



Job Description – Senior or Project Engineer

Revision: October 25, 2021

Job Status: Full Time, Exempt

Position Name: **Senior or Project Engineer**

Reports to: This position reports to a Project Manager, Senior Project Manager or the VP Operations Manager and is functionally assigned to a Project Manager or Senior Project Manager.

Supervisory Responsibilities

No direct report supervision responsibilities. However, it is expected that this position will manage assignments of project work to and follow-ups with junior resources to meet project and client objectives. It is also expected that this position will train and mentor junior resources.

Job Summary

The Senior / Project Engineer's duties will include, but not be limited to the following:

- Develop functional design specifications and logic narratives describing systems and features.
- Develop system architecture including PACs / PLCs, networks, HMIs, servers, etc.
- Develop PAC / PLC and HMI programs based on functional design specifications or logic narratives and in alignment with programming standards required for each project.
- Deploy systems at client sites and interact with clients at various levels to ensure project success.
- Direct the design efforts for control panel fabrication packages and system installation packages.
- Lead and direct the activities of internal and external project resources to achieve project goals and objectives.
- Ensure work products are technically sound and meet clients' requirements.
- Manage project scope, budget, and schedule to meet commitments made to clients and for profitability.
- Develop relationships with clients while executing project work.
- Hold progress meetings with project teams, clients, and vendors at Polytron's office, client facilities, or vendor facilities.
- Lead and manage field activities during installation and start-up phases at client sites.
- Capable and willing to perform tasks that are required for projects to be successful. These tasks include programming, design, installation, start-up support, as-builts, client follow-up, vendor follow-up, and procurement.
- Develop skill sets and coach internal project resources while executing projects.
- Drive internal processes and system improvements in the operations area.



Characteristics

The Senior / Project Engineer must have good personal habits, work well with others, be technically conscientious, be able to stay on task, and complete work on schedule. Must be able to work independently as well as on a team, and promote the principles and professionalism of Polytron and its various Alliance Partners.

Quality and Quantity Standards

The expectation of this position is to bill a minimum of XX% of one's time to revenue-producing projects unless temporarily redirected by management.

Education

Bachelor's degree in electrical or computer engineering is required. Professional registration is desired.

Experience

At least three (3) to six (6) years of experience in power, automation, and information systems for packaging and production systems and/or automated manufacturing systems required.

Well qualified applicants will demonstrate expertise the following areas of competence:

Programming – Must be able to program from scratch, edit, document, test, and troubleshoot PLC and HMI programs. Specific knowledge of the most current Rockwell Automation programming software for Control Logix and Compact Logix platforms.

Information Systems – Must be familiar with database design and queries. Must understand various industry standards such as ISA 95 model for transferring information between the automation, MES, and business layers. Areas of knowledge include enterprise resource planning (ERP) systems, data collection, database warehousing, configuration changes and reporting, product count, reject and waste management, relay logic (single point control and monitoring of motors, temperature, and product flow), SCADA, Wonderware, SQL, Visual Basic, .net, SharePoint, etc.

Power – Experience with AC/DC drives and motors, low to medium voltage utilization, variable-frequency drives (VFD)/adjustable-frequency drives (AFD), variable speed drives, instrumentation and controls, NEC codes/guidelines, motor circuits, transformers, switchboards, motor control centers, main switches, lighting circuits, load control, 3/single phase power, power panel schedules, etc.

Industrial Networks – Must have solid knowledge of industrial networks. Must be able to configure from scratch, edit, document, test, and troubleshoot common industrial networks including DeviceNet, ControlNet, EtherNet IP, DataHighway Plus, and serial.

Industrial Control Devices – Solid knowledge of devices commonly used in the industrial automation field which include solenoid valves, pneumatic systems, relays, motor starters, variable frequency drives (VFDs), photo eyes, motors, pushbuttons, safety switches, pressure transmitters, flow meters, temperature sensors, disconnect switches, safety devices, and the like.



Design – Must be familiar with the design process and in particular with designing electrical and automation systems. Knowledgeable in creating and interpreting control panel layouts, bill of materials, schematic drawings, specifications, installation drawings and packages, conduit and conductor schedules, riser diagrams, lighting plans, etc. Skilled at performing critical design calculations. Must be capable of reviewing design to ensure compliance with national and local codes, client specifications, safety regulations, Polytron’s design standards, and quality requirements.

Procurement – Must be familiar with the procurement process and developing request for proposal packages including scope of work, schedules, specifications, requirements, terms and conditions, and other related documents. Must be familiar with writing purchase orders, as well as overseeing and managing contracts with equipment suppliers, component suppliers, and installation contractors. Must be able to interface with accounting to ensure that project accounting information is correct.

Project Delivery – Must be familiar with and experienced in project delivery methodology. Must be capable of leading or performing any or all phases of the project delivery methodology. The phases of the project delivery methodology include Feasibility, Conceptual, Definition, Design, Installation, and CQV.

Computer and Software Skills

Must be computer literate and experienced in using the following tools: Microsoft Office Suite (Word, Excel, PowerPoint, Visio). Proficient in the Windows environment and use of the Internet E-mail.

Other Skills

Must be organized.

Must have good written and oral communication skills.

Must manage multiple projects with minimal supervision.

Physical Requirements

The Senior / Project Engineer position is considered to be generally sedentary for tasks in the office, although standing for prolonged periods may be required. Tasks required to be performed at client sites may require walking, climbing stairs and ladders, and ducking under equipment/structures.

Working conditions

Working conditions will vary from an office environment to a manufacturing plant environment. This position will require one to work at Polytron’s offices and clients’ facilities. While working at clients’ facilities, adhering to their health, safety, and security policies is an essential requirement of the job. Background, as well as random and targeted drug screening may be required.

Travel

Travel is expected for this position and is essential for success. Travel will average at least 30%.

Work Authorization

All positions require proof of United States citizenship or authorization to work in the United States.

**Working Remotely**

Telecommuting may be considered in special circumstances and is subject to management approval.

Unplanned activities

This position requires flexibility and adaptability. There will be tasks assigned that are outside of this job description from time to time.

Please note that this job description is not designed to be an exhaustive listing of all the activities, duties, or responsibilities that are required for employment. Activities, duties, and responsibilities may change at any time and without notice.

Polytron is an equal opportunity employer that prohibits any form of unlawful employee harassment and does not discriminate based on race, color, religion, gender, sexual orientation, gender identity, gender presentation, national origin, age, disability (physical or mental), genetic information, marital status, or military or veteran status as in accordance with applicable federal, state, and local laws. This policy applies to all terms and conditions of employment, including, but not limited to, hiring, placement, promotion, termination, layoff, recall, transfer, leaves of absence, compensation, and training.