The CENTRON meter is a solid-state, single-phase residential electricity meter that provides utilities with unparalleled digital accuracy, reliability, serviceability and cost-effectiveness. The CENTRON meter is one of the most adaptable meters on the residential market, providing an array of communications and application options to meet current and future business needs.

With this solid-state meter, Itron presents a platform for residential metering with the flexibility to adapt as your needs expand and change.

This residential meter is available with interchangeable personality modules that snap into the standard CENTRON metrology base. The three multifunction modules available utilize the ANSI Tables protocol in a demand module (C1SD), a time-of-use (TOU) module with demand (C1ST), and a load profile modules with TOU and demand (C1SL).

**FEATURES**

All programming, register, demand, TOU, and load profile data are stored in electrically erasable programmable read-only memory (EEPROM) during a power outage. A battery maintains only the clock circuitry during a power outage.

**Time of Use**

This meter with optional I/O capability can be used in TOU residential applications where dual heating systems, such as electricity and a furnace, are present. When temperatures or peak load fall below a given threshold, the heating will automatically switch from an electric to a combustible or a water-heating source. Typically, utilities offer different electricity rates for energy consumption based on the exterior temperature or peak load in the hopes of decreasing energy demand during cold peak periods. The rate switch in the meter is triggered by an external pulse input.

**Non-Volatile Memory**

All programming, register, TOU and load profile data are stored in the EEPROM during a power outage. A battery maintains only the clock circuitry during a power outage (except C1SD).

**Optical Port Communication**

Each module can be programmed to communicate at 28800, 19200, 14400 or 9600 baud through the optical tower.

**Energy RF Transmission**

» Optional R300 RF module available with 2 ERT or 3 ERT
» Each RF transmission contains the unit ID number, unit type, energy usage and tamper status, as well as the cyclic redundancy check (CRC) to ensure message integrity
» Transmit frequency: spread spectrum 910-920 Mhz
» Compatible with all Itron 900 MHz handheld, mobile and fixed network
data collection solutions, including ChoiceConnect™, Itron’s premier automated meter reading (AMR) data collection suite

» Offers up to +20 dBm of output power

Self-Read Capability
» All meters are equipped with two self-read registers
» The C1ST and C1SL modules can be programmed to automatically store up to 12 additional self-read registers. Billing data can be stored automatically, at programmable times, to be read later

Load Profile
The C1SL module provides 144K RAM for up to eight channels of load profile data.

Bidirectional Metering
All three multifunction modules are capable of measuring and displaying delivered, received, net and unidirectional energy (kWh).

Expansion Capability
An expansion port is available for future I/O or communication functions.

Real Time Pricing Capability for C1STI/C1SLI
The TOU rate changes from its configured (default) rate to a new configured rate when the pulse state signal is active on the I/O board. When the pulse state signal becomes inactive, the rate will switch back to the default TOU configured rate.

» Rate changes are configurable through PC-PRO+® Advanced software version 9.6 or later. No time synchronization is attempted using the pulse state rate change.
» The rate change caused by the transition of the pulse state input is logged as a TOU rate change event in the event log. The number of transitions will be limited to not overflow the event log.

Features for C1STI/C1SLI
» >> 24V Pulse Input Board

Product Availability Technical Data
Meets applicable standards:
» ANSI C12.1 – 2008
» ANSI C12.10 – 2004
» ANSI C12.20 (Class 0.5) – 2010
» ANSI C12.1 – 2008
» ANSI C12.18 – 2006
» ANSI C12.19 – 2008
» IEC 61000-4-1 (2004)
» IEC 61000-4-2 (2001)
» FCC Part 15 Class B

Product Approval
» Measurement Canada Approval: AE-0920

Reference Information
» CENTRON Technical Reference Guide
» CENTRON C1S Specification Sheet
» Hardware Specification Form

Product Availability

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<th>Meter Version</th>
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<th>Volts</th>
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<th>Form</th>
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<td>1S</td>
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**SPECIFICATIONS**

**Dimensions – Polycarbonate**

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<th>E</th>
<th>F</th>
<th>G</th>
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<td>3.16&quot;</td>
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<td>16 cm</td>
<td>17.7 cm</td>
<td>6.9 cm</td>
<td>8 cm</td>
<td>11.5 cm</td>
<td>12.7 cm</td>
<td>16 cm</td>
<td>17.7 cm</td>
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</table>

**Specifications**

**Power Requirements**
- Voltage rating: 120 V, 240 V
- Frequency: 60Hz (50Hz) Cell Relay
- Battery Voltage: 3.6V nominal
- Carryover: 10-12 year continuous usage or 15 year shelf-life
- Operating voltage: ±20% (60 Hz); ±10% (50 Hz)
- Operating range: ± 3 Hz Register
- Battery Operating Range: 3.4 V – 3.8 V
- External input signal: 24 VAC or ±12 VDC

**Operating Environment**
- Temperature: -40ºC to +85ºC
- Humidity: 0% to 95% non-condensing

**Transient / Surge Suppression**
- IEC 61000-4-4
- ANSI C62.45-1992

**Accuracy**
- ANSI C12.20 0.5 Accuracy Class

**General**
- Demand interval lengths: Programmable from 1 to 60 minutes
- Demand calculation: Present, previous, cumulative, continuous cumulative, projected, 5 highest, peak demand

**Time**
- Line sync: Power line frequency
- Crystal sync: ±0.01% @ 25ºC; ±0.025% over full temperature range
- Battery: ±0.003% @ 25ºC; ±0.02% over full temperature range
- Display: Nine-digit liquid crystal display
  - Six-digit data height: 0.4"
  - Three-digit code number height: 0.24"
  - Annunciator height: 0.088"
  - Display duration: 1-15 seconds
  - Three-segment electronic load indicator

**Characteristic Data**
- Starting watts: 5 watts

**Burden Data**
- Voltage circuit: 1.35 W (Form 1S, 2S)
  - 1.55 W (Form 3S, 4S, 12S, 25S, 2S CL320)

**Current Coil**
- <0.5 VA (all forms)

**Shipping Weights – Polycarbonate**

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<td>4</td>
<td>10 lbs / 4.54 kg</td>
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<table>
<thead>
<tr>
<th>Meter Per Pallet</th>
<th>Pallet Weight (Approx.)</th>
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</thead>
<tbody>
<tr>
<td>20</td>
<td>291 lbs / 132 kg</td>
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