HUSSMANN®

CaseConnect®

Digital Solutions Smart IoT Sensors

Innovating Climate Solutions for A Better Future

CASECONNECT®
BETTER DATA = SMARTER SOLUTIONS

Table of Content

SUPERMARKET

OVERVIEW

Designed to empower retailers with access to additional real-time data on refrigerated cases.

CaseConnect® integrates physical IoT sensors into refrigerated cases and leverages advanced SaaS cloud technology to enable monitoring, early detection of issues and enable proactive maintenance.

The key focus of CaseConnect® is to:

- **Reduce energy consumption, operational and maintenance costs**

- **Provide customer engagement**

It compliments case controller data.

CaseConnect® is the solution to retailer challenges.

CaseConnect® was designed to address several retailer challenges by optimising refrigeration energy efficiency, enabling predictive maintenance through critical system monitoring, and enhancing visibility into consumer behaviour.

	Problem	CaseConnect® Solution
Sustainability & Environmental Impact	Sustainability drive to reduce energy consumption is a current retailers challenge that will only increase	**Energy Savings** CaseConnect® helps to uphold sustainability goals by reducing energy consumption. CaseConnect® optimises the defrost cycle and optimises return air via alerts and unnecessary case openings using IoTs. It measures Ice build on evaporators, blockages on return air grill and blind openings.
Maintenance Costs	ANZ Maintenance costs are increasing putting financial strain on retailers.	**Proactive Maintenance** CaseConnect® diagnostic and data analysis helps optimising technician's callouts and service cycles. CaseConnect® reduces cost by enabling monitoring and predictive and proactive maintenance. Our IoTs for fan motors, drain blockages, product temperatures and door openings are optimised for this.
Consumer Behaviour Insights	Positive consumer engagement enables success for the retailers so understanding consumer behaviour helps will help in this engagement.	**Consumer Insights** CaseConnect® can provide visibility into consumer behaviour with advanced analytics. CaseConnect® improves consumer engagement actions by providing visibility on consumer behaviour using IoTs for measuring people movements and door opening/closing events.

Image:
Rear view of refrigerator
with CaseConnect® installed.

Save More.
Waste Less.
Sell More.

Hussmann CaseConnect® is an advanced solution leveraging IoT (Internet of Things) and SaaS cloud technology to provide real-time monitoring and control of your refrigeration equipment.

It's capabilities empower retailers to prevent costly breakdowns, enhance operational efficiency, reduce energy costs, and ensure food safety compliance providing a seamless and reliable refrigeration management solution.

The 3 main components of CaseConnect® Architecture.

The CaseConnect system operates with the combined components of hardware & IoT sensors, cloud software and data analysis to provide real-time information.

Hardware & IoT

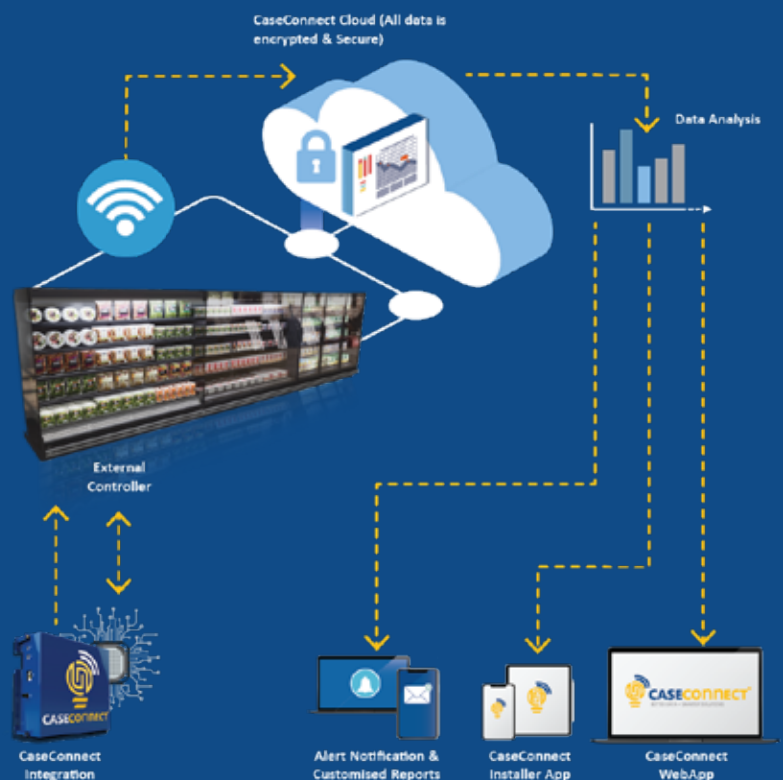CaseConnect®'s Hardware IoT includes Control Box and 8 IoT sensors.

- Retailers can choose from 8x IoTs
- Control Box provides real-time data
- Pre-fitted or Retrofit options
- Independent of Case Controller

| Defrost On Demand IoT | Fan IoT | Product Temperature IoT | Drain IoT |
| Door IoT | People Counter IoT | Air Return Blockage IoT | Night Blind IoT |

Cloud Software

CaseConnect®'s Cloud receives, processes and stores data from the IoT sensors.

- Advanced analytics in the cloud
- Monitoring and alerts to third party
- Open, send data to own cloud
- Alerts/WO for Service Teams

CaseConnect Cloud (All data is encrypted & Secure)

Data Analysis

External Controller

CaseConnect Integration

Alert Notification & Customised Reports

CaseConnect Installer App

CaseConnect WebApp

Data Analysis

CaseConnect®'s Web Application offers data analytics, actionable insights into refrigeration performance, energy consumption, and maintenance needs, empowering retailers to make data-driven decisions.
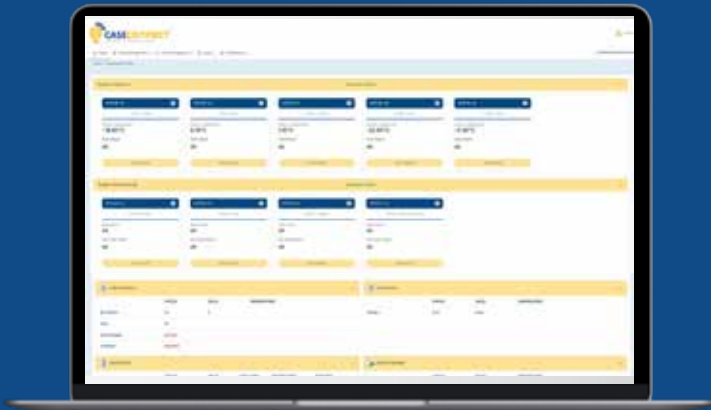
Revolutionising retail refrigeration management through cutting-edge technology.

An **initial suite of 8 IoT tailored sensors** designed for peak performance, precise monitoring and control of your refrigeration systems.

CASECONNECT®

	01	02	03	04
	Defrost On Demand	**Fans**	**Product Temperature**	**Drain**
	• Adaptable to high humidity • Automatic Ice Detection	• Maximise equipment uptime • Avoid unsafe product temperatures and wastage	• Monitor Case Temp in Real Time • Prevent Product Wastage	• Automatic Drain Blockage Detection • Avoids poor Hygiene & Customer Impact
Proactive Maintenance	✓	✓	✓	✓
Energy Savings	✓	✓		
Sustainability	✓	✓	✓	
Sales and Marketing				✓

	05		06		07		08

05 — Door

- Door Open Alarm
- Planogram Success Measure

06 — People Counter

- Insights of High Flow Areas
- Planogram Success Measure

07 — Air Return Blockage

- Return Air Block Alarm
- Optimize Performance

08 — Night Blind

- NB Open Alarm
- Fan Motor Energy Reductions

	Door	People Counter	Air Return Blockage	Night Blind
	✓		✓	
				✓
				✓
	✓	✓		

8 Initial IoT Sensors

Defrost On Demand   01

• Energy saving

The system uses advanced technology to detect exactly when the evaporator coil requires defrosting, based on the individual case conditions. We simply measure ICE!

How does it work?

This IoT detects ice formation on the evaporator fins to trigger an On-Demand Defrost cycle. This is done via a Capsense sensor that will record the capacitance change between sensor and evaporator fins when ice occurs, thus triggering a response to the cases controller.

Benefits

✓ Increase case efficiency resulting in energy saving and lower overall costs.

✓ Avoid temperature fluctuations and prevents microbe growth in products.

✓ Ability to adapt to high humidity environment. Also includes fail safe option when used with

✓ Temperature sensor to trigger an on demand defrost.

✓ Eliminates unnecessary defrosts by detecting best possible times from defrost and allows for defrost cooldown periods.

✓ Reduce Carbon Emissions through energy savings.
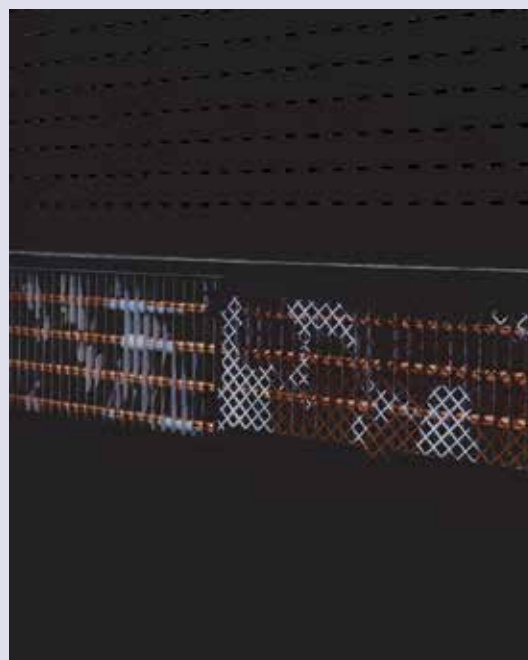
Fan   02

• Focused maintenance and running

CaseConnect® automatically detects the onset of drain blockages and prevents overflow by notifying your service staff.

How does it work?

This IoT monitors the current usage by all fans in the case and report abnormality. This is done by using a current sensor to calculate the current passing through to measure speed at which the fan is operating at.

Benefits

✓ Rarely signs of maintenance & notifications

✓ Planned service based on total run time.

✓ Avoid unsafe product temperatures and wastages from abnormal fan speed/action notifications.

✓ Maximize equipment uptime by monitoring and using the different fan speeds when its actually needed as supposed to full time. Increases energy efficiency.

Product Temperature

• Saving energy and costs

CaseConnect® intelligent monitoring of operating temperatures in equipment provides alert notifications in cases with abnormal operating temperature conditions. It takes care of compliance costs with minimal increase in cost.

How does it work?

This IoT is a waterproof digital temperature sensor, that's used to monitor product temperature as well as act as a fail-safe option for the on demand defrost application.

Benefits

- ✓ Monitor case temperature in real-time for compliance
- ✓ Prevent product wastage
- ✓ Detecting unsafe temperature
- ✓ Air off Fail Safe for DefrostMaximize equipment uptime by monitoring and using the different fan speeds when its actually needed as supposed to full time. Increases energy efficiency.
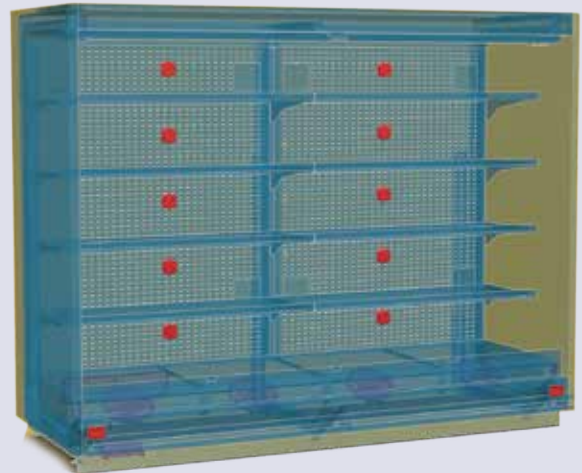
Drain

• Avoids Asset Downtime

CaseConnect® automatically detects the onset of drain blockages and prevents overflow by notifying your service staff.

How does it work?

This IoT detects water accumulation in the basin and notify as drain blockage. This is done using a Capsense sensor that will detect the capacitance of the rising water to send an alarm notification in advance..

Benefits

- ✓ Reduce preventative maintenance costs by servicing only the cabinet with a blockage and knowing what the issue is in advance.
- ✓ Reduce costs by eliminating the need for expensive chemical drain clearing tablets.
- ✓ Avoid the cost of unloading full case line ups for deep
- ✓ Minimise customer disruption and lost revenues
- ✓ Eliminate flooding and store damage

DRAIN SENSOR

![CASECONNECT — BETTER DATA = SMARTER SOLUTIONS]

8 Initial IoT Sensors

Door 05

- **Saving energy and costs**

Our CaseConnect® Door IoT ensures food preservation is maximized by sending an automatic alert notification to your team should a door be left ajar or open.

How does it work?

This IoT detects if the doors are open/closed using a Hall sensor and a magnet, this works similar to a touch sensor. When the doors are closed the Hall sensor will detect the magnet and read closed, when the magnetic is not detected, it will read open.

Benefits

✓ Case efficiency by ensuring the door is always closed will improve energy savings.

✓ Improvement in temperature control resulting in better food storage quality.

✓ Alongside the people counter IoT, the ability to measure of Planograms to understand how many people are opening doors and how they move through the supermarket.

People Counter 06

- **Customer metrics**

The CaseConnect® IoT People Counter monitors the measurement of customer traffic flow.

How does it work?

This IoT is used to monitor customer traffics and case usage trends. This works by using Lidar sensors that Counts the number of people passing by or stopping by the case.

Benefits

✓ Insights of high traffic areas

✓ Assists in-store marketing to better plan and increase sales

✓ Indications of dwell time and traffic lead to real-time planogram feedback

✓ Future engagement can be enhanced by integrating Hussmann Digital Labels and Video rails

Air Return Blockage

• Increased case efficiency

With CaseConnect®, airflow is monitored to ensure optimal air return will automatically generate an alert notification.

How does it work?

This IoT detects products and object blocking the airflow at air return grill. This works using an infrared light from each end of the case to check if there are any obstacle withing the air inlet and notifies accordingly. These live results can be viewed and tracked through our CaseConnect® Portal.

Benefits

✓ Reduces adverse air flow deflection from blockages that could potentially impact case performance and energy efficiency and increases energy consumption.

Night Blind

• Saving 14% of your energy costs

CaseConnect® technology detects the night-blind position and automatically reduces the evaporator fan speed to lower your energy consumption in our new P-Series Cases.

How does it work?

This IoT detects if the night blind is open/closed using an infrared (IR) sensor that detects the thickness of the blind by measuring the distance the light returns to the sensor in Volts (V).
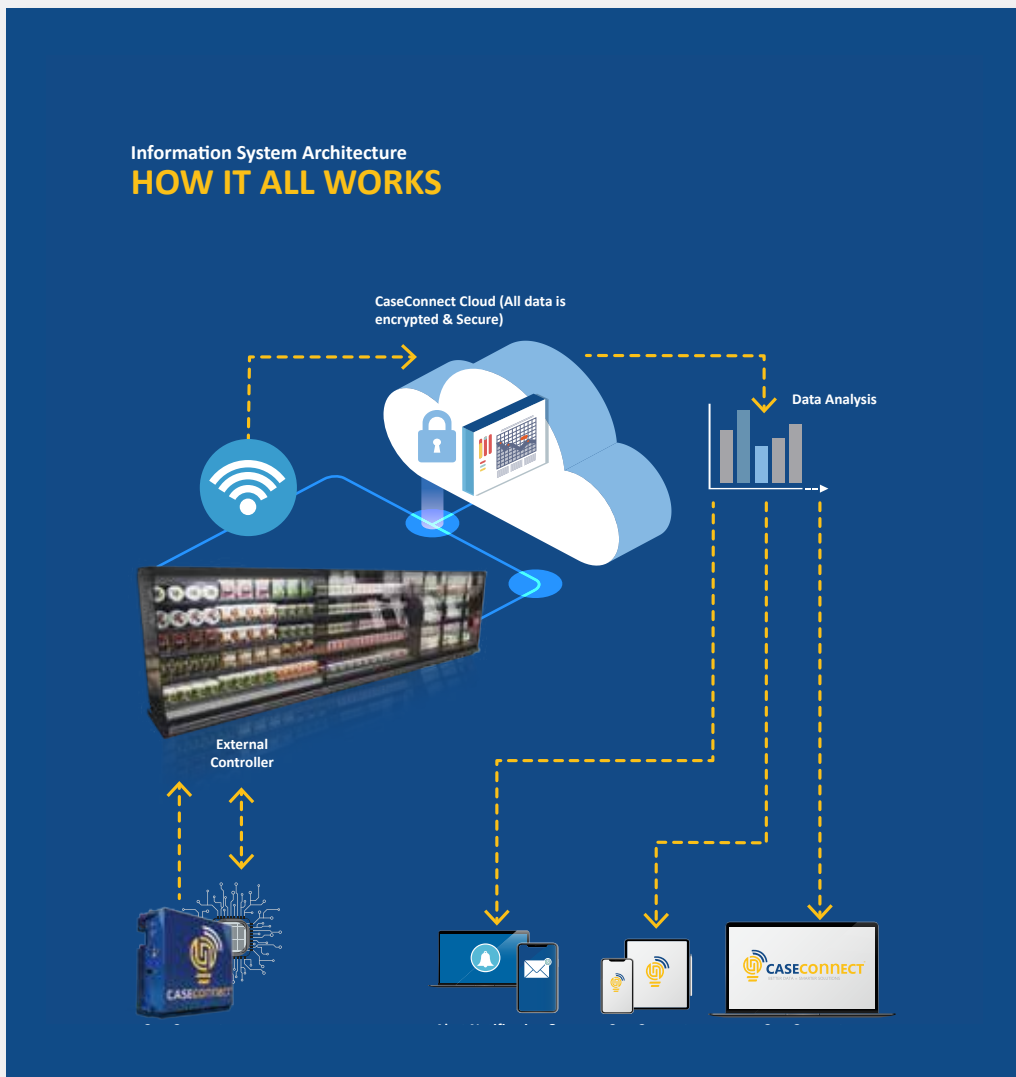
Benefits

✓ Being able to increase case efficiency by ensuring the blind is closed during off hours, which will decrease fan motor speed and cooling usage and increase energy savings.

✓ Maintain safe internal temperatures at night by decreasing external and air that can interrupt airflow and cause abnormal temperature changes.

✓ Align with store operating hours for alarm messages.

Information system architecture.

A secure and integrated cloud based software allowing for encrypted real-time data.

Information System Architecture
HOW IT ALL WORKS

CaseConnect Cloud (All data is encrypted & Secure)

Data Analysis

External Controller

Access to CaseConnect® web application and dashboard.

The web application can be accessed remotely allowing seamless setup and customised reports at anytime.
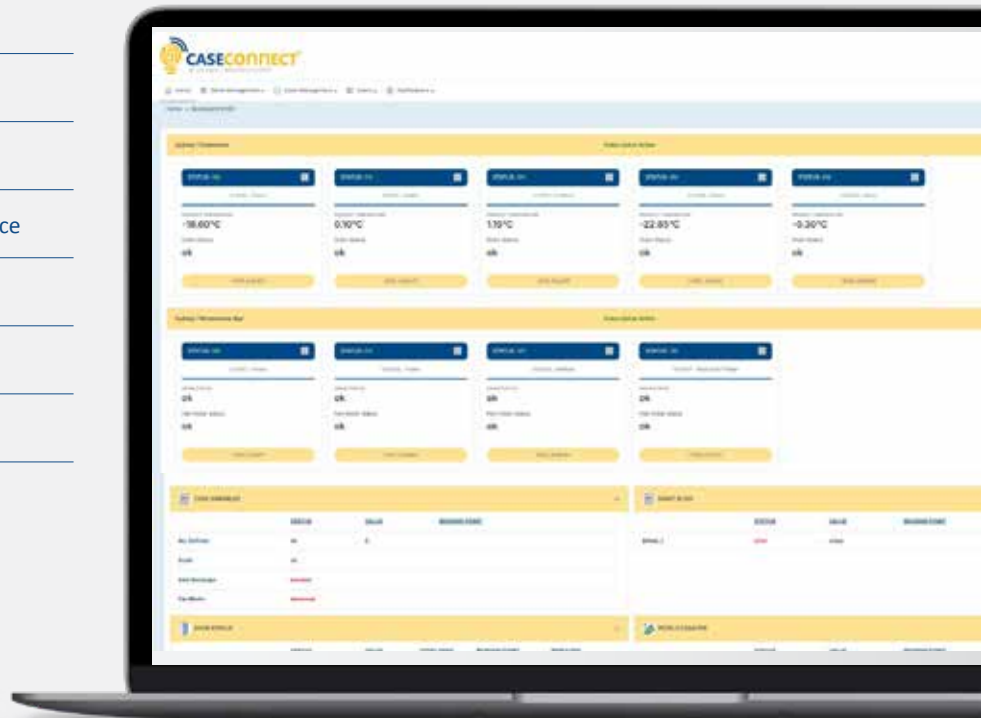
Data analytics

In-depth reporting

Actionable insights into refrigeration performance

Insights into energy consumption

Insights into maintenance needs

Assists in making data-driven decisions

CASECONNECT®
BETTER DATA = SMARTER SOLUTIONS

Designed to address retailer challenges by optimising refrigeration energy efficiency, critical system monitoring, maintenance and enhancing visibility into consumer behaviour.

SCAN FOR **DEMO**
OR **FREE TRIAL**
ON NEW CASES

HUSSMANN®