

# IoTBox

Product Information and Specification Sheet  
4 September 2018



**Document name** IoTBox Spec Sheet  
**Version** IoTBox AG Rev C  
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**Created by** Acea Quigg  
**Approved by** Acea Quigg

### Version History

<u>Date</u>	<u>Version</u>	<u>Author</u>	<u>Description of Change</u>
10/09/2016	1	Acea Quigg	IoTBox v.1
29/03/2017	2	Acea Quigg	IoTBox v.2
14/09/2017	3	Acea Quigg	IoTBox v.3
05/10/2017	4	Acea Quigg	IoTBox v.4
21/12/2017	5.3	Acea Quigg	IoTBox v.5.3
04/09/2018	AG Rev C	Acea Quigg	IoTBox AG Rev C

## Low power IoT mesh sensor data

The IoTBox allows for low powered sensing, monitoring and GPS tracking of all the assets on your site in real-time. IoTBox will send periodic updates to the Integrated Management System, where you can view, monitor and control all of your on-site generators, pumps, bores, meters and lighting towers in real-time.



## Sensor Data

Interface your IoTBox with a multitude of hardware. Sense and display readings such as:

- Flow Rates - using analog voltage
- Pressure - using analog voltage
- Pump/generator state - using external device voltage
- Temperature – onboard sensor
- Level - using ultrasonic sensor
- Current - using analog voltage

*\*IoTBox has a 3-channel ADC capable of measuring voltages up to 40v DC. Any sensors will need to have their outputs scaled to this voltage to be read without an extra hardware/sensing circuitry. There are currently up to 7 available input/output pins that can be configured to suit almost any sensing application or hardware type.*

## Mounting Options

The small form factor and ruggedness of the IoTBox, with its IP67 rating, allows it to be installed in locations where traditional IP connected tracking hardware or sensing devices couldn't. IoTBox is designed to be mounted externally on a metal or solid surface with bolts or screws.

## Multiple Interfaces

- GPS
- Up to 3 Analog inputs (optional)
- Up to 3 digital IO pins (optional)
- 802.15.4 IoT Mesh
- Voltage sensing inputs
- Onboard Temperature sensor

## Support for Integrators

IoTBox is fully supported by the IMS platform and will allow users to have access to real-time location and IO data. When used with IMS, all data is published to a JSON http end-point, allowing developers and integrators to efficiently access data programmatically for integration with 3<sup>rd</sup> party systems.

## Pricing and Extras

Units:	IoTBox AG Rev C
1-20	\$650
21-50	\$625
51+	\$600

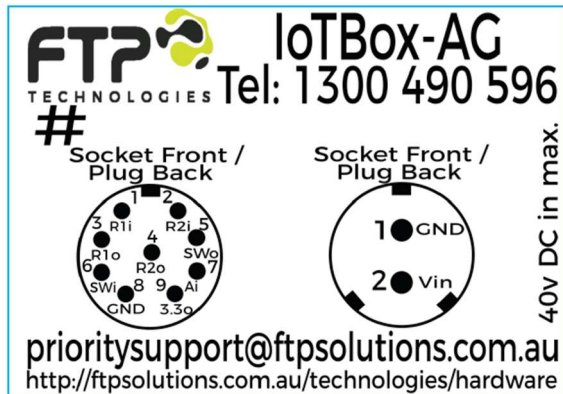
Price includes 4dBi omni antenna

Extras:	
IP67 ultrasonic sensor, 5m range	\$220 per unit
IP67 ultrasonic sensor, 10m range	\$320 per unit
Solar powered mounting kit	\$250 per unit
7 dBi omni antenna	\$200 per unit
TracBox IoT Gateway	\$700 per unit

## Example usage



## Pinouts



Left Socket	Function
1	Relay 1 - In
2	Relay 2 - in
3	Relay 1 - out (switched)
4	Relay 2 - out (switched)
5	Switch 1 - voltage out (3.3v)
6	Switch 1 - voltage in (3.3v)
7	Analog 1 - voltage in (40v max)
8	Ground - out
9	3.3v - out

## Technical Specifications

<b>Name:</b>	IoTBox AG Rev C
<b>Mounting:</b>	Mounting holes
<b>Operational Temperature:</b>	-40 to 85 degrees C
<b>Frequency range:</b>	15 x 2Mhz ISM 2.4Ghz band, DSSS
<b>Tx Range:</b>	~1-5km with 5dBi antenna, 30km max.
<b>Tx Power:</b>	Up to 20dBm
<b>Input Voltage:</b>	6 - 40v DC
<b>Fuse:</b>	Self-healing 400ma poly fuse
<b>Current Draw:</b>	<1.27ua sleep, 22ma Rx, 150ma Tx on @ 3.3v DC
<b>Real Time Clock:</b>	Yes. GPS time sync capable
<b>Onboard Storage:</b>	64k
<b>Onboard RAM:</b>	4k
<b>CPU Cores:</b>	1 core
<b>CPU Clock Speed:</b>	32Mhz
<b>ADC Resolution:</b>	10bit
<b>ADC Channels:</b>	3, 40v max.
<b>GPIO Channels (digital):</b>	3
<b>GPS Chipset:</b>	Venus828F
<b>GPS Channels:</b>	167 channels
<b>GPS Accuracy:</b>	2.5m standard, <1m with SBAS + PPP
<b>GPS Rx Sensitivity:</b>	-165dBm tracking, -148dBm cold start
<b>GPS Baud Rate:</b>	115200/9600
<b>External GPS Antenna:</b>	SMA Female, active 3.3v



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