100 Series
Water Endpoint

Introduction
The 100 Series water endpoint is the latest addition to Itron’s portfolio of advanced water metering devices. Featuring a compact design, industry-leading battery life and technology designed to adapt and grow with your business, the 100 Series can help you streamline your operations and maximize your resources today and into the future.

100 Series endpoints are available in two housing designs, supporting both water pit and remote installations. These endpoints offer advanced meter data collection designed specifically for the collection systems of Itron’s ChoiceConnect™ solution, including mobile collection and fixed network systems. 100 Series endpoints differentiate themselves from other devices on the market by providing true two-way communications capabilities. Engineered from the ground up to leverage the benefits of ChoiceConnect, 100 Series devices enable easy migration from mobile to fixed network operations as your business needs evolve. And with ChoiceConnect’s™ complementary technology, mobile and fixed network systems can be mixed-and-matched to ensure maximum efficiency and reliability in both high- and low-density meter populations.

Water meter compatibility
The 100 Series water endpoint is compatible with industry-leading water meters from Itron—as well as those from manufacturers such as Badger, Elster AMCO, Hersey, Metron Farnier, Neptune and Sensus—enabling water utilities to consolidate all their water meters under a single reading system. Powered by advanced lithium battery technology, the endpoint is designed for greater than 20 years of battery life. Battery life is reduced if mobile hard-to-read mode is activated.

Data logging
The 100 Series water endpoint stores 40 days of hourly consumption information, offering the advantages of a fixed network system and the capabilities of a mobile system. This data is available in four basic packets and readable with the fixed network system as well as mobile:

- Any reading within the last 40 days
- A set of 24 consecutive hourly intervals
- A set of 40 daily intervals
- A set of 40 days of hourly intervals

Ease of installation
The 100 Series water endpoint includes integral mounting adapters to install the device below compatible meter pit lids, by mounting directly to the meter body or using a standard-dimension fiberglass rod. A shelf-mount adapter is available for use with lids that contain a recessed cavity on the underside of the pit. Additionally, a remote antenna is available for through-lid installations (for lids utilizing a 1.75-inch hole). Both models can also be screw-fastened to flat surfaces. The compact design of the 100 Series endpoint, coupled with an optional in-line register cable connector (pit version only), make installations up to 25 feet from the water meter quick and easy.

The encoder version does not require any programming—it automatically detects the register type within one hour of being connected. 100 Series devices do not require a FCC license.

Leak management
Water loss management is critical to any water utility’s success. 100 Series water endpoints connect to Itron’s advanced acoustic leak sensors. These sensors collect and analyze sound patterns in their environment to detect new, evolving and pre-existing leaks automatically with web based application mlogonline. Leak sensor technology coupled with the endpoint’s internal metered leak logic and the option to use data from groups of 100 Series devices (District Metering) provide the utility with a highly accurate picture of the overall health of the water distribution system.
Superior performance

The 100 Series water endpoints utilize 50 radio channels randomly, selecting one channel for each data message. This multi-channel approach delivers higher read integrity over competing products by reducing the effect of interfering signals from other radio frequency (RF) signals in the area.

Reliability

100 Series water endpoints feature a circuit assembly and battery pack that are fully encapsulated within a specially-formulated potting material to completely protect internal components from water, contaminants, corrosion, rough handling and temperature cycling. With their straightforward design, 100 Series devices use substantially fewer components than most competing products, resulting in greater reliability. The advanced, integrated antenna operates effectively in a wide range of meter box installations; the design and use of the optional remote pit antenna protects 100 Series water endpoints from lawn mowers, vehicle traffic and other environmental hazards. The 100W is backed by a 20 year limited warranty which starts at time of shipment.

Lower cost of ownership

100 Series devices feature industry-leading battery life, ensuring your automated meter reading (AMR) investment achieves substantially better financial returns than competing products with batteries that typically last only ten or twelve years. Additionally, with advancements in leak reverse flow (encoder version only) and tamper detection, 100 Series water endpoints necessitate fewer field investigations and substantially lower expenditures for installation, meter reading, customer service and field service. And with a low battery alarm, these endpoints help utilities better plan and manage the replacement of units in the field.

100W specifications

Functional

- Power Source: Two “A” cell lithium batteries warranted for 20 years
- Maximum meter register pulse frequency (pulse version only): 4 Hertz
- Operating temperature: -40°F to +158°F (-40°C to +70°C)
- Storage temperature: -40°C to + 75°C for maximum of 1,000 hours
- Humidity limits: 0 to 100% (submersible)
- Maximum register cable dimension: 300 feet with Itron-approved cable and splice connectors
- Meter compatibility: See Water Endpoint Meter Compatibility Guide (PUB-0063-002)

Transmission parameters

- Data message: Multiple RF channel transmissions of meter register value, cut cable and or communication error tamper(s), reverse flow (encoder version only) and system leak status messages, as well as low battery indicator is transmitted every nine seconds in mobile mode. In fixed network mode all this information plus the last 8 time synchronized consumption intervals is transmitted every five minutes. Also during fixed network mode, our standard consumption message and communication flags are transmitted every minute to allow for contingency reads
- Transmitter frequencies: 910 – 920 MHz (Low Power) in mobile mode. 910 – 920 MHz (High Power) in fixed network & mobile hard-to-read modes

Approved reading devices

- Network system: Itron Fixed Network 100 Series CCU and Data Repeaters (full two-way communication capability)
- Drive-by system: Itron Mobile Collection System* and Mobile Collector Lite*
- Walk-by system: Itron FC200SR* and FC300SR handheld computers

Approved programming device

- FC200SR with Field Deployment Manager (FDM) version 1.0 or higher software
- FC300 SRead with Field Deployment Manager (FDM) version 1.0 or higher software

Dimensions

- Height: 4.5 inches
- Maximum diameter:
  - Lower: 3.90 inches
  - Upper: Approx. 1.70 inches
- Weight: Approx. 9.6 oz.
- Endpoint cable length without in-line connector: 5 feet and 20 inches (for register direct mounting)
- In-line connector register cables: 5 feet and 25 feet

Mounting options

- Custom-fastener slots for future attachment to OEM mounting adapters
- Rod-mount using standard 1/2-inch fiberglass rod or similar products
- Pit lid shelf-mount using snap-on shelf mounting adapter
- Wall-mount to suitable backing material with user-supplied mounting screws
- Through meter pit/box lids with optional remote pit antenna for 1.75-inch diameter holes up to 2.5-inch maximum lid thickness

Regulatory and standards

- FCC Part 15.247
- Industry Canada #210, Section 6.2.2(a)

*Hardware/Software upgrades/updates may be required

About Itron Inc.

Itron Inc. is a leading technology provider to the global energy and water industries. Our company is the world’s leading provider of intelligent metering, data collection and utility software solutions, with nearly 8,000 utilities worldwide relying on our technology to optimize the delivery and use of energy and water. Our products include electricity, gas, water and heat meters; data collection and communication systems, including automated meter reading (AMR) and advanced metering infrastructure (AMI); meter data management and related software applications; as well as project management, installation, and consulting services. To know more, start here: www.itron.com

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