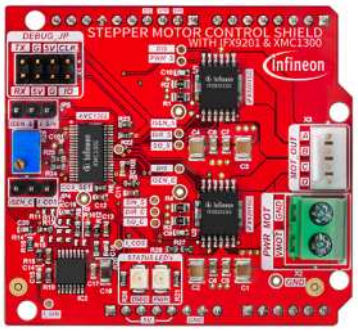


New Products Introduction

March 2018

Stepper Motor Control Shield with IFX9201 & XMC1300

Hardware Compatible to Arduino



The stepper motor control shield based on Infineon's h-bridge IFX9201 and XMC1300 microcontroller is capable of driving the two coils in a stepper motor featuring dual-h-bridge configuration. The implemented integrated IFX9201 h-bridges can be controlled by a STEP-signal via the STEP Pin. Interfacing to a microcontroller is made easy by the integrated XMC1300 microcontroller that holds the peripherals to allow high-speed current control. Micro-stepping of the stepper motor can be achieved using the internal comparators. Operational amplifiers are installed to adapt the motor current sense signal to the microcontroller's input levels. This high current stepper motor control boards is compatible with Arduino microcontroller boards and with Infineon's XMC™ microcontroller kits using the Arduino form factor.

Features

- Compatible with Arduino Uno R3
- Compatible to XMC1300
- Capable of high performance current control
- Micro stepping degree can be adjusted by software
- Driver circuit with logic level inputs

Application examples

- Automation
- Machine tools
- CNC-machines
- 3D-Printers
- Robots

Target applications

- Stepper motors up to 5A phase current
- 24V nominal input voltage for the power stage
- Average motor current 3A without additional cooling effort, 5A possible with proper cooling

Benefits

- Fast and inexpensive prototyping of stepper motor control
- Simple testing of micro stepping algorithms
- Diagnose pin to allow hardware feedback during development
- Overtemperature shut down with latch behavior and undervoltage shut down of the power section

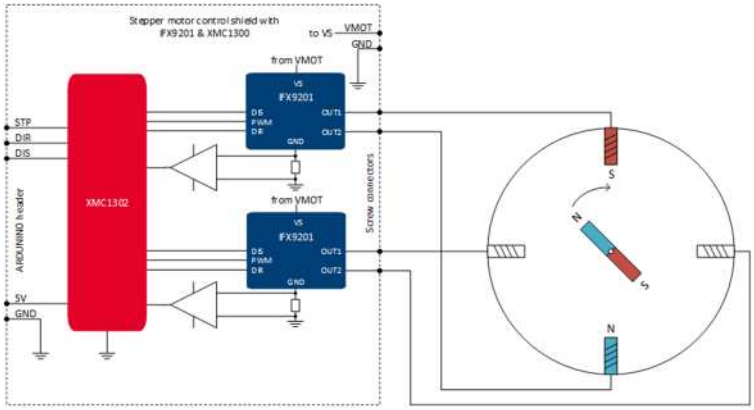
NEW Value propositions

- Higher current than typical integrated Solutions as Pololu or TMC stepper drivers
- Random factor for micro stepping possible
- Designed to develop and optimize control algorithms as well as using existing ones.

Qualification

- Industrial

Block diagram



Complementary products (P2S)

> IFX9201SG - SP001281886
> XMC1302T038X0200 - SP001248394

Product collaterals / online support

> Sales presentation
> Customer connector
> Product page

Product overview incl. data sheet links

OPN	SP Number	Registrable	MDQ/MQQ/MOQ	Package	DC in EUR/ 1pcs
KITXMC1300IFX9201TOBO1	SP001667068	N	1	N/A	29,00