

Senior Hardware Design Engineer (Solar converter)

Job title:	Senior Hardware Design Engineer
Department:	Railway Technology Department
Location:	Birmingham
Hours of work:	37 hours a week
Contract:	Permanent
Salary:	Competitive
Working hours:	Hours: 8:00 – 17:00 Mon -Thurs and 08:00 -14:00 on a Fri (1 hour lunch).
Reference:	10-8

About Zhuzhou CRRC Times Electric UK Innovation Center

Zhuzhou CRRC Times Electric UK Innovation Centre (TEIC) is a subsidiary of the CRRC Corporation Limited, the world's leading propulsion and control systems provider in the rolling stock industry. Our mission is to design, develop and produce state of the art power electronics systems and components for automotive electric vehicles, rail, and renewable energy sectors. Please Follow us on LinkedIn or visit <https://teic.crrczic.cc/> for further details.

Overview of the role:

We are looking for a senior hardware design Engineer mainly working on our new solar inverter projects. This role will be responsible for the hardware design optimization of string photovoltaic inverter based on advanced power electronics technology and skilled PCB design ability.

What you will be doing in this role:

- Topology selection and simulation for DC-AC inverter and DC-DC converter;
 - Schematic design and PCB layout for DC-AC inverter and DC-DC converter;
 - Sensor selection and circuit design for current, voltage, and temperature measurement;
 - Participate in gate driver design for discrete silicon IGBT or silicon carbide MOSFET;
 - Responsible for prototype testing;
 - Research on cutting-edge technology of onboard design for solar inverter and boost converter;
 - Participate in the development of the company's technical route planning;
 - Responsible for the component technical specifications and interface definition, component selecting and sourcing;
 - Documentation of design work;
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Other responsibilities

- Budget control on prototype development;
 - Actively collaborate with other groups and colleagues in the same group on current projects, organize relevant meetings, follow up and timely report on key issues;
 - Establish and maintain effective working relationships with core technology members to ensure efficient and rapid delivery of technical information within the department;
 - Commitment to Health & Safety in the workplace;
 - Complete other work assigned by line manager:
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We would like you to have:

- PhD degree with at least 3 years related experience, or a master degree with at least 5 years' experience;
- Outstanding schematic design and PCB routing experience for high voltage (DC bus voltage larger than 500V) converter development.
- Good understanding on three phase three-level or multilevel DC-AC inverter and prototype design based on discrete devices.
- Good understanding on boost DC-DC converter and prototype design based on discrete devices
- At least 2 years' experience in string tens of kW photovoltaic converter design, or at least 3 years' experience in high efficiency high power onboard EV inverter and/or onboard EV charger.
- Proficient in power electronics simulation;
- Familiar with relevant standards and laws and regulations, and have deep understanding and practical experience;
- Attention to the details in work to ensure accurate job information;
- Hardworking, passionate, strong sense of professionalism and responsibility;
- Excellent communication and coordination skills;
- Excellent time management;

Benefits

TEIC is a great place to work with opportunities for professional and personal development. Our benefits include:

- 25 days holiday + 8 bank holidays
- Holiday allowance increase with length of service
- Bupa healthcare
- Healthcare vouchers
- Free on-site car parking
- Free lunch Monday to Friday
- Contributory Pension
- Life assurance
- Cycle to work scheme
- Company sick pay
- Professional Membership fees paid e.g. CIPD, IEEE
- Family Friendly policies
- An Independent 24-hour confidential counseling service

To find out more about TEIC visit www.teic.crrczic.cc.