

FMod-I2C485ECMOT DB 48/10

Datasheet

Compact control device for DC brushed and 3 phases brushless (with hall sensors) motors, 15A repetitive (720W), 10A continuous (480W). 4 quadrants power stage and 32bit PID algorithms for position or speed control using the trapezoid trajectory profile.

All the calculations are done on board, in order to minimize the communication rate with a control/supervising I2C master or RS485. Up to 100 devices can be connected to the same I2C or RS485 bus in daisychain configuration.

This daughter board (DB) can easily be plugged to a motherboard without any cables, but through its 20 + 26 pins (2.54mm space) connectors.



Dimensions

80 x 56 x 25 mm (LxBxH), four 4 mm holes.

Electronic interface

Hardware: I2C interface: SDA, SCL (100-400kHz)
RS485 (115'200 bps)

Power interface

Motor power connector DC [15-48V], max 15A
Limits, hall sensors and encoder can be supply by this board in +5 VDC, 200mA.

Motion control

Regulator: **32 bit PID with auto-tuning capability**
Sampling rate: 20 - 2000 Hz (regulation frequency)
Modes:
- Brake
- Free
- Open Loop
- Speed Control (with trajectory profile)
- Position Control (with trajectory profile)
Homing (reference): 10 different homing modes
Limits (end strokes): 2 independently powered inputs, configurable behaviour
Extra feature: **EC motors' Hall sensors can be used as encoders.**

PWM output

69 kHz or 35 kHz, 4 quadrants management, power-bridge with thermal protection.
10A continuous, 15A max, motor output power.

Current limitation

Onboard configuration possible between 0.1 and 15 A, thus preventing motor overheating and wear.

Limits

2 mechanical, optical or hall sensors (5V) can be connected and configured for different purposes such as homing.

Encoder

5V DC, incremental A+B (+Index) (max 500 kHz) quadrature encoder **with differential lines (RS422 driver)**.
Also compliant with non-differential encoder.

Where to find more information

Please download the user's manual from the following address: <http://www.fiveco.ch/motor-controllers-products.html>

Developed and made in Switzerland

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