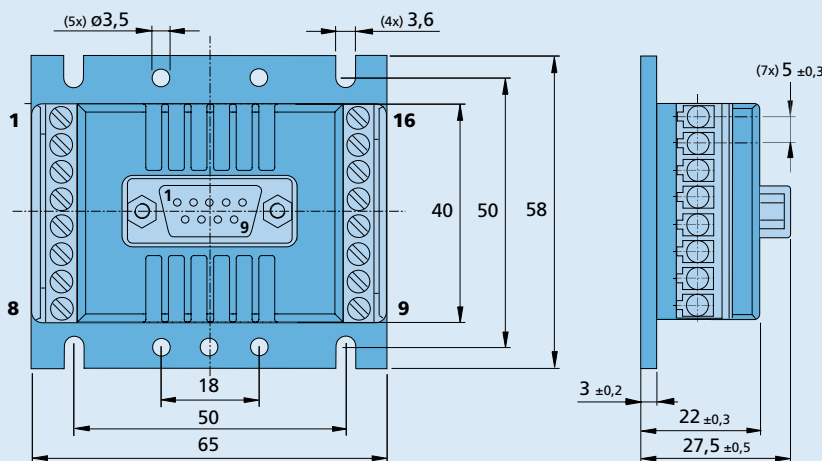
- 6501.00128: USB-CAN-Adapter (only for version with CAN interface)
- 6501.00131: USB-RS232 Adapter (only for version with serial interface)
- 6501.00086: Adapter for BX4 Motors with connector

#### Full product description

- Example:  
MCBL 3006 S AES RS (RS232)  
MCBL 3006 S AES CF (CANopen with Faulhaber CAN)

### Dimensional drawing and connection information MCBL 3006 S AES

 Scale reduced



#### Supply connection

No.	Function
1	TxD / CAN_H
2	RxD / CAN_L
3	AGND
4	Fault
5	AnIn
6	U <sub>B</sub>
7	GND
8	3. In

#### Motor connection

No.	Function
9	Sensor A / DATA
10	Sensor B / CS
11	Sensor C / CLK
12	U <sub>cc</sub>
13	SGND
14	Motor A
15	Motor B
16	Motor C