kepSmart

INTELLIGENT RADIATOR CONTROLS

Empowering you to solve the decades old problem of unbalanced heat in 1&2-pipe steam and hydronic heating systems

IRCs attach to and convert each radiator into an individually controlled device (a Virtual Zone) within a network that covers the entire building.

AI-driven software then looks at the building as a whole, providing you real-time visibility and control of every Virtual Zone in the network. That control enables you to micromanage the distribution of heat to only radiators where it is needed, when it is needed, achieving optimal efficiency, savings and comfort.

IRC NETWORKS INCLUDE:

- Temperature controlled Virtual Zones with the installation of IRCs on in-room radiators.
- A communication infrastructure connecting every Virtual Zone, creating a fully networked building.
- Powerful AI-driven software dashboard available online or mobile app, that provides alerts and the ability to view and control the temperature of every Virtual Zone.
- Integration with any existing boiler management system that is in place (but we can replace that too) and BACnet communication to other building management systems.

GUARANTEED RESULTS

Cash Savings
35% minimum reduction in energy usage yielding a 2.5 yr ROI

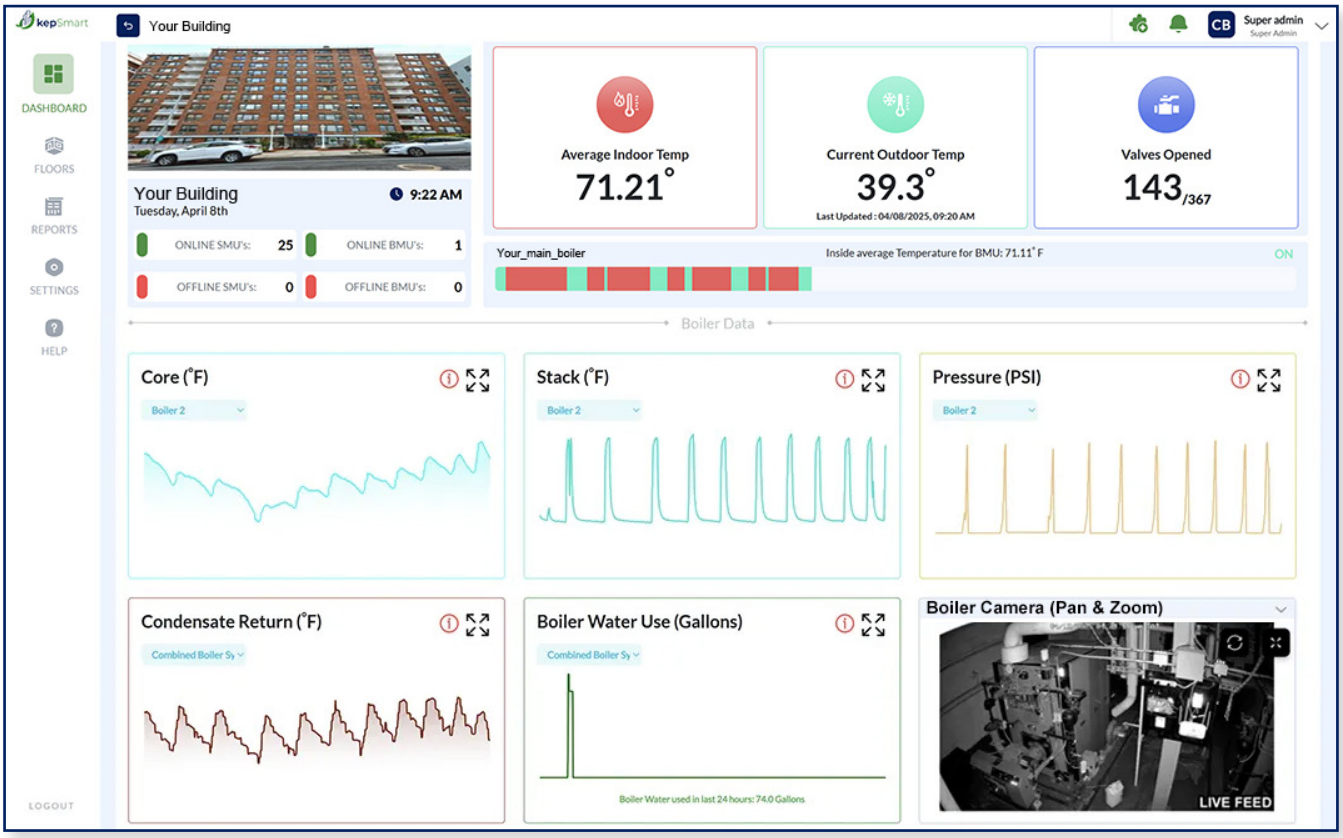
Comfortable Temperatures
Balanced heating and elimination of all complaints from hot & cold spots

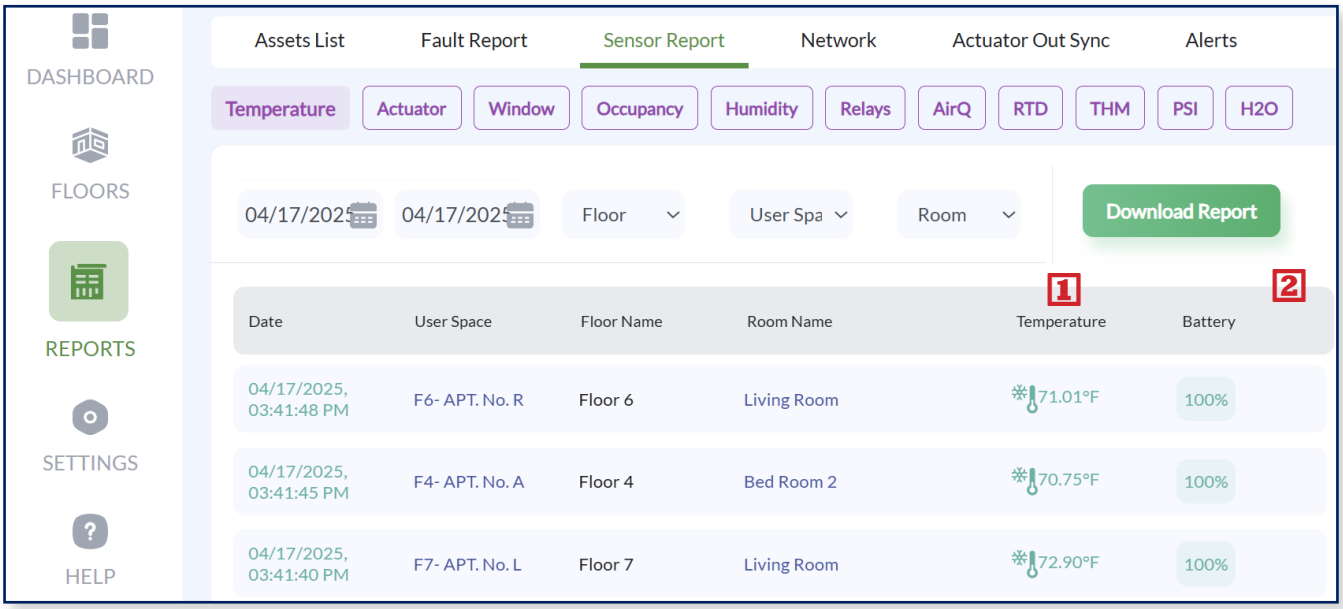
Compliance
Reduction of carbon emissions, improved energy ratings and historical performance reporting (Meet LL97, BERDO, etc.)

Savings and improved comfort are guaranteed from the moment you turn on the system and will increase over time as the AI learns how to best address the unique challenges of your building.

ONLINE AND MOBILE APP DASHBOARD ACCESS

The image below is just one of many views that are available of your network data via the dashboard

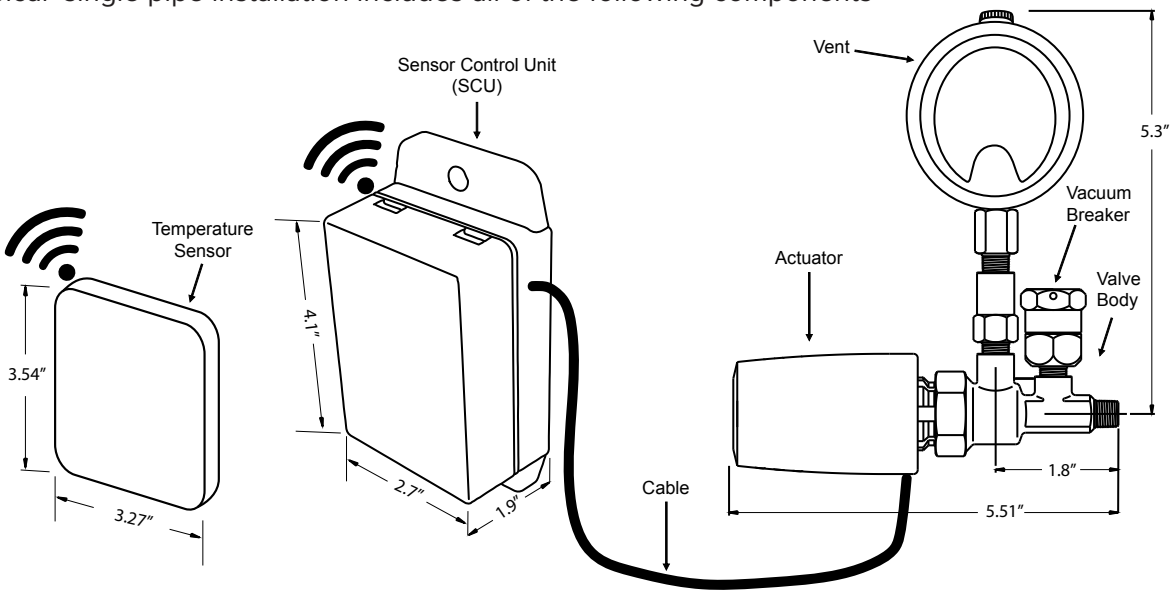




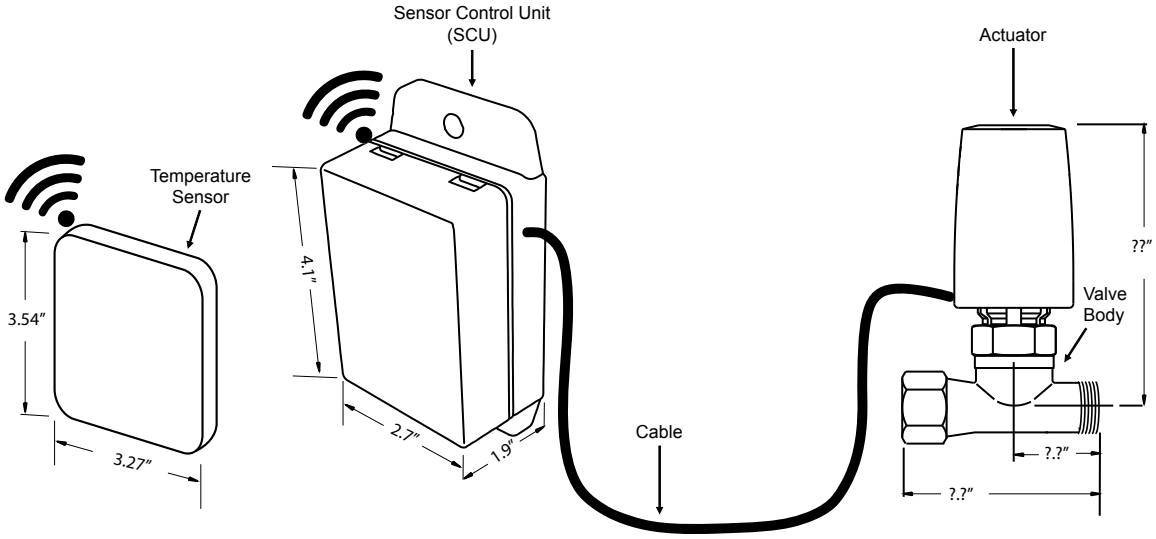
1 Visibility and control of the temperatures of every room/radiator!
2 Defend complaints with reporting of unlimited historical data at the room/radiator level.

VIRTUAL ZONES COMPONENTS

IRC-1 - Typical single pipe installation includes all of the following components



IRC-2 - Typical 2 pipe installation includes all of the following components

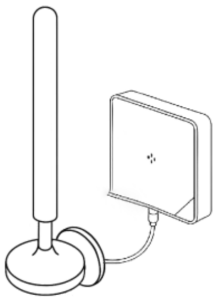


SPECIFICATIONS

Temperature Sensor (LRTS) & Sensor Control Unit (SCU)	
Power - LRTS	6Ah Lithium battery offers extended life
Power - SCU	38Ah Lithium battery offers extended life
Environmental	**Normal Range:** 41°... 140° F (5° ... 60° C) 20% RH ... 80% RH, respectively

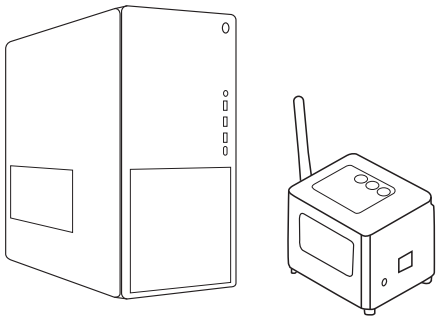
INFRASTRUCTURE

LRGW (Gateway)



Connects all Virtual Zones, installed in corridors/hallways to send real time data to our dashboard and mobile app.

LRSER (Server) OR SMU (Sensor Master Unit)



An LRSER (100+ Virtual Zones) or SMU (<100 Virtual Zones) is installed near the boiler to support the IRC Network.

SYSTEM COMPONENT PART NUMBERS

Part Number	Description
IRC1-XXX	Virtual Zone Components, Single Pipe Steam, XXX = Number of radiators
IRC2-XXX	Virtual Zone Components, Two Pipe Steam, XXX = Number of radiators
DASHBOARD	Software access, monthly maintenance fee (includes FOC replacement of system components)
Options	
BC-MFIRC	Boiler Control

OTHER RETROFIT SOLUTIONS

IHP INTELLIGENT HEAT PUMPS WINDOW/WALL MOUNT

- Advanced AI-assisted control algorithms to optimize heating and cooling across all occupied spaces while minimizing energy use and carbon emissions.
- Intelligent scheduling automatically adapts to building usage, with enforced hard setbacks during nights, weekends, and holidays to eliminate unnecessary energy consumption.
- During operational hours, spaces are heated or cooled only when required, ensuring comfort without waste.
- Each unit integrates high-precision CO_2 sensors to dynamically regulate fresh air intake—delivering healthy indoor air quality while avoiding excessive ventilation losses.
- This demand-driven approach significantly reduces energy demand, operating costs, and CO_2 emissions, supporting long-term net-zero and decarbonization goals.

MORE INFORMATION

IBC INTELLIGENT BOILER CONTROLS

- Monitor real-time apartment temperatures
- Receive instant alerts if the boiler isn't operating correctly
- Eliminate hot and cold spots throughout your building
- Track boiler runtime and local outdoor temperature
- Set daytime and nighttime temperature schedules
- View live video and audio from your boiler room, anywhere

MORE INFORMATION