



# Victoria's On-Farm Internet of Things Trial

Catalogue of Apps & Devices

November 2020

AGRICULTURE VICTORIA





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# Introduction

## Welcome to the Catalogue of Apps & Devices.

The catalogue has been developed by the Department of Jobs, Precincts and Regions (the department) to support the On-Farm Internet of Things (IoT) Trial.

The catalogue contains the range of IoT technologies available to farmers under the On-Farm IoT Trial. Farmers taking part in the trial can select products from the catalogue to test on their farm, supported by a grant from Agriculture Victoria.

The catalogue is not intended to represent all IoT technology available on the market, or to be a list of the latest technology. During preparations for the On-Farm IoT Trial, Agriculture Victoria spoke to farmers and industry leaders about their experiences with digital technology. Many farmers felt that they had not had opportunities to learn about digital technology and how to reliably use it, and that this was preventing them from adopting digital technology on their farm. Farmers also told Agriculture Victoria they were overwhelmed with the amount of technology available to them. The catalogue has been developed as an aid to make it easier for farmers to choose apps & devices under the trial.

To develop the catalogue, the department carried out a market engagement process inviting IoT technology suppliers to submit a proposal for their products to be included in the On-Farm IoT Trial. Any supplier of IoT technology could make a submission. Thousands of products from dozens of suppliers were submitted for consideration. An assessment team carefully evaluated each submission to determine the list of technologies and suppliers that would be included in the catalogue.

## What is Victoria's On-Farm IoT Trial?

The trial is part of the Victorian Government's \$27 million investment in digital agriculture. The trial is supporting Victorian farms to adopt IoT and test the on-farm benefits of IoT technologies across horticulture, sheep, dairy and broadacre cropping. It will investigate issues ranging from access to a secure network connection through to how IoT can be used in the day-to-day management of a farm. Supporting farmers to capitalise on the opportunities of digital technology is important to ensure Victoria's agriculture sector remains globally competitive as digital agriculture becomes commonplace.

If you are taking part in the trial, Agriculture Victoria will partner with you to invest in IoT technology and evaluate the impact of IoT on the performance of your farm business. You will be part of a network of up to 600 Victorian farmers around the Wellington, Buloke, Loddon, Greater Shepparton and Moira Shires each testing the benefits of IoT for their farm.

Agriculture Victoria is also funding the delivery of LoRaWAN connectivity to the trial regions in partnership with National Narrowband Network Co (NNNCo). This network will be available for participating farmers to connect to. The network will support the deployment of IoT on farms taking part in the trial. It will also provide improved connectivity and broader opportunities for digital uptake across the regions where the trial is taking place.

## How to use the Catalogue of Apps & Devices

The catalogue has been designed for farmers who are eligible to apply for a grant to take part in the On-Farm IoT Trial. It is a tool to help farmers navigate and choose from the technologies available under the trial.

If you are applying for a grant under the trial, you may purchase from any supplier in this catalogue. You may purchase multiple products from multiple suppliers. Agriculture Victoria's specialised Industry Technology Coordinators are available to help with this. You can find their contact details here.

**It is important to note that prices in the catalogue are indicative only.** Some products may incur additional costs such as annual subscription fees. To determine the total price of your selected Apps & Devices, you will need to obtain a quote from the suppliers you've chosen. Having a conversation with your selected suppliers will also help them to better understand the unique needs of your business.

LoRaWAN connectivity will be available to farmers participating in the trial. However, some products in the catalogue may incur additional 3G, 4G or NB-IoT network costs. If you select products from the catalogue with additional network costs, you can discuss this with the Industry Technology Coordinator for your trial region.

You will need to know the total cost of the Apps & Devices you've chosen from the catalogue and provide quotes from suppliers to finalise your application for grant funding.

Applicants are also encouraged to contact suppliers with any specific questions they have about products in the catalogue. Contact details for all suppliers are provided in the catalogue.

## Need help?

More information for applicants is available at [agriculture.vic.gov.au/digitalag](https://agriculture.vic.gov.au/digitalag).

You can also contact your trial **Industry Technology Coordinator** or email us at [ag.iot@djpr.vic.gov.au](mailto:ag.iot@djpr.vic.gov.au) for further assistance.

## Your Industry Technology Coordinators



**Greater Shepparton,  
Moira, Wellington Shire**

### Andy Clark

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**Loddon Shire**

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**Buloke Shire**

### Mark Gould

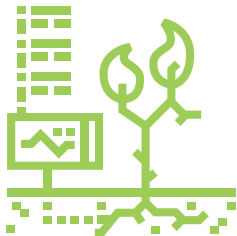
Agriculture Victoria, Horsham  
Mobile: 0448 086 059  
Email: [ag.iot@djpr.vic.gov.au](mailto:ag.iot@djpr.vic.gov.au)

# IoT overview

On-farm IoT operates through common components shown in the diagram below.

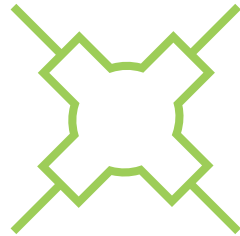
The green components can be purchased from this catalogue. Depending on what technology you select, you may not need to purchase all components. Your Industry Technology Coordinator can help you if you need more information.

## Sensors



Sensors collect on-farm data.

## Nodes & gateways



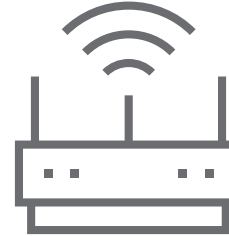
Nodes connect one or more sensors to a gateway. Nodes are powered by batteries or solar panels.

## Wireless transmission



Data from sensors is sent from the gateway via a LoRaWAN or cellular network.

## Wireless receiver



Data is received by a LoRaWAN receiver or cell tower.

## Internet



Receivers forward the data to a software application (app) via the internet.

## Apps & dashboards



Apps and dashboards interpret the data and provide information for farmers via the internet or on a mobile device.







# A guide to the catalogue

## The tables on the following pages list Apps & Devices available under the On-Farm IoT Trial.

The diagram below explains the table structure used throughout the catalogue.

1. Each product has a unique **catalogue number**. Please quote this number when contacting suppliers.
2. An **indicative price** including GST is given. Please contact suppliers for a quote with exact pricing.
3. **Network** type indicates if the device is supported by LoRaWAN connectivity being delivered under the trial. Other networks may incur additional charges (please speak to your Industry Technology Coordinator).
4. Some devices require a **node**. Nodes are listed and priced separately under Accessories.
5. Some devices will require **installation**, either at additional cost (\$) or included in the product price (Inc). Others can be self-installed (S).
6. **Software** to support your selected devices may be included in the price (Inc) or available at additional cost (\$, see products listed under Software or contact suppliers for more information). Some items do not require software (N/A).

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
IoT-XXXXX	<b>IoT Monitor (Device Name)</b> Connect, monitor and control IoT devices ( <b>device description</b> ). <b>Requires:</b> Control module \$277 ( <b>additional requirements needed to be purchased with device</b> ). <b>Info:</b> <a href="https://iotinfo.com">https://iotinfo.com</a> (link provided by Supplier for more information).	SupplierX	\$66 per device annual fee	LoRaWAN	N	S	N/A

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$







# Informed agronomy

## Overview

Informed agronomy systems assist with monitoring growing conditions such as weather, soil conditions, plant performance and plant stress. Data can be used to make more informed production decisions, such as fertiliser application rates and irrigation timing, to ensure conditions are optimised to maximise crop yield.

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
<b>Microclimate monitoring</b>							
EE-RSF-01	<b>Outdoor Temp &amp; Humidity Sensor: LoRaWAN</b> Measures temperature (-40-85°C +/-0.5°C) and humidity (0-100% +/-5% between 20% and 80% relative humidity). Info: <a href="https://www.agriwan.com/product/outdoor-temp-humidity-monitor/">https://www.agriwan.com/product/outdoor-temp-humidity-monitor/</a>	AgriWAN	\$330	LoRaWAN	N	S or \$	\$
NB-EE-RSF-01	<b>Outdoor Temp &amp; Humidity Sensor: NB-IoT</b> As above but NB-IoT compatible. Info: <a href="https://www.agriwan.com/product/outdoor-temp-humidity-monitor/">https://www.agriwan.com/product/outdoor-temp-humidity-monitor/</a>	AgriWAN	\$469	NB-IoT	N	S or \$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
GLTMH01	<b>GoTempHumid – Frost Risk Sensor</b> Measures temperature and humidity every 10 min in any environment. Can be used for frost detection or temperature variability. *Includes 3 years GoApp operating costs. <b>Requires:</b> GoApp (web browser, iOS or Android app) to view data (additional annual cost applies after year 3, contact Supplier).	Goanna Ag	\$590*	LoRaWAN	N	Inc.	Inc.
LPAR-SNiP	<b>Photosynthetically Active Light Meter: Integrated Sensor-Node Package</b> For long term monitoring of canopy light interception. Can be used to optimise pruning, tree structure and plant health. <b>Info:</b> <a href="http://www.ictinternational.com/products/linpar/linpar-linear-par-sensor/">http://www.ictinternational.com/products/linpar/linpar-linear-par-sensor/</a>	ICT International	\$1365	LoRaWAN	N	S or \$	\$
SQS-SNiP	<b>Sun Calibration Quantum Sensor: Integrated Sensor-Node Package</b> Measures broadband light sources, such as sunlight, using an optical detector. <b>Info:</b> <a href="http://www.ictinternational.com/products/snipsqs/snip-sqs/?highlight=sq110">http://www.ictinternational.com/products/snipsqs/snip-sqs/?highlight=sq110</a>	ICT International	\$945	LoRaWAN	N	S or \$	\$
SQF-SNiP	<b>Total Light Meter: Integrated Sensor-Node Package</b> Measures photosynthetically active radiation under all light sources using an optical detector. <b>Info:</b> <a href="http://ictinternational.com/products/snipsqf/snip-sqf/?from=/products/iot-sensors/integrated-packages-snips-plant/">http://ictinternational.com/products/snipsqf/snip-sqf/?from=/products/iot-sensors/integrated-packages-snips-plant/</a>	ICT International	\$1347	LoRaWAN	N	S or \$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$



Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
PUTD-PHYTOS31	<b>Leaf Wetness Sensor</b> Measures leaf wetness which can be used to identify when to spray, quantify water storage in the canopy, and monitor for foliar diseases including rust and blight.  *Installation may incur additional cost, contact Supplier. Data can be viewed through PUTD Dashboard Device (additional cost per data set applies, see Cat No. PUTD DSS, Software).  <b>Requires:</b> Smart Agriculture Device Hub (Cat No. PT6000-AG01-LoRaWAN-SW, see Accessories).  <b>Info:</b> <a href="https://www.putd-iot.com/leaf-wetness-sensor">https://www.putd-iot.com/leaf-wetness-sensor</a>	PUTD IOT Technology	\$432 +\$65 annual fee	LoRaWAN	Y	Contact Supplier*	\$*
PUTD-SHT21	<b>Air Humidity &amp; Temp Sensor</b> Measures temperature to 125°C and 100% relative humidity.  *Installation may incur additional cost, contact Supplier. Data can be viewed through PUTD Dashboard Device (additional cost per data set applies, see Cat No. PUTD DSS, Software).  <b>Requires:</b> Smart Air Quality Device Hub (Cat No. PT6000-Air01-LoRaWAN-SW, see Accessories).  <b>Info:</b> <a href="https://www.putd-iot.com/air-humidity-temp-sensor">https://www.putd-iot.com/air-humidity-temp-sensor</a>	PUTD IOT Technology	\$110 +\$16 annual fee	LoRaWAN	Y	Contact Supplier*	\$*

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
IM507D	<b>PAR Quantum Sensor Module</b> Measures photosynthetically active radiation (PAR) as Photosynthetic Photon Flux Density, which has units of quanta (photons) per unit of time. <b>Requires:</b> iMetos ECO D3 Base unit (Cat No. ECOD3INT, see Accessories). <b>Info:</b> <a href="http://metos.at/portfolio/par-quantum/">http://metos.at/portfolio/par-quantum/</a> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$792	3G/4G	Y	S or \$	Inc.
IM5079D	<b>PAR Quantum Sensor Module</b> As above but with levelling plate and holder and 5000 mm cable. <b>Requires:</b> iMetos ECO D3 Base unit (Cat No. ECOD3INT, see Accessories). <b>Info:</b> <a href="http://metos.at/portfolio/par-quantum/">http://metos.at/portfolio/par-quantum/</a> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$1001	3G/4G	Y	S or \$	Inc.
IM521CD	<b>Pessl Instruments Leaf Wetness Sensor Module</b> Measures leaf wetness. With 5000 mm cable. Usually purchased as part of the Microclimate Disease Monitor (Cat No. LPWAN-DM) to run disease models. <b>Requires:</b> iMetos Base (Cat No. LPWAN-BASE, see Accessories). <b>Info:</b> <a href="http://metos.at/portfolio/leaf-wetness/">http://metos.at/portfolio/leaf-wetness/</a> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$539	LoRaWAN or 3G/4G	Y	S or \$	Inc.

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$



Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
LPWAN-DM	<b>Microclimate - Disease Monitor</b> Compact weather station that measures Delta T, dewpoint readings, rainfall, air temperature, relative humidity and leaf wetness. Can also run multiple disease models for over 40 crops at additional cost.  Data viewed through the FieldClimate app or web portal (ng.fieldclimate.com).  <b>Requires:</b> Leaf Wetness Sensor to run disease models (Cat No. IM521CD).  <b>Info:</b> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$2640 +\$140 annual fee	LoRaWAN	N	S or \$	Inc.
LPWAN-CMPLTE	<b>Microclimate - Complete</b> As above but includes 12 months subscription to weather forecast and single crop disease model.  <b>Info:</b> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$3630	LoRaWAN	N	S or \$	Inc.

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
<b>Microclimate &amp; soil moisture monitoring</b>							
ST-PK-1	<b>IoT MicroClimate Soil Health &amp; Weather Monitoring: LoRaWAN</b> Measures wind, rainfall, temperature, humidity, solar radiation, barometric pressure, evapotranspiration, Delta T, soil moisture and temperature.  Includes 1 Davis Instruments weather station and solar power system and 2 AquaCheck 600 mm soil moisture and temperature probes.  *Additional subscription fees may apply. <b>Info:</b> <a href="https://www.agriwan.com/product/iot-micro-climate-kit/">https://www.agriwan.com/product/iot-micro-climate-kit/</a>	AgriWAN	\$3999*	LoRaWAN	N	S or \$	\$
NB-ST-PK-1	<b>IoT MicroClimate Soil Health &amp; Weather Monitoring: NB-IoT</b> As above but NB-IoT compatible.  *Additional subscription fees may apply. <b>Info:</b> <a href="https://www.agriwan.com/product/iot-micro-climate-kit-nbiot/">https://www.agriwan.com/product/iot-micro-climate-kit-nbiot/</a>	AgriWAN	\$3699*	NB-IoT	N	S or \$	\$
LPWAN-CL-SM	<b>iMetos Climate &amp; Soil Rain Gauge/ Air Temp &amp; Soil Moisture: LoRaWAN</b> Weather station including rain gauge, air temperature/ humidity, leave wetness. Can take a Sentek moisture probe. (Cat No. SE300S or SE1200S).  Data viewed through the FieldClimate app or web portal ( <a href="http://ng.fieldclimate.com">ng.fieldclimate.com</a> ).  <b>Info:</b> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$1870	LoRaWAN	N	S or \$	Inc.

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$



Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
<b>Plant growth monitoring</b>							
EE-SD-5T	<b>Stem Dendrometer: LoRaWAN</b> Monitors daily changes in stem diameter. Used for irrigation scheduling/planning and monitoring plant water stress. Info: <a href="https://www.agriwan.com/product/trunk-stem-dendrometers/">https://www.agriwan.com/product/trunk-stem-dendrometers/</a>	AgriWAN	\$1429	LoRaWAN	N	S or \$	\$
NB-EE-SD-5T	<b>Stem Dendrometer: NB-IoT</b> As above but NB-IoT compatible. Info: <a href="https://www.agriwan.com/product/trunk-stem-dendrometers-nbiot/">https://www.agriwan.com/product/trunk-stem-dendrometers-nbiot/</a>	AgriWAN	\$1579	NB-IoT	N	S or \$	\$
EE-SD-10T	<b>Trunk Dendrometer: LoRaWAN</b> Monitors daily changes in trunk diameter. Used for irrigation scheduling/planning and monitoring plant water stress. Info: <a href="https://www.agriwan.com/product/trunk-stem-dendrometers/">https://www.agriwan.com/product/trunk-stem-dendrometers/</a>	AgriWAN	\$1429	LoRaWAN	N	S or \$	\$
NB-EE-SD-10T	<b>Trunk Dendrometer: NB-IoT</b> As above but NB-IoT compatible. Info: <a href="https://www.agriwan.com/product/trunk-stem-dendrometers-nbiot/">https://www.agriwan.com/product/trunk-stem-dendrometers-nbiot/</a>	AgriWAN	\$1579	NB-IoT	N	S or \$	\$
DBS-SNiP	<b>Increment Dendrometer: Integrated Sensor-Node Package (DBS60)</b> Measures a wide range of trunk diameters using a high resolution (0.001 mm), non-invasive sensor. Suited to stone fruit and citrus crops. Used to monitor maximum daily stem shrinkage for irrigation management. Info: <a href="http://www.ictinternational.com/products/dbs60-sdi-12-band-dendrometer/dbs60-sdi-12-band-dendrometer/">http://www.ictinternational.com/products/dbs60-sdi-12-band-dendrometer/dbs60-sdi-12-band-dendrometer/</a>	ICT International	\$1908	LoRaWAN	N	S or \$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
DPS-SNiP	<b>Stem Dendrometer: Integrated Sensor-Node Package (DPS40 Pivot Stem Dendrometer)</b> Measures small stems (5 mm to 40 mm) using a high-resolution pivot-based sensor. Suited to grape and berry crops. Used to monitor maximum daily stem shrinkage for irrigation management. <b>Info:</b> <a href="http://www.ictinternational.com/products/dps40/dps40-pivot-stem-dendrometer/">http://www.ictinternational.com/products/dps40/dps40-pivot-stem-dendrometer/</a>	ICT International	\$1707	LoRaWAN	N	S or \$	\$
PUTD-DD-S	<b>Diameter Dendrometer Small</b> Measures plants, small trees and branches <50 mm diameter. *Installation may incur additional cost, contact Supplier. Data can be viewed through PUTD Dashboard Device (additional cost per data set applies, see Cat No. PUTD DSS, Software). <b>Requires:</b> Smart Agriculture Device node (Cat No. PT6000-AG01-LoRaWAN-SW, see Accessories). <b>Info:</b> <a href="https://www.putd-iot.com/diameter-dendrometer">https://www.putd-iot.com/diameter-dendrometer</a>	PUTD IOT Technology	\$760 +\$114 annual fee	LoRaWAN	Y	Contact Supplier*	\$*
PUTD-DC2	<b>Circumference Dendrometer</b> Measures circumference of plants >50 mm diameter. *Installation may incur additional cost, contact Supplier. Data can be viewed through PUTD Dashboard Device (additional cost per data set applies, see Cat No. PUTD DSS, Software). <b>Requires:</b> Smart Agriculture Device node (Cat No. PT6000-AG01-LoRaWAN-SW, see Accessories). <b>Info:</b> <a href="https://www.putd-iot.com/circumference-dendrometer">https://www.putd-iot.com/circumference-dendrometer</a>	PUTD IOT Technology	\$800 +\$120 annual fee	LoRaWAN	Y	Contact Supplier*	\$*

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$



Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
PUTD-FRUIT-DF	<b>Fruit &amp; Vegetable Dendrometer</b> Measures circumference of circular fruit, up to 110 mm diameter.  *Installation may incur additional cost, contact Supplier. Data can be viewed through PUTD Dashboard Device (additional cost per data set applies, see Cat No. PUTD DSS, Software).  <b>Requires:</b> Smart Agriculture Device node (Cat No. PT6000-AG01-LoRaWAN-SW, see Accessories).  <b>Info:</b> <a href="https://www.putd-iot.com/fruit-n-vegetable-dendrometer">https://www.putd-iot.com/fruit-n-vegetable-dendrometer</a>	PUTD IOT Technology	\$760 +\$114 annual fee	LoRaWAN	Y	Contact Supplier*	\$*
DN503	<b>Dendrometer DD-L</b> Measures plant growth through changes in plant diameter of 30-300 mm.  Data viewed through FieldClimate app or web portal (ng.fieldclimate.com).  <b>Requires:</b> Dendrometer Interface Box with IP65 Box (Cat No. DN501) and iMetos ECO D3 Base unit (Cat No. ECOD3INT). See Accessories.  <b>Info:</b> <a href="http://metos.at/portfolio/pessl-instruments-dendrometer/">http://metos.at/portfolio/pessl-instruments-dendrometer/</a> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$1683	3G/4G	Y	S or \$	Inc.
DN504	<b>Dendrometer DD-F Fruit</b> Measures plant growth through changes in plant diameter.  Data viewed through FieldClimate app or web portal (ng.fieldclimate.com).  <b>Requires:</b> Dendrometer Interface Box with IP65 Box (Cat No. DN501) and iMetos ECO D3 Base unit (Cat No. ECOD3INT). See Accessories.  <b>Info:</b> <a href="http://metos.at/portfolio/pessl-instruments-dendrometer/">http://metos.at/portfolio/pessl-instruments-dendrometer/</a> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$1683	3G/4G	Y	S or \$	Inc.

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
DN502	<b>Dendrometer DD-S</b> Measures plant growth through changes in plant diameter up to 50 mm. Data viewed through FieldClimate app or web portal (ng.fieldclimate.com). <b>Requires:</b> Dendrometer Interface Box with IP65 Box (Cat No. DN501) and iMetos ECO D3 Base unit (Cat No. ECOD3INT). See Accessories. <b>Info:</b> <a href="http://metos.at/portfolio/pessl-instruments-dendrometer/">http://metos.at/portfolio/pessl-instruments-dendrometer/</a> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$1683	3G/4G	Y	S or \$	Inc.

#### Plant stress monitoring

EE-LT-IRM	<b>Crop Water Stress Index Meter: LoRaWAN</b> Measures Crop Water Stress Index for a section of canopy or crop covers. <b>Info:</b> <a href="https://www.agriwan.com/product/crop-stress-index-meter/">https://www.agriwan.com/product/crop-stress-index-meter/</a>	AgriWAN	\$1489	LoRaWAN	N	S or \$	\$
NB-EE-LT-IRM	<b>Crop Water Stress Index Meter: NB-IoT</b> As above but NB-IoT compatible. <b>Info:</b> <a href="https://www.agriwan.com/product/crop-stress-index-meter-nbiot/">https://www.agriwan.com/product/crop-stress-index-meter-nbiot/</a>	AgriWAN	\$1639	NB-IoT	N	S or \$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
<b>Soil moisture monitoring</b>							
TRL-2YL	<b>Soil sensor</b> Measures properties including soil N, P and K levels, soil moisture and pH. Permanent inground sensor. *Available for lease only. Price is for 2 year lease. <b>Info:</b> <a href="https://agriwan.com/product/teralytic-inground-sensors-monitoring/">https://agriwan.com/product/teralytic-inground-sensors-monitoring/</a>	AgriWAN	\$1649*	LoRaWAN	N	S or \$	\$
LXAQ-SM800-B24-BN3L9A	<b>Aquacheck Soil Moisture &amp; Temp Probe</b> Measures soil moisture (capacitance based) to 800 mm, with 8 sensors *Includes Blue node plus 2 years subscription fees (after 2 years, subscription fee to be charged at \$5.50 per month). <b>Requires:</b> Blue node, included in cost. <b>Info:</b> <a href="https://lx-group.com.au/product/soil-moisture-probe/">https://lx-group.com.au/product/soil-moisture-probe/</a>	LX	\$1450*	LoRaWAN	Y (included)	S	Inc.
LXEP-SM800-BN3L9A	<b>EnviroPro Soil Moisture &amp; Temp Probe</b> Measures soil moisture (capacitance based) to 800 mm, with 6 sensors. *Includes Blue node plus 2 years subscription fees (after 2 years, subscription fee to be charged at \$5.50 per month) <b>Requires:</b> Blue node, included in cost. <b>Info:</b> <a href="https://lx-group.com.au/product/enviopro-soil-moisture-probe/">https://lx-group.com.au/product/enviopro-soil-moisture-probe/</a>	LX	\$1390*	LoRaWAN	Y (included)	S	Inc.

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$



Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
A19000 178SA	<b>Soil Watcher Pro</b> Basic solar/battery sensor for monitoring soil moisture in paddocks and crops. Includes 3 probes at 3 different depths. *Includes 4 h installation, then \$90 per h. <b>Requires:</b> Padman Stops PAMS software (Cat No. A18000247SA, see Software). <b>Info:</b> <a href="http://bit.ly/SoilWatcher_PRO">http://bit.ly/SoilWatcher_PRO</a>	Padman Stops	\$1490	Cat-M1	N	Inc.*	\$
IOT-KIT- 00005 (LoRa)	<b>Soil Probe (1200 mm) &amp; LoRaWAN Control Module</b> Measures soil moisture, salinity and temperature, with compensation for salinity and temperature variations. Suitable for all soil types. Salinity measurements may help track the absorption of fertiliser through the root depth and alert to unfavourable groundwater conditions. <b>Info:</b> <a href="https://myinsight.io/wp-content/uploads/2018/11/myinsight.io-Soil-%E2%80%93-Moisture_Temperature_Salinity-Kit.pdf">https://myinsight.io/wp-content/uploads/2018/11/myinsight.io-Soil-%E2%80%93-Moisture_Temperature_Salinity-Kit.pdf</a>	Powertec	\$2953 +\$66 annual fee	LoRaWAN	N	\$	\$
IOT-KIT- 00006 (LTE)	<b>Soil Probe (1200 mm)</b> As above but NB-IoT compatible. <b>Info:</b> <a href="https://myinsight.io/wp-content/uploads/2018/11/myinsight.io-Soil-%E2%80%93-Moisture_Temperature_Salinity-Kit.pdf">https://myinsight.io/wp-content/uploads/2018/11/myinsight.io-Soil-%E2%80%93-Moisture_Temperature_Salinity-Kit.pdf</a>	Powertec	\$2953 +\$66 annual fee	NB-IoT	N	\$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
PUTD-ECH2O-EC5	<b>Soil Moisture Sensor (VWC)</b> Measures volumetric water content (VWC). *Installation may incur additional cost, contact Supplier. Data can be viewed through PUTD Dashboard Device (additional cost per data set applies, see Cat No. PUTD DSS, Software). <b>Requires:</b> Smart Agriculture Device node (Cat No. PT6000-AG01-LoRaWAN-SW, see Accessories). <b>Info:</b> <a href="https://www.putd-iot.com/soil-moisture-vwc-sensor">https://www.putd-iot.com/soil-moisture-vwc-sensor</a>	PUTD IOT Technology	\$196 +\$29 annual fee	LoRaWAN	Y	Contact Supplier*	\$*
PUTD-ECH2O-5TE	<b>Soil Triple Sensor</b> Measures volumetric water content, electrical conductivity and temperature. *Installation may incur additional cost, contact Supplier. Data can be viewed through PUTD Dashboard Device (additional cost per data set applies, see Cat No. PUTD DSS, Software). <b>Requires:</b> Smart Agriculture Device node (Cat No. PT6000-AG01-LoRaWAN-SW, see Accessories). <b>Info:</b> <a href="https://www.putd-iot.com/soil-triple-sensor">https://www.putd-iot.com/soil-triple-sensor</a>	PUTD IOT Technology	\$710 +\$106 annual fee	LoRaWAN or NB-IoT	Y	Contact Supplier*	\$*
PUTD-TEROS 21	<b>Soil Water Suction Sensor</b> Measures soil water suction/tension/potential (plant available water) and soil temperature. *Installation may incur additional cost, contact Supplier. Data can be viewed through PUTD Dashboard Device (additional cost per data set applies, see Cat No. PUTD DSS, Software). <b>Requires:</b> Smart Agriculture Device node (Cat No. PT6000-AG01-LoRaWAN-SW, see Accessories). <b>Info:</b> <a href="https://www.putd-iot.com/soil-water-suction-sensor">https://www.putd-iot.com/soil-water-suction-sensor</a>	PUTD IOT Technology	\$810 +\$121 annual fee	LoRaWAN	Y	Contact Supplier*	\$*

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
SE300S	<b>Sentek Drill &amp; Drop Triscan SDI-12 (300 mm)</b> Measures soil moisture, temperature and salinity at multiple depths. With 3 soil moisture, 3 salinity and 3 temperature sensors. Data viewed through FieldClimate app or web portal (ng.fieldclimate.com). *Self-install requires a dedicated auger at additional cost. <b>Requires:</b> iMetos Climate & Soil Rain Gauge/Air Temp/Soil Moisture: LoRaWAN enabled (Cat No. LPWAN-CL-SM). <b>Info:</b> <a href="http://metos.at/portfolio/sentek-drill-drop-triscan-probe/">http://metos.at/portfolio/sentek-drill-drop-triscan-probe/</a> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$704	LoRaWAN	N	S* or \$	Inc.
SE1200S	<b>Sentek Drill &amp; Drop Triscan SDI-12 (1200 mm)</b> Measures soil moisture, temperature and salinity at multiple depths. With 12 soil moisture, 12 salinity and 12 temperature sensors. Data viewed through FieldClimate app or web portal (ng.fieldclimate.com). *Self-install requires a dedicated auger at additional cost. <b>Requires:</b> iMetos Climate & Soil Rain Gauge/Air Temp/Soil Moisture: LoRaWAN enabled (Cat No. LPWAN-CL-SM). <b>Info:</b> <a href="http://metos.at/portfolio/sentek-drill-drop-triscan-probe/">http://metos.at/portfolio/sentek-drill-drop-triscan-probe/</a> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$2112	LoRaWAN	N	S* or \$	Inc.

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$



Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
<b>Weather monitoring</b>							
GLWEA01	<b>GoWeather</b> Weather station including solar radiation measurement every 10 min and site-specific weather forecast. No moving parts. *Includes 3 years GoApp operating costs. <b>Requires:</b> GoApp (web browser, iOS or Android app) to view data (additional annual cost applies after year 3, contact Supplier). <b>Info:</b> <a href="https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/GoannaAg/GoWeather.pdf">https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/GoannaAg/GoWeather.pdf</a>	Goanna Ag	\$3500*	LoRaWAN, Cat-M1 or NB-IoT	N	Inc.	Inc.
GAINV01	<b>GoInversion</b> Inversion detection tower with built in automatic weather station, at 2000 mm and temperature sensor on a 10 m mast. *Includes 3 years GoApp operating costs. <b>Requires:</b> GoApp (web browser, iOS or Android app) to view data (additional annual cost applies after year 3, contact Supplier).	Goanna Ag	\$1848*	LoRaWAN, Cat-M1 or NB-IoT	N	Inc.	Inc.
A41-SNiP	<b>ATMOS-41 – Micro-Environment Weather Station: Integrated Sensor-Node Package</b> Measures rainfall, relative humidity, temperature, barometric pressure, vapour pressure, wind speed, wind direction and solar radiation. <b>Info:</b> <a href="http://www.ictinternational.com/products/atmos-41/atmos-41-weather-station/">http://www.ictinternational.com/products/atmos-41/atmos-41-weather-station/</a>	ICT International	\$3927	LoRaWAN	N	S or \$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
LXD-WS10-B24-BN3L9A	<b>Davis Weather Station</b> Measures air temperature and humidity, wind speed and direction, and rain amount in 0.2 mm increments. *Includes Blue node plus 2 years subscription fees (after 2 years, subscription fee to be charged at \$5.50 per month) <b>Requires:</b> Blue node, included in cost. <b>Info:</b> <a href="https://lx-group.com.au/product/weatherstation/">https://lx-group.com.au/product/weatherstation/</a>	LX	\$1480*	LoRaWAN	Y (included)	S	Inc.
LXD-WS10-B24-BN3L9A	<b>Davis Rain Gauge</b> Measures rainfall. With aluminium tipping bucket, bird spikes and filter. *Includes Blue node plus 2 years subscription fees (after 2 years, subscription fee to be charged at \$5.50 per month). <b>Requires:</b> Blue node, included in cost. <b>Info:</b> <a href="https://lx-group.com.au/product/weatherstation/">https://lx-group.com.au/product/weatherstation/</a>	LX	\$820*	LoRaWAN	Y (included)	S	Inc.
IOT-KIT-00013 (LoRa)	<b>Micro Weather Station Temp/Humidity Sensor with Radiation Shield: LoRaWAN</b> Measures temperature and humidity which can be used to improve irrigation and crop management, identify frost conditions, and alert to conditions that might impact animals or crops. Includes a radiation shield. <b>Info:</b> <a href="https://myinsight.io/wp-content/uploads/2018/11/myinsight.io-Micro-Weather-Station-%E2%80%93-Temperature-_-Humidity-Sensor.pdf">https://myinsight.io/wp-content/uploads/2018/11/myinsight.io-Micro-Weather-Station-%E2%80%93-Temperature-_-Humidity-Sensor.pdf</a>	Powertec	\$1297 +\$66 annual fee	LoRaWAN	N	\$	\$
IOT-KIT-00014 (LTE)	<b>Micro Weather Station Temp/Humidity Sensor with Radiation Shield: NB-IoT</b> As above but NB-IoT compatible. <b>Info:</b> <a href="https://myinsight.io/wp-content/uploads/2018/11/myinsight.io-Micro-Weather-Station-%E2%80%93-Temperature-_-Humidity-Sensor.pdf">https://myinsight.io/wp-content/uploads/2018/11/myinsight.io-Micro-Weather-Station-%E2%80%93-Temperature-_-Humidity-Sensor.pdf</a>	Powertec	\$1297 +\$66 annual fee	NB-IoT	N	\$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
WILD-E-R-D2	<b>Wildeye Weather Station</b> Measures wind, rain, temperature, humidity, solar radiation. Provides optional access to a range of agronomic derivations based on this data such as Growing Degree Days, Delta T, Chill Portions, Fire Danger Indices. Sends reports and alerts directly to smartphone or email. *Includes 2 years data, software and support. Info: <a href="http://www.mywildeye.com/agviciotweatherstation">www.mywildeye.com/agviciotweatherstation</a>	Wildeye	\$2500*	NB-IoT or Cat-M1	N	S or \$	Inc.
WILD-E-RAIN	<b>Wildeye Rain Gauge</b> Compact, self-emptying rain gauge. Provides access to high resolution rain data via web software and smartphone apps. *Includes 2 years data, software and support. Info: <a href="http://www.mywildeye.com/agviciotraingauge">www.mywildeye.com/agviciotraingauge</a>	Wildeye	\$750*	NB-IoT or Cat-M1	N	S or \$	Inc.

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$







# Pest monitoring

## Overview

Trapping, imaging and alerting of pests can enable rapid identification of pest risk to production systems and remove the need to manually check traps, saving valuable time.

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
<b>Pest monitoring</b>							
EE-SNP-01	<b>Automatic Pest Trap</b> Sends high resolution imagery of trap contents. *Includes subscription to Snaptrap portal for 1 year. <b>Info:</b> <a href="https://www.agriwan.com/product/automatic-pest-trap/">https://www.agriwan.com/product/automatic-pest-trap/</a>	AgriWAN	\$1599*	4G	N	S or \$	\$
EE-SNP-SUB1	<b>Snaptrap Portal Subscription</b> Annual subscription fee for Automatic Pest Trap (Cat No. EE-SNP-01).	AgriWAN	\$399	4G	N	S or \$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$







# Farm management

## Overview

Farm management systems assist with monitoring on-farm conditions, infrastructure, livestock, assets and safety, and can provide timely alerts if certain thresholds are met. Remote monitoring can save time and resources and help farmers respond more quickly to changing conditions, such as malfunctioning equipment or livestock health problems, to help reduce the risk of economic losses.

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
<b>Animal monitoring</b>							
SC-100-101	<b>eSense Tag Flex Up Starter – ear tag</b> Monitors dairy cow reproductive status. Installed with hub and extended warranty plus Starter application plan. Info: <a href="https://www.allflex.global/au/product_cat/dairy-cow-monitoring/">https://www.allflex.global/au/product_cat/dairy-cow-monitoring/</a>	Allflex	\$30,290 per 200 head	N/A	N	Inc.	Inc.
SC-100-102	<b>eSense Tag Flex Up Advanced – ear tag</b> Monitors dairy cow reproductive and health status, with alerts. Installed with hub and extended warranty plus Advanced application plan. Info: <a href="https://www.allflex.global/au/product_cat/dairy-cow-monitoring/">https://www.allflex.global/au/product_cat/dairy-cow-monitoring/</a>	Allflex	\$34,690 per 200 head	N/A	N	Inc.	Inc.
SC-100-103	<b>eSense Tag Flex Up Premium – ear tag</b> As above plus includes nutrition insights and group comparisons. Info: <a href="https://www.allflex.global/au/product_cat/dairy-cow-monitoring/">https://www.allflex.global/au/product_cat/dairy-cow-monitoring/</a>	Allflex	\$36,890 per 200 head	N/A	N	Inc.	Inc.

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$



Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
SC-100-107	<b>cSense Collar Flex Up Starter – collar</b> Monitors dairy cow reproductive status. Installed with hub and extended warranty plus Starter application plan. <b>Info:</b> <a href="https://www.allflex.global/au/product_cat/dairy-cow-monitoring/">https://www.allflex.global/au/product_cat/dairy-cow-monitoring/</a>	Allflex	\$45,194 per 200 head	N/A	N	Inc.	Inc.
SC-100-108	<b>cSense Collar Flex Up Advanced – collar</b> Monitors dairy cow reproductive and health status, with alerts. Installed with hub and extended warranty plus Advanced application plan. <b>Info:</b> <a href="https://www.allflex.global/au/product_cat/dairy-cow-monitoring/">https://www.allflex.global/au/product_cat/dairy-cow-monitoring/</a>	Allflex	\$50,475 per 200 head	N/A	N	Inc.	Inc.
SC-100-109	<b>cSense Collar Flex Up Premium – collar</b> As above plus includes nutrition insights and group comparisons. <b>Info:</b> <a href="https://www.allflex.global/au/product_cat/dairy-cow-monitoring/">https://www.allflex.global/au/product_cat/dairy-cow-monitoring/</a>	Allflex	\$55,095 per 200 head	N/A	N	Inc.	Inc.
OXRFD2	<b>RFID Electronic Ear Tag</b> For sheep or cattle identification, counting and tracking. <b>Info:</b> <a href="https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/FarmDeck/OXRFD2.pdf">https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/FarmDeck/OXRFD2.pdf</a>	FarmDeck	\$1.80 per tag	LoRaWAN	N	S or \$	\$
OXRFD1	<b>RFID Tag Reader Module</b> Reads RFID electronic ear tags on sheep and cattle. <b>Info:</b> <a href="https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/FarmDeck/OXRFD1.pdf">https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/FarmDeck/OXRFD1.pdf</a>	FarmDeck	\$1084	LoRaWAN	N	S or \$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
IOT-AT001 (LoRa)	<b>Locations &amp; Movement Tracking plus EID RFID Tag: LoRaWAN</b> Reports livestock position, which can be used to visualise routes and use of property assets such as water, feedlots and lick drops. Uses a solar panel to charge battery; expected battery life 3+ years.  <b>Info:</b> <a href="https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/PowerTec/IOT-AT001%20AgriWAN%20Eartags%20Product%20Sheet%20V1.0.pdf">https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/PowerTec/IOT-AT001%20AgriWAN%20Eartags%20Product%20Sheet%20V1.0.pdf</a>	Powertec	\$215 +\$66 annual fee	LoRaWAN	N	\$	\$
IOT-AT002 (LTE)	<b>Locations &amp; Movement Tracking plus EID RFID Tag: NB-IoT</b> As above but NB-IoT compatible.  <b>Info:</b> <a href="https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/PowerTec/IOT-AT001%20AgriWAN%20Eartags%20Product%20Sheet%20V1.0.pdf">https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/PowerTec/IOT-AT001%20AgriWAN%20Eartags%20Product%20Sheet%20V1.0.pdf</a>	Powertec	\$215 +\$66 annual fee	NB-IoT	N	\$	\$
BBET1	<b>Bluebell Smart Ear Tag – cattle</b> Measures GPS, temperature and activity data of animals at scheduled intervals (2-8 h). Battery powered, can be attached with a standard ear tag applicator and buttons. Sends data to a central network gateway on the property.  *Includes 1 year of access to Smart Paddock Platform.  <b>Requires:</b> Smart Paddock Platform (Cat No. SPWEB, see Software). Internet-connected smartphone or computer is needed to access Smart Paddock Platform.  <b>Info:</b> <a href="https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/SmartPaddock/SmartPaddockProductDesc.pdf">https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/SmartPaddock/SmartPaddockProductDesc.pdf</a>	Smart Paddock	\$23,700 per 200 head*	LoRaWAN	N	S	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
BBC1	<b>Bluebell Smart Collar – cattle or sheep</b> Measures GPS, temperature and activity data of animals at scheduled intervals (1-4 h). Battery powered. *Includes 1 year of access to Smart Paddock Platform. <b>Requires:</b> Smart Paddock Platform (Cat No. SPWEB, see Software). Internet-connected smartphone or computer is needed to access Smart Paddock Platform. <b>Info:</b> <a href="https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/SmartPaddock/SmartPaddockProductDesc.pdf">https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/SmartPaddock/SmartPaddockProductDesc.pdf</a>	Smart Paddock	\$29,000 per 200 head*	LoRaWAN	N	S	\$

#### Asset tracking

OXTR1	<b>GPS Asset &amp; Livestock Tracking Sensor</b> Tracks location and motion (real time and historical). Can be installed on assets such as motor bikes, quad bikes and tractors. <b>Info:</b> <a href="https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/FarmDeck/OXTR1.pdf">https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/FarmDeck/OXTR1.pdf</a>	FarmDeck	\$102	LoRaWAN	N	S or \$	\$
Falcon-4G	<b>Falcon GPS Tracker - 4G</b> Medium sized battery operated tracker with 2 digital inputs (e.g. temperature/humidity probe or tamper switch) providing 4 locations a day with ability to change to 5 minute updates if asset is stolen. Battery life 2-3 years. Battery cost ~\$14/set. Sensors not included. <b>Requires:</b> GPS Boss TG-Lite tracking platform (\$14.50/unit/month) <b>Info:</b> <a href="https://gpsboss.com.au/trackers/">https://gpsboss.com.au/trackers/</a>	GPSSBoss	\$345	4G or Cat-M1	N	S	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
Remora2-4G	<b>Remora2 GPS Tracker - 4G</b> Heavy duty battery operated tracker providing hourly locations with ability to change to 5 minute updates if asset is stolen. Battery life 4-5 years. Battery cost ~\$60/set. <b>Requires:</b> GPS Boss TG-Classic tracking platform (\$23.50/unit/month) <b>Info:</b> <a href="https://gpsboss.com.au/trackers/">https://gpsboss.com.au/trackers/</a>	GPSSBoss	\$325	4G or Cat-M1	N	S	\$
Dart2-4G	<b>Dart2 GPS Tracker - 4G</b> Hardwired unit. Perfect for utes, trucks, and tractors. Comes with 2 digital inputs to record other data. 12-24 volt systems. <b>Requires:</b> GPS Boss TG-Classic tracking platform (\$23.50/unit/month) <b>Info:</b> <a href="https://gpsboss.com.au/trackers/">https://gpsboss.com.au/trackers/</a>	GPSSBoss	\$265	4G or Cat-M1	N	S	\$
SC-GPS-DMO	<b>Oyster - Asset Tracking and Monitoring</b> Compact, weatherproof, GPS tracking device for tracking assets such as containers, trailers and skip bins. Battery powered. <b>Info:</b> <a href="http://www.simplyfarm.net.au">www.simplyfarm.net.au</a>	SimplyCity	\$226 +\$6.60 per month	LoRaWAN	N	S or \$	Inc.
SC-GPS-DMO6	<b>G62 – Asset Tracking for Powered Devices</b> Compact, weatherproof, GPS tracking device for vehicles, includes on-device odometer and run-hours. Uses external 12 V power. <b>Requires:</b> Installation by an auto electrician. <b>Info:</b> <a href="http://www.simplyfarm.net.au">www.simplyfarm.net.au</a>	SimplyCity	\$297 +\$6.60 per month	LoRaWAN	N	\$	Inc.

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$



Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
<b>Equipment automation and control</b>							
IOT-KIT-00025 (LoRa)	<b>Remote Activation Solid State Relay: LoRaWAN</b> For remote operation of 3-phase plant and equipment up to 25 A such as water pumps, motors, valves, lighting or generators. When combined with sensors, can automate many aspects of pasture maintenance and output processing. <b>Info:</b> <a href="https://myinsight.io/wp-content/uploads/2019/01/myinsight.io-3-Phase-Machine-Control-Kit.pdf">https://myinsight.io/wp-content/uploads/2019/01/myinsight.io-3-Phase-Machine-Control-Kit.pdf</a>	Powertec	\$989 +\$66 annual fee	LoRaWAN	N	\$	\$
IOT-KIT-00026 (LTE)	<b>Remote Activation Solid State Relay: NB-IoT</b> As above but NB-IoT compatible. <b>Info:</b> <a href="https://myinsight.io/wp-content/uploads/2019/01/myinsight.io-3-Phase-Machine-Control-Kit.pdf">https://myinsight.io/wp-content/uploads/2019/01/myinsight.io-3-Phase-Machine-Control-Kit.pdf</a>	Powertec	\$989 +\$66 annual fee	NB-IoT	N	\$	\$
<b>Equipment monitoring</b>							
A19000 179SA	<b>MultiWatcher Pro</b> Fixed solar powered unit for integrating Padman PAMS IoT network with third party sensors monitoring equipment such as grain silos and fuel tanks, milk vats and hot water services. *Includes 4 h installation, then \$90 per h. <b>Requires:</b> Padman Stops PAMS software (Cat No. A18000247SA, see Software). <b>Info:</b> <a href="http://bit.ly/MultiWatcher_PRO">http://bit.ly/MultiWatcher_PRO</a>	Padman Stops	\$1238	Cat-M1	N	Inc.*	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
A18000 228SA	<b>MultiController Pro</b> Solar/battery powered unit for integrating Padman PAMS IoT network with third party equipment such as gates, augers, VFDs, pumps, actuators, solenoids, motors. *Includes 4 h installation, then \$90 per h. <b>Requires:</b> Padman Stops PAMS software (Cat No. A18000247SA, see Software). <b>Info:</b> <a href="http://bit.ly/MultiController_PRO">http://bit.ly/MultiController_PRO</a>	Padman Stops	\$1238	Cat-M1	N	Inc.*	\$
<b>Fence monitoring</b>							
LXP- EF10- B24- BN3L9A	<b>Electric Fence Monitor</b> Measures status and voltage of electric fence. *Includes Blue node plus 2 years subscription fees (after 2 years, subscription fee to be charged at \$5.50 per month). <b>Requires:</b> Blue node, included in cost. <b>Info:</b> <a href="https://lx-group.com.au/product/electric-fence-monitor/">https://lx-group.com.au/product/electric-fence-monitor/</a>	LX	\$990*	LoRaWAN	Y (included)	S	Inc.
SC- FENCE- MCM	<b>Security Fence Monitor, including Sensor Node LoRaWAN</b> Detects sagging fence wires to indicate a break. <b>Info:</b> <a href="http://www.simplyfarm.net.au">www.simplyfarm.net.au</a>	SimplyCity	\$466 +\$6.60 per month	LoRaWAN	N	S or \$	Inc.
<b>Fuel tank level monitoring</b>							
GLFUL01	<b>GoFuel</b> Monitors real time fuel usage and tank volume using a pressure transducer. Fits any fuel tank. *Includes 3 years GoApp operating costs. <b>Requires:</b> GoApp (web browser, iOS or Android app) to view data (additional annual cost applies after year 3, contact Supplier). <b>Info:</b> <a href="https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/GoannaAg/GoFuel.pdf">https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/GoannaAg/GoFuel.pdf</a>	Goanna Ag	\$1199*	LoRaWAN, Cat-M1 or NB-IoT	N	Inc.	Inc.

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
<b>Milk temperature &amp; process equipment monitoring</b>							
5700001	<b>Halo Milk Vat, Wash &amp; Plate Cooler Temp Monitor</b> Measures milk vat, plate cooler and wash temperatures. Monitors open/closed status of vat outlet. <b>Requires:</b> Halo Cloud Gateway (Cat No. 5700000, see Software). <b>Info:</b> <a href="https://www.daviesway.com.au/dairy-solutions/halo-farm-systems">https://www.daviesway.com.au/dairy-solutions/halo-farm-systems</a>	Daviesway	\$6500	N/A	N	Inc.	\$
<b>On-farm cold store monitoring</b>							
EE-TM-HR	<b>Critical Indoor Monitor Option 1: LoRaWAN</b> Monitors temperature (+/-0.2°C) and humidity (+/-2% relative humidity) at 1 min intervals. Suitable for cold storage environments. <b>Info:</b> <a href="https://www.agriwan.com/product/critical-indoor-monitor/">https://www.agriwan.com/product/critical-indoor-monitor/</a>	AgriWAN	\$1099	LoRaWAN	N	S or \$	\$
NB-EE-TM-HR	<b>Critical Indoor Monitor Option 1: NB-IoT</b> As above but NB-IoT compatible. <b>Info:</b> <a href="https://www.agriwan.com/product/critical-indoor-monitor-nbloT/">https://www.agriwan.com/product/critical-indoor-monitor-nbloT/</a>	AgriWAN	\$1349	NB-IoT	N	S or \$	\$
EE-CLRM-01	<b>Critical Indoor Monitor Option 2: LoRaWAN</b> As for Critical Indoor Monitor Option 1 but provides measurements at 15 min intervals. <b>Info:</b> <a href="https://www.agriwan.com/product/critical-indoor-monitor/">https://www.agriwan.com/product/critical-indoor-monitor/</a>	AgriWAN	\$1099	LoRaWAN	N	S or \$	\$
NB-EE-CLRM-01	<b>Critical Indoor Monitor Option 2: NB-IoT</b> As above but NB-IoT compatible. <b>Info:</b> <a href="https://www.agriwan.com/product/critical-indoor-monitor-nbloT/">https://www.agriwan.com/product/critical-indoor-monitor-nbloT/</a>	AgriWAN	\$899	NB-IoT	N	S or \$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
R718CT	<b>IoT Cold Store Monitoring Single (Type T): LoRaWAN</b> Measures temperature (+/-1°C or +/-0.75%) at 10 min intervals using a single thermocouple Type T sensor. Provides automatic logs, alerts and reports from cold storage. Info: <a href="https://www.agriwan.com/product/iot-cold-store-monitors/">https://www.agriwan.com/product/iot-cold-store-monitors/</a>	AgriWAN	\$362	LoRaWAN	N	S or \$	\$
NB-R718CT	<b>IoT Cold Store Monitoring Single (Type T): NB-IoT</b> As above but NB-IoT compatible. Info: <a href="https://www.agriwan.com/product/iot-cold-store-monitors-nbiot/">https://www.agriwan.com/product/iot-cold-store-monitors-nbiot/</a>	AgriWAN	\$519	NB-IoT	N	S or \$	\$
R718CT2	<b>IoT Cold Store Monitoring Dual (Type T): LoRaWAN</b> As for the IoT Cold Store Monitoring Single (Type T) but using a dual thermocouple Type T sensor to allow monitoring at two positions. Info: <a href="https://www.agriwan.com/product/iot-cold-store-monitors/">https://www.agriwan.com/product/iot-cold-store-monitors/</a>	AgriWAN	\$384	LoRaWAN	N	S or \$	\$
NB-R718CT2	<b>IoT Cold Store Monitoring Dual (Type T): NB-IoT</b> As above but NB-IoT compatible. Info: <a href="https://www.agriwan.com/product/iot-cold-store-monitors-nbiot/">https://www.agriwan.com/product/iot-cold-store-monitors-nbiot/</a>	AgriWAN	\$529	NB-IoT	N	S or \$	\$
R718CK	<b>IoT Cold Store Monitoring Single (Type K): LoRaWAN</b> Measures temperature (+/-2.2°C or +/-0.75%) at 10 min intervals using a single thermocouple Type K sensor. Provides automatic logs, alerts and reports from cold storage. Info: <a href="https://www.agriwan.com/product/iot-cold-store-monitors/">https://www.agriwan.com/product/iot-cold-store-monitors/</a>	AgriWAN	\$329	LoRaWAN	N	S or \$	\$
NB-R718CK	<b>IoT Cold Store Monitoring Single (Type K): NB-IoT</b> As above but NB-IoT compatible. Info: <a href="https://www.agriwan.com/product/iot-cold-store-monitors-nbiot/">https://www.agriwan.com/product/iot-cold-store-monitors-nbiot/</a>	AgriWAN	\$479	NB-IoT	N	S or \$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$



Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
R718CK2	<b>IoT Cold Store Monitoring Dual (Type K): LoRaWAN</b> As for the IoT Cold Store Monitoring Single (Type K) but using a dual thermocouple Type K sensor to allow monitoring at two positions. <b>Info:</b> <a href="https://www.agriwan.com/product/iot-cold-store-monitors/">https://www.agriwan.com/product/iot-cold-store-monitors/</a>	AgriWAN	\$384	LoRaWAN	N	S or \$	\$
NB-R718CK2	<b>IoT Cold Store Monitoring Dual (Type K): NB-IoT</b> As above but NB-IoT compatible. <b>Info:</b> <a href="https://www.agriwan.com/product/iot-cold-store-monitors-nbiot/">https://www.agriwan.com/product/iot-cold-store-monitors-nbiot/</a>	AgriWAN	\$529	NB-IoT	N	S or \$	\$
EE-FPM	<b>IoT Cold Store Monitoring, Internal Fruit Temp: LoRaWAN</b> Measures internal fruit temperature (+/-1°C or +/-0.75%) at 1 min intervals. Provides automatic logs, alerts and reports from cold storage. <b>Info:</b> <a href="https://www.agriwan.com/product/iot-cold-store-monitors/">https://www.agriwan.com/product/iot-cold-store-monitors/</a>	AgriWAN	\$499	LoRaWAN	N	S or \$	\$
NB-EE-FPM	<b>IoT Cold Store Monitoring, Internal Fruit Temp: NB-IoT</b> As above but NB-IoT compatible. <b>Info:</b> <a href="https://www.agriWAN.com/product/iot-cold-store-monitors-nbiot/">https://www.agriWAN.com/product/iot-cold-store-monitors-nbiot/</a>	AgriWAN	\$649	NB-IoT	N	S or \$	\$
Temp-I2C	<b>Temperature Probe</b> I2C Temperature monitoring solution. -55 to +125C operating range, 2m Cable. <b>Requires:</b> Falcon GPS Tracker – 4G <b>Info:</b> <a href="https://www.digitalmatter.com/Devices/Driver-Identifiers/Temperature-Probe">https://www.digitalmatter.com/Devices/Driver-Identifiers/Temperature-Probe</a>	GPSSBoss	\$74.50	N/A	N	S	N/A

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
<b>Pack weight recording</b>							
EE-ADM-250	<b>Field Scales: LoRaWAN</b> In-situ wireless recording of field samples/bin weights. Info: <a href="https://www.agriwan.com/product/field-scales/">https://www.agriwan.com/product/field-scales/</a>	AgriWAN	\$1099	LoRaWAN	N	S or \$	\$
NB-EE-ADM-250	<b>Field Scales: NB-IoT</b> As above but NB-IoT compatible. Info: <a href="https://www.agriwan.com/product/field-scales-nbiot/">https://www.agriwan.com/product/field-scales-nbiot/</a>	AgriWAN	\$1299	NB-IoT	N	S or \$	\$
<b>Silo level monitoring</b>							
<b>Surface level monitoring products with multiple applications (water, silos, vats) can be found under Water level monitoring in Water Management.</b>							
5700005	<b>Halo Grain Silo Level Alert</b> Sends an alert when a switch, at a pre-set level within the silo, is triggered. <b>Requires:</b> Halo Cloud Gateway (Cat No. 57000000, see Software). Info: <a href="https://www.daviesway.com.au/dairy-solutions/halo-farm-systems">https://www.daviesway.com.au/dairy-solutions/halo-farm-systems</a>	Daviesway	\$6500	N/A	N	Inc.	\$
5700012	<b>Halo Grain Silo Level % &amp; Alert</b> Monitors percentage at which silo is filled. Can pre-set levels to send alerts when triggered. <b>Requires:</b> Halo Cloud Gateway (Cat No. 57000000, see Software). Info: <a href="https://www.daviesway.com.au/dairy-solutions/halo-farm-systems">https://www.daviesway.com.au/dairy-solutions/halo-farm-systems</a>	Daviesway	\$7000	N/A	N	Inc.	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
<b>Site security monitoring</b>							
AGSC1	<b>Solar Powered IP Camera Station</b> High definition, solar powered internet protocol camera for remote monitoring. Can live stream water troughs, livestock or any other area of interest. When combined with AgCloud Tag Starter Kit (Cat No. AGSK1), can be used for after-dark image capture or to trigger automatic recording. <b>Requires:</b> Internet connection at a building within line of sight and <5 km away, or 4G signal. <b>Info:</b> <a href="http://agcloud.com.au/AGSC1">http://agcloud.com.au/AGSC1</a>	AgCloud	\$3300	Contact Supplier	N	S or \$	Inc.
AGGC1	<b>Grid Powered IP Camera Station</b> High definition, mains powered internet protocol camera for remote monitoring. Uses wireless connection; live stream can be viewed from a mobile device. <b>Requires:</b> Mains powered internet connection at a building within line of sight and <5 km away, or 4G signal. <b>Info:</b> <a href="http://agcloud.com.au/AGGC1">http://agcloud.com.au/AGGC1</a>	AgCloud	\$1050	Contact Supplier	N	S or \$	Inc.
AGSK1	<b>AgCloud Tag Starter Kit</b> Monitors movement and magnetic field using high resolution sensors that can be buried on access roads, laneways or positioned on doorways. Can trigger SMS or email alerts or activate AgCloud cameras and flood lights to record movement and deter trespassers. Includes one base station. <b>Requires:</b> Internet connection. <b>Info:</b> <a href="http://agcloud.com.au/AGSK1">http://agcloud.com.au/AGSK1</a>	AgCloud	\$1100	Contact Supplier	N	S or \$	Inc.

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
AGTAG1	<b>Additional AgCloud Tag</b> Monitors an additional track, driveway or gate when added to the AgCloud Tag Starter Kit. <b>Requires:</b> AgCloud Starter Kit (Cat No. AGSK1). <b>Info:</b> <a href="http://agcloud.com.au/AGTAG1">http://agcloud.com.au/AGTAG1</a>	AgCloud	\$220	Contact Supplier	N	S or \$	Inc.
EE-SS-DR	<b>Door Security Sensor: LoRaWAN</b> Detects open/closed status of door. <b>Info:</b> <a href="https://www.agriwan.com/product/door-security-sensor-monitor/">https://www.agriwan.com/product/door-security-sensor-monitor/</a>	AgriWAN	\$182	LoRaWAN	N	S or \$	\$
NB-EE-SS-DR	<b>Door Security Sensor: NB-IoT</b> As above but NB-IoT compatible. <b>Requires:</b> NB-IoT SIM (contact Supplier). <b>Info:</b> <a href="https://www.agriwan.com/product/door-security-sensor-monitor-nbIoT/">https://www.agriwan.com/product/door-security-sensor-monitor-nbIoT/</a>	AgriWAN	\$399	NB-IoT	N	S or \$	\$
EE-SS-PIR	<b>PIR Motion Sensor: LoRaWAN</b> Detects motion through passive infrared. (PIR). <b>Info:</b> <a href="https://www.agriwan.com/product/pir-motion-sensor-monitor/">https://www.agriwan.com/product/pir-motion-sensor-monitor/</a>	AgriWAN	\$269	LoRaWAN	N	S or \$	\$
NB-EE-SS-PIR	<b>PIR Motion Sensor: NB-IoT</b> As above but NB-IoT compatible. <b>Requires:</b> NB-IoT SIM card (contact Supplier). <b>Info:</b> <a href="https://www.agriwan.com/product/pir-motion-sensor-monitor-nbIoT/">https://www.agriwan.com/product/pir-motion-sensor-monitor-nbIoT/</a>	AgriWAN	\$469	NB-IoT	N	S or \$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$



Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
SEC-HV-00002	<b>5MP Varifocal Camera</b> Records high resolution video for 24/7 video surveillance. Outdoor bullet camera with motion sensing, infrared, vehicle and pedestrian tracking. <b>Requires:</b> Wi-Fi/Broadband access plus network components (contact Supplier for more information). <b>Info:</b> <a href="https://www.hikvision.com/au-en/products/IP-Products/Network-Cameras/Pro-Series-EasyIP-/DS-2CD2655FWD-IZS/">https://www.hikvision.com/au-en/products/IP-Products/Network-Cameras/Pro-Series-EasyIP-/DS-2CD2655FWD-IZS/</a>	Powertec	\$1023 +\$66 annual fee	Wi-Fi	N	\$	\$
SC-GATE-DMY	<b>Guppy - Asset Monitoring</b> Detects gates being opened or closed and reports gate status. Suitable for both steel framed gates and wire "cocky gates". <b>Info:</b> <a href="http://www.simplyfarm.net.au">www.simplyfarm.net.au</a>	SimplyCity	\$144 +\$6.60 per month	LoRaWAN	N	S or \$	Inc.
<b>Staff safety monitoring</b>							
EE-MD	<b>Staff Safety Sensor - Location &amp; Fall Detection: LoRaWAN</b> Measures GPS location and sudden movement using accelerometer to detect falls. Includes a distress button. Sends SMS alerts to a predefined distribution list. <b>Info:</b> <a href="https://www.agriwan.com/product/staff-safety-sensor/">https://www.agriwan.com/product/staff-safety-sensor/</a>	AgriWAN	\$998	LoRaWAN	N	S or \$	\$
NB-EE-MD	<b>Staff Safety Sensor - Location &amp; Fall Detection: NB-IoT</b> As above but NB-IoT compatible. <b>Info:</b> <a href="https://www.agriwan.com/product/staff-safety-sensor-nbloT/">https://www.agriwan.com/product/staff-safety-sensor-nbloT/</a>	AgriWAN	\$1199	NB-IoT	N	S or \$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
EE-AIR-C2	<b>CO2 Sensor: LoRaWAN</b> Measures level of CO2 in atmosphere and alerts to non-breathable air. Info: <a href="https://www.agriwan.com/product/co2-sensor/">https://www.agriwan.com/product/co2-sensor/</a>	AgriWAN	\$440	LoRaWAN	N	S or \$	\$
NB-EE-AIR-C2	<b>CO2 Sensor: NB-IoT</b> As above but NB-IoT compatible. Info: <a href="https://www.agriwan.com/product/co2-sensor-nbloT/">https://www.agriwan.com/product/co2-sensor-nbloT/</a>	AgriWAN	\$640	NB-IoT	N	S or \$	\$
RXPROR4	<b>4 Channel Multi-Function Key Fob</b> 4 button programable keyfob. Can be programmed to indicate "Man Down", "Broken Down", "All Ok" alerts via tracker. Up to 200m radio frequency range (line of sight). <b>Requires:</b> Dart2-4G Info: <a href="https://www.rhinoco.com.au/product/RXPROR4">https://www.rhinoco.com.au/product/RXPROR4</a>	GPSSBoss	\$129.50	N/A	N	S	N/A

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$







# Water management

## Overview

Water management systems assist with monitoring and automated control of on-farm water infrastructure. This can allow for remote monitoring and management of water use, to ensure water troughs and tanks are filled on critical high temperature days, and to provide greater visibility and control over irrigation activities to increase water efficiency.

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
<b>Bay controlling</b>							
A18000247SA	<b>AutoWinch Seasonal</b> Solar/battery powered winch for operating channel regulators and bay outlets. May be moved with the cropping season or placed permanently. *Includes 4 h installation, then \$90 per h. <b>Requires:</b> Padman Stops PAMS Web App (Cat No. A18000247SA, see Software). Suitable regulator or bay outlet gate (such as Padman outlets, iRiser, Rodney Gates or other vertical slide gates). Gate to be fitted with Padman auto-ready hand winch and bracket (\$60 per outlet, includes cable). <b>Info:</b> <a href="http://bit.ly/AW_Seasonal">http://bit.ly/AW_Seasonal</a>	Padman Stops	\$1738	Cat-M1	N	Inc.*	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
A19000 180SA	<b>AutoWinch Pro</b> Portable, solar/battery powered winch for operating channel regulators and bay outlets. *Includes 4 h installation, then \$90 per h. <b>Requires:</b> Padman Stops PAMS Web App (Cat No. A18000247SA, see Software). Suitable regulator or bay outlet gate (such as Padman outlets, iRiser, Rodney Gates or other vertical slide gates). Gate to be fitted with Padman auto-ready hand winch and bracket (\$60 per outlet, includes cable). <b>Info:</b> <a href="http://bit.ly/AW_Pro">http://bit.ly/AW_Pro</a>	Padman Stops	\$2475	Cat-M1	N	Inc.*	\$
A19000 181SA	<b>EDT Pro</b> Portable, solar/battery powered actuator for operating smaller Padman rubber flap bay outlets. *Includes 4 h installation, then \$90 per h. <b>Requires:</b> Padman Stops PAMS Web App (Cat No. A18000247SA, see Software). Suitable regulator or bay outlet gate (such as Padman outlets, iRiser, Rodney Gates or other vertical slide gates). Gate to be fitted with Padman auto-ready hand winch and bracket (\$60 per outlet, includes cable). <b>Info:</b> <a href="http://bit.ly/EDT_PRO">http://bit.ly/EDT_PRO</a>	Padman Stops	\$2475 +\$83 annual fee	Cat-M1	N	Inc.*	\$

## Equipment automation and control

**For water pump remote operation see Cat No. IOT-KIT-00025 (page 36).**

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$



Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
<b>Water delivery monitoring</b>							
EE-WTR-D1	<b>Water Detection Sensor: LoRaWAN</b> Alerts grower to arrival of water at remote section of an irrigation system by SMS or email. Info: <a href="https://www.agriwan.com/product/water-detector-sensor/">https://www.agriwan.com/product/water-detector-sensor/</a>	AgriWAN	\$208	LoRaWAN	N	S or \$	\$
NB-EE-WTR-D1	<b>Water Detection Sensor: NB-IoT</b> As above but NB-IoT compatible. Info: <a href="https://www.agriwan.com/product/water-detector-sensor/">https://www.agriwan.com/product/water-detector-sensor/</a>	AgriWAN	\$499	NB-IoT	N	S or \$	\$
A19000 150SA	<b>BayWatcher Pro</b> Portable water location sensor. Provides information on water location within flood irrigation bay, can be used for irrigation timing for contiguous irrigation bays. *Includes 4 h installation then \$90 per h. <b>Requires:</b> Padman Stops PAMS Web App (Cat No. A18000247SA, see Software). Info: <a href="http://bit.ly/BayWatcher_PRO">http://bit.ly/BayWatcher_PRO</a>	Padman Stops	\$1315	Cat-M1	N	Inc.*	\$
<b>Water flow measuring</b>							
EE-IFM-12	<b>Irrigation Flow Meter + Totaliser (12 mm): LoRaWAN</b> Pulse based flow meter and totaliser, for 12 mm diameter pipe. Info: <a href="https://www.agriwan.com/product/easy-addon-pulse-based-meter/">https://www.agriwan.com/product/easy-addon-pulse-based-meter/</a>	AgriWAN	\$299	LoRaWAN	N	S or \$	\$
NB-EE-IFM-12	<b>Irrigation Flow Meter + Totaliser (12 mm): NB-IoT</b> As above but NB-IoT compatible. Info: <a href="https://www.agriwan.com/product/easy-addon-pulse-based-meter/">https://www.agriwan.com/product/easy-addon-pulse-based-meter/</a>	AgriWAN	\$359	NB-IoT	N	S or \$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
EE-IFM-20	<b>Irrigation Flow Meter + Totaliser (20 mm): LoRaWAN</b> Pulse based flow meter and totaliser, for 20 mm diameter pipe. Info: <a href="https://www.agriwan.com/product/easy-addon-pulse-based-meter/">https://www.agriwan.com/product/easy-addon-pulse-based-meter/</a>	AgriWAN	\$319	LoRaWAN	N	S or \$	\$
NB-EE-IFM-20	<b>Irrigation Flow Meter + Totaliser (20 mm): NB-IoT</b> As above but NB-IoT compatible. Info: <a href="https://www.agriwan.com/product/easy-addon-pulse-based-meter/">https://www.agriwan.com/product/easy-addon-pulse-based-meter/</a>	AgriWAN	\$369	NB-IoT	N	S or \$	\$
EE-IFM-25	<b>Irrigation Flow Meter + Totaliser (25 mm): LoRaWAN</b> Pulse based flow meter and totaliser, for 25 mm diameter pipe. Info: <a href="https://www.agriwan.com/product/easy-addon-pulse-based-meter/">https://www.agriwan.com/product/easy-addon-pulse-based-meter/</a>	AgriWAN	\$319	LoRaWAN	N	S or \$	\$
NB-EE-IFM-25	<b>Irrigation Flow Meter + Totaliser (25 mm): NB-IOT</b> As above but NB-IoT compatible. Info: <a href="https://www.agriwan.com/product/easy-addon-pulse-based-meter/">https://www.agriwan.com/product/easy-addon-pulse-based-meter/</a>	AgriWAN	\$369	NB-IoT	N	S or \$	\$
EE-IFM-50	<b>Irrigation Flow Meter + Totaliser (50 mm): LoRaWAN</b> Pulse based flow meter and totaliser, for 50 mm diameter pipe. Info: <a href="https://www.agriwan.com/product/easy-addon-pulse-based-meter/">https://www.agriwan.com/product/easy-addon-pulse-based-meter/</a>	AgriWAN	\$459	LoRaWAN	N	S or \$	\$
NB-EE-IFM-50	<b>Irrigation Flow Meter + Totaliser (50 mm): NB-IoT</b> As above but NB-IoT compatible. Info: <a href="https://www.agriwan.com/product/easy-addon-pulse-based-meter/">https://www.agriwan.com/product/easy-addon-pulse-based-meter/</a>	AgriWAN	\$519	NB-IoT	N	S or \$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
EE-IFM-90	<b>Irrigation Flow Meter + Totaliser (90 mm): LoRaWAN</b> Pulse based flow meter and totaliser, for 90 mm diameter pipe. Info: <a href="https://www.agriwan.com/product/easy-addon-pulse-based-meter/">https://www.agriwan.com/product/easy-addon-pulse-based-meter/</a>	AgriWAN	\$539	LoRaWAN	N	S or \$	\$
NB-EE-IFM-90	<b>Irrigation Flow Meter + Totaliser (90 mm): NB-IoT</b> As above but NB-IoT compatible. Info: <a href="https://www.agriwan.com/product/easy-addon-pulse-based-meter/">https://www.agriwan.com/product/easy-addon-pulse-based-meter/</a>	AgriWAN	\$599	NB-IoT	N	S or \$	\$
EE-IFM-100	<b>Irrigation Flow Meter + Totaliser (100 mm): LoRaWAN</b> Pulse based flow meter and totaliser, for 100 mm diameter pipe. Info: <a href="https://www.agriwan.com/product/easy-addon-pulse-based-meter/">https://www.agriwan.com/product/easy-addon-pulse-based-meter/</a>	AgriWAN	\$799	LoRaWAN	N	S or \$	\$
NB-EE-IFM-100	<b>Irrigation Flow Meter + Totaliser (100 mm): NB-IoT</b> As above but NB-IoT compatible. Info: <a href="https://www.agriwan.com/product/easy-addon-pulse-based-meter/">https://www.agriwan.com/product/easy-addon-pulse-based-meter/</a>	AgriWAN	\$829	NB-IoT	N	S or \$	\$
IOT-FRS001 (LoRa)	<b>Flow Rate Sensor Kit: LoRaWAN</b> Measures flow state for low PSI flow rate monitoring such as drip irrigation.	Powertec	\$664 +\$66 annual fee	LoRaWAN	N	\$	\$
IOT-RFS002 (LTE)	<b>Flow Rate Sensor Kit: NB-IoT</b> As above but NB-IoT compatible.	Powertec	\$664 +\$66 annual fee	NB-IoT	N	\$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
PUTD-TUF-2000	<b>Water Flowmeter Sensor</b> Measures liquid pressure in pipes using ultrasonic pressure sensor. *Installation may incur additional cost, contact Supplier. Data can be viewed through PUTD Dashboard Device (additional cost per data set applies, see Cat No. PUTD DSS, Software). <b>Requires:</b> Smart Water Device Hub (Cat No. PT6000-WT-LoRaWAN-SW, see Accessories). <b>Info:</b> <a href="https://www.putd-iot.com/waterflow-meter-sensor">https://www.putd-iot.com/waterflow-meter-sensor</a>	PUTD IOT Technology	\$283 +\$42 annual fee	LoRaWAN	Y	Contact Supplier*	\$*
SW1000	<b>Flow Meter Internal Interface</b> Required as a hub to install pressure switches/ flow meters. Data viewed through the FieldClimate app or web portal (ng.fieldclimate.com). <b>Requires:</b> Additional components, contact Supplier. <b>Info:</b> <a href="http://metos.at/portfolio/pessl-instruments-water-counter/">http://metos.at/portfolio/pessl-instruments-water-counter/</a> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$121	3G/4G	Y	S or \$	Inc.
SW1010	<b>Interface Box &amp; Electronic</b> For electronic pulse water meter for PI Bus connection (ARAD, Flowtronic, etc). <b>Requires:</b> Additional components, contact Supplier. <b>Info:</b> <a href="http://metos.at/portfolio/pessl-instruments-water-counter/">http://metos.at/portfolio/pessl-instruments-water-counter/</a> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$440	3G/4G	Y	S or \$	Inc.

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
SW1020	<b>Water Meter Kit with Reed Relay &amp; Sensor Node</b> Multi-jet dry dial meter for irrigation and potable water. Suitable for low water quality or difficult installation, resolution 0.1-1000 litres per pulse.  Data viewed through the FieldClimate app or web portal (ng.fieldclimate.com).  <b>Requires:</b> Additional components, contact Supplier. <b>Info:</b> <a href="http://metos.at/portfolio/pessl-instruments-water-counter/">http://metos.at/portfolio/pessl-instruments-water-counter/</a> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$385	3G/4G	Y	S or \$	Inc.
WGNUM 20	<b>Numeter Digital Water Meter 20 mm</b> Measures water flow using ultrasonic sound waves. No moving parts, suited to raw water.  <b>Requires:</b> Customised software solution, contact Supplier. <b>Info:</b> <a href="https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/WaterGroup/WG%20Numeter%20NB-IoT%20Data%20sheet_v2b270818.pdf">https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/WaterGroup/WG%20Numeter%20NB-IoT%20Data%20sheet_v2b270818.pdf</a>	WaterGroup	\$352	NB-IoT	N	S or \$	\$
WGIRR 65	<b>Irrigation Meter 65 mm</b> <b>Requires:</b> Data logger (NB-IoT, Cat No. WGCAPTP; LoRaWAN, Cat No. WGLORA). Customised software solution, contact Supplier.	WaterGroup	\$1045	LoRaWAN or NB-IoT	N	S or \$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$



Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
WGIRR 80	<b>Irrigation Meter 80 mm</b> <b>Requires:</b> Data logger (NB-IoT, Cat No. WGCAPTP; LoRaWAN, Cat No. WGLORA). Customised software solution, contact Supplier.	WaterGroup	\$1375	LoRaWAN or NB-IoT	N	S or \$	\$
WGIRR 100	<b>Irrigation Meter 100 mm</b> <b>Requires:</b> Data logger (NB-IoT, Cat No. WGCAPTP; LoRaWAN, Cat No. WGLORA). Customised software solution, contact Supplier.	WaterGroup	\$1815	LoRaWAN or NB-IoT	N	S or \$	\$
WGC APTP	<b>Captis NB-IoT Data Logger: Retrofit Option</b> Logs data from sensor or meter, as often as required, and reports via email or cloud.  <b>Requires:</b> Customised solution, pulse enabled meter and probe (contact Supplier for more information).  <b>Info:</b> <a href="https://www.watergroup.com.au/nb-iot-retrofit-loggers">https://www.watergroup.com.au/nb-iot-retrofit-loggers</a>	WaterGroup	\$715	NB-IoT	N	S or \$	\$
WGLORA	<b>N-Sen LoRaWAN Meter Data Logger: Retrofit Option</b> Logs data from sensor or meter, as often as required, and reports via email or cloud.  <b>Requires:</b> Customised solution, pulse enabled meter and probe (contact Supplier for more information).  <b>Info:</b> <a href="https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/WaterGroup/WG%20LoRaWAN%20ELT-2%20Datasheet.pdf">https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/WaterGroup/WG%20LoRaWAN%20ELT-2%20Datasheet.pdf</a>	WaterGroup	\$429	LoRaWAN	N	S or \$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
<b>Water level monitoring</b>							
EE-WTR-DP	<b>Water Tank Submersible Level Sensor: LoRaWAN</b> Measures water tank levels in tanks, dams and troughs. Info: <a href="https://www.agriwan.com/product/water-tank-level/">https://www.agriwan.com/product/water-tank-level/</a>	AgriWAN	\$935	LoRaWAN	N	S or \$	\$
NB-EE-WTR-DP	<b>Water Tank Submersible Level Sensor: NB-IoT</b> As above but NB-IoT compatible. Info: <a href="https://www.agriwan.com/product/water-tank-level/">https://www.agriwan.com/product/water-tank-level/</a>	AgriWAN	\$1399	NB-IoT	N	S or \$	\$
LS1-CEL-U5	<b>Waterwatch LS1 – Water Level Monitor - Cellular M/NB-IoT - Internal Antenna</b> Measures any water level, such as tank, trough, irrigation channel using ultrasound (range 5000 mm). Web-based app enables email/SMS alerts for water level and/or rate of change. Info: <a href="https://www.automationgroup.com.au/waterwatch.html">https://www.automationgroup.com.au/waterwatch.html</a>	Automation Group	\$963 +\$106 annual fee	Cat-M1/ NB-IoT	N	S or \$	\$
5700014	<b>Halo Water Tank Level Sensing</b> Monitors water tank level by volume. Alerts can be set at programmable levels. <b>Requires:</b> Halo Cloud Gateway (Cat No. 5700000, see Software). Info: <a href="https://www.daviesway.com.au/dairy-solutions/halo-farm-systems">https://www.daviesway.com.au/dairy-solutions/halo-farm-systems</a>	Daviesway	\$7000	N/A	N	Inc.	\$
OXDL1	<b>Dam and Trough Water Level Sensor</b> Provides historical and real-time water level measurement for troughs, dams or turkey nests. Info: <a href="https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/FarmDeck/OXWT1.pdf">https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/FarmDeck/OXWT1.pdf</a>	FarmDeck	\$476	LoRaWAN	N	S or \$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
OXWT1	<b>Tank Water Level Sensor</b> Provides historical and real time information on water levels and detects water leaks. <b>Info:</b> <a href="https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/FarmDeck/OXWT1.pdf">https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/FarmDeck/OXWT1.pdf</a>	FarmDeck	\$476	LoRaWAN	N	S or \$	\$
GLTNK01	<b>GoTank</b> Tracks real time water volume and usage using pressure transducer. Fits any enclosed water tank. *Includes 3 years GoApp operating costs. <b>Requires:</b> GoApp (web browser, iOS or Android app) to view data (additional annual cost applies after year 3, contact Supplier). <b>Info:</b> <a href="https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/GoannaAg/GoTank.pdf">https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/GoannaAg/GoTank.pdf</a>	Goanna Ag	\$1095*	LoRaWAN, Cat-M1 or NB-IoT	N	Inc.	Inc.
GLST O02	<b>GoStorage</b> Monitors height and volume of water storage unit using either radar or pressure transducer technology (depending on storage type). *Includes 3 years GoApp operating costs. <b>Requires:</b> GoApp (web browser, iOS or Android app) to view data (additional annual cost applies after year 3, contact Supplier). <b>Info:</b> <a href="https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/GoannaAg/GoStorage.pdf">https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/GoannaAg/GoStorage.pdf</a>	Goanna Ag	\$2530*	LoRaWAN	N	Inc.	Inc.

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
LXSE-SS634-B24-BN3L9A	<b>Level Sensing: Immersion Pressure Probe</b> Measures water pressure to estimate level or depth of tank or bore, 4-20mA output pressure. *Includes Blue node plus 2 years subscription fees (after 2 years, subscription fee to be charged at \$5.50 per month). <b>Requires:</b> Blue node, included in cost. <b>Info:</b> <a href="https://lx-group.com.au/product/pressure-sensor/">https://lx-group.com.au/product/pressure-sensor/</a>	LX	\$780*	LoRaWAN	Y (included)	S	Inc.
LXMB-10-B24-BN3L9A	<b>Ultrasonic Level Sensor</b> Measures distance to surface level up to 10m to estimate capacity of water tanks and dams. Can also be used in grain silos. *Includes Blue node plus 2 years subscription fees (after 2 years, subscription fee to be charged at \$5.50 per month). <b>Requires:</b> Blue node, included in cost. <b>Info:</b> <a href="https://lx-group.com.au/product/ultrasonic-distance-sensor-5m/">https://lx-group.com.au/product/ultrasonic-distance-sensor-5m/</a>	LX	\$880*	LoRaWAN	Y (included)	S	Inc.
A19000148SA	<b>WaterWatcher Pro</b> Fixed solar powered unit for integrating Padman PAMS IoT Network with third party sensors to measure water levels (eg. dams, tanks, channels). *Includes 4 h installation, then \$90 per h. <b>Requires:</b> Padman Stops PAMS software (Cat No.A18000247SA, see Software). <b>Info:</b> <a href="http://bit.ly/Waterwatcher_PRO">http://bit.ly/Waterwatcher_PRO</a>	Padman Stops	\$1557	Cat-M1	N	Inc.*	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
IOT-KIT-00034 (LoRa)	<b>Ultrasonic Level Displacement Sensor Kit: LoRaWAN</b> Measures distance to water surface (tanks, creeks, water troughs). Can also be used for storage levels (grain silos, vats) and snow depth. <b>Info:</b> <a href="https://myinsight.io/wp-content/uploads/2019/01/myinsight.io-Level-Displacement-Sensor-Ultrasonic-Kit-Brochure.pdf">https://myinsight.io/wp-content/uploads/2019/01/myinsight.io-Level-Displacement-Sensor-Ultrasonic-Kit-Brochure.pdf</a>	Powertec	\$1309 +\$66 annual fee	LoRaWAN	N	\$	\$
IOT-KIT-00035 (LTE)	<b>Ultrasonic Level Displacement Sensor Kit: NB-IoT</b> As above but NB-IoT compatible. <b>Info:</b> <a href="https://myinsight.io/wp-content/uploads/2019/01/myinsight.io-Level-Displacement-Sensor-Ultrasonic-Kit-Brochure.pdf">https://myinsight.io/wp-content/uploads/2019/01/myinsight.io-Level-Displacement-Sensor-Ultrasonic-Kit-Brochure.pdf</a>	Powertec	\$1309 +\$66 annual fee	NB-IoT	N	\$	\$
IOT-KIT-00037 (LoRa)	<b>Ultrasonic Level Displacement Sensor Kit (Chemical Safe): LoRaWAN</b> As per previous item but chemical safe, which can allow use in some hazardous chemical environments. <b>Info:</b> <a href="https://myinsight.io/wp-content/uploads/2019/01/myinsight.io-Level-Displacement-Sensor-Ultrasonic-Kit-Brochure.pdf">https://myinsight.io/wp-content/uploads/2019/01/myinsight.io-Level-Displacement-Sensor-Ultrasonic-Kit-Brochure.pdf</a>	Powertec	\$1527 +\$66 annual fee	LoRaWAN	N	\$	\$
IOT-KIT-00038 (LTE)	<b>Ultrasonic Level Displacement Sensor Kit (Chemical Safe): NB-IoT</b> As above but NB-IoT compatible. <b>Info:</b> <a href="https://myinsight.io/wp-content/uploads/2019/01/myinsight.io-Level-Displacement-Sensor-Ultrasonic-Kit-Brochure.pdf">https://myinsight.io/wp-content/uploads/2019/01/myinsight.io-Level-Displacement-Sensor-Ultrasonic-Kit-Brochure.pdf</a>	Powertec	\$1527 +\$66 annual fee	NB-IoT	N	\$	\$

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$



Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
IOT-KIT-00040 (LoRa)	<b>Liquid Level &amp; Pressure Sensor Kit (Chemical Safe): LoRaWAN</b> Measures level and pressure, temperature and electrical conductivity. Suitable for bore hole and reservoir level monitoring, water mains pressure measurement in inspection chambers, power level and outlet pressure measurement on submersible pumps.  <b>Info:</b> <a href="https://myinsight.io/wp-content/uploads/2019/01/myinsight.io-Level-Sensor-Transducer-Kit-Internal.pdf">https://myinsight.io/wp-content/uploads/2019/01/myinsight.io-Level-Sensor-Transducer-Kit-Internal.pdf</a>	Powertec	\$2500 +\$66 annual fee	LoRaWAN	N	\$	\$
IOT-KIT-00041 (LTE)	<b>Liquid Level &amp; Pressure Sensor Kit (Chemical Safe): NB-IoT</b> As above but NB-IoT compatible.  <b>Info:</b> <a href="https://myinsight.io/wp-content/uploads/2019/01/myinsight.io-Level-Sensor-Transducer-Kit-Internal.pdf">https://myinsight.io/wp-content/uploads/2019/01/myinsight.io-Level-Sensor-Transducer-Kit-Internal.pdf</a>	Powertec	\$2500 +\$66 annual fee	NB-IoT	N	\$	\$
PUTD-JYB-KO-L	<b>Liquid/Water Level Sensor</b> Measures liquid levels, based on pressure, up to 50 m.  *Installation may incur additional cost, contact Supplier. Data can be viewed through PUTD Dashboard Device (additional cost per data set applies, see Cat No. PUTD DSS, Software).  <b>Requires:</b> Smart Water Device Hub (Cat No. PT6000-WT-LoRaWAN-SW, see Accessories).  <b>Info:</b> <a href="https://www.putd-iot.com/liquid-water-level-sensor">https://www.putd-iot.com/liquid-water-level-sensor</a>	PUTD IOT Technology	\$272 +\$38 annual fee	LoRaWAN	Y	Contact Supplier*	\$*

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
<b>Water pressure monitoring</b>							
5700013	<b>Halo Water Pump Monitoring</b> Monitors pressure and determines volume from pulse output water meter. Alerts can be set based on pressure and flow. <b>Requires:</b> Halo Cloud Gateway (Cat No. 5700000, see Software). Pulse output water flow meter (contact Supplier). <b>Info:</b> <a href="https://www.daviesway.com.au/dairy-solutions/halo-farm-systems">https://www.daviesway.com.au/dairy-solutions/halo-farm-systems</a>	Daviesway	\$8500	N/A	N	Inc.	\$
PTD2-L	<b>Pressure &amp; Temp Sensor</b> Measures pressure and temperature of water and gas pipes and water, diesel, chemicals and gas storage tanks. <b>Info:</b> <a href="https://www.ellenex.com/lorawan-pressure-temp-transmitter">https://www.ellenex.com/lorawan-pressure-temp-transmitter</a>	Ellenex	\$600	LoRaWAN	N	\$	Inc.
PS100	<b>Pressure Switch Electronic</b> Includes 5000 mm flat connector, IP65 Box and stainless steel holder. <b>Requires:</b> Base Station (Cat No. LPWAN-Base, see Accessories). <b>Info:</b> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$231	LoRaWAN or 3G/4G	Y	S or \$	Inc.
PS011	<b>Pressure Switch</b> Adjustable from 0-2 bar. <b>Requires:</b> Base Station (Cat No. LPWAN-Base, see Accessories). <b>Info:</b> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$154	LoRaWAN or 3G/4G	Y	S or \$	Inc.
PS010ICA	<b>Pressure Switch</b> Adjustable from 1-10 bar with 5000 mm cable. <b>Requires:</b> Base Station (Cat No. LPWAN-Base, see Accessories). <b>Info:</b> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$154	LoRaWAN or 3G/4G	Y	S or \$	Inc.

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$

Cat No.	Description	Supplier	Price	Network	Node required	Install options	Software
<b>Water quality</b>							
PUTD-SE615	<b>Water Conductivity Sensor</b> Measures water quality and temperature by tracking conductivity.  *Installation may incur additional cost, contact Supplier. Data can be viewed through PUTD Dashboard Device (additional cost per data set applies, see Cat No. PUTD DSS, Software).  <b>Requires:</b> SSmart Water Device Hub (Cat No. PT6000-WT-LoRaWAN-SW, see Accessories).  <b>Info:</b> <a href="https://www.putd-iot.com/water-conductivity-sensor">https://www.putd-iot.com/water-conductivity-sensor</a>	PUTD IOT Technology	\$1738 + \$261 annual fee	LoRaWAN	Y	Contact Supplier*	\$*
PH501	<b>Pessl Instruments pH Sensor Module</b> Measures pH of aqueous solutions.  Data viewed through the FieldClimate app or web portal (ng.fieldclimate.com).  <b>Requires:</b> ECO D3 iMetos Base Unit and Interface Box Module (Cat No. ECOD3INT and Cat No. EC500PH, see Accessories).  <b>Info:</b> <a href="http://metos.at/portfolio/ph-sensor/">http://metos.at/portfolio/ph-sensor/</a> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$660	3G/4G	Y	S or \$	Inc.
EC501	<b>Pessl Instruments EC Sensor Module</b> Measures electrical conductivity (EC), to estimate salinity, and temperature using a thermistor.  Data viewed through the FieldClimate app or web portal (ng.fieldclimate.com).  <b>Requires:</b> ECO D3 iMetos Base Unit and Interface Box Module (Cat No. ECOD3INT and Cat No. EC500PH, see Accessories).  <b>Info:</b> <a href="http://metos.at/portfolio/electrical-conductivity/">http://metos.at/portfolio/electrical-conductivity/</a> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$616	3G/4G	Y	S or \$	Inc.

**Node Required:** Yes = Y, No = N | **Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc. | **Software:** Included = Inc., Not Applicable = N/A, Additional Cost = \$



Soil Farm A

19.59 °C

pH 7    Moisture 95

Light Level 4265 lux



# Software

## Overview

This section contains software unique to each Supplier. Software for devices in the catalogue with “\$” in the software column is listed here. If it is not, please contact the Supplier for more information. Your Industry Technology Coordinator can also help you determine if you need to purchase software for your selected devices.

Cat No.	Description	Supplier	Price	Install options
<b>Software</b>				
EE-PPS-LITE	<b>Precision Lite - Decision Support Software</b> Displays data from on-farm weather stations or modelled data. Calculates crop corrected evapotranspiration (ETc) based on farm satellite mapping and farm water balance forecast. *Per device pricing capped at 10 devices (no additional fee after the first 10 devices). <b>Info:</b> <a href="https://www.agriwan.com/product/decision-support-software/">https://www.agriwan.com/product/decision-support-software/</a>	AgriWAN	\$158 per device per year*	Inc.
EE-PPS-PLUS	<b>Precision Plus - Decision Support Software</b> As above plus also includes soil monitoring (moisture, temperature and electrical conductivity (EC)), frost monitoring, irrigation pump and flow monitoring, water balance tracking and 7-day irrigation scheduling forecast. *Per device pricing capped at 15 devices (no additional fee after the first 15 devices). <b>Info:</b> <a href="https://www.agriwan.com/product/decision-support-software/">https://www.agriwan.com/product/decision-support-software/</a>	AgriWAN	\$238 per device per year*	Inc.

**Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc.

Cat No.	Description	Supplier	Price	Install options
EE-PPS-PRO	<b>Precision Pro - Decision Support Software</b> As previous plus also includes crop health monitoring and 14-day irrigation planning via dendrometers, sap flow sensors or crop water stress meters. *Per device pricing capped at 20 devices (no additional fee after the first 20 devices). <b>Info:</b> <a href="https://www.agriwan.com/product/decision-support-software/">https://www.agriwan.com/product/decision-support-software/</a>	AgriWAN	\$291 per device per year*	Inc.
5700000	<b>Halo Cloud Gateway &amp; Software</b> Gateway for uploading data to the cloud. Includes dashboard for farm monitoring. One gateway required per farm; each gateway can handle up to 1000 sensors. Required for Halo products. <b>Info:</b> <a href="https://www.daviesway.com.au/dairy-solutions/halo-farm-systems">https://www.daviesway.com.au/dairy-solutions/halo-farm-systems</a>	Daviesway	\$5800 +\$1200 annual fee	Inc.
ESP-2	<b>Ellenex Software Platform</b> Allows farmers to visualise data, set alarms and notifications, and manage devices. <b>Info:</b> <a href="http://www.ellenex.com">www.ellenex.com</a>	Ellenex	\$92 per year	Inc.
FarmDeck	<b>Farm Management Application</b> Allows management of tasks such as farm maps, livestock and paddock management, planning, reporting, audits. Runs on smartphone, tablet or computer. *Price for basic plan, will vary based on number of devices. <b>Info:</b> <a href="https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/FarmDeck/Farmdeck.pdf">https://avr-iot-catalogue.s3-ap-southeast-2.amazonaws.com/FarmDeck/Farmdeck.pdf</a>	FarmDeck	\$220 monthly for up to 20 devices*	S
Dataview	<b>Dataview Application</b> Web-based data visualisation service for ICT International IoT nodes. <b>Info:</b> <a href="http://www.ictinternational.com/products/online-data-visualisation/dataview-web/">http://www.ictinternational.com/products/online-data-visualisation/dataview-web/</a>	ICT International	\$250 per site per year	Inc.
A18000247SA	<b>PAMS</b> Web-based software for linking Padman IoT components. Required for all Padman Stops hardware. *Includes 4 h installation, then \$90 per h. <b>Info:</b> <a href="http://bit.ly/PadmanIoT">http://bit.ly/PadmanIoT</a>	Padman Stops	\$83 per device per year	Inc.*

**Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc.

Cat No.	Description	Supplier	Price	Install options
IOT-SERV-00001	<b>Mysight.io</b> Collects and collates IoT data and presents in a dashboard. For connecting, monitoring and controlling IoT devices. <b>Requires:</b> Control Module \$277 (contact Supplier for more information). <b>Info:</b> <a href="https://myinsight.io/dashboard/">https://myinsight.io/dashboard/</a> <a href="https://myinsight.io/wp-content/uploads/pdf/Aboutmyinsightio.pdf">https://myinsight.io/wp-content/uploads/pdf/Aboutmyinsightio.pdf</a>	Powertec	\$66 per device per year	S
PUTD DSS	<b>Dashboard Device Management &amp; Automation for Farm</b> Plots data from IoT devices onto dashboard in graph form and maps device locations. Alarms can be set to alert on thresholds. <b>Info:</b> <a href="https://www.putd-iot.com/dashboard-device-management">https://www.putd-iot.com/dashboard-device-management</a>	PUTD IOT Technology	\$3 per data set per month	Inc.
SPWEB	<b>Smart Paddock Platform</b> Maps paddock with herd location and status. User can view last reported location, activity status, temperature, and movement history via a heat map or path of individual animals. Required for Smart Paddock devices.	Smart Paddock	\$1.10 per collar/ tag per month (after year 1)	S
WGMON	<b>WaterGroup Dashboard Device Data Monitoring</b> Platform allows setting of alarms to manage and monitor water usage and identify leaks more rapidly.	WaterGroup	LoRaWAN: \$500 +\$80 per device per year (for portal access)  NB-IoT: \$500 +\$132 per device per year (for portal and network access)	\$

**Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc.





# Accessories

This section contains items required for your Apps & Devices to work. If the devices you have selected specify additional requirements in the device description, the additional items you will need to purchase for your devices will be listed here. Please contact the Supplier or your Industry Technology Coordinator for further information on specific device requirements.

Cat No.	Description	Supplier	Price	Network	Install options
<b>Communication node</b>					
PT6000-WT-LoRaWAN-SW	<b>Smart Water Device Hub</b> Connects PUTD Water Sensors to LoRaWAN. May support more than one sensor; contact Supplier. *Installation may incur additional cost, contact Supplier. <b>Info:</b> <a href="https://www.putd-iot.com/smart-water-device-hub">https://www.putd-iot.com/smart-water-device-hub</a>	PUTD IOT Technology	\$1120 +\$168 annual fee	LoRaWAN	Contact Supplier*
PT6000-Air01-LoRaWAN-SW	<b>Smart Air Quality Device Hub</b> Connects PUTD Air Sensors to LoRaWAN. May support more than one sensor; contact Supplier. *Installation may incur additional cost, contact Supplier. <b>Info:</b> <a href="https://www.putd-iot.com/smart-air-quality-device-hub">https://www.putd-iot.com/smart-air-quality-device-hub</a>	PUTD IOT Technology	\$1120 +\$168 annual fee	LoRaWAN	Contact Supplier*
PT6000-AG01-LoRaWAN-SW	<b>Smart Agriculture Device Hub</b> Connects PUTD agriculture sensors to LoRaWAN. May support more than one sensor; contact Supplier. *Installation may incur additional cost, contact Supplier. <b>Info:</b> <a href="https://www.putd-iot.com/smart-agriculture-device-hub">https://www.putd-iot.com/smart-agriculture-device-hub</a>	PUTD IOT Technology	\$1120 +\$168 annual fee	LoRaWAN	Contact Supplier*

**Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc.

Cat No.	Description	Supplier	Price	Network	Install options
ECOD3INT	<p><b>iMetos ECO D3 Base Unit</b></p> <p>Utilised for sensors that need a cellular interface.</p> <p>Required for EC Sensor Module and pH Sensor Module (Cat No. EC501 and Cat No. PH501, see Water Management).</p> <p>Can have multiple sensors added (sold separately).</p> <p>Data viewed through the FieldClimate App or web portal (ng.fieldclimate.com).</p> <p>Info: <a href="http://metos.at/hardware/">http://metos.at/hardware/</a></p>	SimplyCity	\$1045	3G/4G	S or \$
LPWAN- Base	<p><b>iMetos Base</b></p> <p>Required for sensors that need a LoRaWAN/NB-IoT interface.</p> <p>Can have multiple sensors added (sold separately).</p> <p>Data viewed through the FieldClimate App or web portal (ng.fieldclimate.com).</p> <p>Info: <a href="http://metos.at/hardware/">http://metos.at/hardware/</a></p>	SimplyCity	\$990	LoRaWAN, Wi-Fi or NB-IoT	S or \$

**Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc.

Cat No.	Description	Supplier	Price	Network	Install options
<b>Interface</b>					
EC500PH	<b>Pessl Instruments EC &amp; pH Interface Box Module with Display</b> Connects to iMetos ECO D3 Base Unit (Cat No. ECOD3INT). Required for EC Sensor Module and pH Sensor Module (Cat No. EC501 and Cat No. PH501, see Water Management). <b>Info:</b> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$836	3G/4G	S or \$
SEN-SDI13	<b>External SDI-12 Interface</b> For 2 Sentek probes. With battery and solar panel. Required to add Sentek probe to a station (if not provided as a package). <b>Info:</b> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$803	LoRaWAN or 3G/4G	S or \$
DN501	<b>Dendrometer Interface Box with IP65 Box</b> Connects to SimplyCity dendrometers. Required for Dendrometer DD-L and Dendrometer DD-F Fruit (Cat No. DN503 and Cat No. DN504, see Informed Agronomy). <b>Info:</b> <a href="http://metos.at/portfolio/pessl-instruments-dendrometer/">http://metos.at/portfolio/pessl-instruments-dendrometer/</a> <a href="http://metos.at/hardware/">http://metos.at/hardware/</a>	SimplyCity	\$506	3G/4G	S or \$

**Install Options:** Self Install = S, Provided at Cost = \$, Installation Included = Inc.

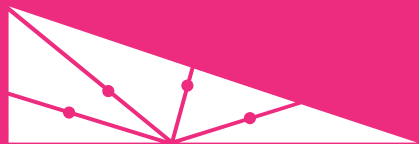






# Supplier contact details

Supplier	Contact number	Email	Website
AgCloud	0417 560 231 (Grant Sutton)	info@agcloud.com.au	www.agcloud.com.au
AgriWAN	1300 781 739	sales@agriwan.com	www.agriwan.com
Allflex	0429 333 418 (John Leddin)	john.leddin@allflex.com.au	https://www.allflex.global/au/
Automation Group	1300 724 743 0409 776 643 (Ken Moyney)	sales@automationgroup.com.au	www.automationgroup.com.au
Daviesway	Use email provided	info@daviesway.com.au	www.daviesway.com.au
Ellenex	(03) 9010 6083	sales@ellenex.com	www.ellenex.com
FarmDeck	(02) 8879 3850	sales@farmdeck.com	www.farmdeck.com
Goanna Ag	0436 642 920 (David Robson)	drobson@goannaag.com.au	www.goannaag.com.au
GPSBoss	1300 857 971 0439 300 958 (Richard Mason)	theboss@theGPSboss.com.au	https://gpsboss.com.au/
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Powertec	(07) 5577 0500	sales@powertec.com.au	www.powertec.com.au
PUTD IOT Technology	(03) 8375 0859 0449 601 229 (Queenie Zhang)	admin@putd-iot.com	www.putd-iot.com
Simply City	0414 729 907 (Chris Hollier)	chris@simplycity.net.au	www.simplycity.net.au www.simplyfarm.net.au
Smart Paddock	0448 252 916	hello@smartpaddock.com	www.SmartPaddock.com
WaterGroup	(02) 9499 8795	water@watergroup.com.au	www.watergroup.com.au
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