

# FMod-I2CDCMOT DB 48/1.5

Datasheet

Small control device for brushed DC motors (max 70W continuous) with 32bit PID algorithms for position or speed control using the trapezoidal trajectory profile.

All the calculations are done on board, in order to minimize the communication rate with a control/supervising I2C master. Up to 112 devices can be connected to the same I2C bus in daisychain configuration.

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



## Dimensions

48 x 35 x 23 mm (LxBxH), four 4 mm holes.

## Electronic interface

Hardware: I2C interface: SDA, SCL (100-400kHz)  
Software: Standard I2C protocol, 7+1bit address & multibyte data.

## Power interface

Motor power connector DC [10-48V], max 2A.  
Logic power connector DC [5V], <50mA.

## 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): 6 different homing modes  
Limits (end strokes): 2 independently powered inputs, configurable behaviour

## PWM output

69 kHz or 35 kHz, 4 quadrants management  
1.5A continuous motor output current and 2A peak current.

## Current limitation

Onboard configuration possible between 0.05 and 1.5 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 (max 500 kHz) quadrature encoder compatible.

## 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*

08062016/3.2 Specifications may change without prior notice.