PENN Connected

Monitor and optimize refrigeration equipment in the cloud.

Controlling what's cool for over a century

PENN®

As part of Johnson Controls, PENN® is a global leader in refrigeration controls. Our solutions have an outstanding, worldwide reputation for quality, reliability and innovation. In addition to a full range of solutions for temperature, pressure and air flow controls, you can count on us to support you with a global infrastructure and reach.

PENN Connected Refrigeration

Monitor and optimize all your refrigeration equipment across locations with PENN® cloud-based temperature and alarm management. The platform can connect with various IoT sensors and provide insights that assists your business in driving efficiencies. It allows you to meet local food safety regulations and increases efficiency for retail, healthcare, OEM refrigeration, food and beverage industry and others.

Software Platform

Gateway

Internal sensor

External sensor

Door sensor
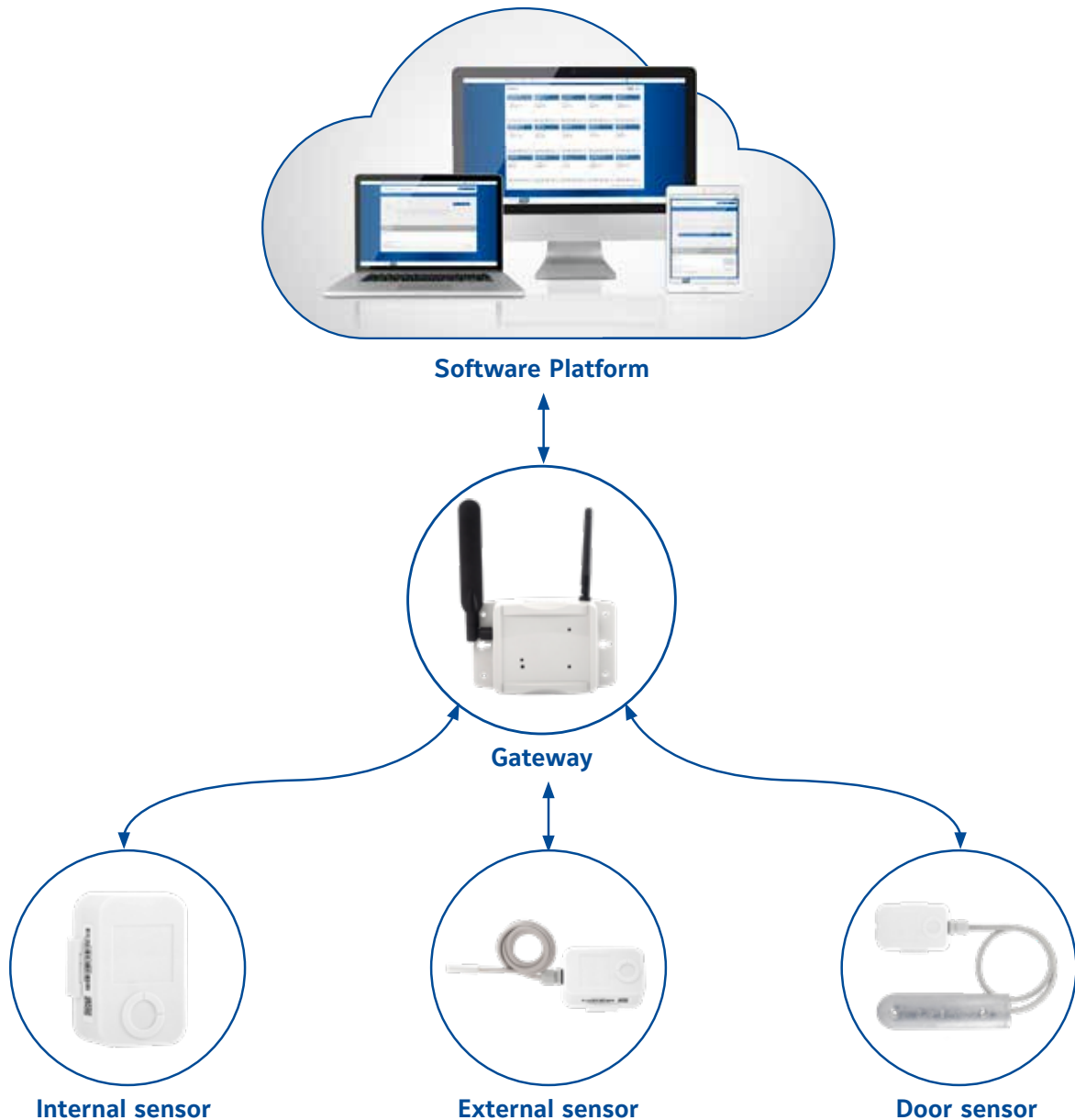
Benefits

Time-saving
The solution automates the recording of temperatures that reduces the need for manual checks which saves money.

Enterprise view
Access, compare and contrast data across multiple sites optimising performance and standards across the enterprise.

Predictive maintenance
The solution enables early intervention leading to reduction in stock loss and highlights potential issues with equipment.

Security
Data protection and privacy is paramount – we take pride in ensuring the integrity of your data and system at all times.

Service
Remote monitoring allows service technicians diagnose issues remotely that reduces the number of call outs to site.

Ease of use
The solution is easy to install via the installation application and the platform is easy to use. Minimal training is required.

Analytics
Using data trends to optimize your equipment and protect the food drives efficiencies to your bottom line.

Software as a Service
We operate a subscription model facilitating the evolution of the solution to meet the needs of a changing market.

Features

Enterprise view
View all your information in a way that has been customized according to the structure of your enterprise on a regional, national or international level.

Alarm management
View, access, and manage all the alarms in your system. A smart alarm configuration is available with time delays. A mobile application is also offered.

Remote access view
View the system remotely with your mobile device or laptop from anywhere. Access view can be restricted to unit or site depending on permissions.

Food Safety reporting
Download data from the system ensuring you are compliant with local legislation. Data can be downloaded by site or unit and for defined dates..

Alarm notifications
You will receive notification via SMS, email or automated phone call in the event of an alarm. There is an escalation workflow available to meet your process.

Data trending view
For example, alarming temperature readings pointing to a potentially faulty refrigeration device or door openings versus temperature for trends on merchandising alarms.
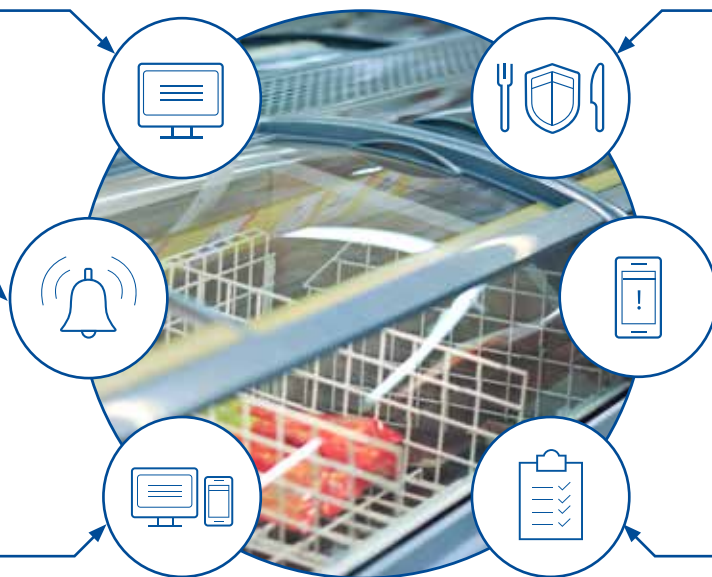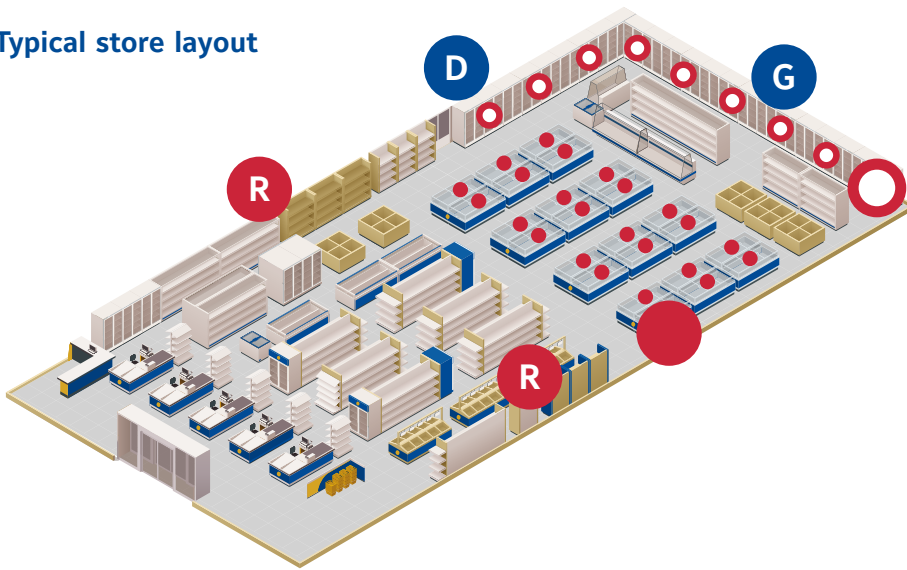
Hardware

PENN Connected uses the latest technology in IoT sensors. The hardware is wireless, battery powered and uses GSM for connectivity to the cloud. It is easy to install and commission a site on the cloud platform. The hardware comes calibrated to a NIST traceable standard and certified to local standards.

Typical store layout

G Cellular gateway
- Mains powered
- Based on GSM wireless engine
- SIM provided with your package
- Communicates wirelessly with sensors via a ZigBee network
- One Gateway links to 20 sensors
- Battery back up available

R Repeater
- Mains powered repeater extends the range of the wireless network
- Extends the gateways ability to connect to more than 20 devices
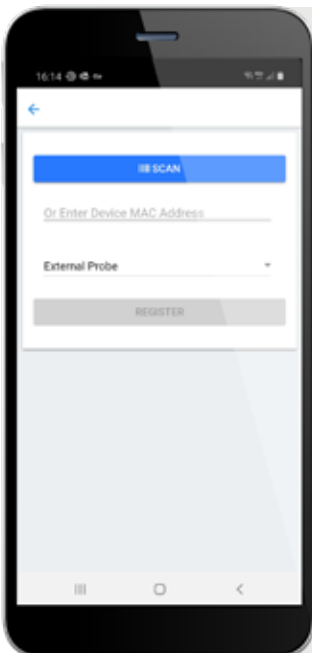
Internal temperature sensor
- Battery powered (Min 2 years)
- Accurate to +/- 0.5°C (0.9°F) and records temperatures between −35°C (−31°F) and 50°C (122°F)
- Measuring intervals between 5 mins and 6 hours

External temperature sensor
- Battery powered (Min 2 years)
- External probe (0.9m and 2.8m)
- Accurate to +/- 0.5°C (0.9°F) and records temperatures between −50°C (−58°F) and 100°C (212°F)
- Measuring intervals between 5 mins and 6 hours

D Wireless door sensor
- Battery powered (Min 2 years)
- Wireless

Installation Application

The installation app is used to install and commission the hardware. Register the Gateway so information is sent from a temperature sensor on your site to the Gateway, which links it to the PENN Connected system. To do this, complete the following steps:

1. Scan each sensor, name it, and configure it.

2. Set the alarm template for each of your refrigeration units.

3. The mobile app enables complete commissioning: install and commission any site, quickly and efficiently.

Applications

Retail
Supermarkets:
- Scenario 1. Install IoT sensors into all equipment to provide one solution on site and across the enterprise. This helps overcome sites with multiple controllers and systems. The system provides an easy to use solution with remote access.
- Scenario 2. Install IoT sensors to remote cabinets which are not connected to any system.

Convenience Store: Apply IoT sensors to remotely monitor the equipment on site and provide an easy to use interface to manage alarms and associated corrective action.

Food and Beverage
Provide an integrated solution, which remotely monitors and controls the temperature of the unit. The solution tracks the location of the device, providing you with peace of mind: always know where a unit is, whenever it is moved.

Refrigeration OEM
Provide a factory fitted integrated solution, which enables the OEM to sell their equipment as connected to a cloud solution. This allows the end customer to purchase monitoring without the hassle of retrofitting a solution.

Cold rooms
Provide an integrated solution that remotely monitors and controls the environment and protects the high value goods in the cold room. Monitor temperature, door openings and humidity to ensure your food is safe at all times.

Vaccine refrigeration
There is a legislative obligation to maintain the temperature of vaccines in the cold-chain, including maintenance of vaccine fridges. Our solution provides real-time data and alerts to monitor and protect the environment in which the vaccines are stored.

About PENN Connected

Explore PENN Connected's cost-effective solutions to keep walk-in coolers, freezers and reach-in cases performing reliably.

Avoid product loss, extend equipment life, and meet energy efficiency goals with dependable PENN® commercial refrigeration controls.

Contact us

For additional information, please visit www.penncontrols.com or contact us via our portal, http://www.penncontrols.com/connected-refrigeration.
To get more information, please contact your local Johnson Controls representative or PENN Controls representative.

About Johnson Controls Building Technologies & Solutions

Johnson Controls Building Technologies & Solutions is making the world safer, smarter and more sustainable – one building at a time. Our technology portfolio integrates every aspect of a building – whether security systems, energy management, fire protection or HVACR – to ensure that we exceed customer expectations at all times. We operate in more than 150 countries through our unmatched network of branches and distribution channels, helping building owners, operators, engineers and contractors enhance the full lifecycle of any facility. Our arsenal of brands includes some of the most trusted names in the industry, such as Tyco®, YORK®, Metasys®, SABROE®, ZETTLER® and Sensormatic®.

For additional information, please visit www.johnsoncontrols.com or follow us @johnsoncontrols on Twitter.