



VM-5150

Startup Guide & Manual

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Introduction

The VM-5150 monitor can monitor up to 16 rows. The rate of each sensor is compared to the average rate across all sensors and displayed on a bar graph. The monitor will alert the operator when a blockage or over application of a row is occurring. Our EZ-Convert™ connector which eliminates the need for an adapter cable when replacing a John Deere™ monitor.

Technical Specifications

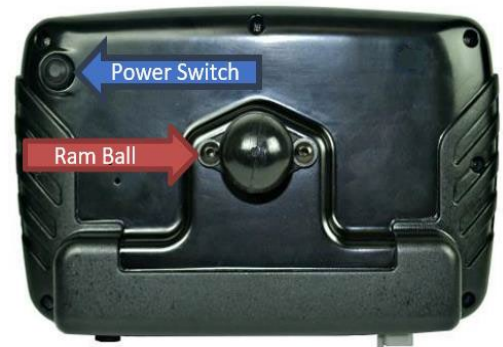
Operating Voltage	9 – 36 V DC
Operating Temperature	-20 °C - 70 °C (-4 °F - 158 °F)
Storage Temperature	-40 °C - 85 °C (-40 °F - 185 °F)
Size	27.30 cm W x 16.5 cm H x 5.08 cm D (10.75 in W x 6.5 in H x 2 in D)
Weight	2.22 kg (4.9 lbs)
Sensors	Compatible with Vanguard™ and most other seed sensors
Standard Mounting	RAM Mounts® 1 ½ in ball mounting
Alarm Adjustment	Five levels
Backlight Adjustment	Five increments plus Day/Night Mode

Installation

Mounting

Mount RAM 238U to back of monitor using the supplied hardware.

Install the cab harness and connect to the Planter or drill harness. Note: If replacing a John Deere™ monitor, the EZ-Convert™ connector labeled “Deere Only” must be connected.

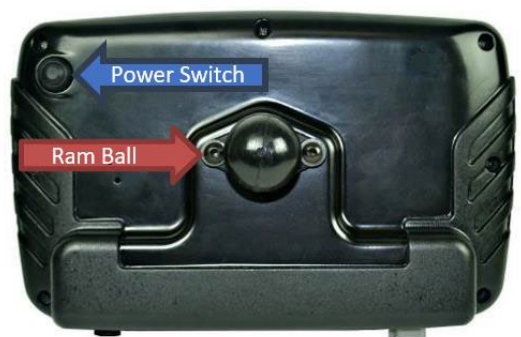


Power Connection

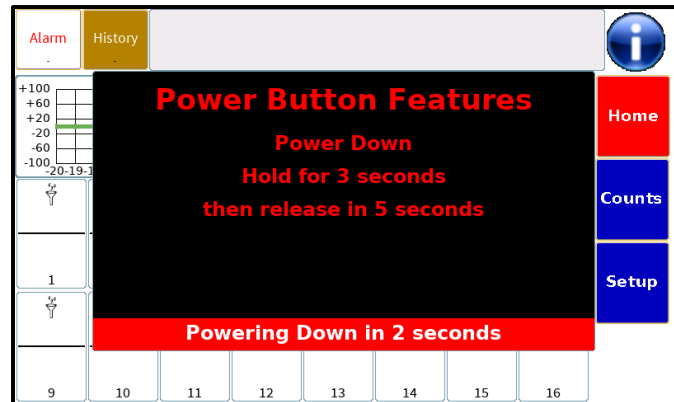
The supplied power cable includes two battery terminals and an inline 5-amp fuse. Route and secure the harness to provide adequate strain relief at all connectors and ensure sufficient slack to accommodate harness movement without stressing the connections.

Operation

To turn on the monitor, press and release the power button on the rear of the monitor. On initial startup, the monitor will display a start-up screen and detect any sensors that are connected to the monitor. Once the sensors are detected, the **Home** screen will appear and display a bar graph for each sensor.

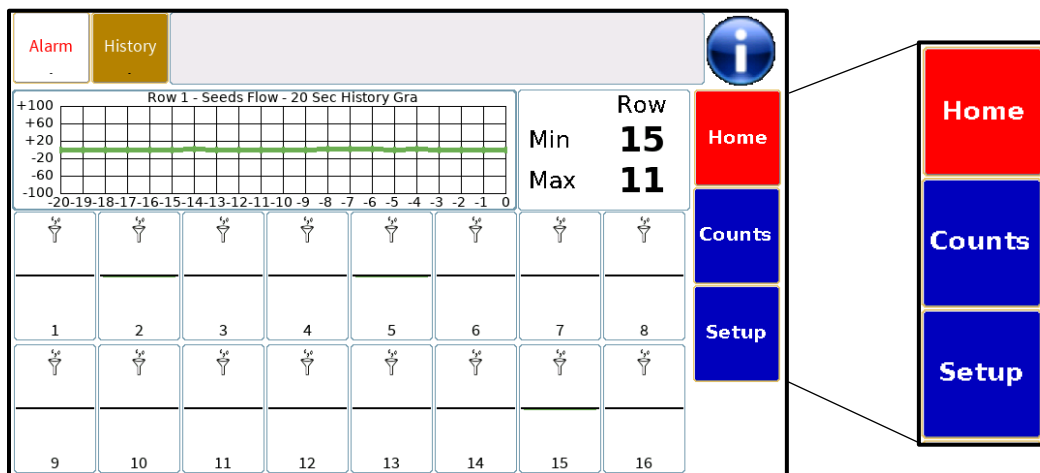


To turn off the monitor, press and hold the power button on the rear of the unit. A pop-up screen with a countdown timer will appear. Release the button after three seconds to power down the monitor.



Home Screen

Navigation buttons are located along the right side of the **Home** screen and provide access to the different monitor screens. The active screen is indicated by a red background.



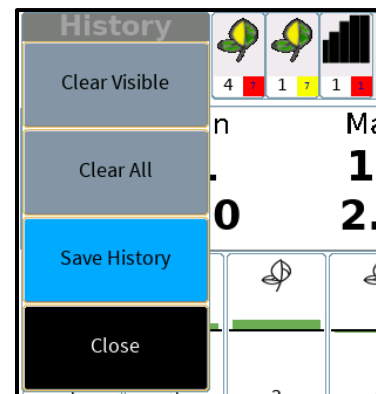
Alarm /History Area

Detected faults are displayed along the top edge of the screen. Each fault block shows the affected row number (large number at the lower left of the block) and the number of seconds the sensor has been in an error state (small number at the lower right of the block).



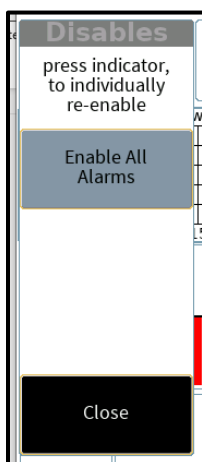
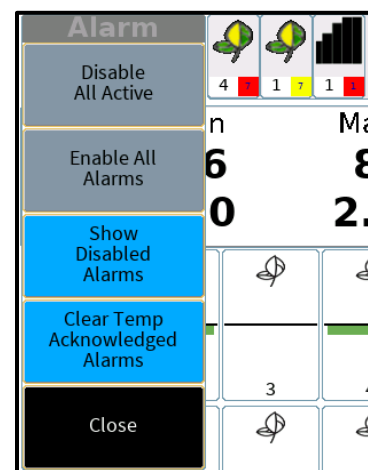
History Pop-Up

To clear the stored faults, touch the History button. In the pop-up window, select Clear Visible to remove the faults currently shown. Any previous faults that have occurred but were not cleared will then populate the fault history area. Selecting Clear All will clear all stored faults.



Alarm Pop-Up

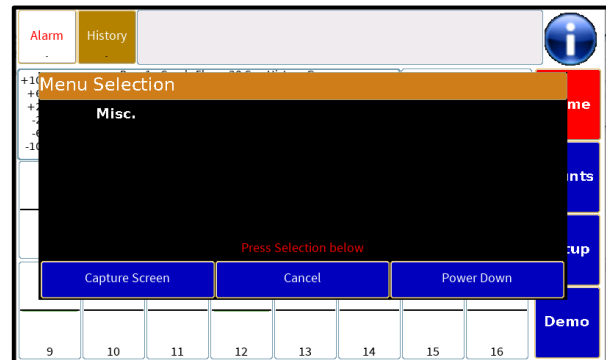
The Alarm button allows you to manage alarms from the **Home** screen. Disable All Active temporarily silences all active alarms until they are reactivated, while Enable All Alarms restores any previously disabled alarms. Show Disabled Alarms displays the row and seed type for any silenced alarms and provides an option to re-enable all alarms.



The audible alarm can be silenced by pressing anywhere in the **Alarm History**. This will temporarily acknowledge any active faults.

Information Icon

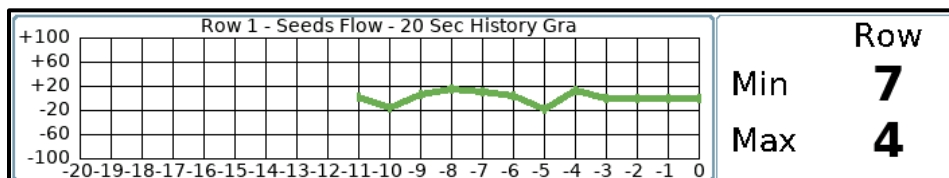
Pressing the **Information** icon opens a menu that allows you to capture the screen or cancel the action.



Console

Console (Row-Specific) Information

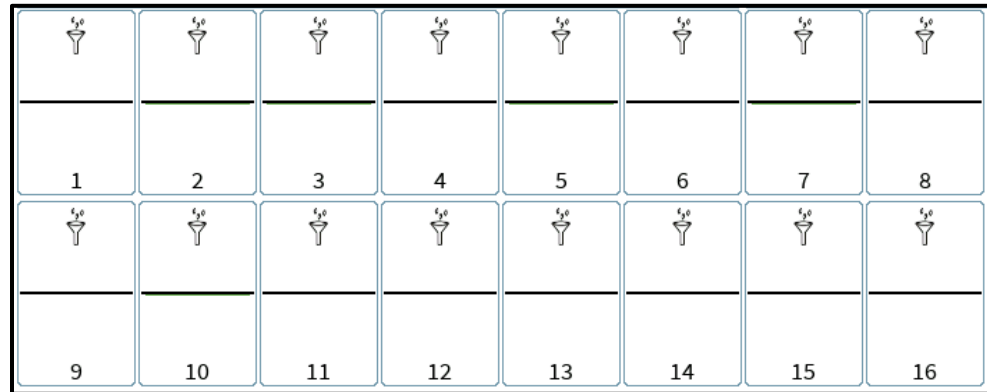
The console area displays the row numbers for the minimum and maximum rates, along with a 20-second historical graph for the selected row.



Bar Graph

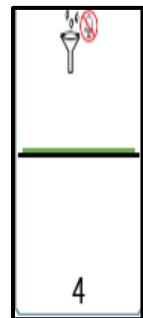
This area provides a visual comparison of each row to the average rate. The center horizontal line represents the average across all active rows. **Green** bars above or below the line indicate rates within 50% of the average. **Yellow** bars indicate rates more than 50% above average, while **red** bars indicate rates more than 50% below. If no bars are visible, the row is on target.

If a row is alarming, a bell icon appears in the bar graph. To temporarily disable the alarm for that row, touch and hold it for three



seconds. The alarm indicator will then show a red crossed-out circle.

To re-enable the alarm, touch and hold the bar graph for three (3) seconds. Temporarily disabled alarms are remembered through an all rows failed but are not saved through a power cycle of the monitor. If all the rows are detected as not applying product, the alarm will sound 3 beeps and then shut off until flow is detected on any of the rows.



Counts Screen

The Count screen shows a running total of seeds or pulses detected by the monitor. This screen can be used for troubleshooting a faulty sensor or harness. The counts can be reset at any time and will not affect the rest of the monitor. Selecting the close tab will navigate back to the **Home** screen.

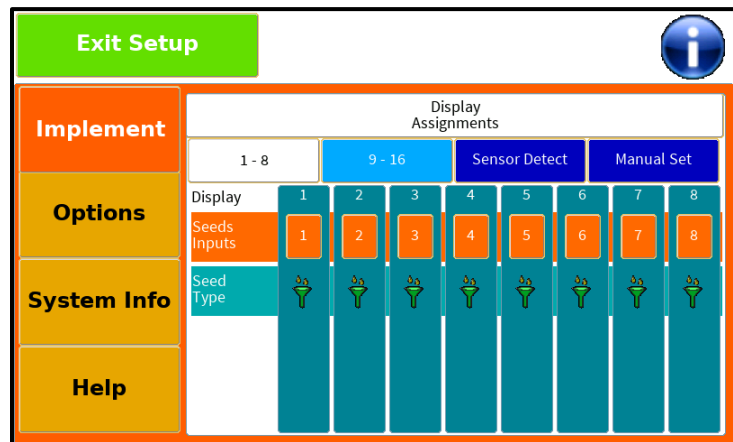
Sensor Event Counter				Save	Reset	Close
S-1	16	S-9	144			
S-2	32	S-10	160			
S-3	48	S-11	176			
S-4	64	S-12	192			
S-5	80	S-13	208			
S-6	96	S-14	224			
S-7	112	S-15	240			
S-8	128	S-16	256			

Setup

On startup, the VM-5150 detects the number of connected sensors and automatically configures the **Home** screen. Any necessary adjustments can be made on the **Setup** page.

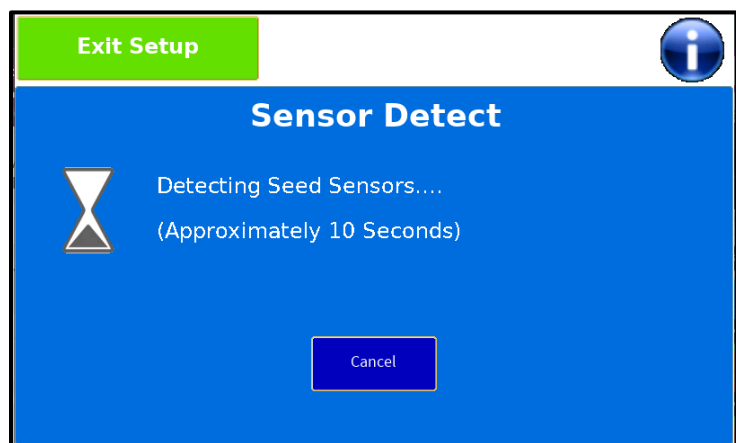
Implement

The **Display Assignments** area shows sets of eight row inputs and indicates whether a sensor is detected on each input. If more than eight sensors are connected, selecting the **9-16** button will display the next set of inputs. The top row shows the display row, the second row shows the monitor input, and the third row shows the seed type. Since this is a blockage-only monitor, the seed type will always display the blockage symbol.



Sensor Detect

This function allows the user to manually detect sensors after the monitor has been powered on.



Manual Set

This screen allows the user to assign undetected sensors, skip inputs, or manually assign implement harness inputs. Each square represents a monitor input, with the input number shown in the lower right corner and the row number in the upper right corner.

The screen is titled "Manual Harness Assignment Associations". It features a grid of 16 input slots arranged in 4 rows and 4 columns. Each slot contains a green funnel icon and a number. The top row is labeled "1" in the upper right corner, the second row "2", the third row "3", and the fourth row "4". The columns are labeled "1" through "4" in the upper right corner. The first column has a "Skip" button, and the second column has a "Flow Seeds" button. On the right side, there are three buttons: "Clear" (yellow), "Cancel" (red), and "Accept" (blue). At the top, there are two dropdown menus: "Implement Type" set to "Seed Only" and "Row Count" set to "16".

Skipping a row ignores any signal from that input and shifts remaining sensors to the next set of inputs.

Clear removes all configured inputs for reconfiguration. **Cancel** exits without saving changes and **Accept** saves the changes and exits.

Manual configurations are not retained through a power cycle, as the monitor detects connected sensors at startup.

Options

Alarm

The **Alarm Volume** has five settings, ranging from Off to Max. The selected level is highlighted with a green background.

Display:

- **Brightness** adjusts the intensity of the display backlight.
- **Display Mode** allows selection between Day and Night modes. Night mode adjusts the color scheme and backlight intensity for improved visibility in low-light conditions.
- **Click Volume** sets the sound level for the audible click when the screen is touched. This sound can be disabled by selecting **Off**.

The screen is titled "Options" and has a green "Exit Setup" button at the top left. On the right side, there is an information icon (i). Below the title bar, there are four tabs: "Alarm", "Display", "Misc.", and "Analysis". The "Alarm" tab is selected. Below the tabs, there is a section titled "Select desired Options for each parameter." with a sub-section for "Alarm Volume". The "Alarm Volume" section has five buttons: "Off", "1", "2", "3", and "Max". The "2" button is highlighted with a green background. On the left side, there is a vertical menu with four options: "Implement", "Options", "System Info", and "Help".

Analysis

History Hysteresis defines the minimum time between failures detected by a sensor before a failure is recorded in the *Alarm History* area. Once the configured time has elapsed since the last failure, a new detected failure will be displayed as an icon. If a second failure for the same row occurs within this time period, it will be ignored and will not be displayed.

Exit Setup 

Alarm Display Misc. Analysis

Select Options.

History Hysteresis **10** (seconds)

Start Suppress **3** (seconds)

Start Suppress Time defines the period that allows the system to stabilize after application resumes. During this time, row failures are ignored and are not recorded.

Systems Info

The **System Info** screen displays the monitor's software information and internal voltage levels. The top row represents the display portion of the monitor, while the second row represents the internal processor that controls the row power supplies and sensor data.

Exit Setup **Setup Assist** 

System Info **Save**

Pos	Module	SN	App Vers	Boot Vers	Bat	Pwr A	Pwr B
	Monitor	5650001234	03.00.601	01.00.1	12.04	---	---
	Internal		01.01.530	01.02.530	12.12	8.08	8.09

Column	Monitor	Internal
Pos	N/A	N/A
Module	Display Processor	Sensor Processor
SN	Serial Number of Monitor	N/A
App Vers	Application software version	Application software version
Boot Vers	Boot block version	Boot block version
Bat	Input Battery Voltage	Input Battery Voltage
Pwr A	N/A	Power Supply A Voltage
Pwr B	N/A	Power Supply B Voltage

Note: Voltage levels are at the monitor

Help

The **About** page displays the monitor model number, serial number, and software versions.

Assistance

If assistance is needed in this monitor's operation, the contact information can be used to seek help. The QR code will direct the user to a digital copy of this manual.



Diagnostics

The *Diagnostics* page allows extra features to be enabled by the user. If necessary, a code will be provided.

Console Pinouts

Monitor Power

Description	4-Pin Console	Power
12V DC In	1	1
Ground	2	3
Alarm Out Positive	3	
Alarm Out Ground	4	

Cab Harness

Description	18-Pin Console	37-Pin Implement Standard
Row Input 1	A1	1
Row Input 2	A2	2
Row Input 3	A3	3
Row Input 4	B1	4
Row Input 5	B2	5
Row Input 6	B3	6
Row Input 7	C1	7
Row Input 8	C2	8
Row Input 9	C3	9
Row Input 10	D1	10
Row Input 11	D2	11
Row Input 12	D3	12
Row Input 13	E1	13
Row Input 14	E2	14
Row Input 15	E3	15
Row Input 16	F1	16
8V Power		24, 25
8V Ground		26, 27



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