



**PIGEON**  
P L E X



DATASHEET

# PENGUIN+

IoT 4G Edge Controller and communications gateway designed for seamless integration into compatible Danfoss ERC cooler controllers.

## Features and Benefits

- Universal IoT Edge device.
- LiPo battery.
- Internal Wi-Fi and Bluetooth antennae. External 4G antenna by SMA connector.
- Location tracking via GSM triangulation or Wi-Fi.
- Configurable data update interval.
- 4G LTE CAT 1
- Wi-Fi 802.11 b/g/n
- Bluetooth 4.2
- Powered by, and communicates with compatible Danfoss ERC Controller over single connector.
- One-Wire TTL Modbus (Default Communication Method).
- 1 x RS485 port (Optional).

## Technical Overview

Penguin+ is a low power, IoT edge controller and communications gateway with Wi-Fi and Bluetooth designed to interface with Danfoss controller via single TTL interface.

Wi-Fi location tracking and geo fencing. Wi-Fi configurable modes - Location Tracking and Webserver. Modbus communication by default is established via TTL to a Danfoss controller using a standard Danfoss 3 wire cable (12V, Data, GND).

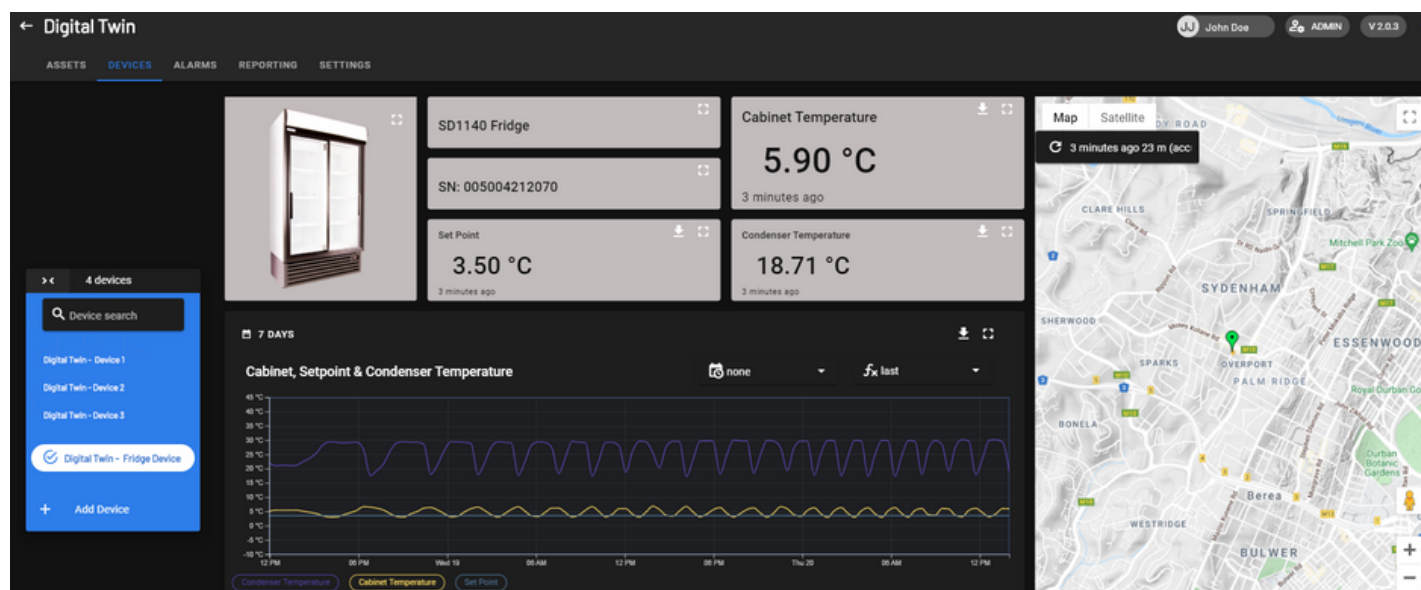
Configuration via Pigeon Plex Cloud Console with Firmware updates Over The Air (FOTA) for reduced maintenance costs.



# Technical Overview

Industry standard MQTT with configurable QoS allows for data costs to be matched to the value of the data. Also, directly integrates into Console-IoT for dashboarding, visualisation, alarming and notification via SMS/Email.

Example use case: Retrieve cooler set point and cabinet temperature from the Danfoss ERC controller, sending every few minutes to the cloud. Location is constantly monitored via Geolocation services using mobile networks and Wi-Fi. In the case of Console-IoT, all data is then visually represented on dashboards, with high-temperature alerts being sent to managers via SMS.



# Specifications

<b>Power Supply</b>	12V 200mA (power from Danfoss comms port)
<b>Battery</b>	4.2V Li-Ion 1100mAh
<b>Location</b>	Mobile Network triangulation and/or Wi-Fi triangulation. < 5km with mobile network triangulation. < 500m with Wi-Fi triangulation.
<b>Communications</b>	LTE: • CAT1 B1/B3/B8 Bluetooth v4.2 (BLE): • 2.4GHZ - 2.4835GHZ Wifi: • 802.11 b/g/n • 2.4GHZ - 2.4835GHZ
<b>Enclosure</b>	72H x 49W x 25D mm Material FRABS Color Black Weight 100g including Danfoss Cable
<b>Packaging Dimensions &amp; Weight</b>	110L x 90W x 100D mm 150g LTE Paddle Antenna 170L mm 50g (Supplied Separately)
<b>Environment</b>	IP31 Compliant -10°C to 40°C
<b>RS485</b>	1 (Alternative Option) ¼ load RS485 chipset
<b>Installation</b>	Install out of direct heat path generated by cooler equipment. Note operating temperature limits.