Aclara RF™ Data Collection Unit

A single advanced RF communications network for electric, water, and gas utilities.



The Aclara RF Data Collection Unit's (DCU2+) advanced design meets all the needs of electric, water, and gas utilities looking for an advanced communication backbone. The DCU2+ is multi-functional supporting Advanced Metering Infrastructure (AMI) applications for electric, water, and gas, load control, distribution automation (DA), Smart Infrastructure Solutions (SIS) and other advanced applications. Designed to operate on a single network for all advanced measurement, sensor monitoring, and control, the DCU2+ can support utilities' system infrastructure for decades to come.

Available in AC mains powered or stand-alone solar operation, the DCU2+ can be quickly and easily mounted on wood or steel poles, water towers, building rooftops, and communication towers. The DCU2+ does not require additional field configuration tools, and provides the flexibility and range to minimize network infrastructure and your total cost of operation.

OVERVIEW

The Aclara RF architecture employs a two-way point-to-multipoint (P2MP) communication, where data is directly transmitted from an edge device (meter, sensor, distribution automation/SCADA radio) to a DCU2+, and then to the head-end (software). This architecture delivers key distribution operation advantages:

FEATURES AND BENEFITS

- **Redundant Network –** The Aclara RF P2MP network designs are designed with redundancy, providing multiple data paths to the AclaraONE® head-end system, ensuring reliable and secure delivery of data between the field network devices and back-office applications.
- **Licensed Frequency 450MHz-470MHz –** Aclara's RF communication is over a low-cost 450MHz-470MHz licensed frequency providing reliable communications with low channel noise, no competition for airwaves and greater penetration through building structures than higher frequency unlicensed solutions.
- **Message priority –** Aclara's architecture ensures critical grid events (i.e. outage, load control, DA/SCADA, tamper alarms) are prioritized over day-to-day functionality (i.e., billing reads) as needed**.**
- **Dedicated channels –** Aclara's architecture provides the ability to configure and dedicate separate frequencies to specific applications (e.g., electric, water, gas AMI, DA, load control, leak detection, pressure monitoring, methane detection, etc
- **Low Latency** – The Aclara P2MP network provides low deterministic latency with near real-time distribution visibility and control, which is not possible with other architectures utilizing non-deterministic hopping.
- **Over-the-air firmware** – updates and configuration – the DCU2+ supports secure encrypted over-the-air firmware updates and device configuration from the utility AclaraONE head-end software eliminating the need for in-field configuration and expensive truck rolls.

WHY THE DCU2+

- **Designed to protect your investment for future expansion with a low total cost of ownership** - As your needs evolve or expand, additional applications to the existing coverage area such as meter, DA, load control, lighting, leak detection, pressure monitoring, methane detection, etc. can be added to the network without the need to add additional network infrastructure.
- **Provides for a variety of high-speed IP backhaul options -** such as Cellular, Ethernet or Fiber between the DCU2+ and AclaraONE software. The DCU2+ also supports an optional failover backhaul configuration for mission-critical applications such as DA, to switch from a primary wired/wireless backhaul to a secondary wired/wireless failover backhaul and back to the primary once it becomes available again.
- **Redundant network -** Ensures reliable communications to all endpoints without the added expense of network repeaters.
- **Quick and easy to install -** without the need for field configuration and flexibility for a variety of field installation options to poles, lattice towers, water towers, and other assets.



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ACLARA RF DATA COLLECTION UNIT SPECIFICATIONS

Model	Aclara Data Collection Unit (DCU2+)
Size	22”H x 14”W x 8.25”D
Main Enclosure	316 Stainless Steel, NEMA 3R
Internal PCB Enclosure	Polycarbonate, NEMA 4X
Operating Power	120VAC +/- 20%, 0.7A
Operating Temperature	-40ºC to +70ºC
Operating Humidity	0% to 95% non-condensing
Vibration Rating	Seismic Zone 4
Wind Rating	120 mph
Backhaul Options	Cellular (AT&T, Verizon, Rogers, Bell Canada), Ethernet, Fiber
Back up Battery*	12V, 42Ah, Lead-Acid
Weight	72 lbs (36.6 pounds for DCU and 35.4 lbs for the battery)
Mounting Options	Wood pole mount, steel pole mount, lattice tower mount, water tower mount, roof top mount
Approvals	FCC Part 15, FCC Part 90, IC RSS-119
Options:	
Solar Operation	100W panel(s)
Failover Backhaul	Wired (Ethernet/Fiber) to Wireless (cellular)
	Wireless (Cellular) to Wired (Ethernet/Fiber)

*Backup Battery provides multi-day operation during AC power outage periods or limited sunlight when solar powered.

Contact your Aclara solution expert to explore how the Aclara RF Data Collection Units can deliver the communication infrastructure to improve reliability, reduce losses, improve quality and reduce cost.

Visit us at Aclara.com, phone 800 297 2728 or contact us at info@aclara.com and follow us on Twitter

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