

# 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 <sup>1)</sup>	$U_{mot}$	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>2)</sup>	$I_{max}$	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

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

<sup>2)</sup> 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 <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	BL- and linear motors

