ZERRO

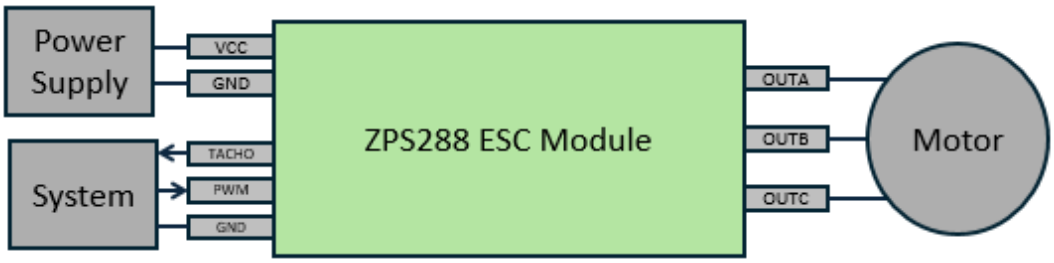
ZPS288

SIMPLE BLDC™ Overview

The **SIMPLE BLDC™** PCBA uses ZPS288 3 Phase Motor Controller IC from Zerro Power Systems. The ZPS288 drives a 3-phase brushless and sensorless DC motor in full bridge mode. Various functions and parameters can be selected through standard I^2C protocol. The speed of the fan can be controlled through the PWM pin.

- Sensor-less 3 phase fan motor control
- Integrated pre-drivers and internal MOSFET
- Up to 3A drive capability
- Auto spin-up using inductive sensing for position detect
- Optional blind spin startup
- Programmable spin up current limit
- Open or closed loop speed control
- 8-point Programmable PWM profile
- Sinusoidal (sine) PWM drive with bit selectable option for a 6-step drive
- Open loop PWM mapping
- Pole mismatch compensation to minimize jitter
- 5-bit torque adjustment for best torque ripple
- Speed fault detection
- Programmable acceleration and deceleration control
- Guaranteed start-up from reverse spin condition
- Programmable alarm and retry timing
- I^2C compatible PWM/TACHO pins
- Multi options for FG/TACHO signal output
- 6V to 22.0V operation (UV threshold 5V)
- Clean power up with no current spikes
- Inrush current control[1]
- QFN24L 4.0mm x 4.00mm or CSP49 2.6mm x 2.6mm[1]

NOTE1: See ordering part number for available variants of this board.



PCBA Block Diagram shown with PWM/Tacho interface option.
PWM/TACHO pins can be configured as I2C interface as an option.

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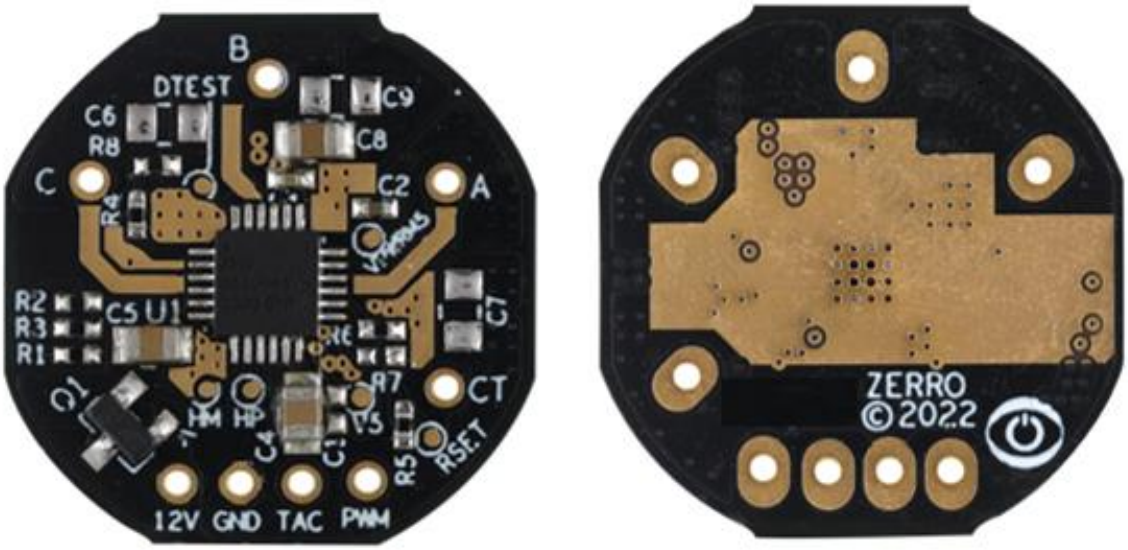
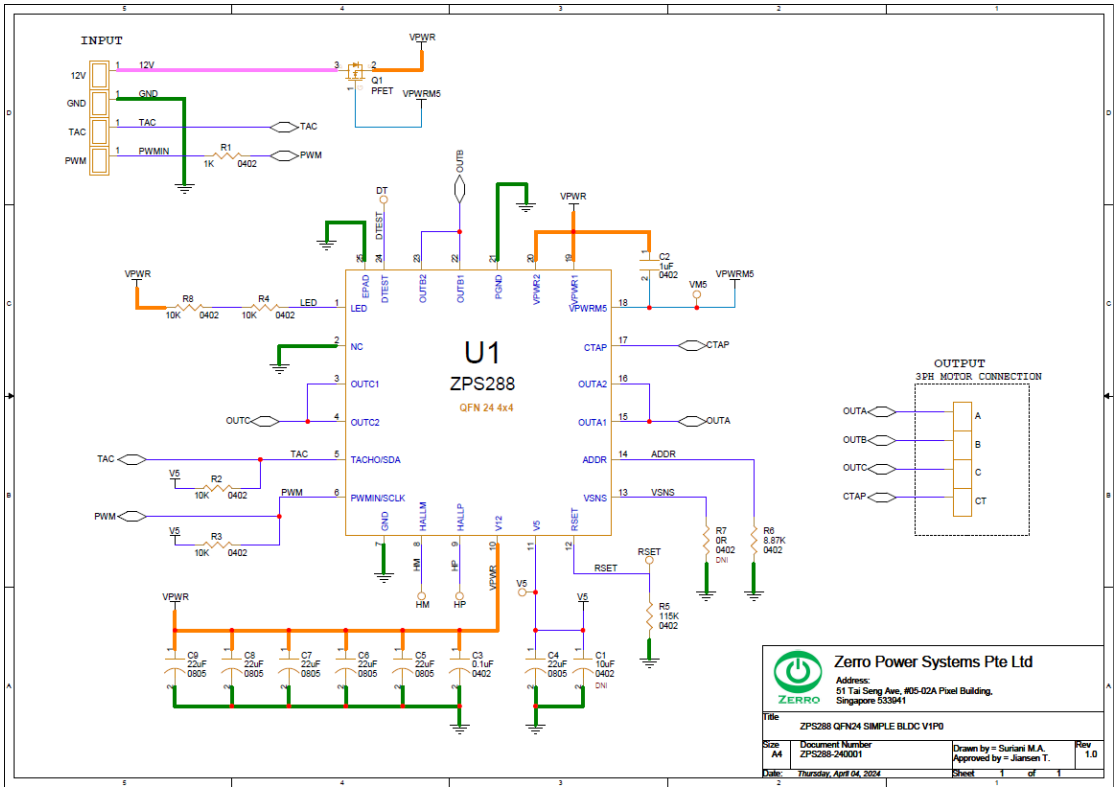
SIMPLE BLDC™ PCBA Description

Pin names:
VCC = V, GND = G, OUTA = A, OUTB = B, OUTC = C, TACHO = T, PWM = P



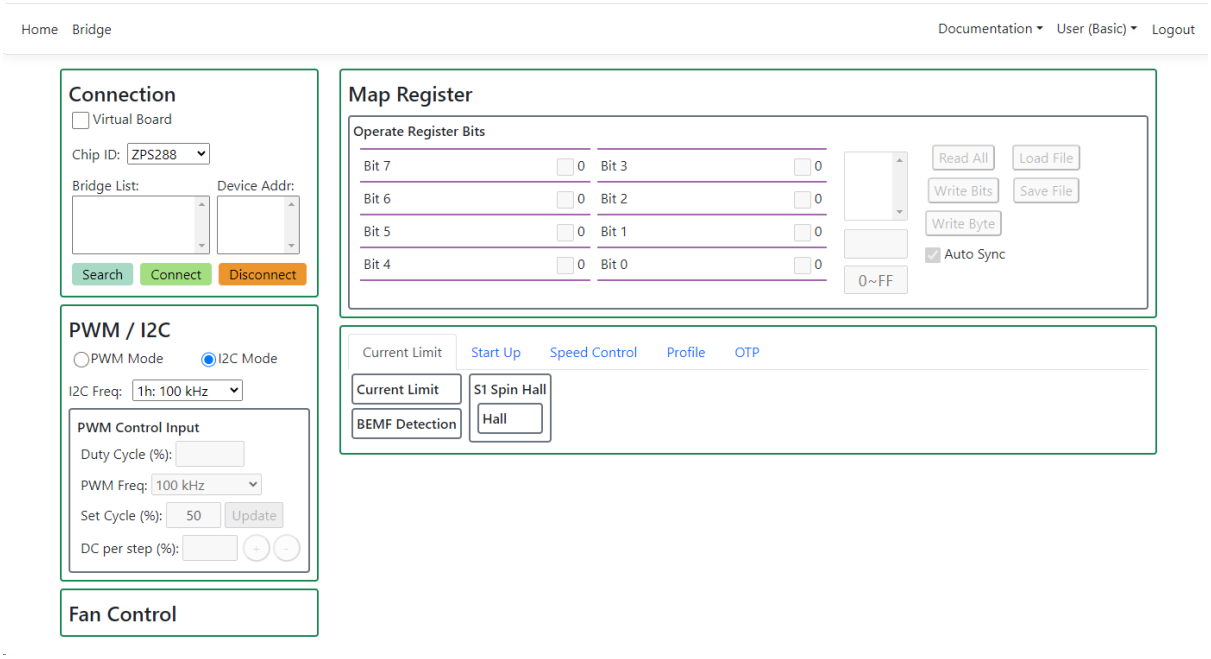
SIMPLE BLDC™ PCBA with QFN24L Front and Back View

Application Circuit



Programming Interface GUI

Easy to use GUI can be found at https://zpsgui.com/ GUI user manual is available on the site after login. Contact your local representative for a user account.



Ordering Part number

Following variants are available.

ZPS2883QC10	With QFN24L, 3A part
ZPS2882QC10	With QFN24L, 2A part
ZPS2881QC10	With QFN24L, 1A part
ZPS2883QC20	With QFN24L, 3A part, inrush current control
ZPS2882QC20	With QFN24L, 2A part, inrush current control
ZPS2881QC20	With QFN24L, 1A part, inrush current control
ZPS2883CC10	With CSP49, 3A part
ZPS2882CC10	With CSP49, 2A part
ZPS2881CC10	With CSP49, 1A part
ZPS2883CC20	With CSP49, 3A part, inrush current control
ZPS2882CC20	With CSP49, 2A part, inrush current control
ZPS2881CC20	With CSP49, 1A part, inrush current control