

OPERATOR'S MANUAL

SFA-32



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ELECTRONICS

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NOTES:

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INTRODUCTION

System Overview

The SFA-32 Monitor is designed for maximum performance in the field and is easy to install and use. The system is capable of monitoring up to 32 rows and provides not only seed population, but also will display area, hopper level, RPM and vacuum information when sensors are connected, and has capabilities of monitoring liquid flow with Ag Express "**Precision Flow Meter Technology**".

- ✓ 7" Color Touch Screen
- ✓ SFA-32 1-32 Row Monitoring
- ✓ Built in GPS Speed option
- ✓ Bar graphs
- ✓ Setup assist for easy programming
- ✓ Adjustable accumulating time
- ✓ RAM 1 1/2" Ball Mount
- ✓ Adjustable Back light
- ✓ Day/Night Mode
- ✓ Adjustable Audible Alarm
- ✓ Optional Visual Alarm Light
- ✓ View Home or Dashboard
- ✓ View Seed population or GPM
- ✓ View 20 sec. Row History
- ✓ Precision Flow Meter Option
- ✓ Optional Lift Switch
- ✓ 2 Hopper Level, 3 RPM, 3 Vac. Opt.
- ✓ Section grouping



Scan for Additional Online Assistance

SPECIFICATIONS

Power	10–16 VDC, 3.5 A maximum
Operating temperature	-20°C to 70°C (-4°F to 158°F)
Storage temperature	-40°C to 85°C (-40°F to 185°F)
Size	24.1 cm W x 18 cm H x 6.8 cm D (9.5" W x 7" H x 2.7" D)
Weight	3.58 kg (7.9 lb) for 32-row SFA-32 system
Wire Harnesses	The SFA-32 includes detachable harnesses to supply the unit's power (fused) and sensor inputs (to hitch). Connectors on the back for GPS Antenna, USB and Radar (4 pin)
Sensors	Compatible with DICKEY-john and other major brands of seed sensors.
Standard mounting	RAM Mount 1 1/2" Ball Mounting
Alarm adjustment	Four levels audible alarm with mute onscreen selection. Optional external light available.
Backlight adjustment	Five increments plus Day/Night mode

SAFETY NOTICES



CAUTION

CAUTION should be taken when connecting the monitor to the battery to assure that the Positive + (**Red**) wire is connected to the Positive terminal of the battery and the Negative – (Black) wire is connected to the Negative terminal of the battery.

The power cable is provided with a 5 amp fuse. **DO NOT REPLACE** with anything other than a 5 amp as this could damage the monitor and void the warranty. Fuses are for your protection and the protection of your equipment.

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INSTALLATION

Your SFA-32 comes with a RAM 1 ½" Mounting Ball. Any RAM Mount 1 ½" fixtures will adapt to your monitor.



The SFA-32 comes with a round base mount and a 3 ½" arm for easy installation.

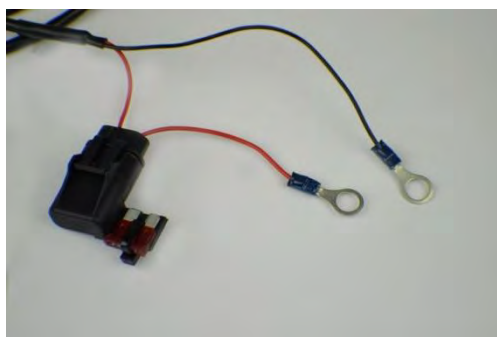
Install the RAM-238-U 1 ½" Ball supplied with your console by removing the two screws from the rear of the unit and use them to attach the ball.

Any RAM configuration may be used to attach your console to a convenient location in your cab.

MONITOR AND POWER CONNECTIONS (Harness AE6697)

Route the power leads of the main harness to the battery. Allow some slack to tie the harness off to a secure location in the cab to provide strain relief and for the protection of the harness.

The monitor operates on 12 VDC only. The red (Fused) lead should be connected to the positive battery terminal and the black lead should be connected to the negative battery terminal.



There is a short two pin Deutsch connector at the monitor end of the power cord. This is for connecting the optional Visual Alarm Light (Part No. AE6696)

SFA-32 CONSOLE MAIN HARNESS (Harness AE6693)

Route the main harness to the rear of the tractor. Attach the connector to the bottom of the monitor with a ¼" nut driver. Tie the harness securely in the cab as a strain relief.

The AE6693 harness will attach to your planter or implement with a 37 pin AMP CPC style connector. This connector is pinned to match standards used by Dickey-john, Agco, Kinze and many other manufacturers. Be aware that Deere uses the same connector but uses a different wiring pattern. **If you are connecting to a Deere harness, you will need a AE2540DJ adapter for each harness available online from www.agexpress.com.**

If you will be using RPM, Hopper levels or Vac sensors, you will need a AE6694 Accessory Extension to plug into the 10 pin connector of your tractor harness and a AE6695 implement accessory harness.

If you are using an external speed source such as a radar or external GPS, connect it to the 4 pin AMP connector on the back of the monitor. (Adapters are available for most common radar and GPS connectors)

If you are using the internal GPS, attach the antenna to the coax connector on the back of the monitor.

Once your implement is connected, you are ready to operate your monitor.

INTERNAL GPS

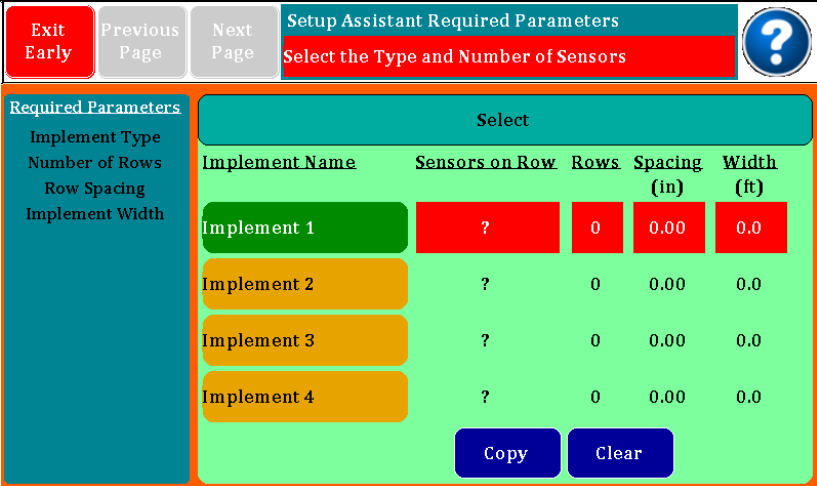
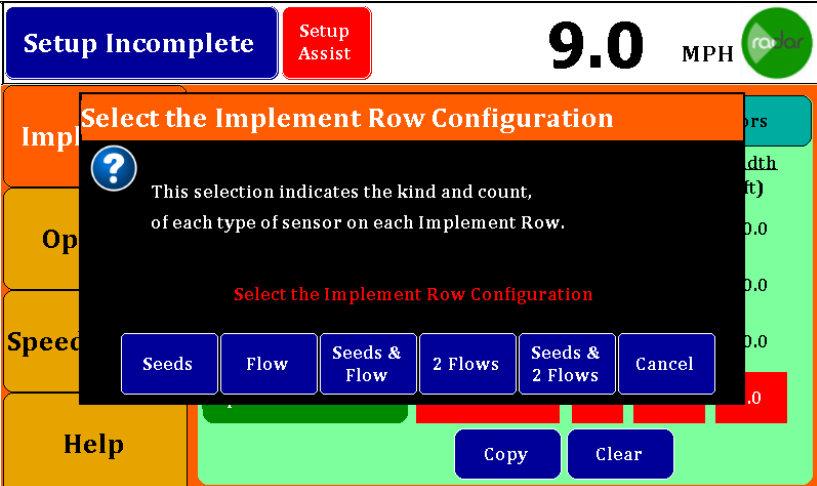
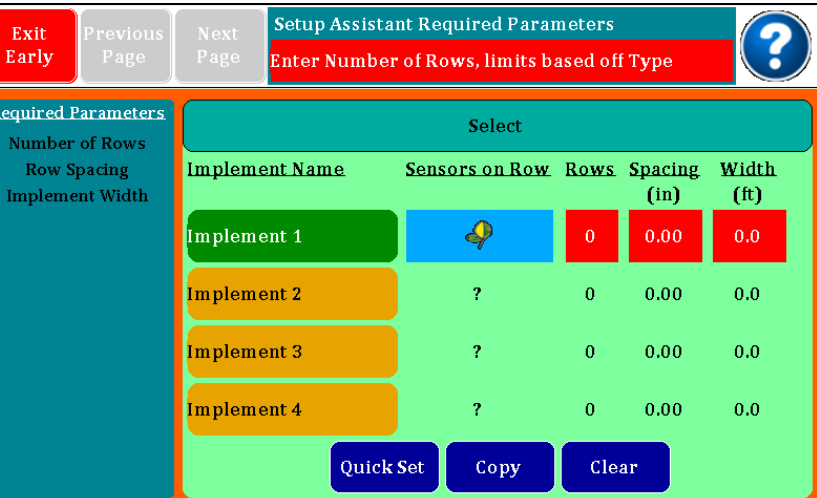
The SFA-32 can be purchased with the optional onboard GPS enabled, or it may be enabled by the customer upon the purchase of a valid license.

The License may be obtained from your Ag Express dealer or by contacting our customer service department. Once the transaction is complete, you will be provided with a license code to install on a USB flash drive. Upon insertion into the USB port of the monitor, the license will install and enable the onboard GPS.

QUICK START

Turn monitor on by depressing the On/Off Switch on the right end panel.

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The first screen on an original startup will take you directly to the Setup Assistant screen shown at right. You will find a list of required parameters on the right and boxes that need to be filled in will be in red.	
Touch the Sensors on Row box and this pop up screen will appear. Choose from the options listed. You can do 2 rates on Flow or Seeds & Flow. 2 Flows is for two different products/1rate.	
Begin by selecting the type of sensors you will be using. Choices will be shown on an information box that will include Seeds, Flow, Seeds & Flow, 2 Flows and Seeds & 2 Flows. Note, the 2 flows indicates 2 products. Flow only may have 2 rates. Seeds only shown at right.	

Continue by entering the number of rows, row spacing and implement width. The Implement Name may be personalized using the pop-up keyboard. Select the Next Page to continue to Sensor Configuration.

Exit Finish

Previous Page

Next Page

Setup Assistant Required Parameters

Entire Implement Setup is Complete

?

Required Parameters

Select

Implement Name	Sensors on Row	Rows	Spacing (in)	Width (ft)
Implement 1		16	30.00	40.0
Implement 2	?	0	0.00	0.0
Implement 3	?	0	0.00	0.0
Implement 4	?	0	0.00	0.0

Quick Set

Copy

Clear

From the display assignments screen, you can change types of sensors manually or configure skip row setups. To open a configuration box, touch on one of the rows in this screen. This will bring up the planter matrix where changes can be entered.

Exit Finish

Previous Page

Next Page

Setup Assistant Required Parameters

Entire Implement Setup is Complete

?

Required Parameters

Display Assignments

1-8

9-16

Manual Set

Display	1	2	3	4	5	6	7	8
Seeds Inputs	1	2	3	4	5	6	7	8
Seed Type								
Flow 1 Inputs								
Flow 2 Inputs								

Touch any of the vertical bars in the above screen to bring up the manual assignment screen. Here you can touch an input and change sensors or skip rows. Screen at right shows a 12 row seed monitor with 12 flow meters and two different flow rates. The funnel is for flow seed sensors often used on air seeders.

Manual Harness Assignment Associations

Implement Type	Seed / Flow	Row Count	12
Skip	1 2 3 4 5 6		
Pop Seeds	7 8 9 10 11 12		
Flow Seeds	13 14 15 16 17 18		
Liquid Flow 1	19 20 21 22 23 24		
Liquid Flow 2	25 26 27 28 29 30		
	31 32		

Clear

Cancel

Accept

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Section assignments may be entered in this screen. If you have a planter or liquid system that is setup with section shutoff's, you can configure the rows to match so the monitor will recognize the shutoffs and not report continuous row failures. Select section number at top, then touch the row pad to add it to that section.

Section Assignments								
1-8	9-16	Section Selector: 3						
Display	1	2	3	4	5	6	7	8
Seeds Sections	1	1	1	2	2	2	3	3

The sensor selection screen is where target rates are entered and limits are assigned. For seeds, set the desired value and default is +/- 20%. You may change percentages or enter absolute numbers.

Sensors	
Seed	RPM Shaft VAC
Enter Sensor Gain in Percent (0 - 100)	
Sensor Gain	0.0 %
Target Population	
Max Limits	20.0 % Absolute
Desired Value	50000.0 Seeds/Acre
Min Limits	20.0 % Percent

If one or more flow inputs are selected, you must select the flowmeter part number (found on your flowmeters) and then enter the desired GPA along with the limits. The calibration number is auto generated. If you have two flow inputs, you will index to flow 2 setup where you will repeat the above steps.

Sensors	
Flow 1	Flow 2 RPM Shaft VAC
Type	AE6663
Calibration	57200
Max Limits	2.40 Gallons/Acre Absolute
Desired Value	2.00 Gallons/Acre
Min Limits	1.60 Gallons/Acre Percent

If you have RPM sensors or VAC sensors, you will be directed to those setups where you will enter the required information similar to what you have done in seed and flow sensor setup.

Exit Finish
Previous Page
Next Page

Setup Assistant Required Parameters
Entire Implement Setup is Complete

?

Required Parameters

Sensors

Seed RPM Shaft VAC

Select RPM
< RPM 1 >
Disable

Tooth Count
8

Max Limits
20.0 %
Absolute

Desired Value
300.0 rpm

Min Limits
20.0 %
Percent

Alarm setup screens are next with the first one where you set the volume followed by a screen where alarms for hopper levels, RPM and VAC may be disabled or enabled.

Exit Finish
Previous Page
Next Page

Setup Assistant Required Parameters
Entire Implement Setup is Complete

?

Required Parameters

Alarms

Control Disables

Select Alarm Options for each control.

Alarm Volume
OFF 1 2 3 MAX

The Display setup is where the screen brightness and Day/Night Mode are set. Conversion units may be set to English or Metric. Show IO Numbers when enabled will show the actual input pin number on the bar graph row indicators. This is normally set to No.

Exit Finish
Previous Page
Next Page

Setup Assistant Required Parameters
Entire Implement Setup is Complete

?

Required Parameters

Display

Select desired Options for each parameter.

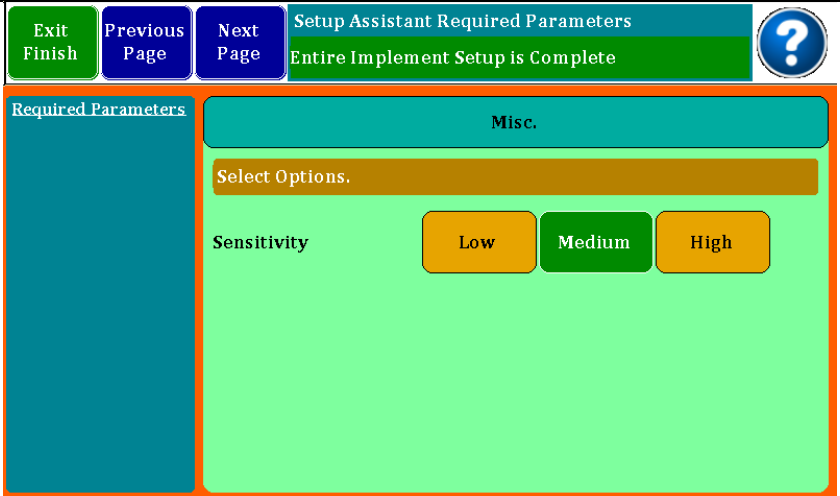
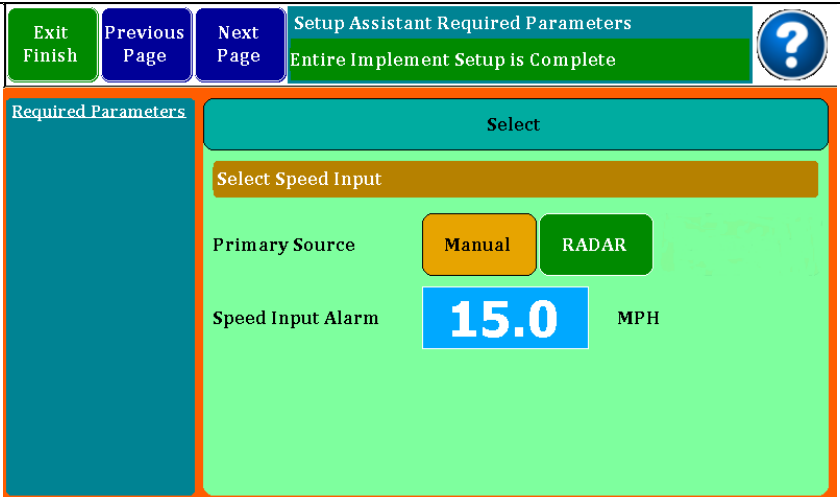
Brightness
MIN 2 3 4 MAX

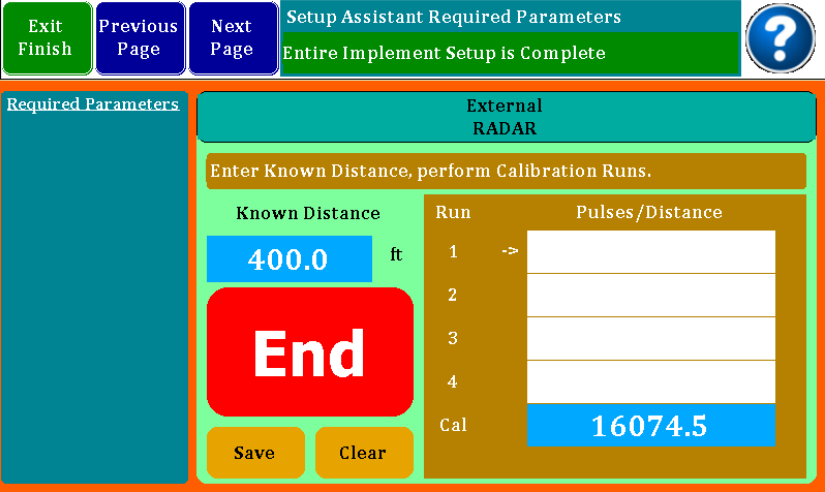
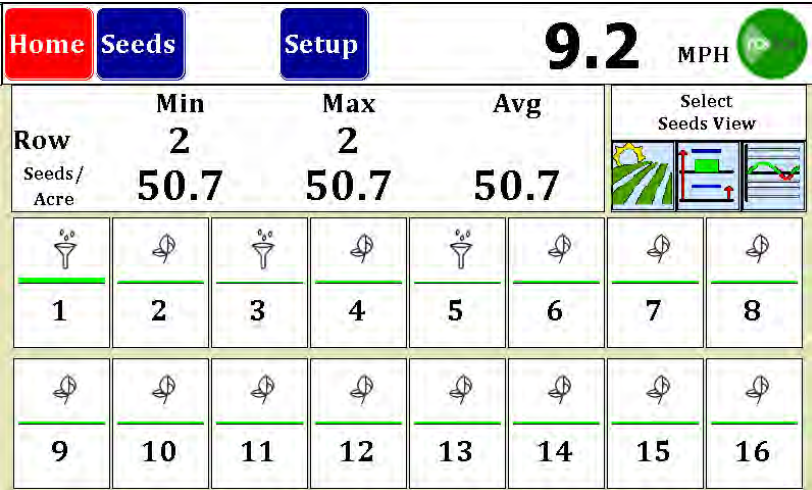
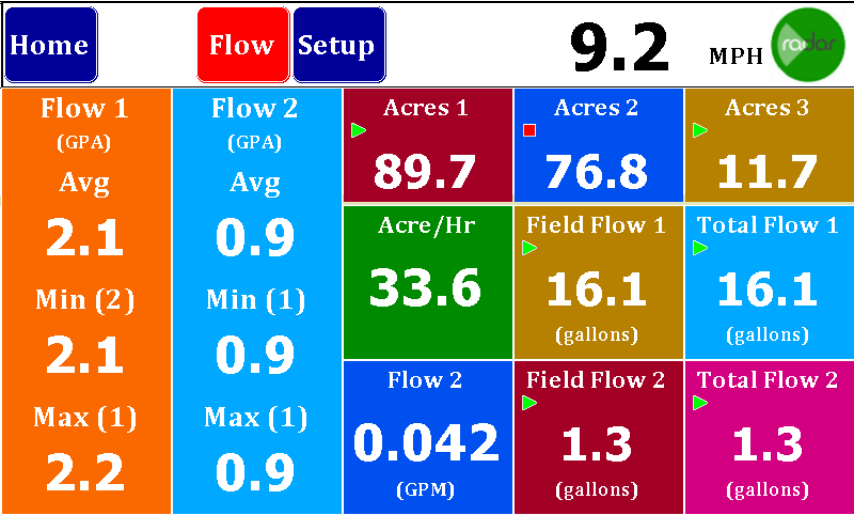
Display Mode
Day Night

Conversion Units
English Metric

Show IO Numbers
No Yes

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Sensitivity is the amount of averaging time used to calculate rates. The longer times may show more accuracy, but changes will come less often. This is normally set to Low or Medium.	
The Speed Input screen is where you select what will be your primary source of speed. You can select Manual where you enter a number for the speed you are driving; Radar is used when an external Radar or GPS device is plugged into the 4 pin port on the back of the monitor. Speed Input Alarms may be set for over speed.	
When using an external Radar or GPS, you will need to calibrate the device. This is done by driving a 400 foot course. It is suggested that you do 4 runs and the monitor will store and average them for you. Flag your course and as you pass the first flag, press Start.	

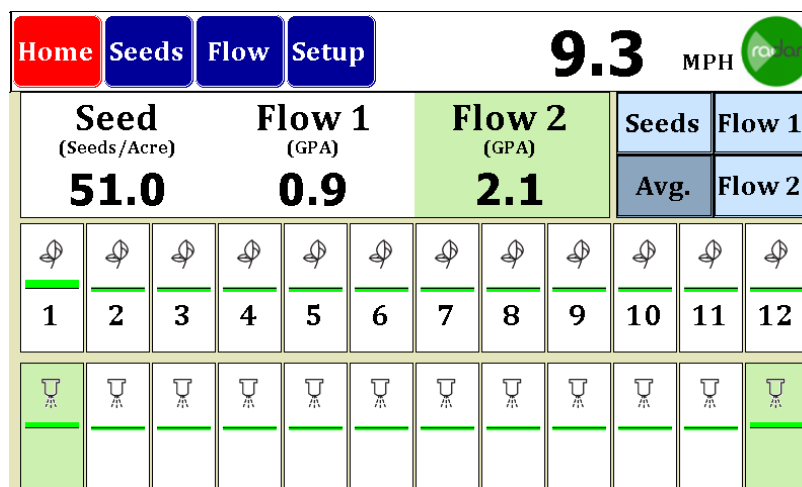
When you pass the second flag, press End. A calibration number will appear in the Run # box. Continue to do three more runs to get an accurate number. The monitor will average the numbers and press Save to keep the calibration number. Speed derived by this calibration will be quite accurate.	
Exit the Setup Assistant and go to the Home screen. This brings up the Bar Graph Screen. The Bar Graph Screen will give you a visual indication of each row and showing over or under rates compared to average. There is an information screen that will show Min-Max-Ave as well as other information	
Select the Seeds or Flow button to bring up a Dash view. Here you can view Min-Max-Avg information, Acres and Acres/Hr plus other information as well as accessories described later in the Operations section.	

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OPERATING YOUR MONITOR

Once your monitor is configured, you may choose to work from one of the screens on the previous page.

Getting around the Home Screen....

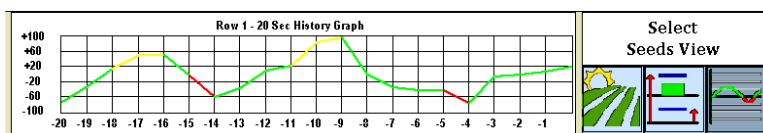
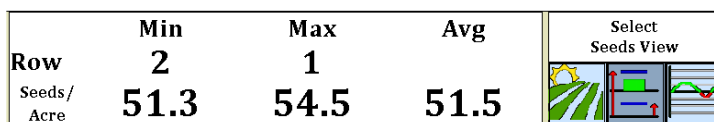
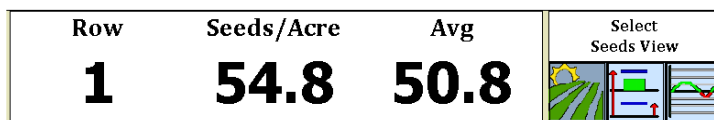


The three buttons at the top left select the screen. Here we are looking at the Home or Bar Graph Screen. Seeds and Flow bring up the appropriate Dash View while Setup takes you back to the setup mode. Speed is displayed to the right and the indicator showing the type of speed input is displayed. Above figure showing Radar or External GPS input.

Next, you will find the Information Box and the View Selection buttons. Shown above is a monitor set for Seed and Flow with two rates. The Avg. View button is selected showing the Average of each of the applications, Seeds, Flow 1 and Flow 2.

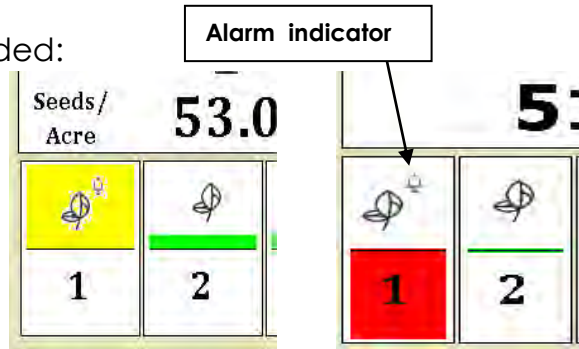
By selecting Seeds, Flow 1 or Flow 2, you bring up a menu box shown at the right end of the screen. Shown at right are the three types of screens you may see for any product.

The first selection gives the option of selecting a row and parking on it. The second shows Min-Max-Avg for the product and the last shows a 20 second moving line graph history of a selected row.



The bar graphs will change color when the limits are exceeded either over or under as shown below.

Limits exceeded:

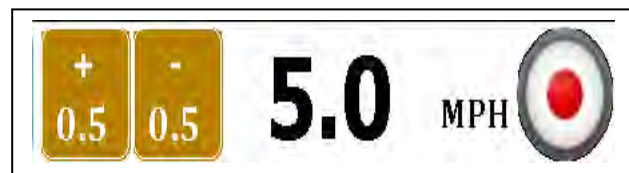
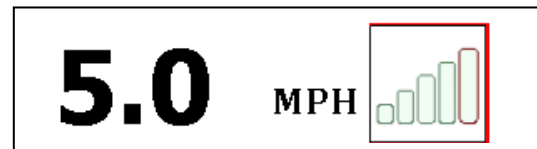


The alarm may be temporarily silenced by holding down the individual row until it changes color. The small alarm bell will have a circle/red X over it showing that the row has been silenced. It may be returned to normal operation by holding the row down again.

MPH INDICATOR

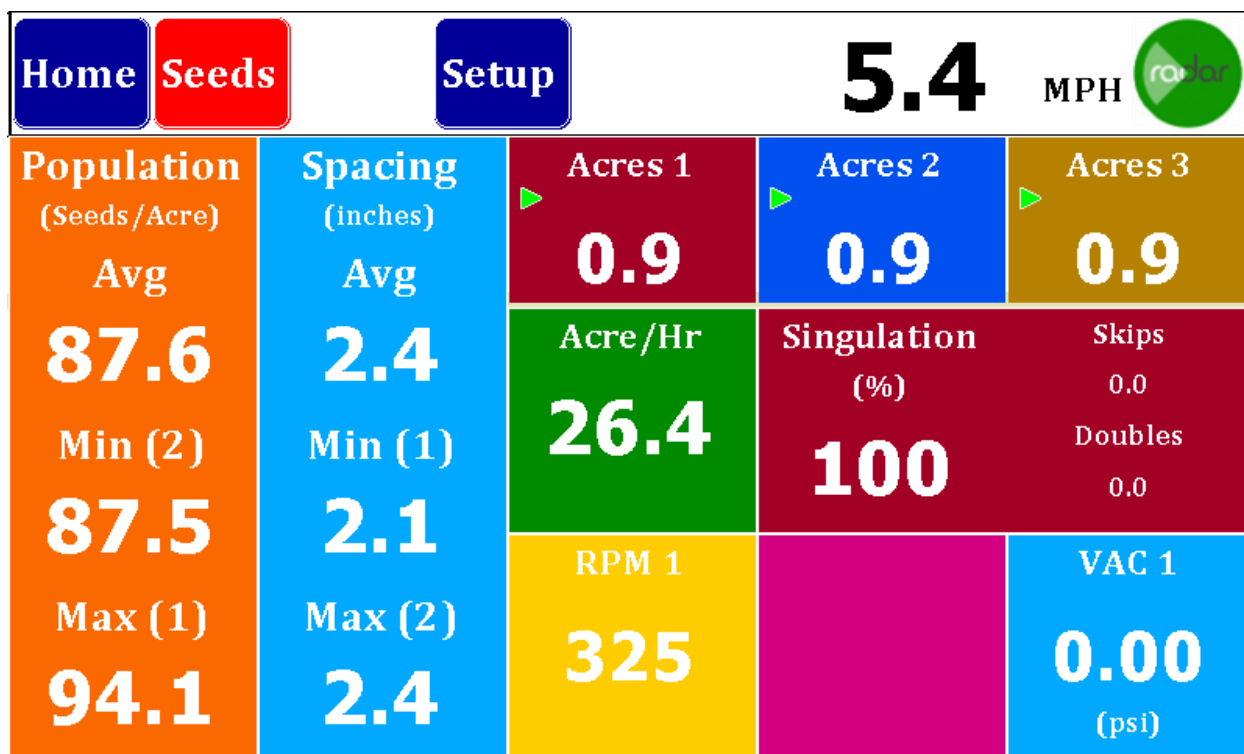
In the upper right of the Home Screen, you will find an indicator showing the MPH input and a speed reading. By holding down this section of the screen for a few seconds, you can bring up a dialog box to change input icons.

Shown at right are the three Speed Input icons along with the MPH Reading. At the top, the icon shows Radar or external GPS Speed input hooked to the 4 pin connector on the rear of the monitor. If you have internal GPS enabled, you will see the second bar graph screen showing lock and signal strength. The final screen is manual speed where you enter a speed by incrementing with the gold boxes. To toggle from one input to another, hold down the icon for 2-3 seconds and a dialog box will appear.



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THE DASH SCREEN - SEEDS



The Seeds Dash Screen gives a quick overview of the operation. Shown at left is Population in Seeds/Acre with the Average, the Minimum (Row Number) and Maximum (Row Number).

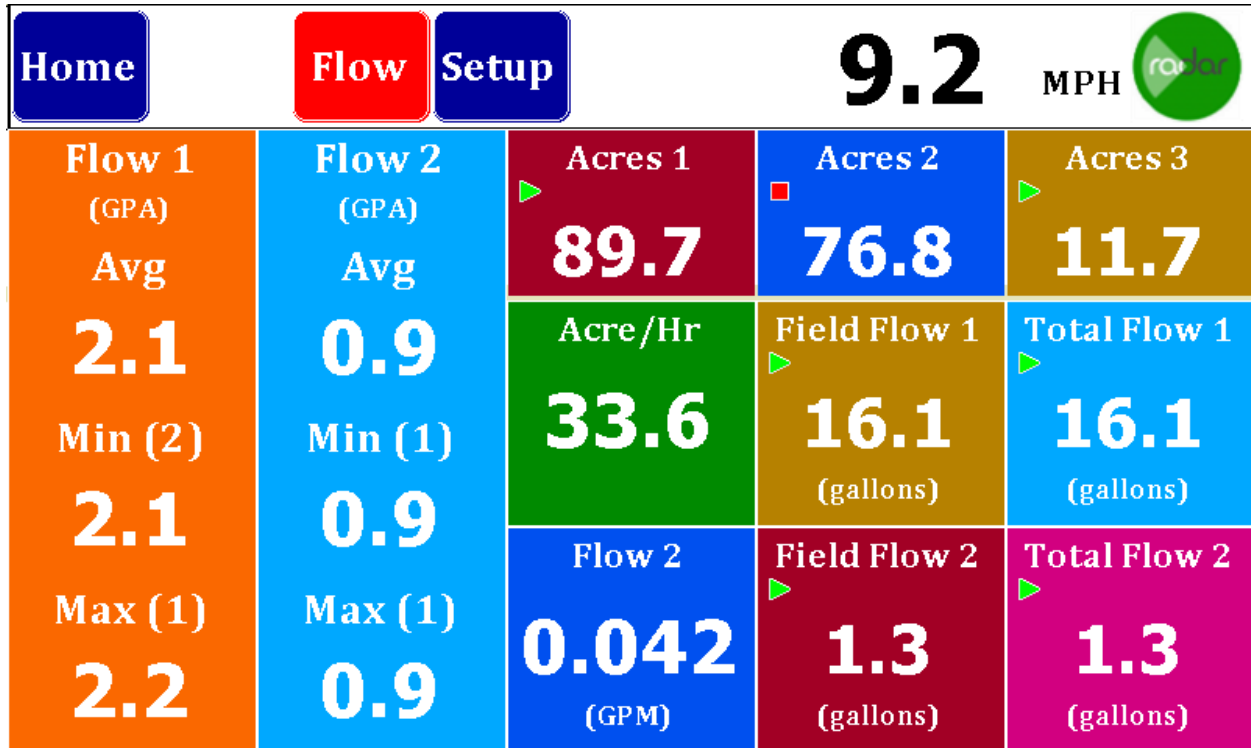
Next is Spacing in inches with Average, Minimum (Row Number) and Maximum (Row Number).

Across the top you will find the acre counters. There are three acre counter memories in the system and they may be started, stopped or reset by holding the button down for three seconds to bring up a Start/Stop and Reset button.

On the center right is the Acre/Hr. reading and the Singulation screen showing skips and doubles.

The bottom row right is for accessories. If you have RPM sensors, they will show and sequence through as many as you have. (Limit alarms may be set for these). Also shown is VAC and that too will sequence through as many Vacuum sensors as you have up to three. (Limit alarms may be set here as well).

THE DASH SCREEN - FLOW



The Flow Dash Screen is similar to the seeds screen. Shown at left is the Flow Rate. It will Show GPA Average, Minimum (Row Number) and Maximum (Row Number). If you have two Flows selected, there will be a second column for Flow 2.

Across the top you will find the acre counters. There are three acre counter memories in the system and they may be started, stopped or reset by holding the button down for three seconds to bring up a Start/Stop and Reset button. Shown above, Acres 2 is stopped.

Center right shows Acre/Hour rate followed by a calculated Field Flow 1 and Total Flow 1. Both of these may be started/stopped or cleared by holding the button down for three seconds.

On the bottom row you will see the current average GPM flow rate (This will toggle between Flow 1 and Flow 2 if you have both) and finally, you have Field Flow 2 and Total Flow 2 which may be started/stopped or cleared by holding the button down for three seconds.

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FLOW METER INSTALLATION

A plumbing diagram for a typical system used on a planter for the pop up/side by side fertilizer has been included. Starting with the product tank that is normally mounted on the planter frame each of the components used in the system will be discussed regarding their function and installation.

#1 Leading out of the tank a main **shutoff valve** should be in place to cut product flow to the entire system.

#2 The next component on the diagram is a **filter** which is critical for keeping foreign material out of the pumping system that would cause plugs or blockages to occur. It is recommended for an application rate of 5 gallons per acre or less to use an 80 mesh filter screen. Application rates higher than 5 gallons per acre can be applied with a 50 mesh screen filter. A finer screen is used at lower application rates to keep the small flow meters from plugging. The filter should be placed before the pump to allow for proper filtering of the fertilizer being applied.

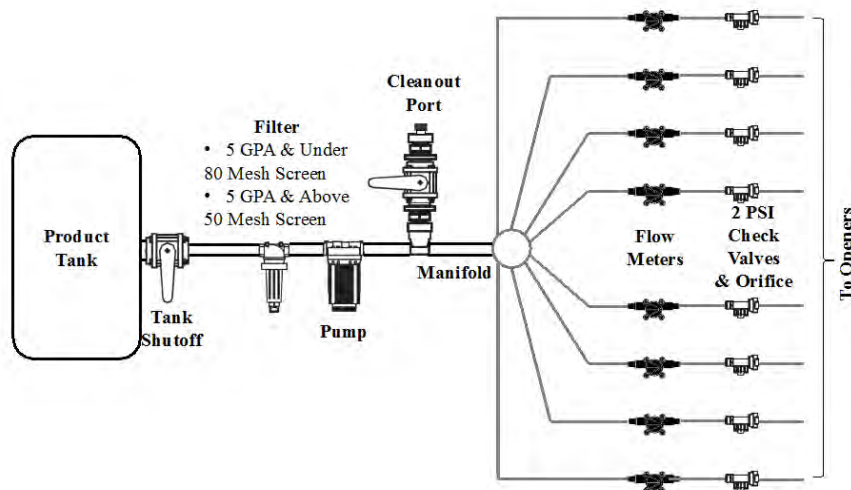
#3 The **pump** is the next item in line after the filter. There are many types of pumps that are commonly used for liquid fertilizer application. Piston, squeeze, hydraulic and 12V DC type pumps have all been used with this system. All these pumps work well as long as they are properly sized for the specific application rate that is being applied.

#4 After the pump a **cleanout port** is shown that would be used for rinsing out the system after the season is over. It may also be used for rinsing if you are going to be out of the field and will not be using the system for an extended period of time. The cleanout port will also be useful in flushing out the system if blockages should occur due to contamination problems in the fertilizer system. The clean out port consists of a valve and a garden hose adapter for hooking up the rinsing system.

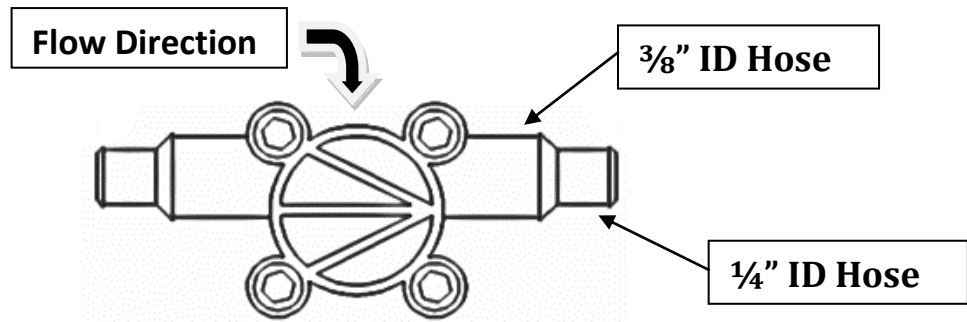
#5 Following the cleanout port is the **distribution manifold** followed by the **individual row flow meters**. The flow meters can be grouped together after the manifold or distributed on the bar individually closer to each opener.

#6 **An optional bracket (Part No. AE6675)** is available for purchase that holds up to 8 flow meters. This will help keep track of which flow meter is going to which row plus it helps in making a neat, safe, and organized installation of the flow meters. Each precision flow meter is made with 2 sizes of hose barbs on each end of the flow meter housing. These barbs are 1/4" and 3/8" which makes adapting to your planter plumbing system easy.

#7 After the flow meters a **check valve/orifice plate** assembly is recommended. A 2 psi check valve works well for most systems. The lines will stay filled with liquid and leakage on the ends will be prevented when the unit is raised. Properly sized orifice plates will make the application rate accurate and consistent from row to row.



There are some important items to observe when preparing to install the precision flow meters. On both the inlet and outlet end of the flow meter there are two different sized hose barbs. The smaller is designed to use 1/4" ID hose, and the larger barb closer to the center of the meter is designed to accept 3/8" ID hose. The first step in installing the flow meters is determining which barb will work best to adapt to the size and type of plumbing on the planter/applicator. The flow meters are supplied with two 2" pieces of 1/4" tubing plus 2 clamps. The tubing is provided as a way to easily transition to the existing plumbing. If the planter/applicator uses 3/8" hose in the system, you can simply slide it on and clamp it to the flow meter on the larger barb. Another important feature of the flow meter is a directional arrow showing how material should flow through the meter. The directional indicator arrow is stamped into the housing on the opposite side of where the cable goes into the meter. It is very critical that the flow meters are installed accordingly. Inaccurate or inconsistent readings will occur if they are installed backwards.



Each of our 4 different precision flow meters has a different operating range so it is important that they be chosen correctly for your application. Physically – the meters are identical. You will be able to identify which flow meter you have by the tagged part number on the meter cable. Below is a chart showing the operating specifications of each flow meter.

Flow Meter Specifications: Part Number	GPM Range	Pulses Per/Gallon	Gal/ Per Acre approx.
AE6663	.013 - .132	60600	2 - 4
AE6664	.032 - .400	26900	5 - 15
AE6667	.053 – 1.189	13250	13 - 20
AE6665	.08 - 2.65	4550	16 - 70

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The Precision Flow Meters can be installed anywhere between the distribution manifold and the check valve/orifice assembly. Primary consideration should be given to ease of access to the flow meters. Because a flow meter is installed for each row it is a good idea to mount the meters in a "grouping" close to the output of the manifold. A bracket (P/N AE6675) is available to hold 8 flow meters in a 9" space. All the fertilizer lines can be run in a neat and orderly manner from the manifold to the flow meter and from the flow meter to the row. This will also make the wiring harness less complex, as the length of wire required to hook the flow meters up will be reduced and all the connections will be in one location.



It is also recommend that once you have commenced planting and the lines and the flow meters have been filled with fertilizer that they remain fully charged until finished planting for the season. This will help insure that crusting/plugging does not occur and that the flow meter turbine will remain free once planting begins again. This is the reason we want the check valves installed in the system as this will insure the lines stay fully charged once the pumping stops. If – for example planting is delayed due to rain the check valves will insure that the lines remain fully charged and you will not be required to flush out the system. PLEASE NOTE: One exception to this rule is if you have micro nutrients mixed in with your fertilizer and the planter is going to be setting for more than a couple of days flushing of the system is recommended as the ingredients may settle and may cause problems once planting starts again. Once again if you have made plans for flushing of the system and planting is delayed we would recommend, you go ahead and flush the system to insure no problems will occur on startup.

Post Season Storage for the Ag Express Precision Flow Meters

Within 2 to 3 days of finishing for the season we **strongly** recommend a total cleansing of the system with water. You will need to clean and rinse the fertilizer residue out of the system adequately so it will not cause issues on start up for the next season. The more thorough job you do now will pay you dividends as the amount of fertilizer left in system will cause potential sources for blockages next time the system is used.

Once you have rinsed the system clean you will need to winterize your system. It is recommended that a good quality RV antifreeze rated to **- 50** is utilized so that freezing will not occur and cause major damage and avoidable expense to your system components.

Simply run enough RV Antifreeze through your system to replace the water that was used to rinse your system. Be extra conscientious to FLUSH any area that may trap the water (low spots etc). Make sure you use enough RV Antifreeze to completely fill your system components with the antifreeze.

18 Pin Console Pinout

SFA-32 Console Connector	
Pin #	Description
A1	Row 25 (orange/green)
A2	Row 26 (black/wh/red)
A3	Row 27 (green/bk/white)
B1	Row 28 (orange/bk/white)
B2	Row 29 (blue/bk/white)
B3	Row 30 (black/red/green)
C1	Row 31 (white/red/green)
C2	Row 32 (red/black/green)
C3	RPM 1 (brown)
D1	RPM 2 (blue)
D2	RPM 3 (orange)
D3	Vac 1 (yellow)
E1	Hopper Level 1 Signal (green)
E2	Hopper Level 2 Signal (white)
E3 - F1	No Connection
F2	8 V Sensor Power (red)
F3	8 V Sensor Power (black)

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4 Pin Console pinout

SFA-32 Power In/ Alarm Out	
Pin #	Description
1	12 VDC IN (red)
2	-12VDC IN (black)
3	Visual Alarm Out (rd/wh)
4	Visual Alarm Return (bk/wh)

30 Pin Console Pinout

SFA-32 Console Connector	
Pin #	Description
A1	Row 1 (green)
A2	Row 2 (white)
A3	Row 3 (brown)
B1	Row 4 (blue)
B2	Row 5 (orange)
B3	Row 6 (yellow)
C1	Row 7 (violet)
C2	Row 8 (grey)
C3	Row 9 (pink)
D1	Row 10 (tan)
D2	Row 11 (white/black)
D3	Row 12 (red/black)
E1	Row 13 (green/black)
E2	Row 14 (orange/black)
E3	Row 15 (blue/black)
F1	Row 16 (black/white)
F2	Row 17 (red/white)
F3	Row 18 (green/white)
G1	Row 19 (blue/white)
G2	Row 20 (black/red)
G3	Row 21 (white/red)
H1	Row 22 (orange/red)
H2	Row 23 (blue/red)
H3	Row 24 (red/green)
J1	Vac 2 (purple)
J2	Vac 3 (gray)
J3	No Connection
K1	Lift Switch Signal (green/bk/red)
K2	8 V Sensor Power (red)
K3	8 V sensor Ground (black)

37 Pin Implement Harness Connector

SFA-32 Implement Harness	
Pin #	Description
1	Row 1 (green)
2	Row 2 (white)
3	Row 3 (brown)
4	Row 4 (blue)
5	Row 5 (orange)
6	Row 6 (yellow)
7	Row 7 (violet)
8	Row 8 (grey)
9	Row 9 (pink)
10	Row 10 (tan)
11	Row 11 (white/black)
12	Row 12 (red/black)
13	Row 13 (green/black)
14	Row 14 (orange/black)
15	Row 15 (blue/black)
16	Row 16 (black/white)
17	Row 17 (red/white)
18	Row 18 (green/white)
19	Row 19 (blue/white)
20	Row 20 (black/red)
21	Row 21 (white/red)
22	Row 22 (orange/red)
23	Row 23 (blue/red)
24	8 V Sensor Power (red)
25	8 V Sensor Power (red/black/white)
26	8 V Sensor Ground (black)
27	8 V Sensor Ground (white/black/red)
28	Row 24 (red/green)
29	Row 25 (orange/green)
30	Row 26 (black/wh/red)
31	Row 27 (green/bk/white)
32	Row 28 (orange/bk/white)
33	Row 29 (blue/bk/white)
34	Row 30 (black/red/green)
35	Row 31 (white/red/green)
36	Row 32 (red/black/green)
37	Lift Switch Signal

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10 Pin Accessory Harness Pinout

SFA-32 Accessory Harness	
Pin #	Description
A	Hopper Level 1 (green)
B	Hopper Level 2 (white)
C	RPM 1 (brown)
D	RPM 2 (blue)
E	RPM 3 (orange)
F	Vac 1 (yellow)
G	Vac 2 (purple)
H	Vac 3 (gray)
J	8 V Sensor Power (red)
K	8 V Sensor Power (black)

4 Pin Rear Console pinout (Radar/Speed)

SFA-32 External Speed In	
Pin #	Description
1	Ground (black)
2	Signal (green)
3	12 v. Power (red)
4	Sense (white)

PARTS INFORMATION

Monitor	
Description	Part Number
SFA-32 Console Only	AE6689
RAM Ball Mount	RAM-238U
RAM 3 ½" Arm	RAM-201UB
Ram Base Mount	RAM-202U
Visual Alarm (Optional)	AE6696
Hopper Level Sensor	DJ46682-0270S3
Lift Switch	DJ46372-0150

Implement Harnesses and Cables	
Description	Part Number
Planters	
4-row harness	PH0408
6-row harness	PH0608
8-row harness	PH0808
12-row harness	PH1208
16-row harness	PH1608
Drill Harness & Sensor Kits	
4 Sensor 15' – 20' Drill 20' Hitch	DH0408

Many other harness options are available.

Console Harnesses	
Description	Part Number
Console Power Harness 12'	AE6697
Cab Harness 12'	AE6693
Accessory Extension 12'	AE6694
Accessory Harness	AE6695

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Precision Flow Meter Parts and Accessories

Flow meters

AE6663	.013 to .132 GPM
AE6664	.032 to .400 GPM
AE6665	.08 – 2.65 GPM
AE6667	.053-1.189 GPM

Flow meter Bracket

AE6675	Bracket for 8 flowmeters
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Precision Flow Meter Harness

FH0808	8 Sensor Harness w/28' Hitch cable
FH1208	12 Sensor Harness w/36' Hitch cable
FH1628	16 Sensor Harness w/ 36' Hitch cable
FH2428	24 Sensor Harness w/ 45' Hitch cable

Hitch extensions are available; see our catalog for lengths and prices.

NOTES:

OPERATOR'S MANUAL

Ag Express Electronics Inc. Warranty

Ag Express Electronics Inc. warrants to the original purchaser for use that, if any part of the products proves to be defective in material or workmanship within one year from date of original installation, and is returned to Ag Express Electronics Inc. within 30 days after such defect is discovered, Ag Express Electronics Inc. will (at our option) either replace or repair said part. This warranty does not apply to damage resulting from misuse, neglect, accident or improper installation or maintenance. Said part will not be considered defective if it substantially fulfills the performance specifications.

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