

Technical Data Sheet

Edge X Controller for Benchmark NX

The Edge® X Controller is a next-generation controls platform designed to deliver consistent value throughout the lifecycle of the heating system. From lowering project and operating costs to simplifying system design, commissioning, and long-term maintenance, Edge X provides deeper visibility and more precise control of Benchmark NX equipment. Supporting both standalone and cascade installations, the controller enables precise control of boiler performance while coordinating plant operation for optimized efficiency and reliable system performance.

Its intuitive touchscreen interface and streamlined menu structure help reduce configuration errors and accelerate startup, while advanced sequencing and control technologies intelligently manage system operation across varying load conditions. Integrated BACnet® communication protocols provide seamless compatibility with building automation systems, while USB-based firmware upgrades, data logging, and configuration backup simplify ongoing service and support. Edge X delivers a modern, durable control solution designed to support current and future heating system requirements.



Features

- Precise Temperature Control
- Cascade Plant Control
- Sequencing Technology
- ΔT Limiting
- Reserve Unit Control
- Integrated BACnet IP and BACnet MS/TP Communication Protocols
- Primary Pump Control
- Freeze Protection
- Manual Run
- Intuitive Touchscreen Graphical Interface
- Ignition Sequence
- Save and Load Unit Settings
- USB Software Upgrade & Data Logging
- UL 60730 Listed

Control & Capacity Management

Precise Temperature Control

The Edge X Controller uses proportional control with Dynamic Up/Down Modulation to maintain stable boiler operation. This minimizes overshoot, short cycling, and unnecessary energy waste during both standalone and multi-unit plant operation.

Reserve Unit Control

Reserve Unit Control activates a designated backup boiler (AERCO Benchmark or Benchmark E, or a non-AERCO boiler) when the primary system approaches full capacity. Conversely, Benchmark NX can respond to an external signal from other connected equipment (AERCO Benchmark or Benchmark E, or non-AERCO equipment) to provide backup capacity, helping ensure reliable, coordinated operation during periods of peak demand.

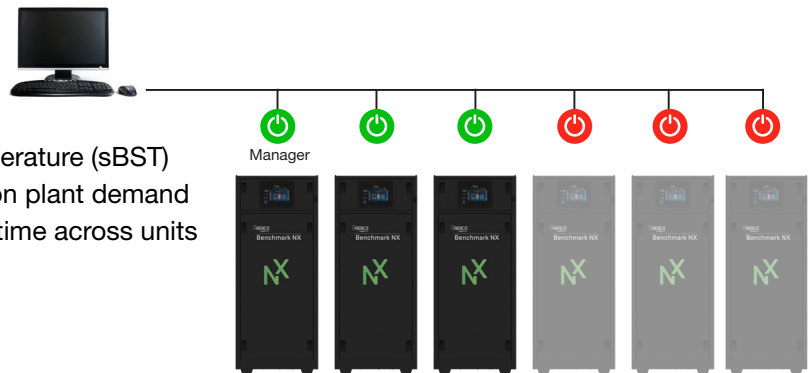
Advanced Cascade Control

Intelligent Sequencing for Multi-Boiler Applications

The Edge X Controller provides intelligent sequencing for Benchmark NX boiler plants, automatically coordinating operation across multiple units to maintain stable system temperatures and efficient plant performance. Integrated lead/lag rotation, automatic staging and de-staging help optimize runtime and improve long-term reliability, while the controller continuously responds. The controller continuously responds to changing system demand to support efficient operation across varying load conditions.

Key Features

- Supports sequencing of up to 16 Benchmark NX boilers
- Sequencing based on supply header temperature (sBST)
- Automatic staging and de-staging based on plant demand
- Integrated lead/lag rotation to balance runtime across units



ΔT Limiting

Improved Efficiency Through Intelligent Load Matching

ΔT Limiting continuously monitors system temperatures and automatically adjusts boiler operation when temperature differences become excessive. By helping maintain optimal operating conditions, it supports reliable performance, improves system efficiency, and promotes consistent operation across varying heating demands. The feature is designed to help protect critical system components while maintaining stable and responsive operation.

Key Features

- Continuously monitors system temperatures to maintain optimal operating conditions
- Adjusts operation based on changing system demands
- Supports efficient and stable performance across varying load conditions
- Promotes long-term equipment reliability and system performance



Startup, Service & Diagnostics

Faster Startup & Replication

The intuitive touchscreen interface accelerates commissioning with guided setup. Unit configurations can be saved to USB and uploaded to additional Benchmark NX units for fast duplication across multi-boiler plants.

Operational Visibility, Diagnostics & Troubleshooting

A graphical home screen provides instant access to live operating conditions, unit status, setpoints, and key performance data, improving visibility across standalone and multi-boiler installations. Enhanced Event History, configuration diagnostics, and Manual Run Mode simplify troubleshooting, commissioning, and performance verification while reducing service time.

Connectivity & Integration

Building Management System Compatibility

Integrated BACnet (standard) interface enable seamless connection to building automation systems, energy management platforms, and plant monitoring tools.

The Edge X Controller supports USB firmware upgrades, data logging, saving and loading configuration settings, and rapid deployment of plant-wide settings for consistent data sharing and centralized control across standalone, and cascade system configurations.

System Reliability

Primary Pump Control

Edge X integrates direct control of fixed-speed and variable-speed primary pumps, eliminating the need for external pump control panels and reducing commissioning time.

Freeze Protection

Freeze Protection helps safeguard the heating system during low ambient temperature conditions by monitoring system temperatures and automatically initiating protective actions when required. This feature helps reduce the risk of freeze-related damage and supports reliable operation during cold weather conditions.



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