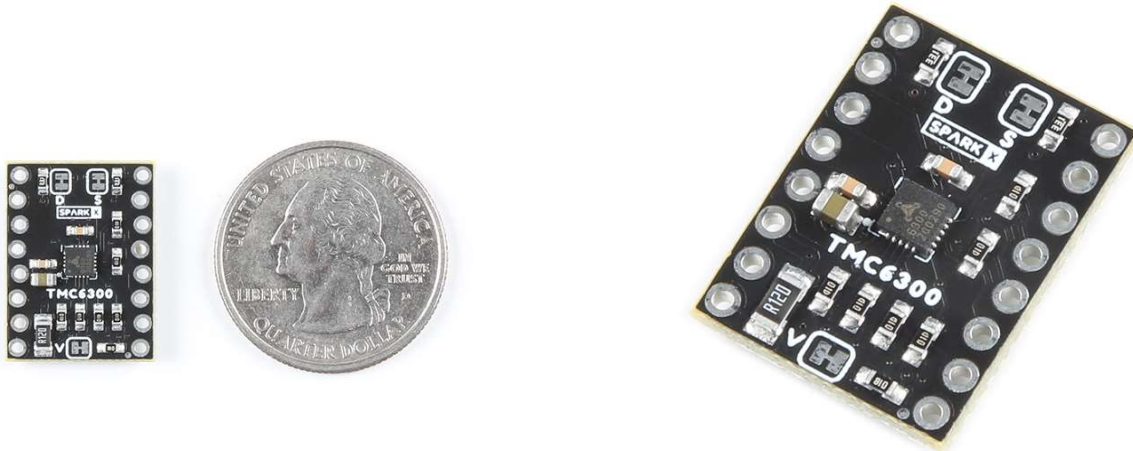


3 Phase Brushless Motor Driver - TMC6300

ROB-21220



The TMC6300 from Trinamic is a powerful, yet easy to use three phase brushless DC (BLDC) motor driver. Separate high side and low side controls allow for incredible control up to 2A of current. The driver is temperature and short circuit protected with a diagnostic output pin to indicate system issues. With an operating voltage down to 2V, the TMC6300 is suitable for battery powered designs.

We've designed an innovative two-sided, four-layer breakout board to make hookup as easy as possible. The board is mounted with LEDs and labels facing up, IC down. This allows the thermal pad on the board to be access if cooling is required.

Controlling three-phase BLDC motors is not trivial. This board requires six PWM signals to fully control one motor. We've found the *Arduino Simple Field Oriented Control* library to be very good. The open loop example combined with the six-channel PWM method and every PWM pin on the Arduino Uno gets this board working. Note the pairs of PWM pins that must be used.

This board was designed to control our three-phase Brushless Gimbal Stabilizer Motor but can be used with any 3-phase motor up to 2A.

Features:

- Driver IC: TMC6300
- Input Voltage: 2-11V
- Max current: 2A
- Operating current: 7mA
- Standby current: 30nA
- Protection: Thermal shutdown, short circuit shutdown