**CONNECTING THE SYSTEM**

![Diagram of system connections]

**Note:** For more information on system calibration and settings, see the Field-IQ chapter in the FmX Integrated Display User Guide.

### Field-IQ Master Switch Box

<table>
<thead>
<tr>
<th>Switch</th>
<th>Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Increment/decrement</td>
<td></td>
</tr>
<tr>
<td>2 Rate</td>
<td>Rate 1, Rate 2, Manual</td>
</tr>
<tr>
<td>3 LED indicator</td>
<td></td>
</tr>
<tr>
<td>4 Automatic/Manual section control</td>
<td>Switch from Automatic to Manual mode while travelling.</td>
</tr>
<tr>
<td>5 Master</td>
<td>Off, On, Jump Start. Use the Jump Start function if you lose the GPS signal or if you want to start applying before the implement is up to speed.</td>
</tr>
</tbody>
</table>

### Field-IQ 12-section Switch Box (optional)

<table>
<thead>
<tr>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 LED indicator</td>
</tr>
<tr>
<td>3 Space to write which row the switch controls.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Master Switch setting</th>
<th>12-section switch position</th>
<th>Then ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic</td>
<td>Up / On</td>
<td>Section controlled by display.</td>
</tr>
<tr>
<td></td>
<td>Down / Off</td>
<td>Section off.</td>
</tr>
<tr>
<td>Manual</td>
<td>Up / On</td>
<td>Section turned on.</td>
</tr>
<tr>
<td></td>
<td>Down / Off</td>
<td>Section off.</td>
</tr>
</tbody>
</table>
## OPERATING IN THE FIELD

### Run screen

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Field-IQ Plugin tab</td>
<td></td>
</tr>
<tr>
<td><strong>2</strong> Tank/Bin button</td>
<td>Shows capacity, warning level, current volume, and the Refill Tank/Bin and Manual Flush button.</td>
</tr>
<tr>
<td><strong>3</strong> Gate Height button</td>
<td>On the Spinner Spreading Run screen the Gate opening button sets the current value of the gate opening.</td>
</tr>
<tr>
<td><strong>4</strong> Implement Switch Status</td>
<td>Green arrow down – The implement is lowered. Red arrow up – The implement is raised.</td>
</tr>
<tr>
<td><strong>5</strong> Increase/Decrease buttons</td>
<td>Increases and decreases the application rate by the amount specified during setup.</td>
</tr>
<tr>
<td><strong>7</strong> Engage button</td>
<td>Green – Auto guidance engaged. Gray – Auto guidance can be engaged. Red – Auto guidance cannot be engaged.</td>
</tr>
<tr>
<td><strong>8</strong> Field-IQ Status tab</td>
<td>Shows the engage status of each row on the implement. Green – Engaged. Gray – Section closed due to overlap. Red – Not engaged / Section manually turned off.</td>
</tr>
</tbody>
</table>
SETTING UP THE FIELD-IQ PLUGIN

Before starting
Before configuring the Field-IQ plugin setup on the FmX integrated display, ensure that:
• All components of the system are installed on the vehicle and implement.
• The Field-IQ plugin has been added to the FmX integrated display configuration.
  From the Home screen, tap the Run icon. Next to Implement, tap Edit. The Configuration screen appears. Ensure that the Field-IQ icon appears in the list. If the icon does not appear tap Add/Remove to add the plugin to the configuration.
• The implement setup has the correct option selected.
  From the Home screen, tap the Run icon. Next to Implement, tap Edit. The Configuration screen appears. Select the implement from the list on the left and then tap Setup. The Implement Setup screen appears.

Features tab
Select the following:
1. Application Type.
2. Section Switching:
   On: Automatic Section Control is active.
   Off: Automatic Section Control is not active.
3. Rate Control:
   On: Rate Control is active.
   Off: Rate Control is not active.
4. Implement Lift:
   Enabled: Implement switch controls coverage logging.
   Disabled: Implement switch is not used.
5. Anhydrous Units:
   When Anhydrous is selected for the application type, select the units that you want to control the rate by. Select either Lbs Actual N or Lbs NH3.

Boom tab
1. Section Control Type:
   Air Clutch: Using Tru Count Air Clutches® valves.
   Electric Clutch: Using Tru Count electric section clutches.
   Boom Valve: Using standard polarity boom valves.
   Reverse Polarity: Using reverse polarity boom valves.
   CAUTION – SELECTING THE INCORRECT VALUE CAUSES THE SYSTEM TO OPERATE OPPOSITE OF THE REQUIRED RESULT.
2. Sections Off When Stopped:
   Yes: Turns off sections when the GPS speed is zero (recommended).
   No: Sections remain active when the GPS speed is zero.
3. On Latency:
   Default value is 0.0 seconds. Increase the On Latency value to compensate for mechanical delay in the system (more common for larger systems).
4. Off Latency:
   Default value is 0.0 seconds. Increase the Off Latency value to compensate for mechanical delay in the system (more common for larger systems).
**Rate tab**

The Rate tab is only visible if you have at least one Field-IQ Rate and Section Control Module installed.

1. **Rate 1** and **Rate 2** fields:
   Enter the rate to be used when the Rate Switch on the Field-IQ Master Switch box is in the Rate 1 or Rate 2 position.

2. **Rate Adjust** field:
   Increment to be used each time you press the Increment/Decrement switch on the Master Switch Box or display.

3. **Rate Snapping** list:
   - **Enabled**: Shows the applied rate the same as the target rate (if the applied rate is within 10% of the target rate).
   - **Disabled**: Shows the actual applied value.

4. **Total Nozzles**:
   Enter the total number of nozzles on the applicator (do not include fence row nozzles).

**Tank/Bin tab**

The Tank/Bin tab is only visible if at least one Field-IQ Rawson™ or Rate and Section control module is installed. Select the following:

1. **Tank/Bin Capacity**:
   Total tank/bin capacity.

2. **Warning Level**:
   Level at which you will receive notification when the capacity level drops below the assigned value.

3. **Current Volume**:
   Current volume of the tank/bin.

**Tips**

- Tap **Refill Tank/Bin** to set the current volume to the tank/bin capacity.
- Tap **Manual Flush** to open the control valve and allow the system to operate at a preset speed. Use this feature to flush the booms or prime the system.

**Hardware tab**

**Field-IQ Setup**

1. **Jump Start Speed**:
   Controls the speed to be used when the Master switch is put in the jump start position.

2. **Minimum Override Speed**:
   This setting maintains the application rate when the actual speed drops below the value entered. It is used to ensure consistent material flow during slow speeds that may reach the physical limitations of the system.
Granular and Liquid Calibration

**WARNING – THERE ARE MOVING PARTS DURING THIS OPERATION. ENSURE THAT THE IMPLEMENT IS SAFE TO OPERATE.**

The Field-IQ Calibrate option only appears on the Configuration screen if you have at least one Field-IQ Rate and Section Control Module installed.

1. From the *Configuration* screen, select the Field-IQ plugin and then press *Calibrate*.
2. From the *Field-IQ Calibration* screen, select the Rate and Section Control Module to be calibrated.
3. Select *Valve Calibration*.
4. Select Valve Type, Plumbing, Valve Behavior on Sections Closed, Auxiliary Valve, and Pump Disarming Switch.
5. Select the Control tab.
6. Adjust the Allowable Error, Gain, and Minimum Response for optimal system performance.

Granular System Calibration

**Select Flow Calibration**

1. In the *Calibrate* tab, enter the Gate Height setting and the Shaft Encoder constant.
2. Press *Calculate* and then enter the Gate Width and Drag Chain Distance traveled per Rev.
3. Select the *Limit* tab to set the maximum and minimum RPM.
4. Select the *Info* tab to verify the speeds that the system is capable of reaching.
5. Return to the *Calibrate* tab and press *Calibrate*.
6. Enter the Amount of material you want to disperse, the Target Rate, and Target Speed and then press *Start*.
7. Run the calibration and then enter the actual amount of material dispensed.

Select Gate Height Calibration

1. If there is a Gate Height sensor connected to the Field-IQ system, select *Yes* in the Enabled menu, then select *Run Calibration*.
2. Follow the on-screen instructions to complete the calibration.

Liquid Calibration

**Select Flow Calibration**

1. Set the *Flow Meter Type*, *Flow Meter Calibration*, and *Minimum Flow* values.
2. Press *Run Calibration*.
3. Set the *Target Rate* and *Speed* and then press *Next*.
4. Follow the on-screen instructions to complete the calibration.

**Select Pressure Calibration**

1. Select the pressure sensor to be calibrated and enable it.
2. Enter the appropriate name and then press *Run Calibration*.
3. Follow the on-screen instructions to complete the calibration.
4. Repeat Step 1 through Step 3 for the second pressure sensor if one is connected.

Configuring the OEM switch interface

1. From the *Configuration* screen, highlight the *OEM Switch Interface* and then select *Setup*.
2. Activate the switch on the OEM console that you want to configure. This highlights the input on the left side of the screen that the switch is connected to.
3. From the right-hand side of the screen, select the action to assign to the switch.
4. Repeat Step 1 through Step 3 for all switches to be assigned.
CALIBRATING THE RAWSON MODULES

PLANTER CALIBRATION

The Field-IQ Calibrate option only appears on the Configuration screen if you have at least one Field-IQ Rawson control module installed.

1. From the Configuration screen, select the Field-IQ plugin and then tap Calibrate.
2. From the Field-IQ Calibration screen, select the Rawson Control Module to be calibrated.
3. In the Seeds Per Disk field, enter a value.
4. Enter a value in the Gear Ratio field or tap Calculate.
5. Use the Gear Ratio Calculator to determine the planter drive gear ratio and then tap OK. The Calibration Constant field contains a calculated value that the system determines during calibration. To start out, Trimble recommends that you leave the value at 1.000. After the calibration test, the system may adjust this number.
6. Place a clean empty container under the rows that contain seeds to capture the seeds dispensed during the calibration.

WARNING – MOVING PARTS DURING THIS OPERATION. ENSURE THAT THE IMPLEMENT IS SAFE TO OPERATE.

7. Tap Test.
8. In the Number of Seed Meter Revolutions field, enter a value and then tap Start. The higher the number of revolutions the more accurate the calibration. Trimble recommends 5 to 10 revolutions.
9. Follow the on-screen prompts of operating the master switch. After the system turns the specified number of revolutions, enter the number of seeds dispensed per row and then tap Continue.
10. The next screen shows the minimum and maximum speeds for the target rate specified. Tap OK and then either press Test to repeat the calibration or tap OK to continue.
11. Tap OK.
Repeat Step 1 through Step 9 for other Rawson Control Modules that need calibration.