

Motion Controller

V3.0, 4-Quadrant PWM

with RS232, CANopen or EtherCAT interface

Series MC 5010

| Values at 22°C and nominal voltage | | MC 5010 S | |
|--|-------------|--------------------------|-----|
| Power supply for electronics | U_p | 12 ... 50 | V |
| Power supply for motor | U_{mot} | 0 ... 50 | V |
| PWM switching frequency | f_{PWM} | 100 | kHz |
| Efficiency, electronics | η | 97 | % |
| Max. continuous output current | I_{dauer} | 10 | A |
| Max. peak output current ¹⁾ | I_{max} | 30 | A |
| Total standby current (at 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. 3s

| Interface | MC 5010 S RS | MC 5010 S CO | MC 5010 S ET |
|---------------------------------------|--------------|---------------|--------------|
| Configuration with Motion Manager 6.0 | RS232 / USB | CANopen / USB | RS232 / USB |
| Fieldbus | RS232 | CANopen | EtherCAT |

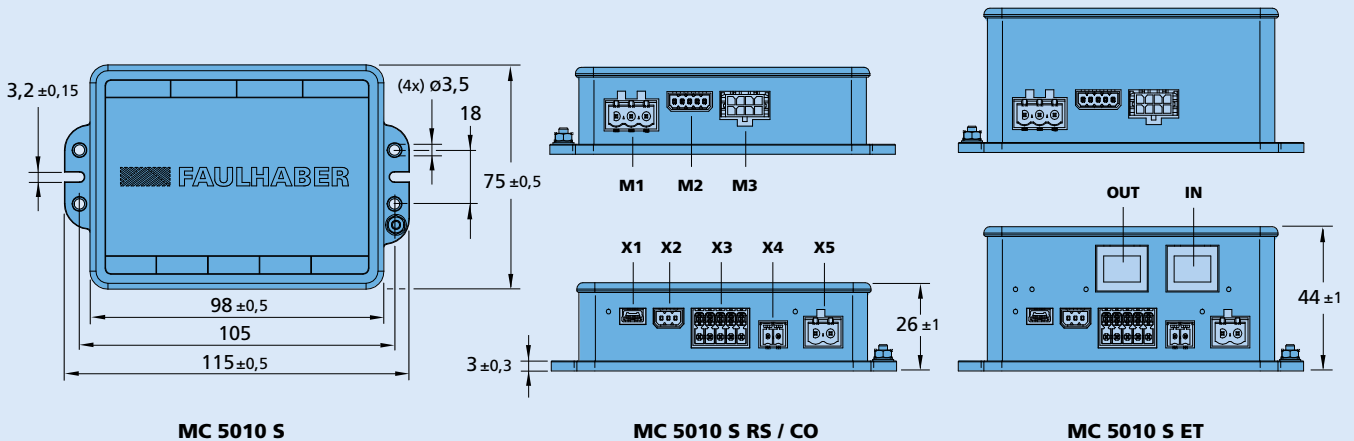
Basic features

- Operation 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.
- Position resolution when using analog Hall sensors as position encoders: 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 | MC 5010 S |
|----------------------------------|---|
| 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 ⁻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 | 2 LEDs for displaying the operating state Trace as recorder (scope function) or logger |
| Motor types | DC, BL- and linear motors |

Dimensional drawing

Scale reduced



Option, cable and connection information

Example product designation: **MC 5010 S RS**

| Option | Type | Description | Connection | | | |
|---|------|-------------|------------|-------------------------|--|--|
| | | | Name | Function | Input/Output | Description |
| | | | X1 | Configuration interface | | USB |
| | | | X2 | Fieldbus | | RS: RS232 CO: CANOpen |
| | | | X3 | Input/Output | DigIn1, DigIn2, DigIn3 DigOut1, DigOut2 AnIn1, AnIn2 U _{out} / GND | TTL or PLC level max. 0,7A cont. current ± 10V against AnGND 5V |
| | | | X4 | Electronic power supply | | |
| | | | X5 | Motor power supply | | |
| | | | M1 | Motor phases | A, B, C | |
| | | | M2 | Hall sensors | A, B, C U _{out} / GND | digital or analog 5V |
| | | | M3 | Encoder | A, \bar{A} , B, \bar{B} , I, \bar{I} EN, \bar{EN} , CLOCK, \bar{CLOCK} , DATA, \bar{DATA} U _{out} / GND | max. 5MHz AES or SSI 5V |
| | | | IN | Fieldbus | | EtherCAT IN |
| | | | OUT | Fieldbus | | EtherCAT OUT |
| Note: For details on the connection assignment, see device manual for the MC 5010. | | | | | | |

Product Combination

| DC-Motors | Brushless DC-Motors | Linear DC-Servomotors | Cables / Accessories |
|---|---|-----------------------|--|
| 3242 ... CR 3257 ... CR 3272 ... CR 3863 ... CR 3890 ... CR | 3242 ... BX4 3268 ... BX4 3274 ... BP4 3564 ... B 4490 ... B 4490 ... BS | | <p>An extensive range of accessories is available for the products of the MC 5010 and 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 DIN rail mounting.</p> <p>Note: Detailed information about the accessories can be found in the accessory manual, which is available for download on our homepage at www.faulhaber.com.</p> |