

HARPER INTERNATIONAL

POSITION DESCRIPTION

The Position Description is the tool used by Harper International to communicate and clarify the essential job functions, establish the basis for performance expectations, and identify training needs for each position. Completing the details of the Position Description is a joint effort between the employee and the supervisor.

Part I - Reporting Structure

Job Title: Controls Engineer

Department: Electrical Engineering

Reports To: Supervisor of Electrical Engineering

Supervises: None

Status: Exempt

Part II – Position Objective

Plan, develop and test software and automation control systems for thermal processing equipment.

Part III – Job Responsibilities

Typical Duties

1. Programming of PLC applications and HMI interfaces from a variety of manufacturers.
2. Generate electric circuit drawings, various wiring diagrams, power-system schematics, and single line drawings for customer sub-station purposes. Experience with SolidWorks or AutoCAD Electrical a plus.
3. Programming discrete controls for process and temperature control.
4. Design electrical and electronic hardware systems for machine control.
5. Developing power schematics, calculating power consumption and heat dissipation for machine controls.
6. Develop I/O list, BOM, and schematics used to build thermal processing equipment controls.
7. Defining, requesting and coordinating the purchase of electrical materials, components, equipment, and support services for the construction, assembly, and conditioning of prototype parts and machines.
8. Provide training support to Operations personnel in the proper setup, function and control of automated manufacturing equipment.
9. Performing start-up services and technical support for our field service personnel.

Primary Duties

1. Development of PLC control programming and HMI applications, primarily focused around the Rockwell RS Logix 5000 family of PLC and the FactoryTalk View Studio HMI software platforms.
2. Primary duties will typically be more focused on the development of Autocad Electrical drawings and the engineering required to ensure that the design is sound and meets all NEC, NFPA and UL508A standards.
- 3.

IV – Knowledge, Skills, Education

1. BS EE
2. PLC programming/troubleshooting experience with AB. Siemens experience a plus.
3. HMI configuration experience including graphical screen development using AB. Experience with Wonderware a plus.
4. Experience with industry standard communication protocols such as Devicenet, Ethernet /IP, Modbus, ModbusTCP, Profibus.
5. Knowledgeable in computer networking architectures, topologies and hardware.
6. Extensive knowledge and hands on experience in developing complex control architectures.
7. General knowledge of applicable electrical standards such as, IEC, UL, and the National Electric Code
8. P&ID Knowledge
9. Excellent verbal and written communication skills
10. Strong interpersonal and communication skills
11. Up to 25% travel required-both domestic & international

Desired qualifications:

1. PLC programming/troubleshooting experience with Siemens, and others..
2. HMI configuration experience including graphical screen development using Siemens, and others..
3. Solidworks and ACAD Electrical experience in creating and maintaining electrical schematics and/or component layout diagrams.
4. Experience with high power SCR controlled heating applications.
5. Knowledgeable in computer programming languages (VB, C#, C++, Java script), database design (SQL), HTML development.
6. Experience with integrating devices from multiple vendors into packaged solution.

VI - Physical Demands

Physical Demands:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to stand, walk, hear and talk. The employee is frequently required to sit and use hands. The employee is occasionally required to reach with hands or arms, climb or balance, stoop, kneel, crouch or crawl.