METU POWERLAB

Prepared by Serhat ÖZKÜÇÜK

Subject: TI DRV8312 DEVELOPMENT TOOL



<http://www.ti.com/tool/DRV8312-69M-KIT>

User Manual : <http://www.ti.com/lit/ug/spruhj1h/spruhj1h.pdf>

MICROCONTROLLER

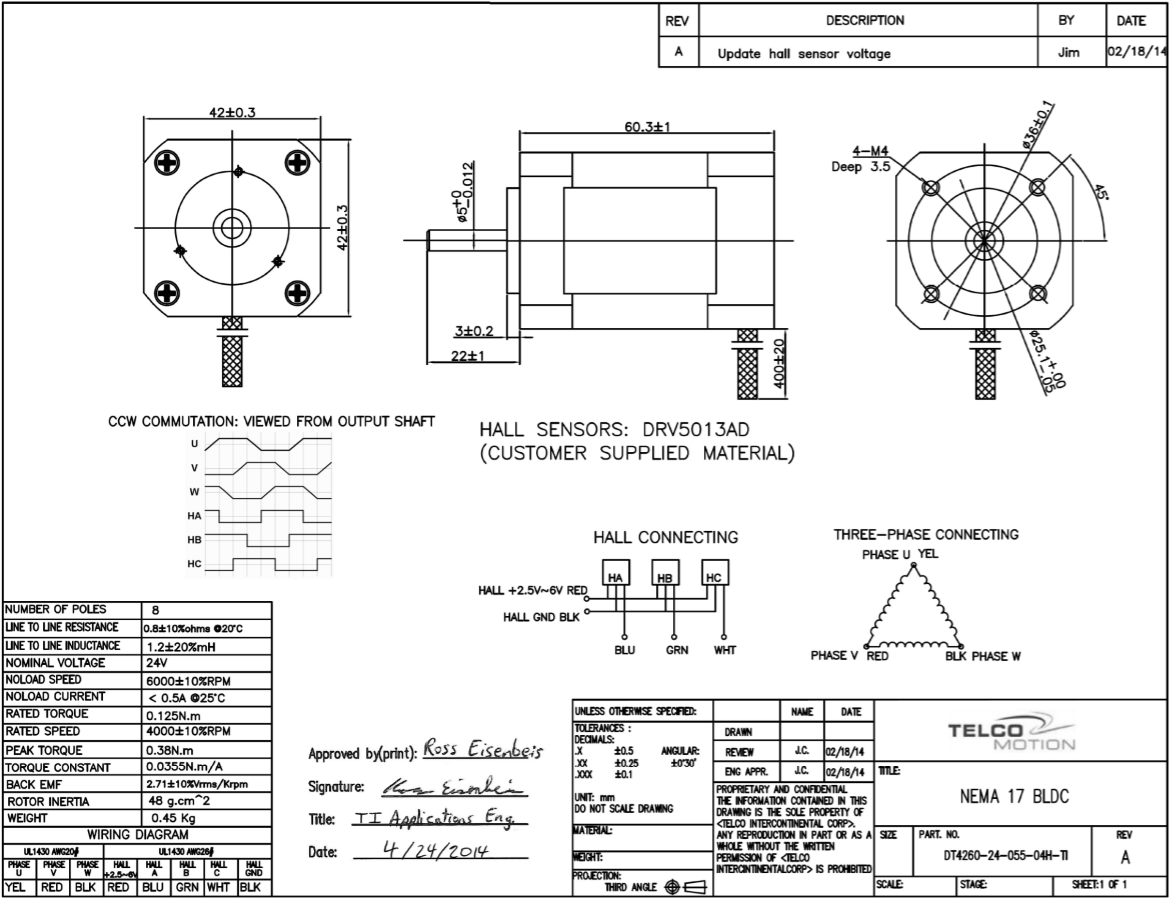
Piccolo TMDSCNCD28069MISO controlCARD

<http://www.ti.com/tool/TMDSCNCD28069MISO>



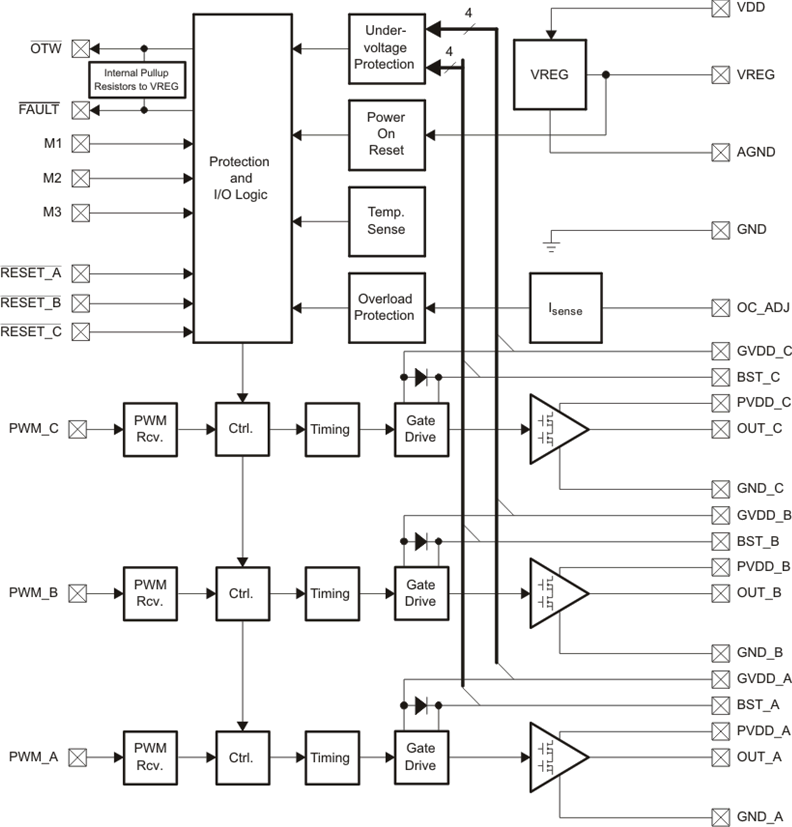
MOTOR

DT4260-24-055-04H-PT 24VDC 4000RPM 1814-0067MOTOR (telcointercon)

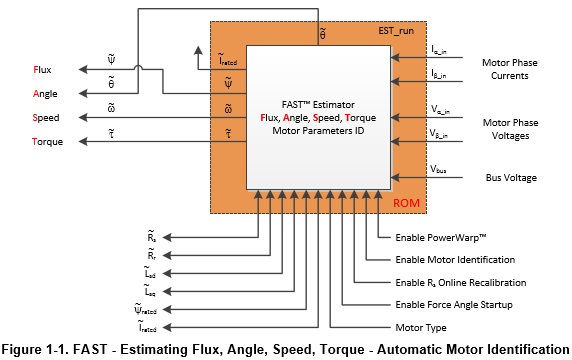


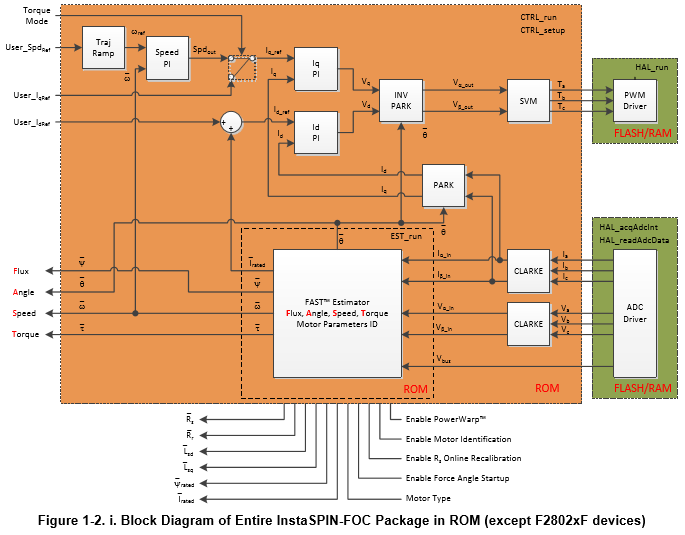
MOTOR DRIVE

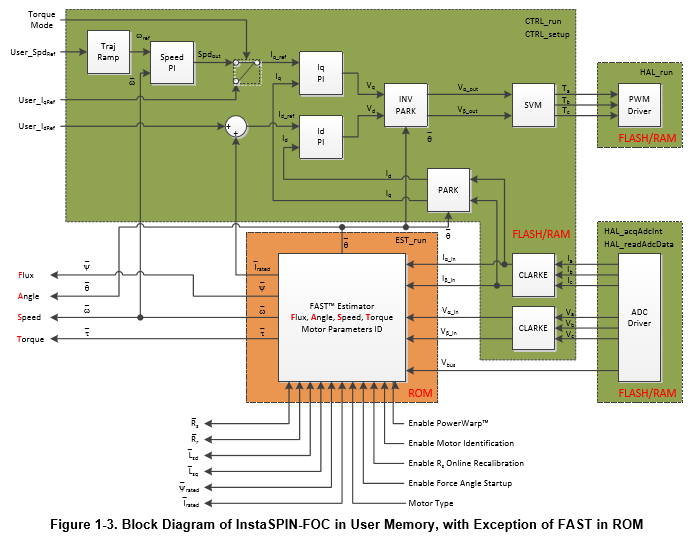
DRV8312 IC

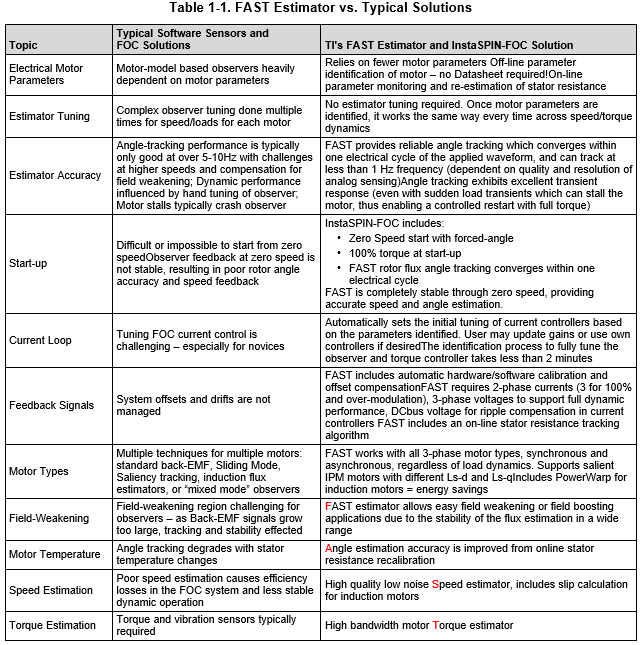


SYSTEM PRINCIPLE









NOTES

* DSP can provide sensorless drive of BLDC or PMSM
* Beginning of the drive, it identifies the motor parameters (Lsd, Lsq, Rs, Flux, Mag. Current, Rr) for sensorless operation.
* Also defines the inertia of shaft if it is connected any constant load
* There is a bandwidth set in the insta-motion app. With this set rotor of the motor is keeping at a specific position with stator excitations. It uses this set in spinning mode. If BW set high (60 out of 0-100) rotor is locked and unresponsive to disturbances and spinning does not start with lower rpms (0-100).