PREVALON
A Mitsubishi Power Americas and EES Joint Venture

400 International Parkway, Suite 200
Heathrow, FL 32746
PrevalonEnergy.com

Engineer, Container Management System (CMS) Controls

Location: Onsite – Heathrow, FL/ Onsite – Project Site/ Hybrid / Remote

About Prevalon

Prevalon Energy LLC (Prevalon), a Mitsubishi Power Americas and EES joint venture, is a leading global energy storage technology and services company that is empowering companies to deploy flexible energy solutions and accelerate a more sustainable energy future.

With 10 years of global battery energy storage experience and over 4 GWh of utility-scale battery energy storage projects deployed, Prevalon develops an end-to-end integrated battery energy storage solution that delivers throughout the entire lifecycle of your project and ensures performance.

Working with our customers to develop a solution to meet the demands of their energy system today and into the future, we are grounded by the principles of commitment, reliability and expertise to guide our decision making, design philosophy, and relationship building.

Our Culture and Values

Responsibility
Safety is at the core of everything we do. From the well-being and health of people to the quality of the products we develop and implement, sustainability is the foundation of our operations. Our expertise guides our decision-making and design development, and lives at the core of our mission.

Community
People are the focus and heartbeat of what we do. We prioritize the well-being of our customers, employees, and communities we work with. Through teamwork, collaboration, and open communication, we work together to continuously innovate.

Innovation
We value and encourage creativity in the ways we work and are always forward thinking. We embrace diversity of thought and adapt to emerging trends and technologies. We recognize the importance of respecting traditions but not beholden by them.

Accountability
We are focused on taking responsibility and ownership for our actions and decisions. We deliver on promises in a transparent and reliable manner. We are accountable in our commitment to sustainable practices and products.

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Job Summary

The CMS Controls Engineer reports to the Software Engineering Manager. This individual will be responsible for designing, developing, configuring, and programming the Prevalon Energy insightOS™ Container Management System (CMS) for Utility Scale Energy Storage Systems (ESS). Ownership of the controls logic is critical for this position. This includes working with internal and external stakeholders to understand and refine the implementation of the control and supervisory layers with the insightOS™ platform. It is essential that decisions be made to ensure safety, quality, reliability, and maintainability of such implementations. Additional duties including providing engineering expertise to the Service, Project Execution, and Hardware Engineering organizations within Prevalon Energy. The role of the controls engineer will be to develop and maintain power/energy, thermal, and safety controls and metrics collection for ESS systems primarily at the container level. The role will include ESS hot commissioning operations and at times follow projects until handoff to Service. This position involves the integration of DC Battery Strings, string inverters, and balance of plant equipment at the container level into the control logic of the large utility scale ESS.

Essential Duties & Responsibilities

Essential duties and responsibilities include, but are not limited to the following:

- Develop and implement IEC 61131-3 structured text control logic including thermal management and safety logic.
- Design and implement TCP/Modbus, RTU/Modbus, TCP/OPC-UA, and/or IEC61850 server/clients within the CMS logic to monitor hardware, apply power/thermal/safety algorithm logic, and provide metrics to the SCADA platform.
- Interpret and refine product and project requirements and design, engineer, and materialize them in the CMS platform.
- Develop and maintain design, solution, and component specifications that are part of the CMS platform.
- Contribute to Commissioning operations efforts including power dispatch, troubleshooting discrete HW issues, and coordinating with onsite commissioning personnel.
- Support in the resolution of installation, commissioning, and operational issues.
- Participate in EMS Rack and Network Junction Box config functional Checksheets during commissioning.
- Review/coordinate design and other technical information from OEM suppliers and contractors.

- Maintain knowledge of applicable codes, standards, certifications, and applications in the Energy Storage industry.
- Assist the Operations Team in controls related issues that arise.
- Work closely with Software Engineering on the interface to Container management software application.

Knowledge, Skills, & Abilities

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- **Knowledge**
  - Protocol working knowledge in RTU/Modbus, TCP/modbus, OPC-UA, MQTT-SpB, P2P, SEL FMP, DNP3.0, and/or IEC61850 Goose Message (MMS).
  - IEC 61131 PLC structured text (ST) programming language.
  - String Controllers, Battery Pack Controllers, HVAC Controllers, Liquid Chiller Controllers, Digital IO modules, UPS controllers, and Gas sensors.
  - Working understanding of battery systems, inverters, controllers/SCADA, transformers, and general power flow concepts.
  - Digital Fault Recorders and PMU Channel streams with a Power System Dynamics understanding.
  - Experience with ESS Container Management Systems, Battery Management Systems, and/or SCADA design/implementation including communication network architecture, protocols, and cyber security requirements for industrial control systems.
- **Skills**
  - Proficient with plcNEXT (preferred), AcSELerator RTAC, or other IEC61131 IDEs.
  - Proficient with Modbus and OPC-UA.
  - Proficient with power system drawings and circuit fundamentals.
  - Proficient in MS Office Excel, Windows RDP, Citrix, Azure Cloud.
  - Basic / Foundational experience with SCADA HMI user experience.

- Basic / Foundational experience with Python 3+ scripting.
- Basic / Foundational experience with Layer 2 & 3 managed network switches, firewall policies and routing configuration, network subnets, VLAN Tagging, & Fiber network technology is a plus.

- **Abilities**
  - Able to define problems, collect data, establish facts, and draw valid conclusions. Able to interpret an extensive variety of technical instructions, read and understand network, mechanical and electrical drawings.
  - Communicate effectively with staff and management at all levels.
  - Always maintain the highest degree of honesty and integrity.
  - Lead proactive team efforts to achieve departmental and company goals.
  - Ability to work under pressure and adapt to changing requirements with a positive attitude.
  - Protect confidential information by not communicating, disclosing to, or using it for benefit of 3rd parties. Intellectual Property protection of the EMS Platform is of utmost importance.
  - Comply with all EHS policies, practices and procedures reporting all unsafe activities to Management and/or Human Resources.
  - Work in the global environment to maintain standards and latest practices.
  - Ability to work closely with and influence cross-functional teams.
  - Self-directed project management skills to lead initiatives to completion.
  - Highly competitive, self-starter that can work both individually and in a group setting.
  - Ability to work flexible hours and be independent in the field.

Education & Experience

- Bachelor's degree in electrical engineering or computer science with a minimum of Three (3) years of related experience in the field.
- Experience with implementing and deploying PLC controlling production environments is a must.

- Experience with inverter-based technology projects, especially involving Battery Energy Storage Systems or PV is considered an asset.
- Experience with reading and understanding project drawings, equipment installation, system start-up and commissioning procedures, and technical documents.

Physical Requirements & Work Environment

The physical demands and work environment characteristics described herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- **Physical Demands Matrix**
  - Ability to travel up to 30% of the time, including international travel, to deploy and commission the EMS Platform.
  - Regularly required to stand and walk. Frequently lift and/or move up to 25 pounds.
  - Occasionally lift and/or move up to 50 pounds.
  - The noise level in the work environment is usually moderate to loud.
    Hearing protection may be recommended and/or required in some work locations.
  - Our Lake Mary, FL office is conveniently located near Orlando International Airport (MCO), modern floor plan with a Diagnostics Operations Center (DOC) and SCADA provisioning room embedded in the design. This role would be either Remote or Hybrid (2-3 days a week) in the office, depending on the situation.
- **Work Environment Conditions**
  - Work is performed in a climate-controlled office environment with standard lighting and noise levels. During occasional site visits, employee may be exposed to outdoor weather conditions, industrial noise levels requiring hearing protection, and energized electrical equipment requiring appropriate PPE. The occasional site visits may require hands-on installation, maintenance, or repair work.
- **PPE Requirements (if applicable)**
  - Standard office attire applies for daily work. When visiting operational sites, employee must wear employer-provided PPE including: hard hat, safety glasses, steel-toed footwear, high visibility vest, and hearing protection as posted. Arc flash rated PPE is not required as this position does not perform energized electrical work.

- **Travel Requirements (if applicable)**
    - Travel up to 30% of the time, including international travel, to deploy and commission the CMS