

Motion Controllers

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

MC 5004 P STO

Values at 22°C		MC 5004 P STO	
Power supply electronic	U_P	12 ... 50	V DC
Power supply motor ¹⁾	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 ²⁾	I_{max}	12	A
Standby current for electronic (at $U_P=24V$)	I_{el}	RS / CO: 0,06 ET: 0,07	A
Permissible ambient temperature (operation)		-5 ... 40	°C
Permissible ambient temperature (storage)		-40 ... 85	°C
Mass		RS / CO: 28 ET: 52	g

¹⁾ Separate power supply not available in combination with Motherboard MB1 MC 5004 P STO

²⁾ S2 mode for max. 1s

Interfaces	MC 5004 P STO RS/CO	MC 5004 P STO ET
Configuration from Motion Manager 6.3	RS232 / USB	RS232 / USB
Fieldbus	RS232 / CANopen	EtherCAT

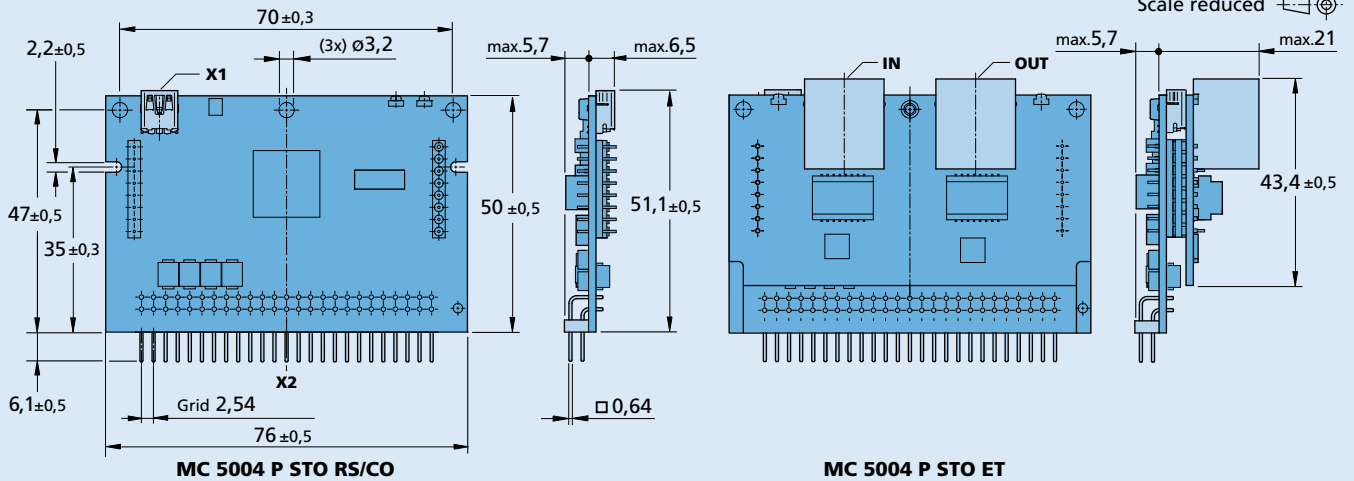
Basic features

- Control of brushless 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
- 4 digital inputs, 2 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
- Safe deactivation of torque via standardized integrated safe torque off circuit. Use up to security level SIL 3 according to IEC 61800-5-2 und PL e according to EN ISO 13849-1.
- Failure value $PFH_D = 4,57 \cdot 10^{-10}$, at a request rate of 1 per 8h. Activation via two redundant inputs, separate outputs for status and error indication.

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 ⁻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	BL- and linear motors

Dimensional drawing



Options and connection information

Example product designation: **MC 5004 P STO 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	
			X1	USB configuration interface
			X2	Pin Header
			IN	Fieldbus
			OUT	Fieldbus
				USB
				Analog and digital input/output, motor and electronic power supply, fieldbus, motor phases, sensors
				EtherCAT IN
				EtherCAT OUT
<p>Note: For details on the connection assignment, see device manual for the MC 5004 STO.</p>				

Product combination

Brushless DC-Motors	Linear DC-Servomotors	Cables / Accessories
1218 ... B 1226 ... B 1628 ... B 1660 ... BHT 2036 ... B 2057 ... B 2232 ... BX4 2250 ... BX4 2250 ... BX4 S 2444 ... B 3056 ... B 3242 ... BX4 3268 ... BX4	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 STO controller series.</p> <p>A motherboard is available that can be used to operate one controller in one-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>