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	η	97	%
Max. continuous output current	I_{cont}	5	A
Max. peak output current [1]	I_{max}	15	A
Standby current for electronic (@ 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

[1] S2 mode for max. 60s

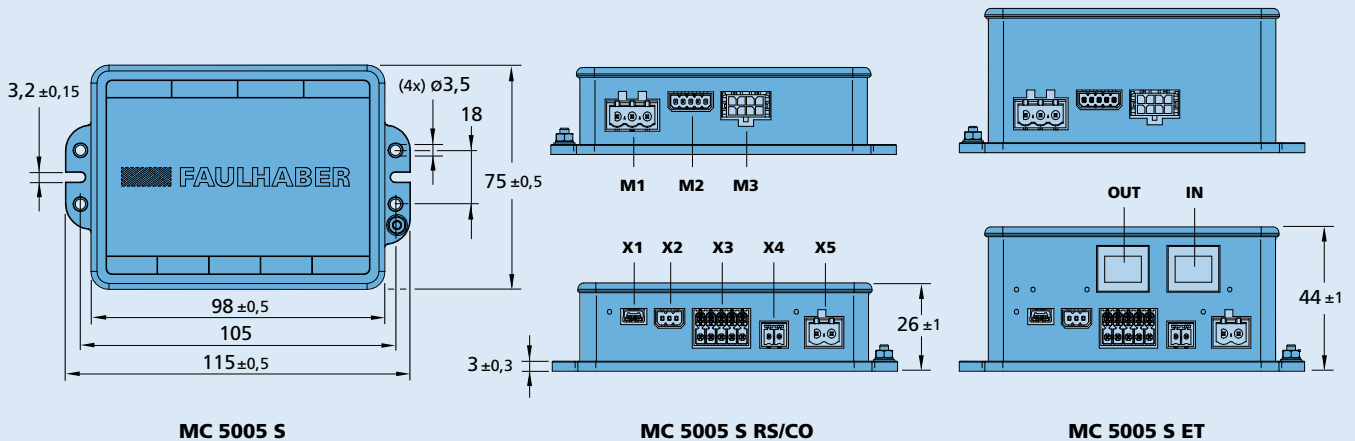| Interfaces	MC 5005 S RS	MC 5005 S CO	MC 5005 S ET
Configuration from Motion Manager 6.0	RS232 / USB	CANopen / USB	RS232 / USB
Fieldbus	RS232	CANopen	EtherCAT

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 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	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
6419	Encoder combination	Integrated terminating resistor for combination with absolute encoder AES-4096 L or AEMT-12/16 L

Connection

Name	Function	Input/Output	Description
X1	Configuration interface		USB
X2	Fieldbus		RS: RS232
			CO: CANOpen
X3	Input/Output	DigIn1, DigIn2, DigIn3	TTL or PLC level
		DigOut1, DigOut2	max. 0,7A cont. current
		AnIn1, AnIn2	± 10V against AGND
		U_{out} / GND	5V
X4	Electronic power supply		
X5	Motor power supply		
M1	Motor phases	A, B, C	
M2	Hall sensors	A, B, C	digital or analog
		U_{out} / GND	5V
M3	Encoder	A, $\overline{A}$, B, $\overline{B}$, I, $\overline{I}$	max. 5MHz
		EN, $\overline{EN}$, CLOCK, $\overline{CLOCK}$, DATA, $\overline{DATA}$	AES or SSI
		U_{out} / GND	5V
IN	Fieldbus		EtherCAT IN
OUT	Fieldbus		EtherCAT OUT

Note: 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		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.
2657 ... CXR	2232 ... BX4		
2668 ... CR	2250 ... BX4		
3242 ... CR	2444 ... B		
3257 ... CR	3056 ... B		
3272 ... CR	3216 ... BXT H		To view our large range of accessory parts, please refer to the „Accessories" chapter.
	3242 ... BX4		
	3268 ... BX4		
	3564 ... B		
	4221 ... BXT H		