RECON

SPREADSENSE®

OPERATOR'S GUIDE

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IntelligentAg

Recon SpreadSense®
Operator's Guide

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Record of Revision			
Revision Number	**Change Description**	**Revision Date**	**Inserted By**
1.0	Initial release	6/21/18	AAL
1.1	Removed incompatible floater and work switch references	1/02/19	AAL
1.2	Updated gateway references, added support information	2/07/20	AAL

1. Getting started

1.1 About Recon SpreadSense®

Recon SpreadSense is the industry's first blockage monitor for floaters. Utilizing the same acoustic technology developed for other Recon monitoring systems, Recon SpreadSense provides reliable real-time blockage detection. Acoustic sensors installed on the back of each deflector listen to the material flow and send sound pulses through auditory tubes, similar to a stethoscope. The data is collected by the Electronic Control Unit (ECU), which displays the information on an iPad® in the cab. If there's a blockage anywhere in the system, you'll know.

For instructions to install Recon SpreadSense, see the Recon SpreadSense Installation Guide (Intelligent Ag document number 600840-000046) from the SpreadSense app's Guides screen.

For current SpreadSense documentation, visit www.intelligentag.com/support. For iPad and software requirements, visit www.intelligentag.com/support/ipad-buying-guide.

1.2 Using an iPad

The SpreadSense app interfaces with an iPad. The iPad is a tablet computer with a touch-screen interface, meaning that no external mouse or keyboard is required; simply tap the on-screen buttons to interact with the app.
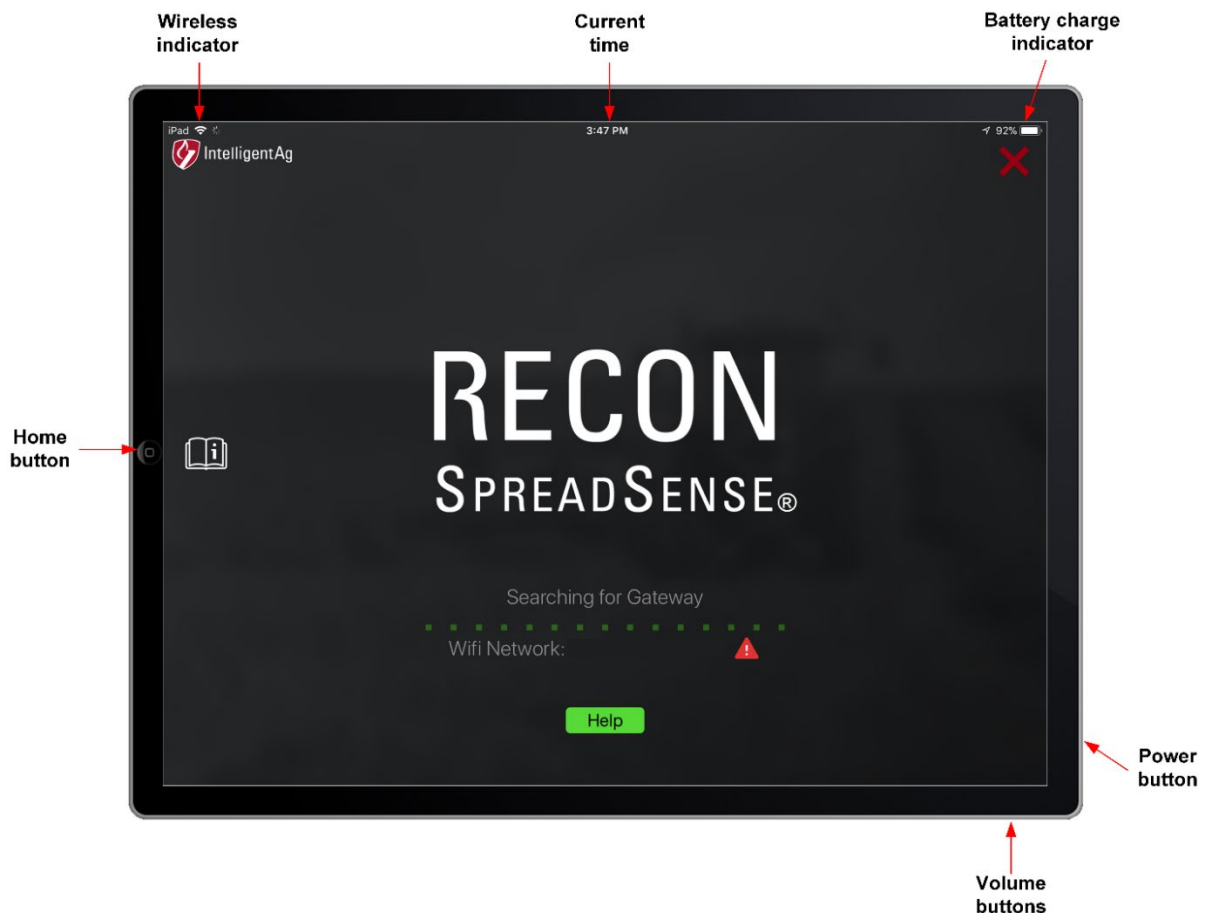

Figure 1: Using the iPad

1.2.1 Powering on/powering off the iPad

To power on the iPad, press and hold the power button for 3 to 5 seconds.

When the iPad is powered on, you can press the power button to turn the screen off and put it in sleep mode. Press the power button again, or press the Home button, to exit sleep mode.

To power off the iPad, press and hold the power button for 3 to 5 seconds. Then, slide the icon that appears on the screen.

1.2.2 Opening the SpreadSense® app

IMPORTANT: If you are prompted to enable location services, select **Only While Using the App** or **Always Allow**. If you select **Don't Allow**, this will prevent the iPad from connecting to the SpreadSense network.

Once you have powered on the iPad, tap the SpreadSense icon located on the iPad Home screen to open the SpreadSense app. If you haven't downloaded the app yet, search *SpreadSense* in the App Store and download it. Refer to the download instructions in the Recon SpreadSense Installation Guide for more information.

NOTE: Intelligent Ag recommends leaving your iPad connected to the charger the entire time you are using the SpreadSense app. If the iPad battery becomes low, Wi-Fi strength will be weakened.

1.2.3 Viewing the iPad Home screen

To return to the iPad's Home screen while the SpreadSense app is open, press the iPad's Home button. This will close the SpreadSense app screen; however, it will remain open and continue monitoring for blockages and flow variations in the background if you have background notifications enabled.

1.2.4 Closing the SpreadSense app

Tap the red X in the upper right corner to close the app.

1.2.5 Adjusting iPad volume

To adjust the iPad volume, press the top or bottom iPad volume button, as shown in Figure 1.

NOTE: If your iPad has a side switch and it is configured to mute the iPad, ensure that the switch is enabled (the iPad is not muted).

1.2.6 Changing iPad language

1. Tap **Settings** on the iPad Home screen.
2. Tap **General** on the left navigation pane.
3. Tap **Language & Region**.
4. Select the new language.

2. Configuring Recon SpreadSense®

2.1 Connecting the iPad to the wireless network

In order to communicate with the SpreadSense system, the iPad must be connected to the SpreadSense wireless network, which is broadcast by the gateway.

Make sure that your iPad is connected to the SpreadSense wireless network at the beginning of every application session. This is especially important if your iPad is connected to another network, such as a home wireless network, between sessions. Tap the **Settings** icon on the iPad Home screen to see what wireless network it is connected to.

To connect the iPad to the SpreadSense wireless network:

1. Power on the floater and iPad.
2. Tap the **Settings** icon on the iPad's Home screen.
3. Tap **Wi-Fi** on the left side of the screen.
4. Make sure that Wi-Fi capabilities are enabled.
5. Tap **SpreadSense-*XXXXXX*** from the "Choose a Network…" list. A checkmark will display to the left of the network name when the iPad is connected to the network.

   NOTE: If the SpreadSense network does not appear on the "Choose a Network…" list, wait a few minutes to give the iPad time to search for the network.

   The network won't show up until the gateway has finished powering up. The gateway's LED is solid green after powering up.

2.2 Configure ECUs

Configure your ECUs to tell the system which deflectors are assigned to each ECU.

IMPORTANT: If you are prompted to enable location services, select **Only While Using the App** or **Always Allow**. If you select **Don't Allow**, this will prevent the iPad from connecting to the SpreadSense network.

1. Tap the SpreadSense icon on your iPad's Home screen to open the app.
2. Tap the Settings ⚙ icon on the left navigation.
3. Tap **Setup Wizard**.
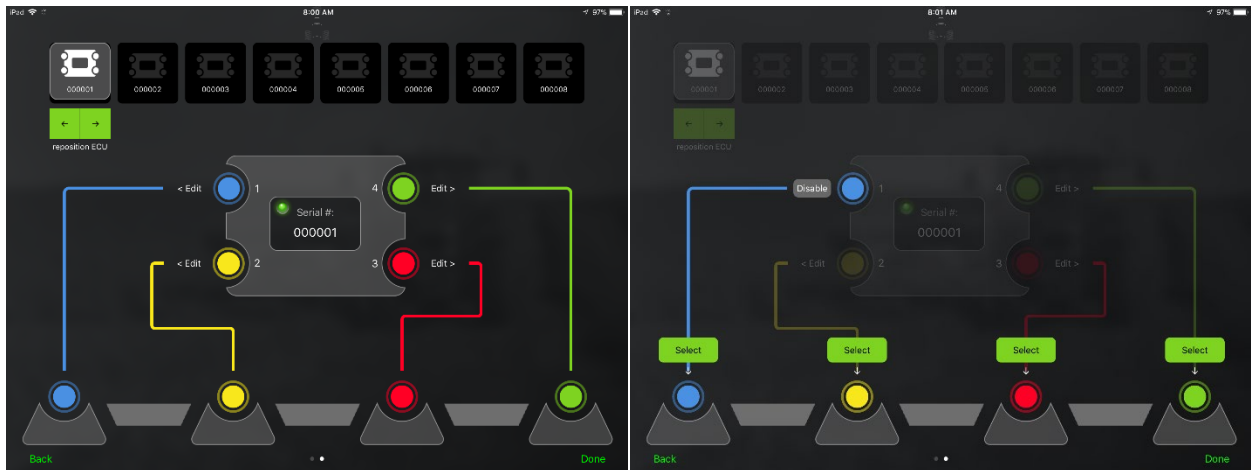4. Assign ECUs.

Figure 2: ECU Setup Wizard – Assign ECUs

   a. Tap the green arrows under the ECUs to re-order them. Order the ECUs to match the order they're installed on the system when facing the cab from the rear of the machine.

   b. Assign deflectors to each ECU. For each ECU, tap an ECU port, then tap the deflector that it's connected to. Tap **Disable** if you're not using that ECU port.

      If you're not assigning deflectors to all 4 ECU ports, it doesn't matter which ECU ports you assign the deflectors to as long as they are assigned in left-to-right order.

      EXAMPLE: *If you're only connecting 2 deflectors to an ECU, you could assign the leftmost deflector to port 1, assign the deflector to the right of it to port 2, and disable ports 3 and 4.*

   c. Double check that the ECU order at the top of the screen is correct. Tap **Done**.

NOTE: To edit a component after setting up your system, go through the ECU Setup Wizard again by tapping the settings icon ⚙ on the left navigation pane, and then tapping **Setup Wizard**.

2.3 Setting alarms

You can configure system alarms on the Settings page. To navigate to the Settings screen, tap the settings icon ⚙ on the left navigation pane.
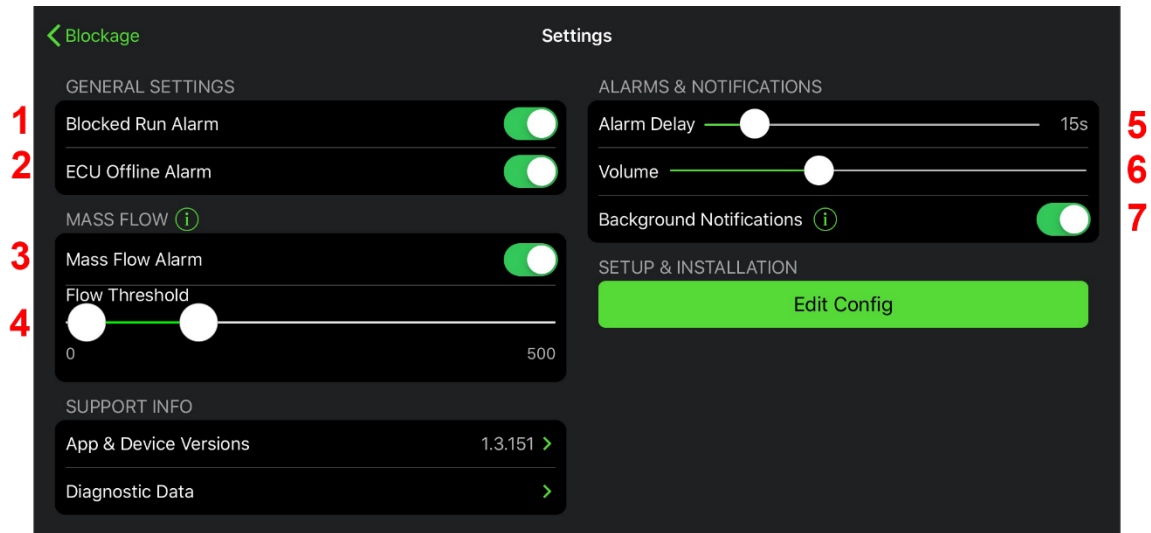

Figure 3: Settings screen

1. **Enable and disable the blocked run alarm.** Toggle the **Blocked Run Alarm** switch.

2. **Enable and disable the ECU offline alarm.** Toggle the **ECU Offline Alarm** switch to enable an alarm when the SpreadSense® app has not received data from an ECU for more than 15 seconds.

3. **Enable and disable the mass flow alarm**. Toggle the **Mass Flow Alarm** switch to enable an alarm when the total product flow is outside of the thresholds set on the slider below.

4. **Set the mass flow threshold**. Use the sliders to set the alarm threshold for each product. Flows above or below these ranges will trigger an alarm.
   - Slide the leftmost slider to the minimum acceptable flow rate for the product.
   - Slide the rightmost slider to the maximum acceptable flow rate for the product.

   NOTE: You might want to wait to set this alarm until you are familiar with the normal range for the product's mass averages. The mass flow rate is an arbitrary number and does not correspond to a specific unit of measurement. This number changes with changes in ground speed, product type, and application rates.

5. **Set alarm delays.** Drag the **Alarm Delay** slider left or right to adjust the number of seconds between when SpreadSense detects a blockage and when the alarm sounds.

6. **Change alarm volume.** Drag the **Volume** slider left or right to adjust the volume of alarms.

7. **Enable and disable background notifications.** Toggle the **Background Notifications** switch to allow the app to notify you of blockage or flow issues even when you are using another app. Intelligent Ag recommends enabling background notifications.

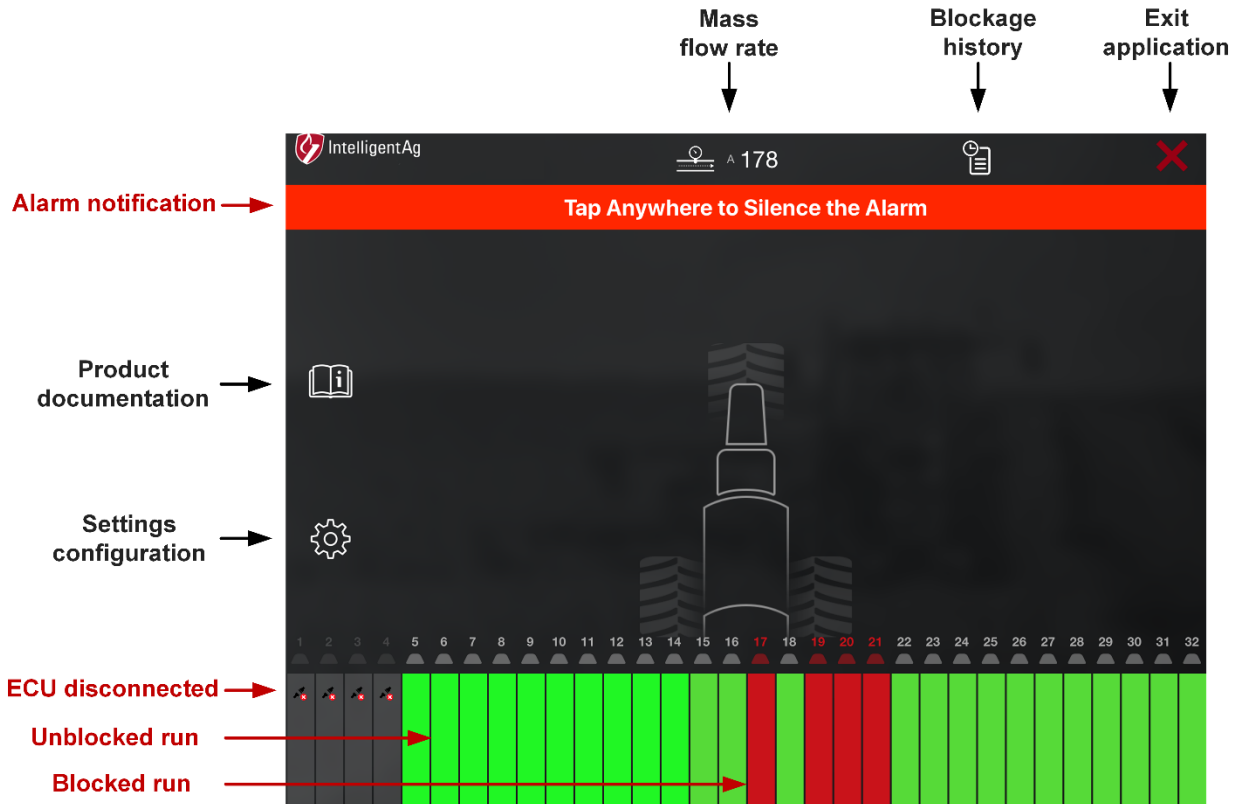# 3. Monitoring blockages and flow

Mass
flow rate

Blockage
history

Exit
application

Alarm notification

Product
documentation

Settings
configuration

ECU disconnected

Unblocked run

Blocked run

Figure 4: Viewing the Blockage screen

3.1 Viewing run status

The status of your runs corresponds with the colors below:

- **Green:** No blockages are detected on that run.
- **Red:** SpreadSense® detected a blockage on that run.
- **Gray with ECU disconnected symbol :** The ECU for those runs is not communicating with the system. Ensure that it is still connected.
- **Gray with red deflectors:** Runs are turned off due to section control.

Runs off due to
section control

Figure 5: Runs Turned off due to Section Control

3.2   Monitoring mass flow rate

Mass flow measures product flow throughout the entire system. The total flow rate for all runs appears on the top of the Blockage screen in the SpreadSense® app, as identified in Figure 4. The mass flow rate is an arbitrary number and does not correspond to a specific unit of measurement. This number changes with changes in ground speed, product type, and application rates.

After you've used SpreadSense for a while, you'll know what is normal for your system and be able to set your thresholds based on that. See Section 2.3 for more information about this alarm.

3.3   Viewing blockage history

You can view all recently detected blockages from the Blockage History list. To view blockage history, tap the history icon on the Blockage screen, as shown in Figure 6. Blockages are identified by their run number. Blockages that are currently active are in black text.
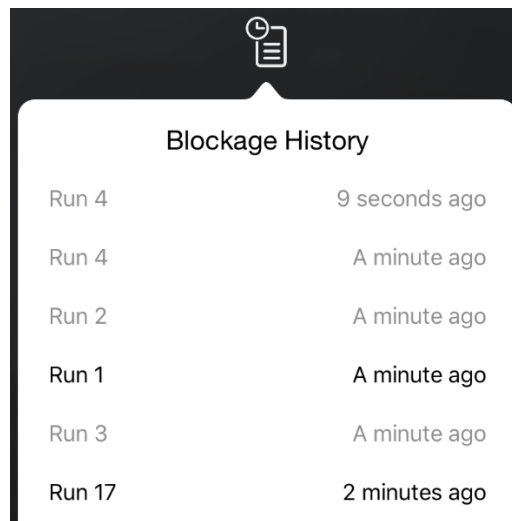

Figure 6: Blockage History screen

4. Viewing support information

Use support information while troubleshooting or to submit a problem report.
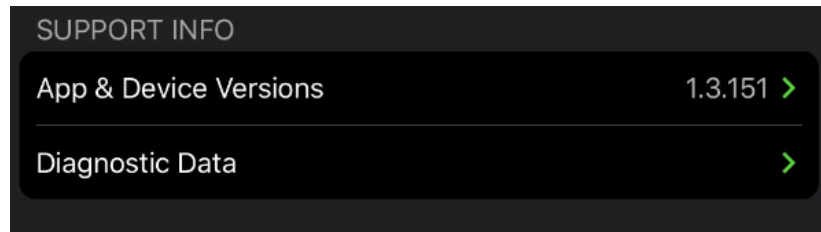

Figure 7: Viewing support information

1. Navigate to the Settings screen by tapping the settings icon ⚙ on the left navigation pane.

2. Tap **App & Device Versions** to view app, hardware, and ECU information when troubleshooting.

3. Tap **Diagnostic Data** to upload a problem report to Intelligent Ag. Type a case number (if applicable), a problem description, and select a log date. Tap **Upload Logs**.