



Itron LTE Cellular Load Control



Building on Itron's decades of experience delivering reliable and cost-effective load control solutions, Itron is proud to announce a new generation of two-way load control devices designed for both large and small energy providers regardless of their AMI network.

Designed for faster-than-AMI communications over cost effective LTE cellular networks, new generation Itron LTE load control switches provide:

- » Super-fast communications not constrained by AMI network congestion
- » A migration path from legacy Converge paging systems to IoT-based LTE cellular load control switches regardless of your AMI network vendor

- » One IntelliSOURCE Distributed Energy Resource Management System (DERMS) to manage and control both legacy paging and new LTE load control switches as well as thermostat and commercial / industrial Demand Response (DR) programs
- » Support for more data intensive Distributed Energy Resource (DER) applications
- » Third-party managed communications with end-to-end security built in from the ground up
- » Bring your own LTE network IoT data plan or choose Itron's private network over major carrier systems



WE'VE COME A LONG WAY...

In the early days of load management, it was not uncommon to deploy hundreds or thousands of one-way load control switches and hope most of them worked as expected, were within signal range, and weren't bypassed or disconnected. Fast forward to present day, Itron now offers a portfolio of affordable two-way devices such as the cellular LTE load control switch. Bringing the speed and cost effectiveness of cellular LTE networks to load control switch applications delivers an entirely new set of benefits:

- » Operational on-line status of the device
- » Optional Load / Measurement and Verification
- » Acknowledgement of control events – Confirmation that events have been received, started, ended, cancelled, superseded, etc.
- » With the optional features above, operators have insight into:
 - Available aggregated load reduction
 - Load trends over time and performance indications for targeted rebate programs outreach – Allows utilities to offer incentives to upgrade air conditioner or water heaters
 - Time of Use (TOU) and direct load control

ROCK SOLID CYBER SECURITY

Easily hacked one-way paging systems represent an opportunity for malicious actors (internal and external) to wreak havoc on your customers. That's why Itron believes in end-to-end security baked in at the earliest stages of development. Your DR/DER infrastructure is more secure with Itron.

From the end device to the securely hosted IntelliSOURCE DERMS, no company provides more comprehensive security features:

- » **Board level encryption** – Messages to and from Itron load control devices are encrypted down to the circuit board level regardless of communications technology.
- » **CIP Compliance** – With Itron's IntelliCOP module of the IntelliSOURCE suite, control events are validated by operators and verified by end devices utilizing certificate-based authentications before acting on issued load control events and even provides a definable MW limit for any aggregate events.
- » **Device Penetration Testing** – Our extensive penetration testing ensures devices cannot be hacked or controlled by any unauthenticated device or system.
- » **Securely hosted IntelliSOURCE DERMS** – With redundant disaster recovery options, an optional human-monitored Network Operations Center (NOC), and encryption at multiple levels, no other DERMS ecosystem delivers such a secure, robust, yet flexible program operating environment

AN ECOSYSTEM OF SUPPORTING PRODUCTS AND SERVICES

Your program required the flexibility to grow as technologies and customer expectations evolve. That's why IntelliSOURCE supports DR/DER programs employing:

- » Legacy paging load control switches
- » LTE load control switches
- » Itron AMI network load control switches
- » Multi-vendor Bring your Own Device (BYOD) programs
- » Grid interactive water heaters
- » Electric Vehicle Service Equipment (EVSE) management
- » Commercial & Industrial DR/DER
- » Pertinent industry standards such as OpenADR and IEEE 2030.5
- » Forecast and baseline analytics
- » NERC-CIP controls and protections
- » Variable rate and traditional programs

With the supported technologies above, energy providers have the option of partnering with Itron to simply update a load control switch program, or plan a multi-year, multi-phase enterprise plan for all their DR/DER program needs.

WITH YOU EVERY STEP OF THE WAY

Beyond end device command and control, Itron's IntelliSOURCE DERMS is much more than device management software. It supports and automates a full set of utility business processes needed to support demand-side management programs, including: marketing, program enrollment, customer engagement, field service management, call center support, control event configuration and dispatch, event measurement and verification (M&V), and settlement.



Aquire	Manage	Control	Measure	Analyze	Optimize
Prospect Analysis	Call Center	Control Strategies	Event Performance	System Performance	Dynamic Forecasting
Segmentation	Work Order Generation	Notifications & Alerts	M&V Data	Network Performance	Performance Modeling
Marketing	Customer Tracking	Dynamic Pricing	Device Metrics	Device Heuristics	Grid Impacts
Channel Management	Customer Support	Event & Device Management	Forecasting	Load Analysis	Customer Forecasting
Messaging	Accounts/Customers	Constraints	Performance Baselines	System Forecasting	Weather Impact
Aquisition Tracking	System Topology	Grid Operations	Device Operations	Customer Analysis	Grid Constraints
	Rate & Tariffs	MW Tracking	System Operations	Segmentation	Automated Demand Management System Dispatch
	Trouble Ticketing	Event Reporting			

Itron's IntelliSOURCE DRMS/DERMS platform manages the full lifecycle of mass-market DR/DER programs, including customer acquisition and enrollment, device management and work order management, control and dispatch of MWs, program measurement and verification, analysis and reporting, and MW optimization.



IntelliSOURCE features several modules that help you manage and automate each step of your program. The following table summarizes each module.

For additional information email us at DEM@itron.com

IntelliSOURCE Platform Modules

Module	Description
Acquire	Acquiring program participants among your customers is an ongoing process, is. The Acquire module supports prospect analysis, segmentation, marketing implementation, recruitment, qualification, and enrollment. During the Acquire phase, Itron researches potential customer prospects and segments and markets to them based on their likelihood of participation. We then design, create, and deliver marketing collateral targeted to each market segment. Acquire includes providing ongoing updates on new features, developments, etc., and directs potential program participants to your program's marketing and enrollment resources.
Manage	The Manage module manages all aspects of program deployment, including customer care, field service requests, inventory management, device provisioning and commissioning, rate/tariff management, and trouble ticket management and resolution. Field installation includes installing, registering, and maintaining the consumer devices. The technicians use a mobile field tool (smart phone with custom application) to complete the installation, provisioning, commissioning, and online testing. Once installed, the devices are immediately available to receive events. The field tool also tracks inventory in real time. The Manage module also provides support for managing call center operations, customer support, work orders and job completion, and customer billing, and advises on the impact of rates and tariffs.
Control	With the Control module, the system operator can schedule, initiate, and manage control events. Control events can be defined by configuring numerous parameters, including the control strategies employed, customer notifications/alerts sent, network topologies targeted (ZIP codes, substations, feeders, and transmission lines), devices and/or rate addresses invoked, and system constraints considered. System operator control and management extends across program types, whether direct-install, BYOD, DLC, or dynamic pricing.
Measure	The Measure function provides easy-to-use tools to monitor and measure event performance through measurement and verification (M&V) data. Tools evaluate metrics on device usage and effectiveness, forecast futures based on past event participation, and ensure ongoing performance of device and system operations. It also allows our utility customers to gain insight into device and overall system operations to build confidence in system and resource performance.
Analyze	The Analyze module provides Program Management with tools for assessing system and network performance, load and event analysis, forecasting and customer analysis, and class/type segmentation.



Join us in creating a more **resourceful world.**

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