

Intelligent Load Control

With Aclara RF™



Balancing electrical load on the distribution network is essential to provide a reliable and efficient supply of energy to homes and businesses. From aging infrastructure to distributed energy resources, a broad range of variables are challenging utilities to evaluate solutions that will keep distribution systems working at optimum efficiency to prevent brownouts, blackouts and premature equipment failures while providing reliable power to customers.

Two of the most persistent challenges utilities face to provide reliable power are to manage localized capacity constraints and handle overstressed distribution equipment. To maintain reliability while controlling electric load balance, utilities need detailed information about consumption. To better understand customer loads, they must rely on data and analytics.

OVERVIEW

Aclara's intelligent load control technology solves these challenges by enabling utilities to implement load management programs as secure dispatchable resources for improved grid quality.

The Intelligent Load Control devices can be deployed to alleviate specific locational constraints by managing consumer loads. Installed on premises, Aclara's intelligent load control technology continually monitors loads locally by building load-shed profiles using distributed intelligence, thus allowing utilities to better manage customer loads.

The distributed intelligence is centrally managed by operators using the AclaraONE® headend software, allowing operators to set business rules, define strategies, and orchestrate load control events. Standards-based interfaces are also available to receive event objectives from balancing authorities

Simply put, Aclara's intelligent load controller offers the most advanced technology, and communications to manage load programs and extend the life of capital investments programs and extend life of capital investments.

FEATURES AND BENEFITS

Unlike other control technologies, Aclara's intelligent load control offers:

- **Reliable RF Network Operation** - Operates on Aclara's low cost Aclara RF point-to-multipoint, FCC licensed 450-470 MHz network, reducing risk of interference by other radio systems providing secure reliable communications with low channel noise and greater penetration through building structures than higher frequency unlicensed solutions providing greater range with deterministic latency.
- **Improved long-term reliability** by smoothing transitions to reduce system stresses with ramped load shed and cold load pickup.
- **Improved reliability during emergencies** by transmitting "SCRAM" broadcast messages. Each message provides confirmed load shed to all selected devices in under 10 seconds, quickly reducing load to keep the lights on.
- **Reduced wholesale penalties and demand charges**, which enables surgical peak reduction and peak shifting strategies.
- **Increase customer satisfaction** with intelligent load control that learns the customer's load profile and applies load reduction to minimize customer impact while maximizing the load shed.
- **Low maintenance cost** - no need to maintain a second network when utilizing Aclara's Aclara RF™ network for both AMI and load control.
- **Improved forecasting** - current sensors monitor availability for dispatch.
- **Accurate measurement and verification** - load shed is measured and verified by current sensors in the Aclara intelligent Load Control along with the AMI meter.
- **Security** - NIST compliant multi-level security; Advanced Encryption Standard 256-bit encryption (AES-256)



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PRODUCT SPECIFICATIONS

Model	Aclara Intelligent Load Control Switch
Dimension	9"H x 8.2"W x 3.25"D
Enclosure	NEMA 4, tamper seal
Operating Power	208 - 277 VAC +/-15%
Operating Frequency	60Hz +/- 3.0Hz
Quiescent Power	1W +/- 0.5W
Operating Temperature	-30°C to +55°C
Operating Humidity	0% to 95% + /- 4%, non-condensing
Relays Options @ 240 V	5A/5A, 5A/30A, 30A/30A
Current Sense Range	
5A Relay	70mA - 5A
30A Relay	350mA - 30A
Autonomous Control	Configurable under voltage and under frequency
Communications	Aclara RF™, licensed 450-470 MHz Point-to-Multipoint
Standards	UL-746C, UL-916