constellation technologies

# Gen3 IoT Smart Device

## Critical Data Capture with our Versatile Devices

# Find better ways to serve your business and customers with our new Gen 3 product line.

Deploying IoT devices across your business will generate new data-driven insights, enabling you to make better decisions and develop new business opportunities. With the right idea and implementation, you can reap the benefit of IoT solutions to address real-world challenges.

NSW GOVERNMENT IGA Barwon Health CHANNON RACV

Constellation Technologies has been **a leading international provider of IoT technology solutions** to government and industry for **more than a decade.**

# Our New Gen3 IoT Product Line

Offering rugged, cost effective, low-powered IoT devices that can capture critical data points across a wide range of applications, providing our customers with reliable and flexible solutions that support multiple communication networks and sensor customisation.


## Getting Started is Easy

Simply turn on our device. Install it near the application you would like to monitor.

The device instantly starts transmitting the data to the MeridianCT cloud solution.

The cloud solution provides accurate data reporting, with customisable dashboards, alarms and alerts.

# End to End IoT Solutions

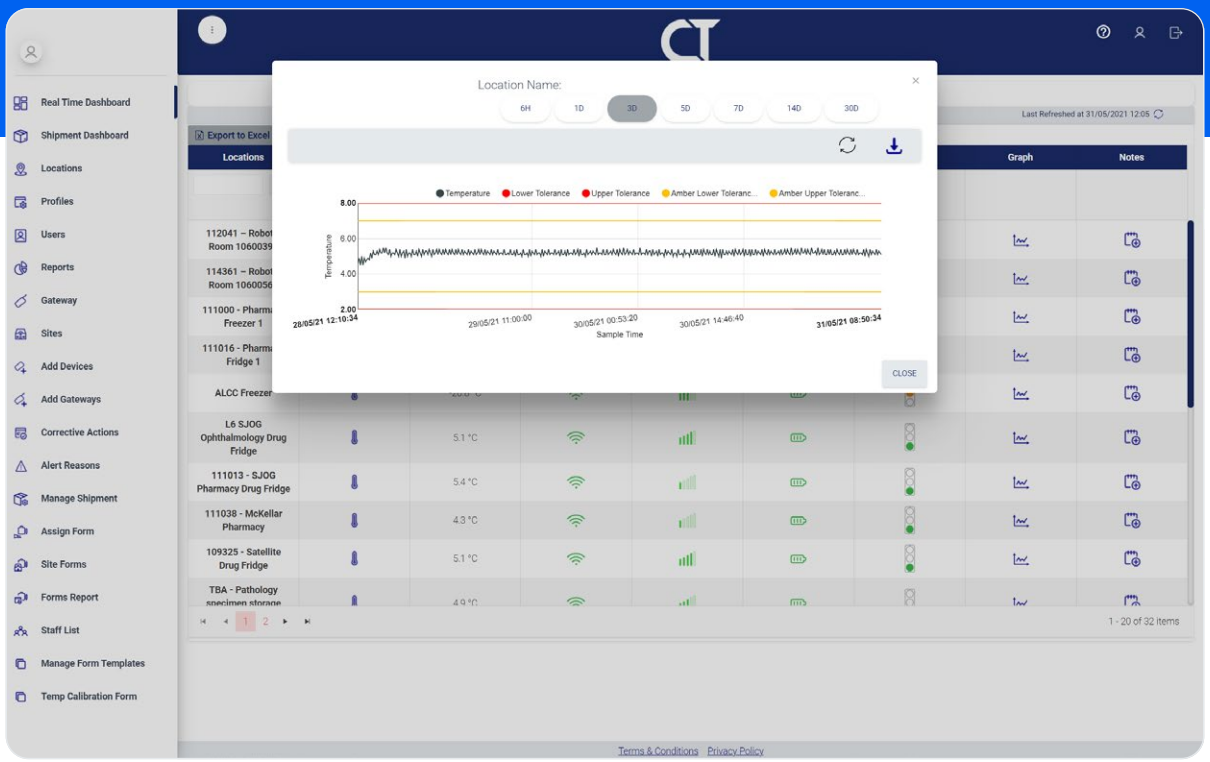
## Software Flexibility

Utilising our MeridianCT cloud-based software platform and mobile application, users can enjoy the convenience of an end-to-end IoT data solution to connect, monitor and visualise their data.

CT also offer the build of customised and integrated IoT applications to meet any customer requirements.

## API Integration

Alternatively, we offer the flexibility to integrate our Gen3 IoT devices into your own platform via our seamless API service.




Custom IoT Application Dashboard

# Key Features

- **Accurate cost-effective monitoring at your fingertips with a simple monthly subscription.**
- **Receive near real-time alarms to identify potential issues and take proactive action.**
- **Generate reports and easily share information.**

## Easy to Install

CT's IoT Smart Device's are wireless battery powered IoT devices, designed for easy install. Simply turn on the device and install it near your application to provide continuous automated monitoring.

## Compliance Alerts

Benefit from customisable threshold alerts sent to you via SMS and email.

## Visualisation & Reporting

Dynamic visualisation and reporting platform for desktop and mobile, allowing you to easily share information with key stakeholders, and generate data for any defined time period.

## Secure & Encrypted

Benefit from CT's proprietary encryption algorithm and protocols to ensure your data is safe and secure. We take data sovereignty seriously, and only host data within Australian data centres.

## M8 9 Pin Socket

CT Gen3 IoT devices come with an innovative M8 9 pin socket with an IP67 cover. The socket allows users to connect via an M8 Plug multiple UART digital (5) and analogue (2) sensors, offering true sensor customisation in a single device.

## In-built Sensors

All Gen 3 IoT devices come with an in-built accelerometer and temperature sensor with digital calibration. Supports -30°C (-22°F) to 60°C(140°F).

GPS location services available (NB-IoT & CAT-M1).

# Sensor Flexibility

CT Gen3 IoT devices offer the highest versatility within the IoT device market. All of our Gen3 devices come standard with a built in M8 9 pin socket, allowing users to customise and connect multiple sensors for a wide range of applications. Our solutions support almost any 0-5 VDC third party analogue or digital sensor available in the market. We currently offer several options for sensor integration.

## Temperature Probe

The CT PT100 RTD Temperature Probe is one of the most popular temperature probes available on the market. This device is not affected by external noise, and provides and extremely high level of accuracy.

**Uses: Large Cool Rooms and Freezer Rooms, High Temperature Sensitive environments, Ultra-low Freezers, Glycol Tanks.**

- Temperature Range: -200°C to 300°C
- Temperature Sensitivity: 0.1°C
- Temperature Accuracy: +/- 0.5°C

## Temperature & Humidity Sensor

CT's Temperature and Humidity Sensor uses a capacitive humidity sensor and a high precision NTC temperature sensor to provide highly reliable and stable readings.

**Uses: HVAC, Dehumidifier zones, fruit and vegetable monitoring, chocolate production, research and medical storage rooms.**

- Humidity Range: 0 – 99.9% RH
- Temperature Range: -40°C to 80°C
- Humidity Accuracy: +/- 2% RH
- Temperature Accuracy: +/- 0.5°C
- Response Time: <6s

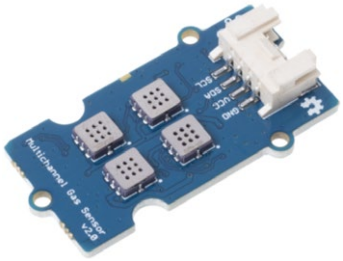
## Ultrasonic Sensor

Ultrasonic Sensors are one of the most versatile sensors in the sensing department. It is suitable in many use cases, not affected by external factors such as colour, temperature, transparency, and material.

With low power consumption and stable data output, it can be used for many non-contact measurement applications.

**Use cases: Liquid Level Measurement, Positioning Control, Depth Measurement, Fill Measurements, Bin height measurements.**

– Measuring Range: 5cm – 200cm
Response Time: <2s
Accuracy: <1mm



## Gas Sensors

Ambient gas detection and measurement has become essential in diverse range of applications, from preventing accidents to air hazard warning. Our CT Multi-Channel Gas Sensors can be used to read ambient levels of critical pollutants and other gases, suitable for both indoor and outdoor use.

**Uses: Carbon Monoxide Sensing, Carbon Dioxide Sensing, Ammonia Sensing, VOC**

– CO2 measurement range:
0 – 40'000 ppm
– Accuracy: 400ppm – 10'000ppm,
± (30 ppm + 3%)
– Repeatability: 400ppm –
10'000ppm, 10ppm
– Response time: τ63%, 20 s

## Soil Moisture

Our innovative corrosion-resistant Soil Moisture Sensor measures the level of water tension present in soil, it also includes an inbuilt temperature sensor. Utilise this solution to detect and prevent water stress within your agricultural or environmental application.

**Use cases: Remote crop management, Agriculture, Agronomy, Greenhouse Monitoring, Indoor Plant Management, Medical Cannabis Plant Management.**

– Moisture Measuring Range:
0 ~ 100%(m3/m3)
– Moisture Measurement
Accuracy: ±5% (m3/m3)
– Working Temperature
Range: -30°C ~ 70°C
– Response Time: <1 second

# Gen3 IoT Device Specifications*

| Spec | GEN 3 LPWAN Sensor | GEN 3 LoRaWAN Sensor | GEN 3 Sigfox Sensor |
|---|---|---|---|
| **Network Technology** | CAT-M1 (LTE-M) and NB-IoT | LoRaWAN | Sigfox |
| **Dimensions** | 120(L) × 61(W) × 35(H) mm | 120(L) × 61(W) × 35(H) mm | 120(L) × 61(W) × 35(H) mm |
| **Sampling Intervals** | Default: 15 minutes. Frequency is adjustable. | Default: 15 minutes. Frequency is adjustable. | Default: 15 minutes. Frequency is adjustable. |
| **Reporting Intervals** | Default: 4 Hours. Frequency is adjustable. | Default: 2 Hours. Frequency is adjustable. | Default: 2 Hours. Frequency is adjustable. |
| **Battery** | Min. 1 year per full charge (based on default sampling and reporting intervals) | Min. 2 year per full charge (based on default sampling and reporting intervals) | Min. 2 year per full charge (based on default sampling and reporting intervals) |
| **Rechargeable** | Yes. 5-6 Hours for full charge. | Yes. 5-6 Hours for full charge. | Yes. 5-6 Hours for full charge. |
| **Enclosure** | Food Grade. IP66 Enclosure | Food Grade. IP66 Enclosure | Food Grade. IP66 Enclosure |
| **Gateway** | No Gateway Required. Directly communicates via readily available CAT-M1 or NB-IoT cellular network. Currently partnered with Telstra and Vodafone. | CT LoRaWAN Gateway. Backhaul Network can be configured to be LTE, Ethernet or WiFi. | Sigfox Gateway Required. Backhaul Network can be configured to be LTE, Ethernet or WiFi. |
| **In-Built Sensor** | Temperature Sensor with Digital Calibration. -30°C (-22°F) to 60°C(140°F) | Temperature Sensor with Digital Calibration. -30°C (-22°F) to 60°C(140°F) | Temperature Sensor with Digital Calibration. -30°C (-22°F) to 60°C(140°F) |
| **In-Built GPS** | Satellite GPS with Accelerometer. (Programmed to take GPS upon movement at every sample interval) | No | No |
| **Sensor Flexibility** | Any 3V or 5V Sensor with UART capacity can be utilized with this device. | Any 3V or 5V Sensor with UART capacity can be utilized with this device. | Any 3V or 5V Sensor with UART capacity can be utilized with this device. |

*Specifications are not warranted and are subject to change without notice.

# Talk to our Gen3 IoT Smart Device Specialist.

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