

NEW

Motion Controller

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

For combination with:
DC-Micromotors

Series MCDC 3003

		MCDC 3003 P	
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}	3	A
Max. peak output current	I _{max}	10	A
Total standby current	I _{el}	0,06	A
Speed range		5 ... 30 000	rpm
Scanning rate	N	100	μs
External encoder resolution		≤ 65 535	inc./rev.
Input/output (partially free configurable)		5	
Program memory: ²⁾			
– memory size		3,3	kWord
– Number of instructions		ca. 1 000	instructions
Operating temperature range		– 40 ... + 85	°C
Housing material		without housing	
Weight		18	g

¹⁾ at 22°C ambient temperature

²⁾ 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	
Max. transfer speed rate CAN			1
			baud Mbit/s
Connection 3 "AGND":			
– analog ground		analog GND	
– digital input		channel B	
external encoder	R _{In}	10	kΩ
	f	≤ 400	kHz
Connection 4 "Fault":			
– digital input	R _{In}	100	kΩ
– digital output (open collector)	U	≤ U _B	V
	I	≤ 30	mA
	clear	switched to GND	
	set	high-impedance	
fault output	no error	switched to GND	
	error	high-impedance	
Connection 5 "AnIn":			
– analog input	set speed value	U _{In}	"AGND" as GND ± 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 _{In}	5 kΩ
Connection 6 "U_B":			
	U _B	12 ... 30	V DC
Connection 7 "GND":			
		ground	
Connection 8 "3. In":			
– digital input	R _{In}	22	kΩ
– electronic supply voltage	U _{EL}	12 ... 30	V DC
Connection 9 "5. In":			
– digital input	R _{In}	22	kΩ
Connection 10 "4. In":			
– digital input	R _{In}	22	kΩ

Connection information

Connection 11-12 "Ch A", "Ch B":				
Encoder input	CH A CH B		encoder channel A encoder channel B	
Integrated pullup resistance + 5V		R f	2,2 ≤ 400	kΩ kHz
Connection 13 "Ucc":				
Output voltage for external use ¹⁾		U _{Out}	5	V
Load current		I _{Out}	≤ 60	mA
Connection 14 "SGND":				
Signal GND			signal ground	
Connection 15-16 "Mot +", "Mot -":				
Motor connection	Mot + Mot -		Motor + Motor -	
PWM switching frequency		U _{Out} f _{PWM}	0 ... U _B 78,12	V DC kHz

¹⁾ 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_B, TTL: Low 0...0,5V / High 3,5V...U_B

Options

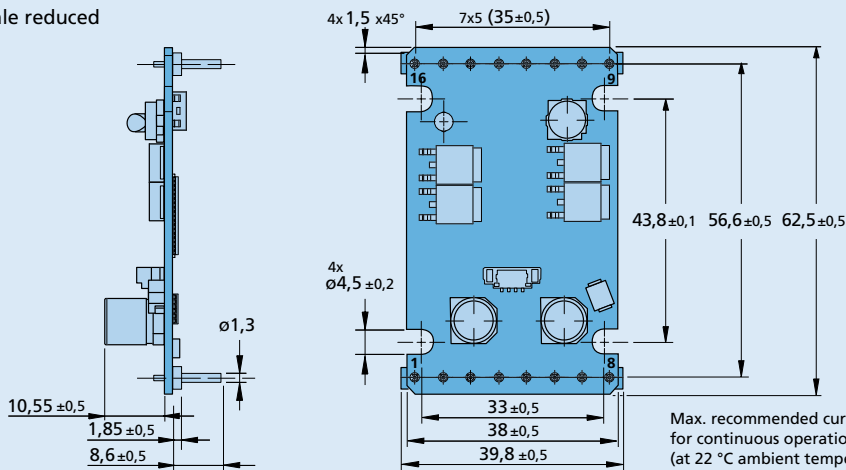
- Separate power supply (Option no.: 3085)

Full product description

- Example:
MCDC 3003 P RS (RS232)
MCDC 3003 P CF (CANopen with Faulhaber CAN)

Dimensional drawing and connection information MCDC 3003 P

Scale reduced



Max. recommended current
 for continuous operation: 3A
 (at 22 °C ambient temperature)
CAUTION: Thermal shutdown is
 NOT guaranteed!

Connection

Pin	Function
1	TxD / CAN_H
2	RxD / CAN_L
3	AGND
4	Fault
5	AnIn
6	U _B
7	GND
8	3. In
9	5. In
10	4. In
11	Ch A
12	Ch B
13	U _{cc}
14	SGND
15	Mot +
16	Mot -

Connection information

Connection 11-12 "Ch A", "Ch B":				
Encoder input	CH A CH B		encoder channel A encoder channel B	
Integrated pullup resistance + 5V		R f	2,2 ≤ 400	kΩ kHz
Connection 13 "Ucc":				
Output voltage for external use ¹⁾		U _{Out}	5	V
Load current		I _{Out}	≤ 60	mA
Connection 14 "SGND":				
Signal GND			signal ground	
Connection 15-16 "Mot +", "Mot -":				
Motor connection	Mot + Mot -		Motor + Motor -	
PWM switching frequency		U _{Out} f _{PWM}	0 ... U _B 78,12	V DC kHz

¹⁾ 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_B, TTL: Low 0...0,5V / High 3,5V...U_B

Options

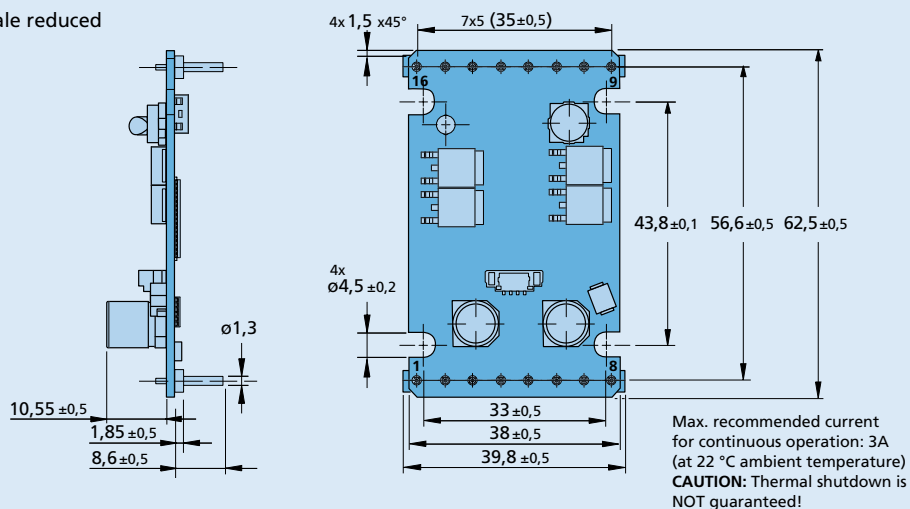
- Separate power supply (Option no.: 3085)

Full product description

- Example:
MCDC 3003 P RS (RS232)
MCDC 3003 P CF (CANopen with Faulhaber CAN)

Dimensional drawing and connection information MCDC 3003 P

 Scale reduced



Connection

Pin	Function
1	TxD / CAN_H
2	RxD / CAN_L
3	AGND
4	Fault
5	AnIn
6	U _B
7	GND
8	3. In
9	5. In
10	4. In
11	Ch A
12	Ch B
13	Ucc
14	SGND
15	Mot +
16	Mot -