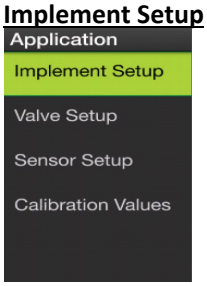
AC110 and MaveriX Setup

These instructions are for both the Vehicle and Implement profiles. The AC110 setup process is the same for both.
Note: The Application section is only available if an AC110 is connected to the MaveriX system and powered on.

Implement Setup



In the Implement Setup section, the user can set the following options:

- **Tank capacity**
- **Nozzles quantity**
- **Sections delay**
- **Overlap Tolerance**
- **Look ahead**

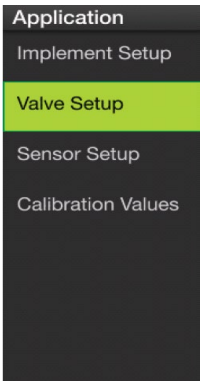
• **Tank capacity** – set the amount of product in the tank.
• **Nozzles quantity** – set the total number of nozzles for the boom.
• **Sections delay** –

On Time - Enter the number of seconds needed to open the boom valves and build pressure ahead of an unapplied area. Increase the number to turn on sooner.

Off Time - Enter the number of seconds needed to close the boom valves ahead of a previously applied area. Increase the number to turn off sooner.

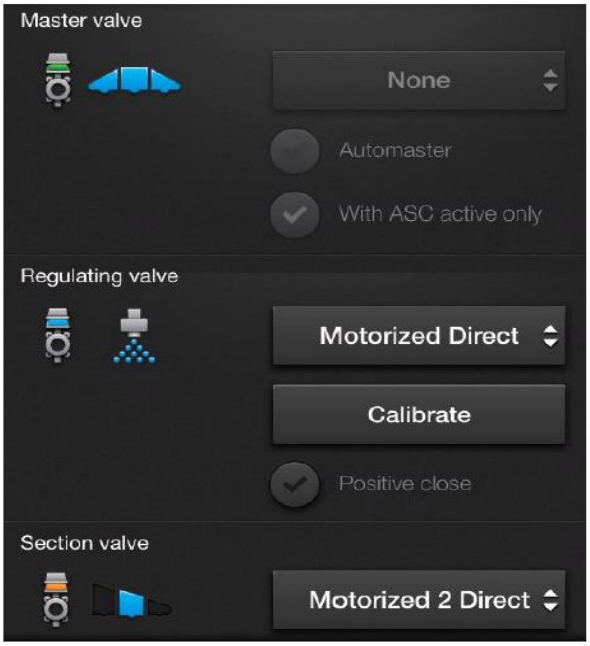
• **Overlap Tolerance** - Enter the amount of overlap for entering and exiting the headlands.
• **Look ahead** – set the valve advanced time. (Prescription Maps Only) (Future Development)

Valve Setup



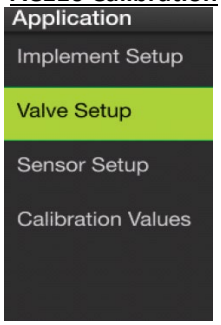
In the Valve Setup section contains:

- **Master valve**
- **Regulating valve**
- **Section valve**



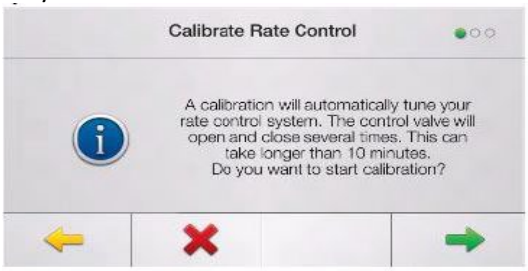
- **Master valve** – used for development purposes only.
- **Regulating valve** – in this section the user will select the Regulating valve type from the following options:
  - **Motorized Direct** – Two-wire electric motor opens/closes the flow control valve to increase/decrease the application flow rate.
  - **Motorized Inverse** – Two-wire electric motor opens/closes the flow control valve to inversely decrease/increase the application flow rate.
  - **PWM** – Electrohydraulic solenoid valve proportionally increases application flow rate with increased duty cycle (voltage).
  - **PWM Ground** – Electrohydraulic solenoid valve proportionally decreases application flow rate with increased duty cycle (voltage).
  - **PWM 2** – Similar to PWM but with a slower algorithm; use when rate control is too unstable when using PWM.
  - **PWM 2 Ground** – PWM 2 Ground Similar to PWM Ground but with a slower algorithm; use when rate control is too unstable when using PWM Ground.
  - **Positive close** (On or Off) – Turn on for installations where the rate control valve is also used to stop and start product application, for example when no boom On/Off or section valves are present.
- **Section valve** – in this section the user will select the Section valve type from the following options:
  - **Motorized 2 Direct** - electric motorized valve that is:
    1) driven open with a positive voltage signal, and
    2) driven closed by a negative voltage signal across two signal wires.
  - **Motorized 2 Inverse** - electric motorized valve that is:
    1) driven open with a positive voltage signal, and
    2) driven closed by a negative voltage signal across two signal wires.
  - **Motor/SOL 1 Direct** - electric motor or solenoid valve that is:
    1) driven open with a single positive voltage signal, and
    2) returned to a closed position by a spring or other automatic means.
  - **Motor/SOL 1 Inverse** - electric motor or solenoid valve that is:
    1) driven closed with a single positive voltage signal, and
    2) returned to an opened position by a spring or other automatic means.

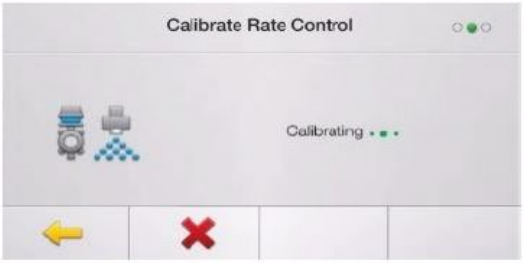
AC110 Calibration



To Calibrate AC110, first the user will need to setup the Regulating valve type, whether Positive close needs to be on or off, and the Section valve type. It will also require the user to have water in the tank to run calibration. After the information is entered, select the Calibrate button.

The below message will display, to proceed with the calibration of the AC110, press the green arrow, to cancel press the red X or yellow back arrow.



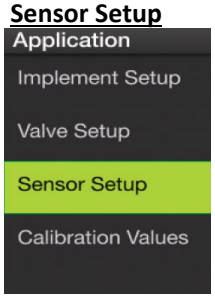


Note: The calibration can be canceled at any time by pressing the red X or yellow back arrow.

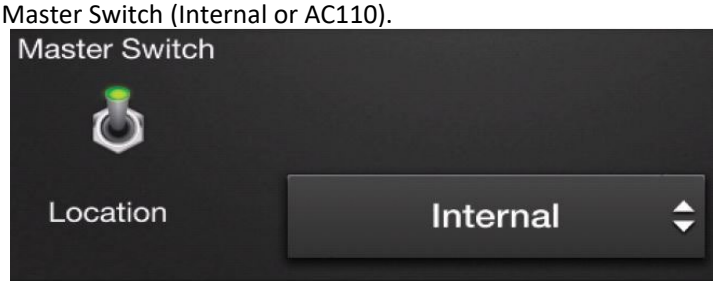
If there is a failure during the calibration process, the following message will display.

After a successful calibraiton is completed the following message will display. Press the green arrow to complete calibration process or the blue arrow to re-run calibration.

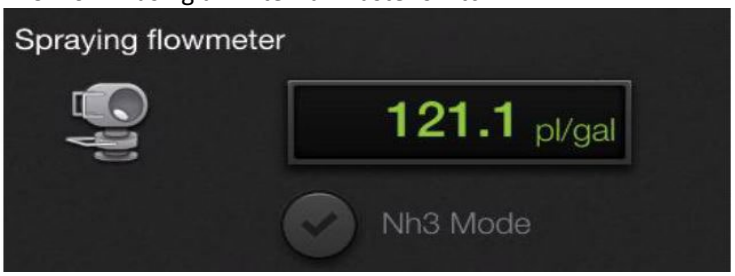
Sensor Setup



The Master Switch section is used to select the location of the Master Switch (Internal or AC110).



Internal – If using the Apply widget on MaveriX.
AC110 – If using an External Master switch.



Spraying flowmeter
Press to display a keypad where you enter a meter calibration value. Locate the meter calibration tag or stamp on the flow meter and the corresponding calibration value.

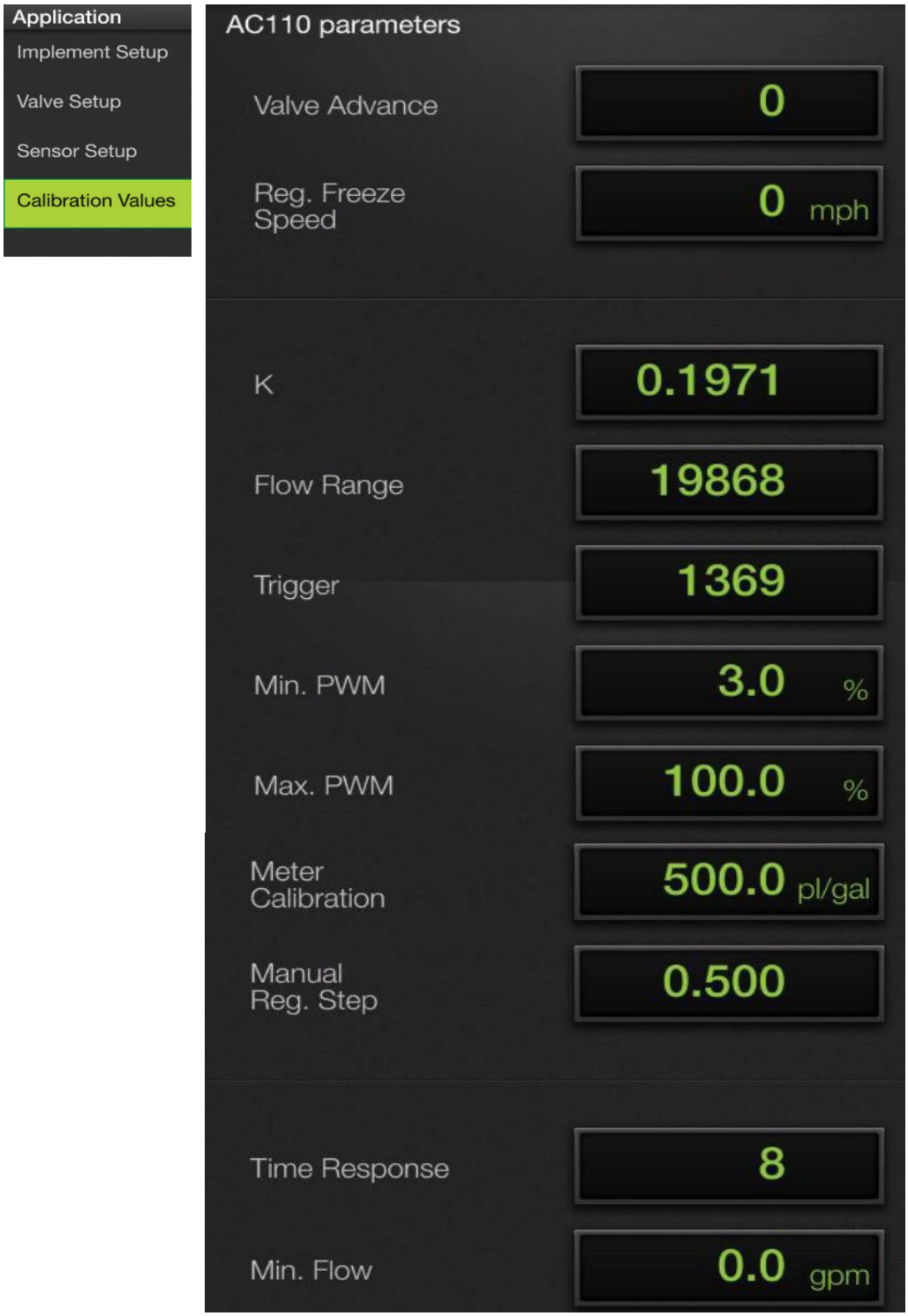
- For Raven systems, divide the calibration number by 10 and enter this number. For example, if 169 is the calibration value, enter 16.9.
- For TeeJet meters, enter the number as is.
- Many TeeJet meters list the calibration value in pulses/liter. It may be easier to change the units in MaveriX to metric, enter the meter calibration, then change units back to U.S.

Nh3 Mode

- Set to On for NH3 (anhydrous ammonia) control. Rate will be in lbs. nitrogen/acre (US) or kgs nitrogen/hectare (metric). Volume remaining in tank will be lbs. or kgs of NH3.
- Set to Off to set any other liquid as the application liquid.

Calibration Values

The Calibration Values page contains settings and the calibration values from the calibration.



Name	Description
Valve Advance	*(Applies to PWM and motorized valves only)* For PWM and motorized valves you can enter a value to increase the valve position when coming out of headlands. For example, if spray comes on and briefly turns off when coming out of a headland (due to the boom having to recharge) you can enter a Valve Advance value to compensate for this. The range of Valve Advance values is 0 – 20 for PWM and Servo/motorized valves, where: • For PWM, 0 – 20 equals 0 – 20% increase from valve's current position • For motorized, 0 – 20 equals 0 – 2000 ms When you are no longer applying product (Apply button displays Off or section is Off): • For PWM, the system increases the valve's position by the % you entered • For motorized, the system opens the valve the specified number of ms before it normally opens
Reg. Freeze Speed	Set the min speed of vehicle and the regulating valve will be held constant and not adjust below this configurable speed.
K	Gain, or how fast the system attempts to hit the target rate.
Flow Range	The maximum flow of the system in pulses.
Trigger	How soon before the target rate the system switches to fine control. (l/min)
Min. PWM	Minimum voltage (percentage) to receive a control valve response.
Max. PWM	Maximum voltage (percentage) to receive a control valve response.
Meter Calibration	The value entered for the Flow Meter's calibration value.
Manual Reg. Step	The amount (seconds or volts) in manual mode when pressing the increase or decrease buttons on the Rate Option widget. (**Note**: *Servo valve is seconds and PWM valve is volts.*)
Time Response	Measure of how quickly the rate control system will react before adjusting the actual rate when it deviates from the target rate.
Min. Flow	Without a Min Flow setting the tips on your sprayer may shut off when flow drops below a certain rate (such as due to a drop in vehicle speed when traveling through a rough spot in the field). The Min Flow value you enter is the flow rate above which MaveriX will continue to spray (apply product) and not close the regulating value completely and will maintain a minimum flow independent of speed and number of sections closed. (**continued on next page**)

To determine the Min Flow Setting value for your implement:

1. Identify the flow rate at which the spray tips begin to shut off.
    a. Put the system in Manual mode.

Open the Rate Options widget to display the Product Rate panel, set to Manual, then press the Rate Bump arrows (up arrow increases rate, down arrow decreases rate) to drop the rate until the tips shut off. See Ch. 4: Widgets for more information.

b. Identify what the flow value is on the Rate Options widget.

2. Enter a Min Flow Setting value that is slightly higher than the value from the previous step.

Go to the Home Screen > Select the Machines icon > Select the current vehicle or implement > under Application, select Calibration Values > scroll down to Min Flow and double click in box to open number pad > enter value > press the enter key.