Job Description: Product Development Engineer – Electrical, Electronics & Instrumentation (Heating Industry)

Position Overview

The **Product Development Engineer – Electrical, Electronics & Instrumentation** will be responsible for designing, developing, and testing electrical and electronic systems for heating products. The candidate must have expertise in **Power Electronics, Sensors, Wireless Connectivity, PCB Design & Analysis**, and **Electrical Circuit Analysis**. The role requires ensuring that electrical designs meet **industrial safety and regulatory standards**, while also optimizing performance and efficiency.

Roles & Responsibilities

Electrical & Electronics System Design

1. Develop and design **electrical circuits and electronic systems** for heating products.
2. Ensure the **circuit design meets industrial safety and regulatory standards**.
3. Work on **power electronics design**, including **power supply, control circuits, and thermal management**.
4. Select and integrate **sensors, wireless modules, and embedded systems** into the product.

PCB Design & Analysis

5. Design and analyze **PCB layouts**, ensuring efficient power distribution and minimal electrical noise.
6. Work with **EDA tools (such as Altium, Eagle, KiCad, or OrCAD)** to design **multilayer PCBs**.
7. Perform **circuit simulations and validations** to optimize performance.

Testing & Compliance

8. Conduct **electrical circuit testing, validation, and debugging** for reliability and efficiency.
9. Ensure compliance with **industrial safety regulations (such as IEC, IS, and BIS standards)**.
10. Work with quality teams to **certify electrical systems** for market release.

Wireless Connectivity & Smart Features

11. Develop and integrate **wireless communication protocols** (such as **Wi-Fi, Bluetooth, Zigbee, or IoT-based connectivity**) for smart heating solutions.
12. Ensure seamless connectivity and data transfer between devices.

Collaboration & Manufacturing Support

13. Coordinate with **mechanical and thermal engineers** to optimize product design.
14. Work with **manufacturing partners** to ensure **cost-effective and efficient production**.
15. Assist in **technical documentation, wiring diagrams, and user manuals**.

Research & Innovation

16. Stay updated with the latest trends in **power electronics, sensors, and IoT-based solutions**.
17. Propose and develop **innovative solutions** for enhanced energy efficiency and performance.

Educational Qualifications & Experience

- **Bachelor's Degree in Electrical & Electronics Engineering (EEE) or Electronics & Instrumentation Engineering (EIE)**
- **Minimum 3 years** of experience in **electrical circuit design, PCB development, and power electronics**

Key Skills Required

✔ **Expertise in Power Electronics, Sensors, and Wireless Connectivity**
✔ Strong knowledge of **electrical circuit analysis and design**
✔ **Proficiency in PCB design and simulation tools (Altium, Eagle, OrCAD, KiCad, etc.)**
✔ Experience in **embedded systems and microcontroller-based designs**
✔ Strong understanding of **industrial safety standards (IEC, IS, BIS, etc.)**
✔ Ability to troubleshoot and **debug electrical and electronic circuits**
✔ Experience with **IoT-based wireless communication technologies**
✔ Strong problem-solving skills and **attention to detail**

How to Apply:

Interested candidates can submit their updated resume to **career@asvrl.com**