

Motion Controller

V2.5, 4-Quadrant PWM
with RS232 or CAN interface

For combination with:
Linear DC-Servomotors
with analog Hall sensors

Series MCLM 3006

		MCLM 3006 S	
Power supply	U_B	12 ... 30	V DC
PWM switching frequency	f_{PWM}	78,12	kHz
Efficiency	η	95	%
Max. continuous output current ¹⁾	I_{dauer}	6	A
Max. peak output current	I_{max}	10	A
Total standby current	I_{el}	0,06	A
Speed range ²⁾		2 ... 10 000	mm/s
Scanning rate	N	200	μ s
Encoder resolution with linear Hall Sensors ³⁾		$\leq 3\ 000$	inc./ τ_m
Resolution with external encoder		$\leq 65\ 535$	inc./mm
Input/output (partially free configurable)		3	
Program memory: ⁴⁾			
– memory size		3,3	kWord
– Number of instructions		approx. 1 000	instructions
Operating temperature range		– 40 ... + 85	°C
Housing material		zinc, black coated	
Weight		160	g

¹⁾ at 22°C ambient temperature

²⁾ Speed in the range 1 ... 5 mm/s may have fluctuations due to the motor type, load characteristics and controller parameters

³⁾ τ_m is the magnetic pitch of the linear motor

⁴⁾ Only for version with serial interface

Connection information

Connection communication:				
Interface		RS232	CAN	
Communication profile		FAULHABER - ASCII	CANopen	
Max. transfer speed rate RS232		115 200		baud
Max. transfer speed rate CAN			1	Mbit/s
Connection 3 "AGND":				
– analog ground		analog GND		
– digital input	external encoder	channel B		
	R_{In}	10		k Ω
	f	≤ 400		kHz
Connection 4 "Fault":				
– digital input	R_{In}	100		k Ω
– digital output (open collector)	U	$\leq U_B$		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...255		inc./ τ_m
Connection 5 "AnIn":				
– analog input	set position value	"AGND" as GND		
– digital input	external encoder	± 10		V
		channel A		
	f	≤ 400		kHz
step frequency input	f	≤ 400		kHz
	R_{In}	5		k Ω
Connection 6 "UB":		U_B	12 ... 30	V DC
Connection 7 "GND":			ground	
Connection 8 "3. In":				
– digital input	R_{In}	22		k Ω
– electronic supply voltage	U_{EL}	12 ... 30		V DC

Connection information

Connection 9-11 „Sensor A, B, C“:

Hall sensor input	Sensor A	Hall Sensor A	
	Sensor B	Hall Sensor B	
	Sensor C	Hall Sensor C	

U_{In} ≤ 5 V

Connection 12 „U_{cc}“:

Output voltage for external use ¹⁾

U_{Out} 5 V

Load current

I_{Out} ≤ 60 mA

Connection 13 „SGND“:

Signal GND

Signal masse

Connection 14-16 „Motor A, B, C“:

Motor connection	Motor A	Phase A	
	Motor B	Phase B	
	Motor C	Phase C	

U_{Out} 0 ... U_B V DC
 f_{PWM} 78,12 kHz

¹⁾ E.g. Hall Sensors

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_B , TTL: Low 0...0,5V / High 3,5V... U_B

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

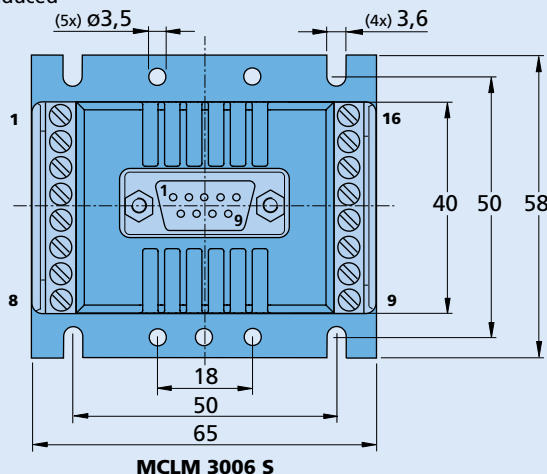
- 6501.00128: USB-CAN-Adapter (only for version with CAN interface)
- 6501.00131: USB-RS232 Adapter (only for version with serial interface)
- 6501.00117: Adapter for LM 0830
- 6501.00118: cable with connector for Adapter LM 0830

Full product description

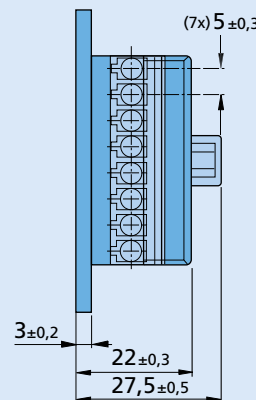
- Example:
MCLM 3006 S RS (RS232)
MCLM 3006 S CF (CANopen with FAULHABER CAN)
MCLM 3006 S CO (CANopen CiA)

Dimensional drawing and connection information for MCLM 3006 S

Scale reduced



MCLM 3006 S



Supply connection

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

Motor connection

No.	Function
9	Sensor A
10	Sensor B
11	Sensor C
12	U _{cc}
13	SGND
14	Motor A
15	Motor B
16	Motor C