Electric Meter Network Interface Card

With Aclara RF™ for Residential and Commercial Meters

Aclara RF™ Network Interface Cards (NIC's) for single-phase and poly-phase, solid-state, ANSI-certified residential and commercial meters minimize risk and ensure accurate, reliable and efficient measurements.

Aclara RF Network Interface Cards provide superior measurement performance, affordability, accuracy and reliability. In addition to reading meters, the units support demand, load profiling, time-of-use, and net metering for distributed generation.

Aclara RF NIC's are a critical component of the Aclara RF network solution, which offers unequalled performance and expandability while providing reliable, flexible two-way communications for electric meters and other smart-infrastructure devices on distribution networks.

FEATURES AND BENEFITS

- Operates on Aclara's low cost Aclara RF point-to-multipoint FCC licensed 450-470 MHz network, reducing the risk of interference by other radio systems providing reliable communications with low channel noise, no competition for airwaves and greater penetration through building structures than higher frequency unlicensed solutions providing improved range and deterministic latency.
- Supports secure encrypted remote over-the-air configuration and firmware updates of the meter and NIC modules from the utility using the AclaraONE® headend software, reducing the need for in-field configuration and expensive truck rolls.
- Outage or restoration confirmation timer reduces false reporting and provides accurate outage and restoration messaging.
- Provides up to six "last gasp" outage messages across 20 minutes from any affected meter to identify where outages exist.
- Offers an outage event buffer to reduce the number of false momentary alarms.
- Accesses data directly from ANSI C12.19 tables.
- Supports integrated connect/disconnect functionality for residential meter.
- Employs NIST-standard, approved Advanced Encryption Standard 256-bit encryption (AES-256) for communications with the headend.
- Utilizing Datagram Transport Layer Security (DTLS) protocol, uses X.509 digital certificate-based client and server authentication.
- Uses the IEC 61968-9 standard (Application Integration at Electric Utilities) to transact CIM-based messages.
- Applies an extended set of IEC-61968-9 Distribution Management commands from the headend to the endpoints.

CONVERT DATA TO INFORMATION

Data transmitted to the utility is turned into actionable information by Aclara's AclaraONE® software, a full-featured headend that provides a single user-friendly interface for control and command.

Out-of-the-box functions in AclaraONE® are on-demand reads, outage and restoration reporting, connect/disconnect, firmware downloads, alarms and validation, estimation and editing capability. Aclara offers additional value-added modules for loss analysis, transformer analysis, voltage analysis, meter exchange, power billing, fault detection and localization and more.

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METER NETWORK INTERFACE CARD SPECIFICATIONS

Meter compatibility	Aclara I-210+, I-210+c, and kV2c smart meter platforms
Data speed	9.6 kbps per RF channel
Load profile data	5-minute, 15-minute, 30-minute, Hourly
Daily Shift Read	Daily consumption read
Transmission Read Rate	I-210+: 15-minute reads every 15 minutes, 4 channels I-210+c: 5-minute reads every 5 minutes, 8 channels kV2c: 5-minute reads every 5 minutes, 8 channels
On-demand read response rate	< 30 seconds
Messaging standard	IEC 61968-9 CIM
Transmitter power	1W (30dBm) per transmitter channel
Receiver Sensitivity	-105 dBm for 10^{-6} BER per receiver channel
Security Standards	AES-256 encryption with X.509 certificate authentication, DTLS v1.2 and NEMA SG-AMI 1, FIPS 197, FIPS 186-4, FIPS 108-4, SP800-90A
Outage/restoration event confirmation timer	Programmable from 5 to 300 seconds from meter notification
Last-gasp outage capability	Up to 6 outage notification messages during a 20-minute period
Alarms/Event notification	High temperature, tamper, outage, restoration, and more
On-request commands (if supported by meter)	Connect/disconnect, demand read, demand reset, historical recovery

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