CENTRON® R450 Advanced Meter

The CENTRON R450 Advanced meter provides valuable capabilities not available in basic Automated Meter Reading (AMR) meters. The meter's adaptability allows it to be incorporated alongside existing Itron electric meters with an existing mobile data collection system. This advanced meter can then deliver the advanced metering benefits provided by the ability to collect interval data, time-of-use data, demand read and reset, and other valuable meter data via walk-by and drive-by AMR. Additionally, the utility benefits from the efficiency and safety associated with remote disconnect and connect using the service switch integrated in the meter.

OVERVIEW

With the CENTRON R450 Advanced meter's versatility and proven operational benefits, utilities can address current business challenges and see an immediate return on investment using their existing Itron mobile data collection solution.

Featuring modular design for flexibility in communications, and extensive features and functionality, the CENTRON R450 supports existing operational needs as well as enabling capabilities not available in basic AMR meters. The CENTRON R450 offers an advanced feature set, including remote disconnect, unique to Itron mobile data collection solutions. This revolutionary capability is perfect for customers that require advanced metering functionality now with their existing mobile data collection solution.

What does the CENTRON R450 Advanced meter offer in a mobile environment?

Utilities can deploy the new CENTRON R450 alongside the existing meter population, reading all meters with their existing Itron mobile data collection system. This enables the utility to deploy the CENTRON R450 on a schedule, whether through an annual meter maintenance program, a complete meter replacement or any other combination that suits the business case. With this flexibility, the utility sets the timetable according to its operational needs, capital management goals or strategic plans.

SPECIFICATIONS

Once deployed, the CENTRON R450 offers a range of benefits. Utilities can streamline current operational processes and subsequently lower costs. Field work required to disconnect meter service is reduced by the ability to activate the under-the-glass service switch from the curb with a variety of mobile devices (smartphones, tablets, laptops) coupled with an Itron vehicle mounted or handheld AMR radio. Safety incidents are reduced and meter socket damage is eliminated by this remote capability. Demand reset of commercial meters is also managed with the mobile system, eliminating the need to physically access the meter or having to worry about setting schedules. Time based rates can be calculated in the meter and retrieved via the mobile system which removes the need for calculating rates in a meter data management system. With the ability to extract 5 different types of energy values you can address all your metering needs from net meters to complex demand accounts.

The CENTRON R450 also manages and transmits up to 40 days of 15-minute interval data from two channels, which enables a range of capabilities. With historical usage data, a utility's customer service department can address bill inquiries, eliminating the lengthy and costly bill reconciliation process. Customers also gain greater confidence in the billing process and their bills when questions are answered accurately and in a timely manner.

CENTRON R450 Mobile Data Collection Capabilities

Unlike basic AMR meters, the advanced two-way wireless communications provided in the CENTRON R450 Advanced meter allow the utility to extract a broad range of data types in real time without the need to gain direct access to the meter.

Energy Values

» Up to five energy registers (Max of 4 for Singlephase); kWh delivered, kWh received, kWh net, kWh unidirectional, VAh delivered, VAh received, Varh delivered, Varh received

» Up to 2 demand values (1 for Singlephase) based on energy values; Max demand, cumulative demand, continuous cumulative demand with a remote reset.

» For Polyphase, a PF @ Peak Demand can also be returned

» Two channels of 15-minute interval data with 40 days of data retention; intervals can be retrieved as 15 minute, hourly, daily or single historical read

PRODUCT AVAILABILITY (SINGLEPHASE)

Metrology	Class	Voltage
1S	200	120
2S	200	240
2S	320	240
12S/25S	200	120

PRODUCT AVAILABILITY (POLYPHASE)

Metrology	Class	Voltage
1S	100	120-480
2S	200	120-480
2S	320	120-480
3S	20	120-480
4S	20	120-480
9S (8S)	20	120-480
9S (8S)/36S	20	120-480
12S	200	120-480
12S	320	120-480
16S	200	120-480
16S (14S, 15S, 17S)	320	120-480
45S/5S	20	120-480

Time of Use

» Time of Use rates can be calculated in the meter and retrieved with your Itron mobile data collection system

» 24 Year calendar in the meter

» Seasons (1 to 8 per year)

» Rates (1 to 4 per season)

» Events (1 to 32 per season)

- DST and Holidays

Disconnect/Reconnect service switch operation

» The CENTRON R450 (forms 1S, 2S, 12S, and 25S) is available with a 200-amp remote disconnect/reconnect switch that can be operated with your Itron mobile data collection devices

Tamper and Alert Notifications

» Tamper and alert indications are included in every communication received by the Itron mobile applications

» Tampers include inversion, removal, reverse power flow and magnetic (Singlephase only)

» Alerts include: Fatal and non-fatal meter errors

» Status indicators includes service switch status (connected or disconnected)

» Event Counter of Meter Configuration Changes

Additional data available via remote communications

» Date and Time of last power outage

» Number of Minutes Running on Battery

» Firmware Versions

» Configuration Information (Energy and Demand values)

» Time synchronization

Security

» Itron's enhanced security for radio communications protects the utility and the consumer through authentication of two-way communications, such as disconnect, and optional encryption of meter data in transit between the meter and the mobile radio.

Itron System Support

» **Field Collection System**

- FCS capabilities:
  - Supports all available meter features and all security levels.

- Application Software:
  - Field Collection System (FCS) v4.2 or higher
  - Itron Mobile v2.4 or higher
  - Itron Security Manager v3.0 or higher
- Handhelds and Radios
  - Itron Mobile Radio (IMR): All models along with application software listed above and a compatible mobile device.
  - FC300SR: All models along with application software listed above.
- Mobile Collectors
  - MC4: All models when used application software listed above.
  - MC3Lite: All models when used application software listed above.
  - MC3 when used with application software listed above.
  - Only: DCU-5300-001, DCU-5300-011U, DCU-5300-101U, DCU5300-111U
  - MCLite when used with application software listed above.
  - Only: DCU-5000-001, DCU-5000-002, DCU-5000-002U, DCU-5000-102U, DCU-5000-002DL, DCU-5310-201

» **Temetra**

- Temetra capabilities:
  - Basic security capabilities only
  - Basic AMR via standard consumption message
  - Interval data collection

- Application Software:
  - Temetra Web
  - Temetra Mobile
- Handhelds and Radios
  - Itron Mobile Radio (IMR): All models along with application software listed above and a compatible mobile device.
- Mobile Collectors
  - MC4: All models when used application software listed above.
  - MC3Lite: All models when used application software listed above.
  - MC3 when used with application software listed above.
  - Only: DCU-5300-001, DCU-5300-011U, DCU-5300-101U, DCU5300-111U

» **FDM Tools**

- FDM Tools capabilities:
  - Read standard consumption message
  - Interval data collection *
  - Service switch operation *

* Note: Some features may incur a subscription fee.

- Supported Software Versions:
  - FDM Tools v4.3 or higher
  - Itron Security Manager v3.6 or higher
- Handhelds and Radios
  - Itron Mobile Radio (IMR): All models along with application software listed above and a compatible mobile device.
  - FC300SR: All models along with application software listed above.

SPECIFICATIONS

Technical Data

Meets applicable standards:

» ANSI C12.1 - 2001 (American National Standard for Electric Meters - Code for Electricity Metering)

» ANSI C12.18 - 1996 (American National Standard - Protocol Specification for ANSI Type 2 Optical Port)

» ANSI C12.19 - 1997 (American National Standard - Utility Industry End Device Data Tables)

» ANSI C12.20 - 2002 (American National Standard for Electricity

» Meters-0.2 and 0.5 Accuracy Classes)

» ANSI C12.22 - (consult ANSI electricity metering protocol standards, balloted version)

» ANSI/IEEE C62.45 - 1992 (Guide to Surge Testing on Low-Voltage AC Power Circuits)

» IEC 61000-4-2 » IEC 61000-4-4

Related Documents

» CENTRON R450 Advanced Meter Specification Sheet

» CENTRON R450 Advanced Polyphase Meter Specification Sheet

» CENTRON R450 Advanced Meter Technical Reference Guide

» Hardware Specification Form

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