Technical Data Sheet

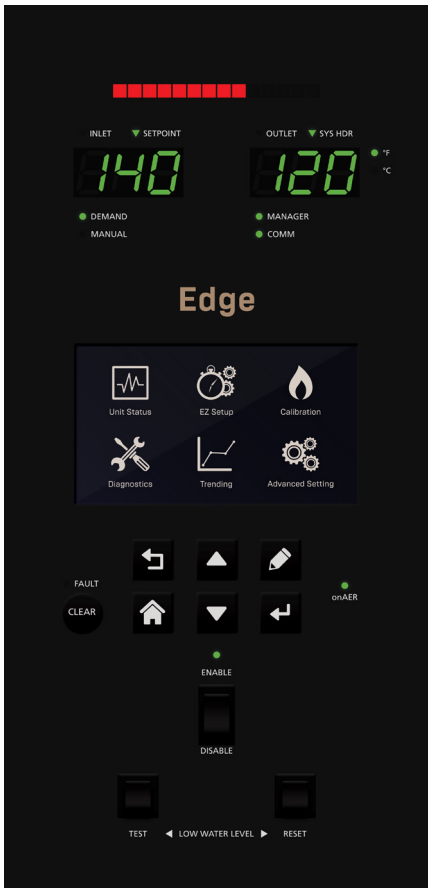
Edge™ Controller for Innovation

The Edge is a revolutionary controller designed to provide continuous benefit throughout the life cycle of a heating system: from project/ operating cost savings, to simplified system design and startup, and optimized system performance and health monitoring.

The Edge Controller makes water heater startups effortless with EZ Setup – guiding users step by step through automated configuration, while Combustion Calibration Assist saves time and ensures precise combustion settings. Intuitive touchscreen and menu structure virtually eliminate programming errors. Graphical unit and plant status details are accessible onscreen; Bluetooth communication to tablet/mobile app allows mobility to user while maintaining complete control of unit.[1]

Built into the Edge Controller are AERCO's Water Heater Management (WHM), AERtrim – ensuring peak performance and system efficiency, while reducing cost of ownership.

The Edge comes with integrated BACnet & Modbus protocols for full compatibility with building automation and energy management systems. Firmware upgrade, settings transfer/backup and data logging are conveniently accomplished via a USB port.



Features

- EZ Setup with guided application configuration
- Water Heater Management with Auto Manager Transfer (WHM)
- Thermal Sanitation for Legionella Prevention
- Precise Temperature Control
- System pump control and sequencing
- Valve Control
- Combustion Calibration Assist
- Self-adjusting air-fuel ratio with AERtrim
- Intuitive Touchscreen, Graphical interface
- Integrated BACnet & Modbus Communication protocols
- Bluetooth communication to mobile app[1]
- Transfer settings and upgrade firmware through USB port
- Freeze Protection
- UL Listed

[1]Available for Innovation sizes 600-1350 only

Future-Proof Software in a Hardware Enclosure that is Built to Last

The most important feature of any product manufactured in today's information age is its ability to network with related equipment. And not just the equipment and systems that are available today – but those that are still on the horizon. This indisputable fact was a guiding principle in the design of the AERCO Edge Controller. It pairs software flexibility with hardware durability to ensure that your AERCO equipment will be as current tomorrow as it is today.

Startup, Setup and Troubleshooting made easy

EZ Setup simplifies start-ups, enabling even the most complex systems to be setup in minutes through intuitive, guided instructions. Settings can be uploaded without having to redo the same steps for each unit in the plant. Important unit and plant performance details are viewable without sifting through multiple screens. Units are precisely calibrated with Assisted or Manual Calibration options. Trend multiple parameters simultaneously for a more holistic insight on the health of the system. Troubleshooting is made easy with enhanced diagnostics and visual ignition sequence.

Patented AERtrim ensures optimal O_2 levels, lowering operating and maintenance costs

AERtrim saves energy and lowers operating and maintenance cost by delivering the exact fuel needed for combustion. Precise air-fuel ratio increases condensing zone in the heat exchanger to maximize efficiency, deliver additional seasonal efficiency gains, and decreases emissions.

Integrated BACnet & Modbus protocols for full Compatibility with BAS

For facilities that have taken a building-wide approach to energy efficiency, the Edge has integrated BACnet IP, BACnet MSTP, Modbus RTU and Modbus TCP for easy integration with Building Automation System (BAS). In addition, it offers optional N2 communication using AERCO's ProtoAir and LonWorks communication using AERCO's Lon ProtoNode gateway.

Enhanced graphics with Mobile App[1]

For greater flexibility, our mobile app functions as a high definition, large screen controller with enhanced graphics giving you full control functionality and freedom to move around the unit when configuring, diagnosing and troubleshooting. Users can conveniently submit service forms to AERCO directly from the app.

Simplified Software Upgrade

Once an AERCO Edge Controller is in place, all new versions of the system's application software can be uploaded via a USB port. The ability to update the software – without replacing the controller, circuit cards or water heater equipment – makes it faster, easier and less expensive to take advantage of new features and management controls that become available in the future.

Water Heater Management (WHM) - Load Sharing Strategy Maximizes Energy Efficiency

The Edge's integrated Water Heater Management (WHM) for water heaters is designed to maximize energy savings and uptime reliability in modular water heater plants. It requires less energy for a group of modulating water heaters, each firing at "part load," to meet the demand, than for a single water heater operating at "full fire" to carry the entire workload. The WHM system can stage and coordinate operations for up to 16 units, utilizing AERCO's condensing equipment's unmatched modulation for utmost plant efficiency. To meet demand, the WHM will employ as many AERCO water heaters as available, each operating at its most efficient firing rate.

WHM Breakthrough Features Sustain Efficient Water Heater Plant Operation

Precise Temperature Control

Feedforward and feedback control on each heater allows for responsive and precise control of its outlet temperature while the WHM manager controls the plant to maintain an average outlet temperature of ±2°F.

Lead/Lag Water Heater Designation and Rotation

The WHM will select the Lead and Lag water heaters by either Unit Size or Run Hours depending on user setting. The Lead and Lag water heaters can also be manually selected by the user. Lead water heaters are rotated at specified time and helps equalize runtime.

Anti-Cycling Features

These features prolong the system's stay at specific state (firing/off) - reducing the number of cycles while maintaining accurate temperature control. Shutoff Delay Temp, Demand offset, Deadband high and Deadband low settings help to reduce the cycling of water heaters.

Next Turn On Valve Position

When all ignited water heaters reach or exceed the WHM Next on VP value, another water heater will be ignited to share the load (if one is available). The default value is 50%. This feature is also useful if a user wishes to always have as few water heaters on at any one time. Setting the WHM Next on VP value to a high number (Example 100%) will only ignite an available water heater when all currently ignited water heaters reach their next on VP configured value BTU capacity (100%).

Automatic Transfer of Manager Function

In the event the manager unit experiences a panel failure or communication loss, the WHM system will automatically transfer the manager function to the backup manager in the system plant. This ensures maximum efficiency and intended plant operation in face of the events mentioned above.

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