



SENTINEL®

Commercial and Industrial Meter

The Itron SENTINEL Meter is a solid-state, electronic, multimeasurement, polyphase meter of exceptional accuracy. This self-contained or transformer-rated meter is designed for use in commercial and industrial C&I locations, including large industrial sites and substations. The SENTINEL Meter has the flexibility to match any utility needs ranging from a basic C&I meter applications all the way into sophisticated substation system installations.

The processes of deregulation, privatization, and globalization are forcing fundamental changes to the way utilities do business. As competition increases, so does the demand for excellence in customer service and operations efficiency. Leading utilities are looking for ways to increase efficiency and add value to their offering with innovative marketing techniques and an extensive use of quality technology.

At Itron our experience and global presence mean that we have encountered many of these challenges before. As an integrated information services provider, we use state-of-the-art tools, techniques, and experts to help clients discover the potential for total network optimization. Through our solutions approach, your company will benefit from increased operating efficiency, automated billing, and a host of other services to successfully compete in today's utility services market.

The Itron SENTINEL meter is part of the solution. This solid-state, polyphase meter provides the platform for advanced communications and services in the commercial and industrial market to meet your changing business needs.

The Competitive Advantage

The utility industry is evolving with an increasing demand from customers for more information, including voltage quality, power quality, and load profiling. The SENTINEL meter enables you to gather and deliver that information, whenever and however it is needed.

PLATFORM FLEXIBILITY

Information Management

Demands for more information, faster information, and better information continue to increase and the future of your business depends on how well you can adapt. The SENTINEL meter lets you effectively manage the information requirements of today, while providing the flexibility to meet the challenges of tomorrow.

Key Features

The SENTINEL meter keeps your cost down and your options open for a better bottom line.

- » Class 0.2 accuracy
- » 5 measurement levels
- » Voltage Quality:
 - Voltage Imbalance
 - Phase-to-Phase or Phase-to-Ground VQ event detection
 - Sags
 - Swells
 - Current Imbalance
 - 255 VQ events
 - 3 levels of severity
- » Harmonic Detection and Triggering for Voltage and Current
- » Wide variety of singlephase and polyphase meter forms
 - 20A, 200A, and 320A options
- » Totalized registers
- » Bidirectional measurement
- » MeterKey™ options:
 - Measurement level
 - Up to 7 independent TOU rates
 - Totalization
 - Up to 8 channels of Load Profile
 - Power quality
 - Bidirectional measurement
 - Per phase voltage
 - Per phase current
- » Maximum, present, projected, previous, cumulative, continuous cumulative, and coincident demands
- » Error and event logging
- » Real-Time SiteScan™ onsite monitoring system
- » SiteScan diagnostic snapshots for troubleshooting
- » Flexible configuration for various metering applications
- » Pulse outputs and inputs
- » PF (avg., min., inst.)
- » ERT Communications
 - R300S (energy only)
 - R300SD (energy and demand)
 - R300SD3 (3 quantities) option board
- » RS-232/RS-485 option board, serial communication
- » Internal modem option board, phone line communication
- » Ethernet board; network communication requires meter
- » OEM development options for many communication technologies

» Upgrade Kits Available:

- R300 Board Kits
- Modem Kit
- Switchboard Ready™ Kit
- Ethernet Board Kit
- 5 Main I/O Board Kits
- 5 Supplemental I/O Board Kits

THE COST OF OWNERSHIP

Unmatched Value

The best measure of value is total cost of ownership over a measurement system's lifetime. The SENTINEL meter's value pays off during installation—its flexible design integrates easily into your existing monitoring systems - and continues through a long life of low maintenance, efficient operation, and extremely flexible upgrade capabilities. The adaptable architecture enables fast upgrading and enhancement to meet the world's changing needs.

SENTINEL Meter Compliance

Accuracy Tests in conformance with the ANSI C12.20 standard for class 0.2 meters.

Conforms to:

- » ANSI C12.1: 2001
- » ANSI C12.10: 1997
- » ANSI C12.18: 1996
- » ANSI C12.19: 1997
- » ANSI C12.20: 2002
- » ANSI C12.21: 1999

Surge, Impulse and RF Interference

Conforms to:

- » ANSI C37.90.1: 1989 (reaffirmed 1991)
- » ANSI C62.45
- » FCC Part 68
- » FCC Part 15 (Class B)

THE COST OF OWNERSHIP NEW FEATURES

Whether your needs are basic or complex, the Itron SENTINEL polyphase meter offers any utility an electric meter solution with meter data management software that is easy to use. As the industry leader in software tools for metering applications, Itron is setting the standard for advanced metering. Our PC-PRO+® Advanced software package offers every utility the knowledge necessary for expert program creation with new innovative back-up capabilities and critical time savings features.

PC-PRO+ ADVANCED

Standard Features

» Programming Tools

Using the Program Editor, the user can easily navigate through the program file components to configure metering features such as TOU schedules, meter display, load profile, communication parameters, self read schedules, and power quality. It also allows users to import and export program files, create meter image files, and change numerous metering options at the time you program the meter.

» Diagnostics

The SiteScan™ diagnostic toolbox lets you analyze phase diagrams of the voltage and current on site.

Features such as verifying that the meter is correctly programmed and viewing current billing data and display mode quantities online also provide valuable field tools.

» MeterKey™

Using Itron's MeterKey Card and the software, you can enable or disable the capabilities of your SENTINEL meter as needed. Features like VQ and Harmonics can be added to a meter in the field for site monitoring and testing. Later, these features can be removed and installed on another meter, saving the utility money.

» Microsoft® Windows® User Interface

The easy-to-use interface shortens employees training time. Once the software and drivers are installed on your PC, you are ready to program.

ADAPTABLE ARCHITECTURE

The SENTINEL meter's adaptable architecture enables fast upgrading and enhancement to meet the world's changing needs.

You can respond quickly to change in the market by upgrading the SENTINEL meter to meet your changing needs. Its platform flexibility allows for ease of upgrading and downgrading, all without returning the meter to the factory. When your requirements change, count on the SENTINEL meter with firmware upgradability and MeterKey upgrades (using Smart Card technology) for enhancements to measurement levels and meter functionality via optical port or remote communication.

The SENTINEL meter is a highly adaptable business tool for today's competitive market. Flexible data communications, input and output capabilities, and a wide range of software options let you view data in the form you need. It provides the platform for advanced services in the commercial and industrial market.

» R300S (energy only) / R300SD (energy and demand) / R300SD3 (3 quantities) Communication Board

One-way radio for drive-by, walk-by, or fixed network meter reading solutions.

» Modem Communication Board

Automatic meter reading (AMR) capabilities, remote programming and remote retrieval of register and load profile data.

» Input/Output (I/O) Communication Boards

Load profiling and data storage for multiple electricity meters, water meters, gas meters, thresholds, EOI, diagnostics, and more. Expand for KYZ energy communication to energy management. Load SENTINEL data into other monitoring systems.

» RS-232 or RS-485 Communication Board

Creates either a point-to-point communication for a variety of communications equipment, including various wireless modem technologies supporting GPRS, 1xRTT or other various external wireless modem public network communications technology.

» MFMM Communication Board

Provides an endpoint within the Cellnet fixed network solution to transmit both load profile and register data.

» OEM Communication Boards

Allow further flexibility for wired and wireless remote applications.

ADAPTABLE ARCHITECTURE OEM OPTIONS AVAILABLE

- » Aclara® (PLC) Modem
- » Cannon (PLC) Modem (in development)
- » Metrum Utiliwise® Wireless Modem
- » Itron Cellular Solutions® GPRS
- » Trilliant® NCGR801 (GSM/GPRS) CellReader Modem
- » Trilliant CRDR-1010 (CDMA/1xRTT) CellReader Modem
- » Trilliant NCZR801 Secure Mesh (ND04)
- » Trilliant CI-1000 Secure Mesh (ND10)
- » Trilliant HSPA modules (in development)
- » Tantalus TUNet®
- » Tantalus TUNet with ERT capabilities (in development)

Switchboard Ready Meters

The SENTINEL Switchboard Ready Meter is a one-of-a-kind solution for all switchboard meter types. Itron, Inc. and SUSI have partnered to provide the electric industry with a first-of-its-kind solution combining Itron's SENTINEL Switchboard Ready Meters with SUSI's Narrow Socket Panel Adapters®.

- » 13 different switchboard case model numbers all available in Forms 5F(45F), 6F(46F), and 9F
- » Supports replacement of over 131 different switchboard equipment types



Itron is a global technology company. We build solutions that help utilities measure, manage and analyze energy and water. Our broad product portfolio includes electricity, gas, water and thermal energy measurement and control technology; communications systems; software; and professional services. With thousands of employees supporting nearly 8,000 utilities in more than 100 countries, Itron empowers utilities to responsibly and efficiently manage energy and water resources.

Join us in creating a more resourceful world; start here: www.itron.com

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