



<https://epropelled.com/job/principal-electronics-design-engineer-motor-drive-power-design/>

## Principal Electronics Design Engineer – Motor Drive/Power Design

### Employment Type

Full-time

### Job Location

West Midlands or Wales, UK

### Date posted

November 12, 2021

### Description

ePropelled is looking for a skilled “hands on” principal electronics design engineer with experience in the design of high current power supplies and motor controllers for its line of high efficiency brushless motor/generators for use in a variety of applications. The ideal candidate will have successful experience taking high power motor controller design projects from concept to manufacturing.

Experience should include consideration of the thermal aspects of PCB and enclosure design, for high power systems. Familiarity with a variety of software simulation tools is also desired.

### Responsibilities

- Develop design concepts based on requirements.
- Create technical documentation, system functional and design specifications and test reports.
- Design high-power motor controllers, power regulators, high efficiency AC-DC power converters, DC-DC converters, synchronous rectifiers and battery management solutions.
- Design hardware for motor control systems utilizing embedded processors, DSPs, memory devices, OPAMPs, A/D and D/A converters, as well as other peripheral devices such as RS232 and CAN bus.
- Support new product introduction to manufacturing and through product lifecycle.
- Design PCBs for motor control hardware utilizing techniques to prevent EMC and EMI.
- Designing and selecting hardware for high temperature environments.
- Capture designs utilizing software such as Altium, DxDesigner and Allegro.
- Design PCB layout, to control of heat and transients.
- Robust testing / validation / documentation methodology for design verification.
- Fault investigation and FMEA.
- Supervise and support junior engineers.

### Qualifications

- Minimum BSc Degree in Electronic/Electrical Engineering or equivalent.
- Minimum 5 years' experience in power system design.
- Preferred automotive background with functional safety such as ISO26262.
- Familiarity with RS232, RS485 and CAN bus
- Experience with power circuit topologies and equipment using active power devices (IGBTs, diodes and SCRs) and passive components (Inductors, transformers, capacitors etc.)
- Mathematical modeling and simulation experience using software such as MATLAB/SIMULINK.
- Experience with basic electronics tools: oscilloscope, data logger, power supplies, active loads.

- Knowledge of EMC/EMI and mitigation through design.
- Must be organized and have methodical approach to problem solving.
- Strong oral and written communication skills
- Ability to work independently and as part of a team.