

i4M Spreader Troubleshooting – All Machines
Android Tablets
Version 207

Maps and Tablet

SIM Card and network signal

- The i4M app will work without phone signal
- It also works without a SIM card
- A sim card and phone signal is only required if you want to download maps in the field
- You can connect the tablet to any internet wifi or phone hotspot to download maps
- After downloading maps, you can connect to the i4M controller on the spreader

Cannot download maps to the Tablet

- Check that you are logged in under the user tab
- Check that you have an internet connection
- If you have a SIM card in the tablet, check it has phone signal
- If you don't have a SIM card, disconnect from the i4M controller wifi, connect to your phone hotspot, or office wifi etc
- Check that you have maps ready for download, on the i4M cloud

Username and Password

- The username and password is the same for the tablet and the online i4M maps server
- To reset your password email PAA support admin@precisionag.com.au

Uploading prescription maps to the cloud

Each map is a shapefile in a single zip folder. It must contain these files:

.shp
.shx
.dbf

Controller Startup and Connecting

Startup

The i4M controller takes 60 seconds to boot up. Check the diagnostic LED on the controller.

- LED off = no power
- LED red = booting up, please wait
- LED green = controller is running and wifi is available

Connecting to Controller

- The controller has a wifi hotspot
- Connect the Android Tablet to MACHINE WIFI
- Ignore the 'No Internet' warnings (the controller is not connected to the web)
- The i4M app will automatically access the controller menu pages
- To view hopper kg on your phone, you can open a web browser and enter this address: 192.168.50.50
- The i4M app shows the connection status on the Work Screen

Power and Fuses

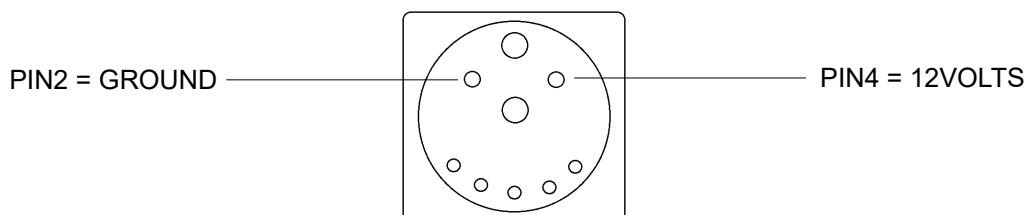
Power Check

Controller has a LED to show power, on the connector face

- LED off = no power
- LED red = booting up, please wait
- LED green = controller is running and wifi is available

Power From the Tractor ISO Socket

- Use the tractor ISO socket if equipped (It does NOT use ISOBUS, it uses power and ground only)
- Check the tractor has power and ground on the pins below



View: Looking into the tractor ISO socket

Power From the Battery or Cab

- Other power supplies should be 12volts capable of 20amps
- Power should be taken after the battery isolator (so the controller turns off when the isolator is off)
- If wired direct to battery, the connector at the front of the spreader should be unplugged when not using the spreader

Blown Fuses

If the supply harness goes to the isolator or battery, the main fuse is on the positive connection. If the supply harness goes to the ISO socket, the fuse is part of the tractor wiring.

- Check the power harness and spreader harnesses for damage or shorts
- Unplug the controller and actuator, power up the harness

The door actuator fuse (if installed) is located at the rear of the machine, on the actuator harness.

- Check for jammed or sticking door
- Check wiring into actuator
- Possible actuator fault

Spinner Speed

Spinner Speed always zero or jumping around

- The sensor on the spinner shaft must be 2mm away from the metal tag
- Check the light on the sensor turns on, each time the tag passes the sensor
- Check connector pin A has ground
- Check connector pin B has 12 volts
- Check connector pin C has 5 volts

Ground Speed

Ground Speed is always zero or jumping around

- Ground drive has a sensor on the gearbox drive wheel
- Hydraulic drive has a sensor on the spreader axle
- All sensors must be 2mm away from the tooth or metal surface
- Check the light on the sensor turns on for each passing tooth
- Check connector pin A has ground
- Check connector pin B has 12 volts
- Check connector pin C has 5 volts

Ground Speed too low or too high (doesn't match the tractor speed)

- Machines with GPS: Tap SETTINGS > MACHINE and adjust the Distance Cal
- Machines with GPS: Speed comes from GPS, it can't be adjusted

Hectares

Hectares always zero or jumping around (machines without GPS)

- Ground drive has a sensor on the gearbox drive wheel
- Hydraulic drive has a sensor on the spreader axle
- All sensors must be 2mm away from the tooth or metal surface
- Check the light on the sensor turns on for each passing tooth
- Check connector pin A has ground
- Check connector pin B has 12 volts
- Check connector pin C has 5 volts

Hectares too low or too high

- Tap SETTINGS > HECTARES and enter the correct hectares
- Check that your spread width is correct in PRODUCT

Rate Problems

Actual Rate always zero or jumping around when belt is turning

- Ground drive has a sensor on the gearbox drive wheel
- Hydraulic drive has one sensor on the hydraulic motor
- Hydraulic drive without GPS has a sensor on the spreader axle
- All sensors must be 2mm away from the tooth or metal surface
- Check the light on the sensor turns on, for each passing tooth
- Check connector pin A has ground
- Check connector pin B has 12 volts
- Check connector pin C has 5 volts

Product is going out too heavy

- Check that the hectares are counting correctly
- Check the spread width is correct, tap PRODUCT
- Check sensor pulses is correct in SETTINGS > MACHINE (see Technote 19006 online)
- Increase the Calibration Factor, tap PRODUCT
 - If product is 10% too heavy, increase the Calibration Factor by 10%

Product is going out too light

- Check that the hectares are counting correctly
- Check the spread width is correct, tap PRODUCT
- Check sensor pulses is correct in SETTINGS > MACHINE (see Technote 19006 online)
- Decrease the Calibration Factor, tap PRODUCT
 - If product is 10% too light, decrease the Calibration Factor by 10%

Unblock Door

- On work screen, hold 'Unblock' button to raise door
- Release button to set door back to spreading height
- Belt will slow down as door is raising, this prevents high output rate

Door Actuator

Door Actuator height problem or won't move

- The door actuator requires high power, bad connections and low voltage will cause random issues
- Tap SETTINGS > MACHINE confirm 'Door Actuator is Installed'
- Check for jammed door
- Check the actuator fuse (if installed on the actuator harness)
- Do the 'Reset Actuator' steps in CHECKS > DOOR
- Do the 'Calibrate Door Sensor' steps in CHECKS > DOOR

Checking the height sensor and motor

- Tap CHECKS > DOOR
- Tap open, door should open fully, Door Sensor = approx 0mV, Actual Height = approx 240mm
- Tap close, door should close to 10mm, Door Sensor = approx 10000mV, Actual Height = approx 10mm
- Do the 'Calibrate Door Sensor' steps in CHECKS > DOOR

Hopper kilograms (with Loadcells)

Kilograms always show zero

- Check the loadcells have been calibrated
 - Tap SETTINGS > HOPPER
 - Empty the hopper, tap EMPTY
 - Dump a known amount of weight in the hopper, type in the kg

Kilograms drift up and down slowly

- Unused inputs must be turned off
 - Tap SETTINGS > HOPPER
 - Most machines have 3 loadcells, check channel 0 1 2 are ticked
 - If machine has 4 loadcells, tick all channels
- A loadcell might be unplugged or has broken wires

Loadcell electrical checks

- Check the loadcell signals
Tap CHECKS > LOADCELLS
Check the Loadcell readings, less than 50 000 is faulty, greater than 100 000 is faulty
Check the power to each loadcell, deutsch 4pin connector, Pin3=Ground Pin4=5volts
Check the signals from the each loadcell, deutsch 4pin connector, Pin1=2.5volts Pin2=2.5volts

Hopper kilograms (without Loadcells)

Machines without loadcells

- The readout is a kg countdown, if the speed or rate is wrong, this countdown will be wrong
- Check the ground speed is reading correctly, tap CHECKS > BELT look for Ground Speed km/h
- Check the output rate is reading correctly when spreading

Alerts on Screen

Spinner speed is low

- Check the spinners are turning (greater than 200rpm)
- The sensor on the spinner shaft must be 2mm away from the metal tag
- Check the light on the sensor turns on, each time the tag passes the sensor
- Check connector pin A has ground
- Check connector pin B has 12 volts
- Check connector pin C has 5 volts

The rate does not match your desired rate

- Check the belt is turning when spreading
- Check the ground speed is reading correctly, tap CHECKS > BELT look for Ground Speed km/h
- Check the belt speed is reading correctly, tap CHECKS > BELT look for Belt Speed RPM
- Ground drive has a sensor on the gearbox drive wheel
- Hydraulic drive has one sensor on the hydraulic motor
- Hydraulic drive without GPS has a sensor on the spreader axle
- All sensors must be 2mm away from the tooth or metal surface
- Check the light on the sensor turns on, for each passing tooth
- Check connector pin A has ground
- Check connector pin B has 12 volts
- Check connector pin C has 5 volts

- Hydraulic drive machines
With door actuator, tap CHECKS > DOOR, check that Target Height and Actual Height are similar
Without door actuator, check the door height setting, tap PRODUCT
Check the hydraulic flow is set to 70% in the tractor
Confirm the machine has the correct settings, tap SETTINGS > MACHINE
If slowing down fixes the problem, tap PRODUCT and increase the door height
Engine rpm may be too low to supply sufficient oil

- Ground drive machines
Check the drive wheel is engaging properly
With door actuator, tap CHECKS > DOOR, check that Target Height and Actual Height are similar
Confirm the machine has the correct settings, tap SETTINGS > MACHINE

The desired door height is too low

- Tap PRODUCT
- Hydraulic Drive Machines: Increase the door height
- Ground Drive Machines: Change the gear setting to increase the door height

Door problem, Reset the Actuator in CHECKS DOOR menu

- Tap SETTINGS > MACHINE confirm 'Door Actuator is Installed'
- Check for jammed door
- Check the actuator fuse (if installed on the actuator harness)
- Do the 'Reset Actuator' steps in CHECKS > DOOR

GPS Coverage and Auto Shutoff

Auto Shutoff not working

- On Work Screen tap settings (bottom left) confirm 'Auto Shutoff' is ticked
- If the app doesn't draw coverage, follow the steps below

Coverage not showing on Work Screen – GPS icon shows TABLET

- Coverage is disabled when using Tablet GPS, because accuracy is poor
- Confirm the machine has a GPS unit
- Tap MACHINE > SETTINGS > GPS and confirm GPS is installed
- Tap MACHINE > CHECKS > GPS and confirm the receiver is online
- If not online, change the controller network to RECOVERY MODE in SETTINGS > DEVICE and recheck
- If there are other i4M machines nearby, turn them off, restart this machine and recheck
- If still not online, check 12V power and Ground to the receiver

Coverage not showing on Work Screen – GPS icon shows MACHINE

- Confirm the belt sensor is reading correctly (see RATE PROBLEMS section above)
- Tap the 'Zoom Reset' button then tap 'Zoom In' a few times (buttons at bottom right of Work Screen)
- Maybe there is some old coverage far from your current location, so Delete Coverage and try again

Coverage is leaving gaps or too much overlap

- Confirm the belt sensor is reading correctly (see RATE PROBLEMS section above)
- Tap MACHINE > SETTINGS > GPS and adjust the 'Coverage Overlap' setting
- Tap MACHINE > SETTINGS > MACHINE and adjust the hydraulic valve settings to alter the response time
- The coverage drawing is approximate only, it is normal to have small gaps or overlap

Implement bar does not follow correctly on the screen

- The coverage bar behind the tractor is sideways, it doesn't follow the tractor correctly
- Coverage is small triangles or thin lines, instead of the full coverage width
- Update the tablet app, then set the 'Coverage Overlap' slide bar in the GPS Settings menu

The Coverage Map looks different to the tractor coverage map

- This is normal, the GPS accuracy and drawing tools are different to the tractor

Tractor Hydraulics

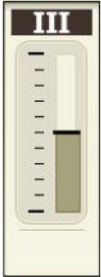
Connecting and setup

- Connect to standard remotes, Do not use high flow return, Incorrect return will damage the tractor
- Low engine RPM will cause Spinner and Belt issues – see Operators Guide for details

Hydraulic Drive – John Deere tractor Auto Hydraulics

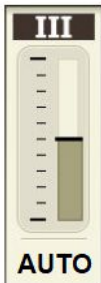
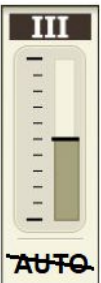
Belt won't move

- Check belt hoses are plugged into remote number 3
- Set the tractor hydraulic flow to 70%
- Push remote 3 lever forward slowly, check the belt turns correctly
(if belt doesn't turn, move lever both ways, remove and reconnect the hoses, try them in a different remote)
- Check the tractor hydraulic display shows AUTO below remote number 3



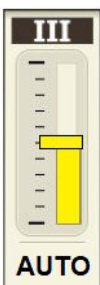
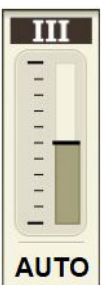
AUTO is missing

- Turn tractor off, kill battery isolator
- Unplug the auto hydraulics connector at the front of the spreader
- Start the tractor
- Move remote lever 3 forward for 5 seconds
- Turn tractor off, kill battery isolator
- Plug in the auto hydraulics connector
- Start the tractor, check the display shows AUTO
- If AUTO is still missing, turn tractor off, kill isolator
- Unplug the auto hydraulics connector at the front of the spreader
- Power up the i4M controller
- Check the voltage at the 3pin auto hydraulics connector: PIN B = 2.5v PIN C = ground



AUTO is crossed out

- Quickly click the lever forward and release it
- The line should disappear
- Don't click too far forward, that will engage float



AUTO is showing

- The tractor must be moving (this is a tractor safety feature, cannot be changed)
- On the iPad go to CHECKS > BELT and send a Manual Command of 50
- The tractor hydraulic display must show remote 3 is flowing (yellow bar graph)

Hydraulic Drive – Case or New Holland tractor Auto Hydraulics

Belt won't move

- Check belt hoses are plugged into remote number 3
- Set the tractor hydraulic flow to 70%
- Push remote 3 lever forward slowly, check the belt turns correctly
(if belt doesn't turn, move lever both ways, remove and reconnect the hoses, try them in a different remote)
- Check the tractor cornerpost display shows AUTO 1 3
If not, follow these steps
Key off
Press the PROG button, do not release it
Key on
Wait 5 seconds
Release PROG button
Cornerpost shows CONFIG MENU
Select AUX/HITCH/PTO option from the list
Select EHR from the list (Electronic Hyd Controller)
Select AUX SETUP from the list
Set the SCRPR option to: 2 LASER
Select EXIT
- Press button 3 to put the remote in auto mode



- The tractor must be moving
- On the tablet tap CHECKS > BELT and send a Manual Command of 50
- The belt should begin moving
- If belt still won't move, turn tractor off, kill isolator
- Unplug the auto hydraulics connector at the front of the spreader
- Power up the i4M controller
- Check the voltage at the 3pin auto hydraulics connector: PIN B = 2.5v PIN C = ground

Hydraulic Drive – using PWM valve on spreader

Belt won't move

- Set the tractor hydraulic flow to 70% and the time to constant
- On the tablet tap CHECKS > BELT and send a Manual Command of 100
- Warning: do not run the belt backwards
- Engage the tractor remote lever
- If the belt doesn't move
Engage the lever the opposite direction
Check for locked couplers (unplug hoses and plug back in) and retry
Change hoses to a different hydraulic remote and retry
Test the connector on the PWM solenoid, there should be 12 volts when the Manual Command is 100