i4M Fertiliser Spreader Controller

The i4M Spreader controller app allows farmers to carry out variable rate fertiliser prescription plans using a belt type fertiliser spreader. The system consists of a tablet computer running the i4M app sotware that connects to an electronics module over Wi-Fi.

The electronics module is connected to an actuator, drive and sensor network mounted on the spreader. As the machine travels across the field, the app determines the required application rate from the prescription map adjusting the conveyor belt speed to set and maintain the fertiliser rate. When not using a prescription map, the user can load up to three preset rates for manual control of rate on the run.

Prescription map files are transferred to the tablet via i4M cloud server. The user simply places the prescription map files onto a web page, adding information such as field name and selecting the required map layer.

The cloud server processes the map and makes it available for download on the tablet. Unlock codes are not required, the user gets free account access to the i4M cloud server when purchasing i4M hardware.

Connecting loadcells to the i4M spreader controller, allows precise control of application rates with fertiliser calibration factors fine tuned to within 1% of the target rate. Mobile devices can connect to the spreader controller for live weight readout in the loader cab when filling the spreader hopper.

The i4M fertiliser controller is an easy to use, cost effective Variable Rate solution for spreaders. i4M is tractor independent, the spreader controller will run on any brand of tractor with sufficient oil flow to run both the spinner and belt circuits.

With a fast learning curve, the i4M fertiliser spreader minimises fertiliser wastage and ensures that the crop receives the optimum fertiliser dosage.

The version 2 i4M spreader controller released in June 2021 is shipped with the i4M Tracer GPS as standard equipment to provide coverage mapping and auto on-off functionality.

The V2 spreader controller runs exclusively on Android tablets.

SYSTEM FEATURES
Android Tablet
Uses Tablet GPS or i4M Tracer GPS*
Variable Rate Prescription Maps
Download Maps from i4M Cloud server
Preset Rates (Manually change rate on the run)
Shows Hopper Weight
(with or without Loadcells)
Hectare Counter
Stores Products and Calibrations
Stores Machine Setup Data
Monitors Output Rate
Monitors Spinner Speed
Auto Door Height (with Actuator)
Operator Alarms

i4M Tracer GPS is required for coverage mapping and auto shutoff functionality

i4M
web : **i4m.net.au**

Connecting Agronomy with Machines
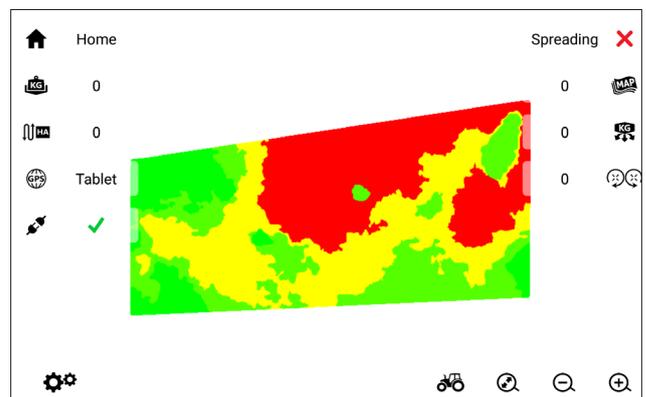
Testimonials

"The i4M app is app and prescription map transfer system are easy to use. The accuracy of the calibration means no more under or over application of fertilisers"
Broden Holland, Young NSW Australia

"My i4M variable rate control system is second to none, providing me with an accurate, easy to use, cost saving spreader system"
Graham Ralph, Dowerin WA Australia

i4M Fertiliser Spreader Controller

Rate Control

Application Rate is controlled by varying hydraulic flow to the conveyor drive using a PWM valve (1) As the target rate and ground speed changes, the belt speed is adjusted to set and maintain the target application rate.

The i4M controller is fast to respond to changes in application rate and drive settings can be fine tuned to suit different tractor pump outputs.

Application Rate Ranges of between 0-5000 kg/ha for Lime and 0-250 kg/ha for granulated products are possible for a set door opening and spread width.

When not using a prescription map to set the application rate, up to 3 pre-defined rates can be programmed, allowing the operator to change rates on the go with a press of a button.

Fertiliser Calibration and Database

Fertiliser calibration can be carried out using a static or field test. When running the static test, a small amount of fertiliser is discharged from the spreader back onto the fertiliser pile.

The field test consists of spreading a quantity fertiliser over a larger area to improve calibration accuracy and it is possible to fine tune the calibration over multiple loads when the i4M controller is connected to loadcells on the spreader. (2)

For both the static and field test, the calibration sample procedure is used. The user simply taps start a new sample, runs the spreader and enters the amount dispensed. The app automatically calculates the fertiliser calibration factor at the end of the test.

Calibration factors for up to 10 different fertilisers can be saved within the i4M database. Storing calibration factors for future reference decreases the amount of time required for calibration when switching between fertiliser types.

A maximum door opening for each fertiliser type can be set to assist in the accurate metering of faster flowing granular fertilisers from the spreader.
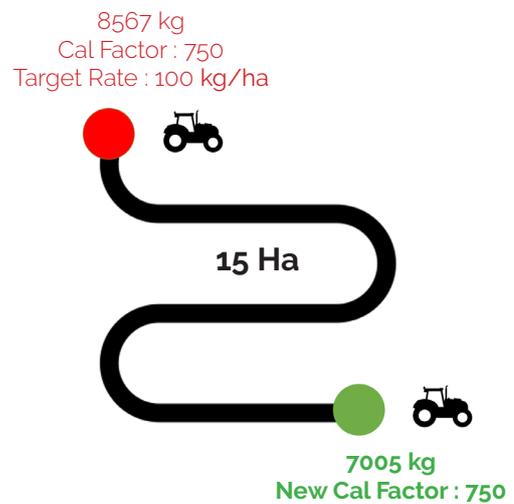
Variable Rate Map Transfer

Each i4M spreader controller has access to the i4M cloud for the transfer of prescription maps to the tablet. The user creates an account on the i4M webpage, enabling simple transfer of map data with no unlock codes required.

Prescription maps in the standard shape file format are uploaded to the i4M webpage. The uploader allows the user to create a new name for the map simplifying paddock operations. (3)
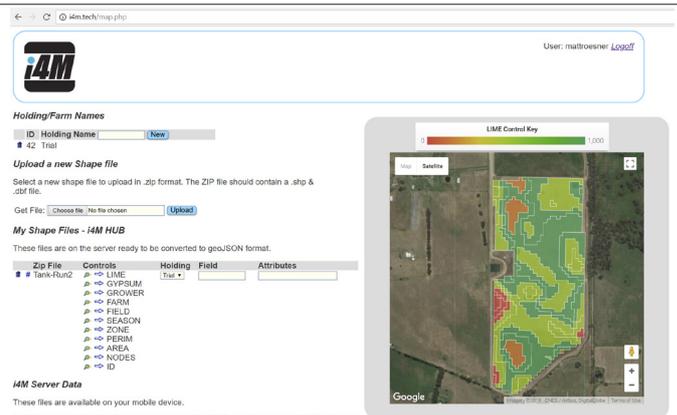
After the prescription map data is processed it is available to download on the tablet. With a push of a button the operator can be spreading a variable rate map within minutes.

i4M

web : **i4m.net.au**

Connecting Agronomy with Machines
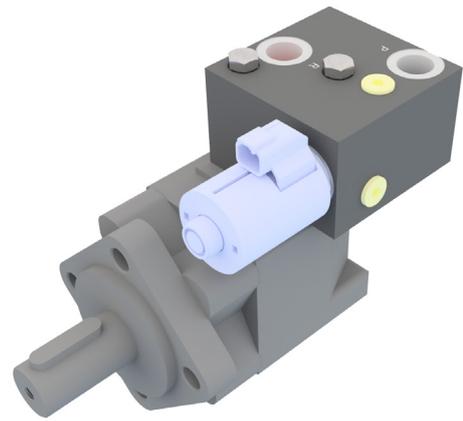
1. i4M PWM Valve and Motor
80cc displacement, 57 L/min max flow

8567 kg
Cal Factor : 750
Target Rate : 100 kg/ha

15 Ha

7005 kg
New Cal Factor : 750

2. Calibration - Field Test Overview

3. i4M Cloud Server

Device Requirements

Android
10" Screen
Android version 8 and above
Minimum Storage : 32 GB
3/4G Sim Card
Recommended Brand : Samsung

i4M developed by : Precision Agronomics Australia
Lot 101 Turnbull St Harvey Western Australia 6220