Metasys System Configuration Tool

Application Quickstart Guide
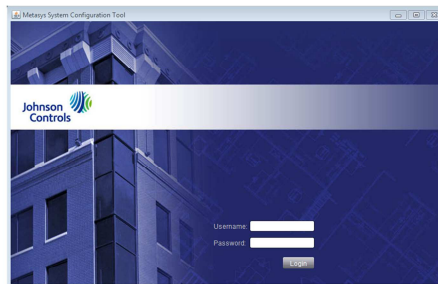
Basic Features

SCT = System Configuration Tool

Main Purpose: Generate and simulate a system

- Monitor a system using graphics made in GGT
- View all the points in a database
- Backing up and restoring databases

Username: metasyssysagent
Password: XMG3-Rel.1

In online mode, you can perform tasks such as monitoring and commanding a network of field devices.

In offline mode, you can perform system configuration tasks, such as building an archive database or backing up and restoring a database.
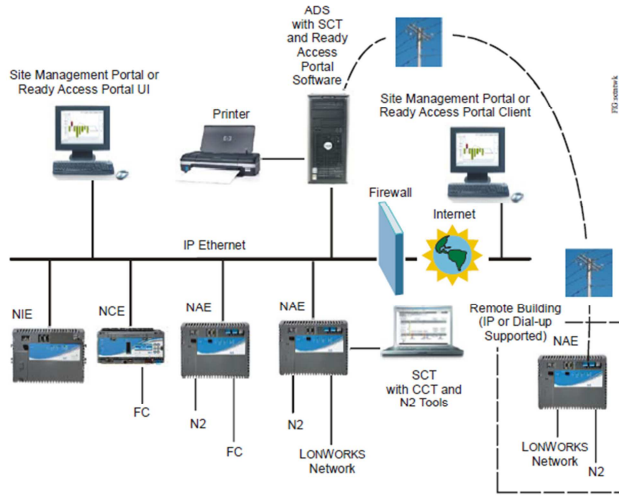
Figure 1: SCT as Part of a Metasys Network

How is SCT organized?

Point Attributes

Graphic Attributes

Controller type

Tab for graphics

Points Tree

Graphics Tree

How to get to Database Files Folder?
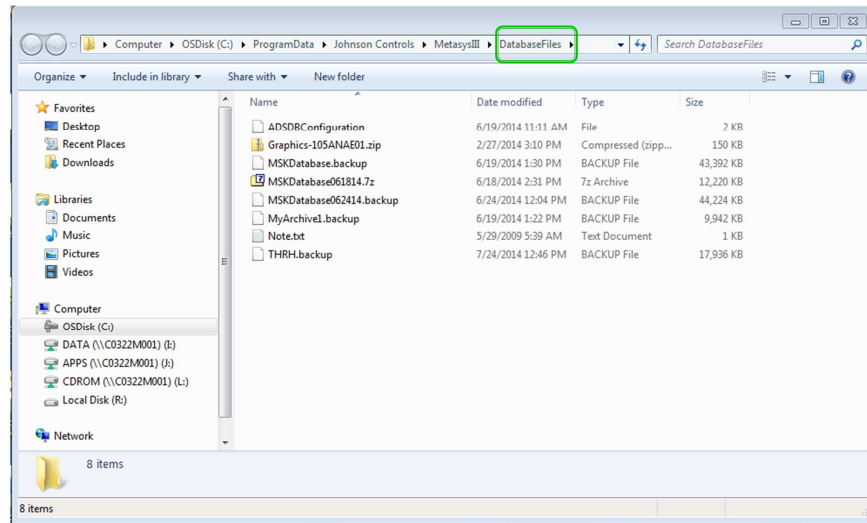
When you want to open a database in SCT, you are going to have to restore a back-up. To actually open it in SCT you must first place it in the Database Files Folder. I suggest placing a shortcut to this folder on your desktop (It will be used frequently).

To get to this folder:
1. Open
2. On the left hand side, under the computer tab, click on "OSDisk (C:)"
3. Click on the "ProgramData" file
4. Click on Johnson Controls file
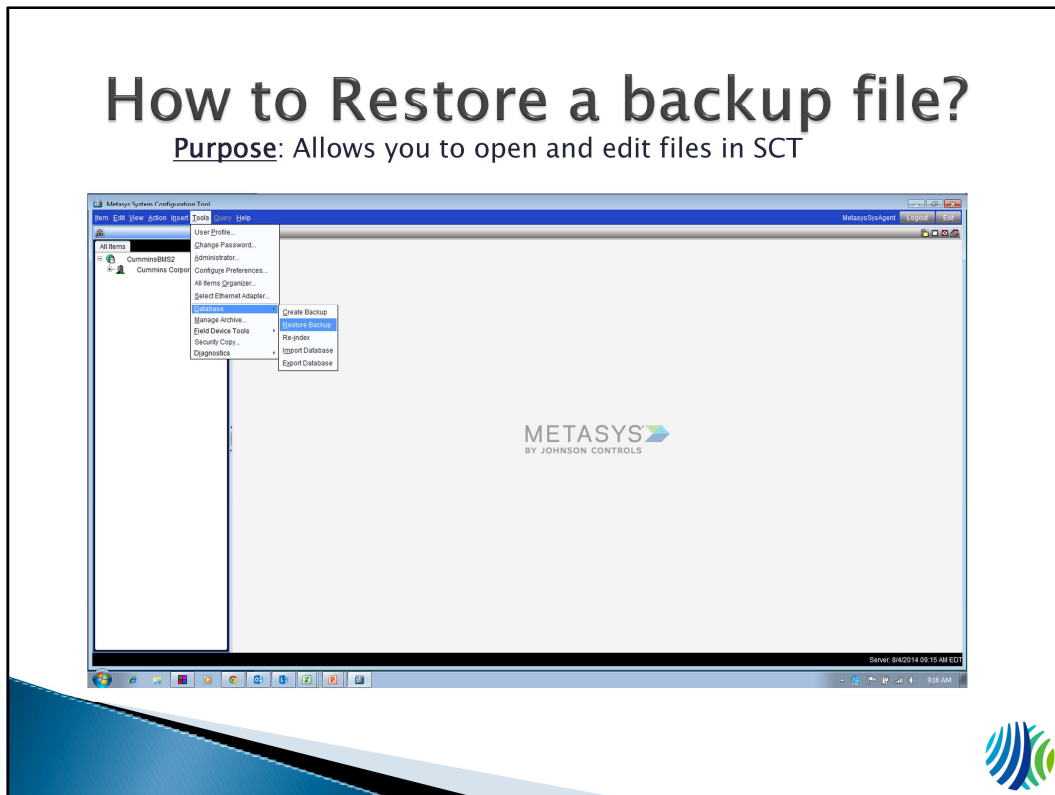5. Click on MetasysIII
6. Click on Database Files

7. ARROWS
Once you are at this location you can right click on the "DatabaseFiles" circled in the picture above and click on the first option "Copy Address". On your desktop screen, simply right click and pick the "Paste shortcut" Option.

For opening your backup file in Metasys SCT, paste the back up into this file.

Metasys can be found in the Start menu under the Johnson Controls folder. Click on the Metasys folder and you should find Metasys SCT. I suggest making a shortcut to this program on your desktop.

To restore a back-up file:
1. The backup file (commonly .zip) must be pasted into the Database Files Folder
2. Click on the tools tab circled in red in the photo above
3. Click on the "Database" tab
4. Under the Database tab, click "Restore Backup"
5. Continue on to the next slide for further instructions

How to Restore a backup file?
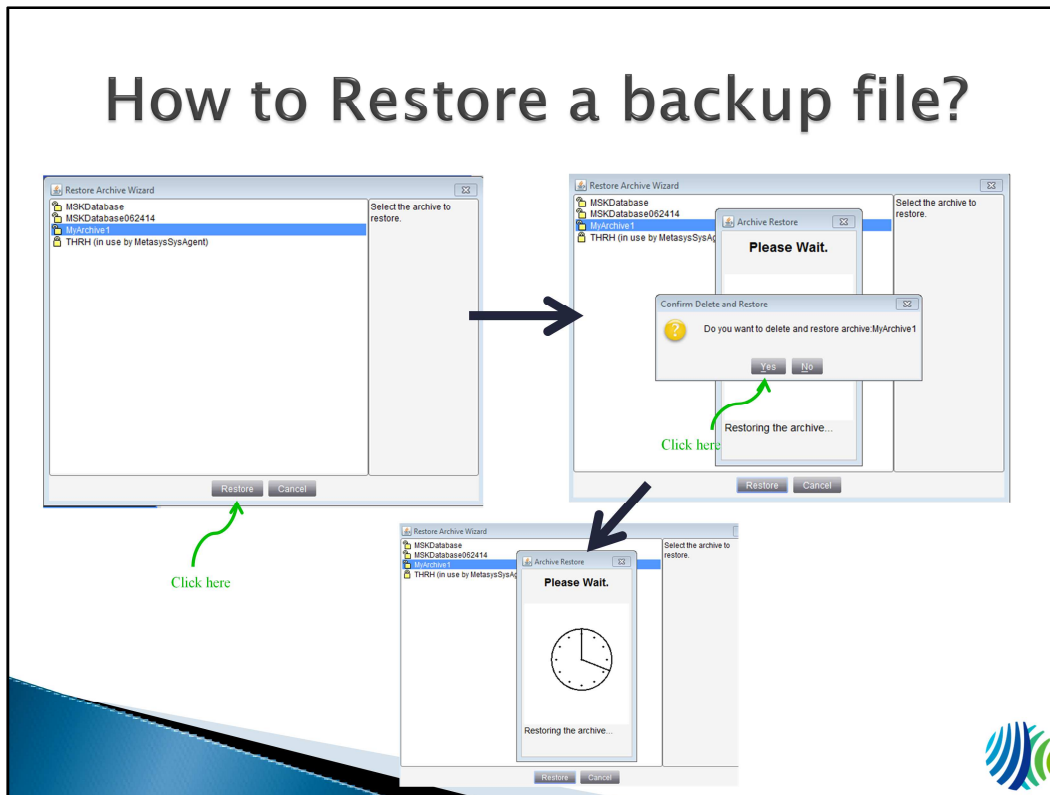
After completing the steps on the previous slide, a pop up window that looks like this will show up.
1. Click on the file you want to backup.
2. Once you have clicked the file you want to backup, click the "Restore" button. (pictured top left)
3. Once you click "Restore" the button, a pop up shown in the top right picture may appear, asking "Do you want to delete and restore archive_____?". Click "Yes". (pictured top right)
4. A window will appear telling you to "Please Wait.", displaying a clock. Wait until it is finished "Restoring the archive.." (pictured in the bottom row).
5. Continue on to the next slide for further instructions

How to restore a backup file?

Click here

Once you have selected the database you want to open, click here

Upon Completion of work: To save changes must "Restore Backup" again.
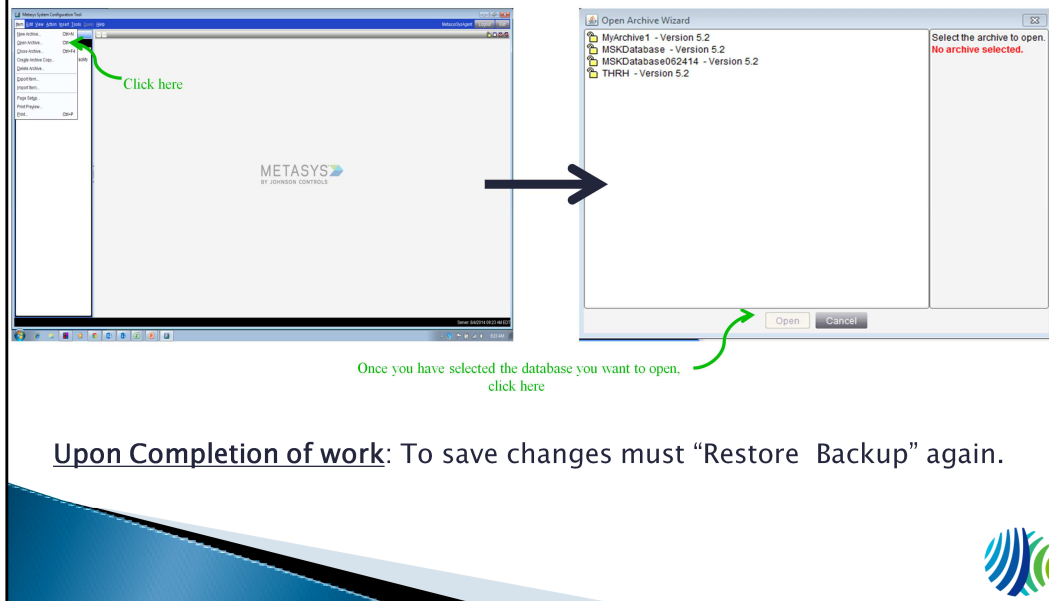
Once SCT has finished Restoring the Archive, you will once again be at the main screen (pictured on the top left)

1. Click on the item tab in the top left corner of the screen.
2. Click on the "Open Archive" button.
3. A screen will pop up that looks like the picture on the left. Click on the Database you just restored and click the "Open" button.

Congratulations! You just restored your Database!

How to make Tabs?

Purpose: Allows you to change attributes of a point.
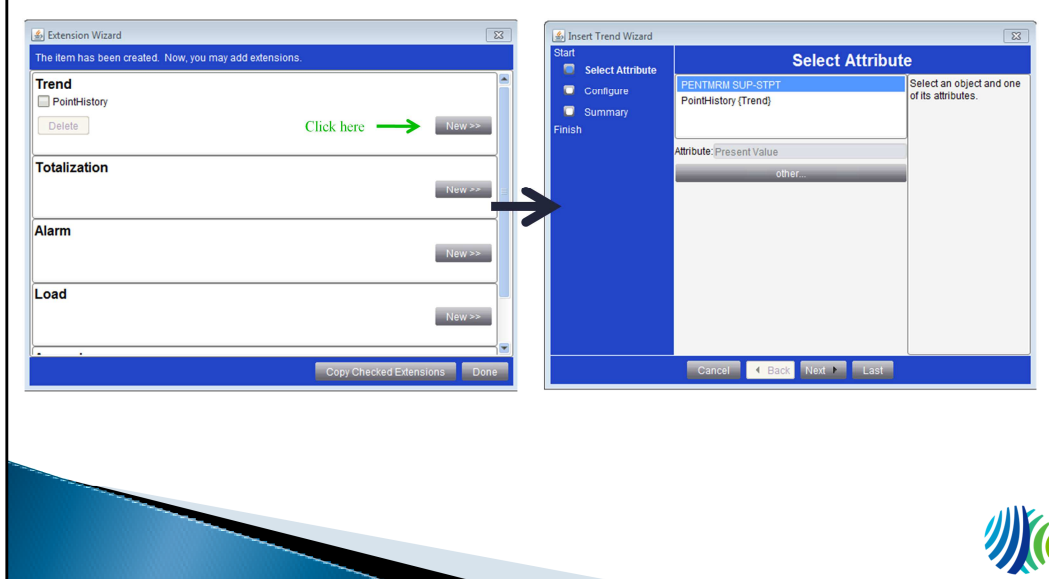
If you are looking to make tabs on specific points in SCT you can by:
1. Right clicking on the point you want to make a tab on
2. Clicking on "Show Extensions"
3. The menu shown in the picture on the left will appear. You can make five different tabs: Trend, Totalization, Alarm, Load, and Averaging (scroll down in this picture menu to see the last one not pictured above)
4. Once you've figured out what type of tab you want to make, click the "New >>" button in the same row.
5. Lets say for now you want to make a new "Trend" tab. Let's click on the "New >>" button in the same row as "Trend". The menu shown in the right picture will appear.
6. Select the point in which you are making a trend tab for and click "Next" in the bottom of the screen.

From here you can click the "Next" or "Back" button to change any of the attributes of the tabs. When you are finished changing what you wish to change, click the "Finish" button on the last page of the window.

Tips and Tricks

‣ **Username and Password Shortcut**
  ◦ Open the "Metalog.exe" program
  ◦ The "F12" key on your keyboard will automatically type your username and password into SCT

You can not find the "Metalog.exe" program on your computer. Someone will have to send you this program.

Additional References

- Learning Overview
  - https://my.jci.com/sites/BE_Scintilla/Scintilla%20Docs/Phase2/Training%20Sessions/Metasys%20Training/SCT%20Guide.pdf#search=SCT
- ADS, ADX, and SCT Installation
  - http://publish.johnsoncontrols.com/content/dam/BE/blkfileroot/cg/prod_lit/prod_lit/archives/previous_release/release5_2and3/12011331.pdf
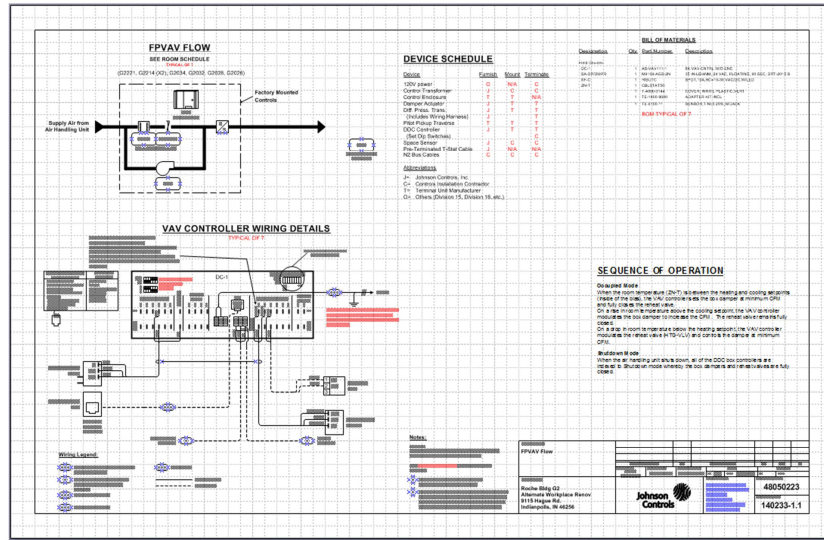
Johnson Controls

Microsoft Visio

Application Quickstart Guide
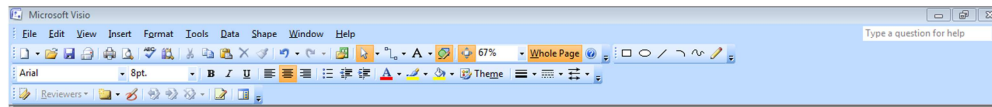
Typical Visio Document

Johnson Controls uses Visio to engineer multiple diagrams to present to the customer in order for them to understand the system. Other contractors and Johnson Controls employees also use these diagrams to create schedules, graphics, and to order materials. The most common documents made in Visio (as called by Johnson Controls employees) are:

1. Riser diagrams
2. Flow diagrams
3. Wiring diagrams
4. Title pages

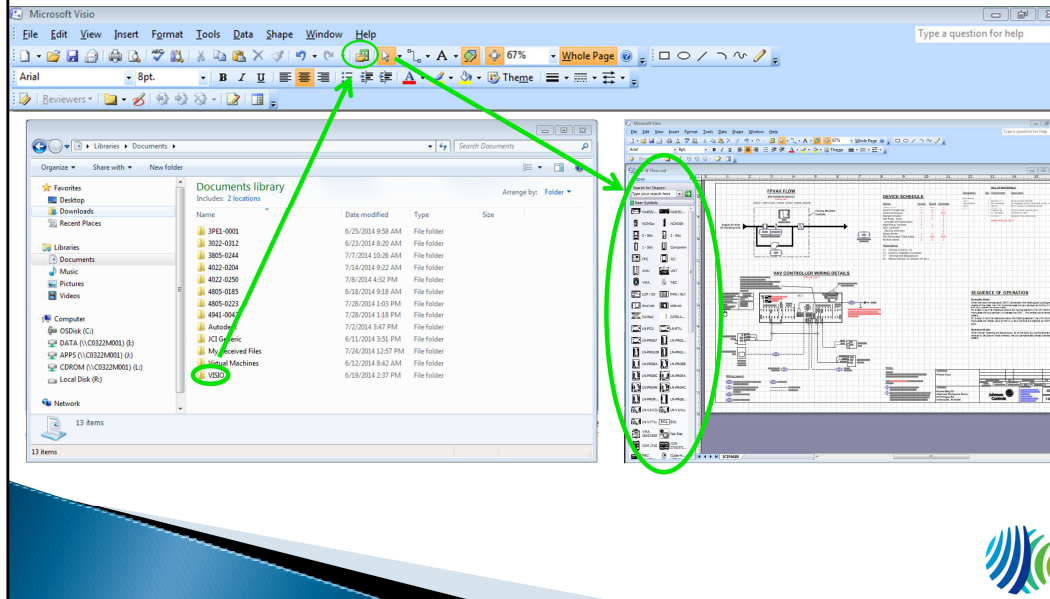Typically 11'' x 17'' sheets.

Visio Basics

▸ Visio Toolbar

> • Visio is a Microsoft tool and will operate similar to Word, Excel, or PowerPoint.

> • Generally all Visio documents will be linked through Project Folder Manager (PFM).

> • Employees can open the files from PFM and once opened, can edit and save directly though Visio.

Visio Basics: My Shapes

Johnson Controls has a package of shapes that includes all items that could be used for this job. This package is not automatically found in My Documents and needs to be sent to your computer from somebody who has the shapes.

Once you receive the package, just copy it to My Documents and Visio will find the shapes by itself.

Then these shapes can be found from the button shown here and once a package is selected it will display on the left side. Shapes can then be selected and dragged onto the editing pane for use.

Common Features

BILL OF MATERIALS

| Designation	Qty	Part Number	Description
Field Devices:			
DC-1	1	AS-VAV111-1	8K VAV CNTRL W/O ENC
SA-DP/DMPR	1	M9104-AGS-2N	35 IN-LB/4NM, 24 VAC, FLOATING, 90 SEC, DPT-2015 S
SF-C	1	RIBU1C	SPDT,10A,HC=10-30 VAC/DC,W/LED
ZN-T	1	CBLSTAT50	
	1	T-4000-3144	COVER; WHITE PLASTIC,VERT
	1	TE-1800-9600	ADAPTER KIT INCL
	1	TE-6100-11	SENSOR,T-NI,0.25%,W/JACK

BOM TYPICAL OF 7

▸ Bill of Materials

You will find that most Johnson Controls Visio documents contain similar features among them.

1. Bill of Materials
   - Acronym: BOM
   - Found in the upper right-hand corner
   - Lists all the parts that needs to be ordered from the sheet that the BOM is on
   - If changes are made to the Visio document, often the BOM will be changed as well
   - Changes to BOM are more complicated: part changes will be edited in PRESTO. Then by clicking the "Copy Text Delimited" button in PRESTO and pasted into the BOM text box.
   - Good practice is to edit PRESTO for every change made in Visio instead of just typing in a new part or deleting a part from the BOM directly in Visio.
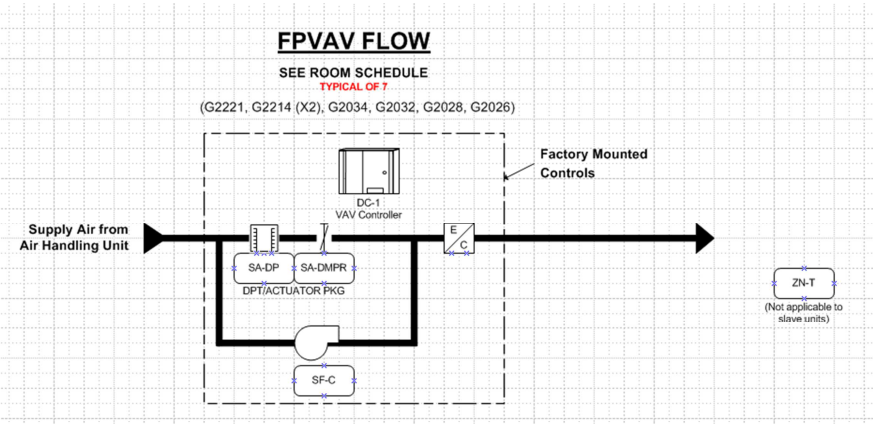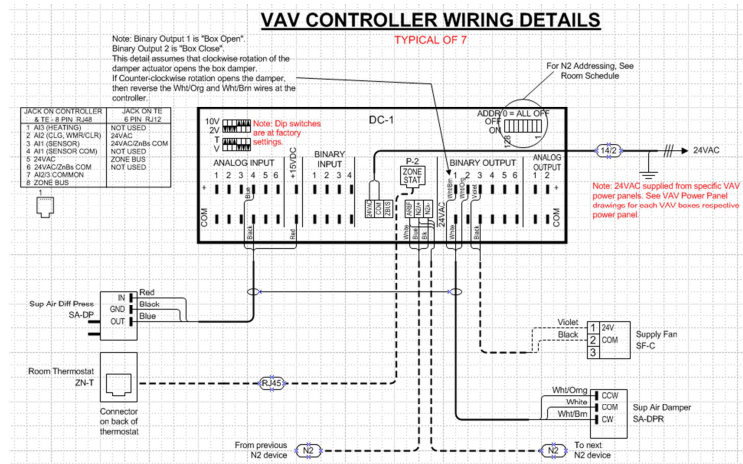
Flow Diagram

2. Flow Diagram
- Flow diagrams appear in every project for Johnson Controls
- Show the flow or air, water, or steam through a system

Common Features

▸ Wiring Diagram

3. Wiring Diagram
   - Shows how to wire certain devices that have various input and outputs as well as power supply.
   - Useful in field to verify wiring

Common Features

SEQUENCE OF OPERATION

Occupied Mode
When the room temperature (ZN-T) is between the heating and cooling setpoints (inside of the bias), the VAV controller sets the box damper at minimum CFM and fully closes the reheat valve.
On a rise in room temperature above the cooling setpoint, the VAV controller modulates the box damper to increase the CFM. The reheat valve remains fully closed.
On a drop in room temperature below the heating setpoint, the VAV controller modulates the reheat valve (HTG-VLV) and controls the damper at minimum CFM.

Shutdown Mode
When the air handling unit shuts down, all of the DDC box controllers are indexed to Shutdown mode whereby the box dampers and reheat valves are fully closed.

▸ Sequence of Operation

4. Sequence of Operation
   - Used as logic to describe how the system would operate for different situations.

Title Block

5. Title Block
    - The title block is a feature found on every single Visio document through Johnson Controls.
    - It has important information such as the drawing number, the important people assigned to the project, Johnson Controls information as well as the
        information about the customer.
    - The title block also keeps track of revisions and will stay updated through PFM.
    - Right clicking on the title block will allow a user to Refresh the title block through PFM or to manually change its information through Properties.

Tips and Tricks

▸ Selecting an object and pressing F2
  ◦ Creates a caption attached to selected item

▸ Selecting multiple objects
  ◦ Not the same as other Microsoft products

Selecting any item in the edit pane and clicking F2 will allow a user to create a caption that is attached to the item.

Selecting multiple objects in Visio is slightly difficult. The normal way of selecting a bunch of items is to just click and drag a giant box around everything you need, and as long as your box touches a piece of an item then it will include that in the selection. Visio does not do this for some reason. Your clicked-and-dragged box has to encompass the ENTIRE item that you want to include in the selection.

Additional Help Files

▸ Beginner How-To for Visio
▸ http://office.microsoft.com/en-us/visio-help/a-beginner-s-guide-to-visio-HA102749363.aspx

▸ Support/FAQ for Visio
▸ http://support.microsoft.com/ph/937