



# CENTRON<sup>®</sup>

## Residential Meter

As the energy industry evolves, utilities and consumers alike are re-examining the way electricity is marketed, measured and purchased. With change affecting every part of the industry, shouldn't you take a closer look at how electricity will be measured at every point along the way?

The CENTRON meter brings you the first true breakthrough in measurement for the residential market in over a century. With this solid-state meter, Itron presents a platform for residential metering with the flexibility to adapt as your needs expand and change.

### Today's Choice, Tomorrow's Power

While the electromechanical meters you have in the field have always provided reliable, dependable service, many have been in service for decades and replacement parts are getting harder to find. Plus, there's a growing need to equip meters for automated reading to help lower operational costs and improve accuracy. The CENTRON meter provides utilities with an exceptional platform for the future at a cost that makes sense for today's residential market. Its technology and components match residential needs, while addressing reliability, serviceability and investment cost considerations. What's more, the CENTRON meter is adaptable

enough to allow you to meet the business challenges of the future.

Take a closer look at the CENTRON meter and discover the features — and the flexibility — that are perfect for the present and ready for the future.

- » Single phase, solid-state platform
- » Simplified register changes
- » Interchangeable communication personality modules
- » Rapid response to specialized needs from Itron
- » Improved performance characteristics
- » Informative developer's kit provides tools that allow rapid customization
- » Lowest starting watts and watts loss in the industry

### AMR Made Easy

Start with the CENTRON base meter as your platform for the future's AMR solutions. Its two-part design and well-documented interface are engineered

to allow easy implementation of new communication personality modules that simply snap into the base measurement module.

The metrology board, located in the base portion of the meter, is developed on the Hall Sensor theory and contains the calibration information for the CENTRON meter. The calibration information remains intact while optional modules can be added or upgraded. The metrology board provides the watthour pulses, frequency, power direction indication and voltage to the attached personality modules. This flexible format allows communications and other register functions to be separated onto option boards for easy upgrades.

With the CENTRON base meter as your platform for tomorrow's AMR solutions, you have the flexibility to adapt your meters as your needs change.

The easy-to-add personality modules will provide the functionality you need. It will minimize installation costs, increase your

opportunities, and improve response time to your future needs.

## CENTRON C1S/CN1S

### Solid-State single-phase Meter

Used for measuring single phase energy consumption and available as an energy meter with an LCD register.

- » All calibration data is permanently stored in the base of the meter
- » The personality module houses all register and communication functions including Demand, Time-of-Use (TOU), Load Profile, and various communication options
- » Improved performance, such as low starting watts and low burden, captures energy that is not recorded by electromechanical meters
- » Tamper resistant: Measures energy even if the meter is inverted

### Network Energy Metering (CENTRON CN1S)

- » The CENTRON CN1S solid state meter is used for network applications and is available in the 12S meter form.

## CENTRON C12.19 C1SD, C1ST, C1SL

### Multifunction Personality Meter

The interchangeable personality modules snap into the standard CENTRON metrology base. The three multifunction modules available include a Demand module (C1SD), a Time-of-Use module with Demand (C1ST), and a Load Profile module with TOU and Demand (C1SL). These personality modules utilize the PSEM protocol.

- » Non-volatile memory: All programming, register, TOU and load profile data are stored during a power outage
- » Optical port communication allows each module to be programmed to communicate at 9600, 14400, 19200 or 28800 baud through the optical tower
- » Self-read capability means billing data can be stored automatically at programmable times to be read later
- » Includes 144K RAM for up to eight channels of load profile data
- » Bi-directional metering: All three multi-function modules are capable of measuring and displaying delivered, received and net energy (kWh)

## CENTRON C1SR

### Radio Frequency Personality Module

Allows kilowatt-hours and tamper data to be reported through RF transmissions. Messages can be retrieved using either a mobile receiver or handheld off-site reading device.

- » One-way, unlicensed RF device uses the Itron standard protocol
- » Operates in the unlicensed 902-928 MHz frequency range using spread spectrum technology
- » Energy RF transmissions contains unit ID number, unit type, energy usage, tamper status and cyclic redundancy check (CRC) to ensure message integrity
- » Patented tamper detection features

## CENTRON C1SC

### CellNet Radio Frequency Technology Personality Module

Add one-way radio frequency (RF) capability to the CENTRON solid-state metering platform using CellNet data systems RF technology and protocol for fixed network applications. The C1SC operates in the unlicensed 902-928 MHz frequency range using spread spectrum technology.

- » Power outage notification supports the detection and restoration notification of power outages on the utility distribution network
- » Reverse flow detection
- » Demand, TOU and Load Profile capabilities
- » Factory programmed, requiring no additional programming by the user
- » Redundant transmissions

### ADAPTABLE ARCHITECTURE OEM OPTIONS AVAILABLE

- » Aclara (formerly DCSI) PLC
- » Blue Tower RF
- » Cooper Technologies PLC
- » Landis + Gyr Cellnet Private RF
- » Landis + Gyr Hunt Technologies PLC
- » CIC Global Prepayment
- » Datamatic RF
- » Kinects PLC
- » PowerOne Data Private RF
- » Itron Cellular Solutions GPS
- » Tantalus RF Mesh
- » Trilliant RF Mesh



At Itron, we're dedicated to delivering end-to-end smart grid and smart distribution solutions to electric, gas and water utilities around the globe. Our company is the world's leading provider of smart metering, data collection and utility software systems, with over 8,000 utilities worldwide relying on our technology to optimize the delivery and use of energy and water.

To realize your smarter energy and water future, start here: [www.itron.com](http://www.itron.com)

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