

Motion Controllers

CiA402 servo drive, 4-Quadrant PWM
with RS232, CANopen or EtherCAT interface

MC 5010 S

Values at 22°C		MC 5010 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}	10	A
Max. peak output current ¹⁾	I_{max}	30	A
Standby current for electronic (@ $U_P=24V$)	I_{el}	RS / CO: 0,06 ET: 0,07	A
MTTF ²⁾		RS / CO: 580 000 ET: 360 000	h
Operating temperature range		-40 ... +85	°C
Housing material		aluminium, powder-coated	
Mass		RS / CO: 230 ET: 270	g

¹⁾ S2 mode for max. 3s

²⁾ „Mean time to failure“ at maximum operating condition

Interfaces	MC 5010 S RS	MC 5010 S CO	MC 5010 S ET
Configuration from Motion Manager 7	RS232 / USB	CANopen / USB	RS232 / USB
Fieldbus	RS232	CANopen	EtherCAT

Basic features

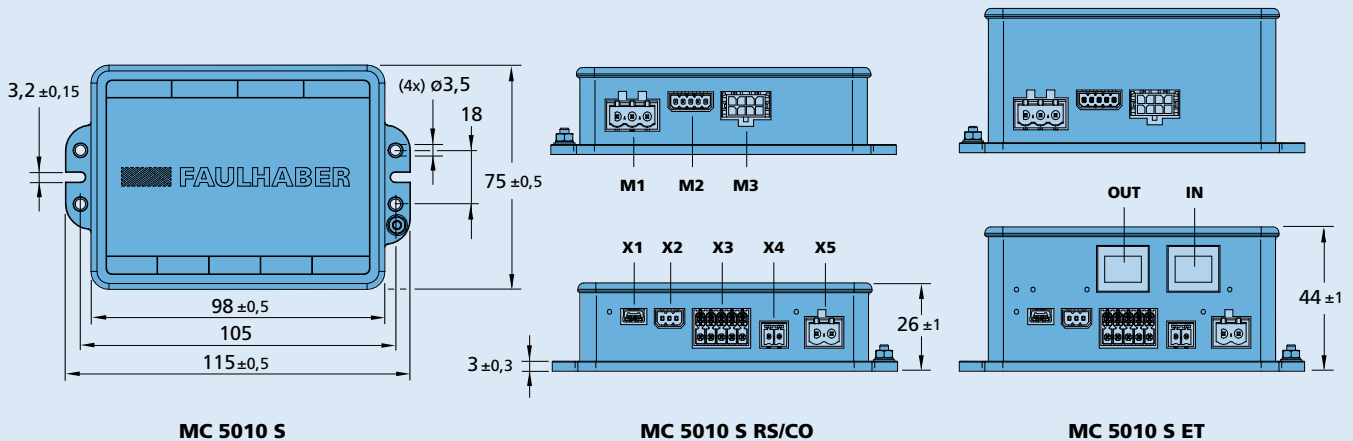
- Control of brushless, DC- and linear motors
- Supported sensor systems: absolute encoders (AES or SSI), incremental encoders (optical or magnetic), Hall sensors (digital or analog), tachometers
- Positioning resolution when using analog Hall sensors as position encoder: 4096 increments per revolution
- 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, 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
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 5010 S RS**

Option	Type	Description	Connection		
			Name	Function	Description
6419	Encoder combination	Integrated terminating resistor for combination with absolute encoder AES-4096 L or AEMT-12/16 L	X1	Configuration interface	USB
			X2	Fieldbus	RS: RS232 CO: CANOpen
			X3	Input/Output	DigIn1, DigIn2, DigIn3 DigOut1, DigOut2 AnIn1, AnIn2 U _{out} / GND
			X4	Electronic power supply	TTL or PLC level max. 0,7A cont. current ± 10V against AGND
			X5	Motor power supply	5V
			M1	Motor phases	A, B, C
			M2	Hall sensors	A, B, C U _{out} / GND
			M3	Encoder	A, $\bar{A}$, B, $\bar{B}$, I, $\bar{I}$ EN, $\bar{E}N$, CLOCK, $\bar{C}LOCK$, DATA, $\bar{D}ATA$ U _{out} / GND
			IN	Fieldbus	max. 5MHz AES or SSI
			OUT	Fieldbus	5V EtherCAT IN EtherCAT OUT
Note: For details on the connection assignment, see device manual for the MC 5010.					

Product combination

DC-Motors	Brushless DC-Motors	Cables / Accessories	
3242 ... CR 3257 ... CR 3272 ... CR 3863 ... CR 3890 ... CR	2264 ... BP4 3242 ... BX4 3268 ... BX4 3274 ... BP4 3564 ... B 4490 ... B 4490 ... BS	An extensive range of accessories is available for the products of the MC 5010 and MC 5005 controller series. 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.	