



JOB DESCRIPTION

Job Title: Hardware Engineer, Electrical	FLSA Status: Exempt, Full Time
Reports to: CTO	Last Revision: 9/13/2022

SUMMARY

This is for a position as part of a team tasked with the design and implementation of various products in the area of fuel cell power systems at H2 PowerTech LLC. The key responsibility of this position is the design and troubleshooting of PCBAs and electrical components

The ideal candidate is someone

- with broad experience with PCBA design
- with broad experience with the control of electro-mechanical and electrical devices
- who has a solid understanding of fuel cell technology and electrical components
- who is creative and thinks 'outside the box' when looking for cost effective solutions

PRIMARY RESPONSIBILITIES

- Designs, develops, and analyzes all aspects of analog and digital hardware.
- Specify system level architectures crossing hardware and software regimes.
- Utilize current technologies in component selection, manufacture, test, and design methods.
- Utilizes experience in hardware and software to achieve cost effective designs that best fit the project requirements and available resources.
- Selects components, test equipment and software applications for the design and manufacture of H2 PowerTech products.
- Aids in the selection of vendors for the fabrication and test of circuit boards, modules, and cable assemblies.
- Provide high quality detailed documentation for smooth transitions into manufacturing.
- Designs, develops, and documents test fixtures and procedures.
- Provide technical direction to electrical technicians, field service engineers and documentation personnel.
- Works closely with manufacturing to monitor vendor performance, quality, and cost issues.
- Support offshore manufacturing facilities when production issues arise.
- Support EMI/EMC Testing and develop solutions to meet compliance.
- Work with component manufacturers and analytical labs to perform root cause failure analysis.
- Work with Electronic Manufacturing Service (EMS) companies to build prototype and production PCBAs.



- Design and build Engineering & Production Test Carts to validate product functionality and assess component long term reliability.
- Analyze Fuel Cell System data to determine probable cause of a failure.
- Troubleshoot and repair PCBAs to the component level

MINIMUM QUALIFICATIONS

- Requires a bachelor's degree in engineering (Electrical Engineering and/or Computer Science or Engineering preferred) and at least 5 years' experience in the field or in a related area.
- Demonstrated success in a team environment.
- Experience with product commercialization and documentation requirements.
- Understands hazards of and can work safely when working with high power battery systems and line voltages of 240VAC.
- Familiar with Altium Software; symbol creation, schematic capture and layout including footprint creation.
- Knowledge of the PCB manufacturing process and ISO standards for manufacturability.
- Experience working with PCB Fabricators to answer any technical questions that arise while producing custom PCBAs for H2 PowerTech's applications.
- Skilled at soldering fine pitch components (20 mil), resistor and capacitors down to 0402 in size.
- Experience in failure analysis and troubleshooting.
- Familiar with HALT/HASS testing and methodology.
- Experience designing and building wire harnesses.
- Experience in mixed signal design.

ADDITIONAL CONSIDERATION FOR THE FOLLOWING QUALIFICATIONS

- More than 10 year's experience in PCBA design
- Understanding of Fuel Cell Technology
- Design and troubleshooting experience for high power DC systems.
- Design of both analog and digital closed loop control systems.
- Programming skills for real time embedded microcontroller-based products.
- Knowledge of FPGA/CPLD development tools for design and simulation typically using Verilog.
- Experience with obtaining product safety certification.

WORKING CONDITIONS

Primary environment: Normal interior/office work environment and/or laboratory.

Secondary environment: Manufacturing environment. May be exposed to loud noises, changing temperatures, machinery with moving parts, and exotic materials.



PHYSICAL REQUIREMENTS

Lifting up to 50 lbs, manual dexterity, visual acuity, 'hands on' person

TRAVEL REQUIREMENTS

Travel within the US and foreign countries a few times per year with overnight stays up to 14 days during an international trip.

H2 PowerTech LLC is an Equal Opportunity Employer