

Motion Controller

V3.0, 4-Quadrant PWM

with RS232, CANopen or EtherCAT interface

Series MC 5004

Values at 22°C and nominal voltage		MC 5004 P	
Power supply for electronics	U_p	12 ... 50	V
Power supply for motor	U_{mot}	0 ... 50	V
PWM switching frequency	f_{PWM}	100	kHz
Efficiency, electronics	η	95	%
Max. continuous output current	I_{dauer}	4	A
Max. peak output current ¹⁾	I_{max}	12	A
Total standby current (at 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

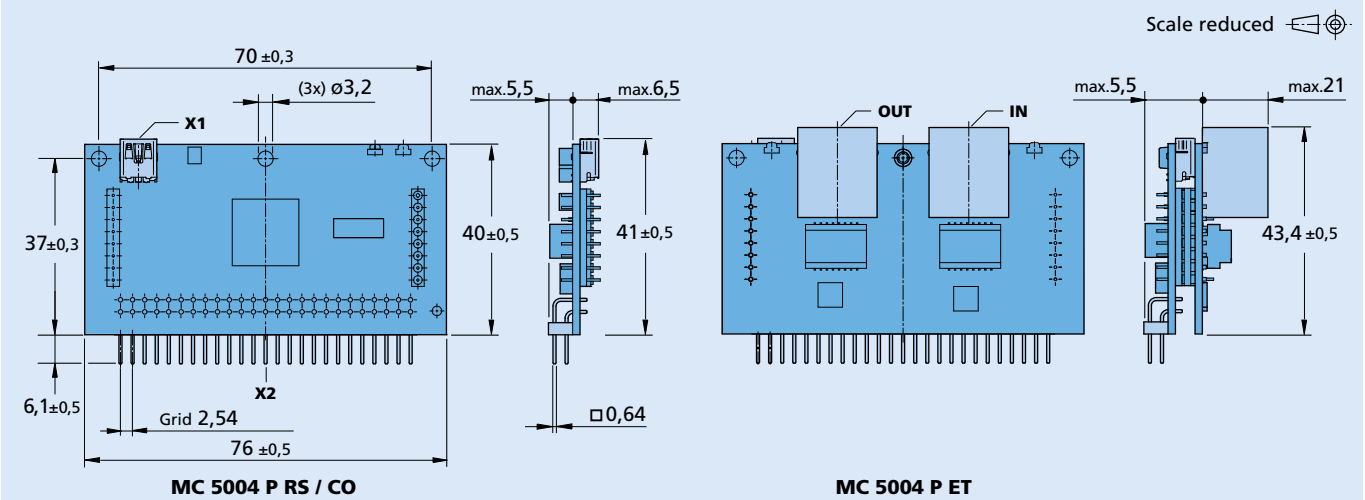
Interface	MC 5004 P RS/CO	MC 5004 P ET
Configuration with Motion Manager 6.0	RS232 / USB	RS232 / USB
Fieldbus	RS 232 / CANopen	EtherCAT

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.
- Position resolution when using analog Hall sensors as position encoders: 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	MC 5004 P
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	2 LEDs for displaying the operating state Trace as recorder (scope function) or logger
Motor types	DC, BL- and linear motors

Dimensional drawing



Option, cable and connection information

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

Option	Type	Description	Connection		
FC	EtherCAT IN/OUT	 Interface connector DIN, for use in combination with flat cables (see chapter "accessories")	Name	Function	Description
5621	Multi-pin connector	Horizontal PCB assembly	X1	USB configuration interface	USB
			X2	Pin Header	Analog and digital input/output, motor and electronic 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 Combinations

DC-Motors	Brushless DC-Motors	Linear DC-Servomotors	Cables / Accessories
1319 ... SR 1331 ... SR 1516 ... SR 1524 ... SR 1717 ... SR 1724 ... SR 2224 ... SR 2232 ... SR 1336 ... CXR 1727 ... CXR 1741 ... CXR 2237 ... CXR 2642 ... CXR 2657 ... CXR 2342 ... CR 2642 ... CR 2657 ... CR 2668 ... CR	1218 ... B 1226 ... B 1628 ... B 2036 ... B 2057 ... B 2057 ... BHS 2444 ... B 3056 ... B 2232 ... BX4 2232 ... BX4 S 2250 ... BX4 2250 ... BX4 S 3242 ... BX4 3268 ... BX4	LM 1247 ... 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>Note: Detailed information about the accessories can be found in the accessory manual, which is available for download on our homepage at www.faulhaber.com.</p>