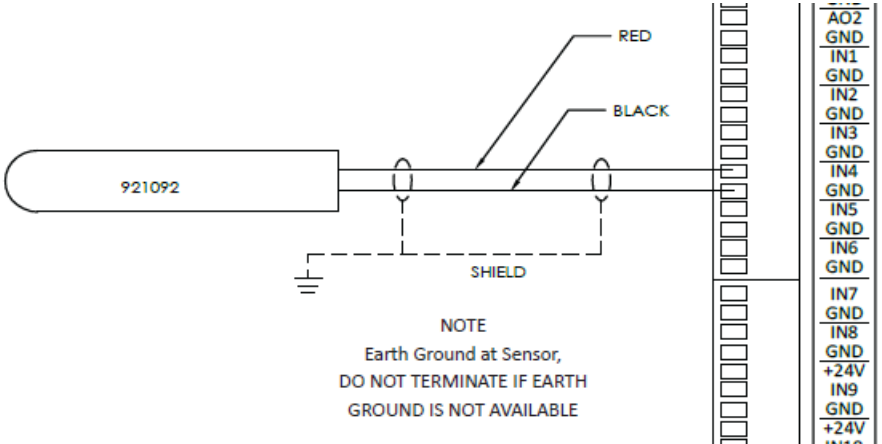
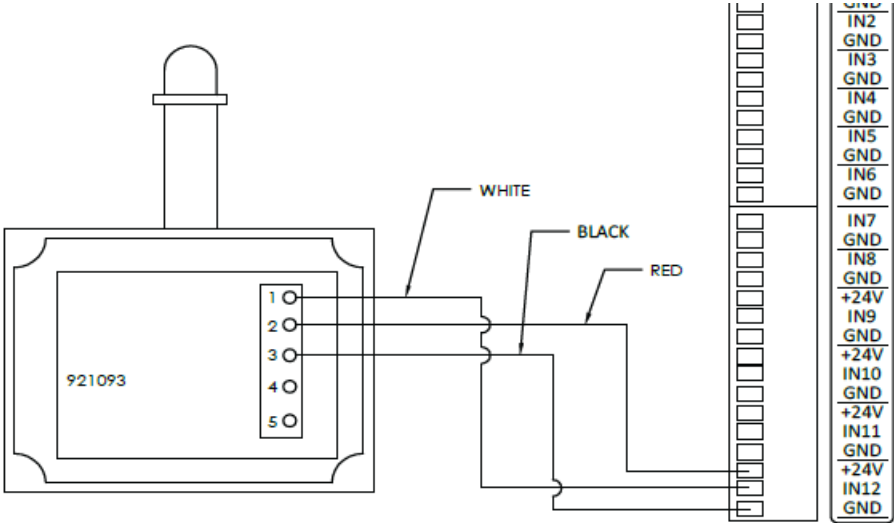
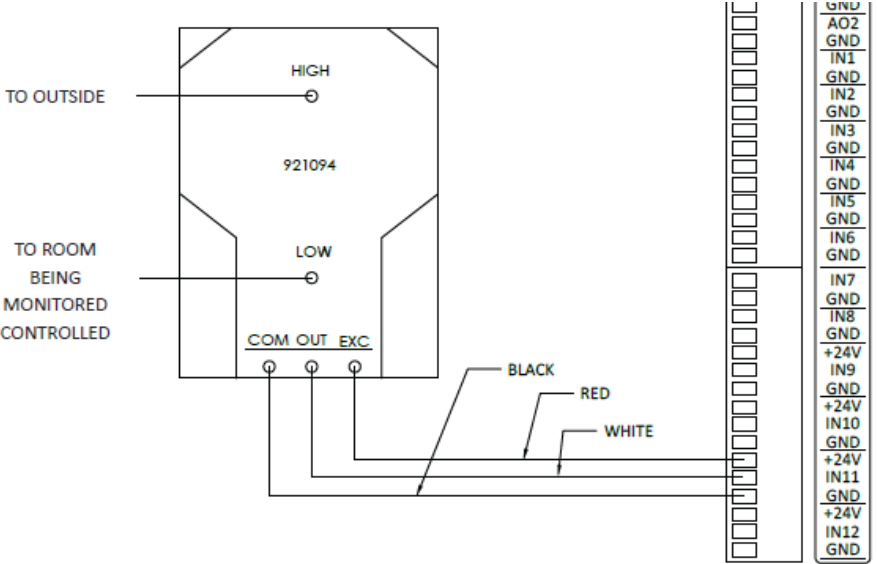


# Horizon Troubleshooting

1. Power/Display		
No Display	1.1a	<ol style="list-style-type: none"> <li>1. Verify the controller has power by turning a toggle switch on a RIOM (relay card) to ON.</li> <li>2. If the LED next to the toggle switch does not light, you probably do not have power coming to the controller. Go to step 1.2a</li> <li>3. If the LED next to the toggle switch does light, go to step 1.1b</li> </ol>
No Display. Check Backlight	1.1b	<ol style="list-style-type: none"> <li>1. Check for LCD backlight by tipping display down and looking for light around edges of LCD.</li> <li>2. If no light is seen, go to step 1.1c</li> <li>3. If light is seen, go to step 1.1d</li> </ol>
No Display and No Backlight	1.1c	<ol style="list-style-type: none"> <li>1. Replace inverter board (921014)</li> <li>2. If backlight still does not work, connect an external PC monitor to the VGA port on the Horizon.</li> <li>3. If external display works then the LCD assembly (921139) needs to be replaced. Optionally the complete display assembly (920953) could be replaced.</li> <li>4. If external display doesn't work then the motherboard (921137) likely needs to be replaced. Optionally the complete display assembly (920953) could be replaced.</li> </ol>
No Display and Has Backlight	1.1d	<ol style="list-style-type: none"> <li>1. LCD assembly (921139) or video cable (920960) needs to be replaced. Optionally the complete display assembly (920953) could be replaced.</li> </ol>
No Power	1.2a	<ol style="list-style-type: none"> <li>1. Check AC Voltage on terminal block on the back panel of the display enclosure by tipping down the display and connecting a AC Voltmeter between "L1" and "L2/N".</li> <li>2. If line voltage is missing or very low go to step 1.2b</li> <li>3. If line voltage is OK then go to step 1.2c</li> </ol>
No AC Power	1.2b	<ol style="list-style-type: none"> <li>1. Circuit breaker is tripped or turned off or UPS is off or bad. <b>Note: A UPS (Uninterruptible Power Supply) should be included in every Horizon install.</b></li> </ol>
Check 12V Power	1.2c	<ol style="list-style-type: none"> <li>1. Check 12 VDC Power Supply by tipping down the display and connecting a DC Voltmeter between "+" and "-".</li> <li>2. If 12V power is missing or very low then replace power supply (921027)</li> <li>3. If 12V power is OK, reads 11.8 to 12.2 Volts, go to step 1.2d</li> </ol>
	1.2d	<ol style="list-style-type: none"> <li>1. Check terminal block and plug connections between the power supply and the mother board.</li> <li>2. If no LEDs light on the mother board then replace mother board (921137)</li> </ol>

2. Sensor Readings		
Temperature Sensor Not Reading or Individual Temperature Sensor Displayed with Splash Mark	2.1a	<p>Note: When the graph of a sensor on Main - Temperature, is shown with a splash mark on it, the sensor reading is invalid (outside of range of -40F to 160F).</p> <p>1. Make sure wiring to GPIOM board input terminals is correct and matches configuration found in Operations - Channel Status under IOM, PortIx (card # counting from the left , AIN #) Note that Value column shows temperature being read. Correct wiring as needed. Here are a few possible readings (F degrees) and likely causes:</p> <p>A. <b>188</b> = Probably <b>jumper</b> in C position. Power down, pull the GPIOM card and check red jumper for the channel – move jumper to <b>A-B</b></p> <p>B. <b>191</b> = Input to ground <b>shorted</b>. Check wiring, sensor and if a digital device like a water meter has been wired into a port programmed as a temp sensor.</p> <p>C. <b>-68</b> = Input is <b>open</b> and jumper is in proper A-B. Check to see if sensor is wired into the correct port; could also be bad sensor or wiring.</p>  <p>2. Temperature value more than 40 degrees too high may indicate incorrect red jumper setting on GPIOM board. Power down and pull out GPIOM board and make sure the red jumpers are set to A-B position for each temperature sensor input channel.</p> <p>3. Likely the sensor is defective. Connect new sensor (921092)</p> <p>4. Swap in a new GPIOM board (920962). Make sure the new board has the rotary DIP switch and red jumpers set the same. <b>Note: Any board replacement requires powering down the controller first.)</b></p>
Temperature Readings All Jumping Around by at least 10 degrees	2.1b	Replace GPIOM board (920962)
Temperature reading is off by a few degrees.	2.1c	1. If temperature reading is off by less than 10 degrees, check "Offset" value in Operations - System configuration - Port configuration - device type: Temperature. A small offset may be set to harmonize with an accurate thermometer measurement.
Humidity sensor reading bad.	2.2a	1. Make sure wiring to GPIOM board input terminals is correct and matches configuration found in Operations - Channel Status under IOM, PortIx (card # counting from the left , AIN #) Note that Value column shows relative humidity being read. Correct wiring as needed.

		 <p>2. Incorrect Humidity reading may indicate incorrect red jumper setting on GPIOM board. Power down and pull out GPIOM card and make sure the red jumper is set to C position for the RH sensor input channel.</p> <p>3. Either the sensor or GPIOM is defective.</p> <p>4. Connect new sensor (921093)</p> <p>5. Swap in a new GPIOM board (920962, making sure the new board has the rotary DIP switch and red jumpers set the same)</p>
Feeder sensor not reading	2.3a	<p>1. Make sure wiring to GPIOM board input terminals is correct and matches configuration found in Operations - Channel Status under IOM, PortIx (card # counting from the left , AIN #) Note that Value column shows Amps being read. Make sure feeder hot wire is going through the sensor. Correct wiring as needed.</p> <p>2. Check red jumper setting on GPIOM board. Power down and pull out GPIOM card and make sure the red jumpers are set to C position for each feed sensor input channel.</p> <p>3. Either the sensor or GPIOM is defective.</p> <p>4. Connect new sensor (PA-72)</p> <p>5. Swap in a new GPIOM board (920962, making sure the new board has the rotary DIP switch and red jumpers set the same)</p>

Static Pressure sensor reading bad	2.4a	<p>1. Make sure wiring to GPIOM board input terminals is correct and matches configuration found in Operations - Channel Status under IOM, PortIx (card # counting from the left , AIN #) Note that Value column shows inches of differential static pressure being read. Correct wiring as needed.</p>  <p>2. High Static Pressure reading may indicate incorrect red jumper setting on GPIOM board. Power down and pull out GPIOM card and make sure the red jumper is set to C position for the Static Pressure sensor input channel.</p> <p>3. Either the sensor or GPIOM is defective.</p> <p>4. Connect new sensor (921094)</p> <p>5. Swap in a new GPIOM board (920962, making sure the new board has the rotary DIP switch and red jumpers set the same)</p>
Position Sensor Not Reading Correctly	2.5a	<p>1. Make sure wiring to GPIOM board input terminals is correct and matches configuration found in Operations - Channel Status under IOM, PortIx (card # counting from the left , AIN #). Note that Value column shows Amps being read. Make sure feeder hot wire is going through the sensor. Correct wiring as needed.</p> <p>2. Check red jumper setting on GPIOM board. Power down and pull out GPIOM card and make sure the red jumpers are set to A-B position for each position sensor input channel.</p> <p>3. Position sensor for curtain machines, 970138 shown below. Wiring is Green wire to IN, Black wire to GND and cut off and cap Red wire.</p>

		<p style="text-align: center;"><b>NOTE</b> Check Inlet/Curtain Installation manual for correct wiring connections of position sensor as the installation manual may have other ways of connecting.</p> <p>4. Either the sensor or GPIOM is defective. 5. Replace sensor (If C433 actuator then potentiometer part number ZC427; if curtain machine then potentiometer kit number 970138) 6. Swap in a new GPIOM board (920962, making sure the new board has the rotary DIP switch and red jumpers set the same)</p>
	2.5b	<p>1. Run the calibration process for the position sensor in Operation - System Configuration - Port Configuration - Inlet or Curtain - Calibrate Inlet Motion. Additional information in the manual (990070).</p>

<b>3. Equipment</b>		
A relay output device does not turn on	3.1a	<p>Manually turn on the device from the Switches Screen with toggle switch in AUTO</p> <ol style="list-style-type: none"> <li>1. If the equipment turns on and the LED next to the toggle switch comes on, go to 3.1b</li> <li>2. If the equipment does not come on but the LED next to the toggle switch does come on, go to 3.1c</li> <li>3. If the equipment does not turn on and the LED next to the toggle switch does not come on, go to 3.1d</li> </ol>
Device works in Manual but not in Auto	3.1b	<ol style="list-style-type: none"> <li>1. Check port configuration for the device in Operation - System Configuration - Port Configuration to confirm the device is wired into the same port programmed.</li> <li>2. Check settings to confirm this device is set up to be used as intended in min vent, cooling, heating, etc. in Operation - Min Vent, Operation - Cooling, Operation - Zone Control, Operation - Environmental Control, etc. See manual (990070) for detailed instructions.</li> <li>3. Import backed up System Configuration from a USB drive in Operation - Data File - Import Control Database after plugging the USB drive into the front of the Horizon display and waiting 5 seconds. If you do not have a back up file on a USB drive, you may be able to copy one by plugging in a new USB drive then Operation - Shut Down Horizon - Exit Horizon Software, this takes you to the Linux desktop with a chicken icon in the middle. With a USB mouse plugged into a USB port on the motherboard go Places - Home Folder - Valco XX-XX-XXXX (This is a backup folder where XX-XX-XXXX is the date of a software update and the backup was created). This folder will contain the file db_systemconfig.db that can be copied to the USB drive and to Places - Home Folder - Valco (choose to "replace" the existing file), where it will be used as current settings/devices.</li> <li>4. Replace SSD (921140) and import backed up system configuration as noted in previous step.</li> </ol>
Device Doesn't work in Manual but LED Does come On	3.1c	<ol style="list-style-type: none"> <li>1. Check terminal block plug wire connections are tight.</li> <li>2. Check the RIOM fuse (power down the controller and turn off the breaker first).</li> <li>3. Check circuit breaker, wiring and device. (Could turn off breaker and wire nut the two wires going to the relay channel together to test operation of these items)</li> <li>4. Replace RIOM (920957)</li> </ol>
Device Doesn't work in Manual and LED Doesn't come On	3.1d	<ol style="list-style-type: none"> <li>1. Check to see if the green LEDs are blinking on and off on the top of each RIOM board.</li> <li>2. If none are blinking then go to 1.2c and double check data cable and 12 VDC cable connections between enclosures.</li> <li>3. If the green LED on the RIOM with device not working does not blink but other RIOMs do blink -</li> <li>4. Check ribbon cable connections to be sure they are securely seated. Restart controller by Operation - Shut Down Horizon - Power Down, shut off power, wait 10 seconds and power up.</li> <li>5. Replace RIOM (920957)</li> </ol>
Nothing runs when on AUTO.	3.2a	<ol style="list-style-type: none"> <li>1. Is Operating Mode INACTIVE as shown on Main screen? If so go to Operation - Zone Control and make sure the appropriate zone is Active with proper head count and age entered.</li> </ol>

#### **4. Security**

I forgot my password.	4.1	Call Val-Co Technical Support 888-673-2460 and ask for a one-day password.
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#### **5. Alarms**

How do I change Alarm Settings? What do they Mean?	5.1	Consult the Manual (99070) and context sensitive help by pressing Operation - Alarms and Notifications - Help
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