



# ENGINEERING

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## G005233 - 400V, 8KW Motor drive

### Modular System

Power stage and mounting system can be reconfigured to meet customer requirements. Local film or ceramic capacitor block is added based on customers target bus ripple voltage and operating power level.

### Silicon Carbide MOSFETs

Power Mosfets are mounted onto an aluminum core PCB, giving more surface area to dissipate heat into the surrounding oil. Only two screws are needed to mount the drive into a housing.

### 3 Phase BLDC Drive

Supported servo position feedback options include onboard magnetic encoder, hall sensors, and various external digital encoders. FOC version can be produced if customer requires.

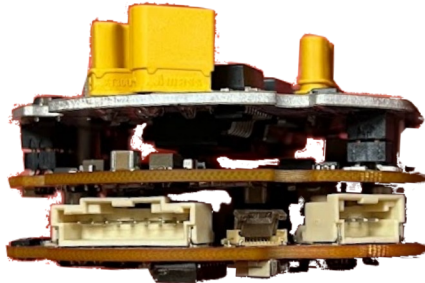
Multi-turn revolution counting with persistence across power cycles; no homing required.

### Compact and Re-configurable

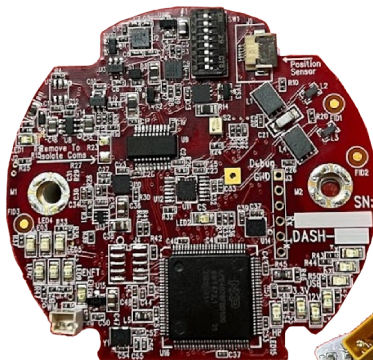
Custom mounting plates, extra software controlled IO, and reduced-height options are available. Firmware customization available per customer requirements.

### Software

2G's JAMBUI software allows for configuration, control and data acquisition across all of our products. JAMBUI also supports user scripts (written in Python) and custom GUIs.

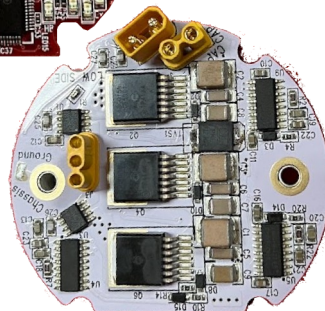


2.5" diameter, ~1" tall for 400V configuration



Top View

Bottom View



### Motor Drive has 450V-tolerant integrated logic supply

All of 2G's products are designed in house, including software and hardware. We are beholden to no 3<sup>rd</sup> parties for modifications of the design to meet a customer's requirements. Therefore, if a customer needs a new feature added to the servo controller, it can be implemented and deployed quickly.

Review the [command set document](#) for an idea of the standard features the servo drive supports. Contact us at [sales@2g-eng.com](mailto:sales@2g-eng.com) if you have any questions or additional requirements.

- **Standard power drive stage**
  - ~100 kHz switching speed
  - 400V DC Nominal operation
  - 20 A motor current
  - Integrated logic power supply
  - 2.5" OD, 1" Tall, with optional local capacitors drive is ~4" tall
- **Industry specific highlights**
  - Designed for PBOF usage
  - Operation to 10,000 PSI
  - API 17F Q1 capable
  - High TRL level achievable out of the box
- **Standard Servo drive features**
  - PID loops for position, velocity, and torque control
  - Motion profiler for controlled acceleration rates
  - Built in protection features
  - Current, voltage, and temperature monitoring
- **User IO**
  - Isolated Serial Buses: RS-232, RS-485, CAN
  - Ethernet
  - 2x Temperature sensors
- **Software protocols**
  - MODBUS RTU, TCP, or ASCII with JAMBUI extensions
  - CANopen or Raw CAN Frames
  - Others per customer request

2G Engineering has an AS 9100 /  
ISO 9001 Approved QMS system.  
DOC#2230052 REV DRAFT

