ENERGATE
interactive energy management solutions

LC2200 Load Control Switch

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Product may not be exactly as shown due to continual product improvement.

Energate's LC2200 is a discreet compact wired load control switch for utility programs that connects and stays connected, delivering consumer features that attract program participants. The LC2200 allows utilities to manage large residential electrical loads such as central air conditioning, pool equipment, and electric water heaters while providing customers with shared control, convenience, awareness, and savings.

This advanced load control switch enables two-way direct load control (DLC) and demand response (DR), including dynamic pricing, price response, energy efficiency, and consumer engagement programs. It uses Energate's ZigBee® radio module to provide superior connectivity with a choice of relay configurations. The LC2200 is a part of Energate's next generation load control platform and it builds on the features and functionality of the existing LC30x family of load control switches. The feature list includes:

- ZigBee SEP 1.x
- Multiple relay configurations with control of up to two high voltage and two low voltage circuits
- Load control with standard and OptiCycle™ adaptive cycling
- Automated price response
- Control and scheduling for consumers
- Local and remote opt-out
- Operational logging
- Optional power measurement
- Compatible with all major ZigBee SEP AMI/smart meter manufacturers

The LC2200 works on its own as a ZigBee SEP standard load control device. It also works as an integral part of Energate's Consumer Connected Demand Response™ (CCDR) interactive home energy management platform that includes software, portals, mobile applications, and wireless devices such as gateways, smart thermostats, various load control switches, and in-home energy displays.

Connected
Get connected and stay connected to ZigBee® Smart Energy Profile (SEP) networks with Energate's industry leading radio frequency performance. The LC2200 is interoperable with leading advanced meter infrastructure (AMI) vendors, including Elster, Itron, Landis+Gyr, Sensus, and Silver Spring Networks, and supports over-the-air upgrades—ensuring assets deployed today can be upgraded for tomorrow.

Scalable
Energate's load control switches extend the benefits associated with interactive energy management by allowing utilities to control multiple loads using a single switch. The LC2200 can be configured to control up to two low and two high voltage loads. This would allow a utility to control two central air conditioning units, an electric water heater and a pool pump from a single LC2200.

Secure
Utility-grade security means the LC2000 family of load switches only accepts messages initiated by a trusted source via ZigBee SEP, ensuring that other communications do not interfere with utility operations and performance while providing consumers with security and privacy.

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Product Status and Diagnostics

The LC2200 stores up to 30 days of runtime, status, and diagnostic data pertaining to the load control switch. This information can be retrieved over ZigBee. In addition, the LC2200 can receive diagnostic and configuration commands tunneled securely through AMI networks.

Consumer Engagement

Built-in LED status indicators are part of the compact design that improves customer acceptance and overall cost effectiveness of the program. The LC2200 also provides consumers with shared control of the load. The ability to control, schedule, and opt-out of voluntary load control and price events builds consumer satisfaction with convenience, awareness, and savings.

With the addition of a ZIP Connect™ broadband gateway or when paired to a Foundation Smart Thermostat and Home Energy Gateway with Wi-Fi, utilities can provide rich and secure two-way connectivity over their customers' broadband internet access to enable the MyEnergate™ Consumer Portal and Mobile Apps for anytime, anywhere interactive home energy management. Consumer remote control and scheduling can be conveniently done through the portal. The portal and apps increase electricity consumption awareness allowing consumers to see exactly how much electricity a load is using. Consumers can also define a schedule to restrict when the controlled load can operate to further reduce their electricity consumption and produce money saving results.

About Energate

Energate Inc. provides interactive energy management solutions that enable next-generation energy management and the connected home. Energate's products include devices, middleware, and applications. With its Internet of Things interoperable architecture, Energate's vertically integrated Consumer Connected Demand Response™ platform provides management of two-way communication, devices, and demand response events. Energate's solutions have been employed by over 40 North American utilities.

Flexible

With its robust design, the LC2200 Load Control Switch can be installed either indoors or outdoors to provide reliable control of major wired household loads. The LC2200 firmware is over-the-air upgradeable and Smart Energy Profile compliant. Consumers can opt-out of voluntary load control events at the switch or remotely from a compatible mobile app or web portal. Configuration commands can be tunneled through the AMI network to adjust settings and perform diagnostics.

Duty Cycle Options

The LC2200 supports both standard and OptiCycle dynamic duty cycling options. Standard duty cycling allows utilities to limit the equipment duty cycle to between 0 to 100% in increments of 1%. OptiCycle adaptive cycling employs advanced on-board analytics and algorithms that utilize both recent and historical run time data to apply the desired duty cycle against a normalized baseline. This reduces free ridership and shares demand response more fairly across all participants.

Product Specifications

	Low Voltage Control	High Voltage Control
Size	6.25"H x 5.25"W x 2.5"D (160mm x 137mm x 66mm)	
Enclosure	NEMA 3 Rated Polycarbonate	
Load Voltage	Up to 30 VAC	85 to 250 VAC
Supply Power	5W Max	
Maximum Current/Load	3A	30A or 1.5 HP
Operating Temperature	-40°F to 158°F (-40°C to 70°C)	
Storage Temperature	-40°F to 185°F (-40°C to 85°C)	
Humidity	10% to 95% non-condensing	
Communications	ZigBee SEP 1.1	
Transmit Power	(802.15.4) +20 dBm (100mW)	
Receiver Sensitivity	(802.15.4) -102 dBm	
Power Measurement	Option	
Event Opt-Out	Local & Remote	
Cold Load Pick-Up	Yes, Configurable	
Event Randomization	At Start and/or Completion of Events	
Junction Box	Integrated with four knockouts (1/2" or 3/4")	