Trane ComThree Driver User Guide

Trane ComThree Driver User Guid

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Installation

Install <u>ifcComThree-rt.jar and ifcComThree-wb.jar</u> on the computer where Niagara N4 Workbench will run. To install, place a copy of the file in the modules directory of your Niagara N4 installation. This is typically C:\Niagara\Niagara-4.n.nnn\modules.

Install <u>ifcComThree</u> module on the target station. Using a Niagara N4 workbench where the module has already been installed, connect to the stations platform service. Go to the software manager and install <u>ifcComThree</u>.

Requirement

- Niagara N4 workbench 4.0.22 or higher.
- Niagara N4 platform JACE support:
 - 1. JACE-3E.
 - 2. JACE 6xx.
 - 3. JACE 7xx.
 - 4. JACE 8000 (Titan JACE).
- Trane ComThree Devices support:
 - 1) VariTrane VAV Type I
- Serial communication RS485 Port. (Required "serial" feature in the license). Non isolated RS485 communication.

Quick Start

This section provides a collection of procedures to use the Niagara N4 Trane ComThree drivers to build networks of devices with proxy points and other components. Like other Niagara N4 drivers, you can do most configurations from special "manager" views and property sheets using Workbench.

- For any of the NonIsoComThree networks:
 - "Configure the NonIsoComThree network"
 - "Add VariTrane I devices"
 - "Create ComThree proxy points"

Configure NonIsoComThree Network

To add and configure a NonIsoComThree network, perform the following main tasks:

- Add the NonIsoComThree network, as needed:
 - Add a NonIsoComThreeNetwork

Add a NonIsoComThreeNetwork

To add a NonIsoComThreeNetwork in the station

Use the following procedure to add a NonIsoComThree Network component under the station's Drivers container.

Note : If the host JACE has multiple RS-485 ports to be used for client (master) access of NonIsoComThree networks, add one NonIsoComThree Network for each physical port. Note that for each NonIsoComThreeNetwork, you must Configure the serial port parameters.

To add a NonIsoComThreeNetwork in the station:

- Double-click the station's **Drivers** container, to bring up the **Driver Manager**.
- Click the New button to bring up the New network dialog. For more details, see "Driver Manager New and Edit" in the *Drivers Guide*.
- Select "NonIsoComThree Network," number to add: 1 (or more if multiple networks) and click
 OK. This brings up a dialog to name the network(s).
- Click **OK** to add the NonIsoComThreeNetwork(s) to the station. You should have a NonIsoComThreeNetwork named "NonIsoComThree Network" (or whatever you named it), under your Drivers folder, initially showing a status of "{fault}" and enabled as "true."

After you Configure the serial port parameters, status should change to "{ok}".

Configure the serial port parameters and transmission mode

In the NonIsoComThree Network property sheet for each network, you must set the serial port configuration to match the serial communications parameters used by other NonIsoComThree devices on the network.

To set the serial port parameters

To set the serial port parameters and mode for a NonIsoComThreeNetwork:

Right-click the ComThreeNetwork and select Views > Property Sheet.

The **Property Sheet** appears.

Scroll down and expand the **Serial Port Config** slot.

Set the properties for the JACE serial port used, where defaults are:

- Port Name: none Enter the JACE port being used, like COM1 or COM3. (Case sensitive character. "COMx"
- Baud Rate: Baud1200 leave it default.

- Data Bits: Data Bits8 leave it default.
- Stop Bits: Stop Bit1 leave it default.
- Parity: none leave it default.
- Flow Control Mode: none leave it default.
- Click the **Save** button.

Add a VariTrane Devices

After adding a NonIsoComThree network, you can use the network's default "device manager" view to add the appropriate VariTrane I devices.

To add a VariTrane device in the network

Use the following procedure to add the correct type of VariTrane device in the network. To add a VariTrane device:

• In the Nav tree or in the Driver Manager view, double-click the client network, to bring up the device manager (NonIsoComThree Device Manager). All of these device manager views operate in a similar fashion.

Note: For general device manager information, see the "About the Device Manager" section in the Drivers Guide.

- Click the **New** button to bring up the **New** device dialog.
- Select for number to add: 1 (or more, if multiple) and click **OK**. This brings up a dialog to name the device(s), enter VariTrane device address.
 - Any *VariTrane Device* needs the unique address in use.
- Click **OK** to add the VariTrane device(s) to the network.
 You should see the device(s) listed in the VariTrane Device Manager view, showing a status of "{ok}" and enabled as "true."

If a device shows "down" check the configuration of the network and/or VariTrane device addresses. You can simply double-click a device in the device manager to review settings in an **Edit** dialog, identical to the **New** dialog when you added it.

Note: You need the address information for each ComThree device you are adding, as well as for later procedures to add proxy points under devices.

After making any address changes, click **Save**, then right-click the device and select **Actions > Ping**.

Create ComThree Proxy Point

As with device objects in other drivers, each VariTrane device has a **Points** extension that serves as the container for proxy points. The default view for any Points extension is the Point Manager (and in this case, the "**ComThree Point Manager**"). You use it to add ComThree proxy points under any VariTrane device.

Note: Unlike the point managers in many other drivers, the ComThree Point Manager does offer a "Learn mode" with a Discover button and pane. Otherwise you can simply use the New button to create proxy points, referring to the vendor's documentation for the addresses of data items in each VariTrane device.

To add ComThree proxy points

Once a VariTrane device is added, you can add proxy points to read and write data. If programming online (and the device shows a status of "{ok}"), you can get statuses and values back immediately, to help determine if point configuration is correct. Use the following procedure:

To create ComThree proxy points in a device:

■ In the **Device Manager**, in the **Exts** column, double-click the Points icon [®] in the row representing the device you wish to create proxy points.

This brings up the **ComThree Point Manager**.

Optional) Click the New Folder button to create a new points folder to help organize points, and give it a short name, such as "TempNo1", or whatever name works for your application. You can repeat this to make multiple points folders, or simply skip this step to make all proxy points in the root of Points. Note that all points' folders have their own ComThree Point Manager view, just like Points. If making points folders, double-click one to move to its location (and see the point manager).

Name	Туре	Read Address	Write Address	Bit	Enabled	Facets	Tuning Policy Name	Conversion թ
SpaceTemperature	Numeric Point	8	0	0	true	units=°F,precision=2,min=-inf,max=+inf	defaultPolicy	Default
🔘 Name	SpaceTer	mperature						
🔘 Type	Numeric	Point 💌						
Read Address	8							
🔘 Write Address	0				2			
🔘 Bit	0	[0 - 7]			NS			
Enabled	🔘 true	-						
Facets	units=°F,pr	recision=2,min=-inf	,max=+inf ≫	<u>ه</u> ب				
Tuning Policy Nan	ne Default	Policy	•					
O Conversion	🔲 Defaul	lt 💌						
				(ж с	ancel		

For more details, see "About ComThree proxy points"

• Click **OK** to add the proxy point(s) to the Points extension (or to the current points folder), where each shows as a row in the point manager.

If parameter correctly, each point should have a status of "{ok}" with a polled value displayed.

- If a point shows a "{fault}" status, check its ProxyExt "Fault Cause" property value, which typically includes a ComThree "exception code" string, such as "Read fault: illegal data address". In such a case, re-check the address in the point against the documented address for the data item.
- Continue to add proxy points as needed under the **Points** extension of each ComThree device. As needed, double-click one or more existing points for the **Edit** dialog, similar to the **New** dialog used to create the points. This is commonly done for re-editing items like data addresses, names, or facets.

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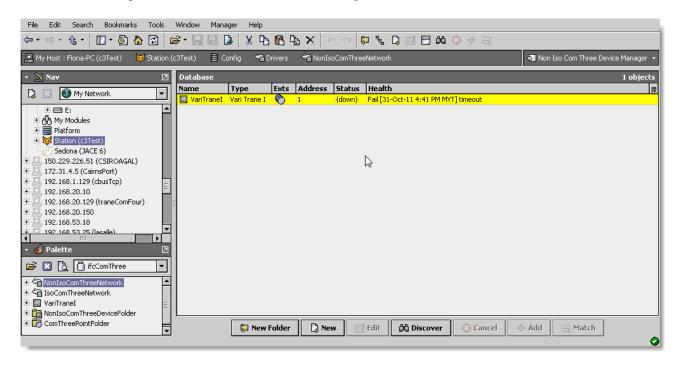
ComThree View

- ComThree Device Manager
- ComThree Point Manager

ComThree Device Manager

The ComThree Device Manager is the default view when you double-click on a NonIsoComThree Network in the Nav tree. This manager view provides a quick and easy way to display.

The VariTrane Device Manager is the default view for any NonIsoComThree Network container. The VariTrane Device Manager is a table-based view, where each row represents a unique device. When building a network in the station, you use this view to create, edit, and delete device-level components. Below is an example NonIsoComThree Device Manager view.



The view above shows a typical NonIsoComThree Device Manager view.

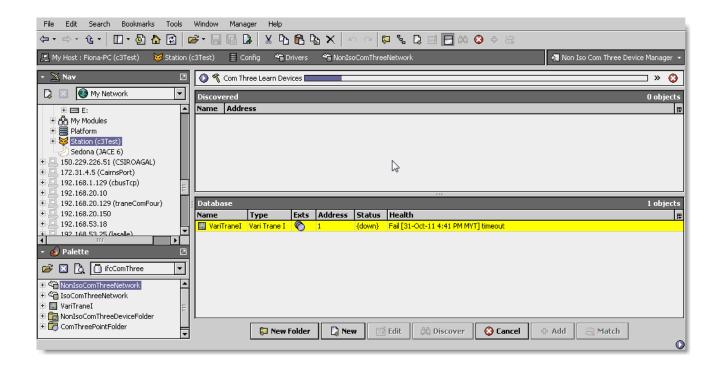
The "New Folder", "New", and "Edit" buttons are not unique to the ComThree Device Manager, and are explained in the "Niagara N4 User's Guide" in the "Driver Architecture" section. The "Match" button is not used for the ComThree driver.

You can now add the devices to the station database by clicking the "Add" button. This will pop up the "Add" dialog box:

Type to Add	🔜 Vari Trane I 🔻	
Number to Add	1	I
OK	Cancel	2

The "Add" dialog box affords you the opportunity to tweak the display name, enabled state, and/or address of each of the selected devices. Click the "OK" button to add the devices to the database, or click "Cancel" to bail out.

The "Discover" button implements functionality that is unique and tailored to discovering VariTrane devices. By clicking the "Discover" button, the "learn" mode of the manager is invoked (the panes will be split, and a "discovery" table will be displayed in the top pane).



Single or multiple VariTrane devices can be added as device by selecting the discovered row(s) in the top pane, and clicking add. Doing so will cause the "Add" dialog box to appear: Once the device(s) are satisfactorily edited, click "OK" to create the device corresponding to the device property.

ComThree Point Manager

The ComThree Point Manager is the default view when you double-click on a "points" folder (a ComThreePointDeviceExt type folder) under a VariTrane Device in the Nav tree. This manager view provides a quick and easy way to display and learn ComThree points in a VariTrane device.

The ComThree Point Manager is the default view for any ComThreePointDeviceExt container. The ComThree Point Manager is a table-based view, where each row represents a unique ComThree Group address within a device.

Below is an example ComThree Point Manager view.

My Host : Fiona-PC (c3Test) 🛛 😽 Statio	n (c3Test) 🗏 Config 📽	Drivers 🆓 NonIso	ComThreeNetwork 📰 Va	ariTraneI 🍖 Points		🏹 Cor	m Three Point Manager
🔀 Nav 🛛 🛛	🛛 Database						33 object
🖂 🚯 My Network 💌	Name	Туре	Out	Read Address	Write Address	Bit	Tuning Policy Name
	SpaceTemperature	Numeric Point	32.00 ºF {ok}	8	0	0	defaultPolicy
	AirValveFlow	Numeric Point	0.00 cfm {ok}	11	0	0	defaultPolicy
්ලී My Modules	 AirValvePosition 	Numeric Point	15.00 % {ok}	13	0	0	defaultPolicy
Platform	ActiveHeatSetpoint	Numeric Point	80.00 ºF {ok}	16	0	0	defaultPolicy
Station (c3Test)	ActiveCoolSetpoint	Numeric Point	72.00 ºF {ok}	17	0	0	defaultPolicy
Sedona (JACE 6)	OccHeatSetpoint	Numeric Writable	80.00 ºF {ok} @ def	18	1	0	defaultPolicy
150.229.226.51 (CSIROAGAL)	OccCoolSetpoint	Numeric Writable	72.00 ºF {ok} @ def	19	2	0	defaultPolicy
172.31.4.5 (CairnsPort)	🔵 UnoccHeatSetpoint	Numeric Writable	75.00 ºF {ok} @ def	24	7	0	defaultPolicy
192.168.1.129 (cbusTcp)	UnoccCoolSetpoint	Numeric Writable	79.00 ºF {ok} @ def	25	8	0	defaultPolicy
192.166.20.10 192.168.20.129 (traneComFour)	MinFlowSetpoint	Numeric Writable	15.00 % {ok} @ def	20	3	0	defaultPolicy
192.168.20.129 (trailecompour)	🕴 🔵 MaxFlowSetpoint	Numeric Writable	27.00 % {ok} @ def	21	4	0	defaultPolicy
192.168.53.18	MinHeatFlowSetpoint	Numeric Writable	2.00 % {ok} @ def	22	5	0	defaultPolicy
192.168.53.25 (lasalle)	🚽 🜔 UnitSize	Enum Writable	23 {ok} @ def	28	11	0	defaultPolicy
•	FanControlOffset	Numeric Writable	1 ºF {ok} @ def	23	6	0	defaultPolicy
👂 Palette 🛛 🛛 🛛	FanOutput	Boolean Point	On {ok}	5	0	2	defaultPolicy
🛛 👌 🗍 ifcComThree 🗸	T 🔵 HeatActive	Boolean Point	No {ok}	5	0	1	defaultPolicy
	I TimedOverrideRequest	Boolean Point	Normal {ok}	5	0	0	defaultPolicy
	CalibrationInEffect	Boolean Point	Normal {ok}	5	0	4	defaultPolicy
i IsoComThreeNetwork	🔵 AirValveOverride	Enum Writable	Auto {ok} @ def	26	9	0	defaultPolicy
VariTraneI	E 🔵 ControlMode	Boolean Writable	Occ {ok} @ def	26	9	3	defaultPolicy
NonIsoComThreeDeviceFolder	Contractional	Dealers III whether	مام (مان) کے طوف	24	0	2	de Gerrik Deller

The "New Folder", "New", and "Edit" buttons are not unique to the ComThree Device Manager, and are explained in the "Niagara N4 User's Guide" in the "Driver Architecture" section. The "Match" button is not used for the ComThree driver.

The "Discover" button implements functionality that is unique and tailored to discovering ComThree devices points. By clicking the "Discover" button, the "learn" mode of the manager is invoked (the panes will be split, and a "discovery" table will be displayed in the top pane).

My Host : Fiona-PC (c3Test) Statio Nav My Network My Network My Network Manager Manager Remote File System Station (c3Test) Config My Services Config My Services Config My Services Config My Manager My Services Config My Manager My Services Config My Manager My M	n (c3Test) Config Platform Original Config Platform Original Config Platform Original Config Platform Original Config Discovered Name UnoccCoolSetpoint UnicCcoolSetpoint MinHeatFlowSetpoint MinHeatFlowSetpoint UnitSize FanControlOffset		SoComThreeNetwo Write Address 8 3 4 5 11	rk Bit 0 0 0 0 0	Facets units=°F, precision units=%, precision units=%, precision	Points		Com Three Point Mana Success >> 33 ol	×
My Network My Network My Network Mager CP/IP Configuration Cuser Manager Remote File System Station (c3Test) Config Services My Services My Drivers	Com Three Learn Poi Discovered Name UnoccCoolSetpoint MinFlowSetpoint MaxFlowSetpoint MinFleatFlowSetpoint UnitSize	Read Address 25 20 21 22 28	8 3 4 5	0 0 0 0	units=°F,precision units=%,precision units=%,precision	=2,min=-inf,max=+inf =2,min=-inf,max=+inf			> 🛛
Software Manager Software Manager CP/IP Configuration Remote File System Station (c3Test) Config Station (c3Test) Config Conf	Discovered Name UnoccCoolSetpoint MinFlowSetpoint MaxFlowSetpoint MinHeatFlowSetpoint UnitSize	Read Address 25 20 21 22 28	8 3 4 5	0 0 0 0	units=°F,precision units=%,precision units=%,precision	=2,min=-inf,max=+inf =2,min=-inf,max=+inf			_
Cm TCP/IP Configuration Quer Manager Cm Cm CFile System Station (CSTest) Config Config Config Config Config Config Config	Name UnoccCoolSetpoint MinFlowSetpoint MaxFlowSetpoint MaxFlowSetpoint MinHeatFlowSetpoint UnitSize	25 20 21 22 28	8 3 4 5	0 0 0 0	units=°F,precision units=%,precision units=%,precision	=2,min=-inf,max=+inf =2,min=-inf,max=+inf		33 ol	bjects R
Guser Manager Eaconce File System Station (c3Test) E Config @ Services @ Orivers	Name UnoccCoolSetpoint MinFlowSetpoint MaxFlowSetpoint MaxFlowSetpoint MinHeatFlowSetpoint UnitSize	25 20 21 22 28	8 3 4 5	0 0 0 0	units=°F,precision units=%,precision units=%,precision	=2,min=-inf,max=+inf =2,min=-inf,max=+inf	_		E
	MinFlowSetpoint MaxFlowSetpoint MinHeatFlowSetpoint UnitSize	20 21 22 28	3 4 5	0	units=%,precision units=%,precision	=2,min=-inf,max=+inf =2,min=-inf,max=+inf			
Config Gervices Gervices	MaxFlowSetpoint MinHeatFlowSetpoint UnitSize	21 22 28	4 5	0	units=%,precision	=2,min=-inf,max=+inf			
E Construction Services E Construction Services	MinHeatFlowSetpoint UnitSize	22 28	5	0					-
🖻 🖏 Drivers	O UnitSize	28	-	-	units=%,precision	=2,min=-inf,max=+inf			-
			11	0					
+ CO NiggaraNetwork	FanControlOffset	22			range={\$3300=14	4,\$3600=15,\$31100=16	6,\$3170	00=17,\$32400=18,\$3320	00=1
		23	6	0	units=°F,precision	=0,min=-inf,max=+inf			
	🔵 FanOutput	5	0	2	trueText=On,false	eText=Off			
E 🔜 VariTraneI E	HeatActive	5	0	1	trueText=Yes,fals	eText=No			
E Points			1	11					•
E Files	Database							33 ol	bject
🗄 🕰 History	Name	Туре	Out		Read Add	ress Write Address	5 Bit	Tuning Policy Name	
- 🕗 Sedona (JACE 6)	ActiveHeatSetpoint	Numeric Point	81.00 ºF {ok}		16	0	0	defaultPolicy	
	ActiveCoolSetpoint	Numeric Point	72.00 ºF {ok}		17	0	0	defaultPolicy	
💰 Palette 🛛 🛛	OccHeatSetpoint	Numeric Writable	81.00 ºF {ok} @ d	ef	18	1	0	defaultPolicy	
	OccCoolSetpoint	Numeric Writable	72.00 ºF {ok} @ d	ef	19	2	0	defaultPolicy	
🖗 🔟 🔂 🚺 ifcComThree 🛛 💌	UnoccHeatSetpoint	Numeric Writable	75.00 ºF {ok} @ d	ef	24	7	0	defaultPolicy	
NonIsoComThreeNetwork	UnoccCoolSetpoint	Numeric Writable	79.00 ºF {ok} @ d	ef	25	8	0	defaultPolicy	
ComThreeNetwork	MinFlowSetpoint	Numeric Writable	15.00 % {ok} @ d	ef	20	3	0	defaultPolicy	
VariTraneI	MaxFlowSetpoint	Numeric Writable	27.00 % {ok} @ d	ef	21	4	0	defaultPolicy	
NonIsoComThreeDeviceFolder	MinHeatFlowSetpoint	Numeric Writable	2.00 % {ok} @ del	f	22	5	0	defaultPolicy	
ComThreePointFolder	🔵 UnitSize	Enum Writable	23 {ok} @ def		28	11	0	defaultPolicy	
		Numeric Writeble	1 OF Johl M def		23	6	0	defaultPolicy	
	💭 Nev	v Folder 🛛 🗋 Ne	w 🗐 Edit	βô	Discover	Cancel 🛛 🕂 Add		A Match	

Single or multiple points can be added as control points with ComThreeProxyExt extensions by selecting the discovered row(s) in the top pane, and clicking add. Doing so will cause the "Add" dialog box to appear:

Once the point(s) are satisfactorily edited, click "OK" to create the proxy points corresponding to the point property.

Licensing

Trane Com Three driver License is running independently from the Tridium license, it has no restriction to run to any of the existing license vendor.

The Com Three license provide 2 hour demo license without the unlock code. After the demo license expired the Com Three Driver communication will stop automatically and will show fatal fault at the CommFour Network level. "ifcComThree license expired". To extend the demo period user required to restart the station or reboot the JACE.

To request the license please submit the JACE/Web Supervisor host ID, to unlock the driver simply go to the license property action and invoke command "License Update", the dialog "License Update" will appear. Place the unlock code at the "Unlock Code" property. Please take note the license only provide by authorize vendor. If the unlock code is successful enter the property "Mode" will automatically change to "registered" and user is required to reboot the JACE to applied the change.

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V L Nav	Application Director	License									3
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Image: ComThreeDeviceFolder Image: ComThreePointFolder											
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To place the unlock code select at the word "License (Com Three License) and click the right mouse button the action invoke will appear. Select the license update the dialog as below will appear.

👫 License Update			Ν	×
Com Three License	Config		K	
Signature				
Point Count	disable 💌			
		OK Cancel		

end