

Tucker Peters

Manufacturing Controls Engineer

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STRENGTHS

- 🔧 **Controls troubleshooting**
Traced quiet equipment faults across PLCs, HMIs, servers, and sensors until production could resume with confidence.
- ✅ **Change control**
Turned small code changes into documented releases, giving operators and quality partners a clear record of decisions.
- 👥 **Technical training**
Used real alarm examples during technician training, helping teams respond calmly and become more self sufficient.
- 🔧 **Cross functional work**
Joined operations, quality, and safety discussions early, which kept practical production concerns visible during engineering decisions.
- 🔍 **Quality investigation**
Followed recurring equipment issues through NCR and CAPA work, leaving useful evidence rather than quick temporary fixes.

SKILLS

Manufacturing engineering

Industrial controls

PLC troubleshooting

Change control

Equipment qualification Validation

CAPA investigations

NCR investigations

Project management

Technical training

Vendor coordination

Electrical schematics

Production support

SUMMARY

Manufacturing engineer with four years supporting automated production equipment, **industrial controls**, and regulated manufacturing operations. Troubleshoots PLCs, HMIs, machine **vision systems**, robotic equipment, servers, motion devices, and manufacturing software across production environments. Delivers **controls changes** through requirements review, design evaluation, change control, qualification, validation, and acceptance testing. Applies Allen Bradley and Siemens platforms, FactoryTalk, Wonderware, Studio 5000, Ignition, Ladder Logic, Structured Text, **Function Block Diagram**, and Python in practical engineering work. Supports CAPA, NCR, GMP, ISO, and FDA quality processes while interpreting electrical schematics and coordinating vendors. Partners with operations, quality, safety, and engineering teams, trains technical staff, and improves reliable manufacturing performance through thoughtful troubleshooting and disciplined project execution.

EXPERIENCE

Manufacturing Controls Engineer

ClearSight Medical Manufacturing 📅 April 2025 - Present 📍 Raleigh, NC

Supports automated medical device production lines, owning controls troubleshooting, equipment improvements, quality investigations, technical training, and documented releases within regulated operations.

- Restored production through **Allen Bradley** PLC, FactoryTalk, vision, robot, server, and motion troubleshooting.
- Released Studio 5000 **Ladder Logic** changes after documented testing and formal production **change control**.
- Planned controls upgrades through requirements review, schematic evaluation, risk assessment, qualification, and validation evidence.
- Configured machine vision **inspection jobs**, improving repeatable detection through parameter tuning with quality engineers.
- Resolved recurring equipment issues through NCR and CAPA investigations with operations, quality, and safety.
- Trained **operations engineers** and technicians on alarms, troubleshooting, operation, and **automated equipment** maintenance.

Controls Engineer

Piedmont Automation Solutions 📅 June 2023 - March 2025 📍 Durham, NC

Developed controls solutions for automated assembly and inspection equipment, guiding design reviews, vendor coordination, motion integration, commissioning, and acceptance testing for regulated manufacturing clients.

- Developed PLC, HMI, and motion solutions for automated assembly and inspection equipment.
- Programmed Allen Bradley and Siemens systems using Ladder Logic, **Structured Text**, and **Function Block Diagram**.
- Integrated servo axes and **robotic arms** with sequences, **safety** interfaces, and HMI controls during commissioning.
- Built **FactoryTalk**, **Wonderware**, and Ignition screens, tags, alarms, and operator equipment state displays.
- Translated manufacturing requirements into controls specifications through machine design reviews and schematic interpretation.
- Coordinated vendor quotes, sourcing, procurement, and acceptance testing for standard and custom components.

Associate Manufacturing Engineer

Carolina Precision Devices 📅 June 2022 - May 2023 📍 Cary, NC

Quality systems

Continuous improvement

LANGUAGES

English Native

Spanish Beginner

MY CAREER



● Manufacturing Controls Engineer at ClearSight Medical Manufacturing (1.5 Years)

● Controls Engineer at Piedmont Automation Solutions (1.8 Years)

● Associate Manufacturing Engineer at Carolina Precision Devices (11 Months)

Supported regulated production equipment under engineering guidance, contributing to troubleshooting, qualification, **change control**, documentation, investigations, and cross functional reliability efforts.

- Resolved PLC, HMI, sensor, vision, and communication faults during supervised production support.
- Executed approved PLC logic changes, documented tests, and returned equipment through controlled release.
- Supported **equipment qualification** by executing protocols, recording deviations, and organizing evidence for quality review.
- Traced signals through **electrical schematics** to verify field devices and isolate equipment faults.
- Contributed technical findings to NCR and CAPA investigations involving recurring equipment and process issues.
- Tracked project actions with **operations, quality**, and safety teams during equipment reliability improvements.

PROJECTS

Automated Vision Inspection Qualification 📅 2025

Qualified inspection job changes for automated medical device production, combining vision parameter tuning, documented testing, quality review, and validation evidence.

Motion Control Integration Program 📅 2024

Integrated servo axes and robotic arms with machine sequences, safety interfaces, and operator controls during commissioning and acceptance testing.

LEADERSHIP & AWARDS

- Lean Six Sigma Yellow Belt recognition, 2023, applied structured improvement methods during manufacturing engineering work.
- Studio 5000 Logix Designer Fundamentals achievement, 2024, recognized practical PLC programming capability.
- Technical training contributor, coached operations engineers and technicians on automated equipment troubleshooting and maintenance.

EDUCATION

Bachelor's Degree in Electrical Engineering

North Carolina State University 🎓 GPA: 4.0 📅 2022 📍 Raleigh, NC

Coursework: Industrial controls, electrical systems, programming, manufacturing engineering

CERTIFICATIONS

- Lean Six Sigma Yellow Belt 📅 2023
- Rockwell Automation Studio 5000 Logix Designer Fundamentals Certificate 📅 2024

TECHNICAL SKILLS

- **PLC Platforms:** Allen Bradley, Siemens, Studio 5000
- **HMI Platforms:** FactoryTalk, Wonderware, Ignition
- **Programming Languages:** Ladder Logic, Structured Text, Python
- **Control Methods:** Function Block Diagram, PLC programming, control configuration
- **Motion Systems:** Servo axes, robotic arms, motion devices
- **Vision Systems:** Machine vision, inspection jobs, inspection parameters
- **Manufacturing Software:** Power BI, FactoryTalk, Ignition
- **Quality Systems:** CAPA, NCR, GMP
- **Regulated Standards:** ISO, FDA, GMP
- **Acceptance Testing:** Vendor acceptance testing, site acceptance testing, qualification
- **Engineering Documentation:** Electrical schematics, control panel documentation, validation evidence
- **Project Methods:** Change control, risk assessment, design reviews

PROFESSIONAL AFFILIATIONS

- Manufacturing engineering collaboration across operations, quality, safety, and controls teams.
- Industrial automation community participant focused on PLCs, machine vision, robotics, and production reliability.

ADDITIONAL INFORMATION

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

REFERENCES

AVAILABLE ON REQUEST