

# 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	$\eta$	95	%
Max. continuous output current	$I_{cont}$	4	A
Max. peak output current <sup>1)</sup>	$I_{max}$	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

<sup>1)</sup> 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

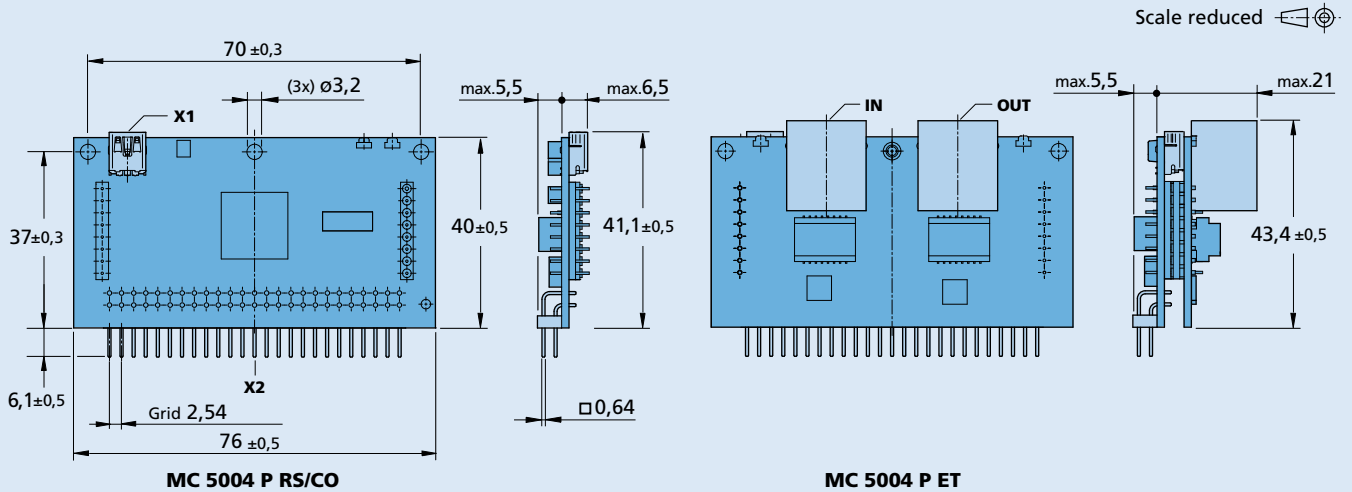
### Basic features

- 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 with number of pole pairs 1	0 min <sup>-1</sup> ... 30 000 min <sup>-1</sup> with sinusoidal commutation (optionally to 60 000 min <sup>-1</sup> 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



### Options and connection information

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

Option	Type	Description	Connection		
			Name	Function	Description
FC	EtherCAT IN/OUT	Interface connector DIN, for use in combination with flat cables (see chapter "accessories")	<b>X1</b>	USB configuration interface	USB
			<b>X2</b>	Pin Header	Analog and digital input/output, motor and electronic, power supply, fieldbus, motor phases, sensors
5621	Multi-pin connector	Horizontal PCB assembly	<b>IN</b>	Fieldbus	EtherCAT IN
			<b>OUT</b>	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 1331 ... SR 1336 ... CXR 1516 ... SR 1524 ... SR 1717 ... SR 1724 ... SR 1727 ... CXR 1741 ... CXR 2224 ... SR 2232 ... SR 2237 ... CXR 2342 ... CR 2642 ... CR 2642 ... CXR 2657 ... CR 2657 ... CXR 2668 ... CR 3242 ... CR	3257 ... CR 3272 ... CR 1218 ... B 1226 ... B 1628 ... B 1645 ... BHS 1660 ... BHT 2036 ... B 2057 ... B 2214 ... BXT H 2232 ... BX4 2250 ... BX4 2250 ... BX4 S 2444 ... B 3056 ... B 3216 ... BXT H 3242 ... BX4 3268 ... BX4 4221 ... BXT H	LM 0830 ... 01 LM 1247 ... 11 LM 1483 ... 11 LM 2070 ... 11	<p>An extensive range of accessories is available for the products of the MC 5004 controller series.</p> <p>A motherboard is available that can be used to operate up to four controllers in multi-axis operation (slave).</p> <p>Furthermore, connection cables are available for controller and motor supply, sensors and interfaces as well as connector sets for the motor and supply side.</p> <p>To view our large range of accessory parts, please refer to the „Accessories“ chapter.</p>