

Armada Water Heater Optimizer

Smart Water Heater Control — Asset Protection, Energy Insight, Resident Comfort

For electric resistive water heaters

The Armada Power Optimizer is a compact, professionally installed controller that attaches to an electric resistive water heater — no plumbing modifications required. Connected to Armada's secure enterprise platform, it transforms each water heater into a monitored, intelligent asset that protects your property, supports your maintenance operations, and gives residents a better experience.

Property teams access device data, alerts, and portfolio health through Fleet Commander and the Armada Power mobile App. Residents manage their preferences and receive alerts through the app as well.



Powered by **armada**

Value for the Property

- Monitoring of individual water heaters from Fleet Commander — spot problems before they become emergencies.
- Automated alerts for water leaks, failed heating elements, wiring faults, and cold water events.
- Detect a failing heating element before the tank runs cold and residents notice.
- Continuous diagnostic data helps prioritize maintenance and avoid reactive service calls.
- Tank health monitoring can extend thermostat life and protect your equipment investment.
- Opportunity to generate revenue through participation in grid services programs and energy markets.

Value for the Resident

- Hot water comfort is protected — the Optimizer preheats tanks ahead of curtailment events and automatically restores temperature afterward.
- Residents use the Armada Power app to monitor usage and preferences.
- Time-of-use optimization can reduce energy costs without lifestyle changes.
- Quiet, unobtrusive device — no visible changes to plumbing or tank appearance.

How it Works

The Armada Water Heater Optimizer attaches directly to the exterior of the water heater tank (or wall/remote mount). Two surface-mount temperature probes continuously monitor top and bottom tank temperatures to ensure hot water availability. Real-time voltage and power tracking allows the system to detect anomalies — including leaks, burned-out elements, and electrical faults — before they cause damage or disruption.

All device data flows to Fleet Commander and the Armada Power mobile app where property teams have visibility across their entire portfolio. Individual residents interact with their unit's settings and usage data through the mobile app as well.

From Reactive Management to Predictable Performance.

For more information email sales@armadapower.com or call 1 (855) 820-7500.



Armada Water Heater Optimizer – Specifications

LCS2400CW– Wi-Fi+ Cellular

- All LCS2400 features, plus cellular connectivity
- CAT M1 certified on the Verizon LTE network
- 2-year limited warranty
- Channel bandwidth: 1.4 MHz
- 50 MB bandwidth per device/month

LCS2400 – Wi-Fi Only

- 802.11 b/g/n Wi-Fi connectivity
- UL916 Listed, File E475847
- 17 patents on hardware and software
- 5+ million switch cycle life

Hardware Specifications – LCS2400 Family

Dimensions	6.46" L x 4.88" W x 2.17" D
Voltage Support	120 / 240 / 208V at 23 Amp max resistive loads
Installation	30-minute typical installation; no plumbing modifications required
Mount Options	Tank mount, or wall/remote mount
Temperature Probes	2 surface-mount thermistor probes; $\pm 1^{\circ}\text{C}$ accuracy
Measurement Accuracy	0.2%
Leak Detection	Optional water leak sensor cord (sits in tank pan)
Response Rate	< 12-cycle response rate with 0.3 Hz deviation
Cycle Life	4 million+ switches
Certifications	UL916 Listed, File E475847; 17 patents (hardware and software)

Security

Encryption	SSL/TLS encryption
Authentication	Elliptic curve crypto-authentication; secure hardware-based key storage
Hardware Security	Onboard hardware security chip with certificate-based unique device authentication

Wireless Connectivity

Network	Verizon Wireless LTE (CAT M1 / LTE Cat-M)
Bandwidth per Device	50 MB/month (based on annualized data from thousands of devices)
Download / Upload	350 kbps peak (each direction)
Transmit Power	20 / 23 dBm
Latency	10–15 ms
Duplex Mode	Full duplex or half duplex
Warranty	2-year limited warranty

Supported Grid Applications

The Armada Power Optimizer supports a wide range of utility and grid programs, enabling properties to participate in energy markets at 5x the cost-effectiveness of batteries for most grid applications:

- Demand Response
- Thermal Energy Storage
- Energy Arbitrage
- Renewables Integration
- Time-of-use Optimization
- Fast Frequency Regulation
- Cold Load Pickup Support
- Droop Control
- Renewables Firming

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