Quick Troubleshooting Reference Guide

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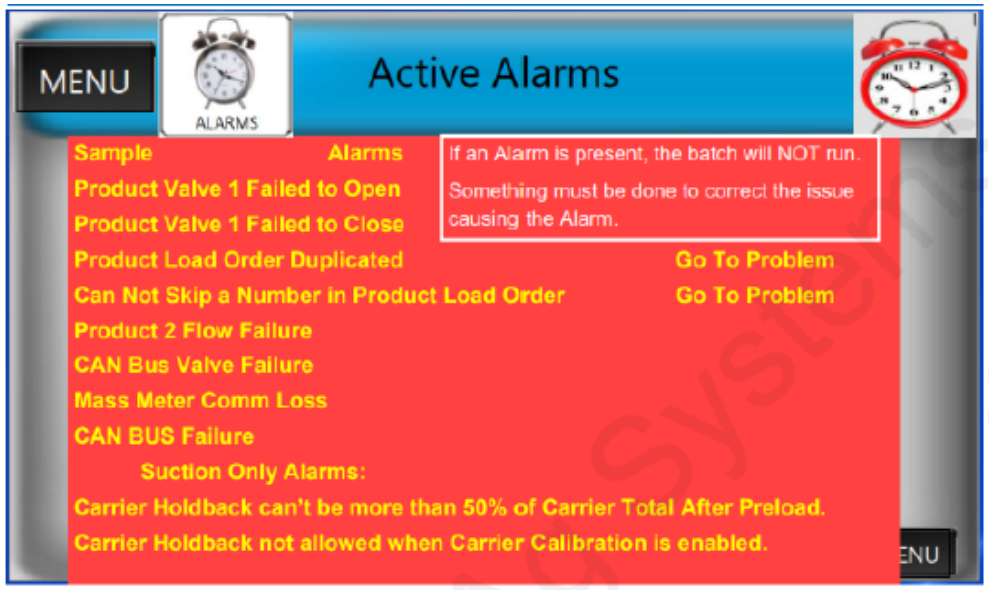
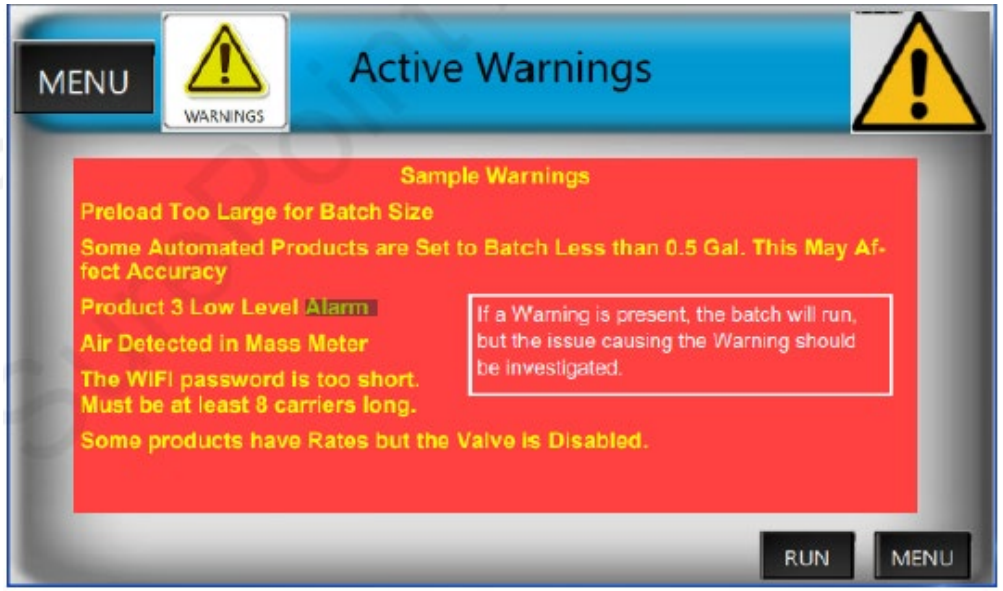
Alarms/Warnings Defined:

ALARMS: Alarms will prevent a batch from running. Press the **ALARMS** button to go the **ACTIVE ALARMS** screen to resolve the issue to continue running a batch.

WARNINGS: A batch will continue running with Warnings, but there may be a problem with completing the batch as desired. Press **WARNINGS** to see **ACTIVE WARNINGS** to resolve any issues.





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Controller/Alarms

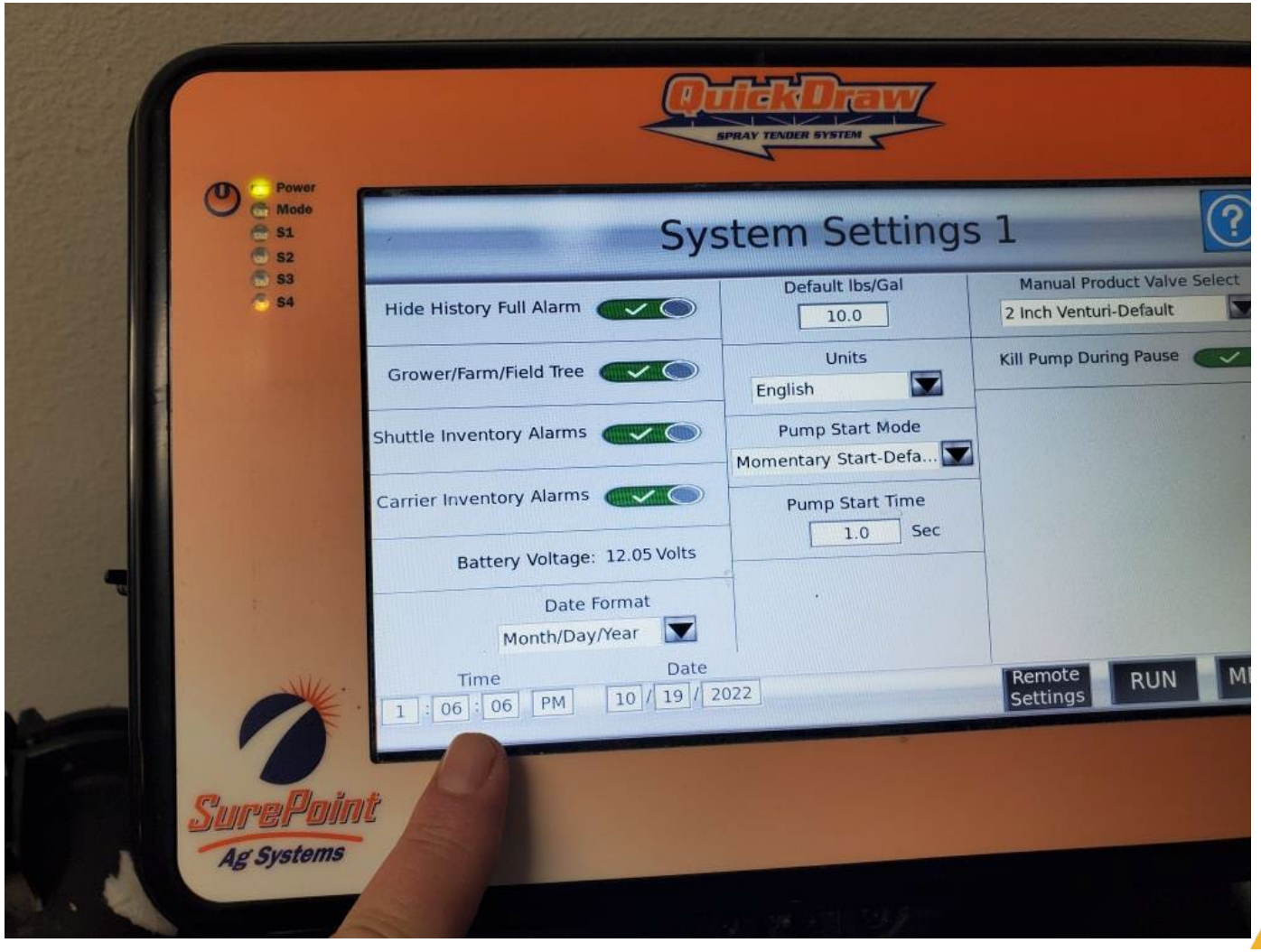
- Comm Loss usually indicates low battery voltage which could hinder the processor from fully "booting"

- What is the controller reporting for voltage?

- If below 12v the battery needs to be charged

- Is the clock counting seconds?

- If not, charge the battery



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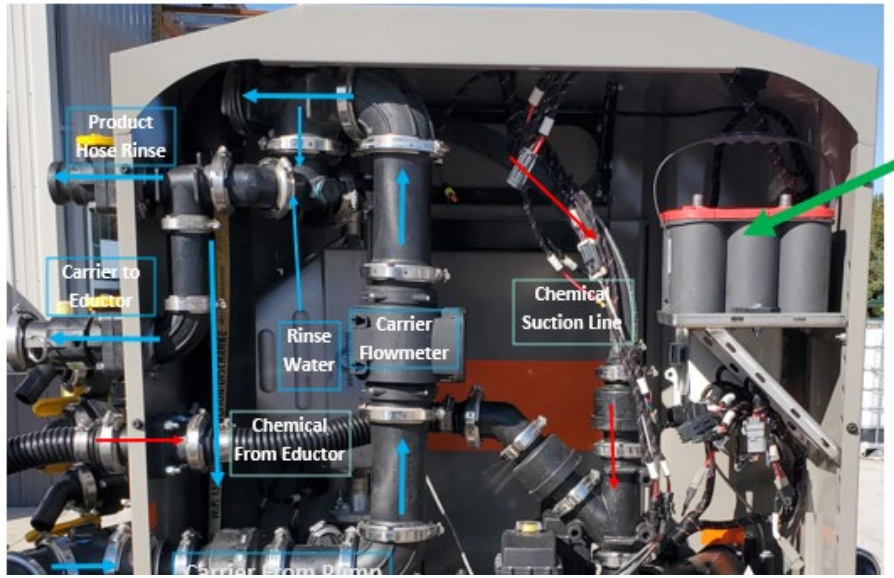
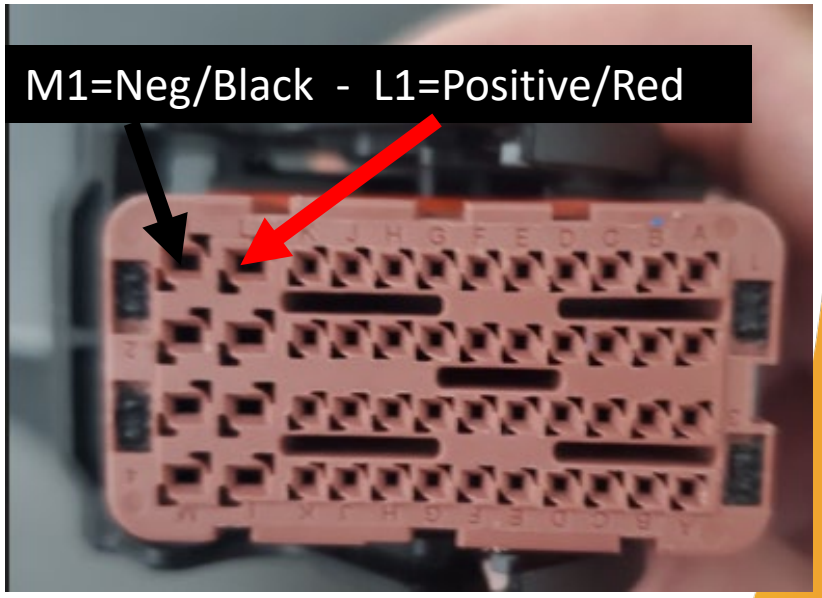
- **Low Voltage “Comm Loss” / “CAN BUS Valve Failure Alarm”)**

  - Most Common Support Call Symptom is “Comm Loss” message appearing, followed by “CAN BUS Valve Failure Alarm” • Charge the battery. Check harnesses and connections if battery is charging from vehicle…

- **Battery must be installed in the cabinet.**
- **Load test the existing battery or install new/known good battery.**
- **Cabinet battery must be providing at least 12.4 volts DC.**
- **Remove “left” connector from controller and verify battery voltage on M1&L1**





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Manual Run Screen

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Physical Flow Issues

- Lost Venturi Suction?
  - Is it on a single product or all products?

Single product?

  - Tote valve closed?
  - Sucking Air? Check tote hose for cracks or loose clamps

All/Multiple Products?

  - Is venturi making noise? If not, you're likely sucking air
  - While in 2" flow if your carrier flow drops off to nearly nothing it is possible the venturi jet is plugged.
  - Eductor valve open? If so, you're sucking air / path of least resistance
  - Run pump from manual control screen and open rinse valve.
  - If good flow reading on Mass Meter Flow check hose plumbing
  - If you have bad flow reading on the mass meter you may have an obstruction to the mass meter inlet that would hinder flow of product valves suction and pressured rinse water.

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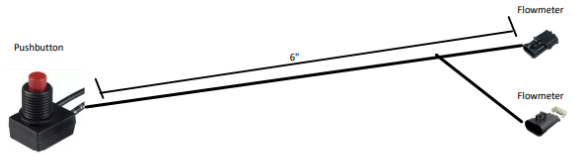
- If good reading on mass meter with rinse valve open but poor mass meter reading under suction it is possible the suction hose from mass meter to venturi is collapsing. Example pictured here.

Carrier Flow Issues

-Carrier/Water flow not registering?
1. Confirm tank valve is open.
2. Observe Flow Meter LED status lights.
3. Perform voltage check and “Tap Test” on harness connector.
- Part number 212-03-3912Y1 can be used to simulate pulses.

212-03-3912Y1

Flowmeter Tap Tester w/ 3 pin AMP Superseal Shroud and 3 pin MP Shroud



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Carrier Flowmeter (Arag Orion X)

The standard carrier flowmeter is a 3" Arag Electro-magnetic flowmeter. The flowmeter calibration can be adjusted as needed to increase the accuracy of the carrier measurement.

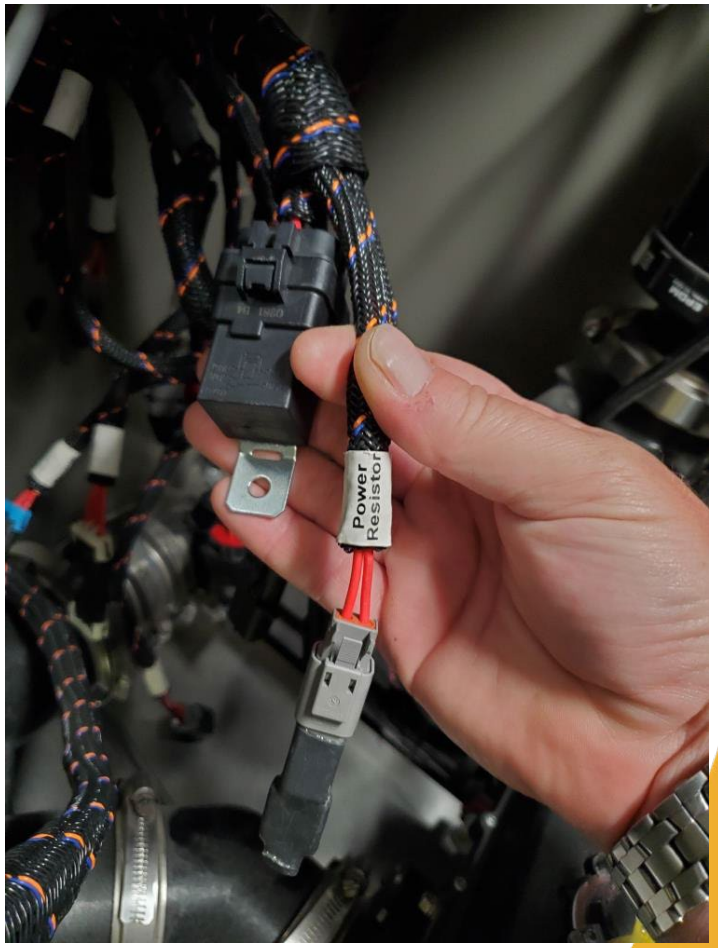
The ORION X flowmeter is able to detect **only** the passage of conductive liquids with a **conductivity** equal to or greater than 300 µS/cm.

The chart below explains the meaning of the various light patterns that may be shown on the meter.

	OFF	The flowmeter is not powered.
	GREEN BLINKING	The flowmeter is waiting to acquire an address on the CAN line to which it is connected.
	GREEN STEADY ON	Presence of STILL liquid inside the flowmeter.
	BLUE STEADY ON	The flowmeter is reading the passage of the liquid inside.
	VIOLET STEADY ON	No liquid has been detected inside the flowmeter.
	WHITE STEADY ON	Cleaning of the reading electrodes in progress.
	RED BLINKING	RED: Error. The error codes are indicated through blinks, which are described in the table below.
	RED STEADY ON	SEVERE ERROR: Contact a service center.

	Red Blinking Lights
2	Hardware Error—Contact ARAG
3	Corrupted Calibration Data—Contact ARAG authorized Service
4	Power supply voltage too high or too low—Check the power supply voltage and restore the correct val-
5	Unstable reading—Check that the flow is normal and make sure to have complied with the hydraulic connection instructions (position, pipe dimensions, straight sections
6	Too high temperature has been detected—Check ambient temperature and, if outside the specified limits, turn off the device and, before turning it on again, wait for the temperature to fall within the specified ones.
7	Setting data are corrupted and the default ones have been restored—Contact an ARAG authorized Service Center to check data integrity and to restore correct operation. Check that all settings are as required, validate data by accessing the "New notifications" menu and press OK (the operation can be performed only by skilled technical staff).

Upon boot up you can see a can bus failure alarm for 10-15 seconds
o This is normal for the boot sequence, do not panic.
o If it remains on the screen – are the 2” & 3” valves & pressure sensor lit up?
▪ If not the power relay and or resistor could have failed
o Power Resistor (pictured here)
▪ Remove resistor from harness, check resistance with multimeter, Resistor should read between 1 and 2 Ohms
▪ Harness connector can be “jumpered” with a paperclip/wire to get you by.
o Power Relay (pictured here)
• Borrow pump start or pump stop relay to trouble shoot if the relay failed



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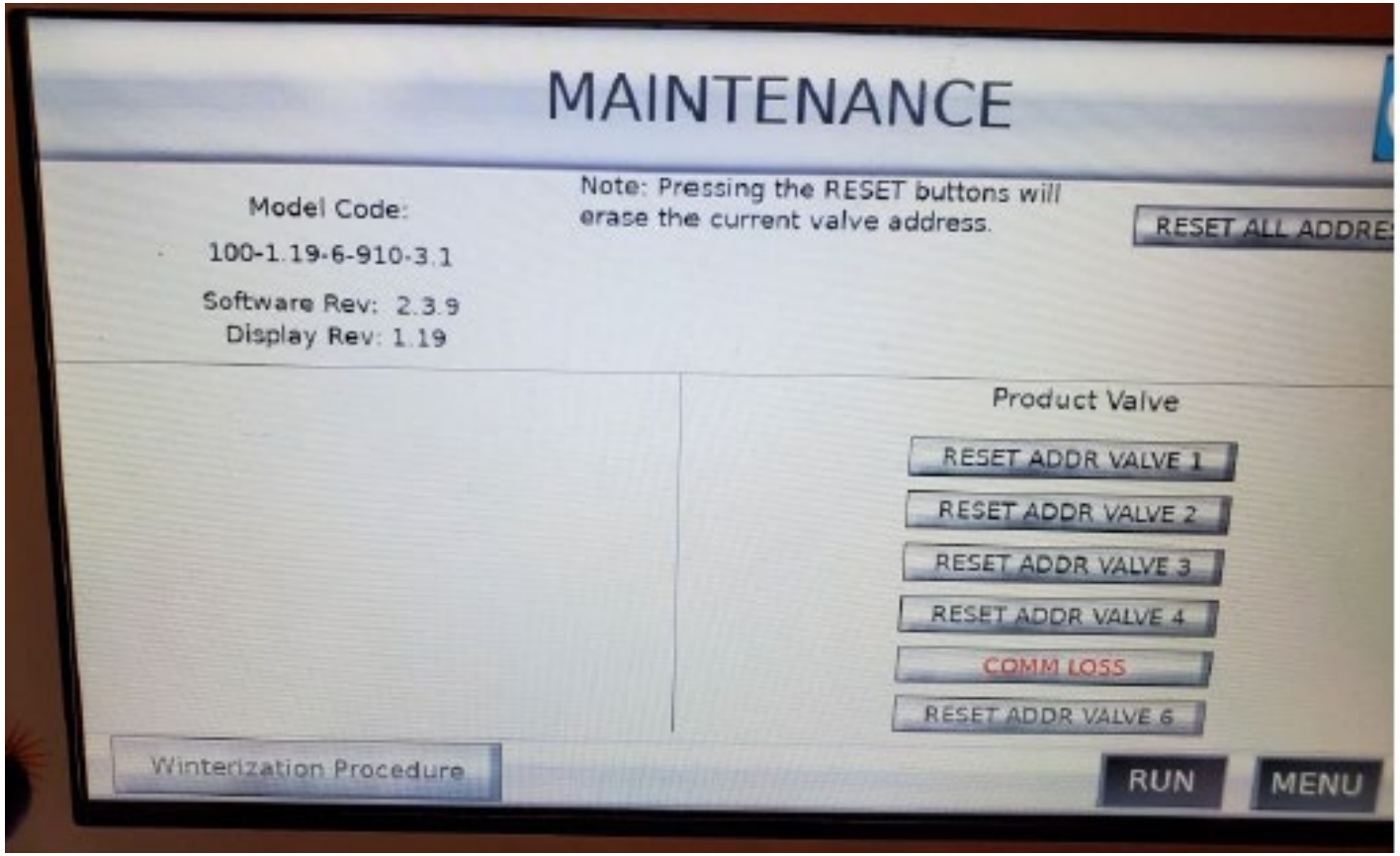
Can Bus / Comms Loss Continued…

If the CAN is active (2” & 3” valves lit), a CAN valve may have failed, become unplugged, or a nonexistent valve may have been activated.

- **Navigate to the Maintenance Screen**
- **Which valve/component shows the Comm Loss?**
- **If an active/in use product valve shows comm loss the actuator may need to be replaced.**



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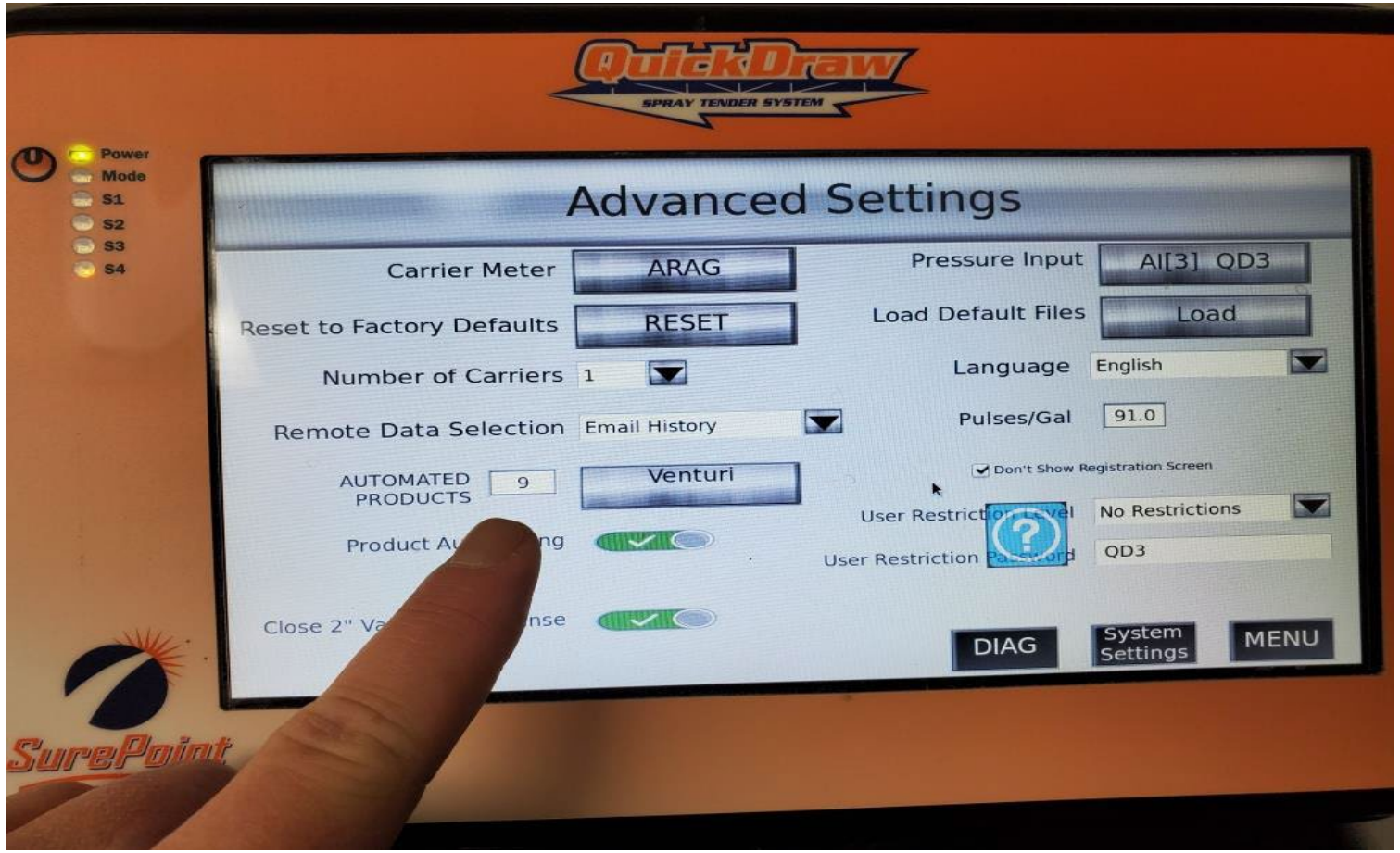
If the valve does not physically exist on your cabinet toggle the number of products on the Advanced Settings screen to match the number of product valves you have on your QD



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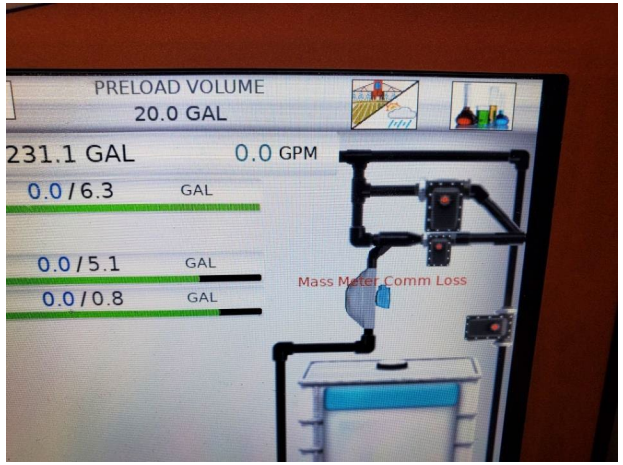
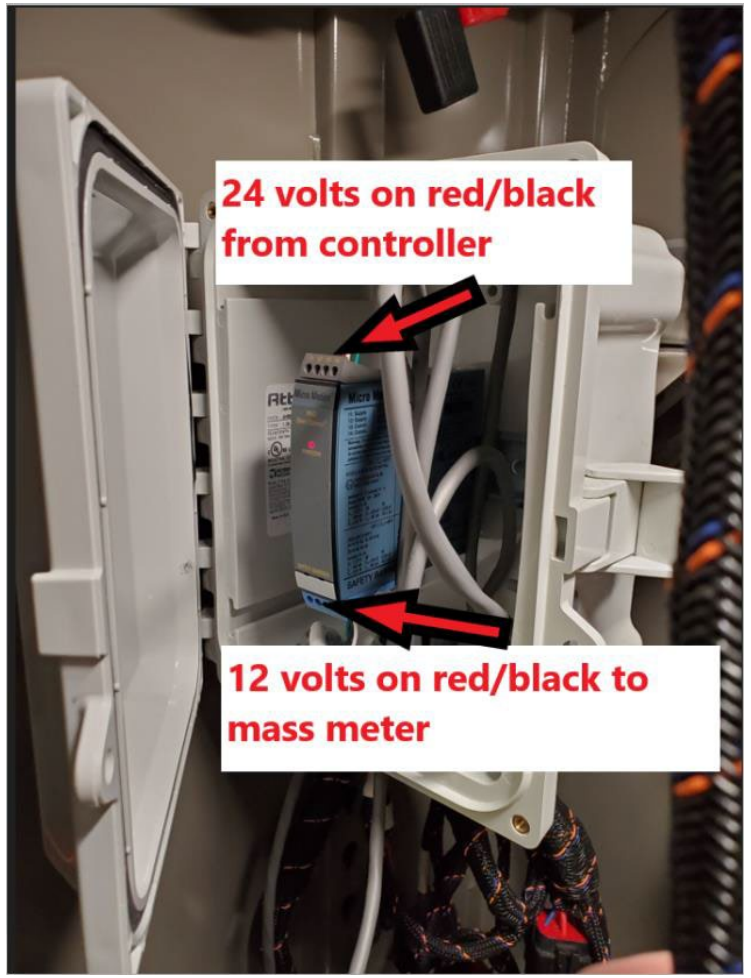
Mass Meter Comm Loss



Acceptable voltage ranges
- Top
Black/Red 24v
Black/White 3.5v
Black/Green 1.2v
- Bottom
Black/Red 12V
Black/White 2.3v
Black/Green 0.7v



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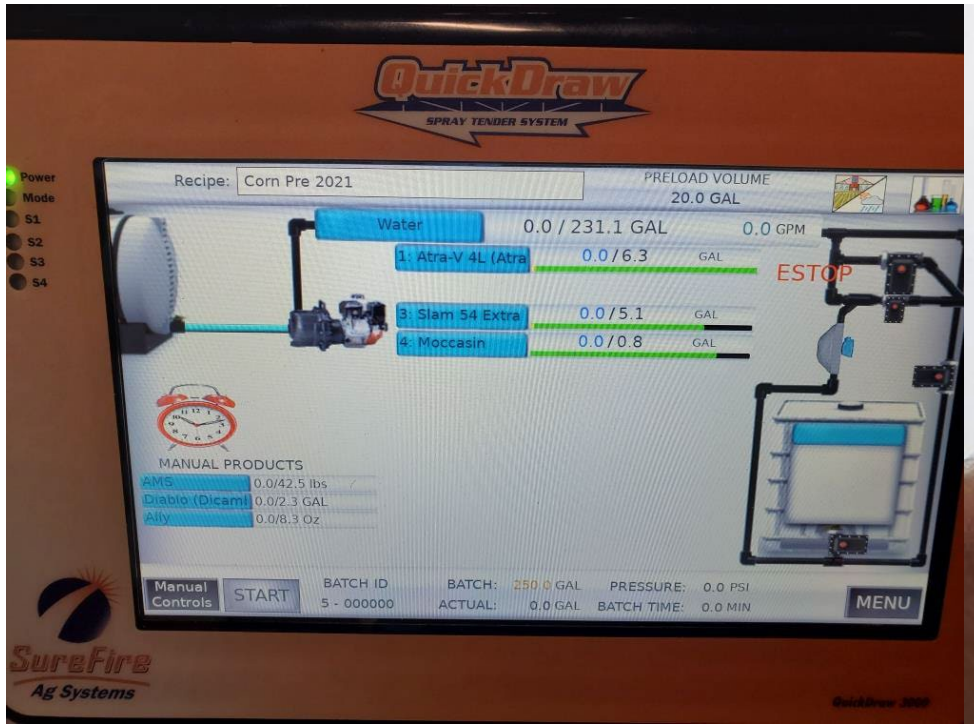
ESTOP alarm/notification
If ESTOP is depressed, twist it clockwise to reset it to normal position



If the alarm remains after resetting the ESTOP switch remove the two wires from the switch within the cabinet and twist them together until a replacement switch can be installed.
The switch is a normally closed circuit, depressing the switch opens the circuit.

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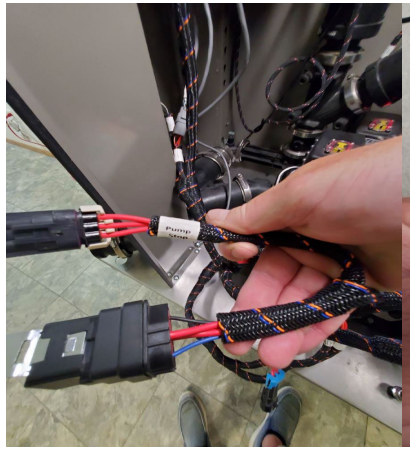
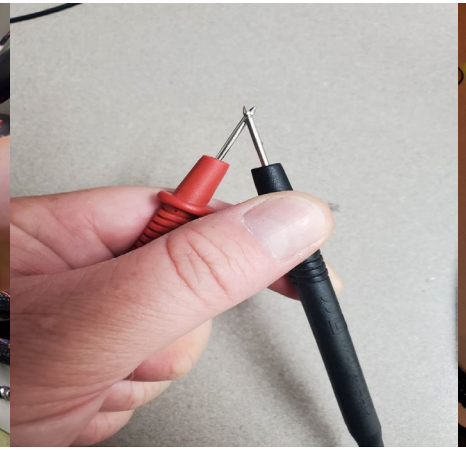
Pump Stop Not working?

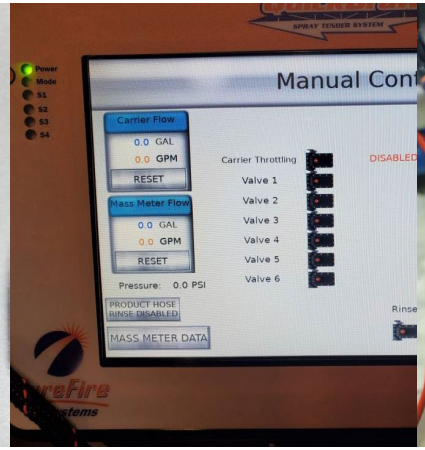
QuickDraw Pump Stop Failure Troubleshooting Guide

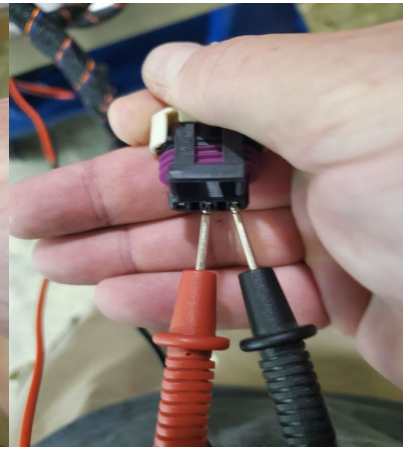
Voltmeter with continuity (beeping) capability needed.

- **First locate the pump stop connection on the QD harness and its associated relay.**
- **Set your voltmeter to a continuity setting that beeps at you, test the leads for an audible beep.**
- **Navigate to the manual controls page on your controller.**
- **Put your voltmeter leads into the left and middle pins with the “clip” facing up as pictured below. At this time, you should have continuity. “Beep”**
- **Press the kill pump button on the display.**
  Continuity should go away for approximately 3 seconds and return.
  You should hear the relay click…
- **Move your leads to the middle and right pins. There should be no continuity at this time.**
  Press the kill pump button on the display. You should hear the relay click and have continuity for approximately 3 seconds









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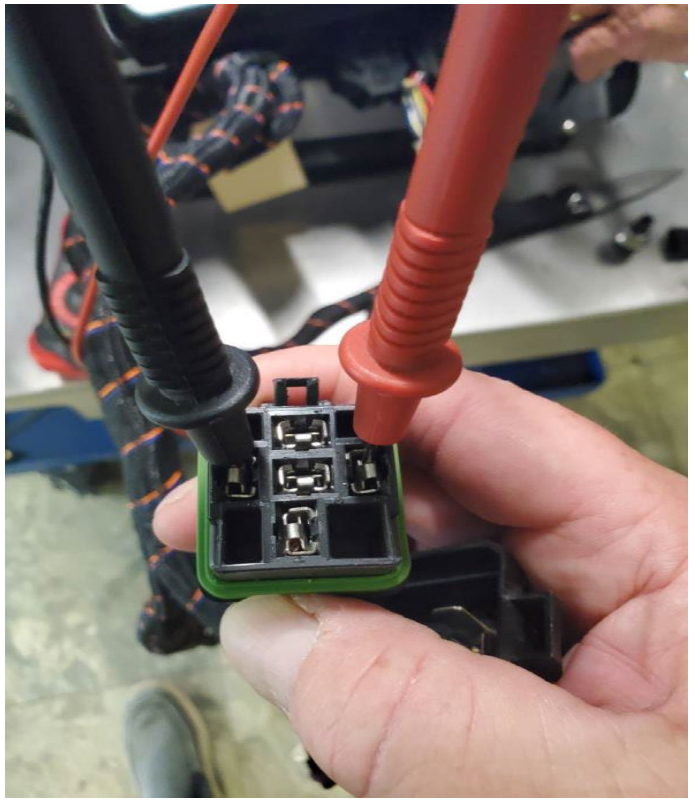
Pump Stop Cont'd

Switch your voltmeter to read 12v DC
Remove the relay from the harness and put your leads into pins 2 and 5. Pictured below.
Press the kill pump button. You should read close to 12v for approximately 3 seconds.



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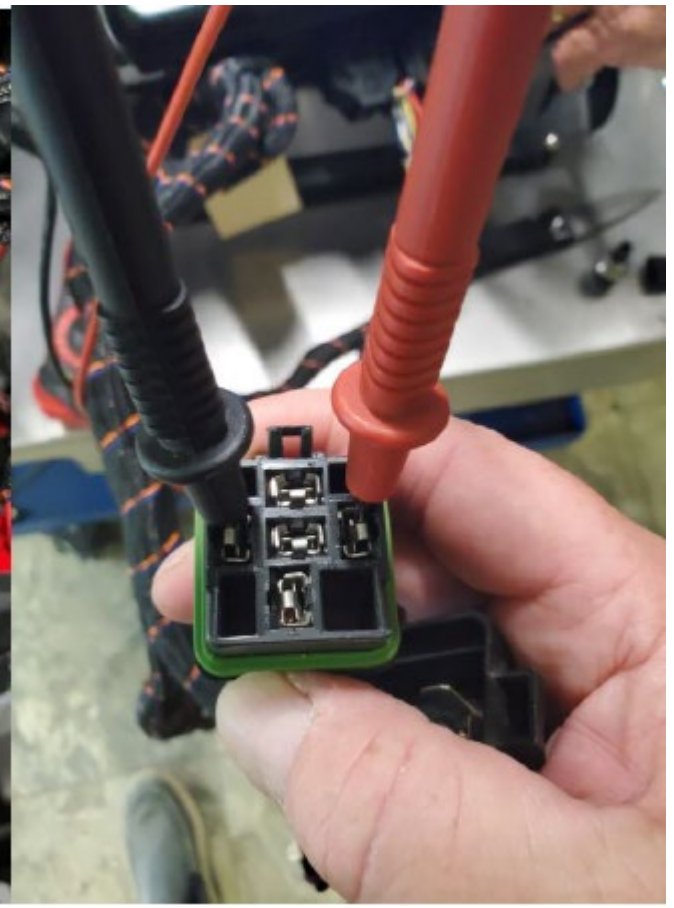
For Pump Start Wiring

Locate the Pump Start connector on the QD harness and its associated relay.
From the Manual Control screen when pressing Pump Start button you should have continuity on each
individually.
Pump start connector and Relay pins 2 and 5 for approx. 1 second
Relay pins will also show approx. 12v for approx. 1 second



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