Technical Data Sheet

Peak Load Management for Benchmark E

Peak Load Management (PLM) is an advanced control feature of the AERCO Benchmark E electric boiler platform designed to help facilities reduce electrical demand charges during peak utility periods. By intelligently adjusting boiler output based on schedules, building automation system (BAS) signals, or analog inputs, PLM helps maintain required heating performance while keeping energy consumption within user-defined limits.

In hybrid plants, PLM can also coordinate operation between Benchmark E electric boilers and Benchmark gas boilers to optimize overall energy costs and system performance.



Features

- Reduces electrical demand during peak-rate periods
- Helps minimize utility demand charges and operating costs
- Maintains required heating performance while limiting energy consumption
- Adjusts boiler output using schedules, BAS signals, or analog inputs
- Coordinates operation across multiple Benchmark E boilers
- Supports hybrid systems by balancing electric and gas boiler operation
- Automatically responds to changing demand conditions



Methods of Operation

The Edge Controller provides multiple methods of operation that determine when PLM becomes active. Users can enable one or more methods and assign a priority order. If the active method becomes unavailable, the controller automatically transitions to the next available enabled method.

Time Schedule Priority activates PLM during user-defined peak demand periods based on local time schedules, while **BAS Priority** allows a building automation system (BAS) to enable, disable, and control PLM operation. **Analog Input Priority** uses an external analog signal to dynamically control PLM operation and power limits. Future firmware updates will expand methods to include **BAS with Analog Input Priority** and **Outside Air Temperature**.

Power Limit Choices (When PLM is Active)

Power Limit

The boiler remains operational but limits maximum power output to a user-defined percentage. By reducing available heating capacity during peak utility periods, facilities can lower electrical demand while maintaining heating performance. The allowable range is 0-100%, with a default value of 60%. If any Benchmark gas-fired boilers are present in the plant, no power limit is applied to them. They will be sequenced as per the lead-lag priority selected by the user.

Standby

The boiler enters standby mode during the peak demand event after the user-configurable PLM Transition Delay expires. In standalone applications, a reserve unit may be enabled. In hybrid applications, available gas-fired equipment can be brought online according to lead-lag priority before electric boilers are placed in standby. Once the peak event ends, the system automatically returns to normal operation.

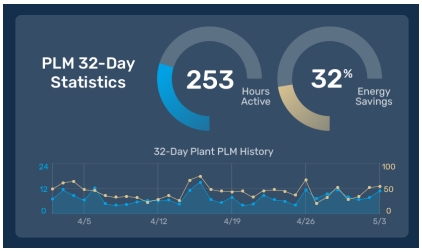
Connectivity & Integration

PLM integrates with building automation and energy management systems through BACnet® and Modbus® communication protocols. The system can respond to schedules, demand-control signals, and other external inputs while providing centralized visibility and coordinated control of Benchmark E boiler plants. Key features include:

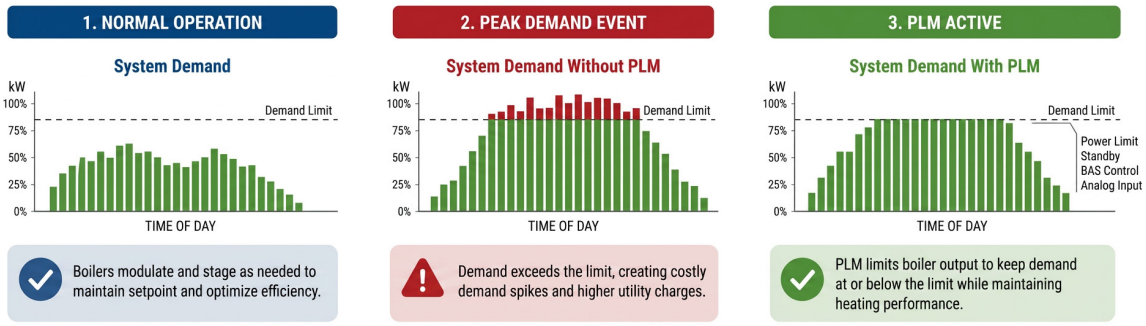
- BACnet and Modbus compatibility
- External scheduling and demand-control inputs
- Centralized monitoring and reporting
- Multi-boiler coordination
- Hybrid plant integration with AERCO's Benchmark gas-fired boilers implemented as clients to the BMK E

Lower Energy Costs Through Intelligent Demand Management

By actively managing electrical demand during high-cost utility periods, Peak Load Management helps facilities reduce demand charges while maintaining the heating performance required by the building. The system minimizes costly demand spikes, improves control over energy consumption, and supports stable plant operation during periods of high electrical usage. This allows facilities to pursue electrification strategies with greater confidence and predictability in energy costs.



*Available via upcoming firmware update



AERCO®
A WATTS Brand

Heating and Hot Water Solutions

AERCO International, Inc. • 100 Oritani Drive • Blauvelt, NY 10913
USA: T: (845) 580-8000 • Toll Free: (800) 526-0288 • AERCO.com

© 2026 AERCO