

## **ASPECT AUTOMATION Position Description**

**Position Title:** Principal Controls Engineer  
**Department:** Controls Engineering  
**Reports To:** Controls Engineering Supervisor

### **Primary Objective of Position**

Develop control design architectures for custom industrial machinery projects. Define control design standards and procedures for the Controls Engineering department.

### **Major Areas of Accountability**

#### **1. Technical Responsibilities**

- Conceptualize control systems for custom machinery projects, including hardware strategies, programming architectures, and safety analysis.
- Analyze technical challenges and devise creative solutions by drawing on available resources.
- Provide guidance and support for department personnel during the engineering phases of control systems and machines.
- Guide and advise machine debug within current projects, and promote effective debug methodologies.

#### **2. Personal Responsibilities**

- Work proactively to create solutions on time and within budget.
- Motivate self and others in a positive and professional manner.
- Delegate appropriately to engineering support and shop personnel.
- Communicate effectively with team members and management regarding project status, resource requirements, and potential obstacles to success.
- Lead departmental standards development teams and other focus groups.

#### **3. Departmental Support and Development**

- Keep current with new technology, engineering methods, and standards within the automation industry. Be the authority within the department on current technology and methods.
- Actively participate in ongoing process improvement by contributing to engineering standards, procedural audits, and project design reviews.
- Facilitate the professional development of self and colleagues by constructively sharing lessons learned through project successes and failures.

**Essential Qualifications**

- A bachelor's degree in electrical engineering and a minimum of ten years of relevant experience, or a related two-year post high school diploma/certificate and a minimum of fifteen years of relevant experience.
- Proficiency in the design of electrical control systems for industrial machinery, including power distribution, PLC configuration, and machine safety.
- Extensive experience with Programmable Logic Controller programming on a variety of platforms.
- Ability to troubleshoot complex electrical and logical systems in an efficient and accurate manner.
- Demonstrated effective interpersonal and written communication skills.
- Experience with Rockwell Automation ControlLogix family of programmable controllers.
- Working knowledge of standards relevant to industrial machinery, including NFPA79, UL508A, NEC, EN ISO 13849 and IEC/EN 62061.
- Familiarity with concepts of modular programming as defined in ISA-88 and/or PackML.
- Familiarity with multiple IEC 61131-3 programming languages (Ladder Logic, Function Block Diagram, Structured Text, Sequential Function Chart, Instruction List).

**Desired Qualifications**

- Experience configuring, tuning, and programming servo-based motion control systems.
- Experience configuring and programming Industrial Robots.
- Basic understanding of computer networking, TCP/IP, and industrial fieldbus architectures such as Ethernet I/P.
- Experience with an Electrical Engineering CAD program, such as AutoCAD Electrical, ePlan, Promis-E, or similar product.
- Exposure to GAMP principles and procedures.

**ADA Requirements**

- Typically sits, grasps items and performs keyboarding for frequent operation of a computer.
- Stand, walk, bend, reach or otherwise move about regularly.
- Lift, move, or otherwise transfer items up to 40 lbs. occasionally, >20 lbs. frequently.
- Occasional exposure to typical machine shop physical hazards.
- Travel by air or car frequently.