

Aclara Edge Gateway

Communications module for your distribution automation (DA) needs



The Aclara edge gateway is a communications module that enables Intelligent Electronic Devices (IEDs) to interface with the Aclara RF™ communications network. The Aclara edge gateway interfaces via serial or ethernet to IEDs such as reclosers, capacitor banks, voltage regulators, and load tap changers (LTC) so that utilities can gain grid visibility to IED statuses. It also provides notification of events, descriptive events, and diagnostic conditions.

With these new actionable insights in hand utilities can detect, locate, and isolate faults for speedier restorations and improve reliability metrics. The solution can also help operators better optimize their grid by managing voltage distribution and phase balancing by using Aclara edge gateway connected voltage regulators, LTCs and capacitor banks.

OVERVIEW

Coupled with the Aclara RF network, the Aclara edge gateway provides fast, deterministic latency for secure monitoring and control of IEDs on the utility's distribution network. The edge gateway takes DNP3 data packets (and other supported protocols) encrypting them with the Aclara RF protocol for communications to the headend software and SCADA system. The Aclara edge gateway operates on the Aclara RF network in conjunction with the AclaraONE® software platform which is purpose built to support both AMI and DA. The edge gateway delivers native DNP3 messages directly to a distribution automation end devices for control.

FEATURES AND BENEFITS

The Aclara RF architecture employs a two-way point-to-multipoint (P2MP) communication, where data is securely and directly transmitted from an edge gateway module to the Data Collector Units (DCU2+) and then to the AclaraONE headend software. The Aclara edge gateway, operating over the Aclara RF architecture, delivers key operational advantages for DA applications:

- **Low Latency** – The Aclara edge provides low deterministic latency over the Aclara RF network with near real-time distribution visibility and control, which is not possible with other architectures utilizing non-deterministic hopping.
- **Licensed Frequency 450MHz-470MHz** – The Aclara edge gateway communicates over the Aclara RF low-cost 450MHz-470MHz licensed RF network, providing reliable communications with low channel noise, reduced competition for airwaves, and greater penetration through building structures when compared to higher frequency unlicensed solutions.
- **Message priority** – Aclara's architecture ensures critical grid events (i.e. DA) are prioritized over day-to-day functionality (i.e., billing reads) as needed.
- **Dedicated channels** – Aclara RF architecture provides the ability to configure and dedicate separate frequencies to specific applications (e.g., DA, electric, water, gas AMI, load control, leak detection, pressure monitoring, methane detection, etc.) over a common network.
- **Over-the-air firmware updates and configuration** – Aclara edge gateway supports secure encrypted over-the-air firmware updates and device configuration from the utility AclaraONE software eliminating the need for in-field configuration and expensive truck rolls.



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ACLARA EDGE GATEWAY SPECIFICATIONS

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|------------------------------|---|
| Model | Aclara edge gateway |
| Size | 5.77"L x 4.27"W x 1.87"H (146.6mm x 108.5mm x 47.5mm) |
| Weight | 1.1 lbs. (0.50kg) |
| Enclosure | NEMA 2 Anodized Aluminum |
| Operating Frequency | 450-470 MHz |
| Input Voltage | 6VDC - 30VDC |
| Operating Temperature | -40°C to +85°C |
| Operating Humidity | 0% to 95% non-condensing |
| Serial | RS-232, DB9 DTE |
| Ethernet | RJ-45 |
| Antenna Connector | SMA female |
| RF Output | 1W max |
| Supported Protocols | DNP3 |

Contact your Aclara solution expert to explore how the Aclara edge gateway module can improve reliability, reduce losses, improve quality and reduce operational costs.