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Connecting And Navigating The Flo N-Controller

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OVERVIEW

This document will instruct on how to connect to and navigate the N-Controller.

FIō CONTROLLER CONNECTION STEPS

BEFORE GOING TO SITE, YOU MUST HAVE THE FOLLOWING:

- Updated laptop with an active Ethernet Port with a proper driver, the current version of Java installed, and Firefox version 52.1.2. See the Web Browser section on Page 5 for further details.
- Laptop charger
- Cross over cable
- Cell phone
- Cell phone charger

NOTE: If you are not experienced with connecting to the Flō Controller and your location is far away, then it is a good idea to stop by a local store and attempt to get connected to the controller before hitting the road.

INITIAL COMPUTER SETUP

The following items will need to be completed **BEFORE** going to the site (unless there is an on-site internet connection and extra time available).

ETHERNET PORT SETUP

Make sure the laptop does have an Ethernet port. This port allows you to connect a CAT5 Crossover cable into it (imagine an oversized telephone jack).

To ensure this port is active, go into *Settings* > *Network and Sharing Center* > *Change Adapter Settings* or *Manage Network Connections* depending on what version of Windows is loaded. If you see an icon that says *Ethernet* or *Local Area Connection*, right-click and enable. If you do not see this icon, then you are likely missing the driver for this Ethernet port.

To double-check, go into **Device manager** > **Network Adapters** and check to see if you have a network adapter that is *NOT* for WLAN/Wireless/WIFI. If all are for wireless connections, then the proper driver is not installed to use this port. Search the internet with your laptop model and download the appropriate driver or contact your IT Department.

CONFIGURING JAVA

The Flo N-Controller user interface requires that Java be installed on the computer. It is recommended that the Java runtime environment be updated to the latest version. To update the version of Java, follow the steps shown below.

- 1. Open the Control Panel and select Programs
- 2. Select Java and the Java Control Panel window will open
- 3. Select the **Update Tab**, then select **Update Now**. A popup screen will appear and will either state you already have the latest version or will give the next steps to update.

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CONFIGURING JAVA (CONT'D)

The computer will also need to be updated with two additional JRE Java files by pasting them into the Java Security folder within the Java folder. To add the Java Security files, follow the below steps.

1. Select the following link to get the Java Security files.

https://www.oracle.com/java/technologies/javase-jce8-downloads.html

- 2. A screen like below will appear after clicking the above link.
- 3. Select the **jce_policy-8.zip** as highlighted below.



- 4. Select the Accept Oracle Binary Code License Agreement box as highlighted below.
- 5. Select the **Download jce_policy-8.zip** link highlighted below to download the file.



- 6. Login using the Oracle Account Sign in window or create an account to continue.
- 7. The below screen should appear. Select the OK button.



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8. The screen that appears should look something like what is shown below.



9. Select the UnlimitedJCEPolicyJDK8 and the information shown below will appear.

Name	Туре	Compressed size	Password	Size		Ratio
▲ local_policy	Executable Jar File	3 KB	No		3 KB	14%
README	Text Document	3 KB	No		8 KB	67%
Sexport_policy	Executable Jar File	3 KB	No		3 KB	14%

- 10. Use the control key to highlight the files in blue as shown above, then right-click on the highlighted area and select Copy.
- 11. Navigate to your Java folder through C: > Program Files or Program Files (x86) > Java > jre > lib > security, then right-click in an empty area and select paste to input the copied files, replacing any older ones that might be there. Once complete close out all the open windows.
- 12. Open the Java Control Panel, go to the **Security** tab, select the **Edit Site List** button, and add the exception as shown below.





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ADDITIONAL COMPUTER SETUP

INSTALLING MOZILLA FIREFOX WEB BROWSER

To use Java with the Mozilla Firefox browser you must have the Extended Support Release version of Mozilla Firefox (Mozilla v52 ESR) installed on your computer. To do so:

- 1. Uninstall all other versions of Mozilla Firefox from your machine.
- 2. Use the download link shown below to install the 32-bit version of the browser version known to work. https://ftp.mozilla.org/pub/firefox/releases/52.1.2esr/win32/en-US/
- 3. After downloading the file, open it and run the installation. Follow the Install Wizards instructions for a standard installation.
- 4. After installation is complete, open the Mozilla Firefox v52 ESR browser.
- 5. Select the Menu button (three lines) in the top right corner of the browser and select **Addons**.
- 6. Find the Java[™] Platform SE... addon and select the dropdown box to the right of it. Select Always Activate.
- 7. Select the Menu button again and select **Options**, then select the **Advanced** tab and choose **Never Check for Updates**.
- 8. While in the **Advanced** tab make sure that the **Use a background service to install updates** box is unchecked.

NOTE: If you do not see the addons after the Firefox installation, the installation has failed. You will have to uninstall Firefox then reinstall using the steps above.

CONFIGURING COMPUTER'S ETHERNET PORT

The following instructions will show how to configure the Ethernet or Local Area Network. Based upon the Windows platform you are using, your configuration may be slightly different. Go into the *Control Panel so you can access the Ethernet or Local Area Network* settings. This can be done by going to the *Start Menu > Settings > Network & Internet > Ethernet or Local Area Network > Change Adapter Options*. Right-click on *Ethernet or Local Area Connection* and choose *Properties*, then select *Internet Protocol Version 4, once* it is highlighted click on the *Properties* button.

Enter the following information as shown below:

IP Address: 10.15.60.90 Subnet mask: 255.255.255.0 (Should automatically be preset)

Select OK, and the computer is now configured to plug into the Flo Unit Controller.

CLEARING THE CACHE

It is important to clear the *Ethernet* or *LAN* Cache before attempting to connect to a new controller. This should even be done before attempting to connect to other controllers on the same job site. This is completed by Right-clicking on *Ethernet* or *Local Area Connection* and selecting *Disable*. Once disabled, right-click again and select *Enable*. This will clear the cache and bring you one step closer to connecting successfully.

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N-CONTROLLER ETHERNET CONNECTION POINT

The Flo N-controller will be installed on the left-hand side of the control panel. To find the N-Controller's LAN2 port, remove the cover by pressing inward on the two push-in clips at the top allowing the cover to slide off. Do not forcefully remove the cover. Once the cover is removed, see the diagram below to attach your computer to the N-Controller's LAN2 port by use of an Ethernet Crossover cable as shown below. Replace the N-Controller module cover once connected to the LAN2 port. Only an Ethernet Crossover cable will work for this type of found application. Information on crossover cables can be at the following link: https://en.wikipedia.org/wiki/Ethernet crossover cable



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PINGING THE CONTROLLER

To verify that the correct cable is being used and to determine if there is a connection at the controller, we will ping the controller before we try to connect. This will give us confirmation that we are indeed set up correctly and are ready to connect.

- Select the Start button
- Type **Run** and select the **Enter** button
- Type CMD into the Open prompt and select "OK"
- If the cable is plugged into LAN2, then type in the following data after the >: C:\Users\computer name>**ping 10.15.60.105** and select the **Enter** button

If the ping is successful, it will look like the screen below.

```
C:\Windows\system32\CMD.exe
Microsoft Windows [Uersion 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.
C:\Users\ |>ping 10.15.60.105
Pinging 10.15.60.105 with 32 bytes of data:
Reply from 10.15.60.105: bytes=32 time<1ms TTL=128
Ping statistics for 10.15.60.105:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\Users\ |>
```

If the ping is unsuccessful, it will look like the screen below.

```
C:\Windows\system32\CMD.exe

Microsoft Windows [Version 6.1.7601]

Copyright <c> 2009 Microsoft Corporation. All rights reserved.

C:\Users\ >ping 10.15.60.105

Pinging 10.15.60.105 with 32 bytes of data:

Request timed out.

Request timed out.

Request timed out.

Request timed out.

Ping statistics for 10.15.60.105:

Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Users\ |>
```

If the above screen appears, there could be possible errors:

- 1. The cable that is being used is a standard CAT5 internet cable used between a modem and a computer. A **Crossover** cable is required for networking between computers.
- 2. The controller may need up to 5 min to recognize the connection.
- 3. The settings were improperly set in the CONFIGURING COMPUTER'S ETHERNET PORT on page 5.
- 4. The cable is plugged into LAN1.
- 5. The controller needs to be reset. This can be done by unplugging the battery backup located behind the controller cover and then removing the power to the controller by either disconnecting the 24VAC power wire or by power cycling the unit.

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LOGGING INTO THE N-CONTROLLER - IMPORTANT! PLEASE READ

Now that the computer is properly configured and connected to the Flō Unit controller, you can access the controller by use of your web browser. **Note:** Access has been tested using only the Mozilla Firefox version listed on page 5. The use of any other web browsers for connectivity purposes will not work. Open the web browser and type in the following IP address: 10.15.60.9 and select the *Enter* button.

If the below warning message pops up, select the box as highlighted below, and then select the Run button. If any additional security messages appear at the top of the browser select **Allow & Remember** and then continue.

Doy	ou want	to run this	application?
	^	Name:	wbapplet.jar
		Publisher:	NiagaraAX
	<u> </u>	Location:	http://10.15.60.9
Runn	ing this an	plication ma	v he a security risk
Risk:	This applicati information a run this appli	on will run with u at risk. The inforr cation unless yo	inrestricted access which may put your computer and personal nation provided is unreliable or unknown so it is recommended not to u are familiar with its source
	The certificat	te used to identif	fy this application has expired.
	More Inform	ation	
Colord	the box be	ow, then click	Run to start the application
Select			

You will be asked for a Username and Password to gain access to the controller.

Enter the following: Username: CES Password: CES

Select the OK or Login button.

If this is the first-time logging into the N-Controller, the application may take several minutes to download. If there is only a little box with a red x in the upper left-hand corner, then there is not a working version of Java. Java must be downloaded and installed as described in the CONFIGURING JAVA section starting on page 2.

Once the application has fully downloaded, the Flo Home Screen should appear as shown on the next page.

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Double-click on the AHU Flo Unit shown highlighted below to pull up the unit Interface as shown below.

₩ CA_00001Ces0N_CES01 × +		
★ ③ P		c 🖡 🗖 🚍
A Home		
😤 Walmart - 09999 Bentonville,AR	Change Controller 💌 🍓 Hyperlink	19-Nov-19 10:48 AM C ST
Hone - System Overview		
Anu Fan SpaceRH Mode DigitalScrollComp2 FixedCompressor4 DigitalScrollComp1 AHU CES01 N 28.5 % Cooling 100.0 % ON 0.0 %	FixedCompressor3 FixedCompressor2 off off	91
Walmart 75	A Home	History Alarms Networks Config
save money, tive better.		I I I I I I I I I I I I I I I I I I I



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BECOMING FAMILIAR WITH THE N-CONTROLLER'S MONITOR GRAPHIC PAGE THE MONITOR GRAPHIC PAGE

This page displays the dynamic representation of the Flō Unit. The page displays the various unit components and statuses of the components in real-time. From this page, the Sensor Offset Config can be accessed (Further instructions on the next page).

The Monitoring section of the screen highlighted below will display various sensor readings and component statuses for a quick overview of the unit.

The Dehumidification and Cooling setpoints, as well as the Zone Dewpoint, are displayed at the top right of the screen.





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SENSOR OFFSET CONFIG

Accessed from the Monitor Graphics Page, the Sensor Offset Config allows the user to add offset values to the unit sensors. Right-click on the corresponding Offset Val of the sensor you desire to offset. Input the offset in the standard engineering units. For example, an offset of 10° Fahrenheit on the Space Dewpoint will offset the dewpoint sensor by 10° Fahrenheit.

		🛃 Ndio point Manag	er	×	DH	Zone
vg SuctionPressureGrp	-122.8 ps	🕀 Walmart - 09999	9 Bentonville,AR	14-May-15 4:00 PM CDT	50.2 °F	Dewpoint
oction Setpoint	153.0 psi	Name A	OffsetVal	e	Cool	10000.0 °
vg DischargePressureGrp	-163.8 ps	Space Dewpoint	0.00		74.0 °F	
CV CO2 Control	OFF	Ambient Dewpoint	0.00			
larm	ALARM	Outdside Air Temp	0.00		Active	
		Entering Glycol Temp	0.00		Scooling	
V		Leaving Glycol Temp	0.00			
or Graphic Control Settings F	unctional Te	Mixed Air Temp	0.00			
	_	Supply Temp	0.00		and the second sec	23
	_	Return Temp	0.00		Unit information	1
		Space Temp1	0.00		Manufacturer	CES
		Space Temp2	0.00		ModelNo	HCUC6030AAD
		Space RH	0.00		SerialNo	Serial #
0AT -4.9 °F					Tonnage	## Tons
					Voltage	490
					Alfa Vana	-00
0.0	%				riir rear	
					Notes:	
					Uses Novar Xcm2	20
DAT 0.0.9E	- 64					
RAT 0.0 -P						
Roburn Toma						
Return temp. 0.0	-					

Once the offset is added to a control point, the value of the control point will appear highlighted as shown below.





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CONTROL SETTINGS

The Control Settings page allows the user to change the heating and cooling setpoints, adjust the occupied schedule, setup unit names and save the station. To change the heating and cooling setpoints select on the box that displays the current setpoint and input the desired value.



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HOW TO SET SCHEDULES

To change the occupied schedule of the unit click on the "Occupied" button. This will bring up the schedule page. To change the scheduled times either drag the time block bars on the schedule or input the desired Occupied/Unoccupied times in the lower left-hand corner.



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FUNCTIONAL TEST PAGE

The functional Test Page displays the values of the various inputs and outputs and allows the user to override the control points of the Flo N-Controller program. The inputs can be seen on the left, the outputs on the right.





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OVERRIDES

To add an override to a control point right-click on the value of the control point (to the right of the control point name) and click "Override". This will bring up the override prompt window where the sensor offset can be added. Select either Permanent for a permanent override or click the dropdown arrow to select a designated or custom duration for the override.

Walmart - 09999 Bentonville,AR 14-May-1 AH 101 - Conferencies - Vierencies Mid-Manager 14-May-1	5 4:04 DM CDT
AHIO1 - Configuration - %errindio:NdioNetwork:EntityName%	J 4.01 PM CDI
Ai IOO 1 - Coninguration - 7861 andro National Aviante 78	
Monitoring	
Ava SuctionPressureGra -122.8 psi SuctionControl Disabled Operational Mode Shutdown Reheat Enable off 50.2 % Dew	point
Suction Setpoint 153.0 psi DsComp1 0.0 % Condensor Fan1 off	
Avg DischargePressureGrp -163.9 psi FixedComp2 off Condensor Fan2 off Condensor Fan2 off	0.0 %
DCV CO2 Control OFF Condensor Fan3 off 74.0 °F	
Alarm Active	
Serpoints	
Monitor Graphic Control Settings Functional Test Page	
	1
Control Inputs Control Outputs	-
SupplyTemp 0.0 % F Councide	
AmbientTemp -4.9 % Oad	
EffSpaceTemp 0.0 % RaD Override Value 0.0 %	
Space Dewpoint -10000.0 F BpD Override Duration Permanent V 00000h 00m 00.000s	
AirflowSwitch OPEN DigitalSc OK Cancel	
SuctionPressure Grp1 -122.7 psi Fixed Co	
DischargePressure Grp 1 -163.9 psi DigitalScroll Comp 1 0.0 % 1.0 V	
SuctionPressure Grp2 0.0 psi Fixed Compressor 3 off off	æ
DischargePressure Grp 2 105.0 psi Reheat1 false off	
SmokeInput OPEN Heat Reclaim Valve false off	
ExhaustFan Interlock OPEN Reheat2 false off	
Suction Setpoint 153.0 psi Glycol Water Valve 0.0 0.0 V	
Space CO2 levels 5.4 ppm Supply fan Vfd 0.0 % 0.0 V	
Eff Schedule Occupied Condensor fan 1 OFF off	
AmbientDewpoint -10000.0 % Condensor fan 2 OFF off	
Load Shed OPEN Condensor fan 3 OFF off	
SpaceReturnTempSensors Failed Condensor fan 4 OFF off	
Suction Setpoint Grp2 153.0 psi Condensor fan 5 OFF off	
Continue for C. Off. off	



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CLEARING OVERRIDES

To clear an Override right click on the overridden value and select "Auto". The control value will return to the normal operating value. Ensure all overrides are cleared before finishing testing.

