Quick Start Guide
GX7 ISOBUS Row Monitoring
John Deere, AgLeader, Trimble, & Case

2106 F AVENUE
KEARNEY NE 68847
877.218.1981

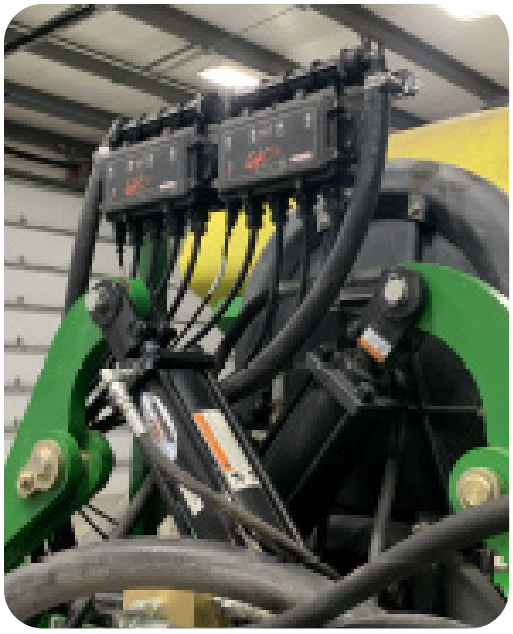
GX7 ISOBUS - User Guide
Intelligent Liquid Monitoring

REV.12202324.v1

www.agxcel.com
info@agxcel.com

Flow Distribution

To see a ***more consistent flow distribution***, it is recommended that the ***Multiflow Flowmeter be placed near the rows that the flowmeter will be providing flow to. FOR EXAMPLE:*** if a flowmeter is responsible for monitoring the flow to rows 1 - 4, then the flowmeter should be placed between rows 2 & 3.



TUBING TIPS:

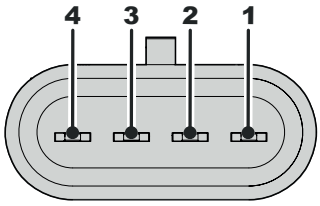
- Keep tubing length consistent
- Consider larger tubing

You should also attempt to keep the ***length of tubing from the flowmeters to the rows as close to the same length as possible***. Liquid will always flow to the path of least resistant and a longer tube means there is greater resistance for the liquid to overcome. ***Larger tubing can also help to alleviate this issue.***

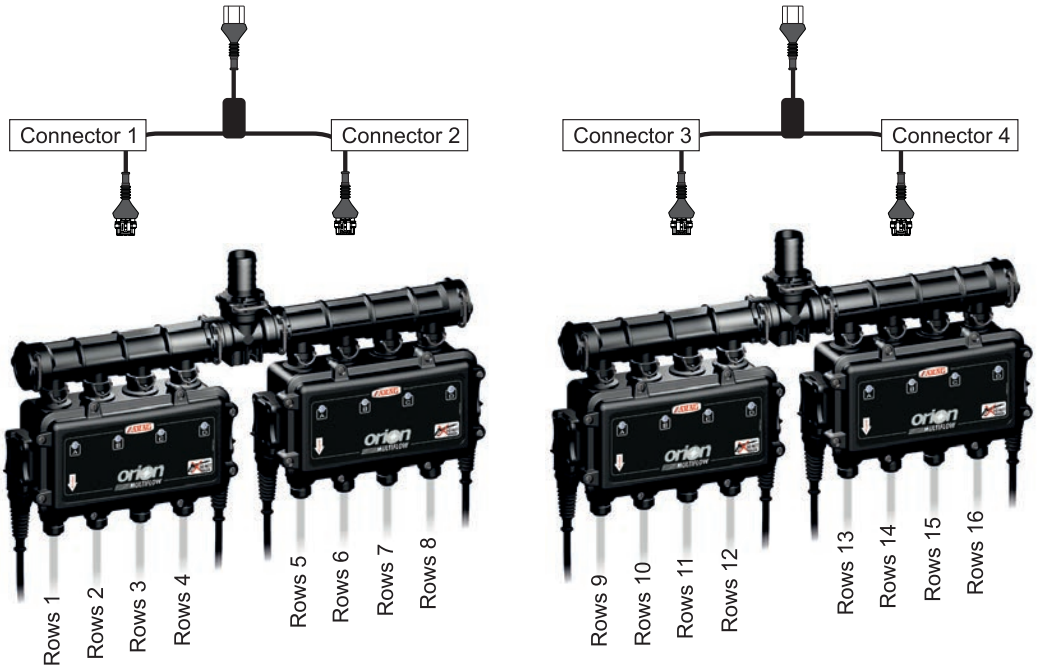
Flowmeter

The flowmeter connection has two ports to connect your cable to. You will always connect to the left port with the 12V sticker. AgXcel's Multiflow Flowmeter's are all powered by 12V provided by the GX7 Module. The Multiflow Flowmeter's also report flow directly back to the Monitor.

POWER SUPPLY + CANBUS



SUPERSEAL™ TE 4-POLE CONNECTOR	
Position	**Connection**
1	GND
2	+12 VDC
3	CAN L
4	CAN H



**Shown is an example of a 16 row implement.*

- Connector 1 controls the rows from 1 to 4;
- Connector 2 controls the rows from 5 to 8;
- Connector 3 controls the rows from 9 to 12;
- Connector 4 controls the rows from 13 to 16.

Components

GX7 ISO Module
PN: 57343

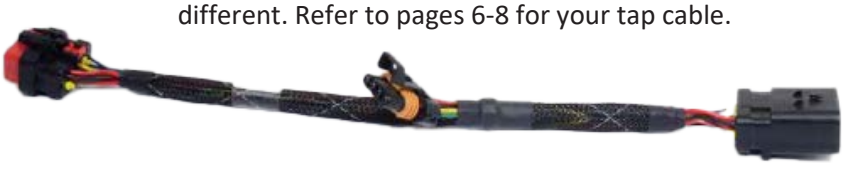
GX7 Module Harness
PN: 57301

Battery Cable
PN: 17871
For IBIC tap cables only

Speed Sensor
PN: 20155

(As Needed)

John Deere Tap Cable
PN: 55026
The tap cable that you are using may be different. Refer to pages 6-8 for your tap cable.



GX7 Terminator
PN 57023

Two terminators are needed. One at the end of each side of the planter, or at the end of each BUS.

Components

Flowmeter Splitter
PN: 55747

Flowmeter Splitter
PN: 55747

Flowmeter Extension Cable

Multiflow Flowmeter

Flowmeter Extension Cable

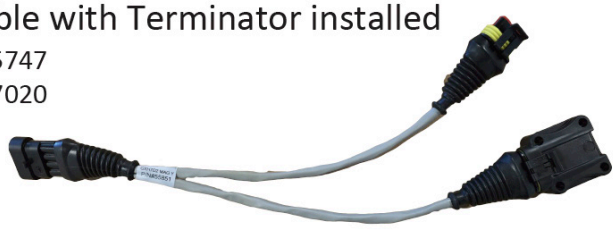
PN: 55807 (5ft)
PN: 55705 (10ft)
PN: 55707 (15ft)
PN: 55708 (20ft)
PN: 55709 (30ft)
PN: 55710 (40ft)
PN: 55711 (50ft)
PN: 55712 (60ft)

Multiflow Flowmeter

PN: 55657 (0.08 - 1.6 GPM)
PN: 56699 (0.3 - 5 GPM)
PN: 56700 (0.6 - 13 GPM)

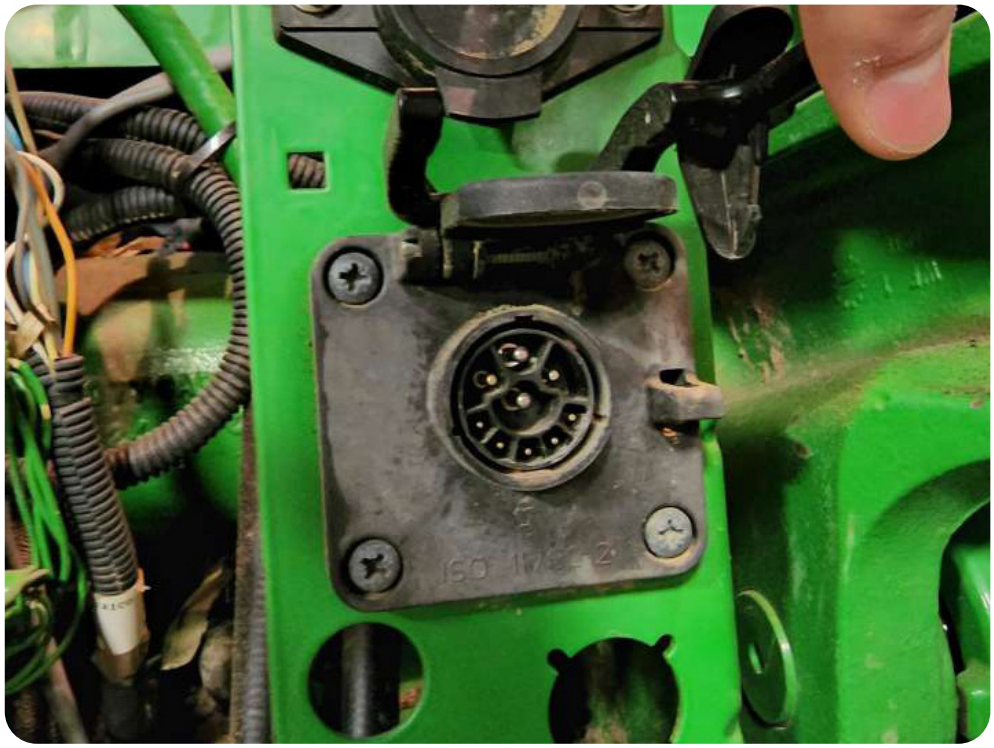
Y Cable with Terminator installed

PN: 55747
PN: 57020



Tap Cables

56975 - IBIC breakaway Implement Cable w/Power Connection 10'
57233 - IBIC breakaway Implement Cable w/Power Connection 30'



Tap Cables

57232 - ISOBUS Tap Cable, 12-pin Deutsch (Case 2100 Series Planter)

ISOBUS Tap Cable, 6-pin MP150

Tap Cables

57232 - ISOBUS Tap Cable, 8-pin GT280 (Case 1200 Series)

55026 - ISOBUS Tap Cable, 12-Pin Ampseal (John Deere)

Mounting Brackets

GX7 TOMAHAWK
PN# 57018

7X8.5X1/2 UBOLT
PN# 53578

7X6.5X1/2 UBOLT
PN# 17584

1/2” SPINNUT
PN# 53705

GX7 DUAL MULTIFLOW BRACKET
PN# 57371

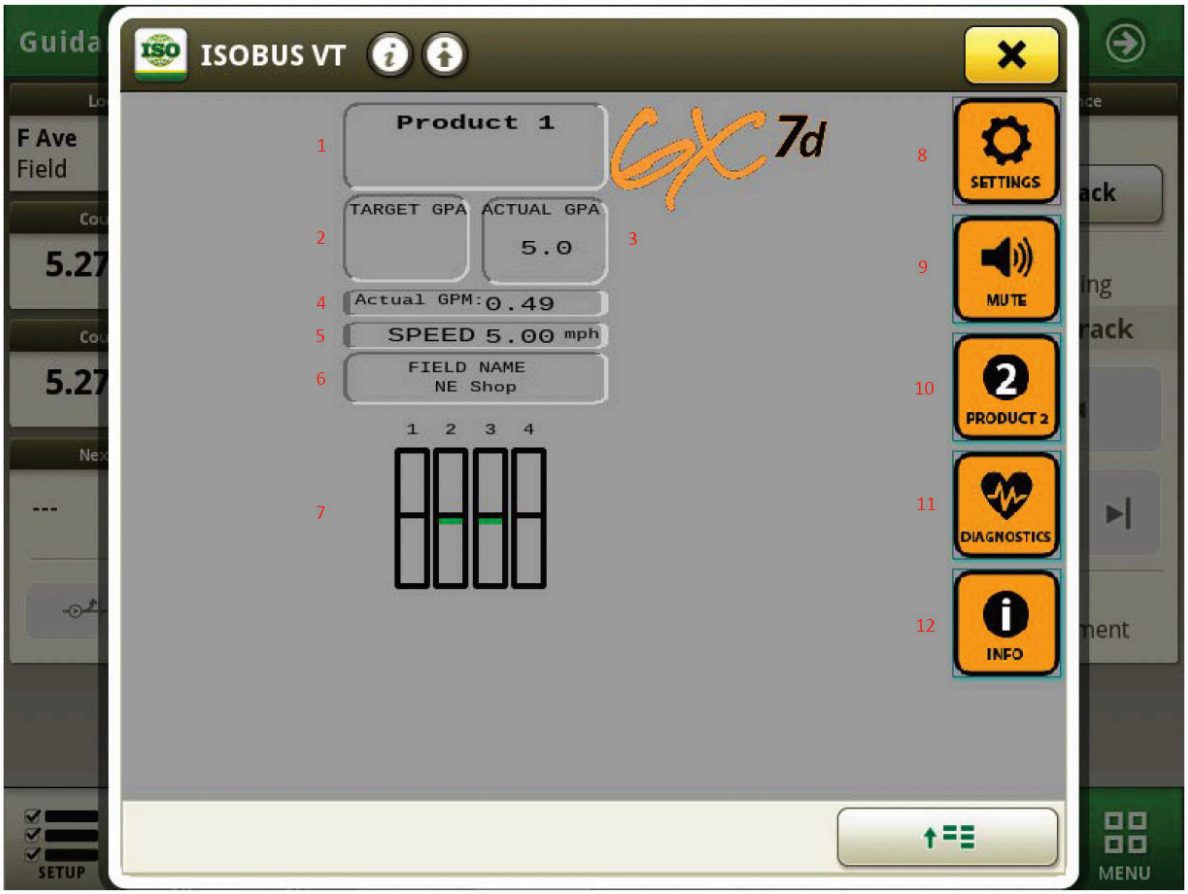
7X10.5X1/2 UBOLT
PN# 57418

1/2” SPINNUT
PN# 53705

Settings

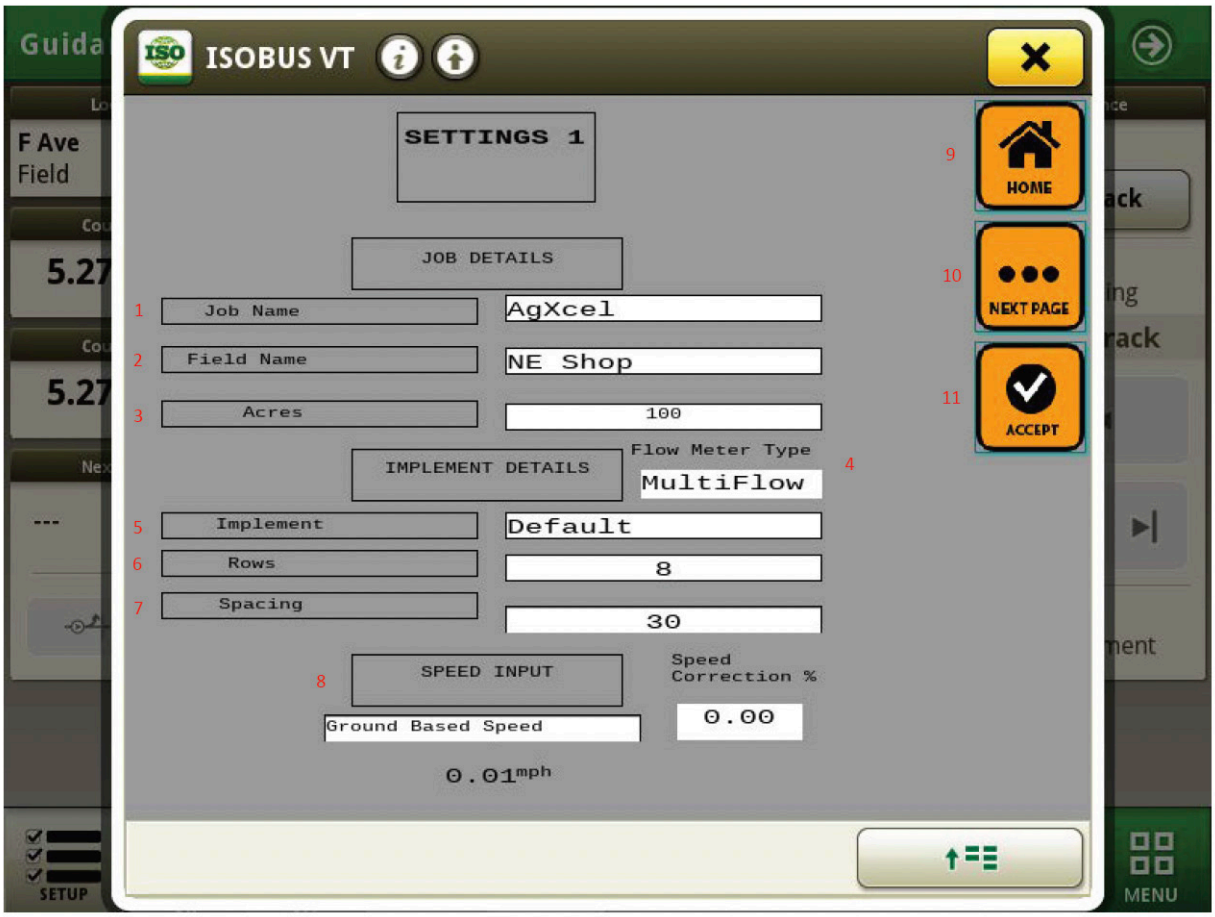
HOME

This is where you are able to monitor all rows. From the dashboard, you are able to select an individual row to observe how much flow is being output. You are also able to see diagnostics information.

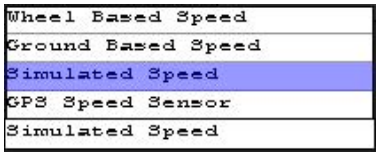


1. ***Product:*** This will show you if you are viewing product 1 or product 2.
2. ***Target GPA:*** Enter the desired GPA you want to apply at. Once entered, the flowmeters will be able to properly tell you if you are over applying or under applying.
3. ***Actual GPA:*** This will show you how much product is actually being applied.
4. ***Actual GPM:*** This is your current Gallon per Minute rate (GPM).
5. ***Speed:*** This will display your current speed or simulated speed.
6. ***Field Name:*** This will display the name of the field that you are applying product on. This is where you are able to monitor **how much product** you are applying. You will see on each bar if you are **over applying or under applying** by how much of the bar is filled. If the **top half** of the bar is filled, then you are over applying. If the **bottom half** is filled, then you are under applying.
7. ***Settings:*** Press this to adjust the settings.
8. ***Mute:*** Press this to mute over/under application messages.
9. ***Product 2:*** Press this to view Product 2 if you are monitoring two products.
10. ***Diagnostics:*** Press this to assign the flowmeters IP address.
11. ***Info:*** Press this to see the version of the software.

Settings

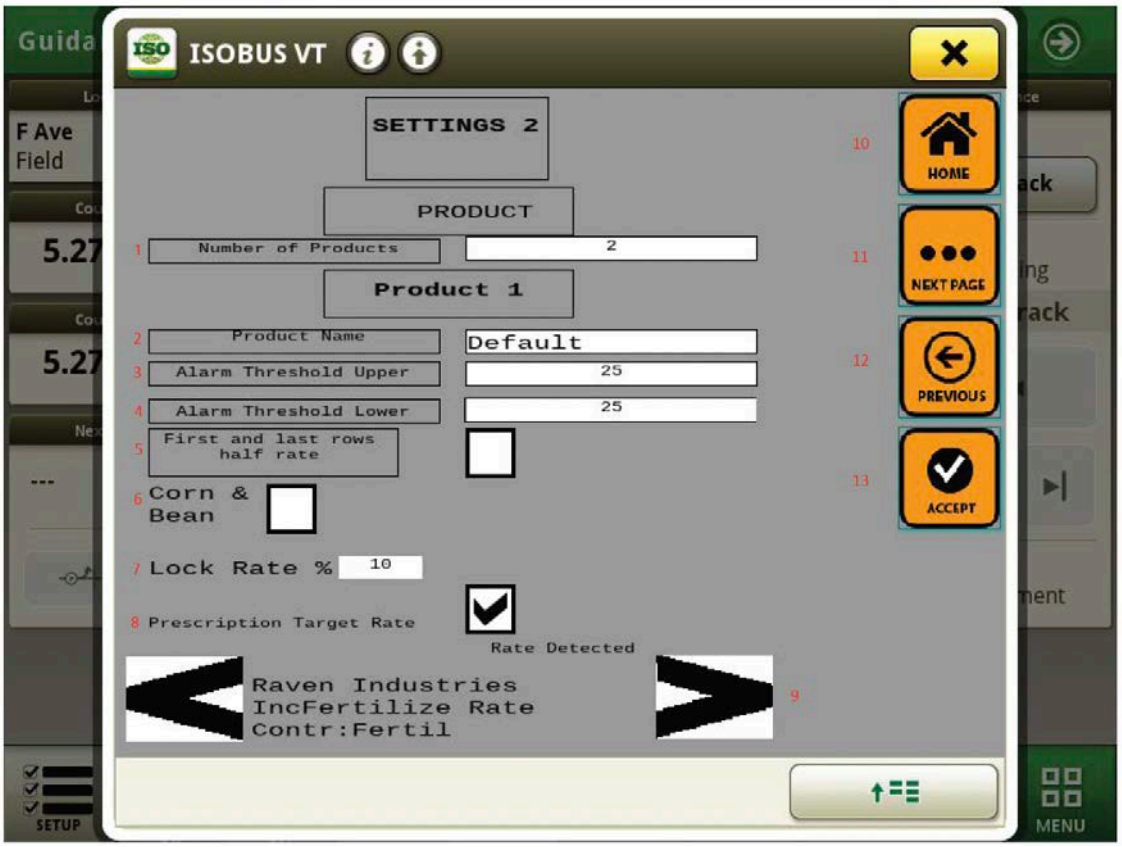


1. ***Job Name:*** Enter the name of the job you are currently working.
2. ***Field Name:*** Enter the name of the field you are currently apply product on.
3. ***Acres:*** Enter the number of Acres of the field you are currently applying product on.
4. ***Flow Meter Type:*** Select the model of the flowmeter you are using (MultiFlow is the 4 row bank flowmeter)
5. ***Implement:*** Enter the implement model.
6. ***Rows:*** Enter the number of rows of the implement.
7. ***Spacing:*** Enter the spacing of the rows.
8. ***Speed Input:*** You will be given three options to choose from...
   - ***Simulated Speed:*** Select this if you are wanting to do a nozzle flow test and enter the speed you would be applying liquid at.
   - ***GPS Speed Sensor:*** Select this if you are using the Astro II Speed Sensor that AgXcel offers.
   - ***Ground Based Speed:*** Select this if you are wanting to use your current GPS on your tractor.
   - ***Wheel Based Speed:*** Select this if you are wanting to use a wheel speed sensor instead of GPS.



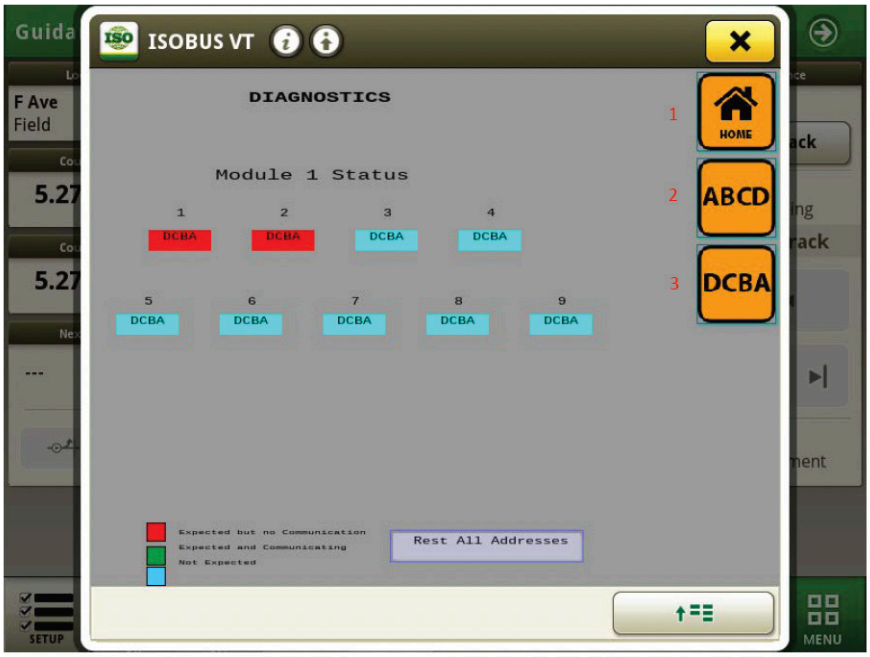
9. ***HOME:*** Press this to go back to the Home page and view your rows.
10. ***Next Page:*** Press this to go to the second page of settings.
11. ***Accept:*** Press this to save your settings.

Settings



1. ***Number of Products:*** Select if you are monitoring one or two liquid products.
2. ***Product Name:*** Enter the name of the liquid you will be applying.
3. ***Alarm Threshold Upper:*** Set the allowable error percentage that the GX7 is allowed to see before alerting the user of over application.
4. ***Alarm Threshold Lower:*** Set the allowable error percentage that the GX7 is allowed to see before alerting the user of under application or blockage.
5. ***First and Last Rows Half Rate:*** Press this to reduce the read flow rate on the first and last row by half the target rate.
6. ***Corn & Beans:*** Enable this if you are using the GX7 for both an corn and beans application.
7. ***Lock Rate %:*** Set the percentage at which the Target Rate will show a difference in flow rate from the set Target Rate.
8. ***Prescription Target Rate:*** Enable this to have the GX7 mimic the target GPA rate from your liquid controller.Note: this is not available on all monitors.
9. ***VT Selection:*** Scroll through the available options until you see “Rate Detected” just above. This tells the GX7 where to look for the target rate on the VT.
10. ***Home:*** Press this to return to your home page.
11. ***Next Page:*** Press this to go to the third page of settings if 2 products are selected. From there you can repeat the same settings process.
12. ***Previous:*** Press this to return to the first page of settings.
13. ***Accept:*** Press this to accept and save your entered settings once you are finished.

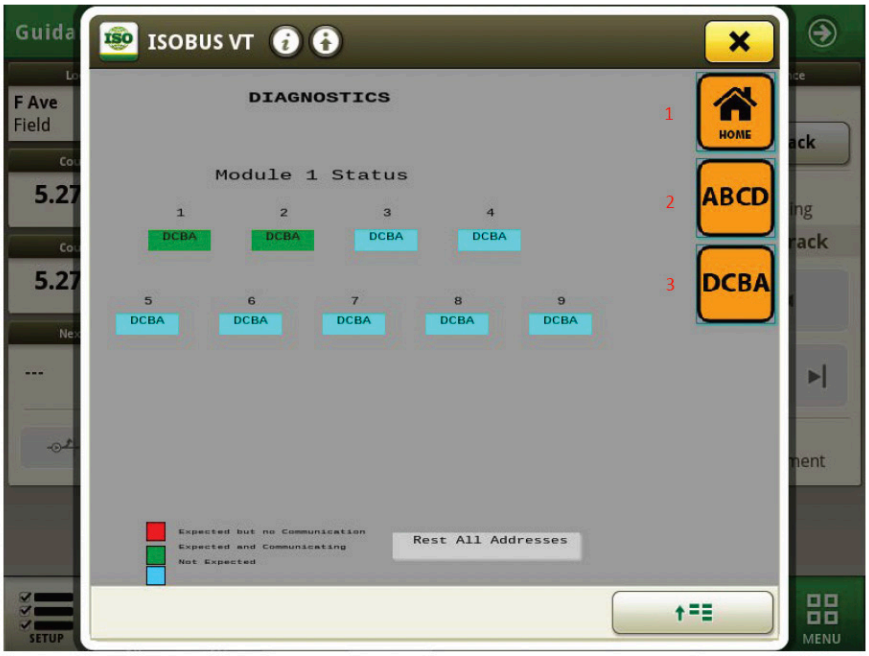
Settings



When you first power up the GX7 and press the ***Diagnostics*** button on the right side. You will be brought to a page where you are able to set you ***flowmeters IP address's***.

Setting the IP address means setting the order of flowmeters in line. All of the shown boxes that will ***not be assigned a flowmeter will be blue***. All of the boxes that are ***red are supposed to be assigned to a flowmeter but have yet to be assigned***. All of the ***green boxes show that flowmeter has been assigned***.

To assign a flowmeter, you will first have to have all of the flowmeters unplugged. Once unplugged, press the "***Reset All Addresses***" button on the bottom of the screen. You will then identify which flowmeter is plumbed to supply liquid to the first four rows. ***Once that flowmeter has been identified, plug in that flowmeter and you will see that "1" on the screen will turn green***. You will then identify the ***second flowmeter*** on the implement and plug that in. ***Once "2" turns green, you can continue to the third flowmeter. Repeat this process until all flowmeters are assigned on the controller.***



Shown is an example of what an 8 row implement will look like once once both flowmeters have been addressed an IP address.

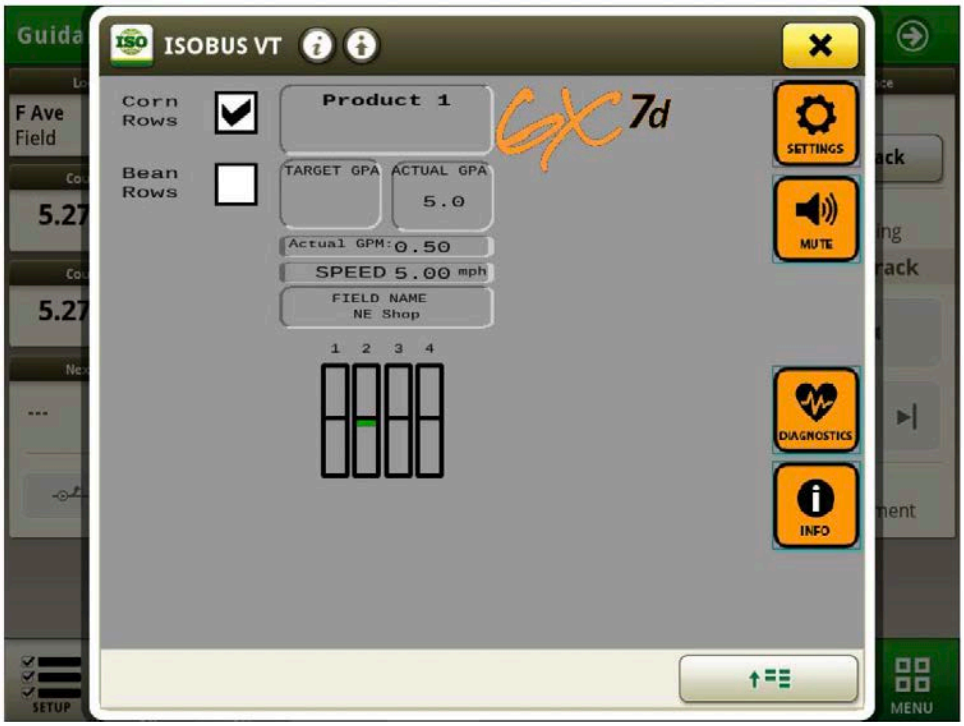
1. ***Home:*** Press this to go back to the home page.
2. ***ABCD:*** Press this to change the direction on which flow is read from the first row to the last row. This will read from left to right when looking at the flowmeter.
3. ***DCBA:*** Press this to change the direction on which flow is read from the first row to the last row. This will read from right to left when looking at the flowmeter.

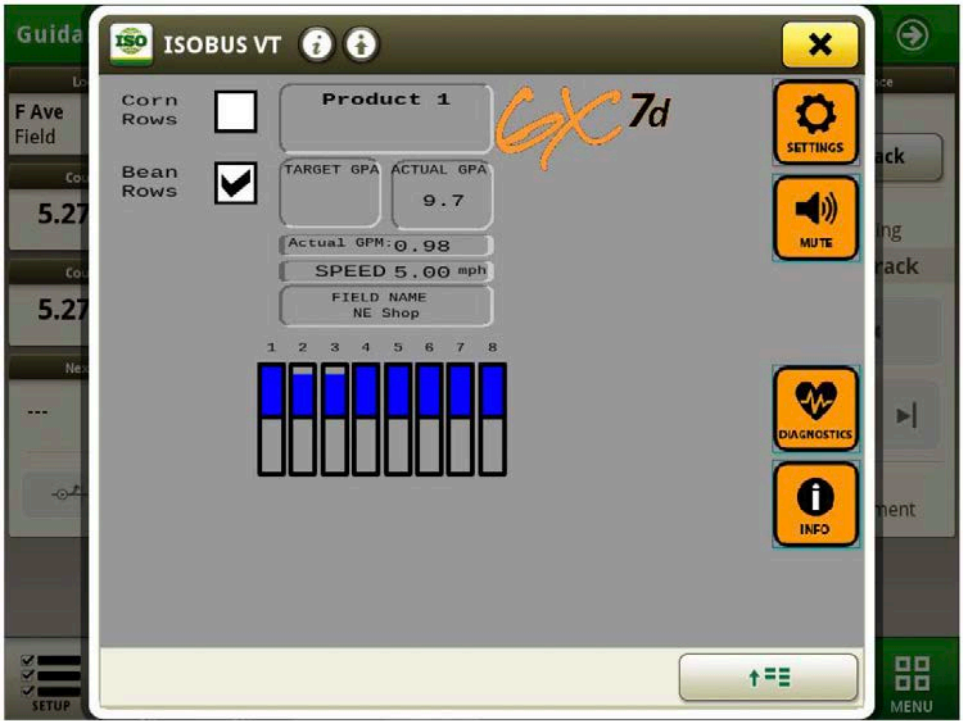
Settings

1. ***Row (X):*** This will show you what row you are currently monitoring.
2. ***Current Flow GPM:*** This will show you the current flow that is being applied in Gallons per Minute.
3. ***Current Flow Oz/Min:*** This will show you the current flow that is being applied in Ounces per Minute.
4. ***Current Flow LPM:*** This will show you the current flow that is being applied in Liters per Minute.
5. ***Error Code:*** This will display a value of the flowmeter detects an error:
   - ***0: No Error***
   - ***1: Measurement is active but the liquid has stopped flowing.***
   - ***2: Measurement is active and the liquid is in motion.***
   - ***3: Measurement is suspended.***
6. ***Row Error %:*** This will show you by what percentage you are off from your target flow rate.
7. ***Flow Total:*** This will show the total amount of liquid that row has read in its lifetime in liters.
8. ***Power Voltage:*** This will show you how many volts the flowmeter is reading for power.
9. ***Temperature Deg F:*** This will show you the temperature of the flowmeter in Fahrenheit.
10. ***Reference Value:*** Used for AgXcel troubleshooting.
11. ***Flow Correction %:*** enter the + or - percentage value to adjust the flow per row if needed.
12. ***Apply to all rows:*** Check this box if you need the entered percentage change from the Flow Correction % setting to apply to every row for this product.
13. ***Apply:*** Press Apply to set the change
14. ***Detect:*** Press Detect to automatically set the “Zero” value based off of your target rate. This will then automatically enter the percentage change from the detected flow rate to the expected target rate.
15. ***Reset:*** Press Reset to reset all flow correction % value changes.
16. ***Home:*** Press this to go back to the home page.
17. ***Next:*** Press this to monitor the next row.
18. ***Previous:*** Press this to monitor the previous row.
19. ***Accept:*** Press this to save all settings.

Settings

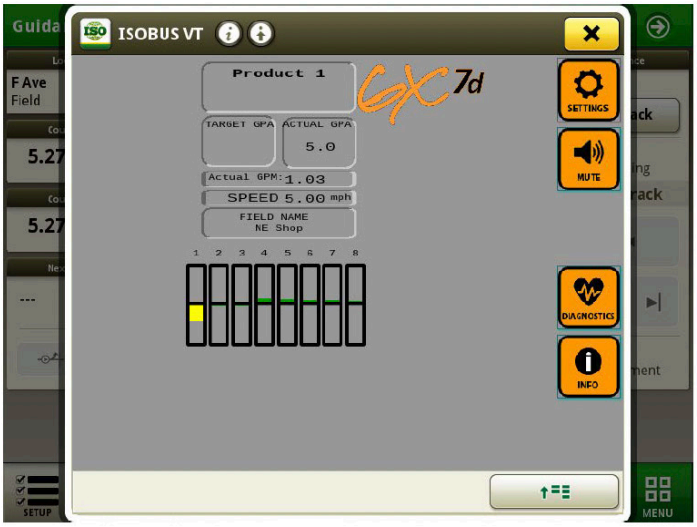
If you have selected the ***Corn & Beans option*** in the settings, when you go back to the Home page, you will be presented with the option on the left side of the page to select if you are applying on the Corn rows or the Bean rows.

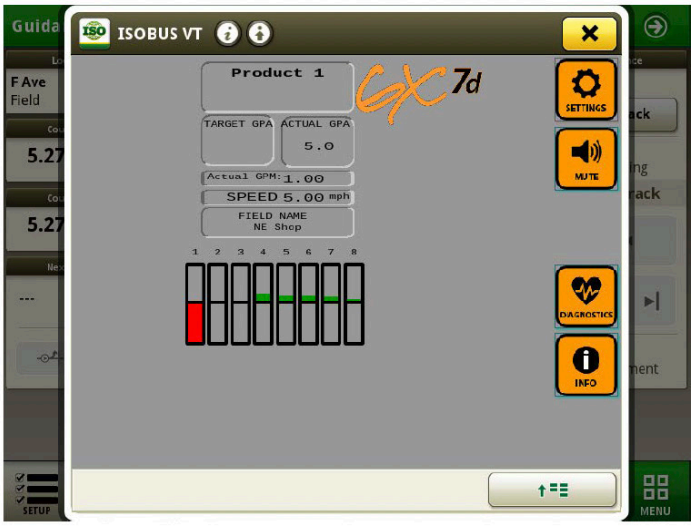




Switching between Corn or Beans will tell the GX7 to ***"skip a row"*** when monitoring the flowmeters if Corn is selected. If Beans is selected, then all rows will display flow.

Settings



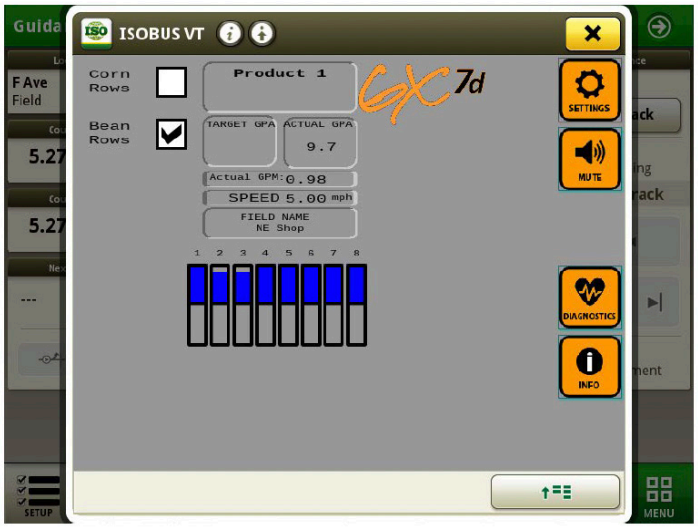


This Home page will be the page where you will monitor the flow of the rows.

There are four colors that can appear:

Green: Within set allowable threshold
Blue: Over set allowable threshold
Yellow: Below set allowable threshold
Red: Plugged Row

Shown are examples of how these different colors could be shown.



Light Signals

Power

Green: Module is powered (does not represent software)
Flashing Cyan & White: Firmware is loaded

CAN 1

Blue: Initialization of the module and connections
Yellow: Will flash when CAN communication is made
Green: The firmware has been successfully updated
Red: Flashes when the program has not properly booted

CAN 2

Blue: Initialization of the module and connections
Yellow: Will flash when CAN communication is made
Green: The firmware has been successfully updated
Red: Flashes when the program has not properly booted

CAN 1 represents the ISOBUS side. If CAN 1 is flashing, then communication has been made with the ISOBUS physical layer.
CAN 2 represents that the flowmeters are connected and communicating.

Updating the software

To update the firmware on the GX7 module you will need to do the following...

1) Disconnect power from the GX7 module
2) Plug the USB into the module
3) Power the module on
4) Once the LED turns green, then the software has been properly uploaded
5) Disconnect the power once more and then reconnect the power

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Limited Warranty on AgXcel Agricultural Pumps & Accessories

AgXcel agricultural products are warranted to be free of defects in material and workmanship under normal use for the time periods listed below, with proof of purchase.

- Pumps: one (1) year to the original purchaser from the date of manufacture, or one (1) year of use. This limited warranty will not exceed two (2) years, in any event.
- Accessories: ninety (90) days of use.

This limited warranty covers manufacturing defects or workmanship; that may develop under normal use and service in a manner up to the directions and usage recommended by the manufacturer.

Warranty does not apply to misuse or when pump or accessory is altered or used in excess of recommended speeds, pressures, temperatures, or handling fluids not suitable for pump or accessory material construction. Warranty does not apply to normal wear (such as but not limited to: seals/packings, valves, plungers and sealing o-rings), freight damage, freezing damage or damage caused by parts or accessories not supplied by AgXcel. All warranty considerations are governed by AgXcel's written return policy.

Liability of manufacturer for warranty is limited to repair or replacement of parts only at the option of the manufacturer when such products are found to be of original defect or workmanship at the time it was shipped from factory. This warranty is in lieu of all other warranties, expressed or implied, including any warranty of merchantability and of any and all other obligations or liabilities on the part of the manufacturers or equipment.

AgXcel's obligation under this limited warranty policy is limited to the repair or replacement of the product. All returns will be tested per Agxcel's factory criteria. Products found not defective (under the terms of this limited warranty) are subject to charges paid by the returnee for the testing and packaging of "tested good" non-warranty returns. No credit or labor allowances will be given for products returned as defective. Warranty replacement will be shipped on a freight allowed basis. Agxcel reserves the right to choose the method of transportation.

This limited warranty is in lieu of all other warranties, expressed or implied, and no other person is authorized to give any other warranty or assume obligation or liability on Agxcel's behalf. AgXcel shall not be liable for any labor, damage or other expense, nor shall AgXcel be liable for any indirect, incidental or consequential damages of any kind incurred by the reason of the use or sale of any defective product. This limited warranty covers agricultural products distributed within the United States of America. Other world market areas should consult with the actual distributor for any deviation from this document.