Advanced Microgrid Edge Gateway and Controls Platform

Oztron has developed and is deploying an advanced hardened edge gateway with an embedded control module for battery, solar, hybrid and off-grid energy systems. The platform provides the local intelligence required to monitor, coordinate and control modern distributed energy assets, while also supporting remote visibility, optimisation and ongoing software enhancement.

This technology has been designed to move beyond the limitations of traditional PLC-only control architectures. In many applications, the Oztron edge gateway can perform control functions that would otherwise be implemented through PLCs. Where PLCs are required for plant safety, legacy integration, client standards or specific industrial functions, the Oztron gateway can sit alongside the PLC and add higher-level intelligence, communications, data handling and optimisation capability.

The platform is based on a modular software architecture that can integrate multiple devices and subsystems, including batteries, solar inverters, meters, generators, site loads and supervisory systems. It supports real-time data acquisition, command execution, logging, remote monitoring and advanced control strategies for grid-connected, hybrid and off-grid applications.

A key advantage of this approach is flexibility. Traditional PLC systems are reliable for deterministic plant control, but they can become rigid, site-specific and difficult to extend when more advanced energy management functions are required. Oztron's edge gateway approach allows control logic, communications interfaces and optimisation functions to be refined and extended in software, making it easier to adapt to different site configurations and future operating requirements.

The platform can be thoroughly bench tested before field deployment. Site-specific configurations, device interfaces and control sequences can be validated in a controlled environment before commissioning, helping to minimise software bugs, reduce field troubleshooting and implement project-specific adjustments earlier in the delivery process. This gives Oztron a stronger pathway from design to deployment, with fewer surprises during site commissioning.

The platform supports practical deployment as well as ongoing development. It enables bench testing, staged validation, device integration and structured field rollout, giving Oztron a strong foundation for delivering reliable microgrid controls while continuing to enhance functionality over time.

In effect, Oztron's hardened edge gateway acts as the software intelligence layer for modern microgrids. It can operate as the main control platform in suitable applications or work alongside existing PLC and SCADA systems to provide additional value through

advanced energy management, remote monitoring, analytics, optimisation and fleet-level coordination.

This gives Oztron a practical pathway to deliver more capable microgrid and DER control systems — combining the robustness expected in industrial environments with the flexibility and intelligence of modern software-based energy control.

Why this matters

- Hardened edge gateway suitable for real-world energy system deployment
- Can replace PLC-based control in suitable applications
- Can also sit alongside PLCs where PLCs are required or preferred
- Allows thorough bench testing before field deployment
- Helps minimise bugs and reduce commissioning risk
- Enables site-specific adjustments before installation and commissioning
- Adds higher-level intelligence, optimisation, communications and data visibility
- Better suited to advanced microgrid, battery and DER control strategies
- Supports remote monitoring, fleet coordination and future system expansion