Comnexiom

Remote Monitoring for Business

Product Catalog


Comnexiom
CORPORATE PROPERTY
Remote Monitoring Solutions

Remote Monitoring Solutions for Corporate Properties

How corporate facility managers can reduce energy consumption, and implement reliable, low-cost property monitoring solutions to achieve smarter, safer, and more efficient operations.

Introduction

According to a 2012 Corporate Buildings Energy Consumption Suvery, the U.S. Energy Information Administration reported electricity accounts for *61 percent* of the energy consumed in Corporate buildings.

Buildings.com, a community of facility managers and building owners serving building managers and facility professionals since 1906, pointed to an increasing need for property owners and managers to do more with *less* energy, as they work to shrink carbon footprints.

It's difficult for any corporate property owner or manager to see problems in the midst of wind or rainstorms that soak the carpets and flood the doors. It is also not uncommon to find many property owners and managers have no direct engerineering or maintainence experience.

Even fewer of them can respond to maintenance issues with the knowledge of what the problem *really* is. This is where the Internet of Things (IoT) can provide many cost-saving insights.

Corporate Property Frustrations

Comnexiom receives numerous inquiries from facility owners and property managers looking to improve building efficiency and reduce maintenance costs. Among the most frequent property management frustrations we hear about, the following rank highly.

- Unexpected Maintenance and Costly Repairs
- Environmental Comfort Levels for Employees
- Energy Costs and Consumption
- Water and Environmental Damage to Sensitive Areas and Electronic Equipment
- Secure Building Access

Internet of Things for Corporate Property

What is the Internet of Things (IoT), and what does it mean for corporate property managers and owners? IoT represents an ever-growing network of physical objects ("things") embedded with sensors capable of network connectivity, which enables them to collect and exchange critical operational data from building systems. What we know as IoT has actually been around for years, and its wide applications are rapidly becoming a necessary business technology.

One key growth enabler for corporate property is the Internet of Things, as recognized by Deloitte, a leading audit, consulting, advisory and tax services firm in the U.S. IoT cloud and mobile technologies can identify key processes or potential security issue. It can also improve integration with existing systems and leverage data analytics for tighter operational and environmental control.

BISNOW.com, an organization devoted to all things Corporate Real Estate (CRE), identified four key property management challenges for the upcoming 2017 year, covering Talent Growth to Economic Uncertainty. One thing remained crystal clear concerning technological advancements, "Real Estate managers have to be adaptable to changes in the workplace, and in the properties they manage; and that includes adopting new technologies, software and apps," said BISNOW Institute of Real Estate Matters President, Michael T. Lanning.

Using remote monitoring solutions, building managers, property owners and facility professionals can monitor and manage building systems from anywhere, anytime. This also means secure data recording and exchange, and immediate alerts about issues before they become costly, time-consuming problems.

Energy Consumption

Rising energy costs are causing property managers to consider smart technology as an energy conservation strategy. But power consumption needs to be reduced *without* compromising proper humidity, carbon dioxide, or temperature levels.

Comnexiom remote monitoring solutions for corporate properties provide real-time data that helps reduce energy consumption and operational costs.

In the language of IoT, this type of seamless integration is known as predictive maintenance (PdM).

Carrier reported studies conducted by the U.S. Department of Energy say predictive maintenance can reduce maintenance costs by up to 30%, and eliminate breakdowns by as much as 75%.

AC Current Meters allows property managers to monitor and optimize energy consumption for HVACR systems, and many other energy-consuming devices.

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Property Management Benefits That Can't Be Ignored

Let's say you're a facilities manager for a corporate office building. Like many others, you've been seeking a way to lower building management and maintenance costs. Earlier this week a water heater failed in a second floor water closet, resulting in water damage to several offices and a conference room.

A call came in from one of the office employees, but too late to avoid a jolting repair bill, expensive furniture replacement, and operational downtime and frustration for the employees affected.

It cost $15,000 for repair and $25,000 for replacement of furniture and other business assets when you could have had peace-of-mind at a fraction of the cost. A comprehensive monitoring solution for your property could have alerted you immediately when the water heater began leaking, allowing you to address the issue before water overflowed from the drip pan, and cost you less than $1,000.

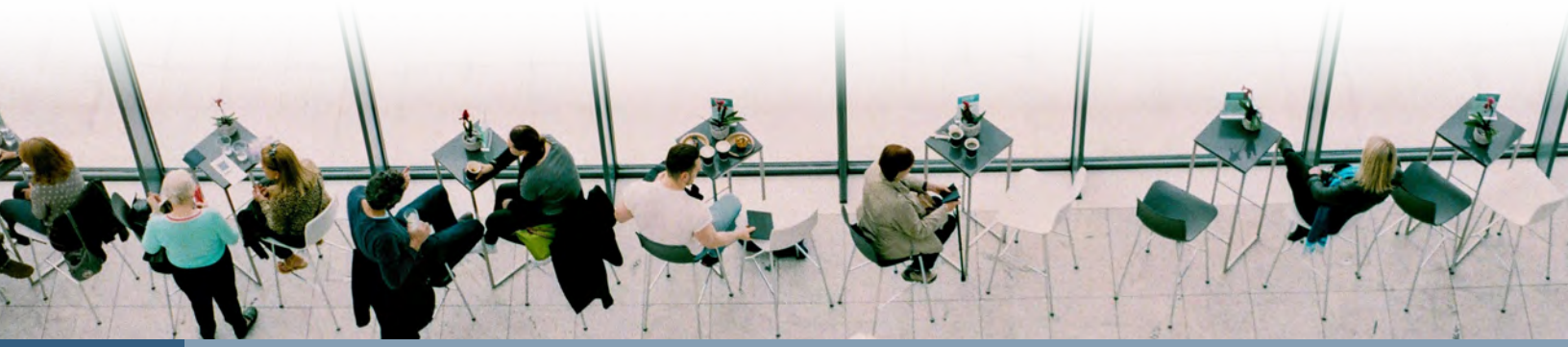
Out with Clipboards, in with Solutions

The "old-school" days of singular focus and limited productivity when technicians arrived on-scene armed with clipboards are gone. Smart IoT building systems can now preemptively address inconvenient emergencies while improving workforce efficiency, productivity and environmental control.

With a remote monitoring solution for corporate properties, errors can be discovered quickly to prevent costly damages, reduce oversight, enhance occupant comfort, and optimize processes to higher-quality levels.

- Cost-effective, high-ROI energy management.
- Solves interoperability problems to normalize data.
- Delivers data accurately and securely, to cloud-based services for improved operational efficiency in your building.

Remotely maintain comfortable HVAC settings for lobbies, guest areas, public restrooms, offices and meeting rooms.



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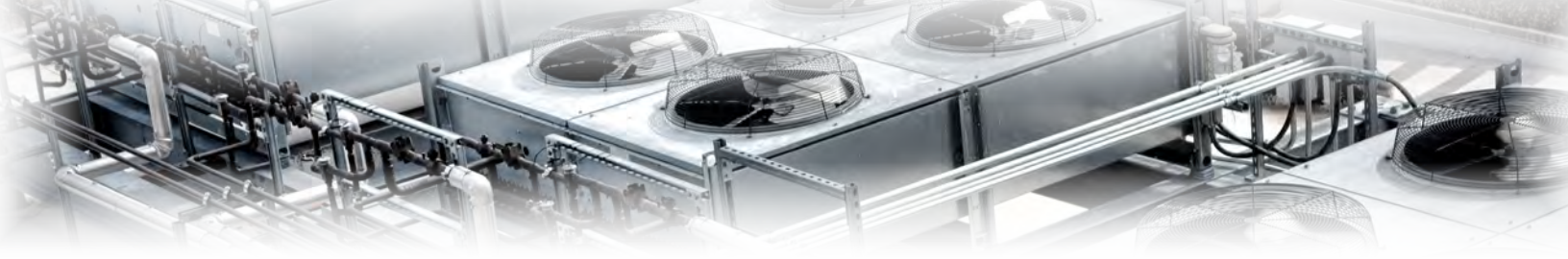


IoT SAVINGS FOR CORPORATE PROPERTIES

IoT saves resources, time, and generally, makes commercial property management ***easier,*** as shown in several building retrofits that demonstrated potentially huge operational cost-savings in-store for commercial property.

657,000

kWh/year energy saved by the U.S. Deptartment of Agriculture's National Information Center.

1,542

Tons of CO2 conserved by the U.S. Environmental Protection Agency.

$3.9M

Energy savings earned for the U.S. Fish and Wildlife Service.

Source: United States Department of Energy

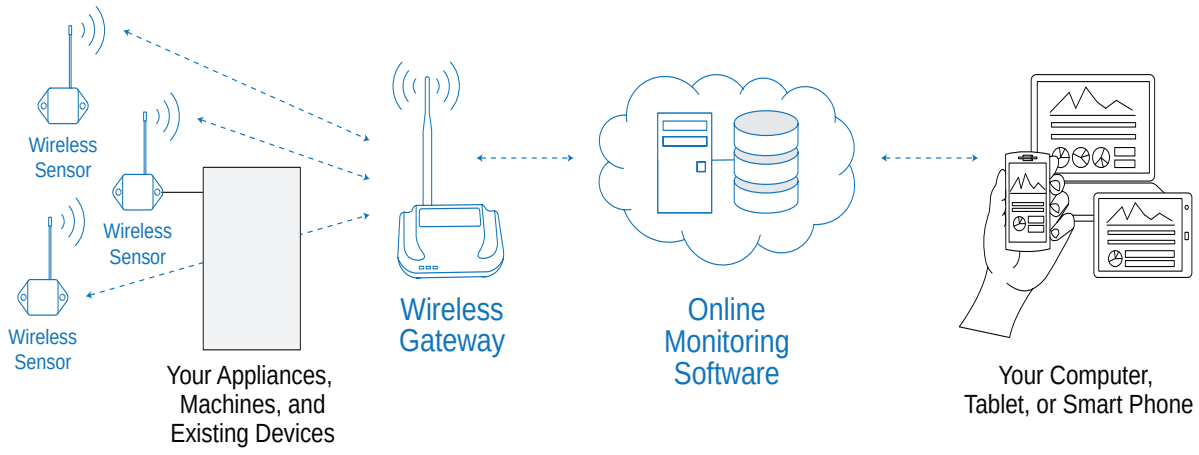
All-In-One Remote Monitoring Property Solutions

Remote wireless sensors are making a big impact with corporate property managers across the globe. Comnexiom systems can help you and your staff monitor various aspects of your facilities environment with multiple sensors in a single view.

- Save time and resources
- Protect your investments
- Enhance occupant safety
- Reduce operating costs
- Reduce maintenance costs
- Protect your reputation
- Extend the lifetime of your property
- Monitor from anywhere, 24/7

How the Comnexiom Solution Works

Remote monitoring solutions for corporate properties keep track of everything from anywhere in the world, while securely logging data and providing immediate alerts whenever conditions exceed predefined thresholds.



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Wireless sensors can be used to monitor various environmental aspects of your business and seamlessly integrate with your existing equipment, like coolers and appliances, to provide operational data in real-time.

Wireless gateways act as a communication bridge between wireless sensors and the Online Monitoring Software, which allows you to view sensor information from anywhere, anytime through a computer, tablet or smart-phone. The software can also provide immediate alerts via email or text message; it can also call your phone when conditions you've set are met or exceeded.

Connected to a Wireless gateway, the Wireless Sensor Network (WSN) can expand from a single local area to a multi-site network with sensors anywhere in the world. The gateways then transmit data to the cloud-based software. This gives you freedom to configure, monitor, and conveniently manage all of your locations from one network.

Comnexiom has over 50 different types of wireless sensor, and all of them have unique characteristics to match the solution you need. Comnexiom also delivers a variety of gateway communication options, such as Cellular, Ethernet, USB and serial MODBUS to connect your devices with the cloud software.

Cellular, Ethernet and USB gateways from Comnexiom can connect with up to 100 wireless sensors per gateway. Serial MODBUS gateways can connect with up to 50 wireless sensors.

How Can Comnexiom Solutions Help You?

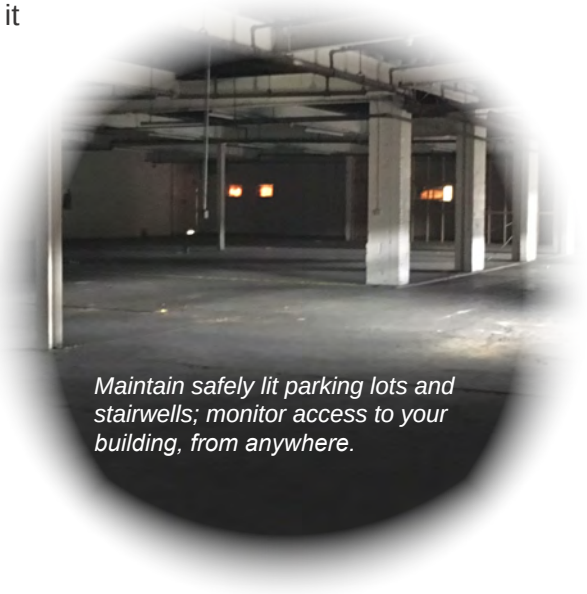
As government regulations tighten and competition grows, Corporate property monitoring systems offer opportunity to gain peace of mind and lower operational costs.

Comnexiom sensors can monitor and record important operational data in the software system 24/7, and it can be accessed from anywhere, anytime through the Online Dashboard and mobile apps via secure login.

Let's say a compressor in your HVACR system vibrates outside specified parameters, an apartment building parking lot goes dark when it shouldn't, or a water heater breaks down and starts to leak.

Building comfort can be improved, tenant health and productivity enhanced, and a reduction in work hours achieved, to maintain the integrity of your property.

Sensor alerts can be sent to multiple contacts via text message, email, phone call or even a local warning system to notify employees before disaster strikes. This greatly removes potential for human error and oversight. The Remote Monitoring Solutions saves time and money while giving you control to ensure customers, property, and inventory are *safe*.



Maintain safely lit parking lots and stairwells; monitor access to your building, from anywhere.

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Features and Benefits

- Easy set-up and use
- Reliable, proven technology
- Low-cost
- Low power / long life
- Exceptional wireless range
- 50+ sensor types
- Scalable / expandable (100 sensors per gateway)
- Global RF frequencies
- Cloud-based monitoring software
- Text message, email, or phone call alerts
- 24/7 access from anywhere
- Custom sensors available upon request

IoT Remote Monitoring Solutions provide visibility, but more importantly, they add a degree of controlability for corporate property management challenges. As such, remote monitoring solutions for corporate properties are the most intuitive, reliable, and cost-effective solution on the market.

Remotely monitor your buildings environment to ensure occupant comfort.

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Key Takeaways

- Manual processes and documentation are time-consuming, resource intensive and prone to human error, but they don't need to be.
- Comnexiom's remote monitoring solutions can monitor and track key performance data for your facility.
- Energy-use savings and greater operational efficiency can be realized by monitoring building systems performance.
- Comnexiom's Remote Monitoring Solutions offer peace of mind through 24/7 access to your business from anywhere, anytime.
- Immediate notifications allow you to respond to issues as they arise, preventing costly damage or downtime.
- Implementing the Internet of Things and Comnexiom's remote monitoring solutions is affordable *and* easy.

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4G LTE Cellular Gateways

4G LTE Industrial Cellular Gateway

4G LTE Cellular Gateways are based on a 4G LTE CAT-M1/NB1 wireless engine and integrates wireless access point network (WAN) for use with Wireless Sensors. These gateways allow the sensors to operate on the world's leading cellular networks.

To meet the global demand for enterprise IoT deployment. The 4G LTE Gateway offers best-in-class security, connectivity, and reliability. Cellular gateways communicate with the (cloud or on-premise) monitoring software via cellular transmission, making them ideal for remote locations or where the internet is not available. The system aggregates sensor information and sends notifications via text, email, or call if user-defined conditions are met or exceeded.

4G LTE Commercial Cellular Gateway

4G LTE Cellular Gateways are based on a 4G LTE CAT-M1/NB1 wireless engine and integrates wireless access point network (WAN) for use with Wireless Sensors. These gateways allow the sensors to operate on the world's leading cellular networks.

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3G Cellular Gateways

3G Industrial Cellular Gateway

Domestic 3G Cellular Gateways (for use in USA, Canada and Mexico) are based on a 3G (GSM HSPA+) wireless engine and comes integrated with wireless access point network (WAN) for use with all Wireless Sensors. These gateways allow the sensors to operate on the world's leading cellular networks.

Cellular gateways communicate with the (cloud or on-premise) monitoring software via cellular transmission, making them ideal for remote locations or where the internet is not available. The system aggregates sensor information and sends notifications via text, email, or call if user-defined conditions are met or exceeded.

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Cellular gateways communicate with the (cloud or on-premise) monitoring software via cellular transmission, making them ideal for remote locations or where the internet is not available. The system aggregates sensor information and sends notifications via text, email, or call if user-defined conditions are met or exceeded.

International Gateways

3G International Gateway

The International 3G Cellular Gateway are based on a 3G (UMTS/GSM) wireless engine and comes integrated with wireless access point network (WAN) for use with all Wireless Sensors. These gateways allow the sensors to operate on the world's leading cellular networks.

Cellular gateways communicate with the (cloud or on-premise) monitoring software via cellular transmission, making them ideal for remote locations or where the internet is not available. The system aggregates sensor information and sends notifications via text, email, or call if user-defined conditions are met or exceeded.

2G International Gateway

The International 2G Cellular Gateway is based on a 2G (GSM) wireless engine and comes integrated with wireless access point network (WAN) for use with all Wireless Sensors. These gateways allow the sensors to operate on the world's leading cellular networks. (User is responsible for setting up data plan with a compatible wireless carrier.)

Cellular gateways communicate with the (cloud or on-premise) monitoring software via cellular transmission, making them ideal for remote locations or where the internet is not available. The system aggregates sensor information and sends notifications via text, email, or call if user-defined conditions are met or exceeded.

Ethernet Gateways

Ethernet Gateway 4

The Ethernet Gateway allows your Wireless Sensors to communicate with the Online Wireless Sensor Monitoring and Notification System without the need for a PC. Simply provide power and plug the gateway into an open Ethernet network port with an internet connection.

It will then automatically connect with our online servers, providing the perfect solution for commercial locations where there is an active internet connection.

The Power-Over-Ethernet option features modified gateway hardware allowing it to be powered through the Ethernet port. Does not include PoE Power Injector.

Advanced EDGE Gateway

Advanced EDGE Gateway

The multiple award-winning Advanced EDGE Gateway aggregates data from feature-rich Wireless Sensors to mainstream cloud providers, such as Amazon AWS, Google Cloud Platform, Microsoft Azure, or IBM Watson. Coupling the prominent MQTTS protocol and the IoT's broadest sensor range, Edge Gateway fulfills a key IoT mission of making deployments more agile and productive.

The Edge Gateway features a step-by-step guided, multilingual web interface for configuring and managing Wireless Sensors, as well as designating MQTT brokers. As the Ethernet-based gateway receives sensor data, the gateway "fingerprints" the data with a cryptographic validation stamp. This authenticated data is then transmitted to a cloud broker (or multiple brokers), where it arrives in a standard format. The Edge Gateway's integrated macros enable data configuration in virtually any format, such as JSON or XML, making it a powerful tool for data analysis and action.

Advanced EDGE Gateway - 3 Time Award Winner!

LEAP AWARDS Winner

Industrial IoT Product of the YEAR 2021

IoT Innovations 2021

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Modbus

Serial Modbus Gateway

The Serial MODBUS Gateway (SMG) acts as a data concentrator for long range wireless sensor networks. This device allows you to connect up to 50 wireless sensing devices, per gateway, to your existing serial MODBUS RS-232C and RS-485 sensing and control infrastructures.

Modbus is often used to connect a supervisory computer with a remote terminal unit (RTU) in supervisory control and data acquisition (SCADA) systems. Modbus allows for communication between many (approximately 247) devices connected to the same wired network. Therefore, SMG's allows for seemingly unlimited wireless expansion to a traditional wired network.

Sensor Adaptor

Wireless Sensor Adaptor

The Wireless Sensor Adapter enables Wireless Sensors to communicate with your local or online wireless sensor monitoring system by connecting to a PC or third-party IoT gateways via USB connection.

Plug into a PC

If an on-site PC has an active Internet connection, it's simple to connect with Sensor Configuration and Management Software online and install the free Gateway application. This combination allows you to pass sensor data to the online system.

With the online software, you can easily configure your network, view collected sensor data, and set alarms through SMS or e-mail, all from any web-enabled browser. The system allows for complete configuration and customization at a sensor, local network, or client-wide level.

The wireless sensor adapter is specifically designed to respond to the increasing market need for global technology that accommodates several vertical M2M application segments and remote wireless sensor management solutions.

Gateway Sizes

COMMERCIAL

A: 3.8 inches / 96.52 mm
B: 5.004 inches / 127.10 mm
C: .1.51 inches / 38.35 mm

INDUSTRIAL

A: 5.7 inches / 144.78 mm
B: 3.54 inches / 89.91 mm
C: 2.14 inches / 54.35 mm

Dimensions for standard housing sizes.
For gateways in non-typical housings, please refer to their data sheets.

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Wireless Sensors

Temperature Sensors

Wireless Standard Temperature Sensors

The Wireless Temperature Sensors uses a type NTC thermistor to measure temperature. The sensor outputs the ambient temperature in degrees Fahrenheit. The sensor is accurate to ± 1° C (± 1.8° F). Increased accuracy to ± 0.25° C (± 0.45° F) can be accomplished with user calibration.

Longer probe lengths are available for this product!

Wireless High Temperature Sensors

Wireless High Temperature Sensors use an RTD to accurately measure temperatures from -50°C to +370°C. The solution is perfect for high temperature critical applications such as ovens, heaters, furnaces and boilers.

Longer probe lengths are available for this product!

Wireless Low Temperature Sensors

Wireless Low Temperature Sensors use an RTD to accurately measure temperatures from -200°C to +162°C. This solution is recommended for medical grade coolers that cool at temps colder than -40C, cryogenic applications, as well as standard freezers and refrigerators.

Longer probe lengths are available for this product!

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Wireless Duct Temperature Sensors

Wireless Duct Temperature Sensors in commercial, enterprise, and industrial-grade housings are available for duct monitoring. Each duct temp sensor features a probe temperature range of -40°C to +150°C (-40°F to +302°F) and an NTC type thermistor with UL listed plenum cable for superior accuracy.

Wireless Digital Temperature Sensor

The Digital Temperature Sensor has a range of -40°F to +257°F (-40°C to +125°C) to support cold food storage, clinical vaccine storage, research labs, and other health-related fields.

Humidity Sensors

Wireless Humidity Sensors

Wireless Humidity Sensors allow you to monitor the relative humidity of the air within a room or enclosure. This solution is ideal for monitoring humidity within greenhouses, industrial spaces, museums, saunas, and humidors. They can also be used for residential applications such as controlling mold, mildew, or dust mites.

Open / Closed Sensor

Wireless Open / Closed Sensor

Wireless Open / Closed sensors provide information on the status of doors, windows, cabinets, etc. Know if a building or area is being accessed when it should not be, or if a door or window has been left open.

Infrared Motion & Occupancy Sensor

Wireless Infrared Motion Sensor

The Wireless PIR Motion Sensors detect motion via passive infrared (PIR) technology to augment facility security, protect inventory, or optimize building services through usage data.

AC Current Meters

Wireless 20 Amp AC Current Meter

This low power, 20 Amp AC Current Meter remotely audits power consumption. The electric power draw of servers, vending machines, or workout machines can all be monitored using this current transducer.

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Wireless 150 Amp AC Current Meter

Remotely monitoring your business with a 150 Amp AC Current Meter opens up many possibilities. This is enough to measure the power consumption of server systems and current used by low to medium power industrial equipment.

Wireless 500 Amp AC Current Meter

A one-phase high power 500 Amp AC Current Meter is ideal for measuring commercial generators' power consumption, heavy duty industrial equipment, or main breakers in industrial and commercial breaker panels.

Light Meter

Wireless LUX Light Meter

Wireless Lux Light Meters monitor light intensity from (0-83,000 lux) indoors. The Lux Light Meter helps protect valuable assets like artifacts, pharmaceuticals, and food ingredients from excessive light exposure and improve security system lighting.

Wireless PAR Light Meter

The scientific-grade Wireless Photosynthetically Active Radiation (PAR) Light Meter measures the light spectrum (389 to 692 nanometers) that directly affects plant health and growth. Ideal for agritech operations, the PAR Light Meter helps growers monitor the performance of grow lighting systems to give crop canopies the light needed for photosynthesis.

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Three-Phase Current Meters

Wireless 20 Amp Three-Phase Current Meter

Incorporate this 20-amp Three-Phase, revenue grade device into facilities relying on powerful devices and systems, such as machine shops. Remotely monitor power consumption to track motor health or power system faults. Monitor min/max RMS current, duty cycle of each phase combined amp hours, and other metrics.

Wireless 150 Amp Three-Phase Current Meter

Remotely monitoring your business with a 150 Amp AC Current Meter opens up many possibilities. This is enough to measure the power consumption of medium to heavy duty three-phase systems: environmental chambers, very large HVAC systems, or medium and heavy duty industrial motors.

Wireless 500 Amp Three-Phase Current Meter

Use this sensor and be alerted about imbalances or power faults. The sensor uses 3 x 0–500 amp current transducers to monitor the main power for commercial buildings.

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Interface Meters

Wireless Dry Contact Sensors

The Wireless Dry Contact sensor detects when there is contact between the two wired end points. It can easily be integrated into existing switches or contact plates. When the sensor detects contact between the two end points, it will immediately turn on the RF radio and transmit the data to the wireless gateway and Monitoring and Notification System.

Longer probe lengths are available for this product!

Wireless 20 mA Interface Current Meter

Easily update existing scientific or industrial sensors to wirelessly collect process data. Remotely monitor current transducers, as well as oxygen, pH, magnetic flow sensors, and more.

Wireless 0-5 VDC Interface Volt Meter

Easily monitor potential differences (voltage) between two electrical points. Use turnkey voltage meters to retrofit common industrial sensors, monitor batteries, renewable energy sources and more.

Wireless 0-10 VDC Interface Volt Meter

Add turnkey Wireless Voltage Meters to commonly used industrial sensors and remotely monitor the voltage between two points. Get data from previously “dumb” devices to optimize operations.

Thermocouple

Wireless Thermocouple Sensors

The Wireless Thermocouple is available with either a hardwired thermocouple or a K-Type connector (for supporting various thermocouple types and ranges) to measure high temperature applications. The hardwired thermocouple option measures temperatures from -100C (-148F) to 400°C (752°F).

Accelerometers

Wireless G-Force Snapshot Accelerometer

The G-Force Snapshot sensor activates at a set time interval (defined by user) and measures g-force along X, Y, and Z axes. Primary use is as an inclinometer or tilt sensor.

Wireless Advanced Vibration Meter

The Advanced Vibration Meter uses an accelerometer to measure vibration and frequency on three axes. The sensor reports vibration (acceleration, velocity, displacement, or acceleration peak), frequency (Hz/RPM), and crest factor on all three axes. It also reports duty cycle (how much of the report interval that vibration was present), and temperature.

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Wireless Tilt Detection Sensor

With a measurement range of 0–180° and accuracy of 0.5°, this sensor instantly reports (in degrees) when movement exceeds preset limits. If a guard arm is breached, the tilt detect sensor sends an alert via a text, email, or call. The device can sense whether it is "Up," "Down," and "Stuck." Any movement between these regions will be recorded.

Wireless Vibration Meter

The vibration meter reports data as speed (mm/s) and frequency (Hz) on all three axes, and how long the sensor was measuring during the interval. Measurement methods are: Peak acceleration RMS, peak velocity RMS, and true RMS.

Wireless G-Force Max-Avg Accelerometer

The G-Force Max/Avg sensor measures the maximum and average g-force values along X, Y, and Z axes. Custom Delta values allow for the user to set thresholds which, when exceeded, will trigger the sensor to report in immediately. Configurable data rates allow for more samples to be collected for every measurement with higher data rates resulting in faster reaction time. The data reported is useful for tracking periodic motion and event detection.

Wireless Tilt Sensor

Better understand your operations, machine health, or structure status by collecting inclination data or tracking pitch and roll with Wireless Tilt Sensors. If a tilt sensor detects a deviation from your preset limits during measurement, an alert is issued via a text, email, or call.

Wireless Impact Sensor

The Impact Detection sensor activates when g-forces are exceeded by a user-defined threshold – up to 8 g-force. The user can key in the desired threshold for the g-force trigger. This sensor has two operation modes that can be also selected by the user: High Performance and Low Power.

Wireless Voltage Detection

Wireless 200 VDC Voltage Meter

Integrate a Wireless 200 VDC Voltage Meter to monitor the electrical status of items you depend on, like industrial lift trucks, solar PV panels, and power banks. Remotely monitor status and operation.

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Wireless 500 VAC Voltage Meter

Integrate a Wireless 200 VDC Voltage Meter to monitor the electrical status of items you depend on, like industrial lift trucks, solar PV panels, and power banks. Remotely monitor status and operation.

Wireless 200 VDC Voltage Detection Sensor

This Wireless 200 VDC Voltage Sensor monitors the on/off status of equipment, machines, or battery levels. Track power sources up to 200 VDC for industrial vehicles, ATVs, adapters, PV solar equipment and more.

Wireless 500 VAC Voltage Detection Sensor

Wirelessly monitor voltage for critical equipment and systems up to 500 VDC. Keep an eye on sprinkler systems, HVAC, power couplings, and sump pumps. Know about electrical faults and act quickly to keep business moving.

Water Detection Sensors

Wireless Rope Sensor

The Wireless Water Rope Sensor detects the presence of water anywhere along the surface of the rope. The sensor comes with 10 feet of water rope. Additional 10 ft. sections are available and can be connected up to 100 feet.

Wireless Water Detect Plus Sensors

The Wireless Water Detect Plus Sensor employs a wall- or surface-mountable probe at the end of a 3' lead to detect water's presence (or absence). The probe is often used in sanitation or process applications to detect levels in reservoirs or vats of non-combustible liquid.

Wireless Water Detection Puck

Housed in a vulcanized hockey puck, this submersible sensor detects water's presence (or non-presence). Drop this sensor nearly anywhere to monitor for leaks / spills, e.g., production, manufacturing, or building maintenance.

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Wireless Water Detection Sensors

These popular sensors detect the presence (or non-presence) of non-combustible liquids (e.g., water). Deploy in such applications as sump pump monitoring, water heater drip pan monitoring, or between dry wall and sub flooring.

Pulse Counters

Wireless Pulse Counters

The Wireless Pulse Counter can be connected to the pulse output of a system (water meter, power meter, etc.) to count the number of actuations within a given time frame. The wireless pulse counter is an electronic counter capable of counting passive (open/closed switch) or active (up to +15 VDC) pulses.

Pressure Meters

Wireless 50 PSIG Pressure Meters

Wireless 50 PSIG Pressure Meters keep lab managers, field service engineers, and other professionals connected to processes and machinery. If line pressure deviates from user-set thresholds, this pressure sensor instantly alerts the user via a text, email, or call.

Wireless 300 PSIG Pressure Meters

Indispensable to facility managers, fabricators, and legacy machine operators, the 300 PSIG Wireless Pressure Meter remotely monitors line pressures (gas, liquid, or vapors). If pressure exceeds user-defined limits, the user receives an alert via an email, call, or text.

Button Press Sensors

Wireless Button Press Sensors

Need help providing swift customer service or deploying a large-scale sensor network? Instant alerts from the Wireless Button Press Sensors support you by streamlining sensor deployment and expediting customer service requests.

Gas Detection Sensors

Wireless Carbon Monoxide (CO) Sensor

This unique battery-powered sensor monitors job sites, offices, and residential complexes for carbon monoxide (CO). Within a small footprint, the MEMS-based device packs a 0–1,000 PPM measurement range and automated data logging.

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Wireless Carbon Dioxide (CO_2) Sensor

Trusted by facility managers, this MEMS-based sensor monitors CO_2 levels in the air. Get an alert if CO_2 levels surpass preset limits. It's used to protect indoor air quality in greenhouses, marine vessels, and HVAC systems.

Wireless Hydrogen Sulfide (H_2S) Gas Sensor

This safety sensor tracks the presence of H_2S gas, which is toxic and flammable. Use to safeguard workers in oil / gas production, wastewater treatment, utilities, and other hazardous areas.

Resistance Sensors

Wireless Resistance Sensor

These sensors read the resistance across a resistive load up to 250K Ohms and are meant to connect to passive devices only.

Ultrasonic Ranging Sensors

Wireless Enterprise Ultrasonic Ranging Sensor

This enterprise-grade remote monitoring solution measures the distance between itself and objects in its path. Use for liquid-level detection, inventory status, object detection and other indoor or outdoor applications.

Wireless Industrial Ultrasonic Ranging Sensor

Packaged in a weatherproof housing, the Industrial Ultrasonic Ranging Sensor measures levels or detects objects. Indoor and outdoor applications include vehicle / object detection, capturing liquid levels, and tracking inventory.

Air Quality Sensor

Wireless Air Quality Sensor

This mount-and-monitor device measures particulate matter that's coarse (PM10), fine (PM2.5), and ultra-fine (PM1) inside mines, production facilities, commercial kitchens and facilities, as well as business buildings. This unit is powered by line-power and has a battery backup.

Air Velocity Sensors

Wireless Air Velocity Sensors

The Air Velocity Sensor measures the pressure difference between two input ports, as well as ambient temperature and altitude to determine airflow speed in a system. Use in sensitive areas, e.g., hospitals and clean rooms.

Differential Air Pressure Sensors

Wireless Differential Air Pressure Sensors

This sensor measures the pressure difference between its two ports. Ideal for food service, healthcare, and academia. Common applications include clean rooms, pharmaceutical production, commercial kitchens, and HVAC or applications where negative air pressure monitoring is required.

Food Probe Thermometer

Wireless Food Probe Thermometer

The Food Probe replaces manual temperature checks and enhances food quality and safety by bringing the power of remote data collection to commercial kitchens, food production, and restaurants.

Vehicle Detection Sensor

Wireless Vehicle Detect / Counter Sensor

This easy-to-deploy sensor detects vehicle presence, counts traffic, and tracks the time a vehicle is parked. Ideal for fleet management, parking garages, service centers, curbside retail, and more.

Propane Tank Monitoring

Wireless Propane Tank Level Sensor

Remotely monitor propane levels from anywhere via a smartphone or PC. This turnkey propane sensor works with Sr & Jr R3D® Remote Ready gauges. Prevent unnecessary in-the-field trips and maintain customer satisfaction.

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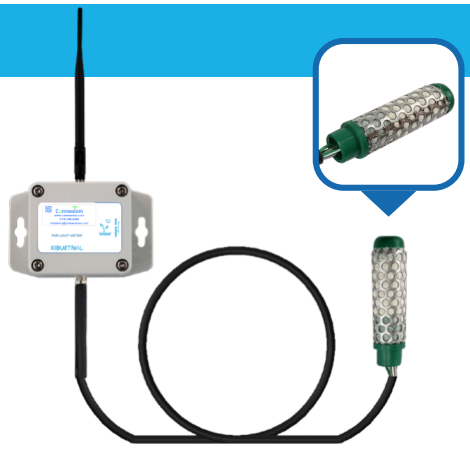
Soil Moisture Monitoring

Soil Moisture Sensor

Get critical insights from your soil about how well you water with the Wireless Soil Moisture Sensor. It's perfect for measuring soil water tension (within a range of 0 to 240 centibar (cb) or kilopascal (kPa)) and temperature (-40°C to 125°C (-40°F to 257°F). Improving irrigation scheduling and water conservation is easier because you'll know when and where to water your crops more precisely.



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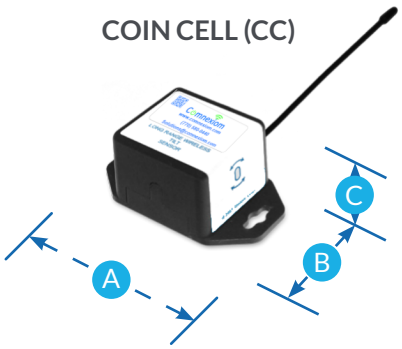
Sensor Sizes

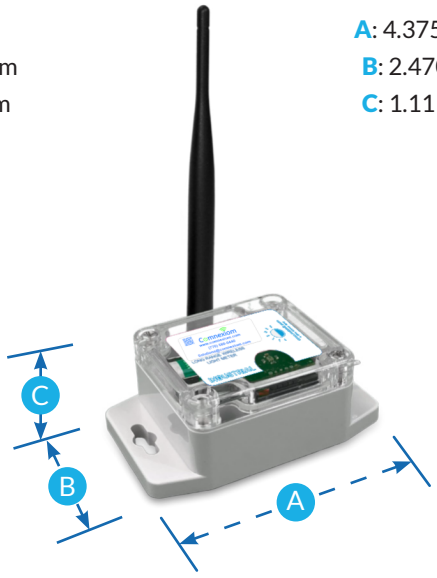
COIN CELL (CC)



A: 2.0 inches / 50.8 mm
B: 1.125 inches / 28.57 mm
C: .875 inches / 22.22 mm

DOUBLE AA (AA)

A: 4.375 inches / 111.12 mm
B: 2.470 inches / 62.73 mm
C: 1.111 inches / 28.21 mm



INDUSTRIAL (IN)

A: 3.701 inches / 94.00 mm
B: 2.316 inches / 58.82 mm
C: 1.378 inches / 35 mm

Dimensions for standard housing sizes.
For sensors in non-typical housings, please refer to their data sheets.

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Remote Monitoring for Business

Wireless Thermostat

General Description

The Wireless Thermostat is designed specifically for remote configuration and energy savings. It features an integrated motion sensor to auto detect if an area or room is occupied and can be set to enter an energy saving state when not needed. The thermostat will allow you to set a maximum and minimum temperature range for both occupied and non-occupied states. The system will auto adjust comfort levels when personnel arrive and automatically return to normal when they leave. It is also a perfect solution for public buildings such as corporate facilities or schools and churches as there are no physical buttons on the device. This prevents random adjustments by unauthorized people.

Features

- Allows for remote setting and monitoring of HVAC systems.
- Detects motion for occupied/non-occupied status.
- Prevents unauthorized adjustments or tampering.
- Configuration lockout jumper prevents changes at the hardware level.
- Full functionality and startup without a gateway (gateway is required for configuration changes and to monitor the device).

Example Applications

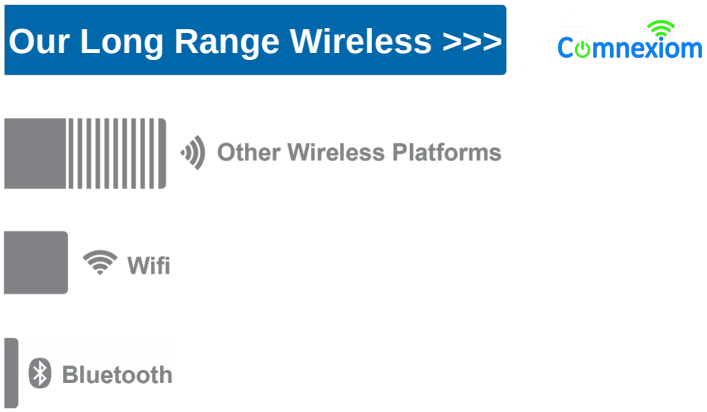
- Office buildings
- Schools and churches
- Stores and restaurants
- Sports and concert venues
- Remote buildings

Wireless Thermostat Features

- Wireless range of 1,200+ feet through 12+ walls *
- 900 MHz Frequency Hopping Spread Spectrum (FHSS) 868 and 433 MHz Frequency Agile
- Best in class interference immunity
- Encrypt-RF® Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
- Onboard data memory stores up to 512 readings per sensor:
  - 10-minute heartbeats = 3.5 days
  - 2-hour heartbeats = 42 days
- Over-the-air updates (future proof)
- Powered by HVAC system

[k] Actual range may vary depending on environment.

Wireless Range Comparison

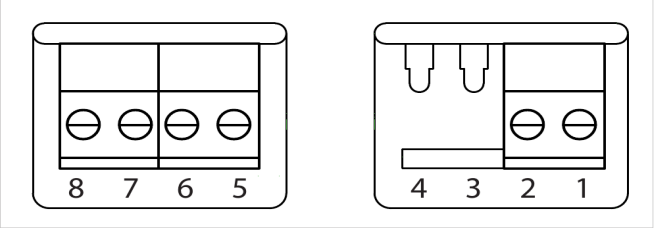


Wireless Thermostat Specifications	
Supply Voltage	12 VAC - 24 VAC (powered via HVAC system)
Current Consumption	0.7 pA (sleep mode) 2 mA (radio idle/off mode) 2 mA (measurement mode) 25 mA (radio RX mode) 35 mA (radio TX mode)
Operating Temperature Range	-40°C to 85°C (-40°F to 185°F) *
Temperature Reading Accuracy	± 1°C
RH Accuracy	± 3% under normal conditions (10% - 90% RH)
RH Operating Range	0-100%RH **
RH Response Time	8 sec (tau 63%) **
Motion Sensor Detection Range	16.4 ft (5 m)
Indicator Lights	Six LED indicators (Heating, Cooling, Fan, Power, Occupied, Radio (RF))
Pass-through Current Rating on Heat, Cool, and Fan Connections	Continuous: 1 A RMS Surge: 8.5 A Peak
Peak Voltage on Heat, Cool, and Fan Connections	+/- 800 Volts
Dimensions	5.5 x 3.355 x 1.25 in. (139.7 x 85.217x31.75 mm)
Wireless Range	1,200+ ft. non-line-of-sight
Security	Encrypt-RF® (256-bit key exchange and AES-128 CTR)
Certifications	900 MHz product; FCC ID: ZTL- RFSC1 and IC: 9794A-RFSC1. 868 and 433 MHz product tested and found to comply with: CISPR 22:2008-09 / EN 55022:2010 - Class B and ETSI EN 300 220-2 V2.4.1 (2012-05).

* At temperatures above 100°C, it is possible for the board circuitry to lose programmed memory.

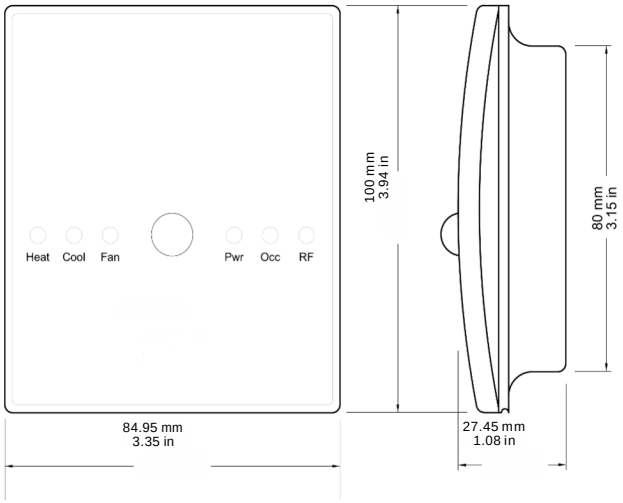
Note: The thermostat features a physical configuration lockout jumper which can be set to prevent changes to any settings, even through the monitoring portal. This prevents any hacking or remote tampering of any kind. If used, the physical jumper will need to be removed to change settings.

Thermostat Connections

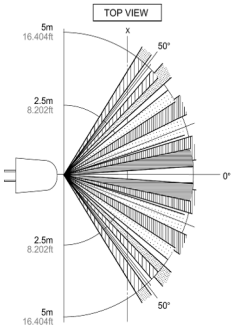


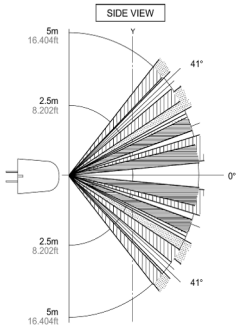
Pin	Description	Color	Identifier
1	Common	Blue or Black	C
2	Line	Red	R, Rc
3	No Connect		
4	No Connect		
5	Fan	Green	G
6	Cool	Yellow	Y
7	Heat	White	W
8	No Connect		

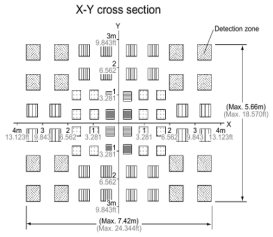
Thermostat Dimensions



Motion Sensor Specifications







1. The X-Y cross-sectional diagram shows the detection area.
2. The differences in the detection zone patterns are indicative of the projections of the 16 lenses with single focal point and with five optical axes. An object whose temperature differs from the background temperature and which crosses inside the detection zone will be detected.

Caution / Notice:

Our commercial grade products are designed for applications in ordinary environments (normal room temperature and atmospheric pressure). Do not use these sensors under the following conditions as these factors can deteriorate the product characteristics and cause failures and burn-out.

- Corrosive gas or deoxidizing gas - chlorine gas, hydrogen sulfide gas, ammonia gas, sulfuric acid gas, nitric oxides gas, etc.)
- Volatile or flammable gas
- Dusty conditions
- Under low or high pressure
- Wet or excessively humid locations
- Places with salt water, oils chemical liquids or organic solvents
- Where there are excessively strong vibrations
- Other places where similar hazardous conditions exist

Use these products within the specified temperature range. Higher temperature may cause deterioration of the characteristics or the material quality of this product.

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Sensors and Meters Help Boost Uptime for a Better Bottom Line

1

Standard and Digital Temperature Sensors

The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) suggests server rooms and data centers stay between 18°C (64.4°F) to 27°C (80.6°F). Standard and Digital Temperature Sensors measure a range from -40°C to +125°C (-40°F to +257°F).

2

Humidity Sensors

The scientific-grade Humidity Sensor remotely monitors relative humidity (RH) with a +/- 3% accuracy (between 10–90% RH), temperature, and dew point in facilities. Available in Wireless and PoE options to instantly alert you via text, email, or call.

3

Open / Closed Sensors

You can know in an instant if a server room or data center door has been left open. Keep all your IT equipment and restricted areas safe. Our Open-Closed Sensor features a switch and trigger magnet to detect open-close status. It's ideal for lids, windows, and gates too.

4

Duct Temperature Sensors

Keep a sealed environment and easily monitor HVAC performance and ductwork temperatures with our Duct Temperature Sensor. The Sensor uses a probe to measure a range of -40°C to +150°C (-40°F to +302°F) and features a negative temperature coefficient (NTC) thermistor.

5

Water Detection Sensors

Wireless Water Detection Puck, Water Detect Plus, and Water Rope Sensor can help prevent damage from plumbing and cooling system leaks. Our Water Detection Sensors can also help you keep employees and customers safe from slips and falls.

04/2022

Wireless Sensors and Meters Help Boost Uptime for Better Financial Services

1

Standard and Digital Temperature Sensors

The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) suggests server rooms stay between 18°C (64.4°F) to 27°C (80.6°F).
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4

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Water Detection Sensors

The Wireless Water Detection Puck, Water Detect Plus, and Water Rope Sensor can help prevent damage from plumbing and server stack cooling system leaks. Our Water Detection Sensors can also help you keep employees and customers safe from slips and falls.

09/2022

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Remote Monitoring Mitigates Disruptions and Enhances Facilities Performance

1

Water Detection Sensors

An Wireless Water Detection Puck Sensor is ideal around toilets, sinks, boilers, and water heaters.
A Wireless Water Rope Sensor along walkways, walls, and pipes can detect water and help prevent damage from leaks.

2

Open / Closed Sensors

Maintain security across your properties by monitoring the status of doors and windows. Wireless Open-Closed Sensors use a switch and trigger magnet to detect status.
Be alerted when a threshold in the software changes.

3

Temperature Sensors

Chart classroom and HVAC system fluctuating environmental conditions at any time. The Wireless Temperature Sensor measures room, area, HVAC unit, and ductwork temperatures with a waterproof lead up to 100 feet.

4

Motion / Occupancy Sensors

An Motion Detection Sensor can tell you instantly if someone has broken into a school or church. Monitor movement in virtually any room, entryway, or area in and around schools using passive infrared technology.

5

Air Quality Sensors

Monitor the particulate matter (PM) in the air that's coarse, fine, and ultra fine inside schools and churches. The Air Quality Sensor uses a small fan to collect an ambient air sample and measures PM levels with a laser.

07/2021

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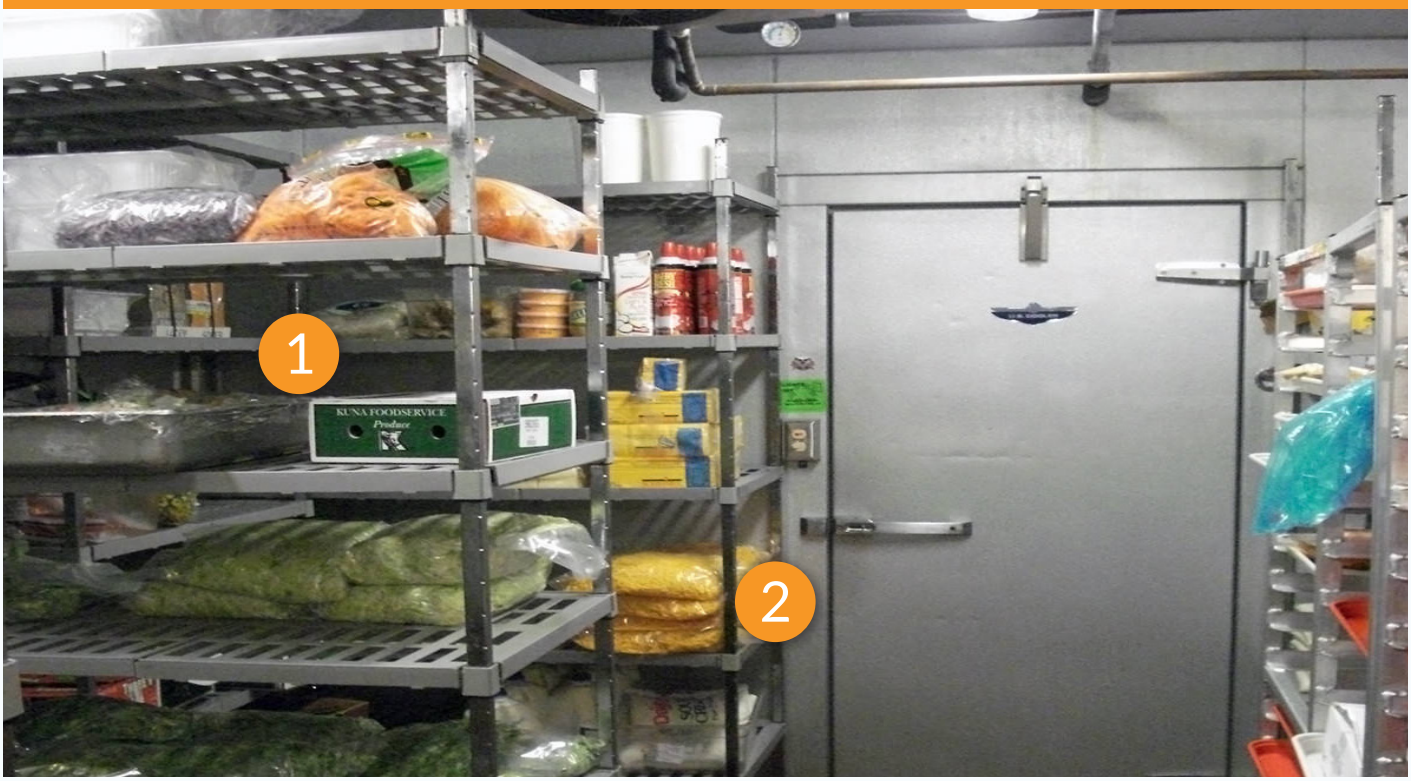
Temperature Sensors Handle Food Safety with Ease



1

Standard Temperature Sensors

Standard Temperature Sensors measure a range of conditions from -40°C to +125°C (-40°F to +257°F). If the temperature exceeds your preset thresholds in a room or cooler, you get an alert via a text, email, or call.

2

Low Temperature Sensors

You can know in an instant if a freezer or refrigerator temperature is fluctuating outside of your preset parameters. Keep all your food storage at safe, required temperatures. Our Low Temperature Sensors monitor -200°C to +162°C (-328°F to +325°F) with easy logging and graphing.

02/2021

Remote Monitoring Keeps Your HVAC Systems Running Strong

1

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. 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 airflow 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 the software.

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Remote Monitoring Protects Manufacturers from Unexpected Downtime

1

Voltage Detection Sensors

Monitor the on/off status and power sources of equipment, machines, or battery levels with an Wireless Voltage Detection Sen-sor. You can quickly know voltage when the sensor triggers an alert via text, email, or call based on your set-tings.

2

Accelerometers

Measure acceleration on three axes to detect or resolve issues stemming from angular alignment with the Wireless G-Force Snapshot Accelerome-ter. Put the low-power sensor to work on an assembly line to assess inclination or tilt issues.

3

Advanced Vibration Meters

Track oscillation on three axes to capture vibration frequency, velocity, displacement, and acceleration with the award-winning Wireless Advanced Vibration Meter. Also, assess duty cycle and temperature for ongoing performance analysis.

4

Temperature Sensors

Get alerts when machine motors or production equipment exceed recommended operating temperatures with an Wireless Stan-dard Temperature Sen-sor. The sensor's leads range in length from three to 100 feet for various placements.

5

Infrared Motion and Occupancy Sensors

Maintain machine operator compliance by monitoring motion and occupancy in manufacturing workstations with Wireless Infrared Mo-tion and Occupancy Sensors. Detect move-ment around the fac-tory via passive in-frared (PIR) technol-ogy.

Remote Monitoring Helps Your Facilities Stay in Tip-Top Shape

1

Water Detection Sensors

A Wireless Water Detection Puck Sensor is ideal around toilets, sinks, boilers, and water heaters.
A Wireless Water Rope Sensor along walkways, walls, and pipes can detect water and help prevent damage from leaks.

2

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 with a waterproof lead up to 100 feet.

3

Duct Temperature Sensors

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

4

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. Measure boiler pump power draw too.

5

Open / Closed Sensors

Maintain security across your properties by monitoring the status of doors and windows. Wireless Open-Closed Sensors use a switch and trigger magnet to detect status. Be alerted right away when the status changes from your preset parameters in the software.

04/2021

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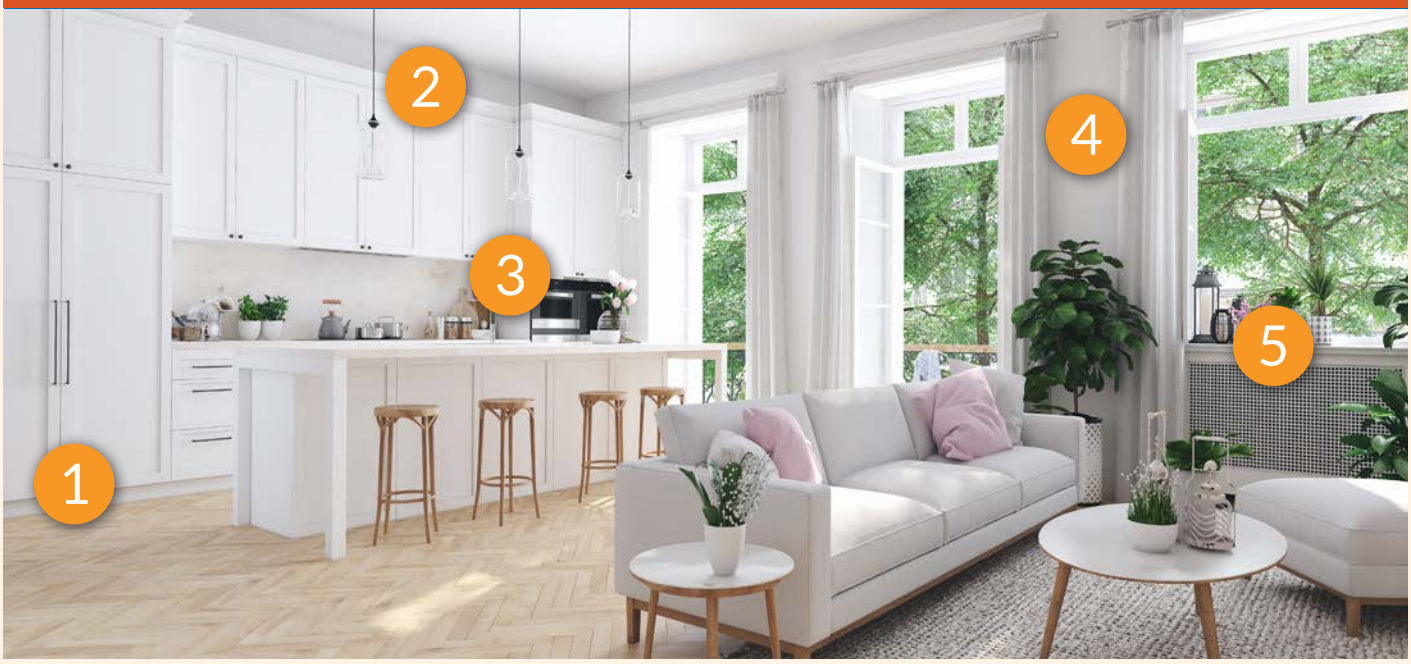
Remote Monitoring Helps You Keep Tenants Comfortable, Safe, and Satisfied



1

Water Detection Sensors

A Wireless Water Detection Puck Sensor is ideal around toilets, sinks, boilers, and water heaters. A Wireless Water Rope Sensor along walkways, walls, and pipes can detect water and help prevent damage from leaks.

2

Temperature Sensors

Chart your room and HVAC systems' fluctuating environmental conditions. The Temperature Sensor measures various HVAC split and packaged, hybrid heat pump, and ductless mini-split heat pump systems with a waterproof lead up to 100 feet.

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. Measure boiler pump power draw too.

4

Open / Closed Sensors

Maintain security across your properties by monitoring the status of doors and windows. Wireless Open-Closed Sensors use a switch and trigger magnet to detect status. Be alerted right away when the status changes from your preset parameters in the software.

5

Duct Temperature Sensors

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

08/2021

Remote Monitoring Delivers Peace of Mind When Caring for Seniors

1

Temperature Sensors

Monitor room and HVAC systems' fluctuating environmental conditions to keep older adults comfortable and safe. The Wireless Standard Temperature Sensor can be tailored to a variety of specific application needs.

2

Water Detection Sensors

An Wireless Water Detection Puck Sensor is ideal around toilets, sinks, boilers, and water heaters. Place an Wireless Water Rope Sensor along walkways, walls, and pipes to detect water and help prevent damage from leaks.

3

Motion / Occupancy Sensors

Know where an older parent is in their home immediately with an Motion Detection Sensor. Monitor movement in virtually any room, entryway, or area in and around homes using passive infrared technology.

4

Button Press Sensors

Give older adults a critical sensor to use in an emergency or when they need help. They can push an on-sensor button to trigger an alert via text, email, or call and see the on-unit LED light up, letting them know help is on its way.

5

Open / Closed Sensors

Maintain safety in and around a home by monitoring doors and windows. Wireless Open-Closed Sensors use a switch and trigger magnet to detect status. Be alerted when the status changes from a threshold in the software.

08/2021

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Sensors and Meters Help Turn Convenience into Better Business

1

Temperature Sensors

Standard Temperature Sensors measure a range of conditions from -40°C to +125°C (-40°F to +257°F), and our Low Temperature Sensors monitor -200°C to +162°C (-328°F to +325°F) with easy auto data-logging and graphing.

2

Open / Closed Sensors

You can know in an instant if a freezer, cooler, or refrigerator door has been left open. Our Open-Closed Sensor is ideal for lids, windows, and gates too. Keep all your food storage and restricted areas safe.

3

Food Probe Sensors

When you're working on getting good food into your customer's hands fast, temperature checks need to be quick and accurate. Our Wireless Food Probe Thermometer can do it and is 21 CFR Part 11B and HACCP compliant.

4

AC Current Meters

It's easier to know if your C-store equipment needs maintenance with an AC Current Meter. Available in 20-, 150-, and 500-Amp options, you can monitor abnormal power draw and fix it before failure.

5

Water Detection Sensors

A Wireless Water Detection Puck or Wireless Water Rope Sensor can help you keep employees and customers safe from slips and falls. And they can help prevent damage from a plumbing leak.

02/2021

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