JOB DESCRIPTION

Advanced Robotics Solutions - HW Design: Electronic Architecture Engineer

Summary

The HW Design Electronic Architecture Engineer will be in charge to lead the development and validation of Comau custom electronics board, industrial communication electronics hardware (fieldbus) using Anybus-HMS or Hilscher chip or module and optional devices for Industrial PC.
All activities are performed cooperating with external companies specialized on electronic design and electronic component manufacturing.
The Electronic Architecture Engineer will work in the dynamic HW Design team, within the cooperative and engaging environment of the Advanced Robotics Solutions organization, together with other teams as Robot Controller Software Engineering. Actively supports Procurements, Internal Manufacturing and After Sales.

Duties and Responsibilities

(these are the position's essential duties and is not an all-inclusive list)

Main areas of responsibilities are:

- Study and comparison of different solutions for fieldbus interface (slave and master)
- Robot controller 24V DC Power Supply design and distribution.
- Design of UPS function with knowledge of battery type (or ultracapacitor) characteristics towards application and environment.
- Control Cabinet power efficiency and heat dissipation design concept
- Industrial PC architecture knowledge with ability to compare Processors performance, peripherals features (chipset, memory, SSD type, LAN Controller, expansion card slot standard i.e., M.2)
- Real time operating system concept for integration in the IPC and knowledge about real time operating systems (VxWorks versions and relevant BSP, Linux distribution, etc.)
- Communication interface HW & SW design evaluation (together with Robot Controller Software Engineering) for industrial communication fieldbus (eg. Powerlink, EtherCAT, EtherNet/IP and PROFINET)
- Design and management (in cooperation with external suppliers) of tests bench for validation of prototype of new electronic devices, integration tests, troubleshooting and root cause analysis for failure on the field.
- Development of technical specifications documentation for the electronic devices, selection of supplier (for the technical scope) in cooperation with the Procurement office.
- Support to the manufacturing team for troubleshooting on electric/electronic components and design improvements.

Knowledge & Skills

- Electronic background (mainly digital and µC components)
- Experience in design of industrial automation electronics
- Ability to understand and deal with electronics schematics, BoM, PCB layouts
- Familiarity with common electronics laboratory instruments (oscilloscope, power meter, etc)
- Knowledge and analysis of ISO standards / EU Machine Directive /UL norms applicable to the above mentioned electronic components
- Knowledge of external Accredited Laboratory tests (EMC, Electrical Safety, etc)
- Knowledge of Functional Safety HW architecture concepts
- Basic knowledge of EN ISO 13849-1 and IEC 61508-x

Behavioral Competencies

- Dynamic, innovative, and cross functional approach to design
- Open mind to learning, sharing and comparison of ideas
- Autonomy and attitude of leading projects to the complete robotics application solution
- Good interpersonal attitude in relationship with supplier and customer
- Self-motivated and proactive approach to solution development (design)

Qualifications

- Education:
  - High school technical Mechatronic / Electronic diploma (required)
  - Engineering degree in Mechatronics / Electronic (preferred)

- Previous experiences
  - Experience in design of industrial automation electronics
  - Knowledge of Industrial Robotics hardware architecture

- Languages
  - Italian
  - English (Fluent)