RECON
SPREADSENSE®

OPERATOR'S GUIDE

Document revision 1.3

Last revised: March 8, 2023

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
1.3	Updated Intelligent Ag logo, updated gateway connection instructions, removed background notifications, general cleanup	3/08/23	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, iPad and software requirements, and other resources, visit intelligentag.com/support.

1.2 Using an iPad

Recon SpreadSense interfaces with the system using the SpreadSense app on an iPad.
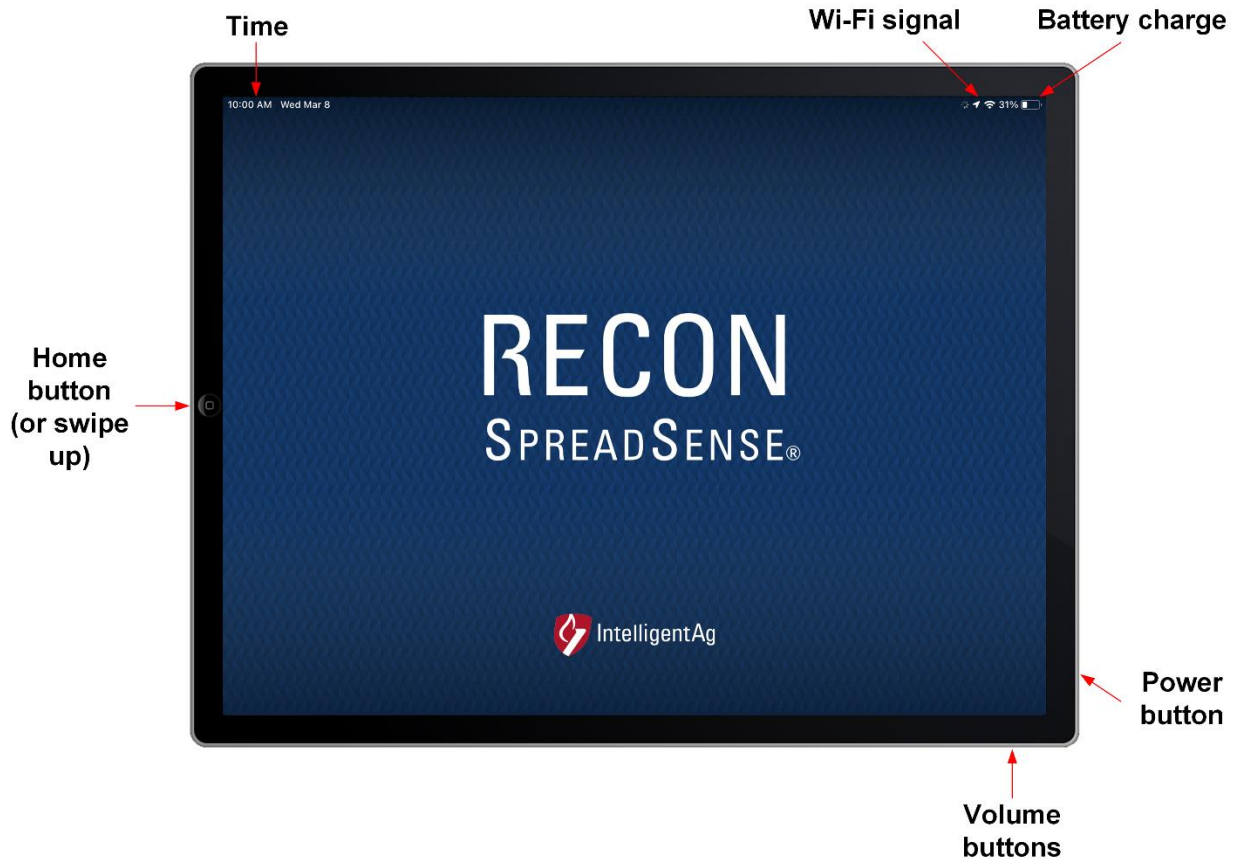

Figure 1: Using the iPad

1.2.1 Powering on/powering off the iPad

To power on the iPad, press and hold the power button (shown in Figure 1) for 3 to 5 seconds.

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

To power off the iPad:

- **iPads with a home button:** Press and hold the power button for 3 to 5 seconds. Then, drag the slider that appears on the screen.

- **iPads without a home button:** Press and hold the power button and one of the volume buttons for 3 to 5 seconds. Then, drag the slider that appears on the screen.

1.2.2 Viewing the iPad Home screen

If you have an app open, press the iPad's Home button to return to the Home screen. If you don't have Home button, swipe up from the bottom of the screen.

1.2.3 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.

Tap the SpreadSense app on the iPad Home screen to open it.

If you haven't downloaded the app yet, search *SpreadSense* in the App Store and download the SpreadSense app. Refer to the download instructions in the Recon SpreadSense Installation Manual for more information.

1.2.4 Closing the SpreadSense app

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

1.2.5 Adjusting iPad volume

Press the top or bottom iPad volume button (shown in Figure 1) to adjust the iPad volume.

NOTE: If your iPad has a side switch and it is configured to mute the iPad, make sure 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

The iPad must be in close range of the gateway and connected to the gateway's wireless network to communicate with SpreadSense™.

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.

To connect the iPad to the SpreadSense wireless network:

1. Make sure that you have power to the ECUs and gateway. The gateway's LED is green when it's done booting.
2. Tap the **Settings** icon on the iPad's Home screen.
3. Tap **Wi-Fi**. Then, connect to the gateway's network.

   If it's your first time connecting to the gateway:

   a. Connect to the **Gateway-*XXXXXX*** network.

      "XXXXXX" represents the gateway's serial number.

   b. Open the SpreadSense app from the iPad's Home screen. Once the gateway is configured for SpreadSense, close the app and navigate back to the iPad's Wi-Fi settings.
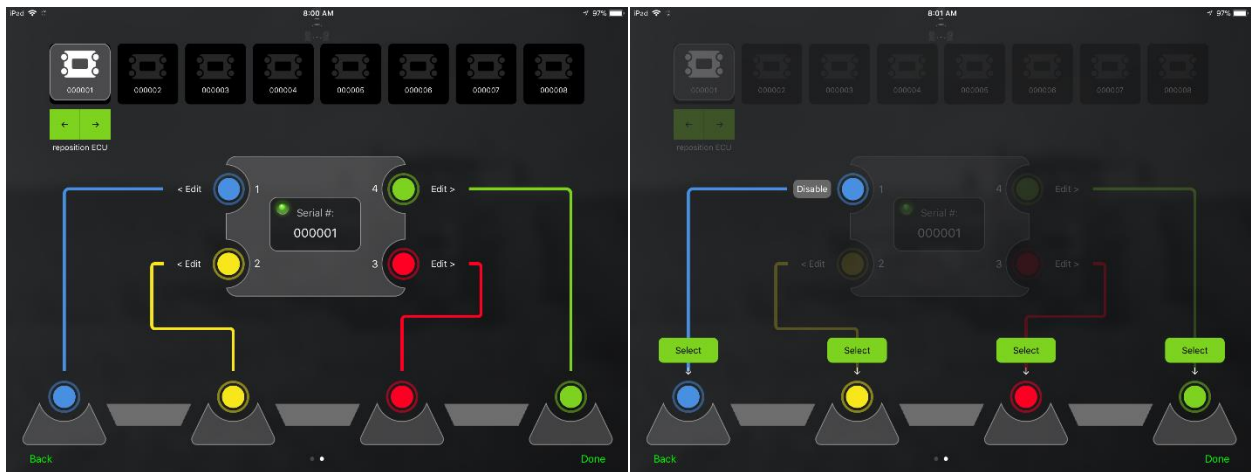
   c. Connect to the **SpreadSense-*XXXXXX*** network.

   If you've connected to the gateway before: Connect to the **SpreadSense-*XXXXXX*** network.

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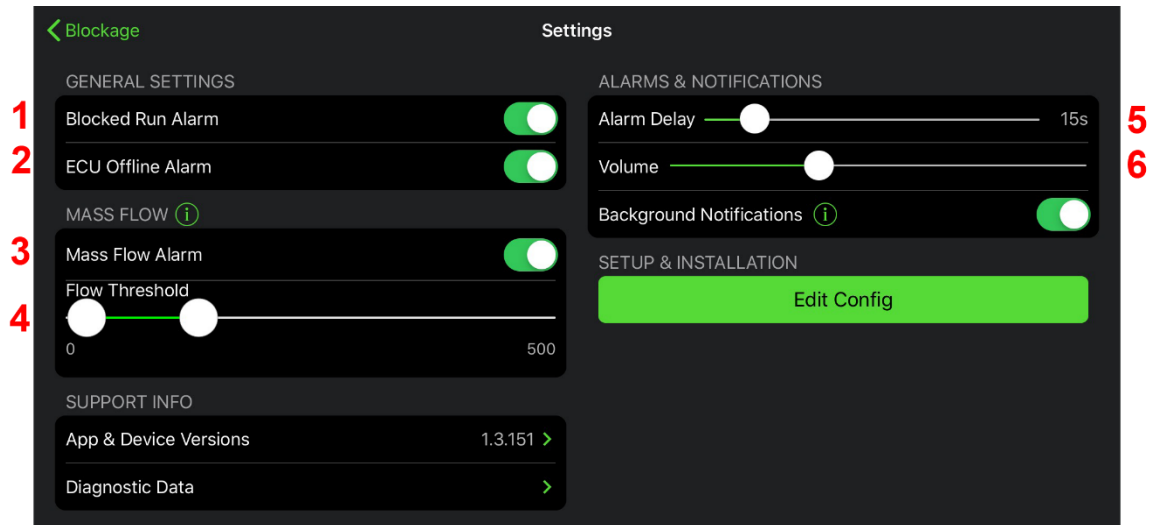
   EXAMPLE: If you're only connecting 2 deflectors to an ECU, you could assign the leftmost deflector to port 1, assign the deflector to the right of it to port 2, and disable ports 3 and 4.

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

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

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 sound an alarm when the 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 sound an alarm when the total product flow is outside of the thresholds set on the slider below.

4. **Set the mass flow threshold**. Drag 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: Wait to set this alarm until you are familiar with the normal range for the product's mass flow 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 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 to adjust the volume of alarms (unless the volume is controlled by your device's side switch).
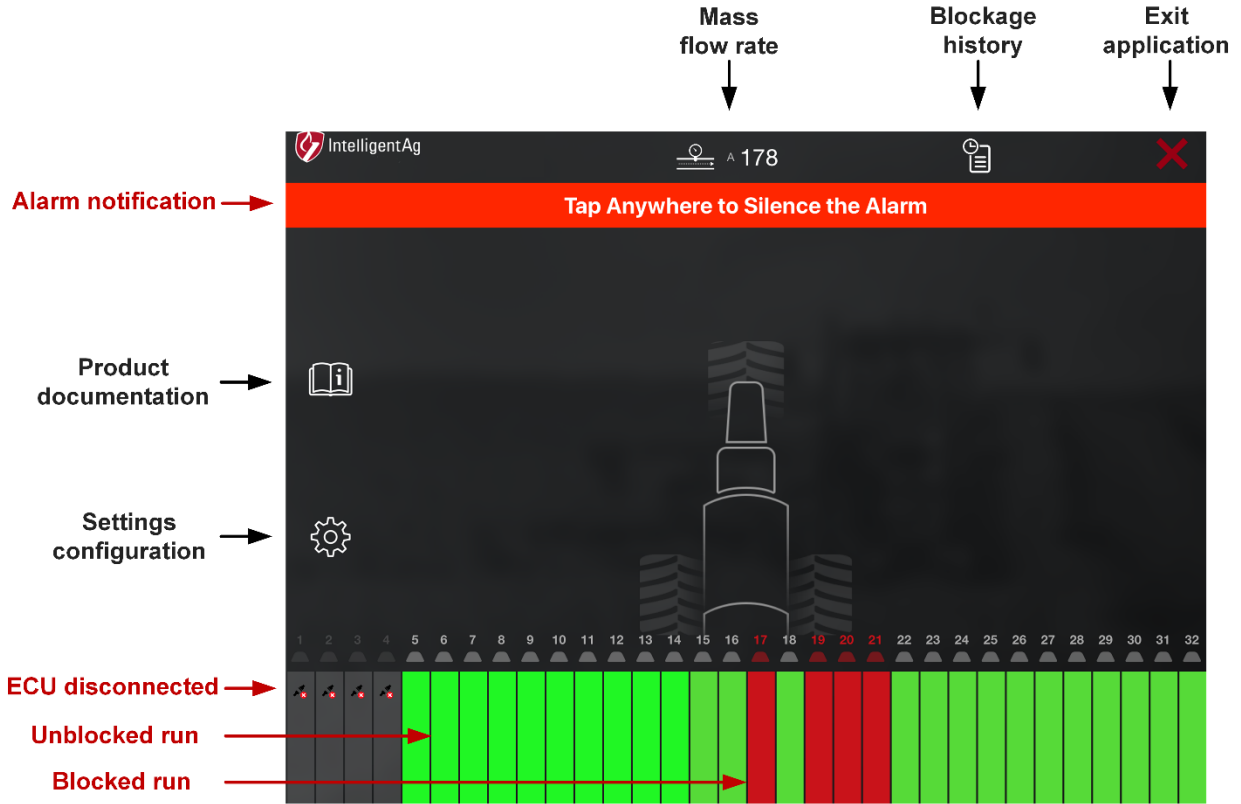
3. Monitoring blockages and flow

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.

Figure 5: Runs Turned off due to Section Control
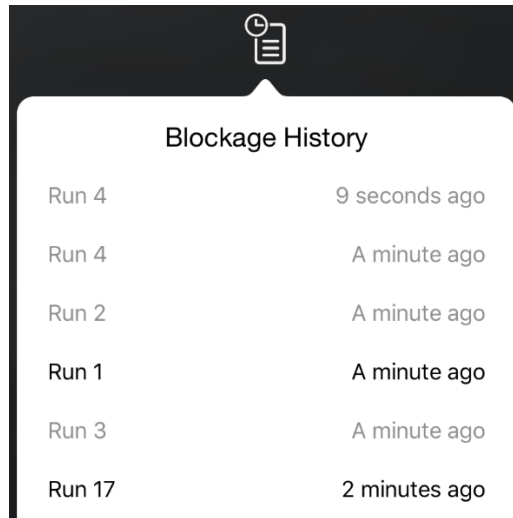
3.2   Monitoring mass flow rate

The total flow rate for all runs appears on the top of the Blockage screen in the app, as shown in Figure 4.

The mass flow rate is arbitrary and does not correspond to a specific unit of measurement. 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 setting alarm thresholds.

Mass flow can fluctuate with changes in ground speed, product type, and application rates.
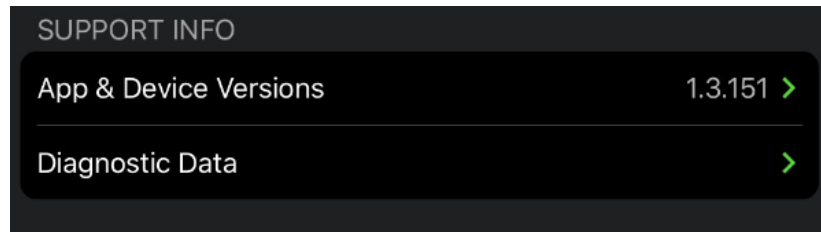
3.3   Viewing blockage history

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**.