

# 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	V DC
Power supply motor	$U_{mot}$	0 ... 50	V DC
PWM switching frequency	$f_{PWM}$	100	kHz
Efficiency electronic	$\eta$	97	%
Max. continuous output current	$I_{cont}$	5	A
Max. peak output current <sup>1)</sup>	$I_{max}$	15	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
Housing material		aluminium, powder-coated	
Mass		RS / CO: 230 ET: 270	g

<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	CANopen / USB	RS232 / USB
Fieldbus	RS232	CANopen	EtherCAT

### Basic features

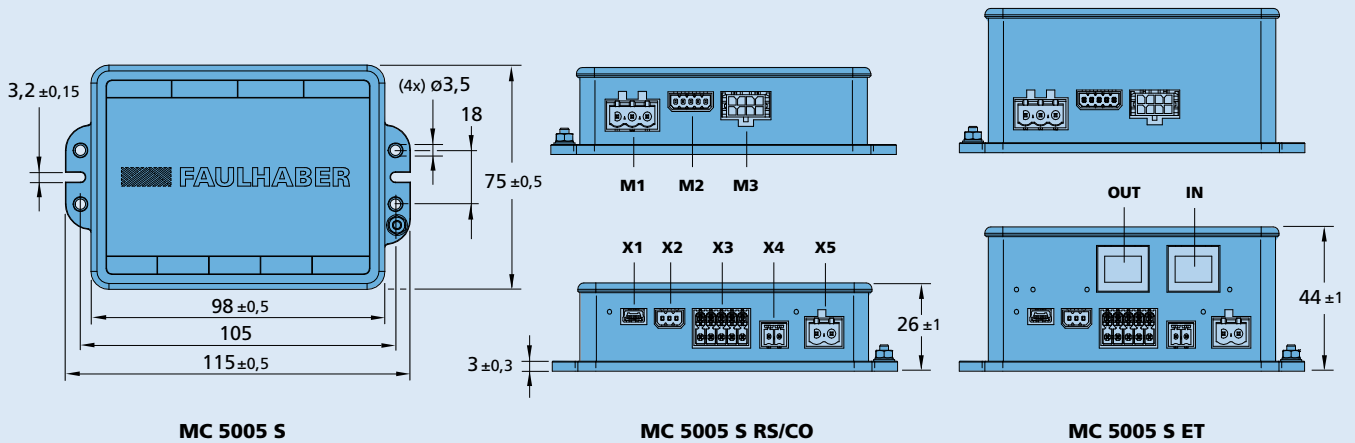
- Control of brushless, DC- and linear motors
- Supported sensor systems: absolute encoders (AES or SSI), incremental encoders (optical or magnetic), Hall sensors(digital or analog), tachometers
- Positioning resolution when using analog Hall sensors as position encoder: 4096 increments per revolution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



### Options and connection information

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

Option	Type	Description	Connection			
			Name	Function	Input/Output	Description
			<b>X1</b>	Configuration interface		USB
			<b>X2</b>	Fieldbus		RS: RS232 CO: CANOpen
			<b>X3</b>	Input/Output	DigIn1, DigIn2, DigIn3 DigOut1, DigOut2 AnIn1, AnIn2 U <sub>out</sub> / GND	TTL or PLC level max. 0,7A cont. current ± 10V against AGND 5V
			<b>X4</b>	Electronic power supply		
			<b>X5</b>	Motor power supply		
			<b>M1</b>	Motor phases	A, B, C	
			<b>M2</b>	Hall sensors	A, B, C U <sub>out</sub> / GND	digital or analog 5V
			<b>M3</b>	Encoder	A, $\bar{A}$ , B, $\bar{B}$ , I, $\bar{I}$ EN, $\bar{E}N$ , CLOCK, $\bar{C}LOCK$ , DATA, $\bar{D}ATA$ U <sub>out</sub> / GND	max. 5MHz AES or SSI 5V
			<b>IN</b>	Fieldbus		EtherCAT IN
			<b>OUT</b>	Fieldbus		EtherCAT OUT
<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 2342 ... CR 2642 ... CXR 2642 ... CR 2657 ... CXR 2657 ... CR 2668 ... CR 3242 ... CR 3257 ... CR 3272 ... CR	2036 ... B 2057 ... B 2057 ... BHS 2232 ... BX4 2250 ... BX4 2250 ... BX4 S 2444 ... B 3056 ... B 3242 ... BX4 3268 ... BX4 3564 ... B	LM 1247 ... 11 LM 1483 ... 11 LM 2070 ... 11	<p>An extensive range of accessories is available for the products of the MC 5010 and MC 5005 controller series.</p> <p>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.</p> <p>To view our large range of accessory parts, please refer to the „Accessories“ chapter.</p>