

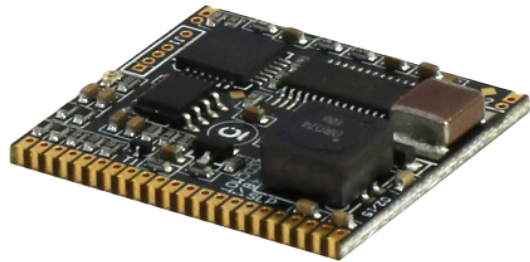
FMod-I2CDCMOT SLP 48/1

Datasheet

Very small control device for brushed DC motors (max 48W continuous) with 32bit PID algorithms for position or speed control using the trapezoidal trajectory profile. Ultra low power consumption in standby mode, typically less than 1 μ A, therefore ideal for portable and compact applications.

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 can easily be soldered directly to a motherboard without any cables through its 22 + 2 plated holes on board edge (1.27mm spacing). In addition to that, 1.27 mm spacing male connector can be soldered to the board, making it plugable, horizontally or vertically, to a dedicated motherboard.



Dimensions

26 x 28.5 x 6.1 mm (LxBxH), without 1.27mm spacing connector

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], max 50mA.
Power consumption in standby mode for motor and logic power is **50nA for each at 25°C**, less than 1 μ A for each at 85°C.

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)
- Standby
Homing (reference): 6 different homing modes.
Limits (end strokes): 2 independently powered inputs, configurable behaviour.
General IOs: 2 IOs, 5V, A/D inputs, digital outputs, general purpose.

PWM output

69 kHz or 35 kHz, 4 quadrants management.
1A continuous motor output current and 2A peak current.

Current limitation

Onboard configuration possible between 0.05 and 2 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

08062016/1.6 Specifications may change without prior notice.