



## a new phase

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<sup>®</sup> 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.



## add some personality

## 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.

It's easy to add a personality module that provides the functionality you need. Simple operations, training and installation reduce costs and speed your response time to future needs and opportunities.

#### **CENTRON® C1S**

#### Solid-State Single phase Meter

Used for measuring single phase energy consumption and available as an energy meter with an LCD register. As an option, the meter is available with interchangeable personality modules including demand, time-of-use (TOU), load profile and various communication options.

- > All calibration data is permanently stored in the base of the meter.
- > Interchangeable personality meters are part of snap-in register assembly.
- > 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.

#### CENTRON® 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 SCS 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 or 4800 baud through the optical tower.
- > Self-read capability means billing data can be stored automatically at programmable times to be read later.
- > Includes 32K RAM for one channel of load profile data.
- > Bi-directional metering: All three multi-function modules are capable of measuring and displaying delivered and received 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 consumption message protocol.
- > Energy RF transmissions contains unit ID number, unit type, energy usage, tamper status and cyclic redundancy check (CRC) to ensure message integrity.
- > Tamper detection features include a power removal tamper and transmission of tamper indications.

#### **CENTRON® CN1S**

The CENTRON CN1S solid-state meter is used to measure network energy consumption. It is available as an energy meter with an LCD register. As an option, the meter is available with interchangeable personality modules including demand, time-of-use (TOU), load profile, and various communication options.

- > The CENTRON meter can easily be upgraded to any of the option modules available.
- > All calibration data is permanently stored in the base of the meter on the CENTRON metrology board.
- > The interchangeable personality modules are part of a snap-in register assembly.
- > The personality module houses all register and communication functions.





# add some personality (cont.)

#### 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

# Itron Inc.

Itron is a leading technology provider and critical source of knowledge to the global energy and water industries. More than 3,000 utilities worldwide rely on Itron technology to deliver the knowledge they require to optimize the delivery and use of energy and water. Itron delivers value to its clients by providing industry-leading solutions for electricity metering; meter data collection; energy information management; demand response; load forecasting, analysis and consulting services; distribution system design and optimization; web-based workforce automation; and enterprise and residential energy management.

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