



Elias Wilson

Electrical Engineer II, Industrial Controls

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SUMMARY

Electrical Engineer with five years of **industrial manufacturing** experience improving **machine control systems, automation applications**, instrumentation, and production equipment. Hands on work includes Siemens and Rockwell PLC programming, ladder logic, HMI development, embedded controls, control panels, field wiring, motors, relays, switches, photoeyes, and **AC/DC circuitry**. Leads troubleshooting by tracing logic, I/O states, electrical drawings, and field signals, then converts findings into practical corrective actions. Supports equipment setup, commissioning, upgrades, startup checks, production handoffs, and technical documentation. Partners with maintenance, operations, vendors, and engineering teams during active production demands. Independent diagnostics, thoughtful planning, customer focus, and clear communication help improve reliability, quality, maintainability, and safe equipment performance.

EXPERIENCE

Electrical Engineer II, Industrial Controls

Redstone Automation Works 📅 January 2024 - Present 📍 Huntsville, AL

Owns controls engineering for automated assembly and material handling equipment, guiding PLC, HMI, instrumentation, panel, and field device work from diagnosis through commissioning.

- Traced **ladder logic**, I/O states, drawings, and field signals to isolate recurring machine control faults.
- Developed Siemens PLC sequences and HMI alarms for automated assembly **equipment upgrades** and production releases.
- Modified Rockwell logic, permissives, and operator interfaces during material handling system modernization work.
- Designed **control panel** schematics and **field wiring** changes from device selection through installation checkout activities.
- Led startup checks for motors, relays, switches, photoeyes, safety interfaces, and **instrumentation** devices.
- Partnered with operations and maintenance teams to schedule reliability changes around active production demands.

Controls Engineer, Manufacturing Automation

Tennessee Valley Motion Systems 📅 January 2022 - December 2023 📍 Decatur, AL

Delivered **controls** programming, equipment **commissioning**, electrical troubleshooting, and documentation for automated manufacturing machinery, coordinating technical changes with plant teams and suppliers.

- Programmed **Rockwell** ladder logic and **HMI** interfaces for automated manufacturing equipment releases.
- Commissioned machinery by validating I/O, motor direction, sensor states, interlocks, and operator controls.
- Isolated electrical failures through schematics, meter readings, **PLC** diagnostics, and structured fault analysis.
- Revised panel drawings and **field wiring** for equipment changes with clear as built documentation.
- Tuned instrumentation and control sequences, reducing nuisance stops during repeatability improvement work.
- Coordinated planned shutdown changes with technicians, operators, and equipment suppliers for controlled restarts.

Junior Electrical Engineer, Production Controls

Riverbend Manufacturing 📅 October 2021 - December 2021 📍 Athens, AL

Supported senior engineers with production machinery troubleshooting, approved PLC and HMI updates, equipment repairs, commissioning documentation, and recurring fault investigations.

STRENGTHS

- 🔍 **Fault diagnosis**
Traced logic, drawings, I/O states, and field signals during recurring stops, giving teams a clear path forward.
- ⚙️ **Controls programming**
Built Siemens and Rockwell sequences for real equipment, then checked alarms and permissives during startup.
- 🔧 **Commissioning support**
Stayed close to technicians during equipment startup, catching wiring and sensor issues before production handoff.
- 👥 **Practical collaboration**
Worked with operations, maintenance, vendors, and engineering when production pressure made priorities less clear.
- ♥️ **Documentation discipline**
Updated drawings, backups, redlines, and handoff records so future troubleshooting started with reliable information.

SKILLS

Electrical engineering

Industrial controls Siemens PLC

Rockwell PLC Ladder logic HMI

Embedded controls

Instrumentation Control panels

Field wiring Motors Relays

Switches Photoeyes

Commissioning

LANGUAGES

English Native

Spanish Intermediate

MY CAREER



● Electrical Engineer II, Industrial Controls at Redstone Automation Works (2.7 Years)

● Controls Engineer, Manufacturing Automation at Tennessee Valley Motion Systems (1.9 Years)

● Junior Electrical Engineer, Production Controls at Riverbend Manufacturing (2 Months)

- Supported electrical **troubleshooting** for production machinery under senior engineering guidance during repair activities.
- Updated PLC tags, HMI text, and controlled program backups for approved maintenance changes.
- Verified motors, relays, switches, **photoeyes**, and wiring against **electrical drawings** during equipment repairs.
- Prepared redline documentation for panel and **field wiring** modifications supporting accurate maintenance records.
- Collected fault history and I/O observations for root cause reviews of recurring machine stops.
- Supported commissioning checklists and **production handoff** documentation for small **equipment upgrades**.

PROJECTS

Automated Assembly Controls Upgrade 📅 2024

Updated PLC sequences, HMI alarms, instrumentation, and field wiring for assembly equipment, giving operations clearer fault visibility and smoother production support.

Manufacturing Equipment Commissioning 📅 2023

Validated I/O, motors, sensors, interlocks, and operator controls during machinery commissioning, helping technicians complete controlled startup and handoff activities.

LEADERSHIP & AWARDS

- Controls Engineering Recognition for dependable production troubleshooting and clear technical support during equipment upgrades.
- Manufacturing Reliability Leadership recognition for coordinating commissioning work with operations, maintenance, and engineering stakeholders.

EDUCATION

Bachelor's Degree in Electrical Engineering

University of Alabama in Huntsville 🎓 GPA: 3.5 📅 2021 📍 Huntsville, AL

Coursework: *Electrical circuits, control systems, digital systems, instrumentation*

CERTIFICATIONS

- Siemens PLC Programming Certificate 📅 2024
- Rockwell Automation ControlLogix Certificate 📅 2023

TECHNICAL SKILLS

- **PLC Platforms:** Siemens TIA Portal, Rockwell ControlLogix, Rockwell Studio 5000
- **Programming Methods:** Ladder logic, PLC programming, structured fault isolation
- **HMI Systems:** Operator interfaces, alarms, permissives
- **Instrumentation:** Sensors, process signals, field instrumentation
- **Electrical Devices:** Motors, relays, switches
- **Presence Detection:** Photoeyes, proximity sensors, limit switches
- **Control Panels:** Panel schematics, device selection, panel checkout
- **Field Wiring:** Field wiring, terminal connections, wiring verification
- **Circuit Design:** AC circuitry, DC circuitry, electrical drawings
- **Commissioning:** Startup checks, I/O validation, production handoff
- **Manufacturing Systems:** Assembly equipment, material handling, production machinery
- **Documentation:** As built drawings, redlines, program backups

PROFESSIONAL AFFILIATIONS

- Professional member of the Institute of Electrical and Electronics Engineers, with interest in controls and automation.
- Participant in manufacturing engineering forums focused on industrial controls, equipment reliability, and production support.

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST