



# ENGINEERING

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## 800V, 73KW Motor drive A modular motor drive system

### Modular System

Optional soft-start to charge internal bus capacitors.  
Power stage and mounting system can be reconfigured to meet customer requirements.

### Self-Contained

No external capacitance required.  
Internal logic power supply can be configured for 21-55V input or 100-800V input.  
Built-in magnetic rotary encoder for rotor angle feedback can eliminate the need for an external resolver or other angle sensor.

### 3 Phase FOC Drive

Supported rotor angle feedback options include onboard magnetic encoder, hall sensors, resolver, and various external digital encoders. Sensorless and open-loop modes are also available.  
Full 4-quadrant operation allows for regenerative braking or use in energy recovery applications.  
Multi-turn revolution counting with persistence across power cycles; no homing required

### Compact and Reconfigurable

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.



4.6" diameter, 4" tall for 800V configuration



Unit pictured has 1000V-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
  - 800V DC operation
  - 50 A RMS motor current
  - Integrated soft start
  - Integrated logic power supply
  - 4.6" OD, ~4" Tall
- **Optional power drive stages (same outline)**
  - 800V DC operation
  - 75 A RMS motor current
- **Low Profile version**
  - 400V operation
  - 4.6" OD, ~3.3" 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
  - 4-quadrant operation
- **User IO**
  - Isolated Serial Buses: RS-232, RS-485, CAN
  - Ethernet
  - 2x isolated digital interlock inputs
  - 2x 12-bit analog inputs with current-limited 18V power outputs for PTs or other sensors
  - 2x PWM outputs
  - 1x Solenoid output for driving a brake
  - 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.

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