

Main Uddin

Automation Engineer | Electrical Engineer (Automation & Control)

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Professional Summary

Results-driven PLC Engineer with over 6 years' experience specializing in steel mill automation and comprehensive electrical systems management. Proven track record delivering automation projects that improved plant efficiency by 30% and eliminated operator-dependent processes. Expert in Siemens PLC programming (S7-1200/1500/300), ABB/Parker drive systems, SCADA design, and IoT integration. Currently managing complete mill electrical systems including maintenance, operations, spare management, and compliance at Vikrampur Steel Ltd. Skilled in implementing innovative solutions like IoT-based analytics systems with real-time monitoring and automated reporting.

Core Skills

- **PLC & Automation:** Siemens S7-1200/1500/300, TIA Portal, HMI Design & Programming
- **Drive Systems:** ABB DCS800, Parker DC Drives, GEMCO & Sprint Drives, Fuji Mega Inverters, AC/DC Motor Systems
- **SCADA & Communication:** Custom SCADA Design, Modbus RTU, RS485/RS232, IoT Integration, Real-time Monitoring
- **Electrical Systems:** Motor Controls, Electrical Panel Design, Switchgear, Power Distribution, Troubleshooting
- **Maintenance & Reliability:** Preventive Maintenance Programs, Root Cause Analysis, Spare Parts Management, Downtime Reduction
- **Leadership & Coordination:** Team Supervision, Vendor Management, Cross-functional Coordination, Safety Compliance

Professional Experience

PLC Engineer | Vikrampur Steel Ltd.

Rupganj, Narayanganj | Dec 2025 – Present

- Oversee complete mill electrical infrastructure including PLC systems, SCADA, ABB DCS800 drives, motors, switchgear, and power distribution networks.
- Maintain and troubleshoot existing PLC and SCADA systems to ensure reliable rolling mill operations with minimal downtime.
- Implement new automation solutions and system upgrades to minimize breakdowns, improve reliability, and enhance operational efficiency.
- Manage preventive and corrective maintenance schedules for all electrical and automation equipment across the production facility.

- Maintain critical spare parts inventory for PLC components, drives, sensors, and electrical equipment to ensure rapid breakdown response.
- Coordinate with production teams to schedule maintenance activities during planned shutdowns and minimize impact on operations.
- Maintain comprehensive system documentation, PLC program backups, electrical drawings, and maintenance records.
- Liaise with equipment suppliers and service providers for technical support, spare procurement, and system upgrades.
- Monitor system performance metrics and implement continuous improvements to increase productivity and reduce energy consumption.

Sub-Assistant Engineer | Akij Ispat Ltd.

Baushia, Gazaria, Munshiganj | Oct 2022 – Nov 2025

- Designed and implemented PLC and SCADA systems for Roughing mill automation, improving operational efficiency.
- Installed and commissioned 8+ AC/DC drives, ensuring smooth operation and system integration.
- Completed 5 major automation projects that reduced downtime by 30% and minimized operator involvement.
- Maintained and optimized PLC-controlled DC motors across multiple production lines.
- Developed an innovative IoT-based scrap management and analytics system with real-time monitoring and automated reporting.

Sub-Assistant Engineer | Julfiker Steel Ltd.

Narayanganj | Aug 2022 – Oct 2022

- Operated and maintained GEMCO & Sprint DC Drive systems for rolling mill operations.
- Assisted in troubleshooting PLC-based rolling operations and system optimization.
- Supported configuration of drive systems to ensure reliable production output.

PLC/DC Motor Operator | Ambient Steel Ltd.

Narayanganj | Aug 2019 – Aug 2022

- Ensured continuous operation of PLC and GEMCO/Sprint Drive DC systems for uninterrupted production.
- Performed preventive maintenance on automation equipment, reducing unplanned downtime significantly.
- Supported troubleshooting and rapid recovery during automation system breakdowns.

Key Project Achievements

Scrap Weight Management & Analytics System (IoT-Enabled)

- **Challenge:** Manual scrap tracking caused inventory discrepancies and inefficient yield analysis.
- **Solution:** Integrated weight indicator with PLC for automated weighing and data logging. Developed a system to track 9 different scrap grades separately. Implemented automated yield percentage calculation from CCM.
- **Result:** Created IoT dashboard for real-time monitoring and historical analysis. Automated daily and shift-wise reporting with Google Chat integration. Enabled data-driven decision making for production optimization.

Overhead Crane Automation (Scrap Charging)

- Challenge: Manual scrap charging was unsafe, time-consuming, and inconsistent.
- Solution: Developed PLC logic with HMI interface, encoder feedback system, and Fuji drive integration.
- Result: Achieved operator-less operation, significantly improved safety, and reduced cycle time by 20%.

Roughing Mill Automation

- Automated billet shaping process with Siemens PLC and HMI animation for operator visualization.
- Significantly reduced breakdowns and miss rolls through precise automated control.

Central SCADA System Integration

- Integrated comprehensive SCADA system for motors, sensors, and gas pressure monitoring.
- Enabled centralized control room operation, reducing response time and minimizing downtime.

Automated Production Data Collection System

- Implemented real-time production tracking using PLC, SCADA, HMDs, and pyrometers.
- Improved accuracy in production reporting and enabled data-driven analysis for continuous improvement.

TMT Water Pressure Automation with PID Control

- Automated TMT water pressure control system replacing manual star-delta pump operations with 8 VFDs (4× Fuji Frenic Mega 150kW, 4× Yaskawa A1000 17kW)
- Implemented PLC-based PID control with 4-20mA analog signal for real-time pressure adjustment via HMI in physical lab
- Eliminated 2-3 minute manual adjustment delays, preventing quality loss in billets during pressure changes
- Achieved significant electricity savings and improved power factor through VFD operation while eliminating water waste from bypass operations

Education

Diploma in Electrical Engineering – 2019

Institute of Science Trade & Technology

Secondary School Certificate (Electronics, Vocational) – 2013

Daudkandi Adorsho Pilot High School

Professional Training & Certifications

- **6-Month Industrial Automation Training – Reliance High Tech Ltd.**

Comprehensive training in PLC programming, SCADA design, drive systems, and industrial automation practices.

Languages

- Bangla – Native
- English – Fluent (Professional Proficiency)
- Hindi – Conversational

References

1. Mr. Vinay Kumar

Director

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Personal Details

Date of Birth: 01 January 1998

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Marital Status: Married

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Current Location: West maiz para, Daudkandi, Cumilla

Signature: 

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