Motion Controllers

V3.0, 4-Quadrant PWM
with RS232, CANopen or EtherCAT interface

MC 5004 P

Values at 22°C		MC 5004 P	
Power supply electronic	U_P	12 ... 50	V DC
Power supply motor	U_{mot}	0 ... 50	V DC
PWM switching frequency	f_{PWM}	100	kHz
Efficiency electronic	η	95	%
Max. continuous output current	I_{cont}	4	A
Max. peak output current [1]	I_{max}	12	A
Standby current for electronic (at U_P=24V)	I_{el}	RS / CO: 0,06 ET: 0,07	A
Operating temperature range		-40 ... +85	°C
Mass		RS / CO: 22 ET: 47	g

[1] S2 mode for max. 1s

| Interfaces	MC 5004 P RS/CO	MC 5004 P ET
Configuration from Motion Manager 6.0	RS232 / USB	RS232 / USB
Fieldbus	RS232 / CANopen	EtherCAT

Basic features

- Control of brushless, DC- and linear motors

- Supported sensor systems: absolute encoders (AES or SSI), incremental encoders (optical or magnetic), Hall sensors(digital or analog), tachometers

- Positioning resolution when using analog Hall sensors as position encoder: 4096 increments per revolution

- 8 digital inputs, 3 digital outputs, 2 analog inputs, flexible configuration

- Setpoint specification via fieldbus, quadrature signal, pulse and direction or analog inputs

- Optional stand-alone operation via application programs in all interface versions

Range of functions

Operating modes	PP, PV, PT, CSP, CSV, CST and homing acc. to IEC 61800-7-201 or IEC 61800-7-301 as well as position-, speed- and torque control via analog setpoint or voltage controller
Speed range for brushless motors	0 min^{-1} … 30 000 min^{-1} with sinusoidal commutation (optionally to 60 000 min^{-1} with block commutation)
Application programs	Max. 8 application programs (BASIC), one of which is an autostart function
Additional functions	Touch-probe input, connection of a second incremental encoder, control of a holding brake
Indicator	LEDs for displaying the operating state Trace as recorder (scope function) or logger
Motor types	DC, BL- and linear motors

Dimensional drawing

Scale reduced

MC 5004 P RS/CO
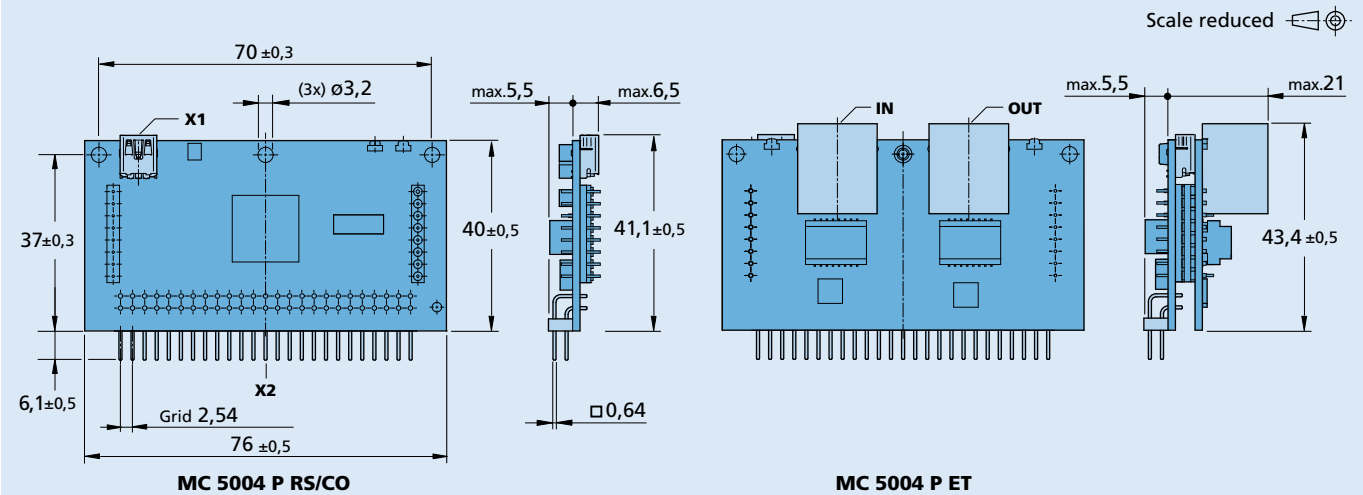
MC 5004 P ET

Options and connection information

Example product designation: **MC 5004 P ET FC**

Option	Type	Description			
FC	EtherCAT IN/OUT	Interface connector DIN, for use in combination with flat cables (see chapter "accessories")			
5621	Multi-pin connector	Horizontal PCB assembly			

	Connection		
Name	**Function**		**Description**
X1	USB configuration interface		USB
X2	Pin Header		Analog and digital input/output, motor and eletronic, power supply, fieldbus, motor phases, sensors
IN	Fieldbus		EtherCAT IN
OUT	Fieldbus		EtherCAT OUT

Note: For details on the connection assignment, see device manual for the MC 5004.

Product combination

DC-Motors	Brushless DC-Motors	Linear DC-Servomotors	Cables / Accessories
1319 ... SR	1218 ... B	LM 0830 ... 01	An extensive range of accessories is available for the products of the MC 5004 controller series.
1331 ... SR	1226 ... B	LM 1247 ... 11	
1336 ... CXR	1628 ... B	LM 1483 ... 11	
1516 ... SR	2036 ... B	LM 2070 ... 11	A motherboard is available that can be used to operate up to four controllers in multi-axis operation (slave).
1524 ... SR	2057 ... B		
1717 ... SR	2057 ... BHS		
1724 ... SR	2232 ... BX4		Furthermore, connection cables are available for controller and motor supply, sensors and interfaces as well as connector sets for the motor and supply side.
1727 ... CXR	2250 ... BX4		
1741 ... CXR	2250 ... BX4 S		
2224 ... SR	2444 ... B		
2232 ... SR	3056 ... B		To view our large range of accessory parts, please refer to the „Accessories" chapter.
2237 ... CXR	3242 ... BX4		
2342 ... CR	3268 ... BX4		
2642 ... CXR			
2642 ... CR			
2657 ... CXR			
2657 ... CR			
2668 ... CR			

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