

Electrical Design Engineer

Position: Electrical Design Engineer
Department: Design and Development Engineering
Reports To: V.P. of Engineering

JOB SUMMARY:

Engineer to lead electronic circuit and electrical system design efforts for motion control and power conversion products. Responsibilities include requirement derivation, conceptual design, prototype and production system development, and hands-on integration and test. Successful candidates will have:

- Over 5 years of electrical design experience, both circuit and system level
- A strong grasp of control theory fundamentals
- Development experience from a system design perspective
- Practiced use of simulation programs to do preliminary trade studies and circuit review

PRIMARY RESPONSIBILITIES:

1. Electrical design and development for Trust Automation standard products and customer specific applications.
2. Development of advanced motion control and power generation/conversion systems.
3. Requirement derivation, schematic and PCB design.
4. Design verification through control system and circuit analysis.
5. Integration and test of motion control systems, electrical systems and motors.
6. Support and modification of existing hardware/software as required.
7. Collaborate with the firmware engineering team to advance drive/motor efficiencies.
8. Contribute to technical planning for future product and/or custom application architecture.
9. Contribute to project/program success by meeting design requirements on schedule and within budget.
10. Participate in Trust Automation's design and development processes, including design reviews.
11. Assist Program Managers and Trust VPs with project/program planning, including specification of product and system application solutions, task prioritization, and risk mitigation.
12. Contribute to the Trust Automation engineering team knowledge base, bringing a fresh perspective on electrical design for power conversion and motor control.
13. Participate in Trust Automation's philosophy to provide quality products, provide excellent customer service and satisfaction, while maintaining a desirable employee work environment.
14. Assist with customer interaction and perform product/system demonstrations as needed.



KNOWLEDGE AND SKILL REQUIREMENTS:

1. Minimum Qualifications:
 - BS degree in Electrical Engineering
 - 5+ years of digital and analog circuit experience
2. Experience in power electronics design.
3. Experience in schematic capture, OrCad preferred.
4. Experience with PCB layout is preferred.
5. Practical experience in PCB level component trouble shooting is required.
6. Practical experience in electrical system level troubleshooting is required.
7. Experience with circuit simulation tools (i.e. – PSpice) is preferred.
8. Experience with closed-loop control of motor torque, speed, and position experience is preferred.
9. Control system development experience (i.e. - PID) is preferred.
10. Experience with system simulation tools (i.e. – MATLAB, SIMULINK) is preferred.
11. Embedded programming experience for microcontrollers, including assembly or C languages, is preferred.
12. Familiarity with communication interfaces/protocols: SPI, I2C, Modbus, USB, CAN, RS232, RS422/RS485, Ethernet, EtherCAT, is preferred.
13. Thrives in an innovative, multidisciplinary design team environment.
14. Professional written and verbal communication skills, and excellent interpersonal skills.
15. Ability to manage time effectively and work effectively with Program Managers and upper management.

WORKING CONDITIONS:

Working conditions are normal for a High Tech Development and Manufacturing environment. Work will require weekend and/or evening work when schedules are impacted or communication is required with overseas partners. Travel to customer site may be required for program management, customer reviews, and problem resolution.

SALARY AND BENEFITS:

Salary will be determined based upon past experience, suitability to the role and the ability to manage multiple programs. Benefits will match Trust Automation's standard benefits package for employees. This includes paid personal time off, participation in the company compensation plan, IRA contributions and other company related activities. Details will be provided to candidates after the second round of interviews.