

# Motion Controllers

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

## MC 5005 S

Values at 22°C	MC 5005 S
Power supply electronic	$U_p$ 12 ... 50
Power supply motor	$U_{mot}$ 0 ... 50
PWM switching frequency	$f_{PWM}$ 100
Efficiency electronic	$\eta$ 97
Max. continuous output current	$I_{cont}$ 5
Max. peak output current <sup>1)</sup>	$I_{max}$ 15
Standby current for electronic (at $U_p=24V$ )	$I_{el}$ RS / CO: 0,06 ET: 0,07
Operating temperature range	-40 ... +85
Housing material	aluminium, powder-coated
Mass	RS / CO: 230 ET: 270

<sup>1)</sup> S2 mode for max. 60s

Interfaces	MC 5005 S RS	MC 5005 S CO	MC 5005 S ET
Configuration from Motion Manager 6.0	RS232 / USB RS232	CANopen / USB CANopen	RS232 / USB EtherCAT

## Basic features

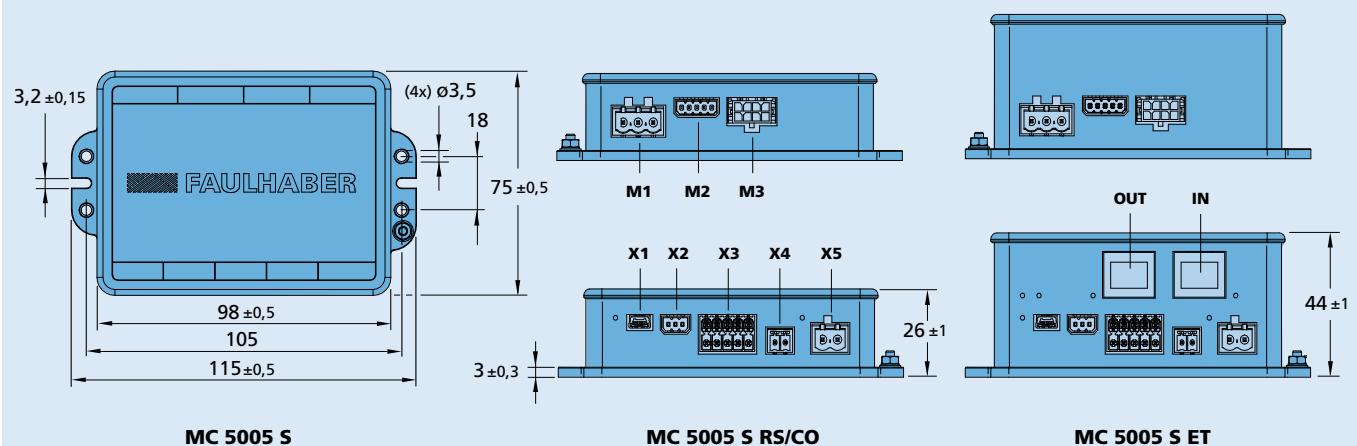
- Control of brushless, DC- and linear motors
- Supported sensor systems: absolute encoders (AES or SSI), incremental encoders (optical or magnetic), Hall sensors (digital or analog), tachometers
- Positioning resolution when using analog Hall sensors as position encoder: 4096 increments per revolution
- 3 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

## 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**

Scale reduced


**MC 5005 S**
**MC 5005 S RS/CO**
**MC 5005 S ET**
**Options and connection information**

 Example product designation: **MC 5005 S RS**

Option	Type	Description	Connection
			<b>Name</b> <b>Function</b> <b>Input/Output</b> <b>Description</b>
6419	Encoder combination	Integrated terminating resistor for combination with absolute encoder AES-4096L	<b>X1</b> Configuration interface <b>X2</b> Fieldbus <b>X3</b> Input/Output <b>X4</b> Electronic power supply <b>X5</b> Motor power supply
			<b>M1</b> Motor phases <b>M2</b> Hall sensors <b>M3</b> Encoder
			<b>IN</b> Fieldbus <b>OUT</b> Fieldbus
			<b>A, B, C</b> <b>A, B, C</b> <b>A, <math>\overline{A}</math>, <math>\overline{B}</math>, <math>\overline{B}</math>, <math>\overline{I}</math>, <math>\overline{I}</math></b> <b>EN, <math>\overline{EN}</math>, CLOCK, <math>\overline{CLOCK}</math>, DATA, <math>\overline{DATA}</math></b> <b>U<sub>out</sub> / GND</b> <b>U<sub>out</sub> / GND</b> <b>max. 5MHz</b> <b>AES or SSI</b> <b>5V</b> <b>digital or analog</b> <b>5V</b> <b>EtherCAT IN</b> <b>EtherCAT OUT</b>
			<b>Note:</b> For details on the connection assignment, see device manual for the MC 5005.

**Product combination**

DC-Motors	Brushless DC-Motors	Linear DC-Servomotors	Cables / Accessories
2237 ... CXR	1645 ... BHS	LM 1247 ... 11	An extensive range of accessories is available for the products of the MC 5010 and MC 5005 controller series.
2342 ... CR	1660 ... BHT	LM 1483 ... 11	
2642 ... CR	2036 ... B	LM 2070 ... 11	
2642 ... CXR	2057 ... B		
2657 ... CR	2214 ... BXT H		
2657 ... CXR	2232 ... BX4		
2668 ... CR	2250 ... BX4		
3242 ... CR	2250 ... BX4 S		
3257 ... CR	2444 ... B		
3272 ... CR	3056 ... B		
	3216 ... BXT H		
	3242 ... BX4		
	3268 ... BX4		
	3564 ... B		
	4221 ... BXT H		
			Included here are connection cables for controller and motor supply, sensors and interfaces, connector sets for motor- and supply side as well as mechanical components for optional top hat rail mounting.
			To view our large range of accessory parts, please refer to the „Accessories“ chapter.