

FMod-I2CDCMOT DB 48/1.5

Datasheet

Low cost and very 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 (data & 5V power) in daisychain configuration.

This daughter board (DB), dedicated to production, 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
Software: Standard I2C protocol, 7+1bit address & multibyte data.

Power interface

Motor power connector DC [10-48V], max 1.5A.
Logic power connector DC [5V], 100mA.

Motion control

Regulator: **32 bit PID with auto-tuning capability**
Sampling rate: 20 - 2000 Hz (regulation frequency)
Modes:
- Brake Mode
- Free Mode
- Open Loop Mode
- Speed Control Mode (with trajectory profile)
- Position Control Mode (with trajectory profile)
Homing (reference): 6 different homing modes
Limits (end strokes): 2 independently powered inputs, configurable behaviour

PWM output

70 kHz or 35 kHz, 4 quadrants management
1.5A continuous motor output power

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/section_motion/support_motion_E.htm