

# Quick Setup Guide for IntelliAg Model 3N40



The Quick Setup Guide assumes the Virtual Terminal, Working Set Master Module, Working Set Member Module, and all sensors have been connected and properly installed. Quick Setup Guide assumes channel 1 (front bin) to be seed and channel 2 (rear bin) to be fertilizer. Reference the Operator's manual for installation instructions.

## STEP 1: Pre-Programming Preparation:

1. Power on vehicle via ignition switch to activate Virtual Terminal (VT). Main menu will display pre-programmed default settings.
2. If errors are detected (e.g., failed sensors, incorrect configuration) an alarm and code will display. Alarms are silenced by pressing the Alarm Cancel button . Refer to Operator's manual for troubleshooting assistance.
3. The system has three user levels. The system loads in user level 1 (operator level) at every power cycle. Access to user level 2 and 3 screens to setup constants (system configuration) requires a password available through an authorized Great Plains dealer.

## STEP 2: Change User Level to Dealer Level

To change the user level, a 6-digit password is required. Password includes the five-digit serial number found on the label of the working set master or Information screen.

1. On the IntelliAg Main Work screen, press the Diagnostics button .
2. At the Diagnostics screen, press the Information button .
3. At the Information screen, record serial number of WSMT.
4. Press the Password button .
5. On the Password screen, enter the 6-digit password as follows: enter the first digit as 2 for User Level 2. For the next five digits, enter the Working Set Master serial number taken from the WSMT or Information screen.
6. Press the OK button . "Dealer screens on" appears at the bottom of screen confirming the password and dealer screens are activated.
7. Press the Work Screen button to return to the Main Work screen.

## STEP 3: Auto Configuration (identifies sensors connected to each module) Auto config is performed at the factory, but may need to be done in the field as changes are made to the system or if options are added to the base system.

1. Verify Auto Config results are correct. Check that the correct number of rows are assigned to the correct module and number of hoppers and pressure sensors are assigned accurately.

### To Run Auto Config:

1. Press Next Page until Module Configuration button appears.
2. Press Module Configuration button .
3. Press AUTO CONFIG button .
4. Hour glass will indicate system is detecting the presence of seed, pressure, or hopper sensors connected to each module and automatically assigns to the appropriate module.
5. When Auto Config completes, press the Row Assign button to display the Row Assignment screen to verify the correct Row # is assigned to the correct module based on serial number.
6. Enter # of rows assigned to each module.

Module Configuration Screen

SERIAL NUMBER	MODULE TYPE	MODULE ADDR
✓ 10001	WSMT-ACCGP	1
✓ 10002	WSMB-18R	2
✓ 10003	WSMB-18R	3
✓ 10004	WSMB-18R	4
✓ 10005	WSMB-18R	5
✓ 10006	WSMB-18R	6
✓ 10007	WSMB-18R	7

Seed Sensor Configuration Screen

MODULE ADDR	MODULE TYPE	# OF ROWS	ROW #s
2	WSMB-18R	11	1-11
3	WSMB-18R	11	12-22
4	WSMB-18R	11	23-33
5	WSMB-18R	11	34-44
6	WSMB-18R	11	45-55
7	WSMB-18R	11	56-66

Above screens depict setup for 66 row  
For 48 row (# of rows = 8)

## STEP 4: Row Status/Row Width Setup

1. Press Row I/O button .
2. Enter desired values using Table A as reference.
3. Press Work Screen button to return to the Main Work screen.

Proceed to Step 5C if a variable rate kit is installed.

## STEP 5A: Material Configuration Setup (Granular Seed Monitor)

16 different materials can be configured as seeding and fertilizer controls. Material defaults on the Control Setup screen are Seed 1-4 (Granular Seed Control) Seed 5-8 (Granular Seed Monitor) Fert 1-4 (Granular Fertilizer Control) Fert 5-8 (Granular Fertilizer Monitor). Reference the System Configuration section in the Operator's Manual for additional setup instructions.

1. Press the Control Setup button .
2. At the Control Setup screen, select one of the 16 material buttons to edit (labeled Seed 1-8 and Fert 1-8).
3. Enter desired values from Table B.
4. Press the Control Setup button to return to the Control Setup screen.
5. Repeat steps 2-4 for additional materials.
6. Press the Channel Setup button to enter channel setup constants.

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TABLE A: Row Status/Row Width Setup	Default Value/ Value to Enter	Instructions/Definitions
Row Width (48 row)	10	Enter row width distance in inches to calculate seed rate data.
Row Width (66 row)	7.5	
Auto Update Width	Disabled	When enabled, implement width will automatically calculate. If disabled, manually enter implement width.
Implement Width 10"	480	Manually enter implement width in inches.
Implement Width 7.5"	499	
On/Off Pattern	Every row on	On/Off Pattern indicates specific row patterns to be on or off. Select pre-defined seeder All Row On pattern. For other pre-defined seeder patterns or individual row settings, reference Operator's Manual.
Pop/Block Pattern	Every row blockage	Determines which sensors are used to calculate population and those used only for blockage detection. Select pre-defined Every Row Blockage. For other pre-defined patterns, reference Operator's Manual.




TABLE B: Material Setup Gran Seed Mon	Default Value/ Value to Enter	Instructions/Definitions
Matrl Label	Seed 5	Material Name can be customized to accurately define the material's type. Creating a name allows for quick identification at the Control Setup screen.
Type	Gran Seed Monitor	Desired type of application control channel being used for a specific material. The Material Type must correctly match the Control Type to be able to select material from the Control Setup screen and operate properly.
Display Units	Lbs/Ac	Displays primary and secondary readout units in Lbs/Ac or Kg/ha.
Target Rate	60 lbs	Desired rate of application in lbs/Ac or Kg/ha.
Density	60 lbs/bu	Establishes the density of material. Density units can be entered in lbs/bu.
# Outlets per Meter Box	6	Establishes the number of towers for that channel.
Calibration Constant	77600 Pul/ft <sup>3</sup>	Number of pulses to drop 1 cubic foot/liter of material.
Variable Cal Constant	Disabled	Adjusts the accuracy of the seed amount dispensed based on the seed type. A selection of 25 pre-defined seed types are available.
Low Shaft RPM	1	Set to desired min seed meter RPM.
High Shaft RPM	50	Set to desired max seed meter RPM.
Prod Level Alarm	0	Sets the weight to trigger alarm indicating low seed levels in lbs.
Seeds per Pound/Kg	3000 Lb	Converts the current application rate from Lb/ac to KS/Ac to determine population and population alarms.
High Pop Alarm	20%	This is the percentage above the target population of the seeder channel if rows are assigned to the seeder channel. If rows are not assigned to a seeder, this is the percentage above average seeder population for all unassigned rows.
Low Pop Alarm	20%	This is the percentage below the target population of the seeder channel if rows are assigned to the seeder channel. If rows are not assigned to a seeder channel, this is the percentage below average seeder population for all unassigned rows.
On/Off Pattern	Every Row On	On/Off Pattern indicates specific row patterns to be on or off. Select pre-defined seeder All Row On pattern. For other pre-defined seeder patterns or individual row settings, reference Operator's manual.
Row Fail Rate	2/1	Sets the threshold for row failure alarms. Entered in seeds per second. 2/1 is a row failure threshold of 2 seeds in 1 second.

# Quick Setup Guide for IntelliAg Model 3N40



## STEP 5B: Material Configuration Setup (Granular Fertilizer Monitor)




16 different materials can be configured as seeding and fertilizer controls. Material defaults on the Control Setup screen are Seed 1-4 (Granular Seed Control) Seed 5-8 (Granular Seed Monitor) Fert 1-4 (Granular Fertilizer Control) Fert 5-8 (Granular Fertilizer Monitor). Reference the System Configuration section in the Operator's manual for additional setup instructions.

1. Press the Control Setup button .
2. At the Control Setup screen, select one of the 16 material buttons to edit (labeled Seed 1-8 and Fert 1-8).
3. Enter desired values from **Table C**.
4. Press the Control Setup button  to return to the Control Setup screen.
5. Repeat steps 2-4 for additional materials.
6. Press the Channel Setup button  to enter channel setup constants.

Step 5C only applies to those applications with a variable rate kit option installed. Proceed to step 6A if variable rate is not applicable.

## STEP 5C: Material Configuration Setup (Granular Seed or Fert Control)



16 different materials can be configured as seeding and fertilizer controls. Material defaults on the Control Setup screen are Seed 1-4 (Granular Seed Control) Seed 5-8 (Granular Seed Monitor) Fert 1-4 (Granular Fertilizer Control) Fert 5-8 (Granular Fertilizer Monitor). Reference the System Configuration section in the Operator's manual for additional setup instructions.

1. Press the Control Setup button .
2. At the Control Setup screen, select one of the 16 material buttons to edit (labeled Seed 1-8 and Fert 1-8).
3. Enter desired values from **Table D**.
4. Press the Control Setup button  to return to the Control Setup screen.
5. Repeat steps 2-4 for additional materials.
6. Press the Channel Setup button  to enter channel setup constants.

Proceed to Step 6C if a variable rate kit is installed.

## STEP 6A: Channel Setup (Granular Seed Monitor)

Channel 1 is generally used for granular seed monitor setup.

1. At the Channel Setup screen, verify that channel 1 is set to granular seed monitor.
2. Enter desired values using **Table E** as reference.
3. To set up additional control channels (granular fert monitor, granular fert control, granular seed control, RPM Control), press the Next Channel button .
4. When channel setup is complete, press the Work Screen button  to return to the Main Work screen.

Once a control channel has been established as granular seed monitor, any new materials established as granular seed monitor on the Material Setup screen will automatically be added as optional materials for granular seed monitor channels on the Control Setup screen.

TABLE C: Material Setup Gran Fert Mon	Default Value/ Value to Enter	Instructions/Definitions
Matri Label	Fert 5	Material Name can be customized to accurately define the material's type. Creating a name allows for quick identification at the Material Summary screen.
Type	Gran Fert Monitor	Desired type of application control channel being used for a specific material. The Material Type must correctly match the Control Type to be able to select material from the Control Setup screen and operate properly.
Units	Lbs/Ac Kg/ha	Displays primary and secondary readout units in Lbs/ac or Kg/ha.
Target Rate	50 lbs/Ac	Desired rate of application in lbs/Ac.
Density	60 lbs/ft <sup>3</sup>	Establishes the density of material in lbs/ft <sup>3</sup> .
# Outlets per Meter Box	6	Establishes the number of towers for that channel.
Calibration Constant	82500 Pul/ft <sup>3</sup>	Number of pulses to drop 1 cubic foot/liter of material.
Variable Cal Constant	Disabled	Adjusts the accuracy of the seed amount dispensed based on the seed type. A selection of 25 pre-defined seed types are available.
Low Shaft RPM	1	Set to desired min fert meter RPM.
High Shaft RPM	50	Set to desired max fert meter RPM.
Prod Level Alarm	0	Sets the weight to trigger alarm indicating low fertilizer levels in lbs.
Row Fail Rate	2/1 (2 seeds every 1 second)	Set to desired number of seeds per second to trigger seed sensor failure alarm.

TABLE D: Material Setup Gran Seed/Fert	Default Value/ Value to Enter	Instructions/Definitions
Matri Label	Seed 1/Fert 1	Material Name can be customized to accurately define the material's type. Creating a name allows for quick identification at the Material Summary screen.
Type	Gran Seed/ Gran Fert Ctrl	Desired type of application control channel being used for a specific material. The Material Type must correctly match the Control Type to be able to select material from the Control Setup screen and operate properly.
Units	Lbs/Ac	Displays primary and secondary readout units in Lbs/ac or Kg/ha.
Target Rate	50 lbs/Ac	Desired rate of application in lbs/Ac.
Inc/Dec %	1%	Percent of change of the entered target rate change each time the Inc/Dec button is pressed.
Max Rate	78 lbs	Max application rate in lbs per acre the control will allow.
Min Rate	48 lbs	Min application rate in lbs per acre the control will allow.
Density	60 lbs/ft <sup>3</sup> /bu	Establishes the density of material in lbs/ft <sup>3</sup> /bu.
# Towers	6	Establishes the number of towers for that channel.
Calibration Constant	82500 Pul/ft <sup>3</sup>	Number of pulses to drop 1 cubic foot/liter of material.
Variable Cal Constant	Disabled	Adjusts the accuracy of the seed amount dispensed based on the seed type. A selection of 25 pre-defined seed types are available.
Low Shaft RPM	1	Set to desired min meter RPM.
High Shaft RPM	50	Set to desired max meter RPM.
Prod Level Alarm	0	Sets the weight to trigger alarm indicating low fertilizer levels in lbs.
Row Fail Rate	2/1 (2 seeds every 1 second)	Set to desired number of seeds per second to trigger seed sensor failure alarm.



TABLE E: Channel Setup Gran Seed Monitor Setup	Default Value/ Value to Enter	Instructions/Definitions
Type	Gran Seed Monitor	Set desired Channel Type as Gran Seed Monitor.
Material Name	Seed 5	Displays only materials that have been configured for the channel type.
Input Filter	50	Feedback frequency filter for the Control Channel. DO NOT CHANGE.
Sensor Constant	360	Sensor Constant establishes the number of pulses for one revolution of the feedback sensor. If a DICKEY-john application rate sensor is used, the value should be set to 360.0.
Gear Ratio	1.0	Specifies the actual ratio from the feedback sensor to the seed meter shaft RPM. Number of revolutions the feedback sensor turns in relation to one revolution the seed meter turns.
# of Seed Rows (determined by row spacing)	48 row 66 row	Entry of a specific number of seed rows to the Control Channel. Row assignment is given a priority based on the Channel and will be assigned sequentially thereafter. Channel 1 is always assigned to the first set of rows, Channel 2 next set of rows, and so on.
Channel Width 10"	480	Manual entry of the channel width for rows assigned to a specific channel.
Channel Width 7.5"	499	Width calculation can be determined by # of seeder rows assigned to the channel multiplied by the row spacing.

# Quick Setup Guide for IntelliAg Model 3N40



## STEP 6B: Channel Setup (Granular Fertilizer Monitor)

Channel 2 is generally used for granular fertilizer monitor setup.

1. At the Channel Setup screen, press the Next Channel button  to setup additional control channels.
2. Set channel 2 as granular fertilizer monitor.
3. Enter desired values using **Table F** as reference.
4. Continue to set up control channels 3 and 4, if required.
5. Press the Work Screen Button  when channel configurations are complete to return to the Main Work screen.

Once a Control Channel has been established as Granular Fertilizer Monitor, any new materials established as granular fertilizer monitor on the Material Setup screen will automatically be added as optional materials for granular fertilizer monitor channels on the Control Setup screen.

*Step 6C only applies to those applications with a variable rate kit option installed. Proceed to Step 7 if variable rate is not applicable.*

## STEP 6C: Channel Setup (Granular Seed & Fertilizer Control)




1. Press the Channel Setup button .
2. Select an available channel and set to either granular seed control or granular fertilizer control.
3. Enter desired values using **Table G** as reference.
4. To set up additional control channels, press the Next Channel button .
5. Press the Work Screen button  when channel configurations are complete to return to the main menu.



TABLE F: Channel Setup Gran Fert Setup	Default Value/ Value to Enter	Instructions/Definitions
Type	Gran Fert Monitor	Set desired Channel Type as Gran Fert Monitor.
Material Name	Fert 5	Displays only materials that have been configured for the channel type.
Input Filter	50	Feedback frequency filter for the Control Channel. DO NOT CHANGE.
Sensor Constant	360	Sensor Constant establishes the number of pulses for one revolution of the feedback sensor. If a DICKEY-john application rate sensor is used, the value should be set to 360.0.
Gear Ratio	1.0	Specifies the actual ratio from the feedback sensor to the seed meter shaft RPM. Number of revolutions the feedback sensor turns in relation to one revolution the seed meter turns.
Channel Width 10"	480	Manual entry of the channel width for rows assigned to a specific channel. Width calculation can be determined by # of seeder rows assigned to the channel multiplied by the row spacing.
Channel Width 7.5"	499	

TABLE G: Channel Setup Gran Seed & Fert Setup	Default Value/ Value to Enter	Instructions/Definitions
Type	Gran Seed Control/Gran Fert Control	Set desired Channel Type as either Gran Seed Control or Gran Fertilizer Control
Material Name	Seed 1/Fert 1	Displays only materials that have been configured for the channel type.
Control Mode	Auto	Calculates application rates based on ground speed and channel width under normal operating conditions.
Drive Type	Zero Max	A Zero Max gear box controlled by a linear actuator for those applications with an installed variable rate kit option.
Drive Frequency	40	The Hz frequency for the linear actuator specified by the valve manufacturer.
Input Filter	50	Feedback frequency filter for the control channel. DO NOT CHANGE.
Sensor Constant	360	Sensor constant establishes the number of pulses for one revolution of the feedback sensor. If a DICKEY-john application rate sensor is used, the value should be set to 360.0.
Gear Ratio	1.0	Specifies the actual ratio from the feedback sensor to the seed meter shaft RPM. Number of revolutions the feedback sensor turns in relation to one revolution the seed meter turns.
Grd Spd/Trans In Ratio	45	Ratio between distance traveled to one revolution of the input to the Zero Max transmission. Ratio determines the input sprocket speed from the known ground speed.
Meter Gear Range	High/Low	Determined by the position of the interchangeable gears. High range used for larger seeds and higher seeding rates. Low range used for smaller seeds and lower seeding rates. Refer to Great Plain's operator's manual for recommended high/low setting.
# of Seed Rows	48 row	Entry of a specific number of seed rows to the control channel. Row assignment is given a priority based on the channel and will be assigned sequentially thereafter. Channel 1 is always assigned to the first set of rows. Channel 2 next set of rows, and so on.
	66 row	
Channel Width 10"	480	Manual entry of the implement width for rows assigned to a specific channel. Width calculation can be determined by # of seeder rows assigned to the channel multiplied by the row spacing.
Channel Width 7.5"	499	
Flush Enable	Disabled	Not applicable to ground drive systems.
Precharge Time	+ 0.0	Not applicable to ground drive systems.
Delay Time	- 0.0	Not applicable to ground drive systems.

# Quick Setup Guide for IntelliAg Model 3N40






## STEP 7: Ground Speed Calibration Setup



1. Press the Speed Set button .
2. Enter desired values using **Table H** as reference.
3. Press the Work Screen button  when Ground Speed Calibration configurations are complete to return to the Main Work screen.

## STEP 8: Accessory Sensor Setup



### Hopper Setup

1. Press the Module Configuration button .
2. Press the Hopper Assign button .
3. Verify # of hoppers is correct or enter # of hoppers assigned.
4. Press the Hopper Set button .
5. Enter desired values using **Table I** as reference.

### RPM Sensor Setup

6. Press the RPM Module button .
7. Enter # of RPM sensors, if required.
8. Press the RPM Setup button .
9. Enter desired values using **Table I** as reference.




### Pressure Sensor Setup

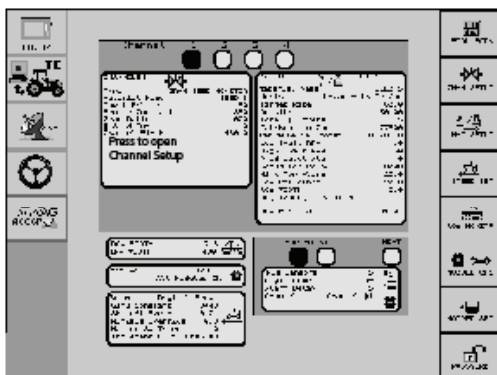
9. At the Module Configuration screen, press the PSI Module button .
10. Verify # of pressure sensors or enter the # of pressure sensors assigned.
11. Press the Pressure button .
12. Enter desired values using **Table I** as reference.

For additional information regarding hopper level, RPM, and pressure sensor setup, reference the Operator's manual.

## STEP 9: Summary Screen

The Summary screen provides an overview of setup constants for active control channels.

1. At the Main Work screen, press the Next Page button .
2. Press the Summary button .
3. To view specific control channel configurations, press the respective control channel box 1-4.
4. Press inside a yellow highlighted box to open a specific screen for editing.
5. Press the Work Screen button  to return to the Main Work screen.



Summary Screen

TABLE H: Ground Speed Setup	Default Value or Value to Enter	Instructions/Definitions
Source	Digital Frequency	Select CAN Ground if radar is connected to ISO tractor cab harness. Select Digital Frequency if radar or hall-effect is connected to WSMT actuator harness.
Gspd Constant	2665 Pul/400 ft	Input based on pulse count produced by the ground speed sensor over 400' distance. See Operator's manual for calibration instructions.
Shutoff Speed	0.01 mph 0.02 kph	Indicates the minimum ground speed allowed before the system shuts off all control channels.
Min Override	0.0 mph 0.0 kph	Minimum Override takes over when actual ground speed is below the designated value. The control operates at this speed until actual ground speed rises above the minimum override speed or the actual speed drops below the shutoff speed.
Master Switch Timeout	5 sec	Determines the length of time before the system disables the operate function after ground speed is 0 if the master switch remains in the ON position.
Ground Speed Failure Alarm Delay	5 sec	Set to desired number of seconds alarm sounds after the ground speed is zero and seed flow continues. (monitor only)
Implement Lift	Enabled	Implement lift switch must be in the down position to operate.

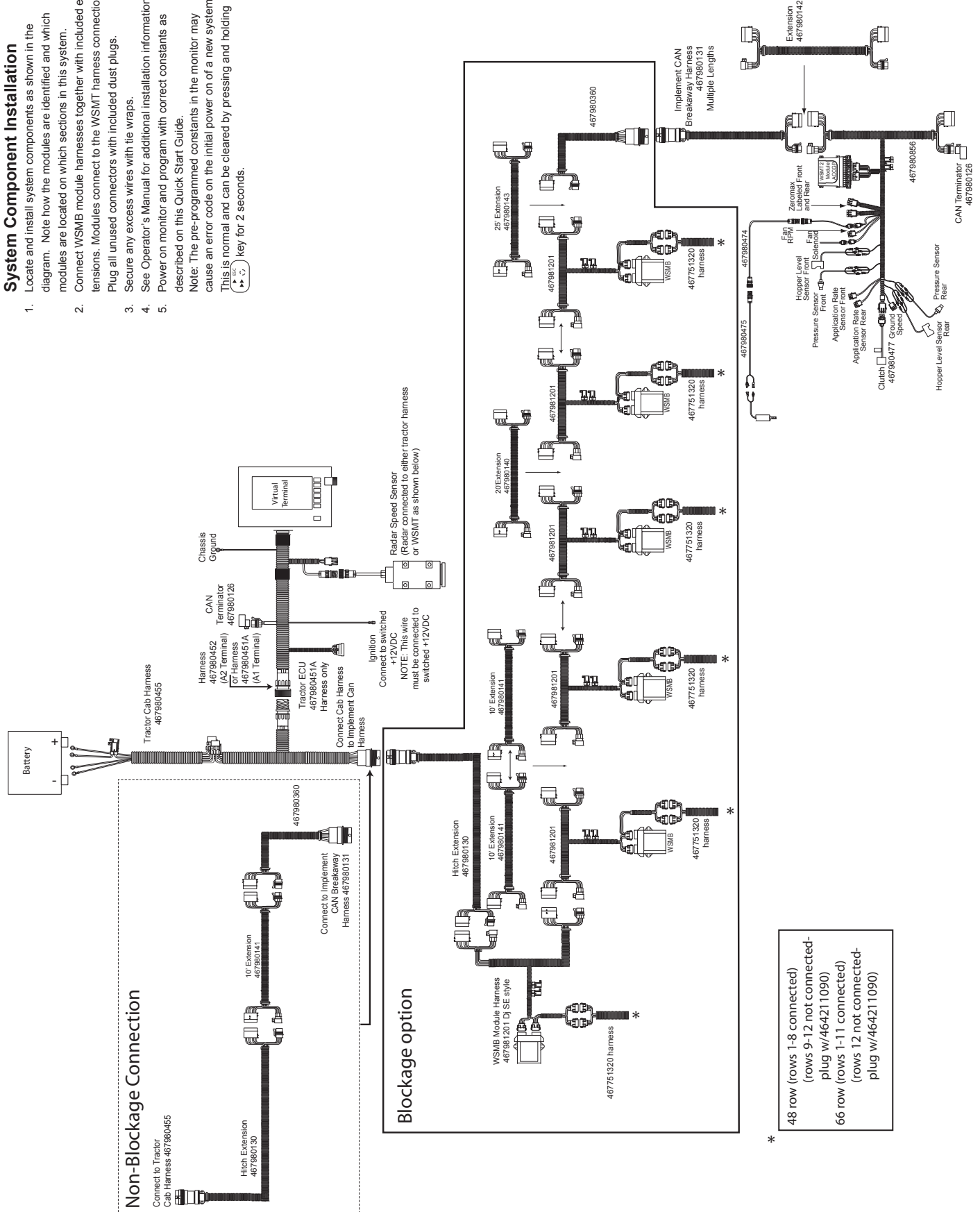
TABLE I: Accessory Setup	Default Value or Value to Enter	Instructions/Definitions
# of Hoppers	2	# of hopper sensors connected to each module. # of hopper data items for each listed module and the Hopp #'s value will automatically populate if Auto Config is used to configure installed sensors.
Hopper Logic Level	Active Lo	Sets the active state to low signifying that an alarm is generated if the sensor's output is in a low state. Use this setting if the connected sensor outputs a low condition when empty similar to the DICKEY-john hopper sensor.
Hopper Alarm Delay	5 sec	Controls the delay time between the detection of a high/low hopper alarm condition and the generation of the resulting alarm. The value is entered in seconds.
Channel (Hopper #1)	1	Assigns hopper sensor 1 to channel 1.
Channel (Hopper #2)	2	Assigns hopper sensor 2 to channel 2.
# of RPMs	1	Number of RPM sensors connected to each module to monitor a shaft/fan.
High Alarm	4100 RPM	Sets the RPM value at which a high RPM warning error is generated.
Low Alarm	2500 RPM	Sets the RPM value at which a low RPM warning error is generated.
High Alarm Delay	5 sec	Establishes the delay between the detection of a high RPM alarm condition and the resulting alarm display (entered in seconds).
Low Alarm Delay	5 sec	Establishes the delay between the detection of a low RPM alarm condition and the resulting alarm display (entered in seconds).
RPM Constant	3 pul	Number of pulses per sensor revolution.
RPM Filter	50%	Filters the signal out of the RPM sensor.
Disable Control on Low Alarm	Disabled	Allows for disabling of all control channels if the RPM value of the selected sensor falls below the low alarm level setting.
# of Pressure Sensors	2	Number of pressure sensors connected to each module to monitor pressure.
High Alarm	20 oz/in <sup>2</sup>	Sets the pressure value at which a high pressure warning error is generated (oz/in <sup>2</sup> ).
Low Alarm	4 oz/in <sup>2</sup>	Sets the pressure value at which a low pressure warning error is generated (oz/in <sup>2</sup> ).
High Alarm Delay	5 sec	Establishes the delay between the detection of a high pressure alarm condition and the resulting alarm display (entered in seconds).
Low Alarm Delay	5 sec	Establishes the delay between the detection of a low pressure alarm condition and the resulting alarm display (entered in seconds).
Pressure Filter	50	Filters the signal out of the pressure sensor.

# Quick Setup Guide for IntelliAg Model 3N40



## System Component Installation

1. Locate and install system components as shown in the diagram. Note how the modules are identified and which modules are located on which sections in this system.
2. Connect WSMB module harnesses together with included extensions. Modules connect to the WSMT harness connection. Plug all unused connectors with included dust plugs.
3. Secure any excess wires with tie wraps.
4. See Operator's Manual for additional installation information. Power on monitor and program with correct constants as described on this Quick Start Guide.
5. Note: The pre-programmed constants in the monitor may cause an error code on the initial power on of a new system. This is normal and can be cleared by pressing and holding key for 2 seconds.



\* 48 row (rows 1-8 connected) (rows 9-12 not connected- plug w/464211090)  
66 row (rows 1-11 connected) (rows 12 not connected- plug w/464211090)