

Blake Zimmerman

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SUMMARY

Associate Electrical Design Engineer with four years of aerospace test and electrical systems experience across interface design, schematics, instrumentation, integration, checkout, troubleshooting, and **test execution**. Develops test ready configurations connecting aerospace test articles with **control hardware**, power supplies, facility systems, instrumentation, and data acquisition equipment. Creates controlled electrical documentation with AutoCAD, Siemens Capital, and Microsoft Visio, then supports fabrication, installation, inspection, checkout, and production test activity. Selects cables, connectors, shielding, terminal blocks, **break out boxes**, hardware simulators, and power or signal components against ratings, compatibility, signal integrity, and environmental requirements. Coordinates practical solutions with electrical, mechanical, systems, instrumentation, fabrication, and test teams. Brings clear technical writing, disciplined configuration control, and hands on troubleshooting that support safe, reliable **environmental testing**.

EXPERIENCE

Electrical Design Engineer II

March 2025 - Present

Prairie Sky Aerospace Labs

Wichita, KS

Leads electrical interface design for aerospace environmental **test articles**, connecting control hardware, facility systems, instrumentation, and data acquisition while guiding fabrication, checkout, troubleshooting, and test readiness.

- Develop **electrical interfaces** from approved objectives for power, instrumentation, controls, and **data acquisition**.
- Produce AutoCAD and **Siemens Capital** schematics for harnesses, connectors, shielding, and **break out boxes**.
- Select components by checking ratings, signal integrity, connector compatibility, and environmental constraints.
- Direct technician **installation** and checkout, resolving wiring discrepancies before vibration, thermal, pressure, and acoustic testing.
- Integrate NI LabVIEW instrumentation hardware, tracing channel and control faults through drawings and physical interfaces.
- Coordinate design changes with mechanical, systems, and test engineers through controlled configuration records.

Electrical Test Engineer

July 2023 - February 2025

Heartland Flight Test Solutions

Oklahoma City, OK

Supported aerospace ground and flight test electrical systems from interface definition through integration, fabrication, inspection, checkout, troubleshooting, and technical handoff across power, controls, instrumentation, and data acquisition.

- Integrated **aerospace test** equipment spanning power distribution, instrumentation, controls, and data acquisition.
- Created AutoCAD and **Microsoft Visio** schematics with pin assignments, routing, interfaces, and checkout steps.
- Troubleshot power and signal faults using schematics, continuity checks, and controlled hardware substitution.
- Prepared cable specifications for **wire shop fabrication** and inspected assemblies for labeling and continuity.
- Supported sensor installation and **instrumentation checkout** when hardware constraints required interface changes.
- Documented test anomalies and resolutions in technical notes for smoother design and **fabrication** handoffs.

Associate Electrical Engineer

October 2022 - June 2023

Midwest Avionics Engineering

Wichita, KS

Supported senior engineers with electrical subsystem design for aerospace test fixtures, contributing wiring diagrams, component reviews, bench integration, environmental setup, inspection corrections, and configuration control.

- Supported electrical subsystem design for aerospace test **fixtures** under senior engineering review.
- Drafted wiring diagrams for **power supplies**, controls, **terminal blocks**, cable assemblies, and instrumentation.
- Evaluated component data against voltage, current, connector, **shielding**, and environmental requirements before design reviews.
- Performed bench integration and checkout, isolating **wiring** defects with approved procedures.
- Coordinated drawing corrections with fabrication personnel after routing, labeling, and connector discrepancies appeared.
- Verified electrical **connections** during environmental test setup and communicated configuration issues to test engineers.

PROJECTS

Environmental Test Interface Integration 📅 2025

Small interface decisions shape reliable test results. Developed a distinct laboratory integration concept connecting test articles, instrumentation, controls, facility systems, and data acquisition for vibration, thermal, pressure, and acoustic evaluation.

Cable Harness Checkout Framework 📅 2024

A clean harness tells a story before power is applied. Created a separate checkout framework covering cable specifications, continuity, labeling, connector inspection, shielding, fabrication review, and controlled anomaly documentation.

LEADERSHIP & AWARDS

- Recognized by engineering and test peers for dependable interface troubleshooting during demanding environmental test setups.
- Selected for increased design ownership after delivering clear schematics and controlled documentation for fabrication and checkout.

EDUCATION

Bachelor's Degree in Electrical Engineering
Wichita State University GPA: 4.0
Coursework: Electrical circuits, control systems, instrumentation, engineering design

2022
Wichita, KS

CERTIFICATIONS

- NI LabVIEW Core 1 Training 📅 2024
- IPC/WHMA-A-620 Cable and Wire Harness Training 📅 2025

TECHNICAL SKILLS

- **Electrical Design Tools:** AutoCAD, Siemens Capital, Microsoft Visio
- **Instrumentation Platforms:** NI LabVIEW, sensors, data acquisition
- **Electrical Documentation:** Schematics, wiring diagrams, pin assignments
- **Cable Assembly:** Cable harnesses, connectors, terminal blocks
- **Signal Hardware:** Shielding, break out boxes, signal interfaces
- **Power Systems:** Power supplies, power distribution, facility power
- **Environmental Testing:** Vibration, acoustic testing, thermal testing
- **Test Integration:** System integration, checkout, test execution
- **Fabrication Inspection:** Wire shop fabrication, continuity checks, workmanship inspection
- **Control Interfaces:** Control hardware, hardware simulators, facility controls
- **Engineering Methods:** Configuration control, design review, troubleshooting
- **Test Domains:** Pressure testing, airflow testing, fuel flow testing

SKILLS

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|----------------------|--------------------|-------------------------|-----------------------|
| • Electrical design | • Troubleshooting | • Power interfaces | • Technical writing |
| • Aerospace test | • Instrumentation | • Signal interfaces | • Component selection |
| • Schematics | • Data acquisition | • Wire shop fabrication | • Test execution |
| • System integration | • Cable harnesses | • Test evaluation | |

PROFESSIONAL AFFILIATIONS

- Aerospace engineering and test communities, contributing practical insight across design, fabrication, instrumentation, and test teams.
- Electrical design peer network, sharing drawing review habits and troubleshooting methods that support consistent team delivery.

LANGUAGES

- English (Native)
- Spanish (Intermediate)

ADDITIONAL INFORMATION

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

REFERENCES

AVAILABLE ON REQUEST