

# Take the Guesswork Out of HVAC System Maintenance and Management

Is there ever a good time to handle HVAC system repair and replacement?

Yes—especially when it’s expected and planned. When you’re managing commercial property or corporate facilities, it can be overwhelming to face aging systems and maintenance surprises without a reliable monitoring solution. To continually provide the most comfortable conditions for building occupants, facility and property managers must know the ins and outs of HVAC system performance at a moment’s notice. See how Monnit can help you remotely monitor HVAC systems and facility operations 24/7.

*Spoiler alert: The ROI is significant in reduced tenant complaints, HVAC repair and replacement costs, and energy savings. It’s all easily managed using an online dashboard on a smartphone or computer. Plus, alerts via emails, texts, or calls from a wide variety of fast-install sensors and meters.*

## Challenges

A large property development and management company experienced increasing operating costs after dealing with multiple repairs and replacing HVAC systems in its office building complexes. They needed a way to lower costs associated with managing the heating and cooling systems for all of their properties. Two of the most common issues they frequently faced were:

- Air conditioning units failing or malfunctioning during the hottest weeks of the summer.
- Furnaces and boilers requiring maintenance or going down during the colder months.

The company wanted to predict maintenance and prevent HVAC failure that consistently resulted in significant repair or replacement costs and tenant complaints. The property managers identified the Monnit HVAC Remote Monitoring Solution as an ideal way to help the facility maintenance managers. With Monnit’s help, they could stay on top of preventive processes to fix issues long before they might turn into more significant and costly problems.



## Solution

The facility managers self-installed:

- Monnit Wireless Temperature Sensors throughout the building to monitor office, conference room, hallway, bathroom, and duct temperatures.
- Temperature Sensors, Accelerometers, Vibration Meters, and AC Current Meters on air circulation fans and central HVAC system units in every building.
- Gateways in each building to protect and communicate data sent from every Monnit Sensor and Meter.

Sensors sent data wirelessly to gateways in the central maintenance office and other buildings on each corporate campus. The gateway then sent aggregated sensor data to iMonnit Sensor Management and Remote Monitoring Software on facility and property manager smartphones and computers.

Using iMonnit, a facility maintenance manager uploaded a graphic showing the building layout of the monitored areas. This allowed the managers to drag and drop sensor tags onto the design or map with live data. Then, they could see the performance of their building HVAC systems from an aerial view. Facility managers set the Monnit Sensors and Meters to take readings every hour. They set up notifications to alert them if readings signified any potential issues, allowing them to respond immediately.

Monnit helped the company add Water Detection Sensors, Air Velocity, Differential Air Pressure, and Air Quality Sensors to buildings to provide an overall building and HVAC remote monitoring solution.



## Results

Monnit helped the company deploy its Remote Monitoring Solution at one of its facilities for an initial test. The solution provided a central gateway, wireless sensors placed strategically throughout the building, and iMonnit Software to monitor the HVAC system.

Company leaders were pleased with the fast setup and ease of use that its facility manager experienced in the test building. So, they gave the go-ahead to install the system across its other buildings in that corporate complex.

Soon, the sensors detected some AC circulation fan motors that were overheating due to worn bearings. Others were vibrating too much. The cold air was not circulating properly. Catching these issues before failure allowed the maintenance staff to quickly repair the equipment, avoiding replacement costs and extensive downtime.

This positive experience prompted company management to deploy the solution across each of its corporate campuses. As the weather turned colder, managers could continue extending the solution to monitor:

- Boiler and furnace output temperatures.
- Pump motors, fans, and other system performance.
- Water detection around building plumbing.

**ROI:** After only a month of using the Monnit Solution, the company optimized how they cool and heat their buildings to reduce company wide energy costs significantly.

# Monnit Remote Monitoring Keeps Your HVAC Systems Running Strong



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## Temperature Sensors

Chart your HVAC systems' fluctuating environmental conditions. The Temperature Sensor measures various HVAC split and packaged, hybrid heat pump, and ductless mini-split heat pump systems.

2

## Duct Temperature Sensors

Monitor your HVAC system right in its ducts. Monnit Duct Temperature Sensors with 8-foot leads can be inserted between vents, near fans, and under small spaces while maintaining a sealed environment.

3

## AC Current Meters

Analyze HVAC system power consumption and predict problems before they occur with our AC Current Meters. Knowing current use by root mean square (RMS) average and amp hours helps you manage performance.

4

## Vibration Meters

Detect the slightest disturbances in vibration, speed, duration, and frequency for all three axes with Vibration Meters. Fix HVAC issues long before they become boiler kettling, fan rattling, or motor rumbling.

5

## Differential Air Pressure Sensors

Maintain proper air-flow by measuring air circulation between two ports with the Differential Air Pressure Sensor. Be alerted right away when the air pressure changes from your preset parameters in iMonnit.

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3400 South West Temple, Salt Lake City, UT 84115 • 801-561-5555 • monnit.com

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