

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

ARVs 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.

**ARV NETWORKS INCLUDE:**

- Temperature controlled Virtual Zones with the installation of ARVs 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**

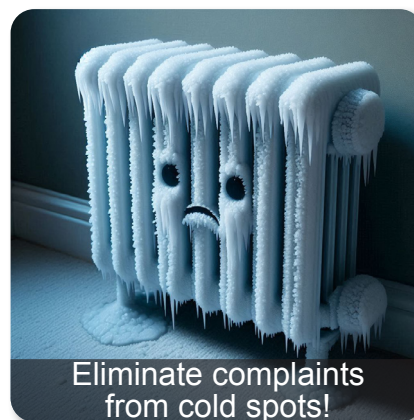
35% minimum reduction in energy usage yielding a 2.5 yr ROI

**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



Figure 1

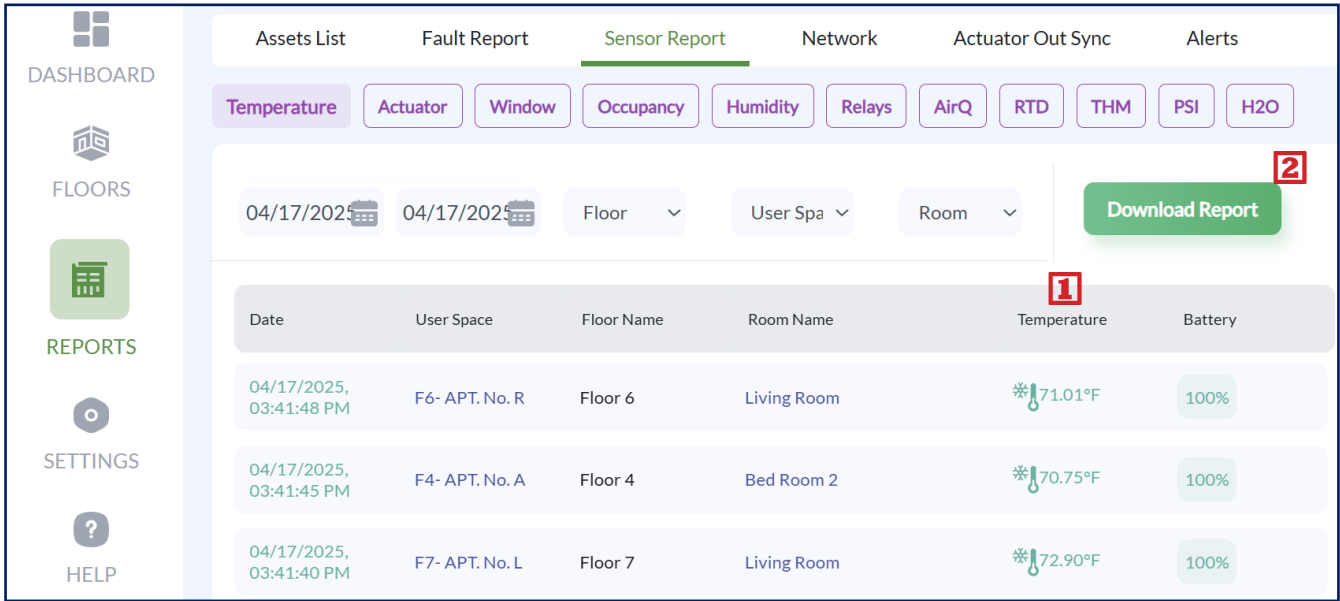


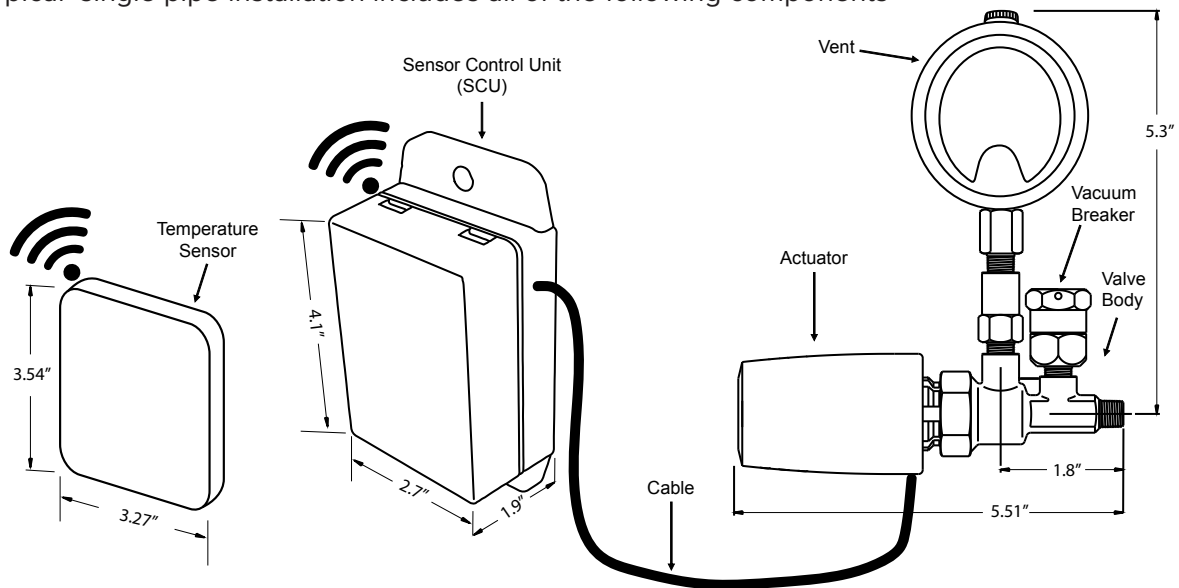
Figure 2

- 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.

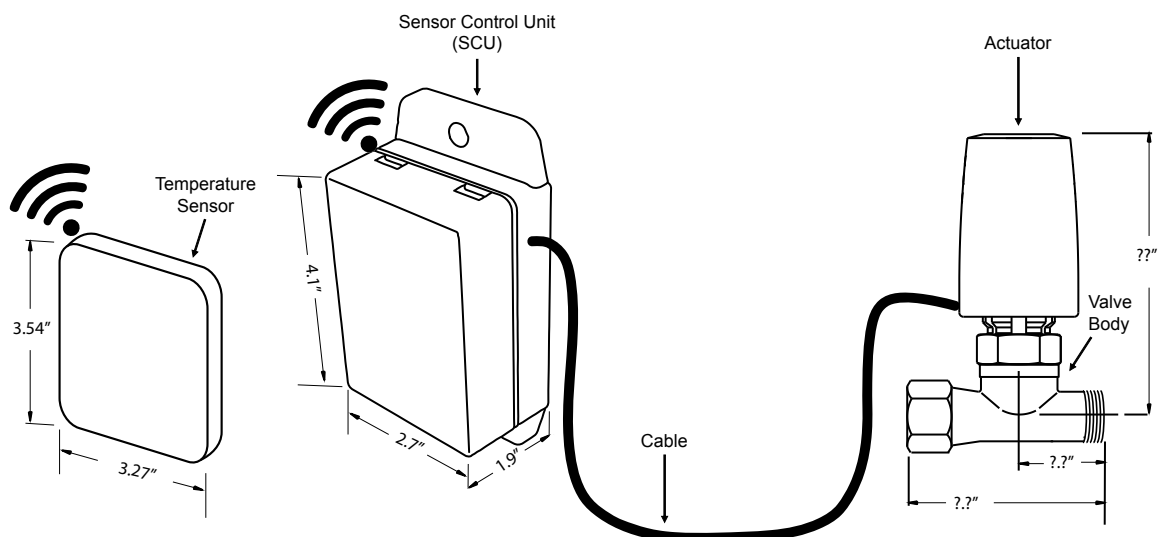


## VIRTUAL ZONES COMPONENTS

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



**ARV-2** - Typical 2 pipe installation includes all of the following components

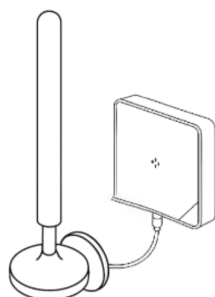


## SPECIFICATIONS

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

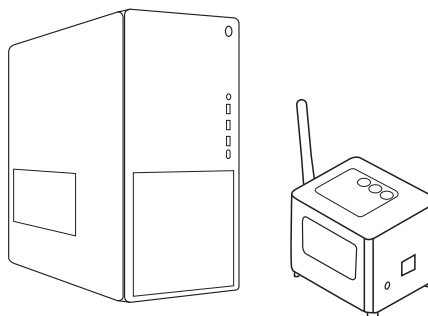
## INFRASTRUCTURE

### 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 ARV Network.

## SYSTEM COMPONENT PART NUMBERS

Part Number	Description
ARV1-XXX	Virtual Zone Components, Single Pipe Steam, XXX = Number of radiators
ARV2-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-MFARV	Boiler Control

