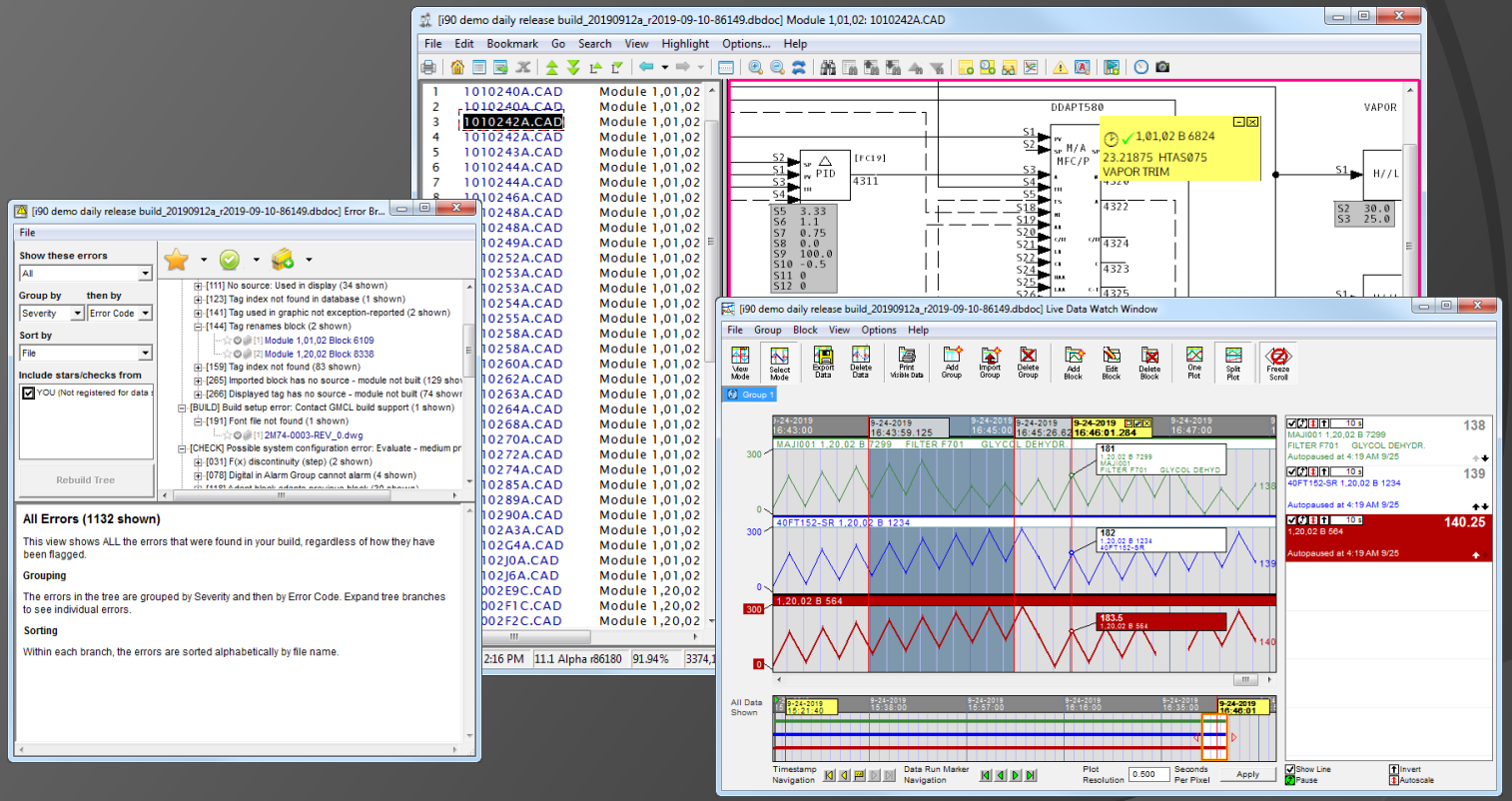
Hyperview Browser

Trace signals, search, troubleshoot, view live data, examine configuration errors, and much more.



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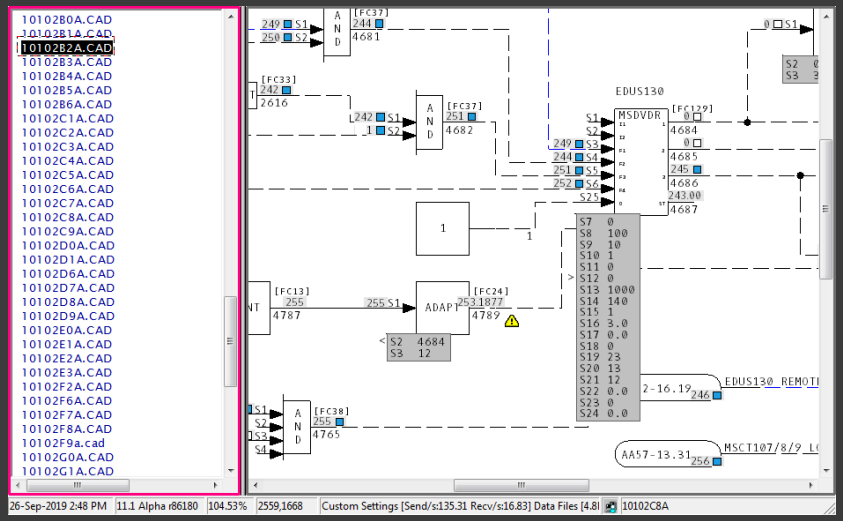
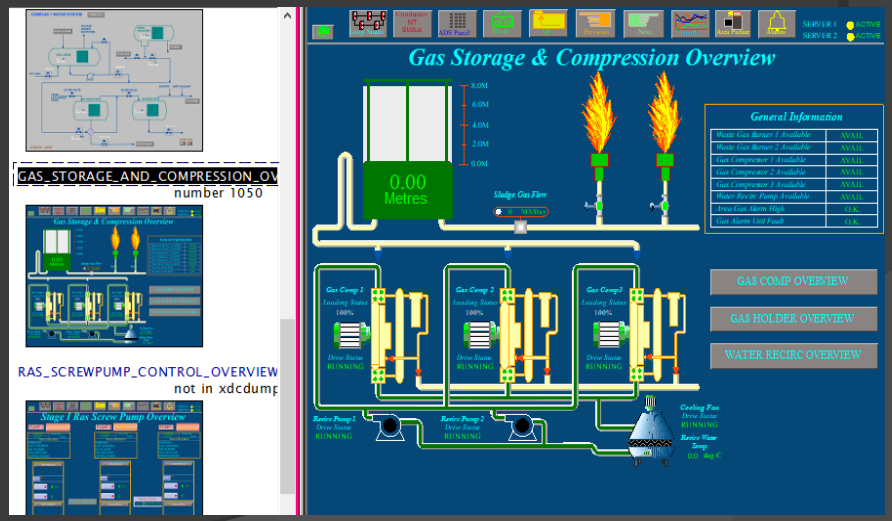
About DBDOC and Hyperview

- DBDOC compiles all your INFI 90 resources into a single snapshot file representing your system.
- You can browse the snapshot using Hyperview, the DBDOC browser.





2.1.1 How to run Hyperview

From inside BuildPlus

- Open a project and click View project File button

From a shortcut

- Most users have a shortcut to a shared Hyperview in a central location.
- From the Start menu, select Programs | GMCL DBDOC | Run Hyperview or Programs | GMCL DBDOC Hyperview | Run Hyperview

Multiple Hyperview browser windows

- From inside Hyperview, start more browser windows with File | New Window.

2.1.1.1 Running Hyperview from the command line (advanced)

Hyperview can be launched from the command line. This allows fine-grained control of Hyperview options, and is necessary in order to define a shortcut.

From the command line you can

- Specify the project file to be opened
- Specify the initial document to be displayed
- Disable continuous live data collection (See section 2.5)
- Specify the default live data update interval

See the documentation for more details.

2.1.2 How to load a project file

- Use the File menu to open a project file
- Use File | Recent Project Files to see recently viewed files
- Use * on the command line (in a shortcut) to automatically open the most recently built project file.
- Associate project files with Hyperview so they get opened automatically

2.1.2.1 Associating project files with Hyperview in Windows

To make Hyperview open when you double-click on an project file, do the following:

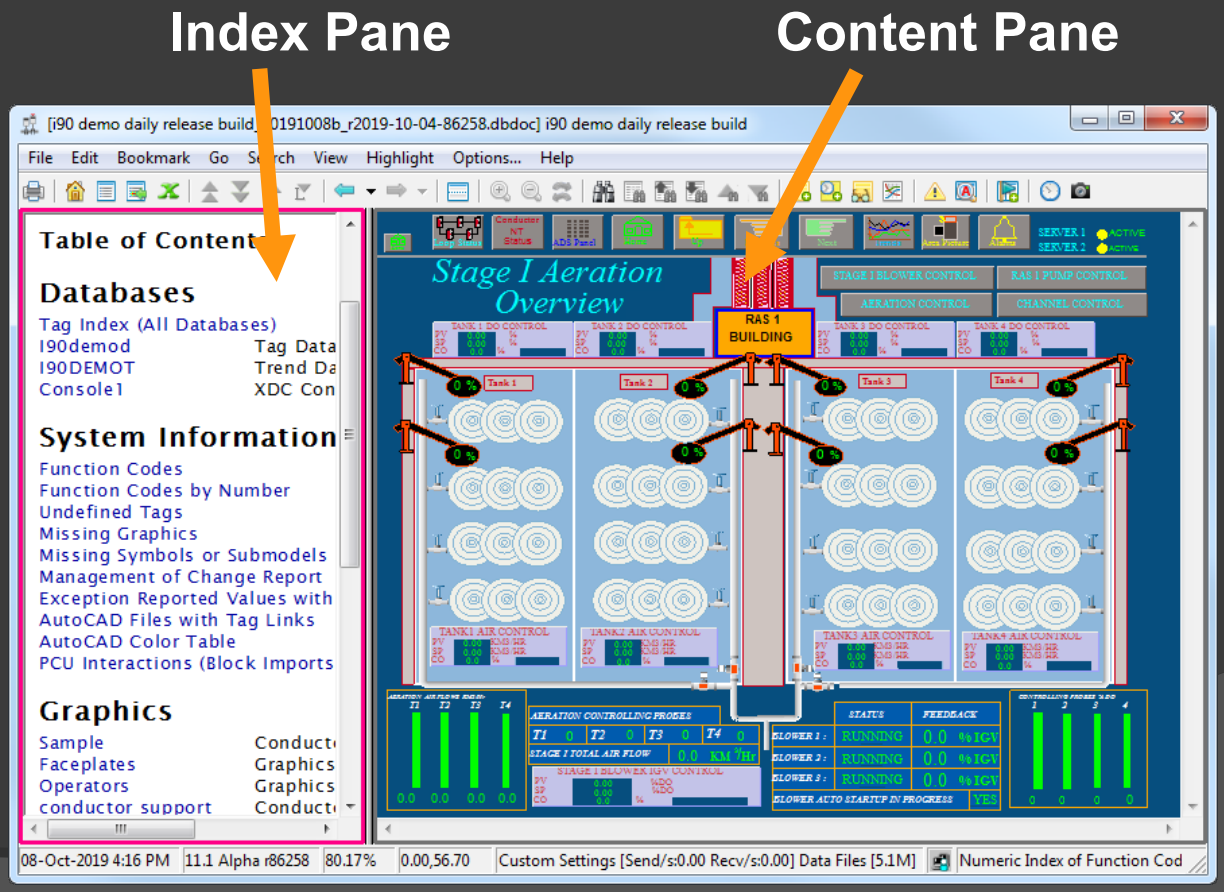
1. Go to the **Start** menu, click on **Control Panel**, locate the **Folder Options** icon and double-click on it.
2. In the **Folder Options**, click on the **File Types** tab.
3. Click the **New** button below the Registered File Types. In the **File Extension** box enter project as the File Type.
4. Once it is added click the **Change** button below the **File Types** box.
5. Select the program to open the file from a list selection.
6. Browse to **C:\Program Files\GMCL\DBDOC\Programs** and select **hyperview.exe** as the program to open the file.

2.1.3 Help and documentation

- Use the Help menu to automatically bring up application help
- Go to the GMCL website (gmcl.com) to access online help
- Help | Project File Build Revision tells which version of Hyperlink built the current project
- Help | About shows the the Hyperview version

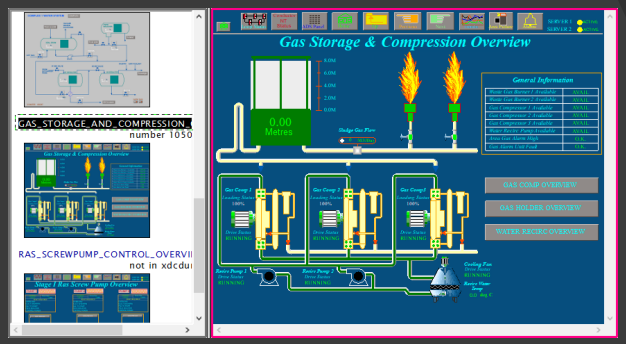
2.2 Basic navigation in Hyperview

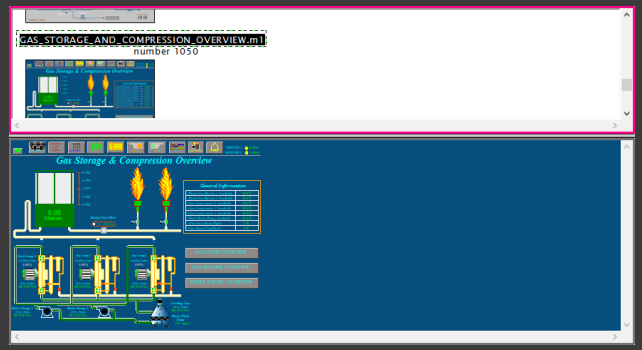
The browser display has two panes.

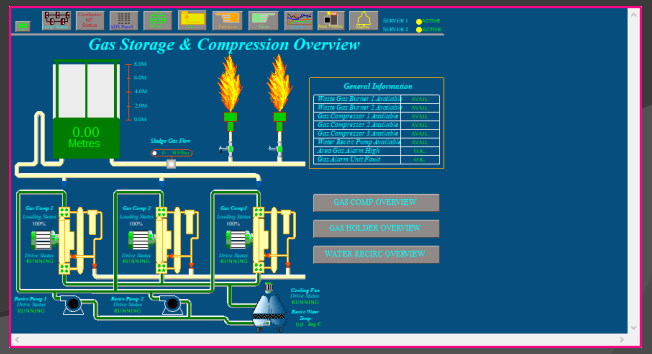


2.2.1 Pane orientations

- Push button to control the pane layout.
- Adjust the dividing bar between panes.
- Pane preferences are saved for next time.

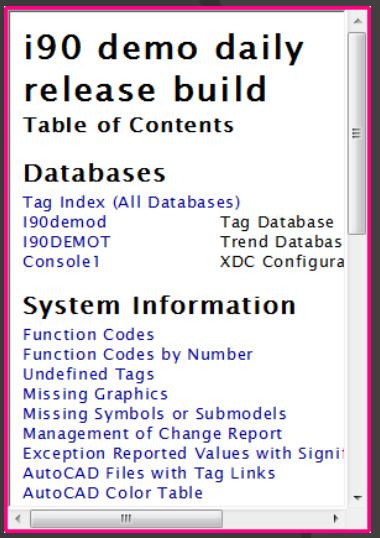






2.2.2 The index pane (left, top)

- On startup the main table of contents is in the index pane.
- Click on hotspots (links) in the index pane to display documents in the other pane.
- Buttons for quick index navigation:



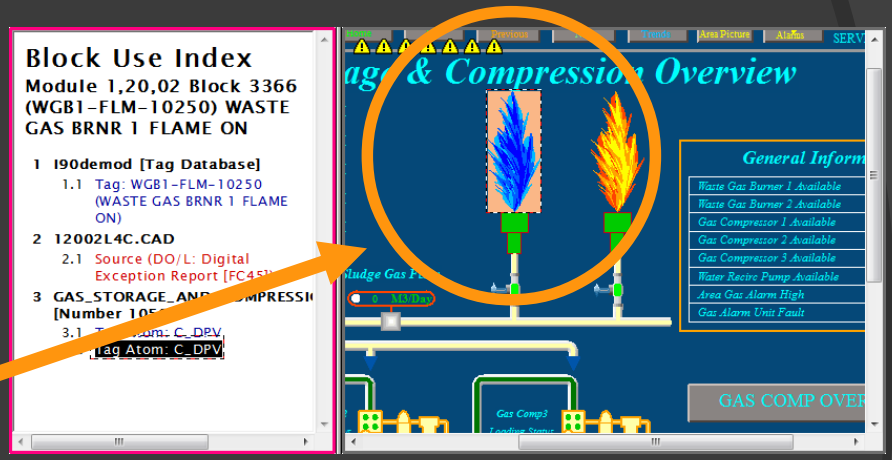
Step through topics

Step through links

2.2.3 The content pane (right, bottom)

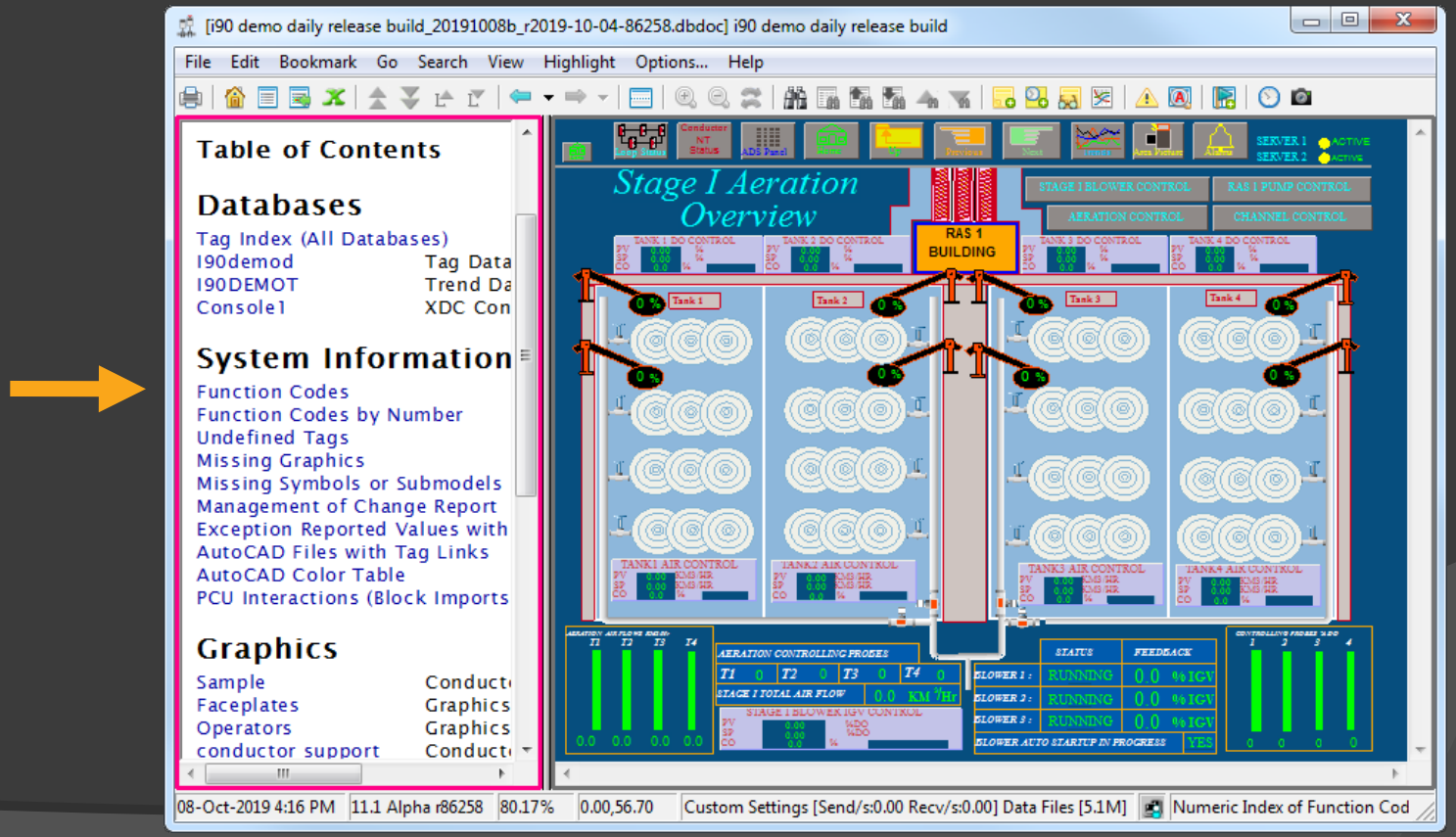
Displays graphics, CAD/CLDs, other documents.

- Highlight | Hotspots makes links visible
- Pointing finger cursor over hotspots
- Click on a hotspot to see all the uses of a value in the index pane.



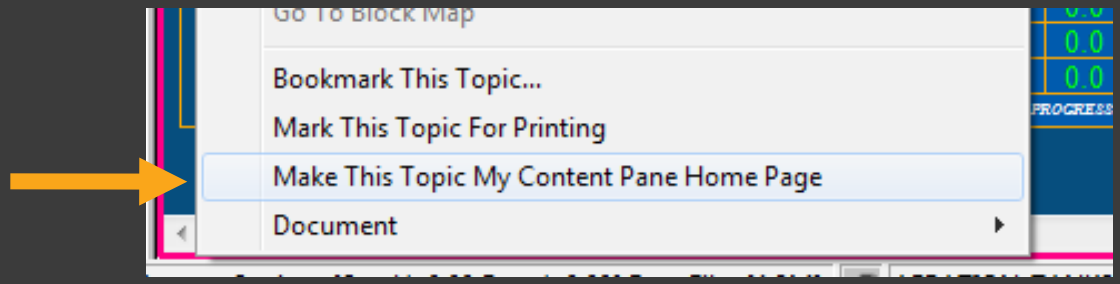
2.2.4 Focus for the active window

Focus is shown by the colored border around the index or content pane.



2.2.5 Setting a “Home Page”

Use right-click Make This Topic My <Content/Index> Pane Home Page on any document.

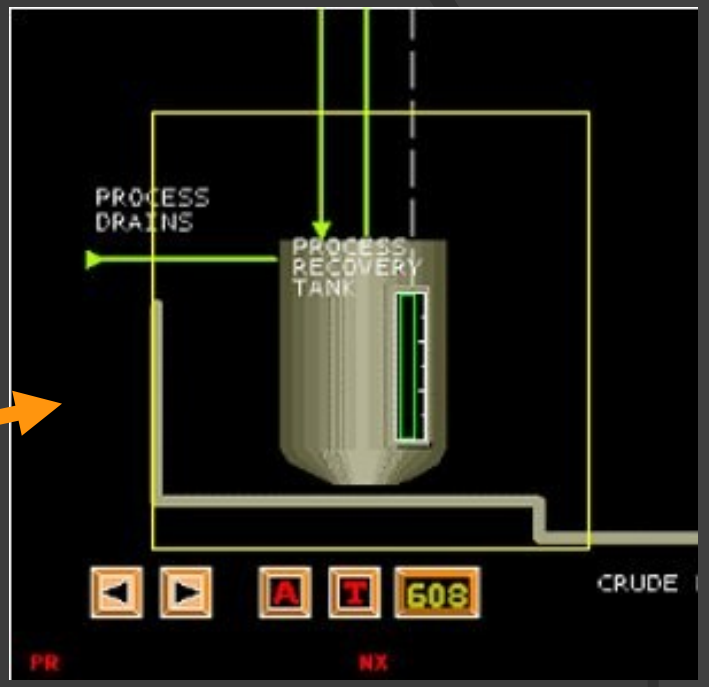


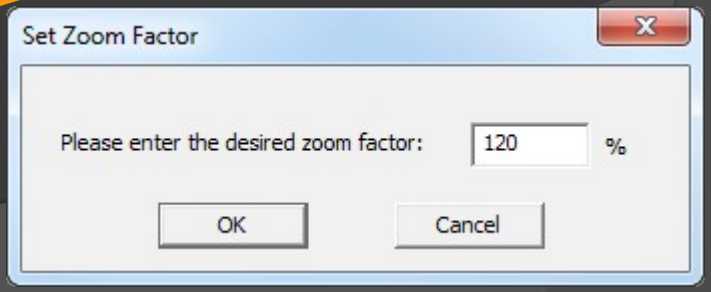
2.2.6 Scrolling

- Use the mouse scroll wheel to scroll up and down on text documents in both panes.
- Ctrl+scroll to scroll on graphical documents in the content pane.

2.2.7 Zooming

- Use the scroll wheel to zoom in and out
- Hold Ctrl and drag the mouse to make a rectangle to zoom in on.
- Use the toolbar buttons or keyboard.
- Manually set the magnification factor

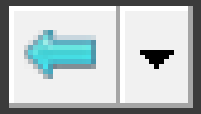




2.2.8 Using browser history

Hyperview history support is similar to that of other browsers like Internet Explorer.

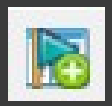
Go Back

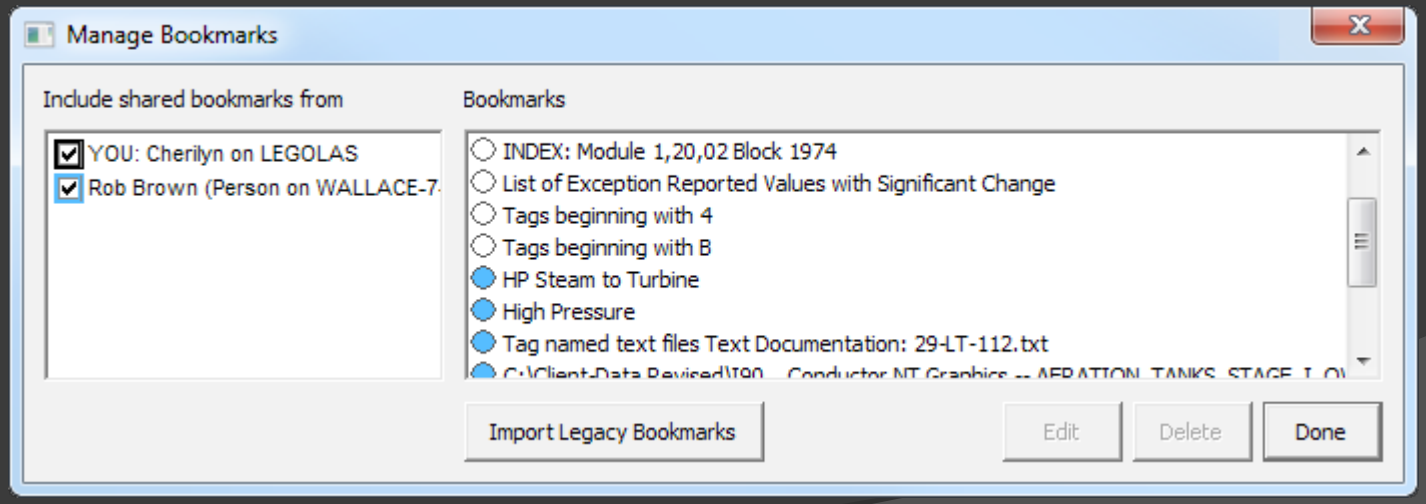


Go Forward

The black arrow shows you everything in the history.

2.2.9 Using bookmarks for quick access to pages of interest

- Add bookmarks to any document. 
- Share your bookmarks with other Hyperview users.
- Manage your bookmarks.



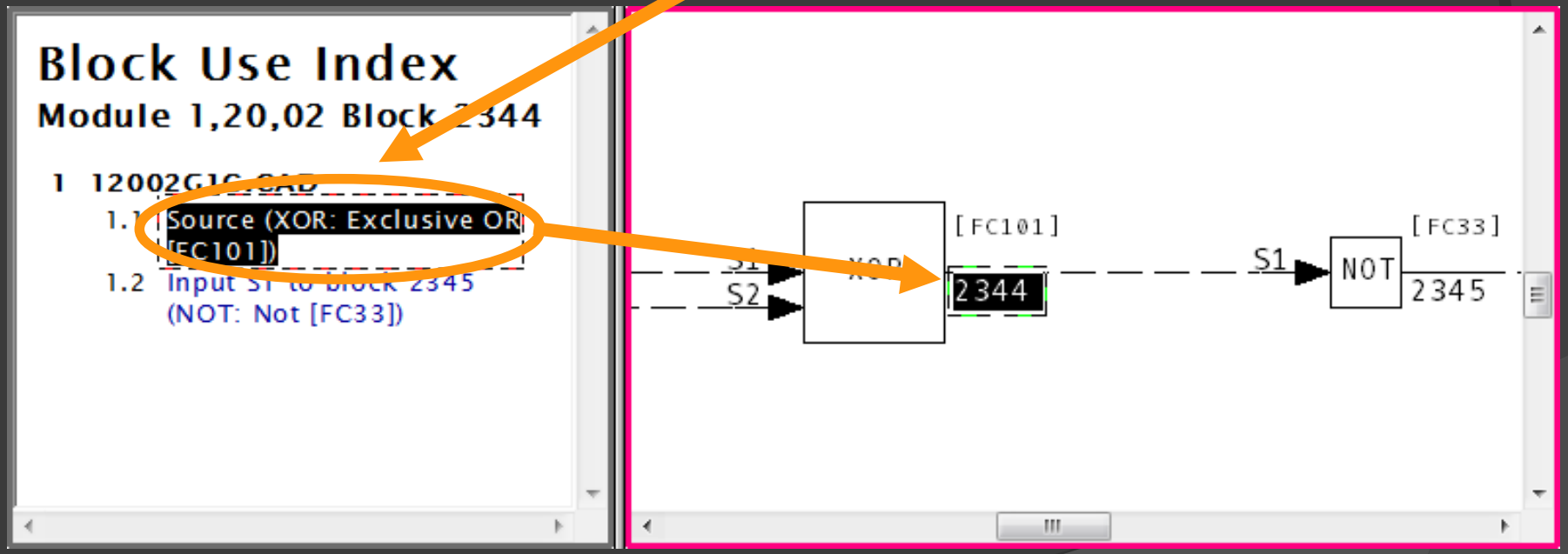
2.3 Techniques for signal tracing

Two methods for signal tracing

1. Click on a hotspot in the content pane to see its uses in the index pane.
2. Double click on a hotspot in the content pane to jump directly to its source or one of its uses.

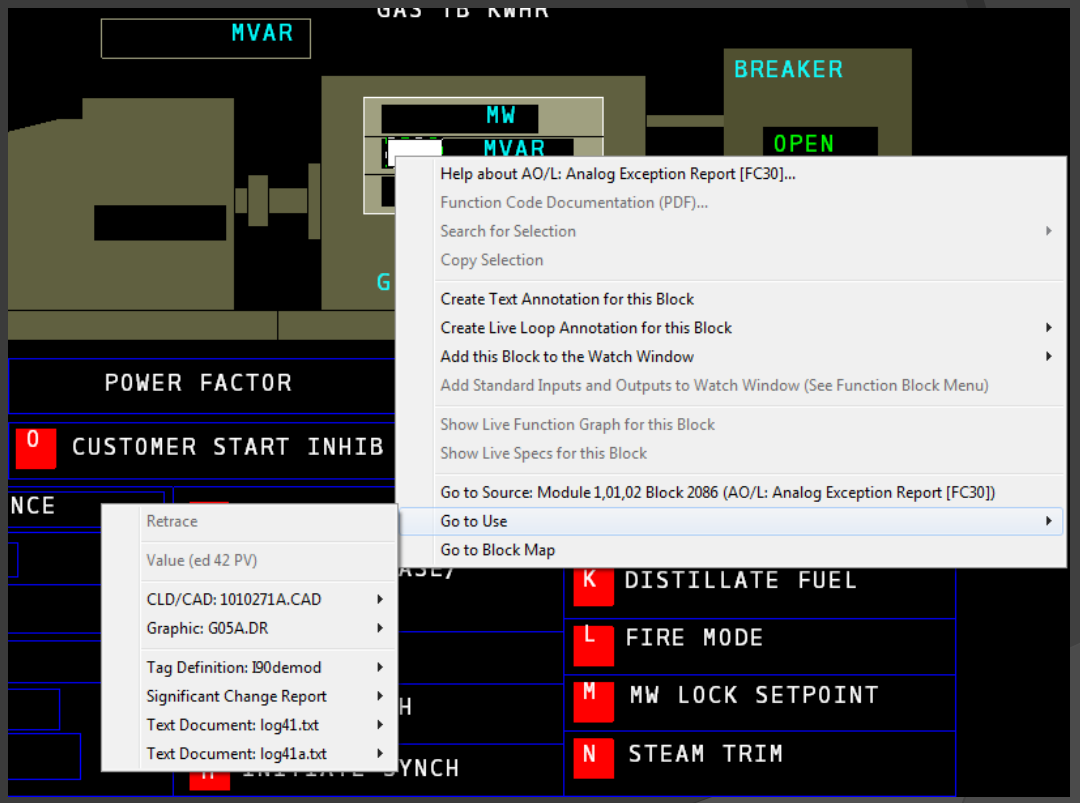
2.3.1 Trace signals using hotspots and the index pane

Click on hotspots in the index pane to display the document in the content pane.



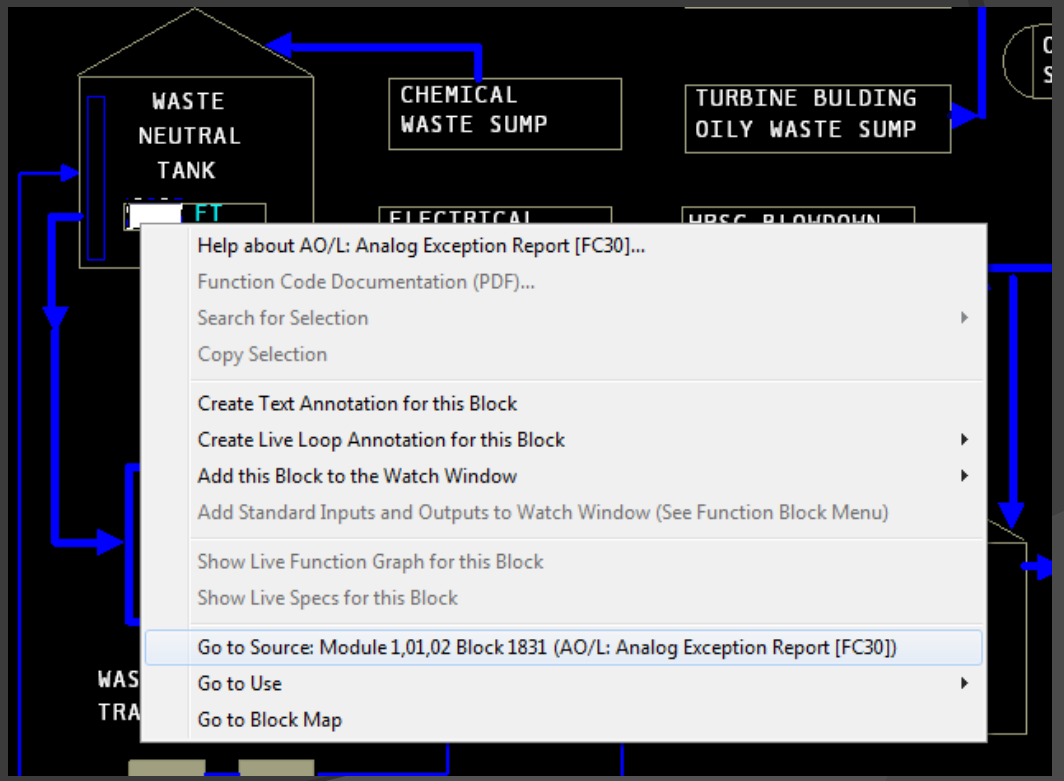
2.3.2 Trace signals using Go To Use, Go To Source, and double-click

Right-click or double-click on hotspots to trace signals without the index pane.



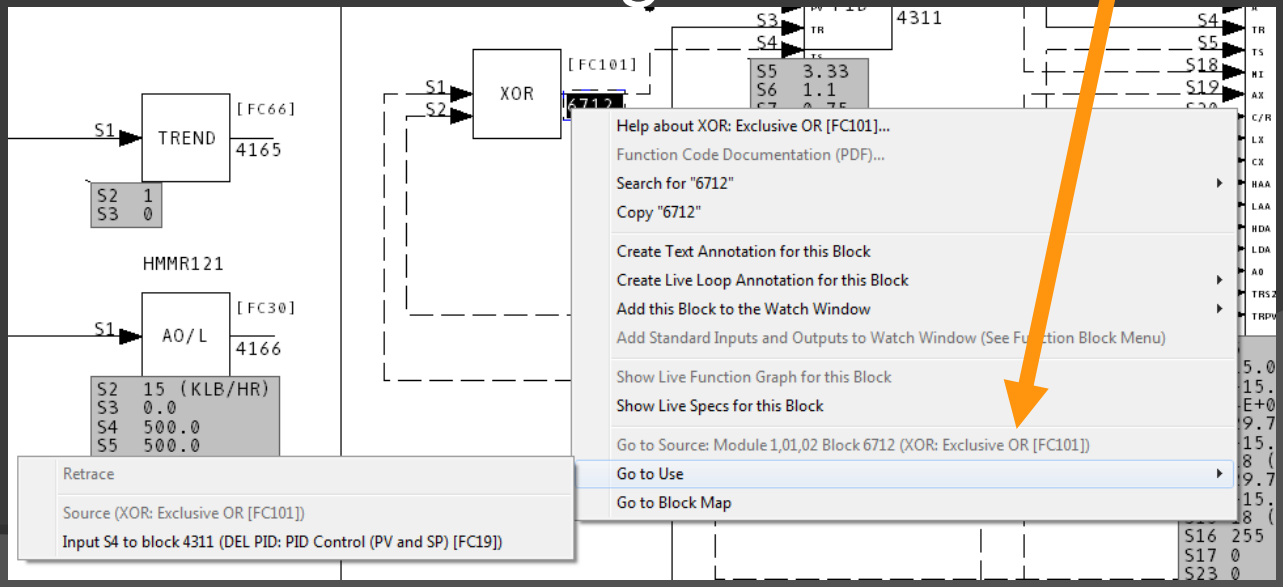
2.3.2.1 Quick ways to jump to the source of a value without using the index pane.

- Double-click on a value to jump right to its source.
- Right-click on a value. Select Go to Source



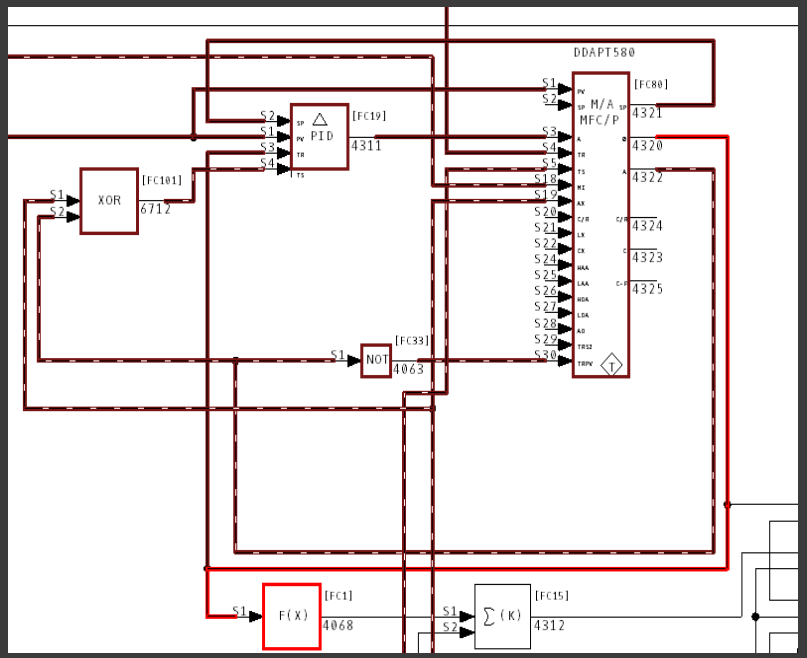
2.3.2.2 How to jump to uses of a value without using the index pane

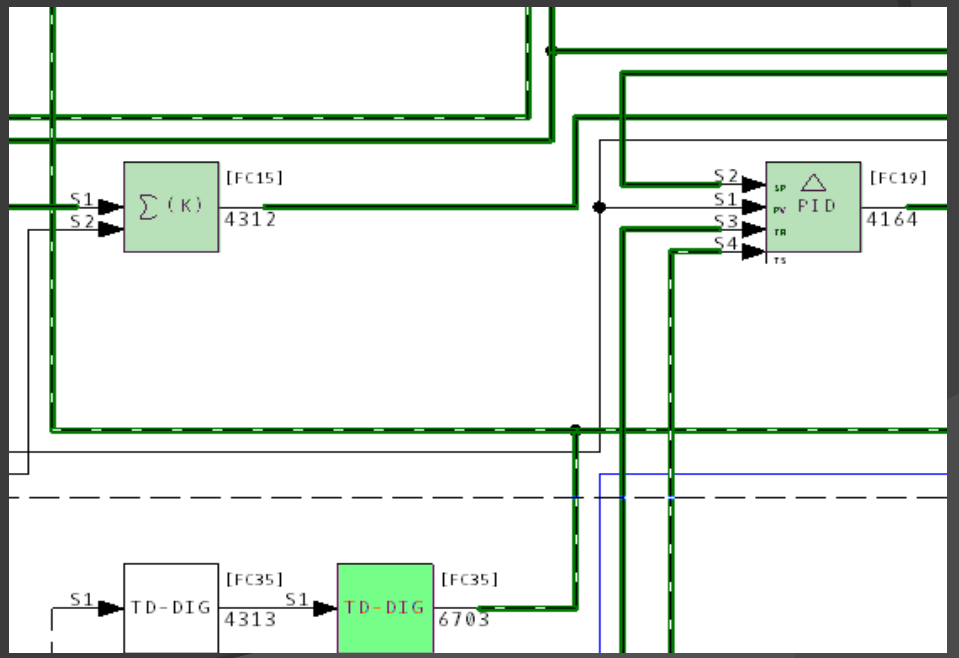
- Double-click on a non-source value to show a list of uses. Choose one.
- Right-click on a value. Select Go To Use and choose a use to go to.



2.3.3 How to display the input or output signal tree for a block

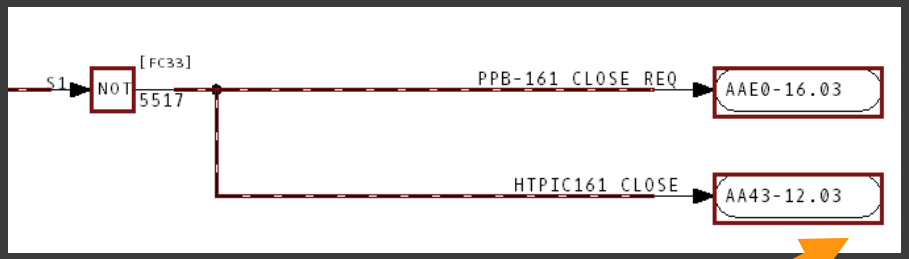
Hyperview makes it easy to see all the signals that may affect a block, and all the signals that are affected by it.





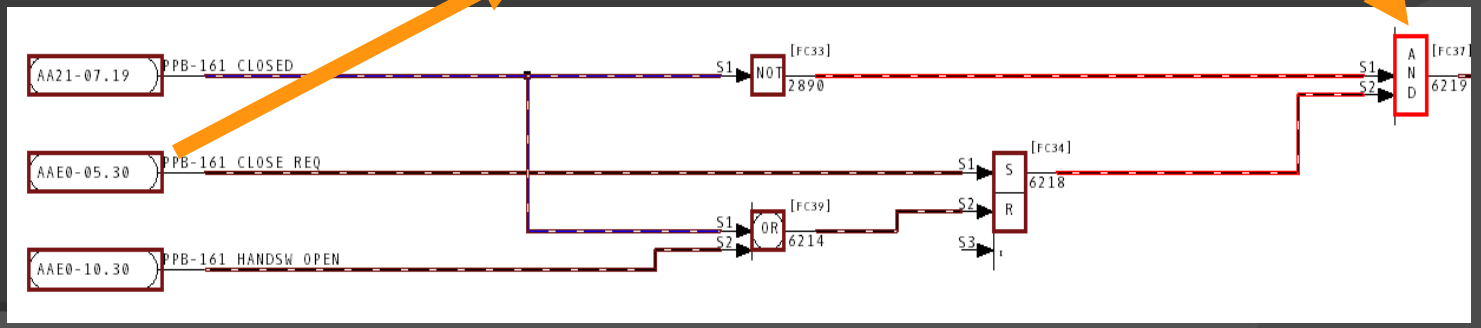
2.3.3.1 Displaying the input tree

- Right-click on a function block and choose Show Input Tree For This Block
- All of the input signals for the block, and their inputs, are highlighted



Tree Root

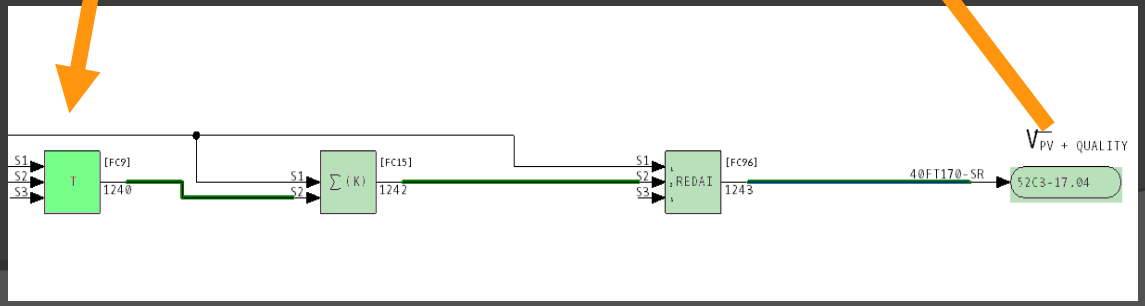
Tree continues on other CAD/CLD



2.3.3.2 Displaying the output tree

- Right-click on a function block and choose Show Output Tree For This Block
- All of the output signals for the block, and their outputs, are highlighted

Tree Root



Tree continues on other CAD/CLD

2.4 Searching text, topic titles, databases, and finding coordinates

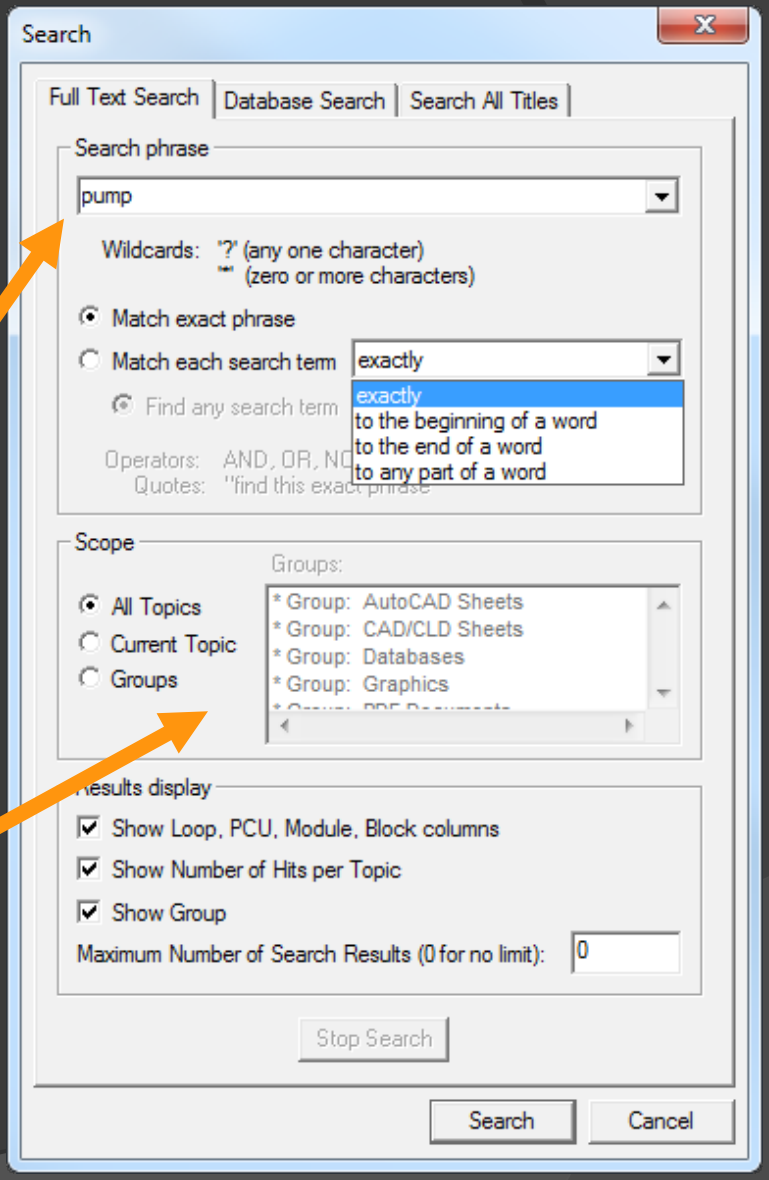
Hyperview makes it easy to search.

-  Full text search
-  Database search
-  Search all titles

The icon will show your most recent search type.

2.4.1.1 Text searches

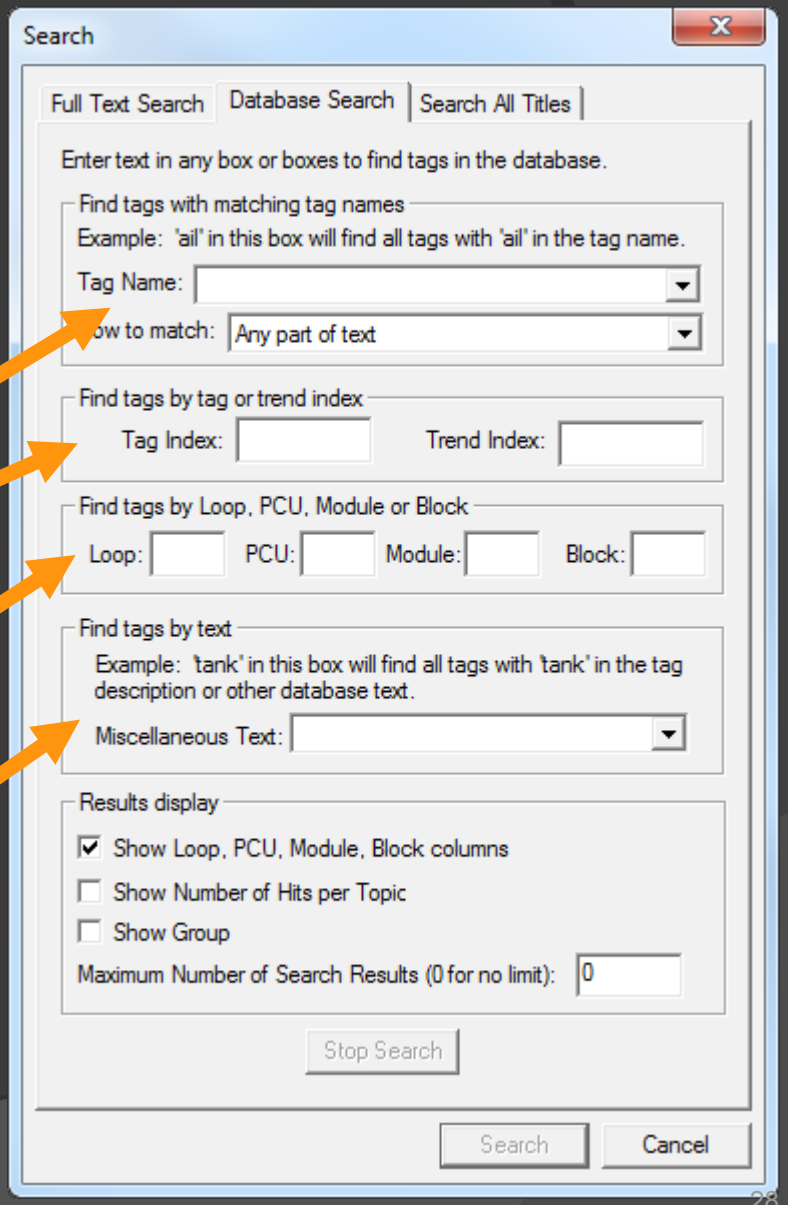
- Searches all text, on graphics, CAD/CLD, AutoCAD drawings.
- Search for a specific word or phrase.
- Search for word combinations with AND and OR.
- Use wildcards *.
- Limit searches to particular kinds of documents.



2.4.1.2 Database searches

Searches the databases for blocks and tags.

- Search by tag name or partial tag name
- Search by tag or trend index
- Search by any combination of Loop, PCU, Module, Block
- Search by description text



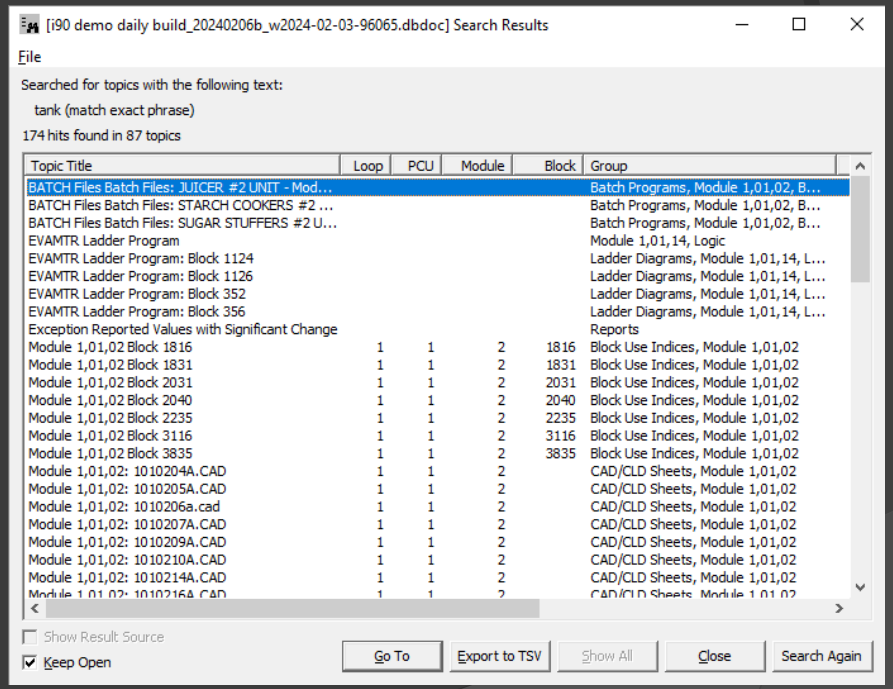
2.4.1.3 Search result options

You can specify what information is displayed with your search results.

- Show search hit frequency
- Show topic groups hits are found in
- Show Loop, PCU, Module, Block of results

2.4.1.4 After your text or database search you can...

- Display search result topics in the browser window (double-click)
- Export the results to a .tsv file
- Search again!



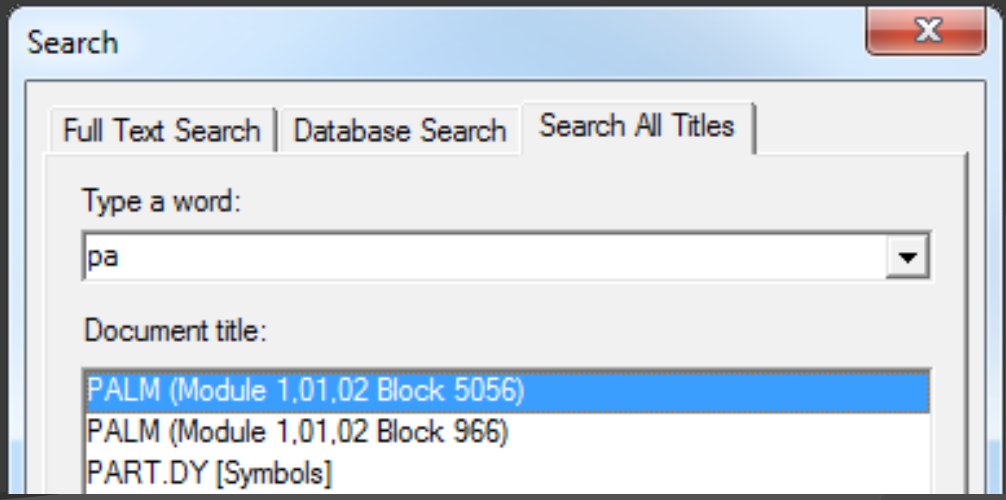
2.4.1.5 Displaying and stepping through search results

You can step through search results without the search results dialog using toolbar buttons.

-  Next search hit in topic
-  Previous search hit in topic
-  Next topic in search results
-  Previous topic in search results

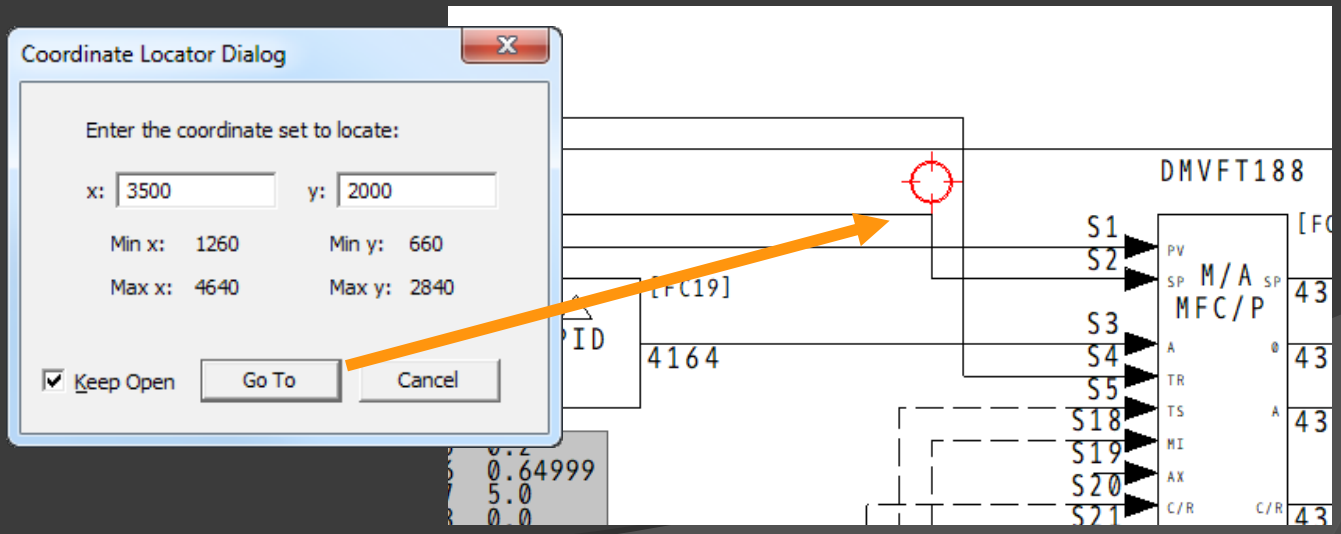
2.4.2 Using the fast topic search

- Search All Titles shows results interactively.
- DBDOC narrows the search based on what you type.



2.4.3 Finding a coordinate

- Go directly to a specific coordinate on a document
- Particularly useful when analyzing error reports



2.5 Guide to live data on documents

It's easy to display live data on documents. Use these toolbar buttons:

-  Turn on live data in Snapshot mode
-  Turn on live data in Continuous mode
-  Add a Live Loop Annotation for a specific block

2.5.1.1 Live data in Snapshot mode

Press  to turn on live data in Snapshot mode.

In this mode, live data is refreshed every 10s or when you:

- change documents
- move around or zoom in a document
- click on the camera button again

Snapshot mode is the most efficient way to collect live data

Values will turn gray when they are considered “stale”

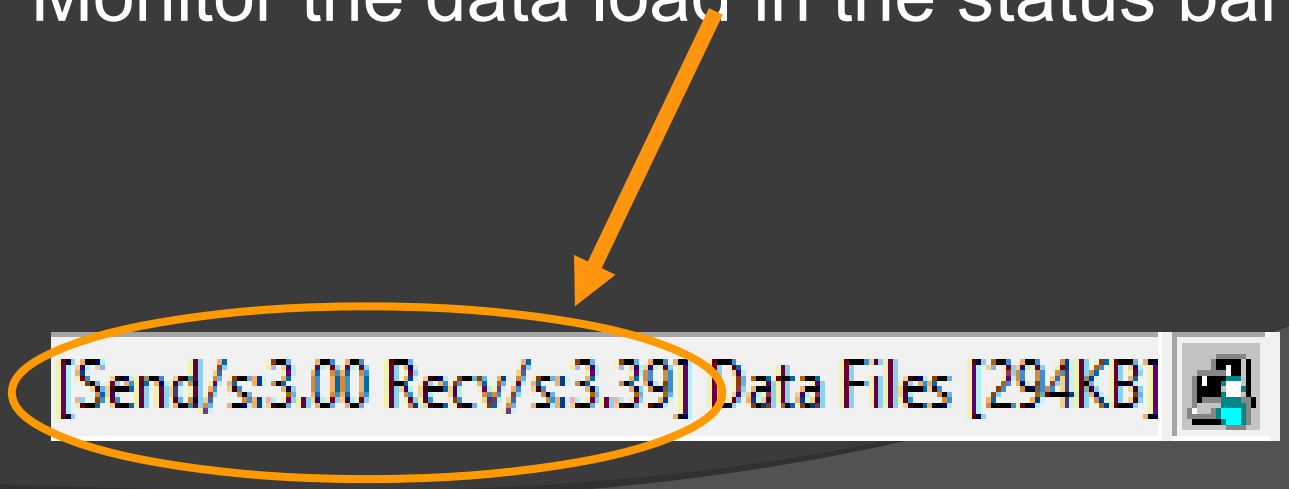
2.5.1.2 Getting live data in Continuous mode 

Press  to turn on live data in Continuous mode.

- Continuous mode updates live data at a set interval
- The update interval can be changed in the Options | View dialog
- Continuous mode is automatically turned off when you change documents

2.5.1.3 Managing live data load

- Double-click on the camera to turn off Snapshot mode
- Only visible values are fetched – to fetch fewer values, zoom in to an area of interest
- Monitor the data load in the status bar

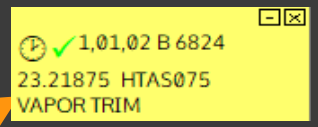


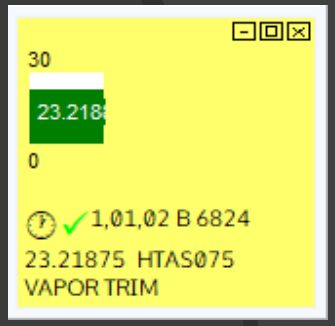
2.5.2 Live loop annotations

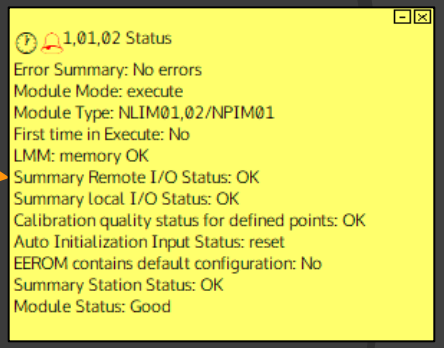
"Sticky notes" that display live data. Use them to:

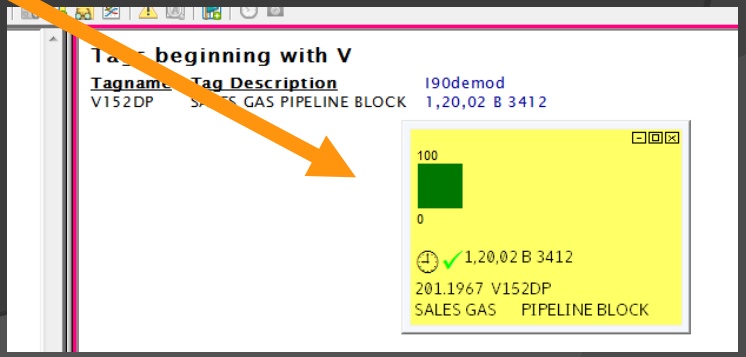
- View live data for a single block
- View the status of any module in the system
- Monitor data from another document

Example: track a tag's value while viewing its database entry



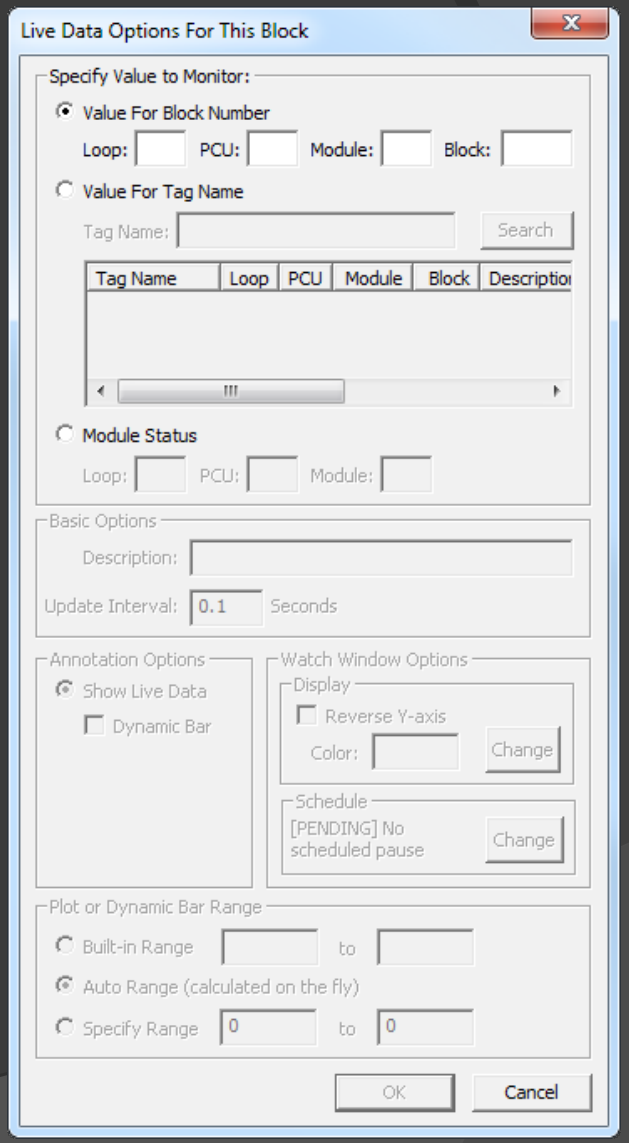






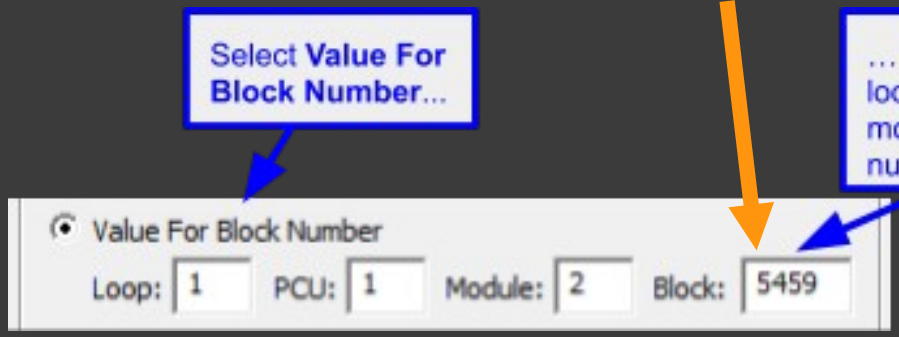
2.5.3 Creating a live loop annotation

- Right-click on a hotspot, choose Create Live Loop Annotation for this Block, then choose the type of annotation to make.
- Or, to specify an arbitrary block, press the button, or right-click anywhere and choose Live Loop Annotation | Create.

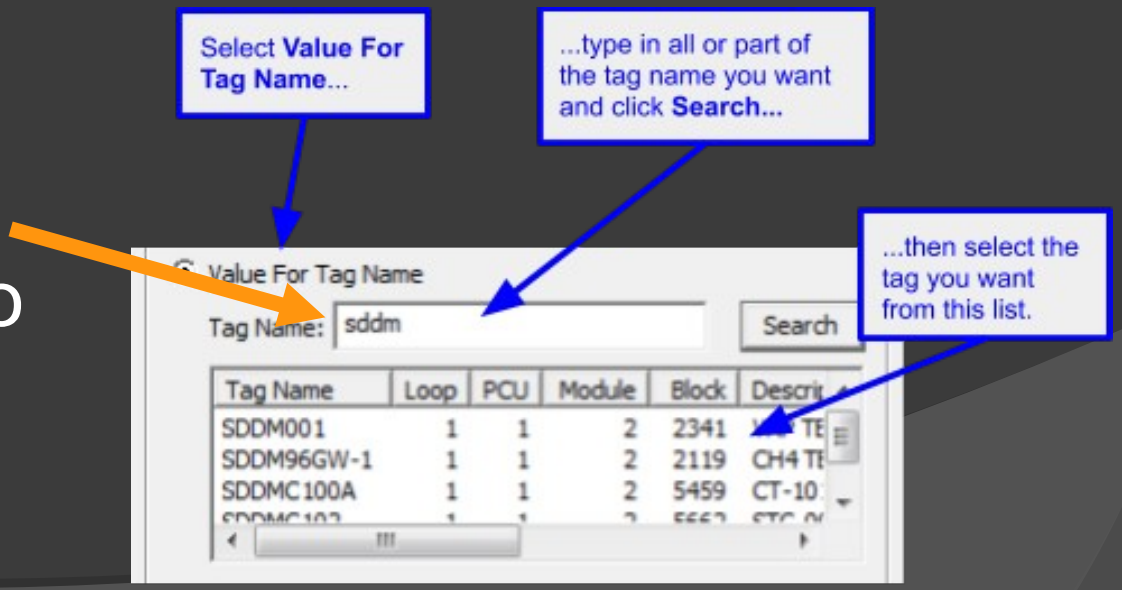


2.5.3.1 Specify the block or tag

You can specify the block to monitor.

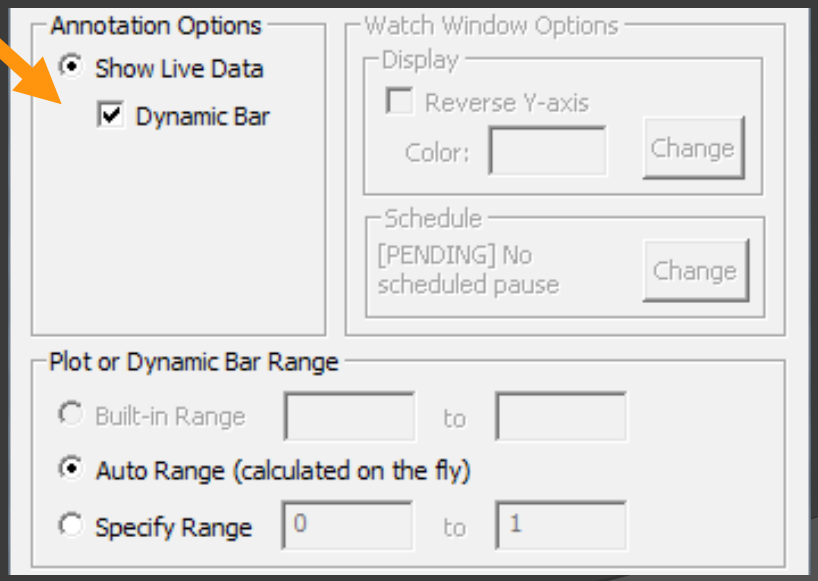


You can quickly find tag names to monitor.



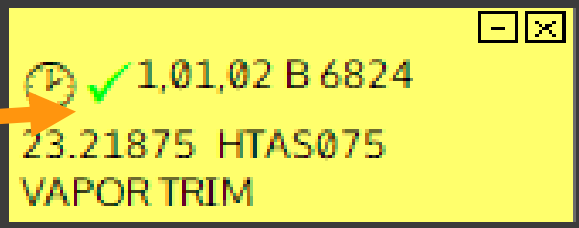
2.5.3.2 Live loop annotation options

Choose the type of annotation to create



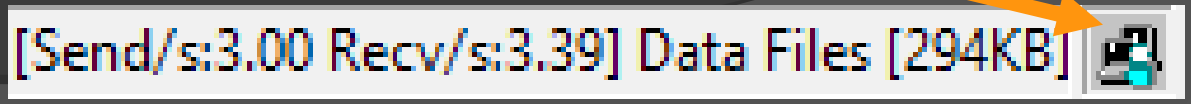
2.5.3.3 Symbols on live loop annotations

The green check means all is well.



Other symbols can indicate a problem. Check the help for more information if you see them.

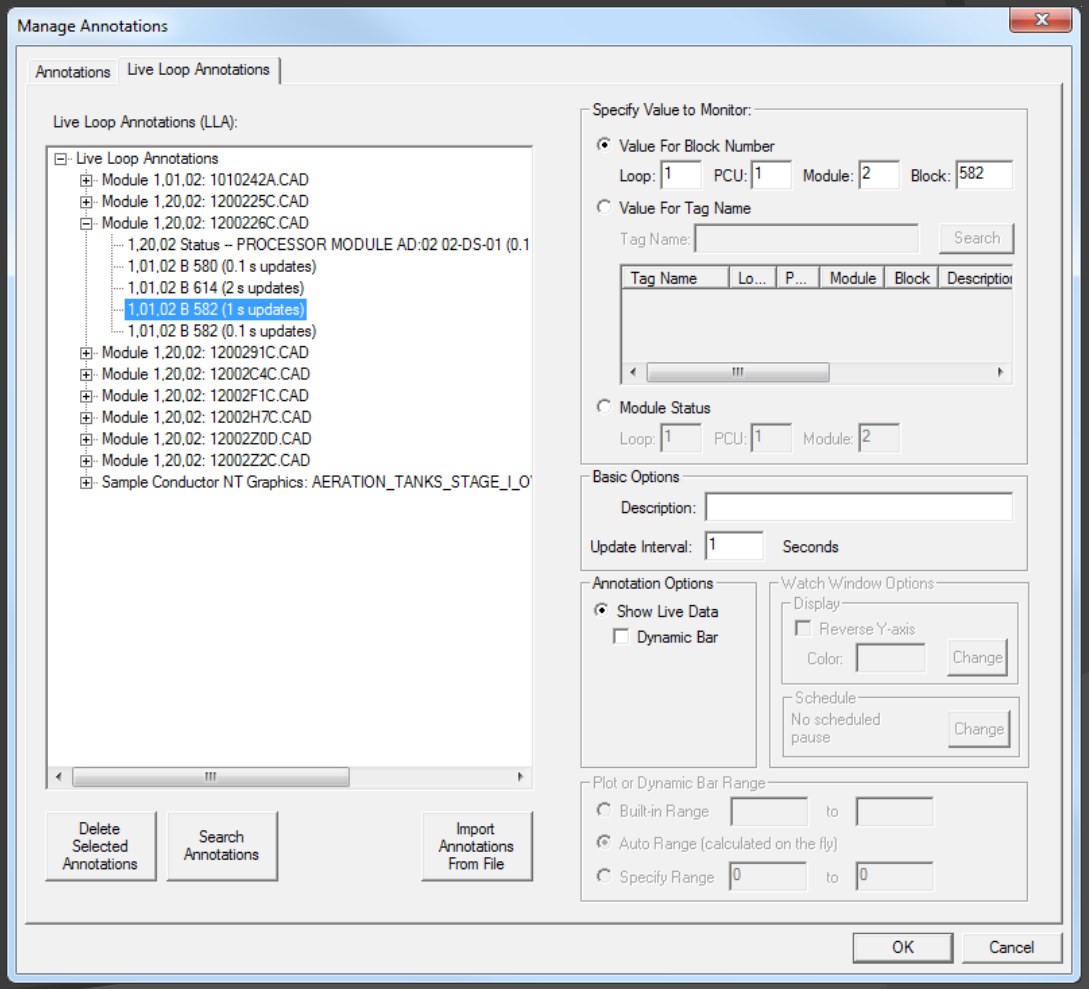
Problems with the network connection are indicated in the status bar.



2.5.4 Managing live loop annotations

You can see all the annotations in your project at a glance in the Annotation Manager.

Any annotation can be edited or deleted here.



2.6 Trending live data in the Watch Window

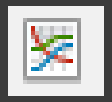
- Plot data from any block in the system
- Plot groups of blocks together
- Plot data from non-tagged blocks
- Control data fetch rate for each block

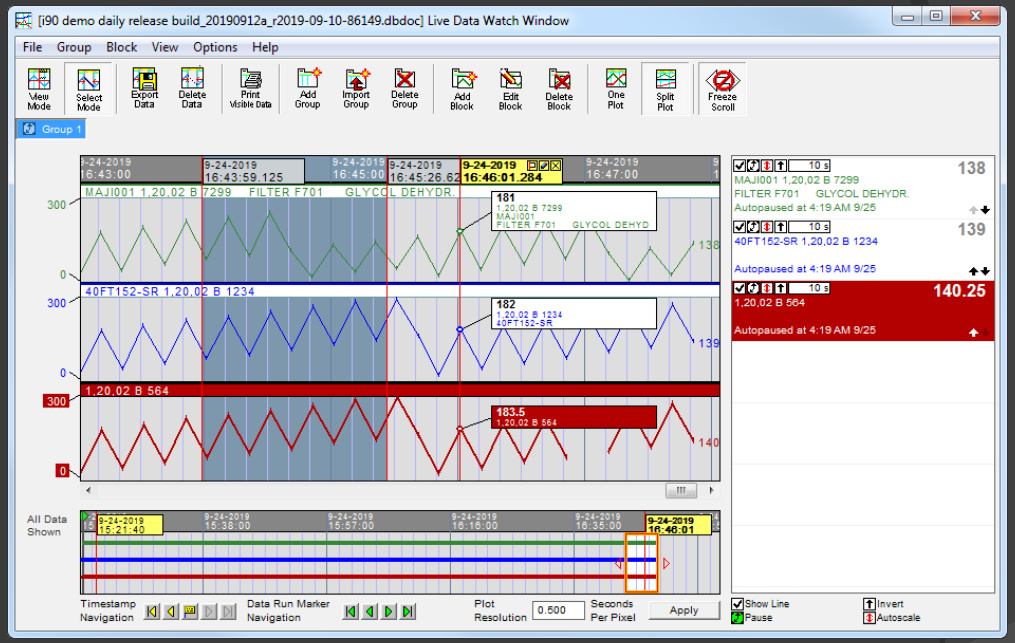
2.6 Trending live data in the Watch Window

- Display data at different resolutions
- Mark points of interest with timestamps
- Print plots
- Export plot data to other applications

2.6.1 Opening the Watch Window

To open the Watch Window:

- Press the  button on the toolbar
- Press W
- Select View | Watch Window

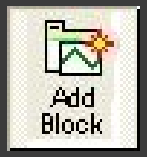


2.6.2 Adding blocks to the Watch Window

In the browser window:

- Right-click on a hotspot and choose Add This Block to the Watch Window
- Right-click on a Live Loop Annotation and select Add to Watch Window

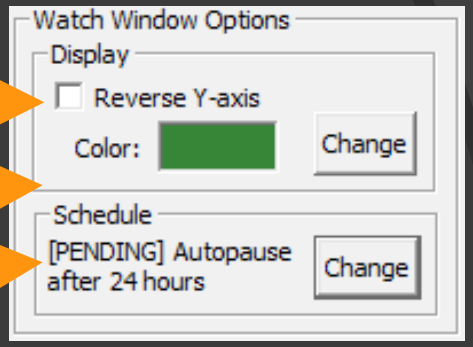
In the Watch Window:



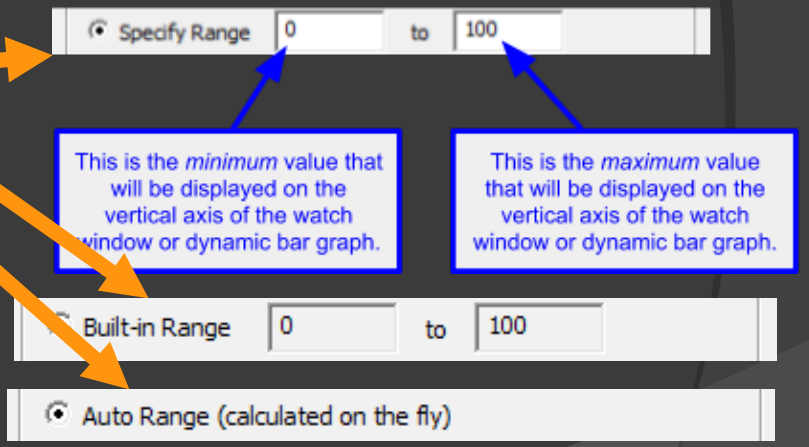
- Use the Add Block button
- Double-click on a blank area of the block list on the right side of the Watch Window.

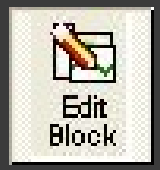
2.6.3 Defining and editing plots in the Watch Window

- You can flip the plot vertically
- Choose the plot color
- Pause data collection



- Specify the Y-Axis range
- Or use the built-in range
- Or have it done automatically

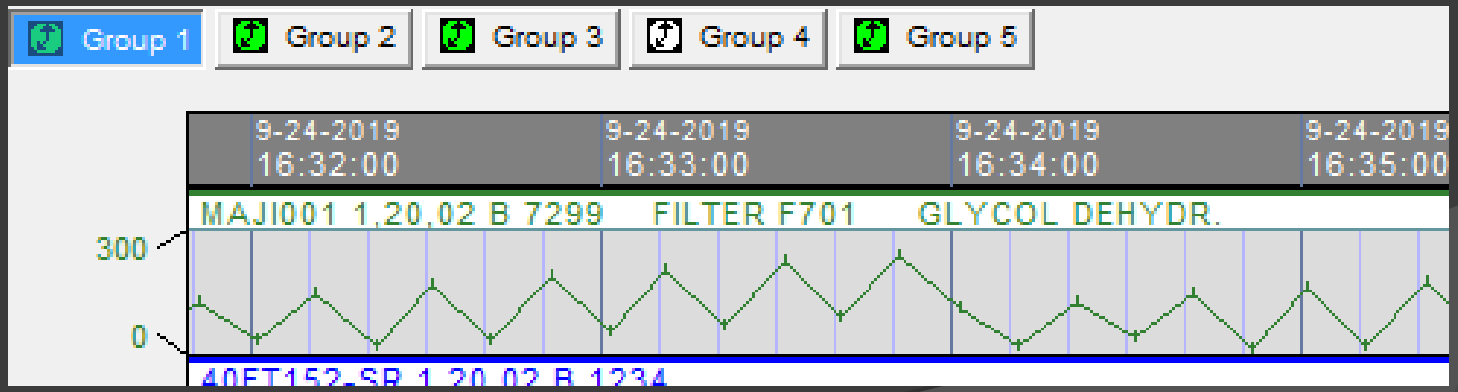


To edit a block, press 

or double click on the block in the block list.

2.6.4 Creating groups of blocks in the Watch Window

- Create multiple groups to organize your blocks in the Watch Window.
- Name each group whatever you want.
- Blocks in a group are plotted together.
- To add a group press the Add Group button.



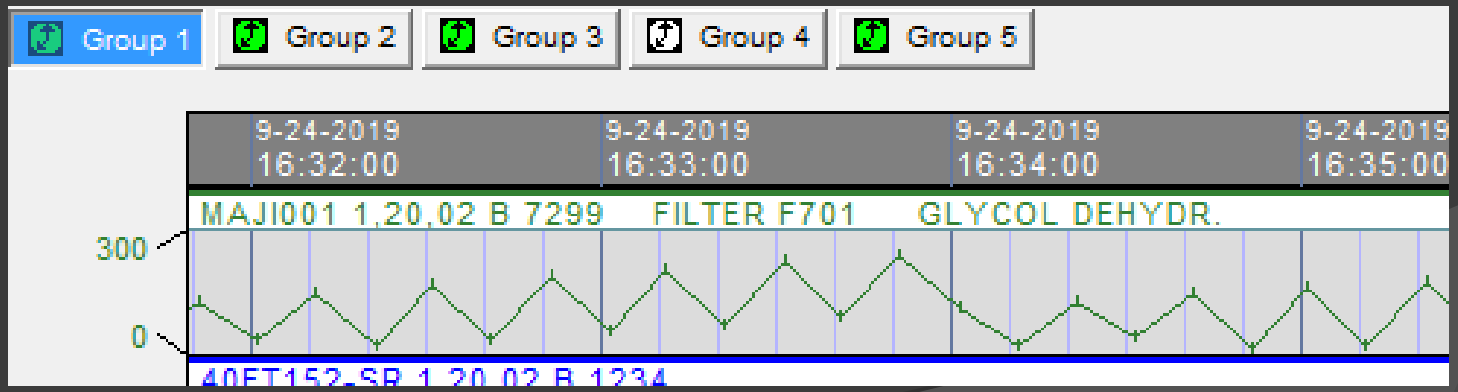
2.6.4.1 Importing a list of blocks from CIULink to the Watch Window

- If you use CIULink to monitor groups of blocks, you can import the group into the Watch Window
- Use Import | Group or Import Group button 

2.6.4.2 Managing groups of blocks

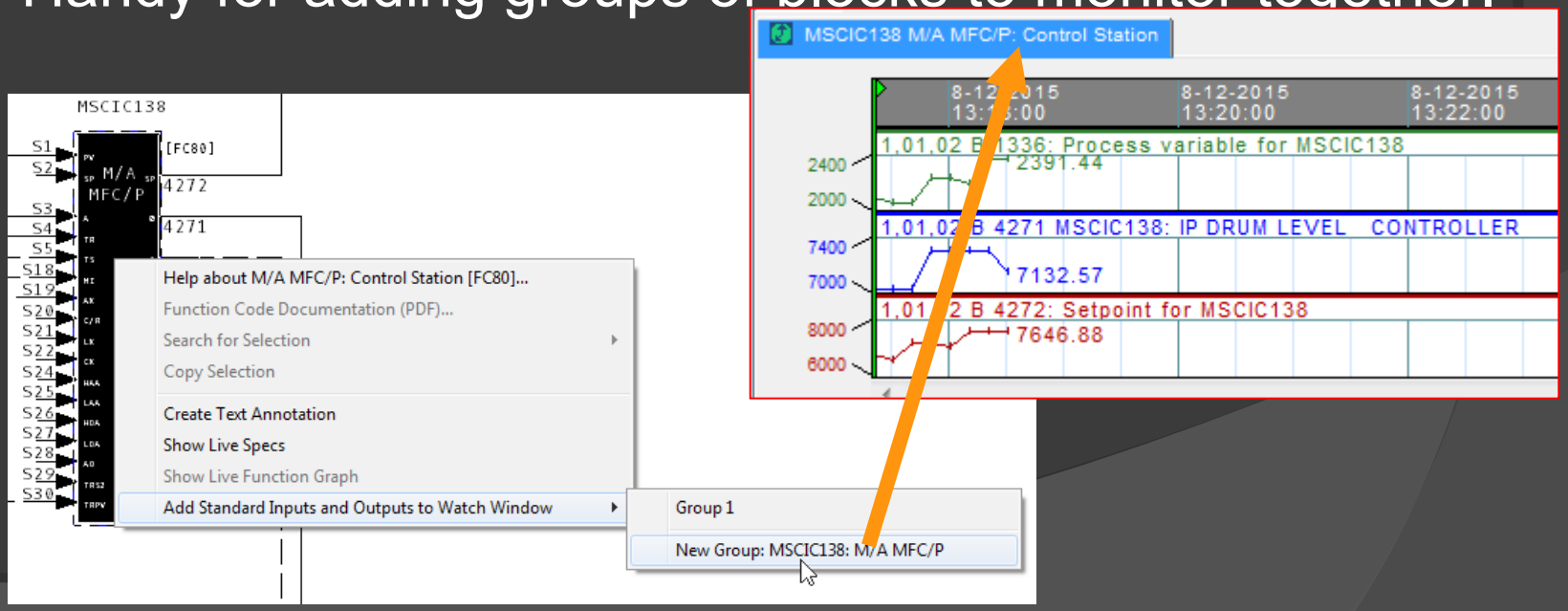
Manage groups:

- With the Group menu in the Watch Window
- With the Watch Window toolbar
- By right-clicking a group tab

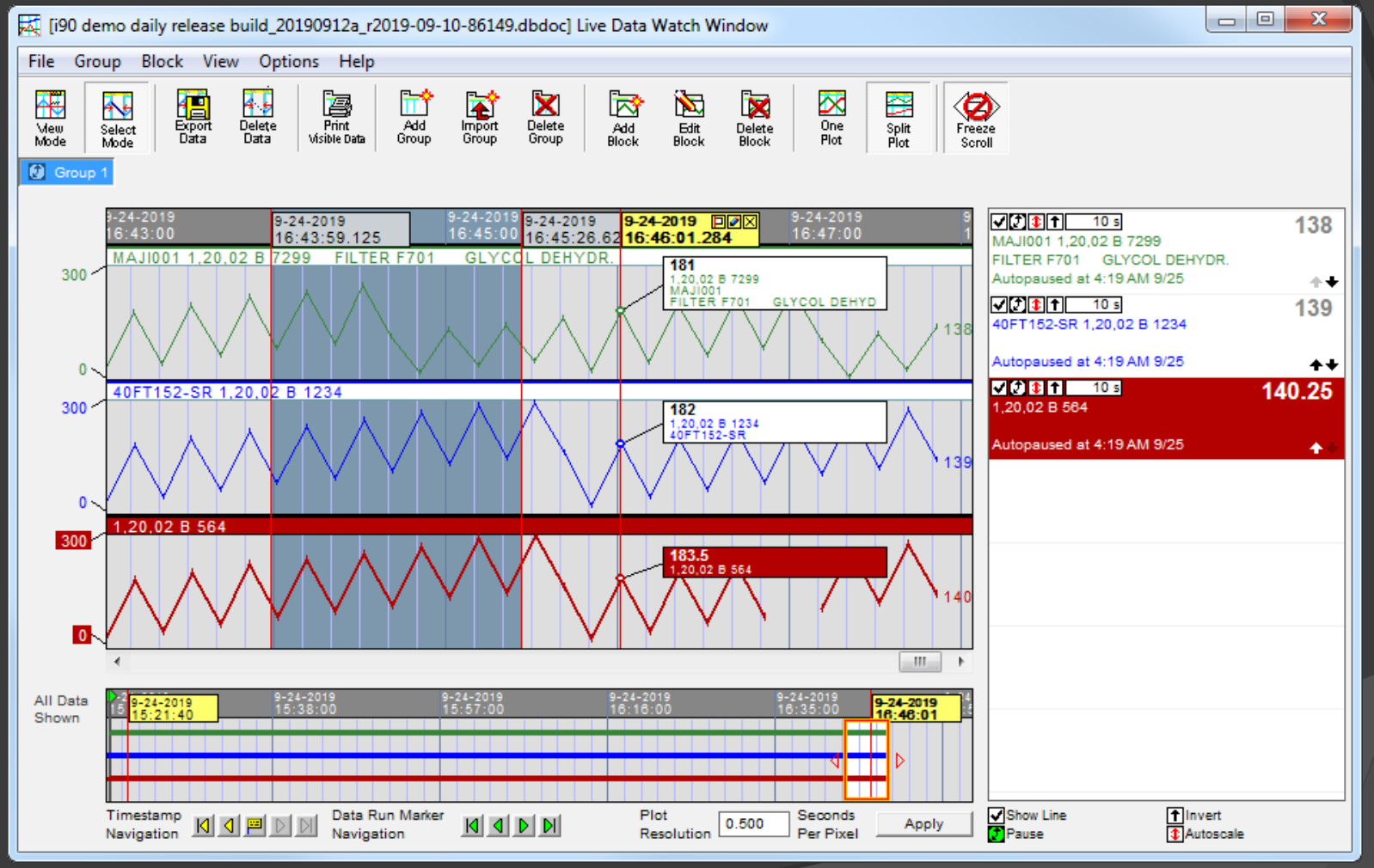


2.6.4.3 Add all block inputs and outputs to Watch Window at once

- Right-click on a function block on a CAD.
- Choose Add Standard Inputs and Outputs to Watch Window.
- Handy for adding groups of blocks to monitor together.



2.6.5 Watch Window highlights

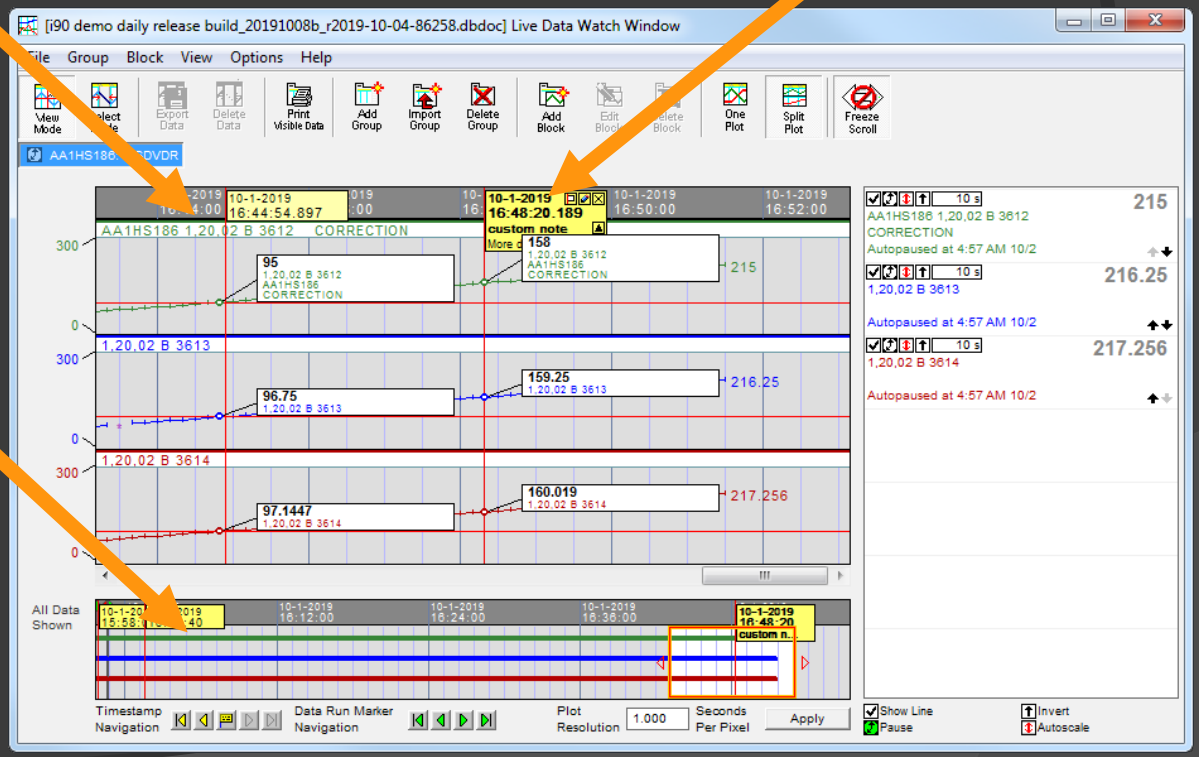


2.6.5.1 Watch Window highlights: Timestamps & Freeze Scroll

As you mouse over the plot, a crosshair shows data and time values.

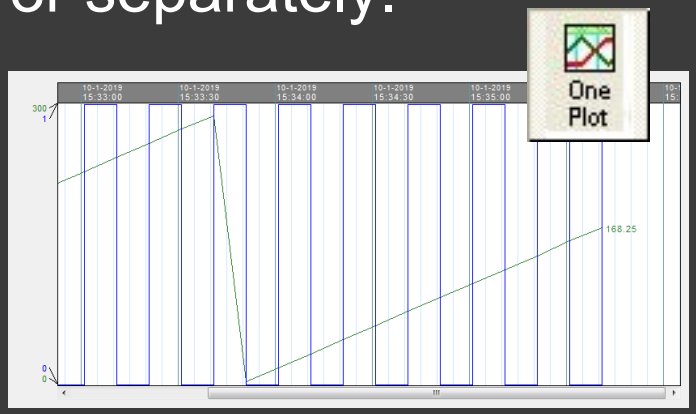
Click on the plot to make a permanent “timestamp” marking a plot location.

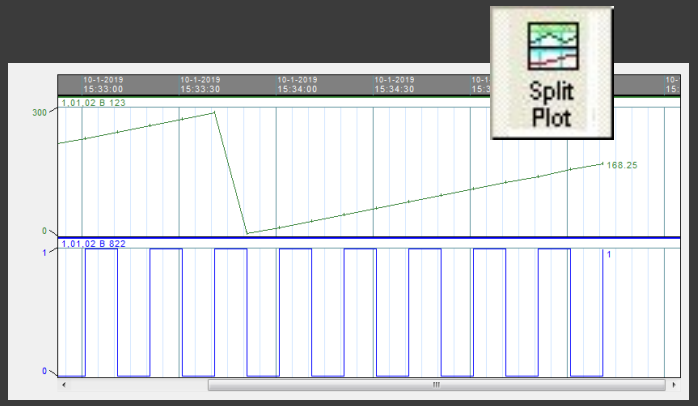
Navigation Plot shows a birds-eye view of all data collected.



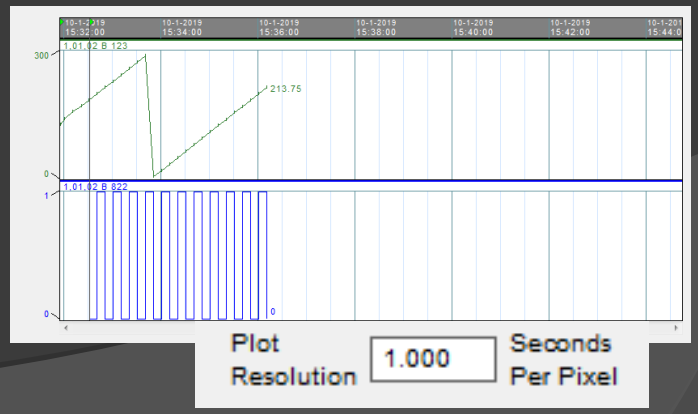
2.6.5.2 Watch Window highlights: Split Plot & Time Scale

Multiple plots in a group can be displayed overlapped or separately.



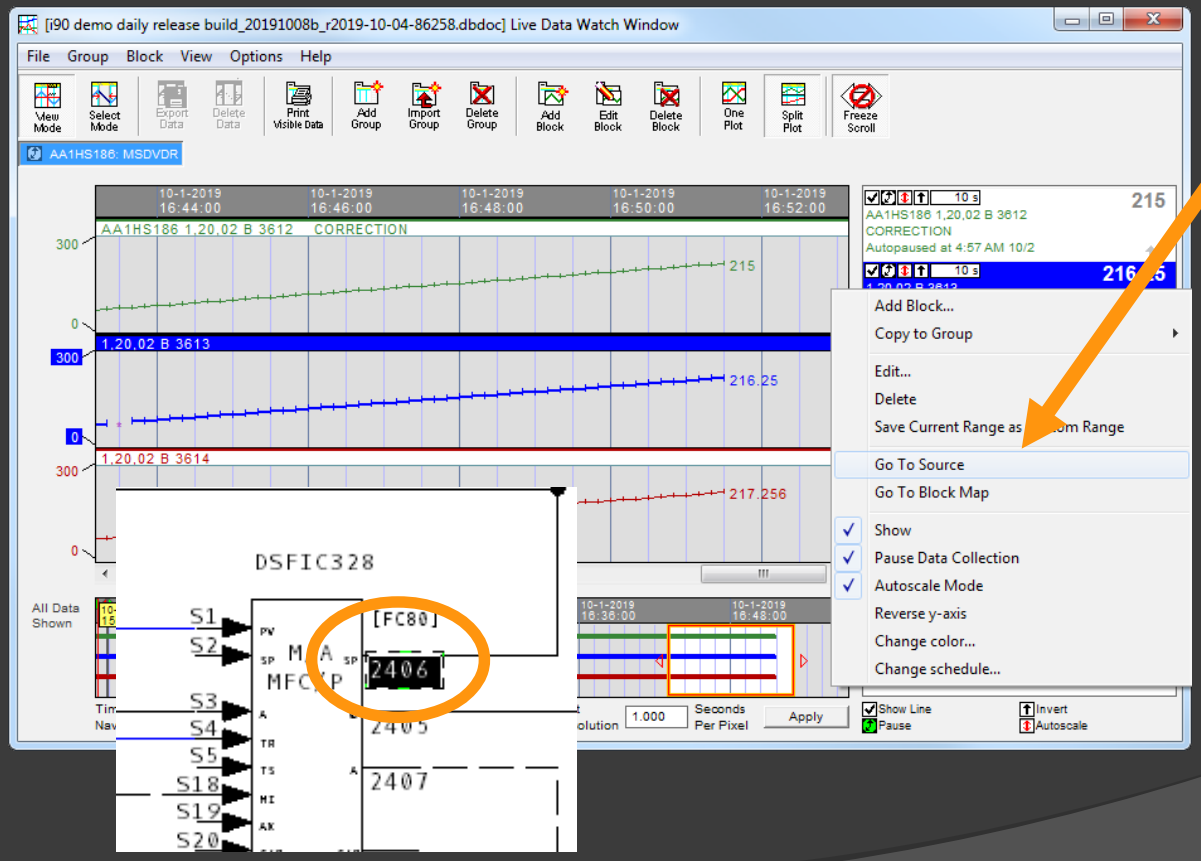


Set the time-scale to zoom in or out on the data.



2.6.5.3 Watch Window highlights: Go To Source, Go To Block Map

You can jump directly to a block source or block map from the Watch Window.



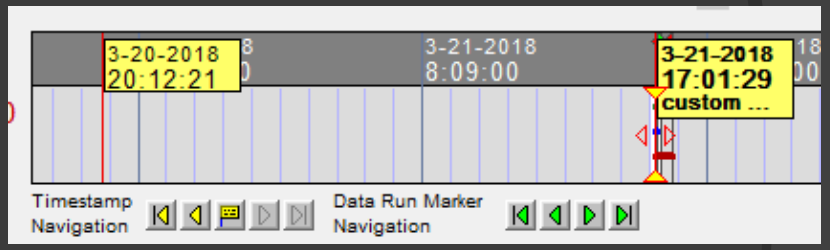
Right-click on a Watch Window block and choose Go To Source.

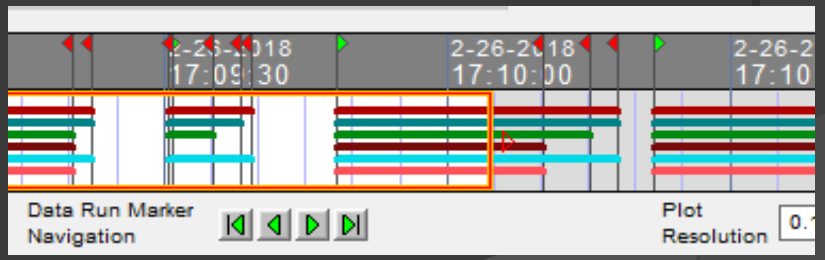
The block source in the configuration is displayed.

2.6.6 Navigating plot data

There are two shortcut ways to navigate your Watch Window data.

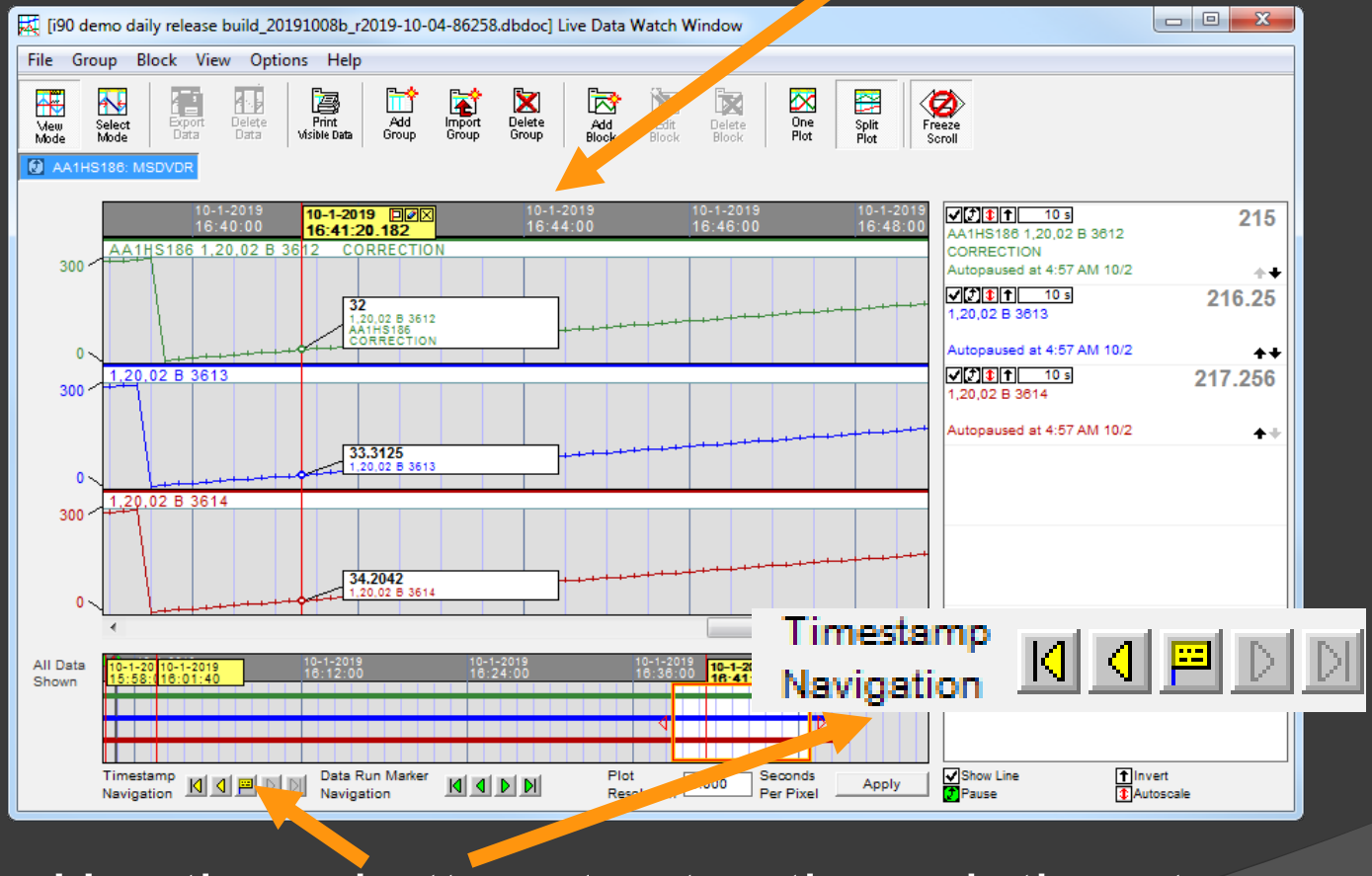
- Create timestamps and step through them (or jump directly to any timestamp)
- Step through data runs





2.6.6.1 Navigating with timestamps

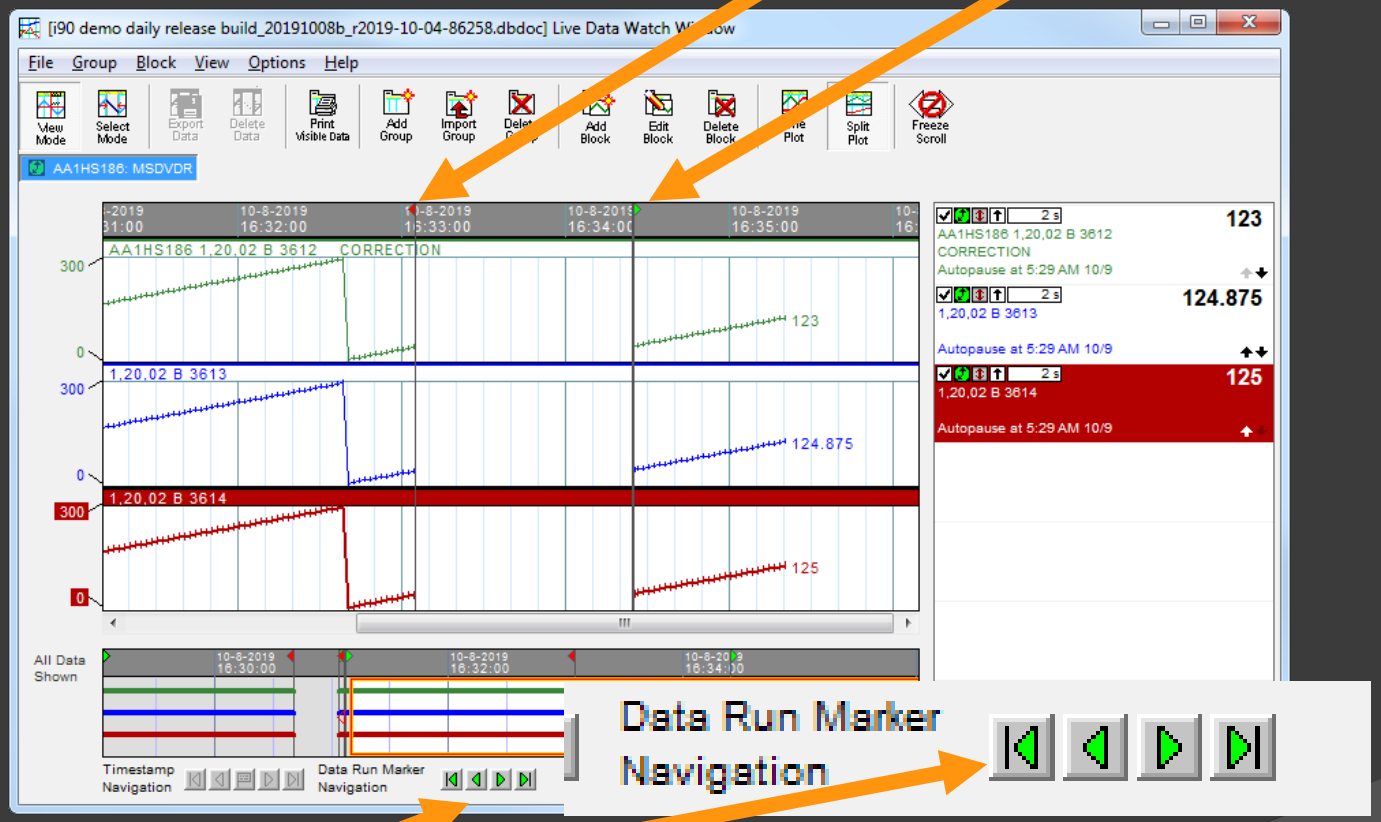
Click on the plot to create timestamps.



Use these buttons to step through timestamps, and jump to specific locations in your data.

2.6.6.2 Jumping between data runs

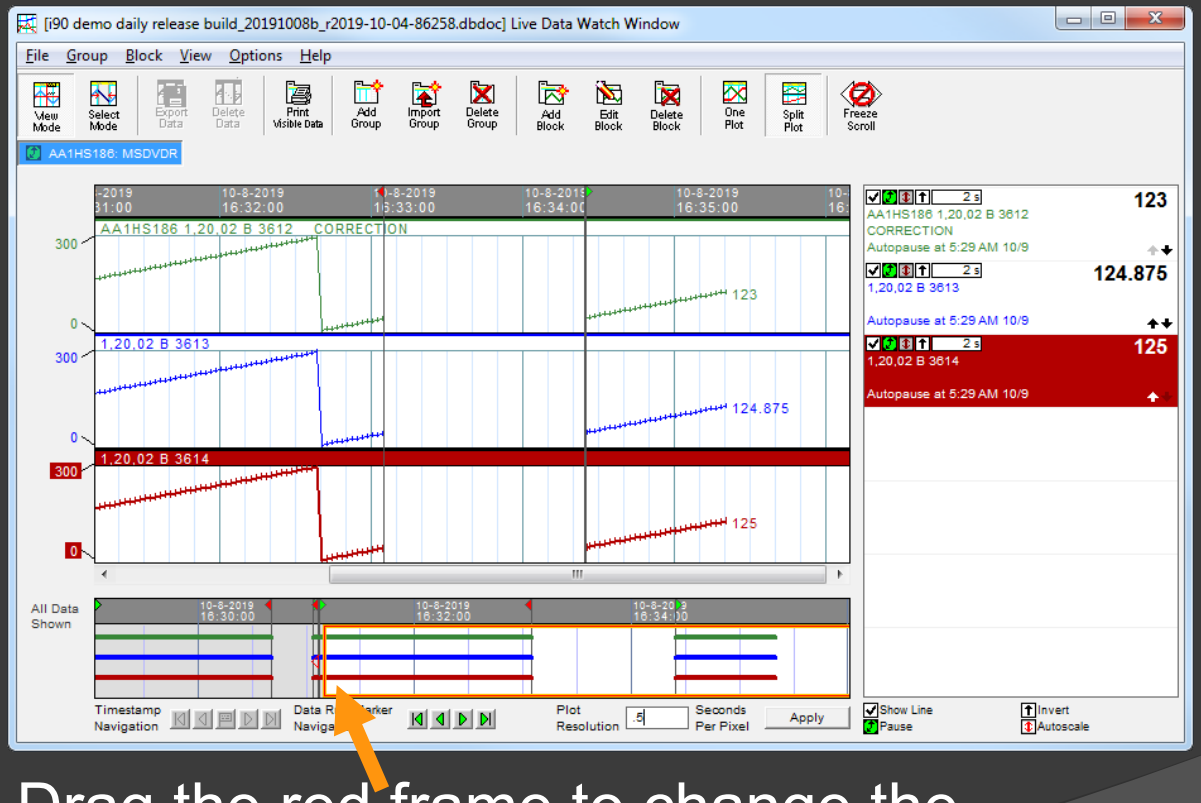
Automatic markers flag the start and end of each data run.



Use these buttons to jump from data run to data run, skipping over times when no data was collected.

2.6.6.3 Using the navigation plot

The navigation plot shows a birds-eye view of all the data that has been collected.



Drag the red frame to change the view in the detailed plot area above.

2.6.7 Managing Watch Window related bandwidth and disk usage

The Live Data Status Bar helps you to monitor how your system is being used

Outgoing data requests per second

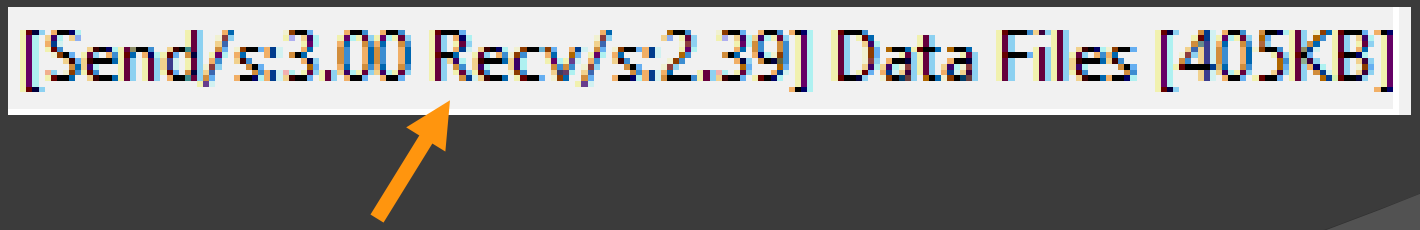
Incoming responses per second

Total of all watch window data on disk

2.6.7.1 Managing bandwidth

- CIU is limited to about 20 data fetches per second.
- Multiple Hyperviews share this bandwidth.
- Be aware of your bandwidth use.

  Watch Send/s and Recv/s.



If Send/s > Recv/s, reduce data load.

2.6.7.1 Managing bandwidth (cont'd)

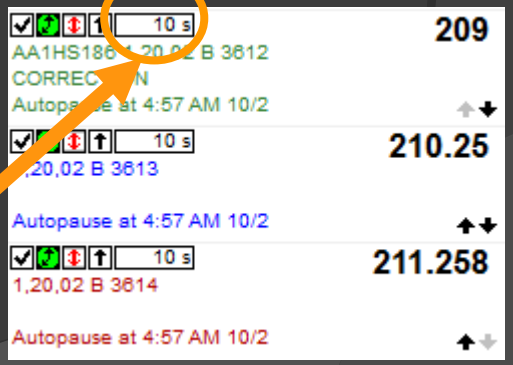
How to reduce data load:

- Pause data collection for a group or block by clicking on clock icon.
- Reduce requests from main browser window by turning off live data, or switching to Snapshot mode.
- Make sure the Watch Window blocks are not updating more often than needed. Increase the update interval for groups or blocks.

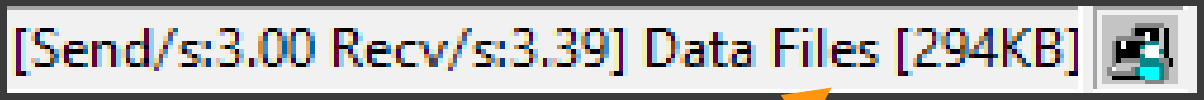
Collecting

Paused

Snapshot



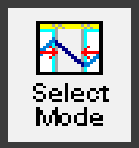
2.6.7.2 Managing disk usage



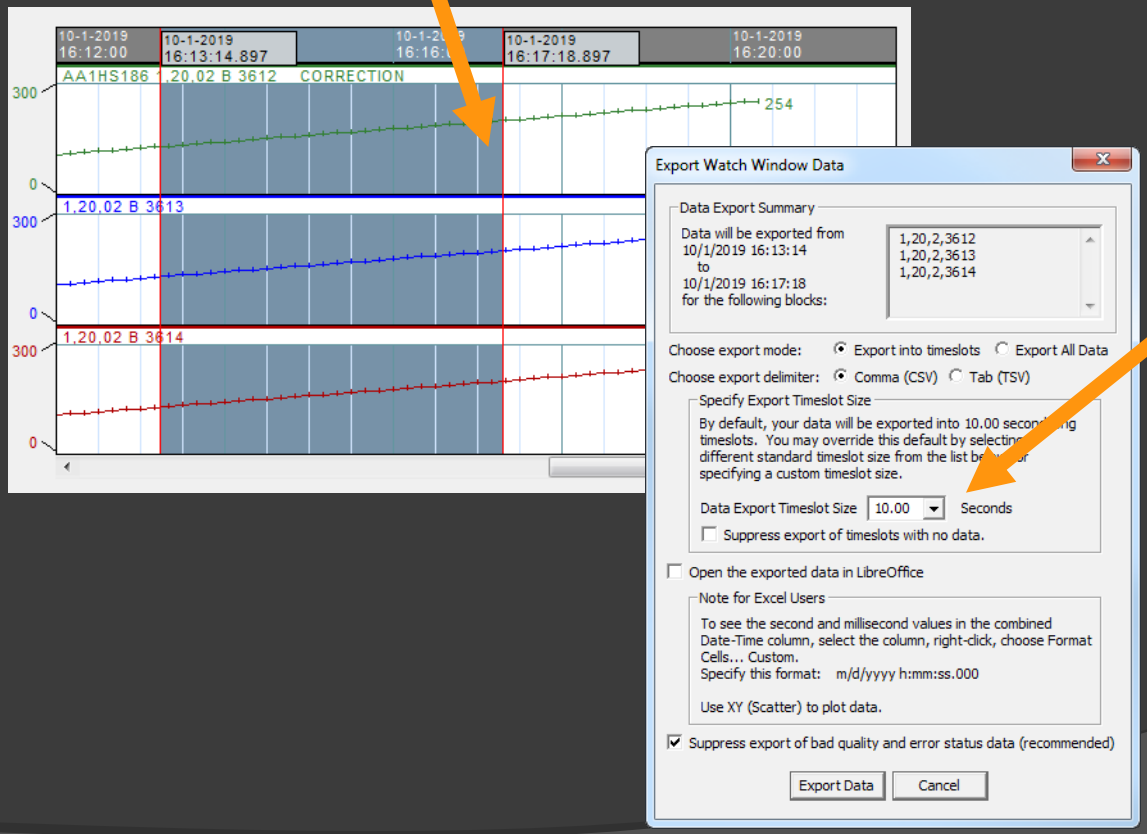
- Monitor Data Files
- Avoid collecting data unnecessarily – remember, the Watch Window is collecting data even when it is not open.
- If necessary, move or delete data files directly. The *Managing Live Data Load* section later in this presentation will explain how to do this.

2.6.8 Selecting and exporting data

Press Select Mode, then drag the mouse to select data.



You can export the selected data, and import it into a spreadsheet.

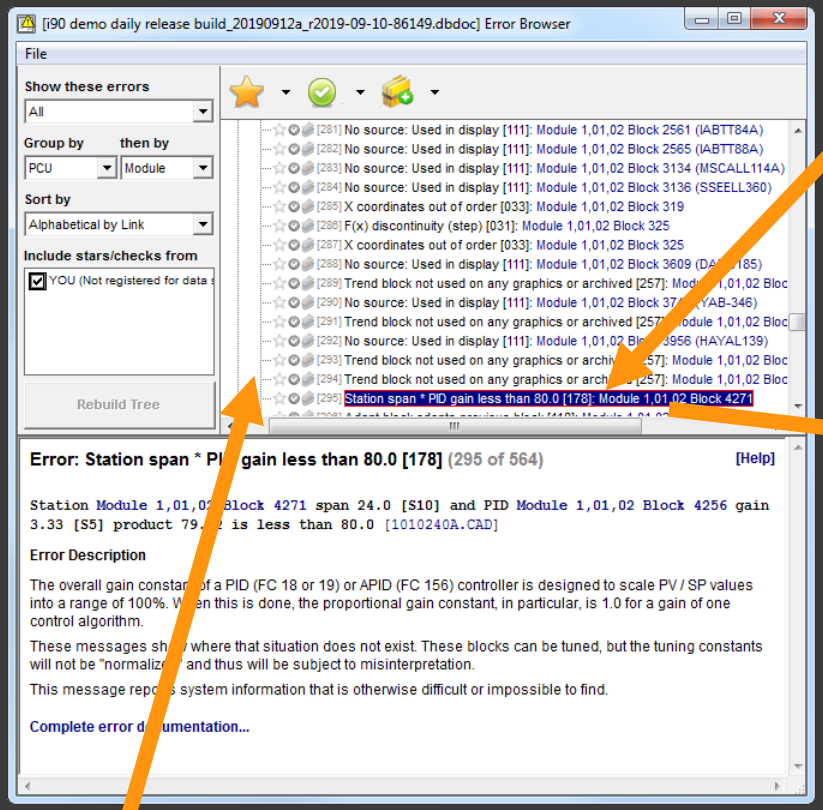


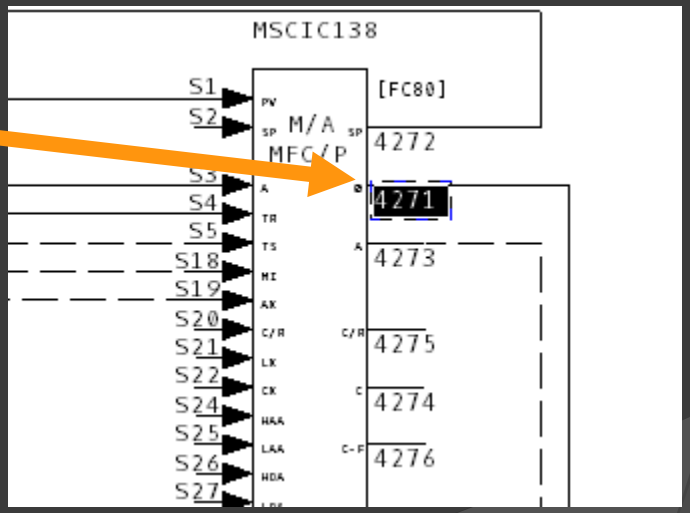
Specify an export timeslot size.

Data is saved in a CSV file, one datapoint per timeslot.

2.7 The Error Browser

Click on an error to display it in the Hyperview browser





All errors shown in tree

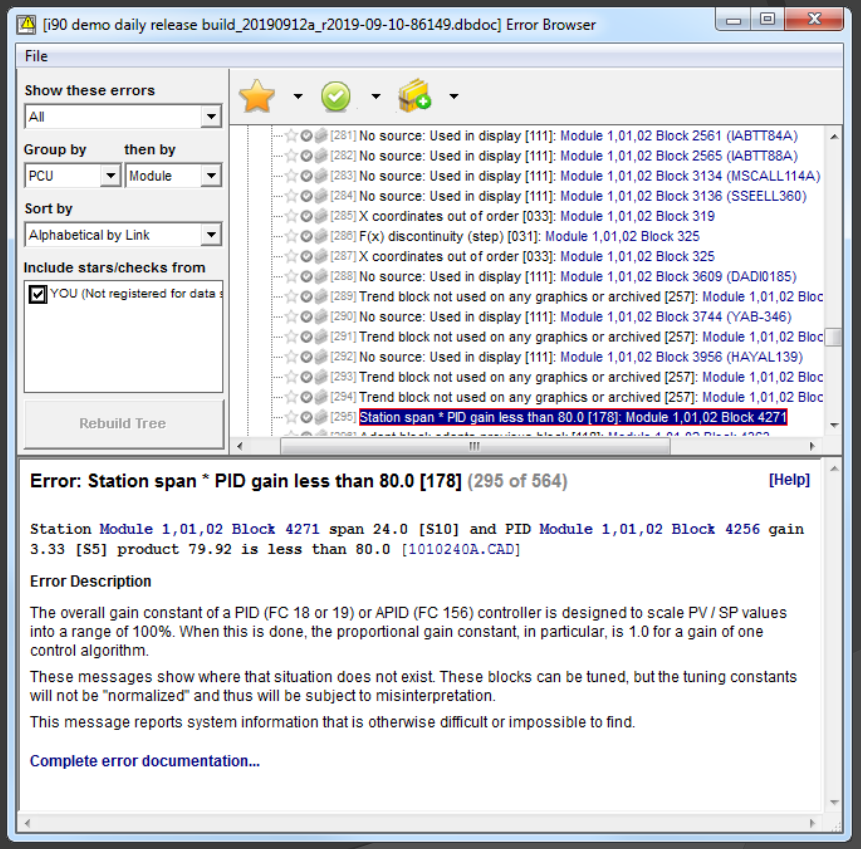
2.7.1 Error Browser Overview

- Errors are built into the project
- Errors displayed in special browser in Hyperview
- Group, filter, sort errors in useful ways
- Mark errors for special attention (add star)
- Review errors (add check) and indicate they have been seen
- Share error stars and checks with other users
- Hide errors that don’t need attention

2.7.2 Opening the Error Browser

To open the Error Browser:

- Press the  button on the toolbar
- Press E
- Select View | Error Browser



2.7.3 Marking Errors

To manage errors, mark them. Then show only those errors you have marked.

-  Indicates that an error requires attention
-  Indicates that an error has been reviewed
-  Indicates that an error can be hidden

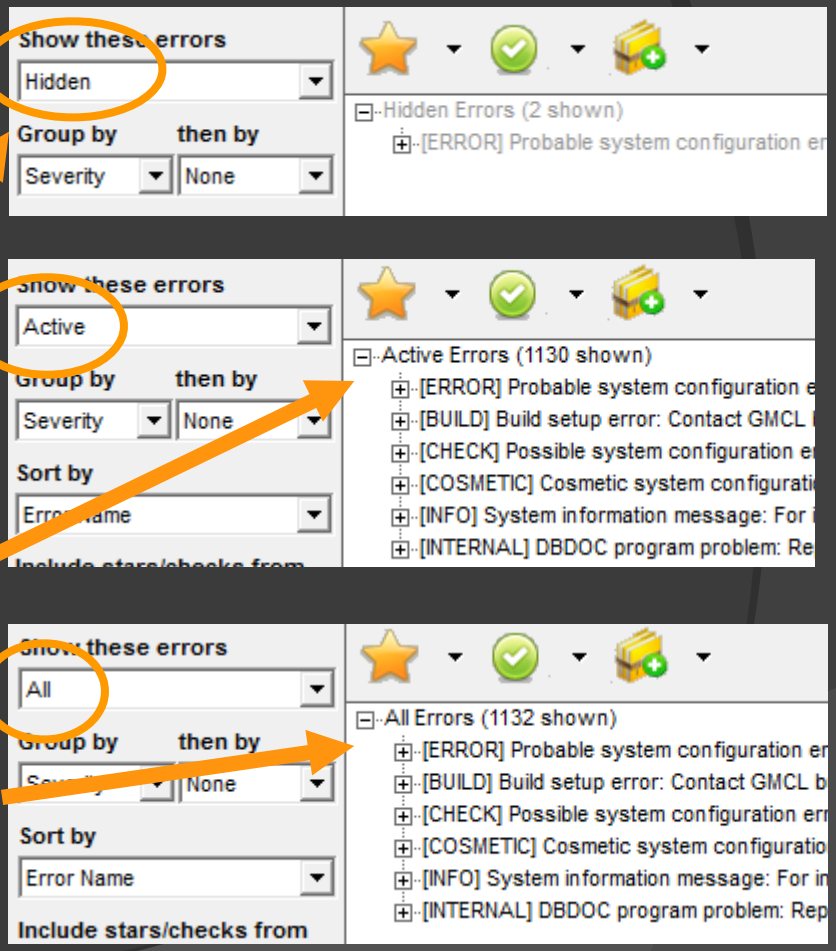
2.7.4 Filtering Errors

To manage errors, mark them. Then show only those errors you have marked.

Show only Hidden errors

Show only Active (not hidden) errors

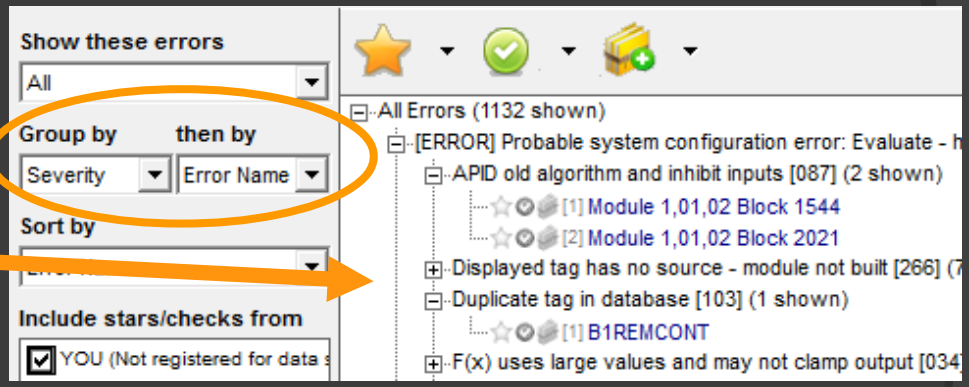
Show all errors



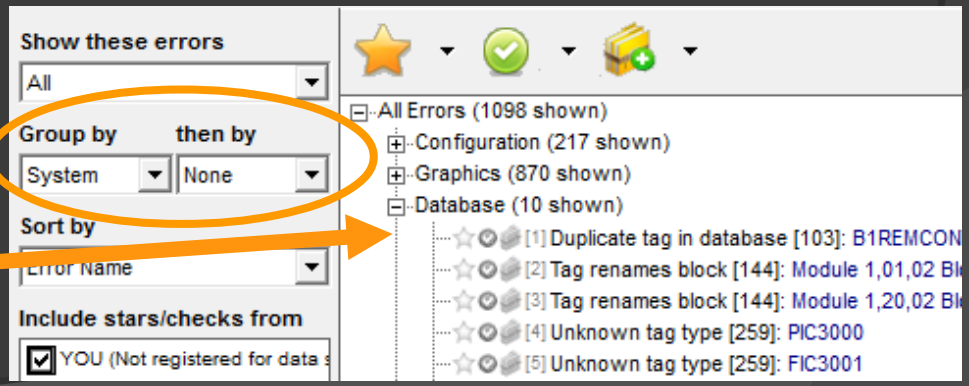
2.7.5 Grouping Errors

To manage errors, mark them. Then show only those errors you have marked.

Errors grouped by their severity, and then by error name



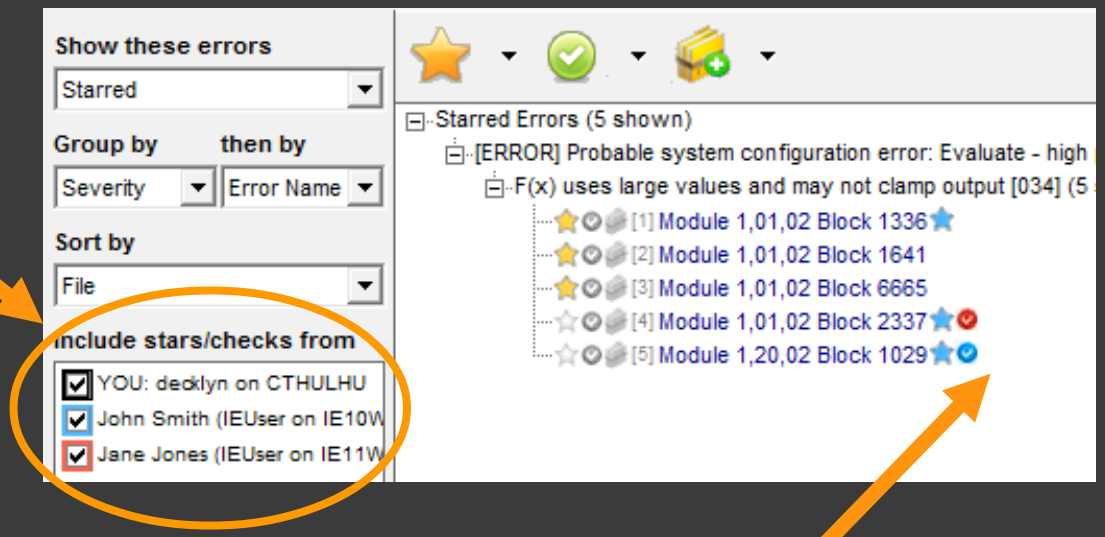
Errors grouped by which subsystem they are associated with



2.7.6 Sharing Errors

You can share error stars and checks with other users. Share the task of reviewing errors.

Include error information from other users

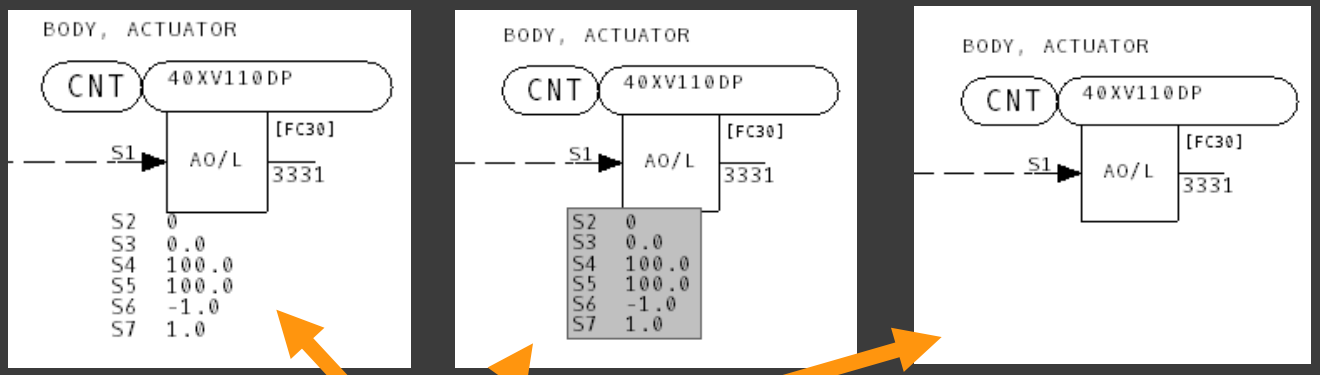


View and filter based on stars and checks added by other users

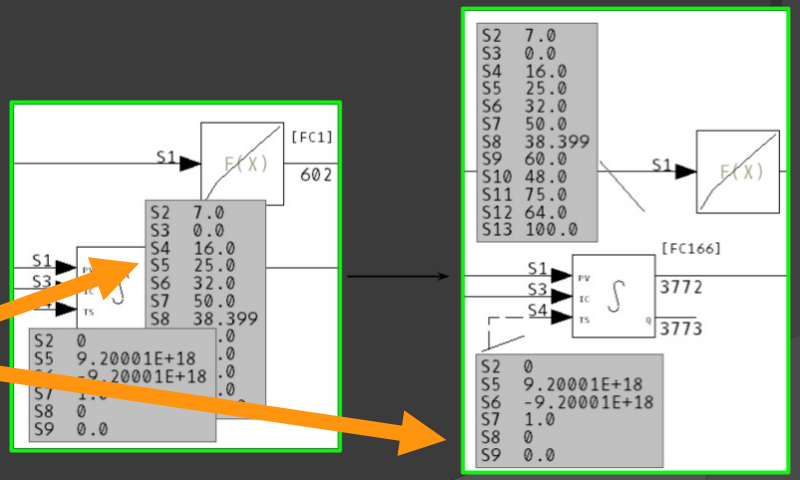
2.8 Customizing the display

- Many options for showing & hiding information
- View & hide specs, attributes, tag names
- Highlight search hits and hotspots
- Show thumbnails in graphical indexes

2.8.1.1 Specs on CAD and CLDs

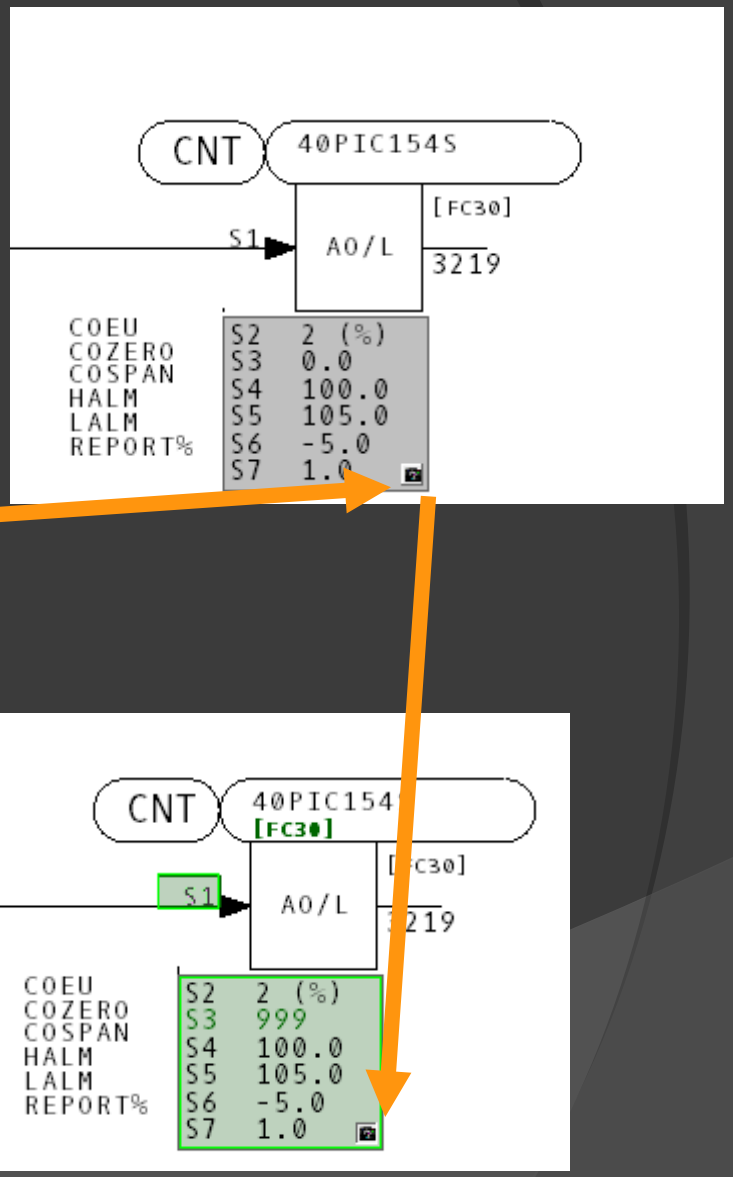


- Press S to show and hide specs
- The gray spec boxes can be moved around



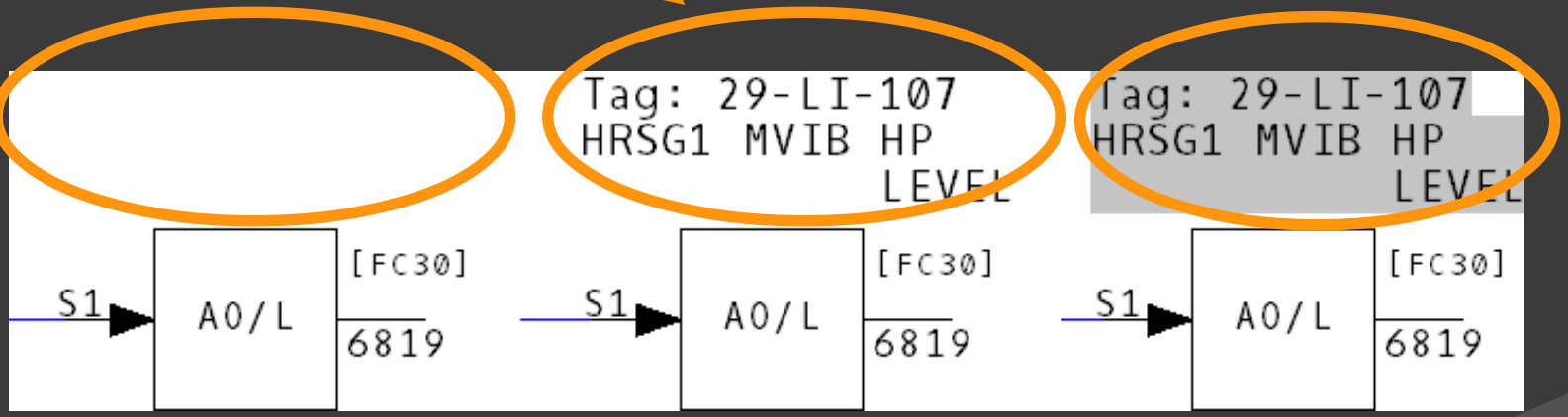
2.8.1.1.1 Live Specs on CAD and CLDs

- You can enable live specs by choosing Enable Live Specs from the View Menu
- Turn on live specs by clicking the camera under layered (gray) specs.
- Fetch live specs by clicking the camera icon again.



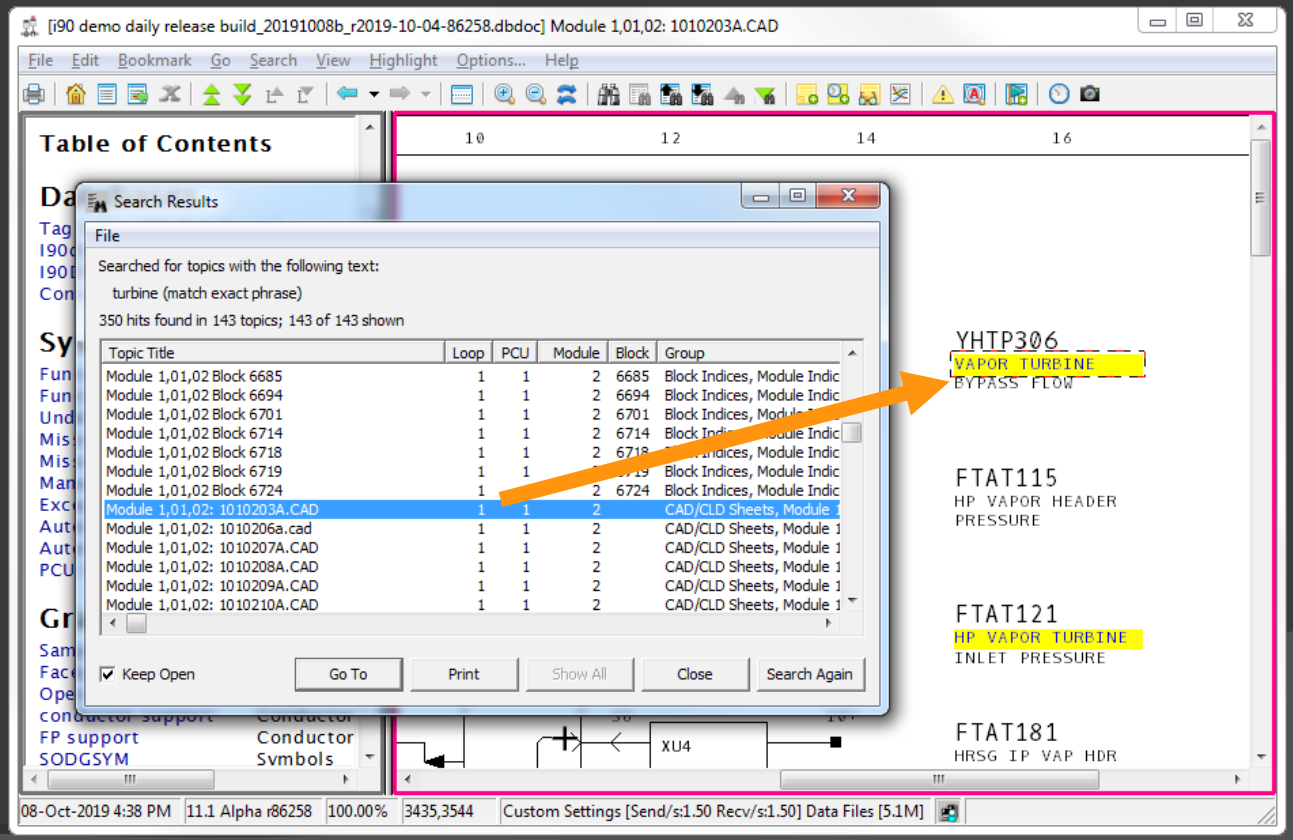
2.8.1.2 Attributes on CAD and CLDs

Toggle attributes on configuration diagrams by pressing A.



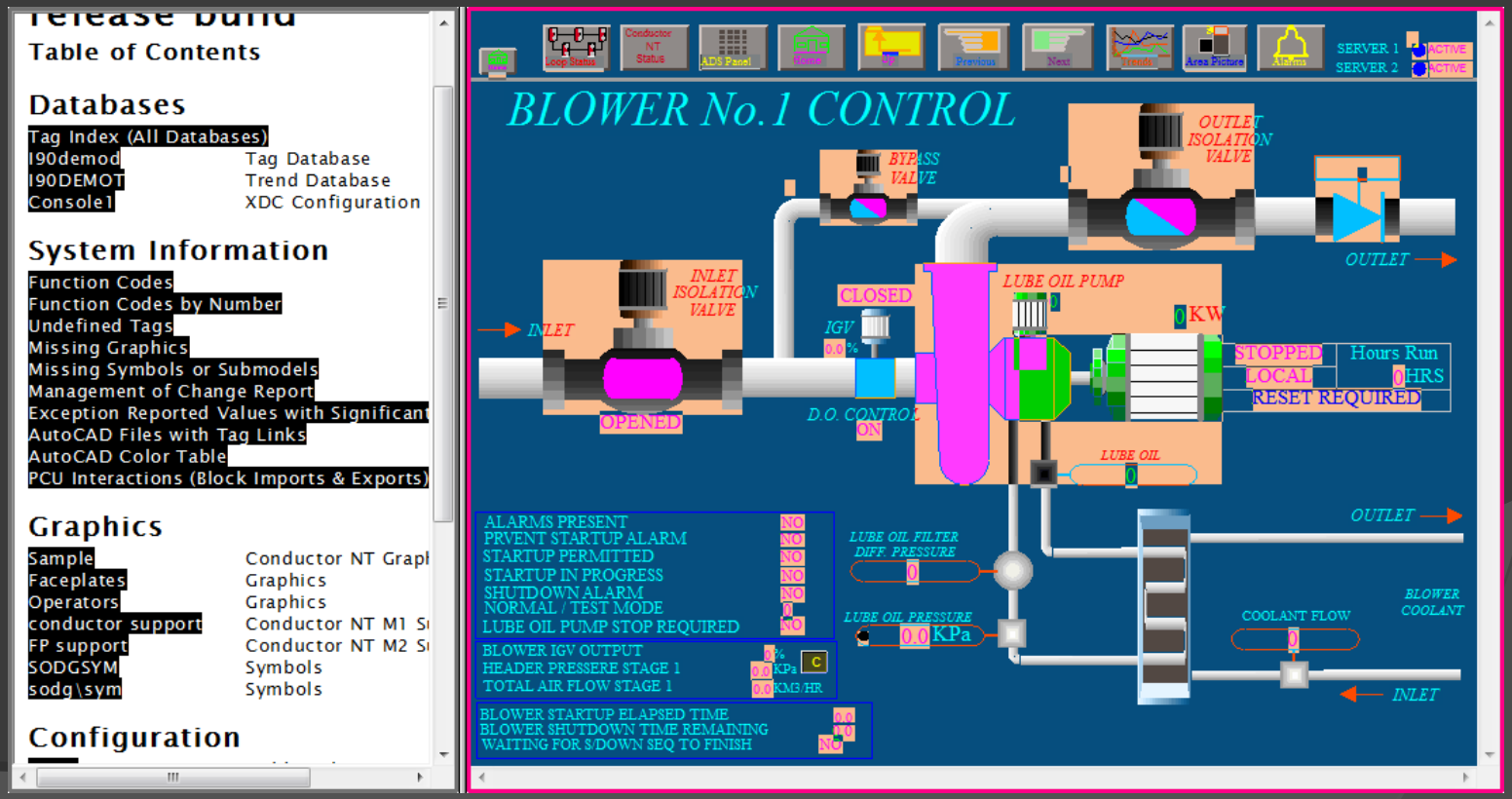
2.8.2.1 Highlighting search hits

Use Highlight | Search Hits to make it easy to see search results in the browser.



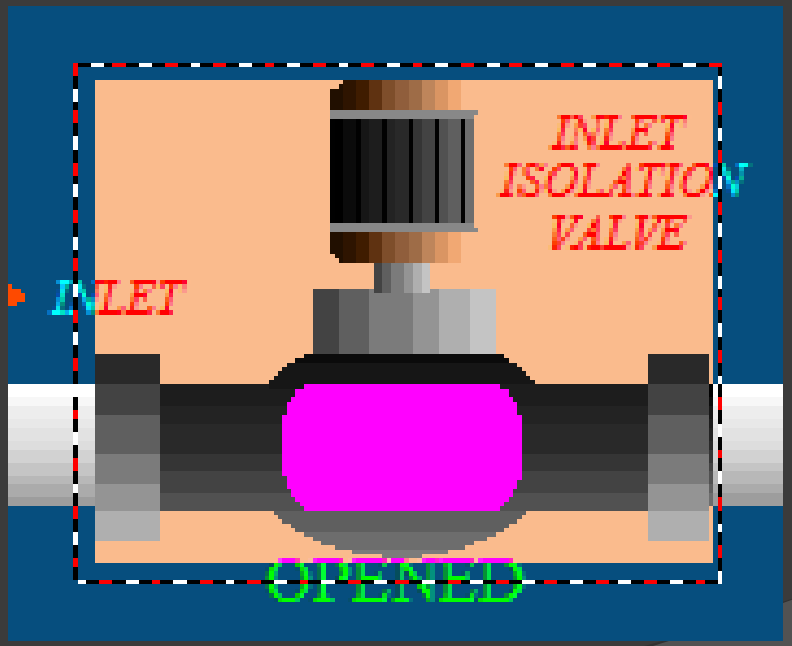
2.8.2.2 Highlighting hotspots

Use Highlight | Hotspots to highlight all the hyperlinks on a page



2.8.2.3 Showing “Vegas Lights”

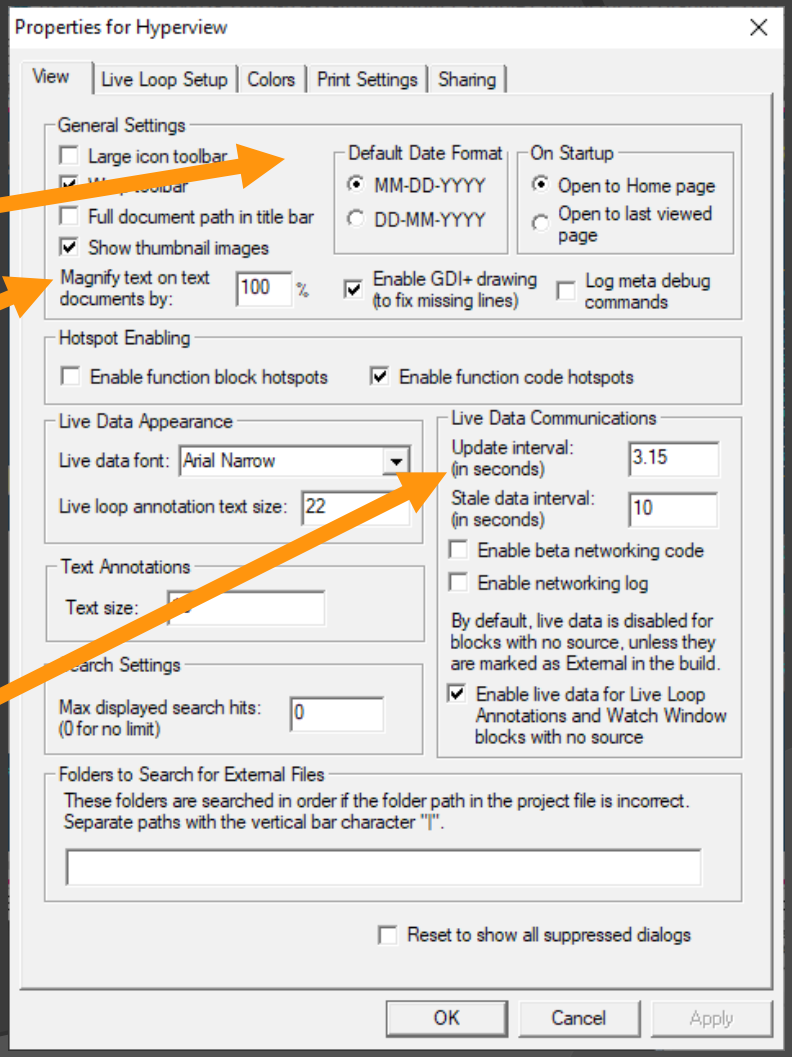
Vegas Lights are a colorful marquee that highlight selected hotspots. Enable them with Highlight | Vegas Lights.



2.8.3.1 View options

These settings are in Options | View. Some useful options:

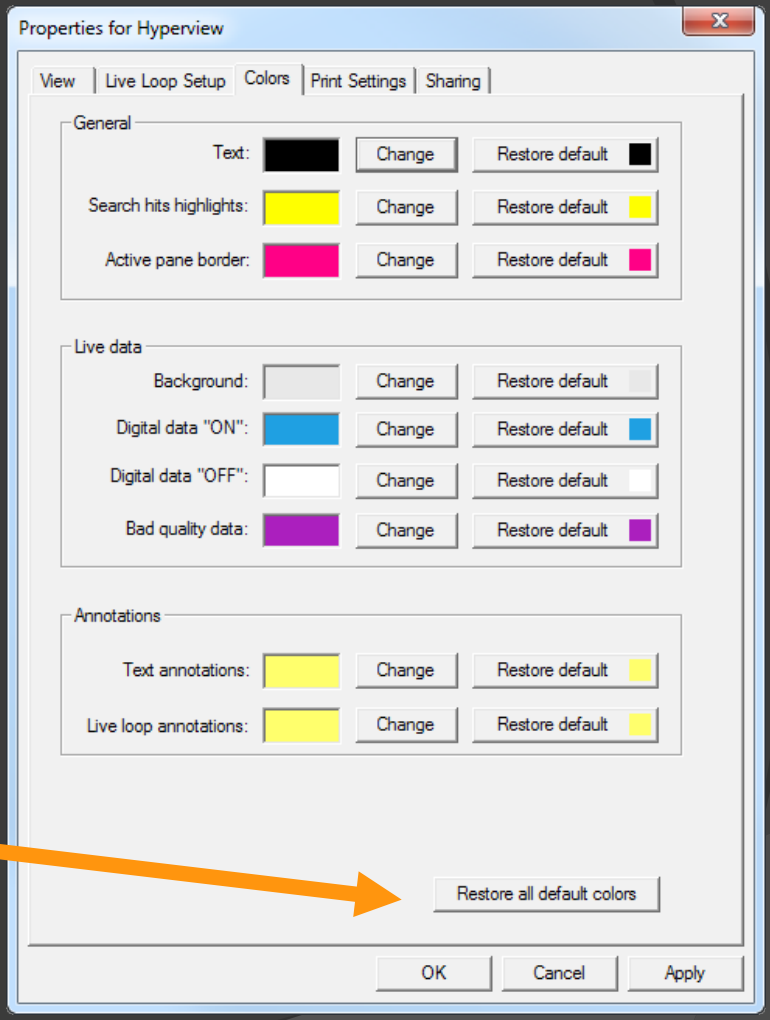
- Default Date Format – MMDD or DDMM
- Show thumbnail image – toggles display of thumbnails for graphical documents
- Update interval – defines how often live data on documents is updated



2.8.3.2 Color options

Use Options | Color Scheme to set the colors of various Hyperview features such as annotations and search hits.

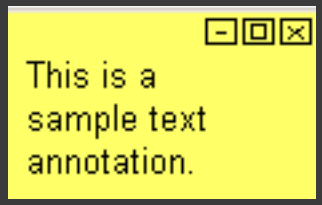
All colors can easily be set back to the default.



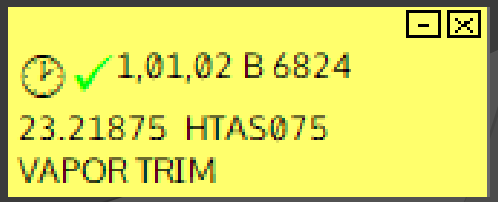
2.9 Text annotations: Making notes on documents

Annotations are like electronic sticky notes. There are two types:

- Text annotations (just text)

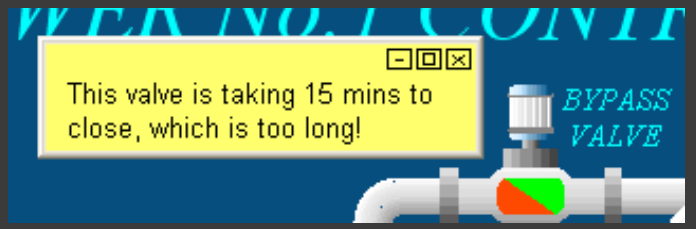


- Live loop annotations (live block, spec, or module status data)



2.9.1 Text annotations

Annotations can be used as reminders, notes to colleagues, or as a way to communicate with consultants.



To create a text annotation:

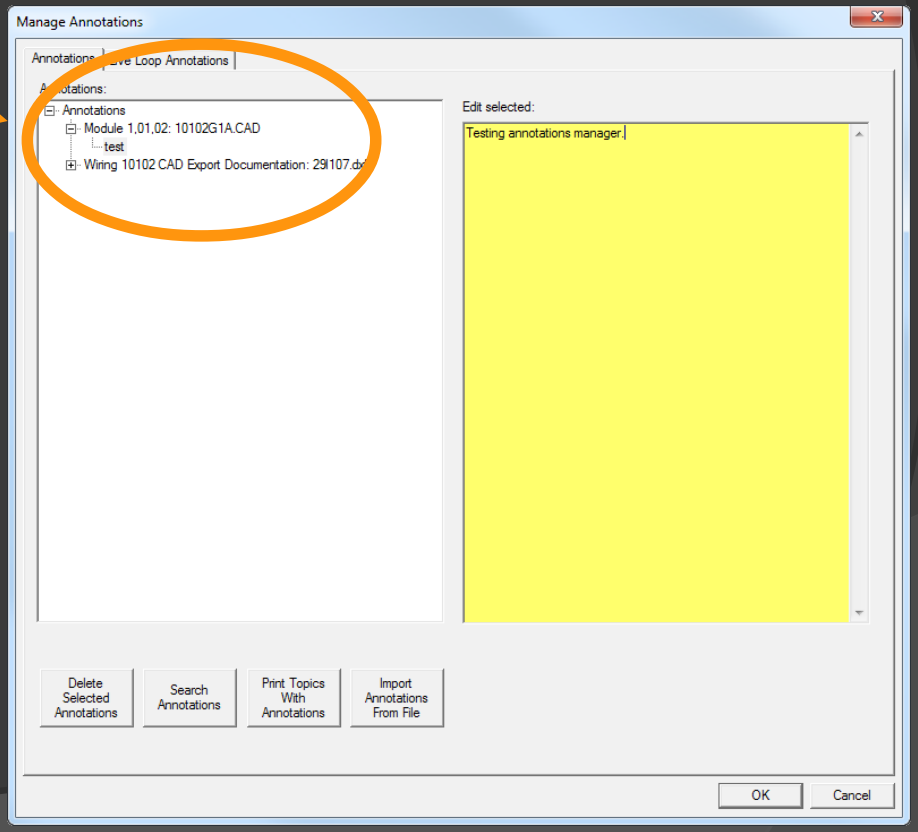
- Click on  in the toolbar
- Right-click on the document and choose Text Annotation | Create

2.9.2 Managing annotations

In the Annotation Manager, you can see all the text annotations in your project at once.

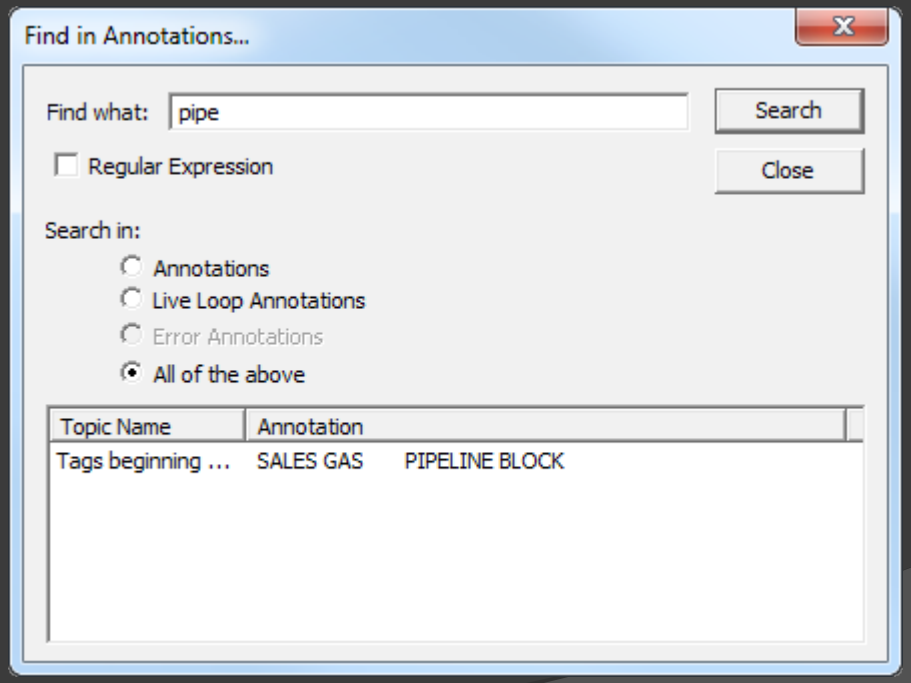
To open the Annotation Manager, click 

All the annotations are displayed here.



2.9.3 Searching annotations

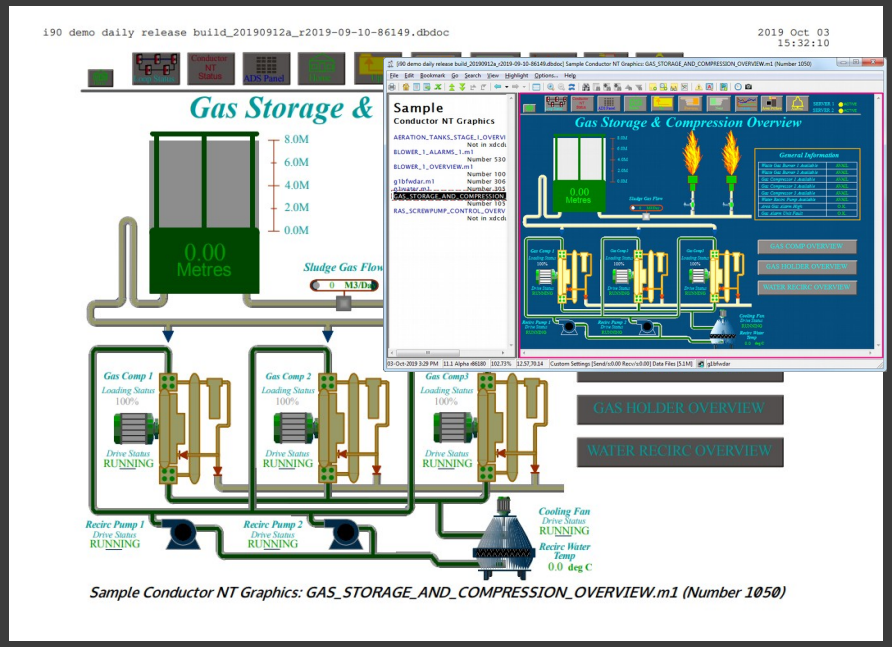
All the annotations in your project can be searched for particular text strings.



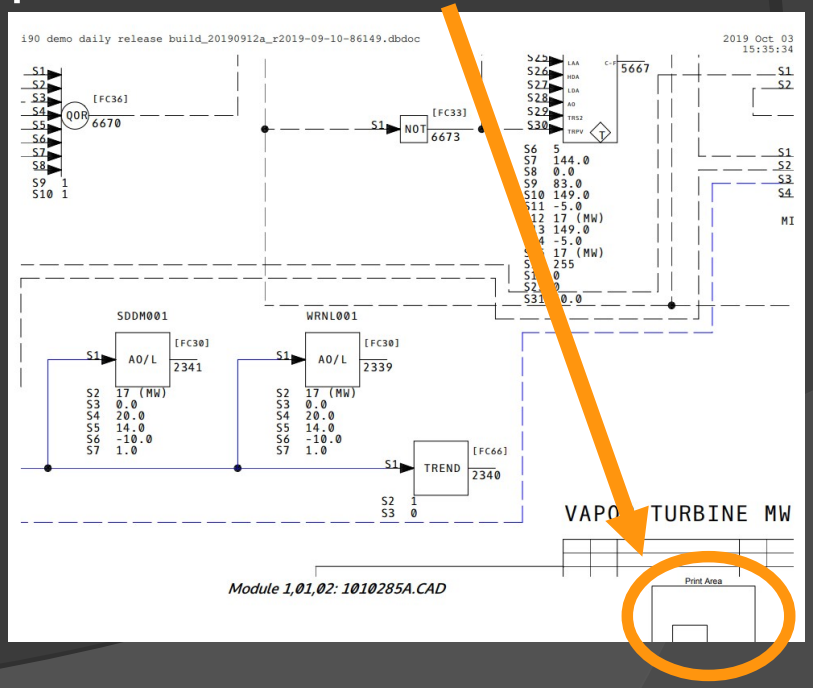
2.10.1 Printing a single document

You can print any document displayed in the browser.

Dark backgrounds can be made white to save ink.



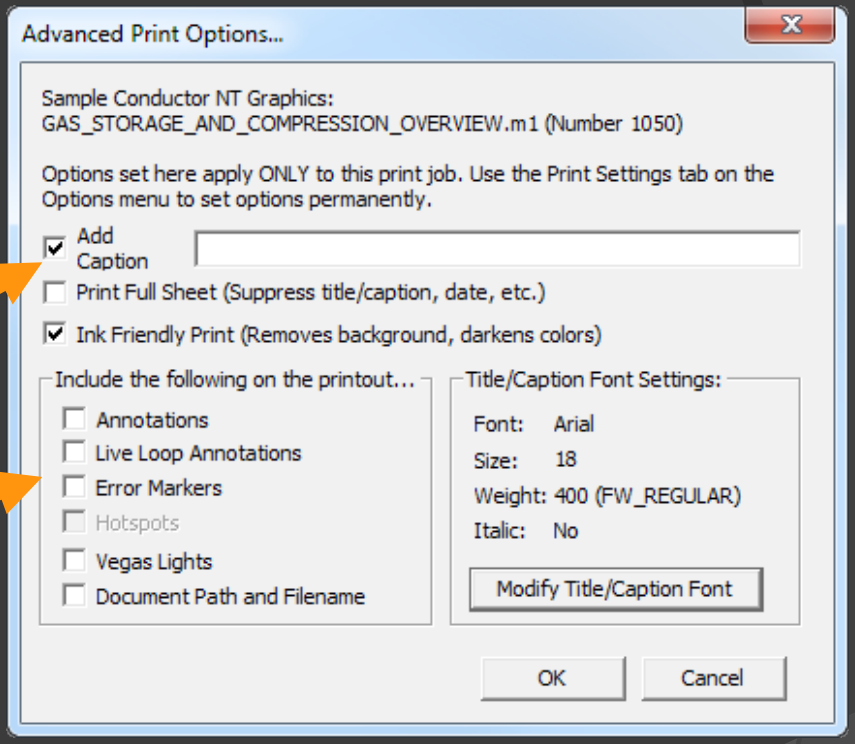
Zoom in to print part of a document. The zoomed portion is indicated.



2.10.1.1 Advanced print options

These include the basic options shown earlier, plus other possibilities.

- Add a caption to the page.
- Choose whether to include various features on the printout.



2.10.1.2 Fast Print

If you print frequently, use Fast Print.

- Select File | Fast Print from the File menu
- Press P on the keyboard

The Print dialog choices from the first print will be applied to subsequent prints

2.10.2 Marking the current topic for later printing

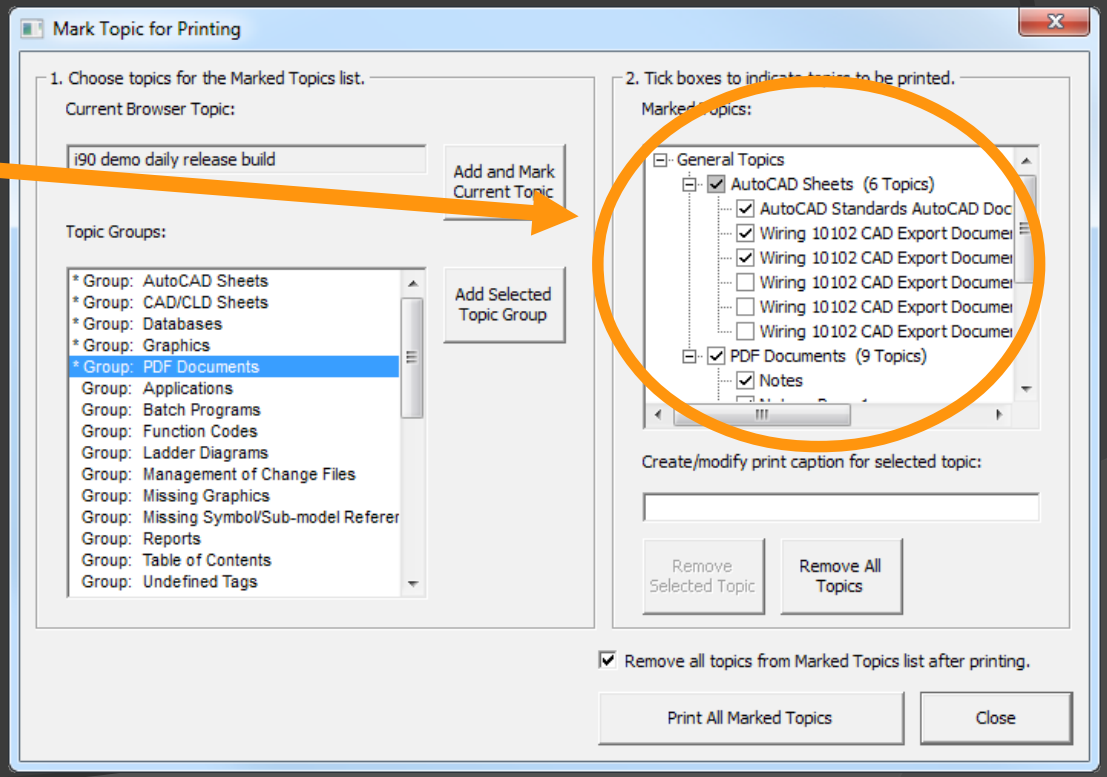
Using the right-click menu, you can mark a topic for later printing. This is convenient for printing many topics at once.

- Mark the current topic for printing with Mark for Print | Mark <topic> for Printing
- Over a block hotspot, mark the block's index for printing with Mark for Print | Mark <block index> for Printing
- Over a link hotspot, mark the linked topic for printing with Mark for Print | Mark Linked Topic for Printing

2.10.3 Using the Mark for Print dialog to print groups of topics

Later, you can print these marked topics from the File | Mark Topic for Printing dialog.

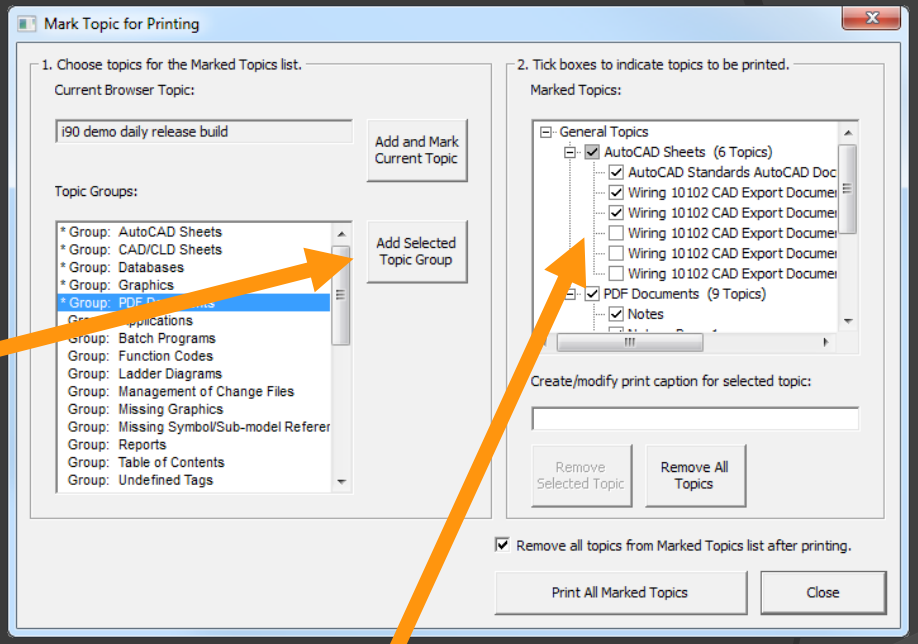
Marked topics are collected here. Some or all of them can be printed.



2.10.3.1 Marking a group of topics for printing

To select an entire category of topics for printing:

1. Select a group of topics from the Groups list.
2. Click Add Selected Topic Group.

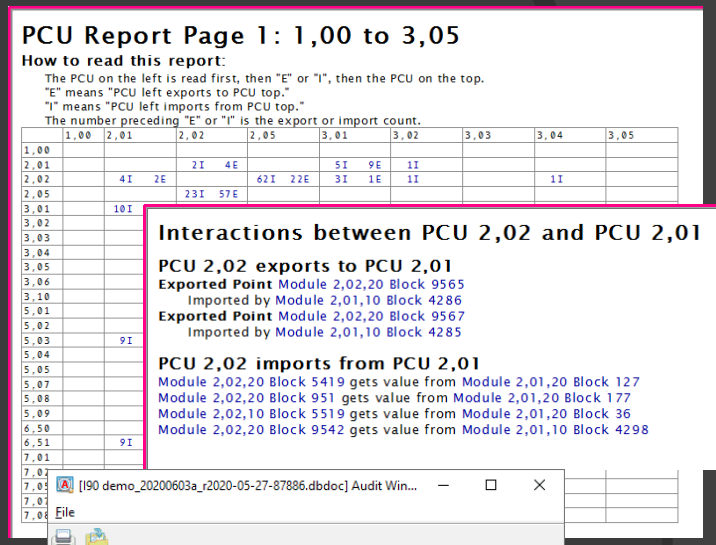


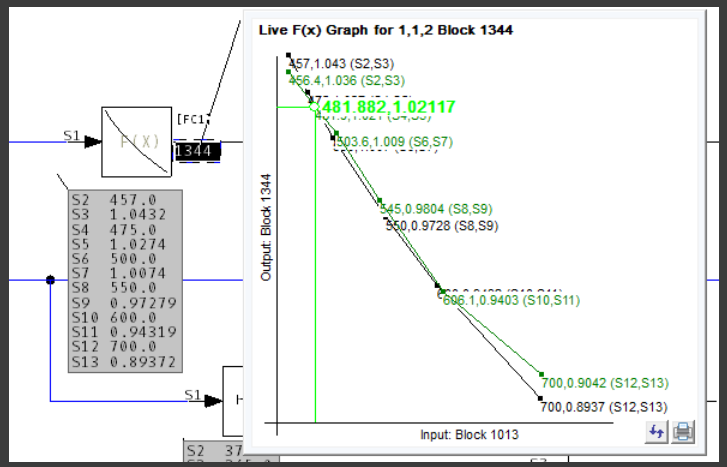
The topics will be added to the tree in the Marked Topics area. Expand and uncheck any topics you do not wish to print.

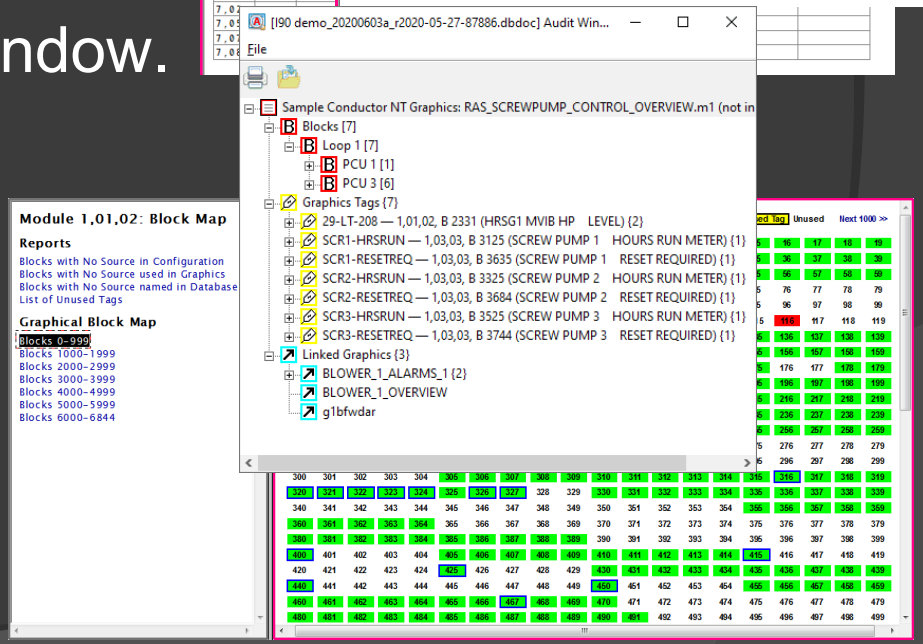
2.11 Tools, reports and indexes

A variety of reports and indexes are built into the the project system snapshot.

In addition, Hyperview provides tools such as the Audit Window and Graphics Cross Reference Window.







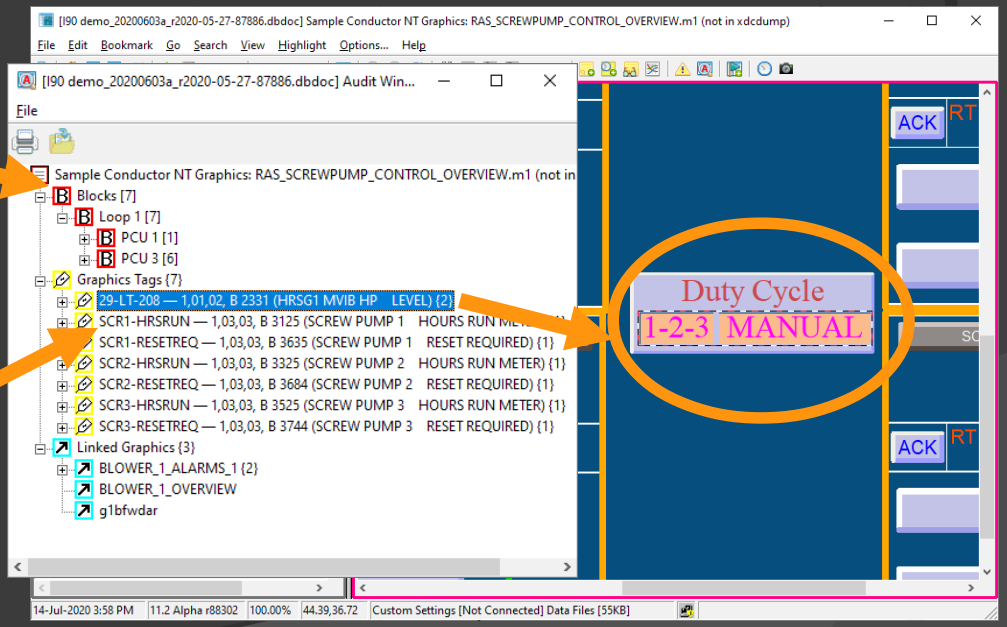
2.11.1 The Audit Window

The Audit Window shows at a glance all the resources used in a CAD/CLD or graphic.

- Open the Audit Window with View | Audit Window
- Press  on the toolbar

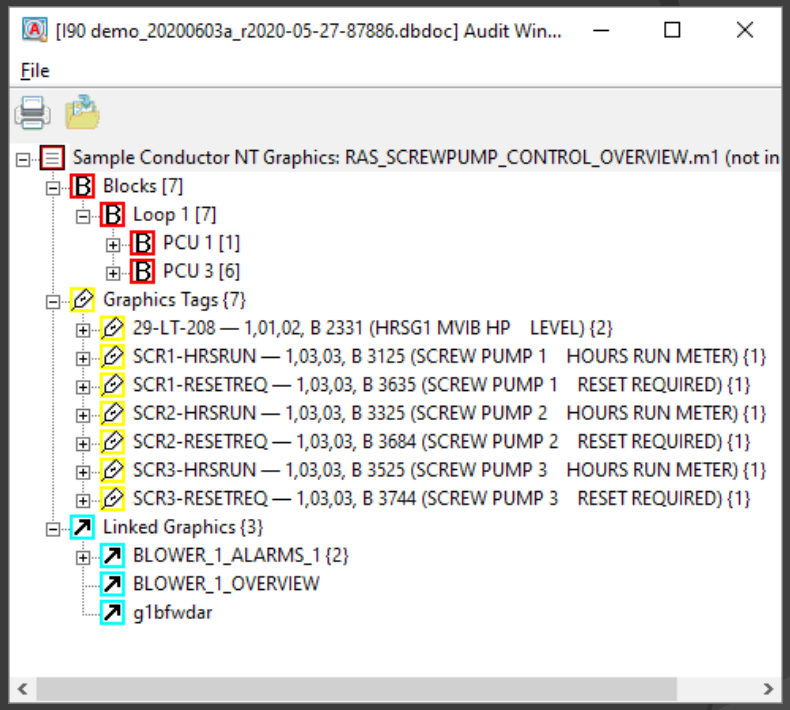
Lists the blocks, tags, input and output references and function codes on the graphic.

Click on any item to highlight it on the document.



2.11.1.1 Why use the Audit Window?

- Checklist for tags
- Check all places a block is used on the CAD/CLD or graphic
- Verify that a block is used consistently
- See the tags on an AutoCAD or MicroStation sheet
- On graphics, determine if the uses of a tag are spread across the page

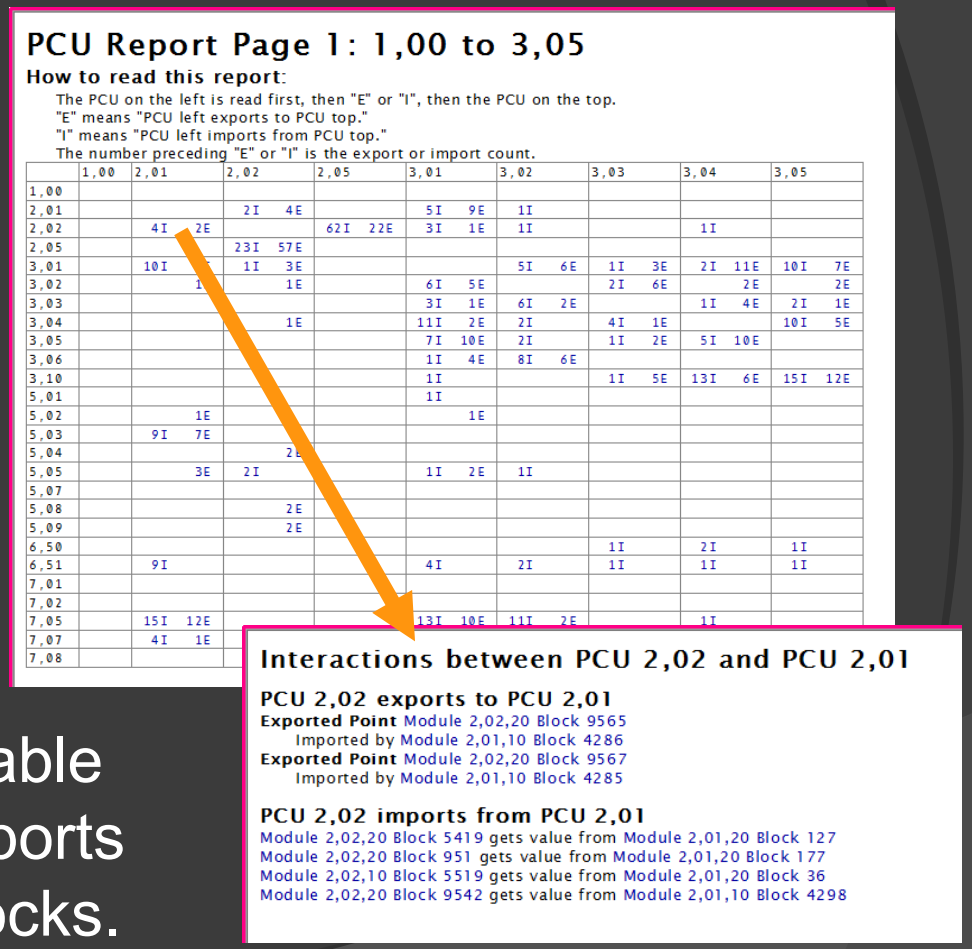


2.11.2 PCU Report

Use the PCU Report to see what blocks are exported and imported between units.

To see the PCU Report, click on PCUMap.txt in the Miscellaneous Indices chapter in the main table of contents, then choose one of the PCU Report links.

Click on any entry in the table to see the exports and imports between two particular blocks.



PCU Report Page 1: 1,00 to 3,05

How to read this report:

The PCU on the left is read first, then "E" or "I", then the PCU on the top.
"E" means "PCU left exports to PCU top."
"I" means "PCU left imports from PCU top."
The number preceding "E" or "I" is the export or import count.

	1,00	2,01	2,02	2,05	3,01	3,02	3,03	3,04	3,05
1,00									
2,01			2I 4E		5I 9E	1I			
2,02		4I 2E		62I 22E	3I 1E	1I		1I	
2,05			23I 57E						
3,01		10I	1I 3E			5I 6E	1I 3E	2I 11E	10I 7E
3,02		1	1E		6I 5E		2I 6E	2E	2E
3,03					3I 1E	6I 2E		1I 4E	2I 1E
3,04			1E		11I 2E	2I	4I 1E		10I 5E
3,05					7I 10E	2I	1I 2E	5I 10E	
3,06					1I 4E	8I 6E			
3,10					1I		1I 5E	13I 6E	15I 12E
5,01					1I				
5,02		1E			1E				
5,03		9I 7E							
5,04			2E						
5,05		3E	2I		1I 2E	1I			
5,07									
5,08			2E						
5,09			2E						
6,50							1I	2I	1I
6,51		9I			4I	2I	1I	1I	1I
7,01									
7,02									
7,05		15I 12E			13I 10E	11I 2E		1I	
7,07		4I 1E							
7,08									

Interactions between PCU 2,02 and PCU 2,01

PCU 2,02 exports to PCU 2,01

Exported Point Module 2,02,20 Block 9565
Imported by Module 2,01,10 Block 4286
Exported Point Module 2,02,20 Block 9567
Imported by Module 2,01,10 Block 4285

PCU 2,02 imports from PCU 2,01

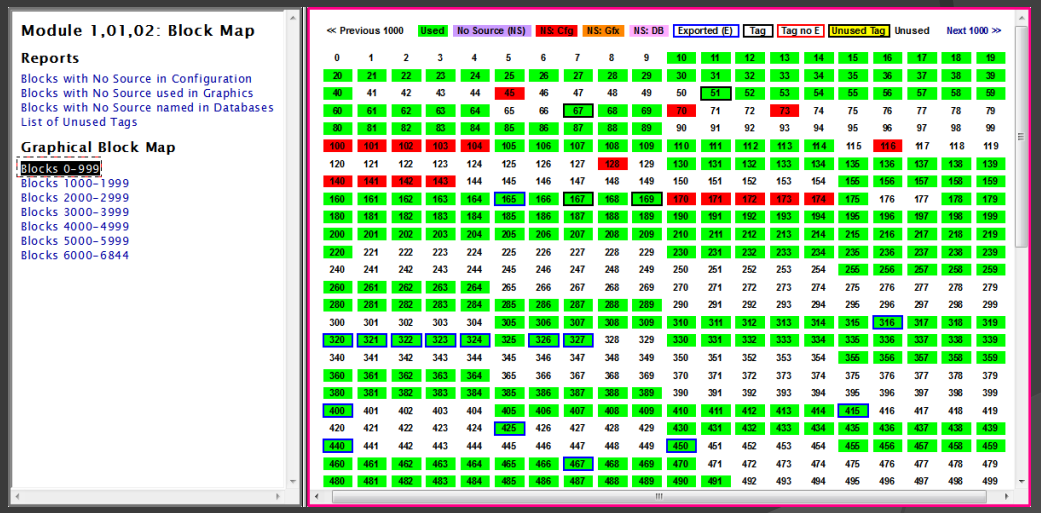
Module 2,02,20 Block 5419 gets value from Module 2,01,20 Block 127
Module 2,02,20 Block 951 gets value from Module 2,01,20 Block 177
Module 2,02,10 Block 5519 gets value from Module 2,01,20 Block 36
Module 2,02,20 Block 9542 gets value from Module 2,01,10 Block 4298

2.11.3 Graphical Block Map

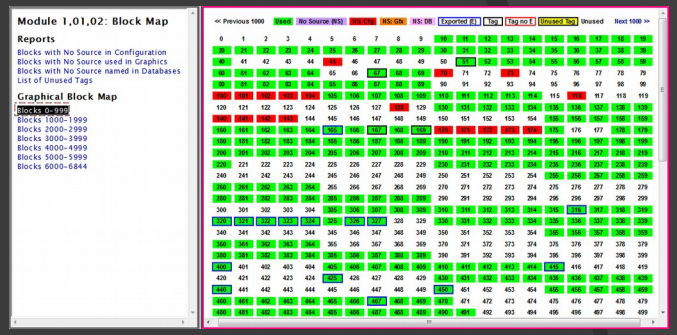
The Graphical Block Map is a visual representation of how each block in the system is used.

To view the Graphical Block Map:

- Right-click on a graphic or CAD/CLD and choose Go To Block Map
- Choose the Block Map link at the start of any Module chapter in the table of contents



2.11.3.1 Graphical Block Map: color coding



The Graphical Block Map shows how each block in the system is used.

- Used — Used
- NS: Cfg — Used in the configuration, but no source (or source not built)
- NS: Gfx — Used on a graphic, but not sourced in the configuration
- NS: DB — Referenced in a database, but not sourced in the configuration
- No Source (NS) — Has no source, but is sourced somewhere in the system
- Exported (E) — Exported, but not tagged (blue borde
- Tag no E — Tagged but not exception reported.
- Tag — Tagged and exported (black border)
- Unused Tag — Block is tagged, but not used
- Unused — Completely unused

1041

The Perfect Block: tagged, exported, used

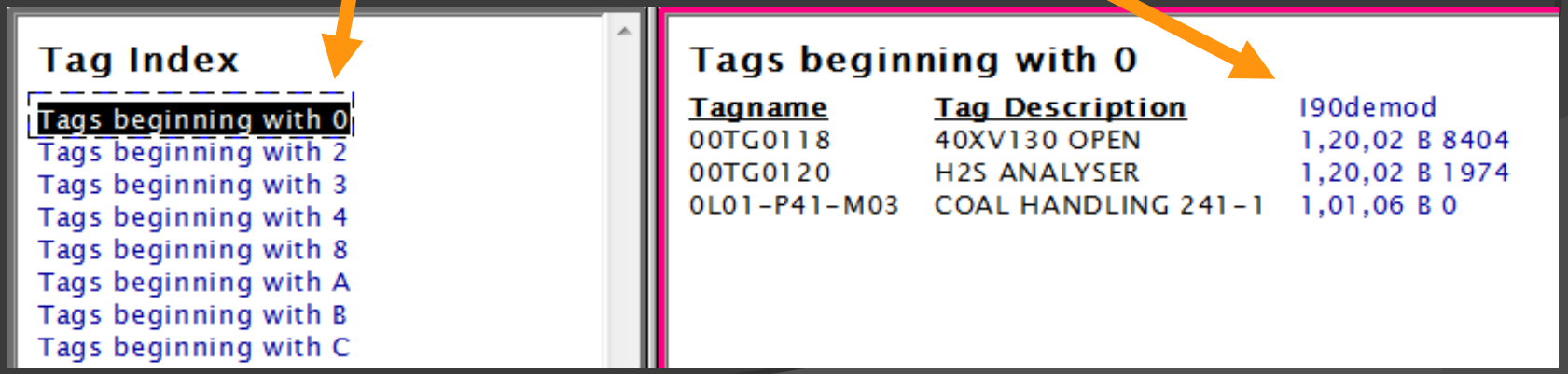
2.11.4 Tag Index

The Tag Index is an index of all the tags in your databases.

To view the Tag Index, select Tag Index in the Databases chapter of the table of contents.

Alphabetical index of tags

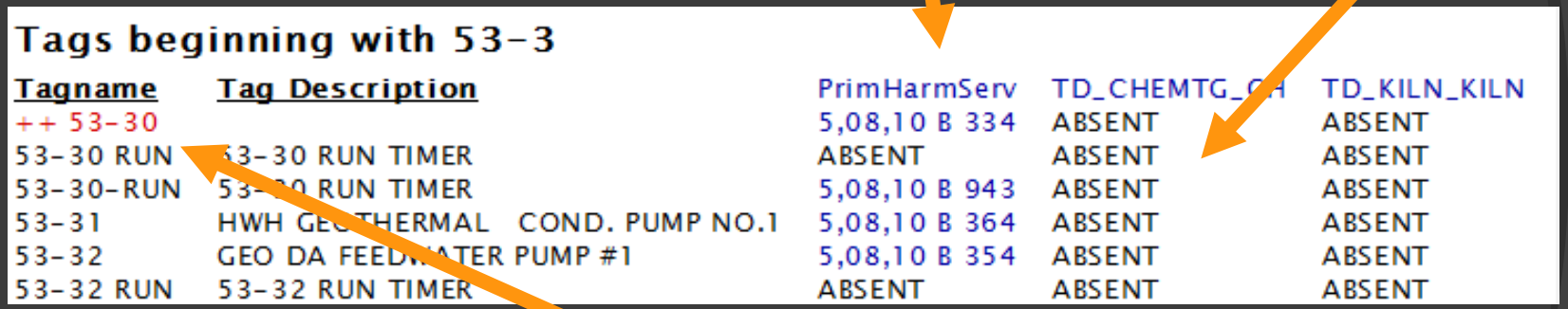
The block associated with each tag in each database is shown.



2.11.4.1 Using the Tag Index: absent and inconsistent tags

Each column lists the block for the tag in that database.

ABSENT indicates a tag is not used in this database



Tags beginning with 53-3

Tagname	Tag Description	PrimHarmServ	TD_CHEMTG_CH	TD_KILN_KILN
++ 53-30		5,08,10 B 334	ABSENT	ABSENT
53-30 RUN	53-30 RUN TIMER	ABSENT	ABSENT	ABSENT
53-30-RUN	53-30 RUN TIMER	5,08,10 B 943	ABSENT	ABSENT
53-31	HWH GEOTHERMAL COND. PUMP NO.1	5,08,10 B 364	ABSENT	ABSENT
53-32	GEO DA FEEDWATER PUMP #1	5,08,10 B 354	ABSENT	ABSENT
53-32 RUN	53-32 RUN TIMER	ABSENT	ABSENT	ABSENT

To find inconsistent tags, do a text search for ++

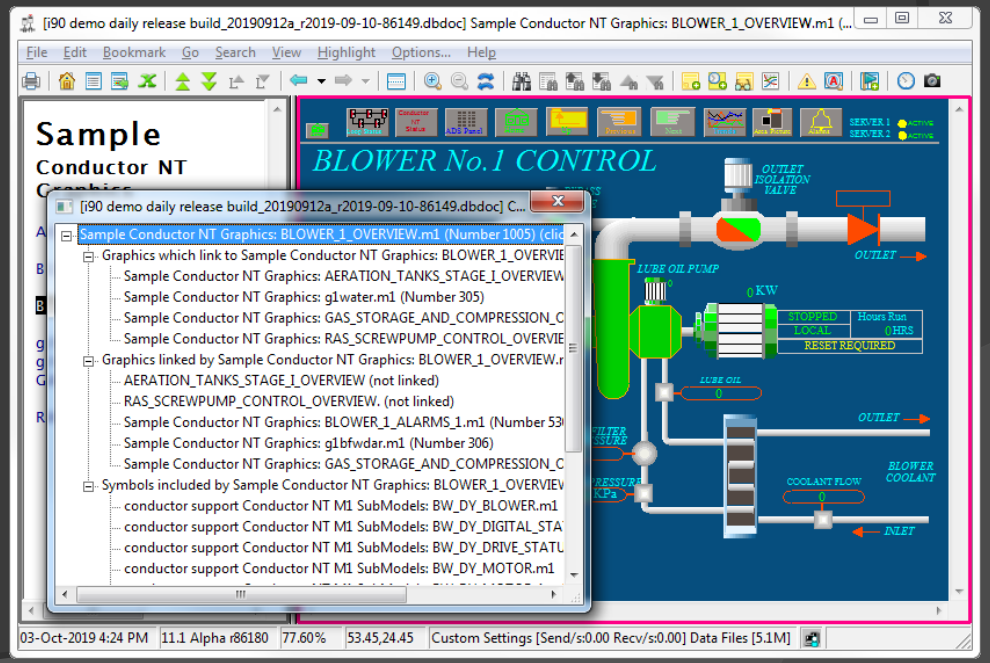
++<tag name> indicates an inconsistent tag. The tag is associated with different blocks in different databases. This could be a concern.

2.11.5 Graphics Cross-Reference Window

The Graphics Cross-Reference Window shows all the graphics that link to and from a given graphic, plus included symbols.

To show the Graphics Cross-Reference Window:

- Open the Graphics Cross-Reference Window with Go | Display Cross References
- Press  on the toolbar
- Type X



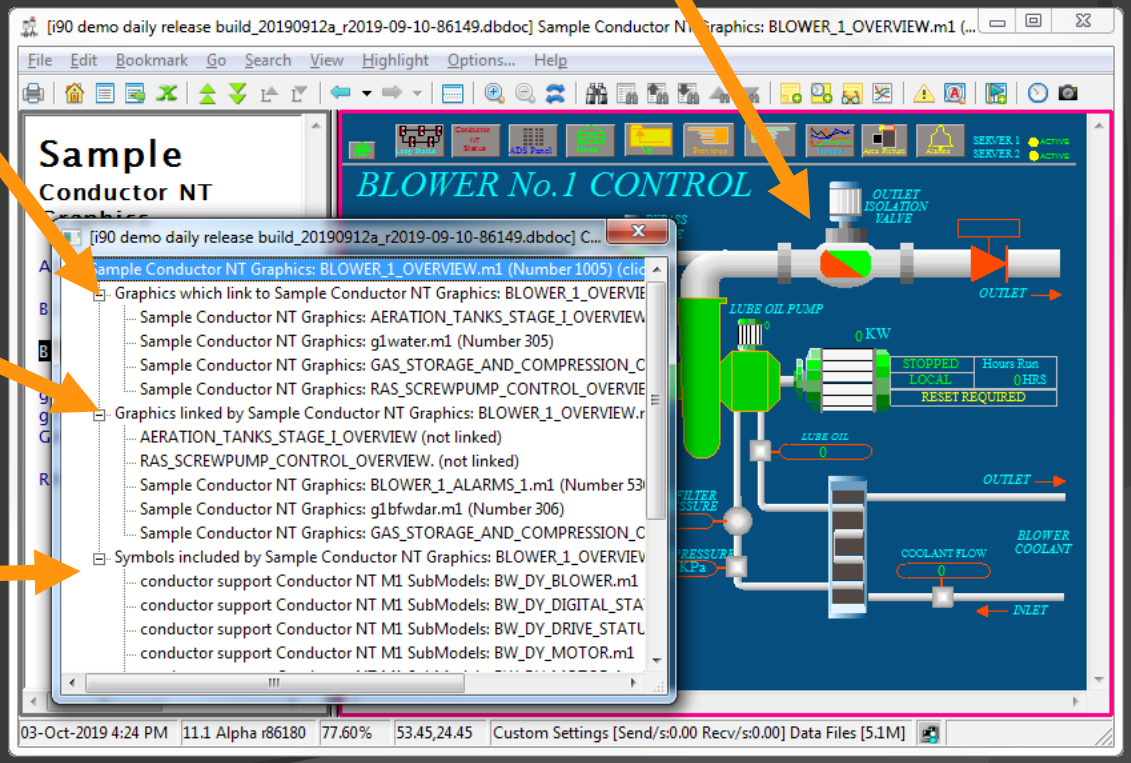
2.11.5 Graphics Cross-Reference Window (cont'd)

Click on any item in the Graphics Cross-Reference Window to display it in the browser.

Graphics that link to the one shown

Graphics that the shown graphic links to

Symbols included on this graphic



2.11.5.1 Using cross-references to find symbols no longer used by your graphics

- Step through your symbol chapters
- Bring up the cross-references for each symbol
- Symbols that are never used will have a blank cross-reference page

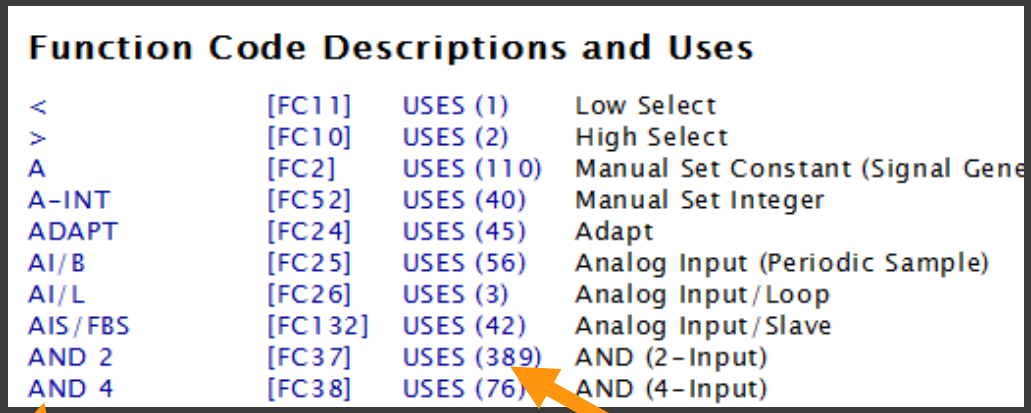
2.11.5.2 Using cross-references to locate graphics linked to but not built

- Step through your graphics chapters
- Bring up the cross-references for each graphic
- Entries followed by (not linked) in the Cross-Reference Index indicate that DBDOC was unable to build the graphics called for; either the build was incomplete or some of the graphics are trying to link to graphics that no longer exist

2.11.6 Function Descriptions and Uses

The Function Code Descriptions and Uses index lists and links every instance of each function code in your system.

To view it click on Function Codes in the table of contents.



Function Code Descriptions and Uses

<	[FC11]	USES (1)	Low Select
>	[FC10]	USES (2)	High Select
A	[FC2]	USES (110)	Manual Set Constant (Signal Gene
A-INT	[FC52]	USES (40)	Manual Set Integer
ADAPT	[FC24]	USES (45)	Adapt
AI/B	[FC25]	USES (56)	Analog Input (Periodic Sample)
AI/L	[FC26]	USES (3)	Analog Input/Loop
AIS/FBS	[FC132]	USES (42)	Analog Input/Slave
AND 2	[FC37]	USES (389)	AND (2-Input)
AND 4	[FC38]	USES (76)	AND (4-Input)

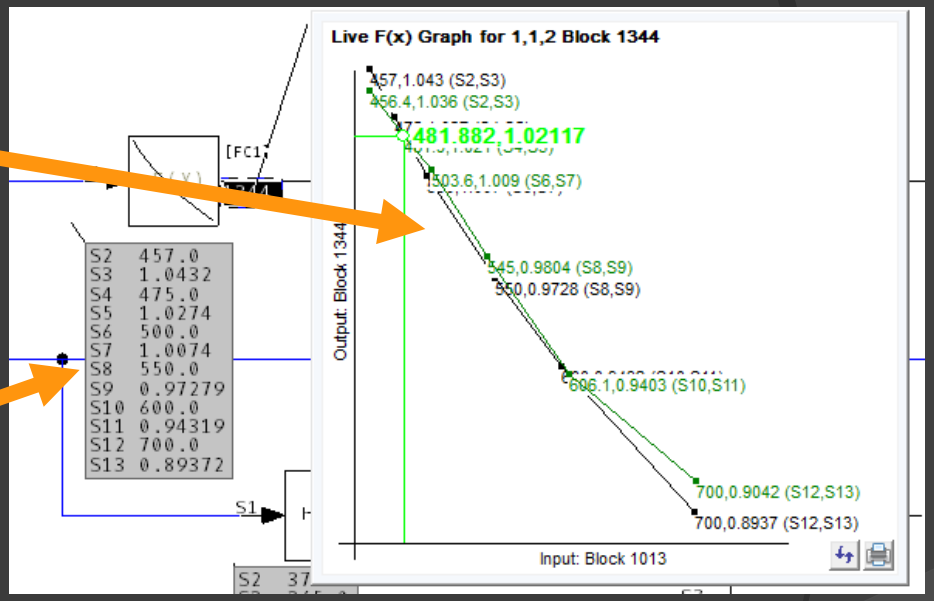
Click on the function name to see a description of its specs and outputs.

Click on USES to see an index of all the places that function code is used.

2.11.7 Graph of F(x) Function Code 1

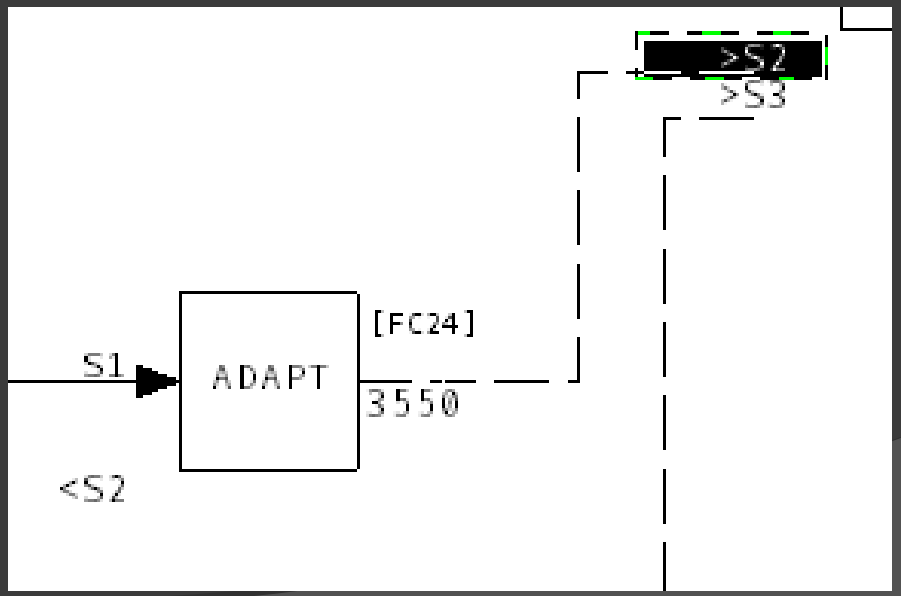
INFI 90 Function Code 1 implements user specified piece-wise linear functions.

- To view the graph right on the CAD/CLD, right-click on a FC1 block, and select Show Function Graph for Block.
- Press S to view the specs on which the graph is based.
- The live data will update along with live data on the underlying CAD/CLD. Press  to update on demand.



2.11.8 Adapt blocks

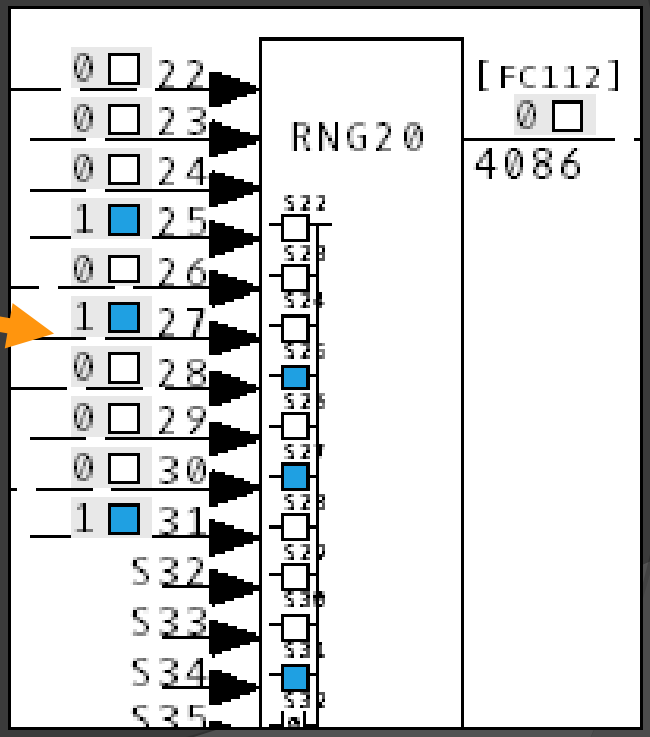
- Click on Function Code 24 in the Function Code Index to see a list of all the Adapt Blocks in the system.
- Right-click Go To Use on an adapt block output tells you what block it adapts. Double-click to jump there.



2.11.9 Rung block display

Rung blocks are heavily used in some systems, e.g. ETSI turbine control systems.

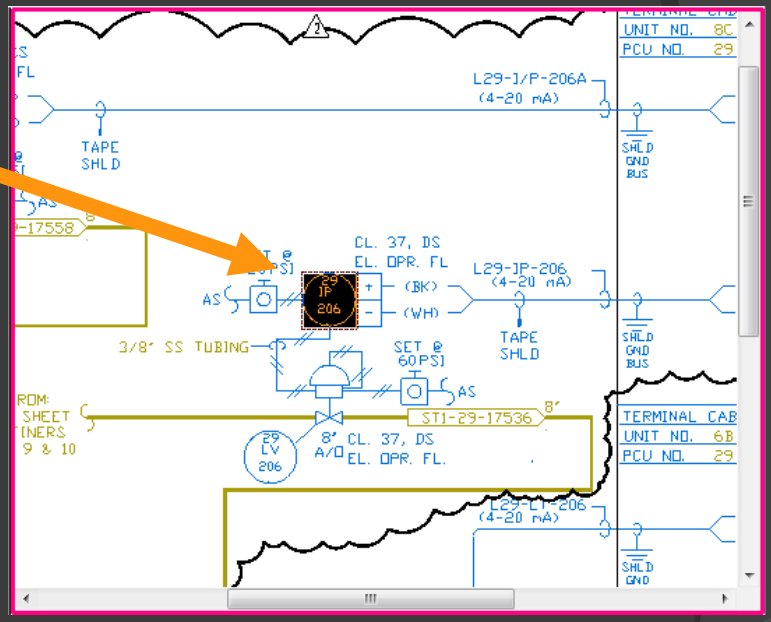
- Press S to display the ladder diagram describing the rung block function.
- Press  to display live input, output, and internal values right on the ladder diagram.



2.11.10 AutoCAD and MicroStation

AutoCAD and MicroStation drawings are integrated right into the DBDOC snapshot.

- Tag names are used to build these links.
- Live data can be displayed AutoCAD and MicroStation drawings.
- The phrase-match algorithm used for constructing links can be modified in BuildPlus. We can also customize it, to make sure you get the links you want.



2.12 Managing live loop data connections

In order to fetch live data to display on documents, Hyperview needs to know the location of at least one CIUMon server (the DBDOC live data server).

Live loop connections can be configured

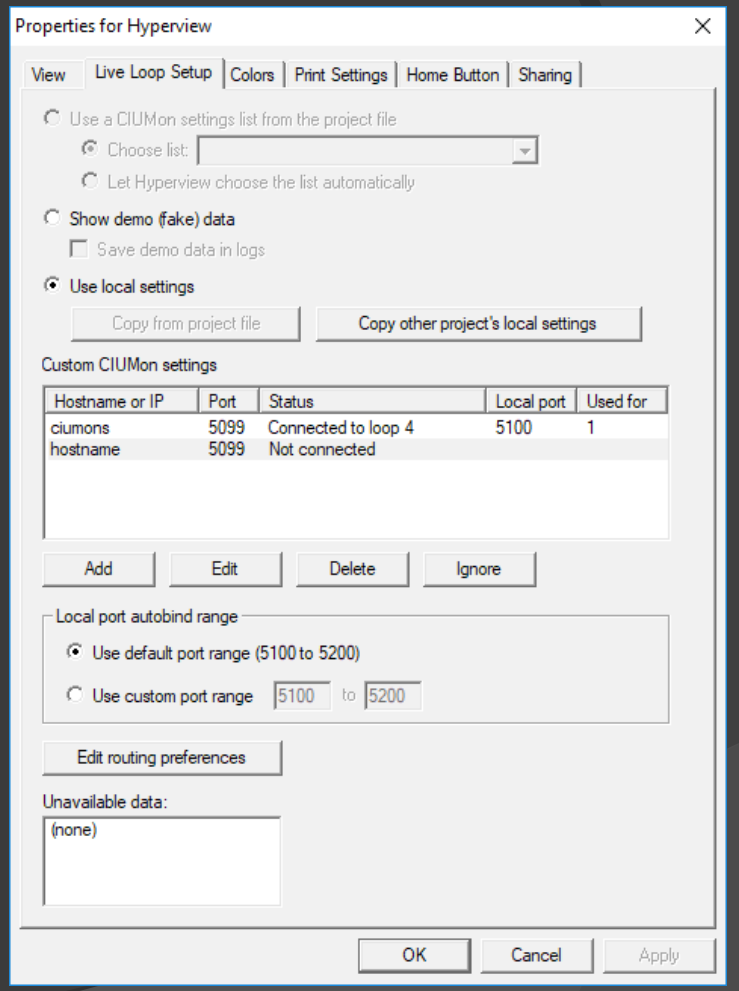
- In BuildPlus, and built into the project snaphot (the usual and preferred approach)
- In Hyperview, using Options | Live Loop Settings

2.12.1 About live data settings

- Live data can be displayed on documents in Hyperview.
- Data is fetched from the CIU via one or more DBDOC data servers (CIUMon).
- Some systems have one CIUMon server. Some have multiple CIUMon servers.
- Sometime certain CIUMons are available on one network (e.g. DCS LAN) and other on another network (e.g. business LAN).
- Usually the settings (i.e. list of data servers) are built into the project file.
- Possible to create “Custom” local settings in Hyperview.

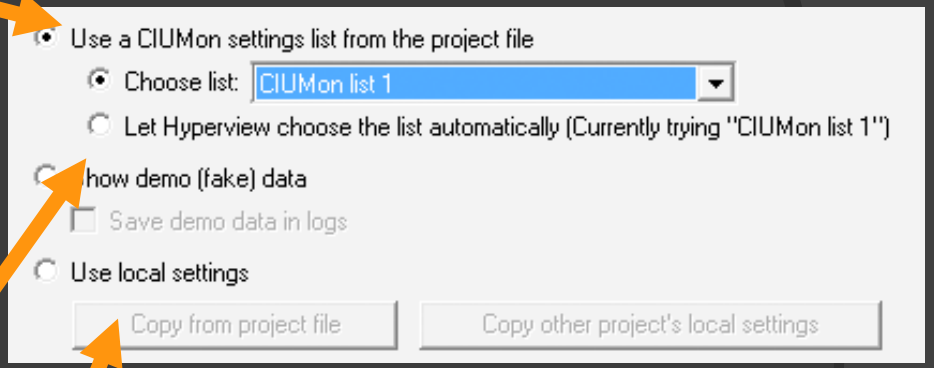
2.12.2 Live Loop Setup dialog

- View and manage connections to CIUMon data servers.
- Settings are usually built into the project file, but can be configured locally (“Custom” settings”)



2.12.3 Choosing a settings list

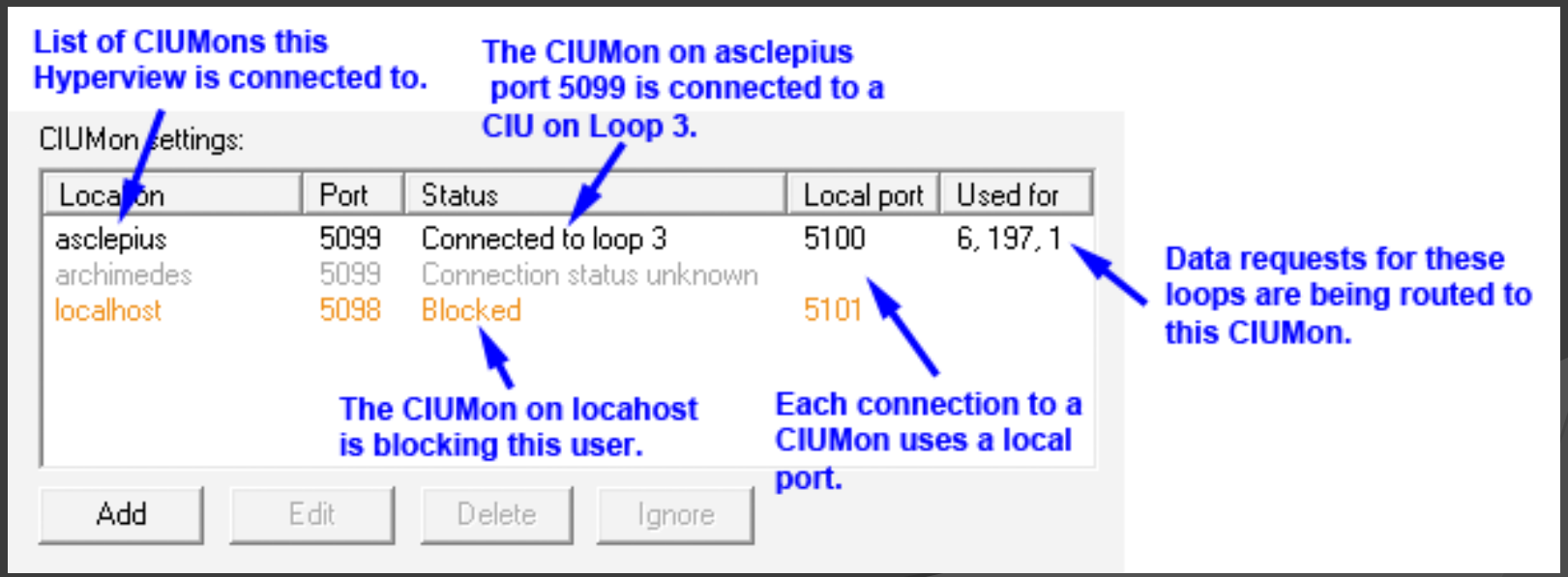
- Usually one or more server lists are built into the project (project) file.
- Multiple lists are usually for multiple network contexts.
- Hyperview can autoselect the best list.
- You can define a local custom list of servers.



Usually you would use the built in settings in the project file.

2.12.4 Understanding your current live loop settings

You can see whether servers are connected, blocked, unavailable, and also which data requests are being sent to each server.



2.12.5 Adding or modifying live loop connections

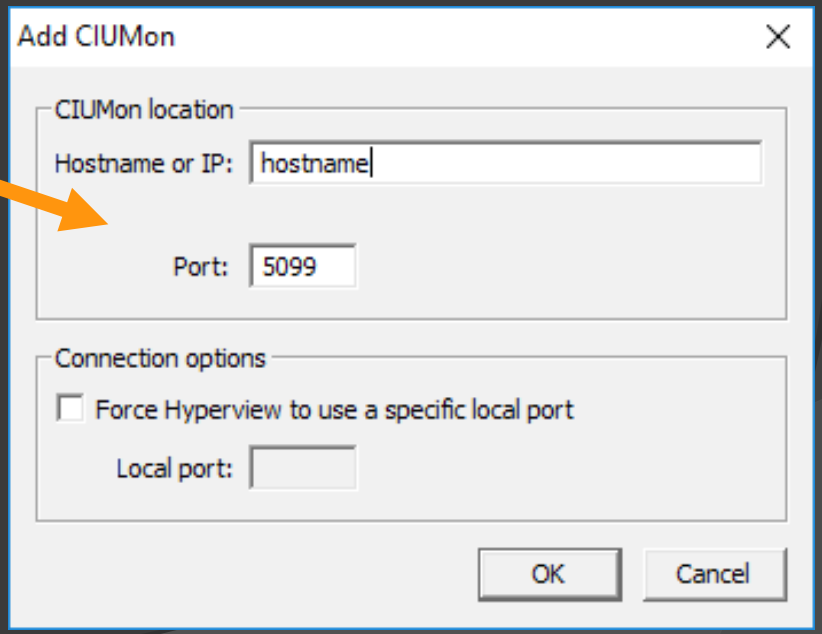
Usually settings should be configured in BuildPlus, and built into the shared project file.

However, in some situations, you might need to change your personal live loop settings using Hyperview:

- No settings are built into the project file.
- You need to override the settings built into the project file.
- You want to use a specific CIUMon connected to a particular CIU or Serial Port Module.
- The built-in CIUMons settings are not accessible in your network context.

2.12.5.1 Adding a connection

- Press “Add”.
- Specify the computer name and port for the CIUMon server you want to connect to.

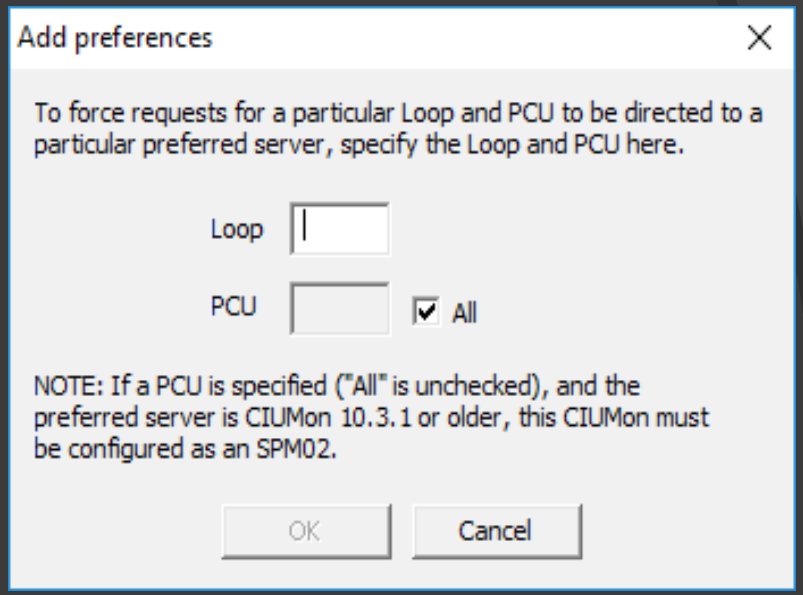


2.12.6 Specifying a non-default local port range

- Usually Hyperview automatically chooses ports in the default port range.
- On occasion, to get through a firewall, you might specify a particular set of ports for Hyperview to use when talking to CIUMon.

2.12.7 Adding routing preferences

- Hyperview automatically routes data requests to an appropriate CIUMon (if there is more than one).
- In unusual circumstances you can force data requests for a particular Loop (and PCU) to go to a specified CIUMon server by creating a routing preference.

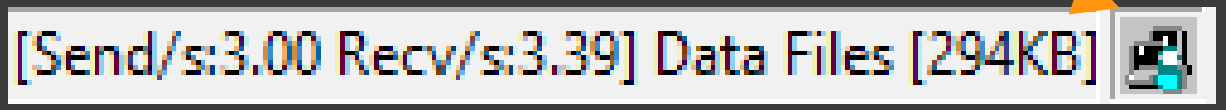


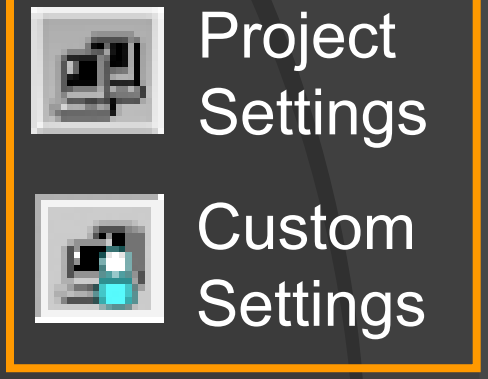
2.12.8 Unavailable data

- Loops and PCUs for which Hyperview can't get data are displayed.
- If live data is turned on in the browser, but there are no connected CIUMons, you will see items here.

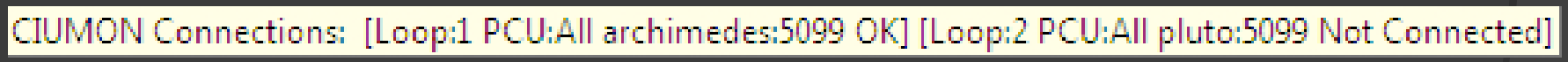
2.12.9 Status of live data connections

The connection icon in the browser's status bar shows the the current connection status:





Mouse over the connection icon to see the status of each specified connection summarized in a tooltip.



Watch out for these icons. They indicate a communication or connection configuration problem.

2.12.9 Status of live data connections (cont'd)

You may see any of these icons in the toolbar. Where multiple connections have different statuses, the “best” status is shown.

-  Connection OK – Using built-in settings
-  Connection OK – Using local custom settings
-  Unable to connect – None of the specified connections have been made, or requested data is not accessible
-  No connections have been specified at all
-  Connection blocked – This user or IP is not allowed to talk to a CIUMon needed for requested data
-  Demo settings – Fake data is being displayed

2.12.10 Compression of Hyperview data requests

Both Hyperview and CIUMon try to compress multiple requests for the same data.

- If multiple requests are made for the same data in the same update interval, Hyperview combines them.
- If multiple Hyperviews request the same data from CIUMon in the same interval, CIUMon combines the requests before passing them on to the CIU.

2.13 Managing live data load

On most systems, live data fetch rate is very limited. 10-20 values per second per CIU is typical. Multiple Hyperviews may share this bandwidth among themselves and with your other applications.

General strategies to cope:

- Use **Rovisys OPC90 Server** to get 50-100 values per second! Contact GMCL for more information.
- Be aware of the live data load you are creating!
- Know how to minimize your own live data load.
- Use more CIUMon servers if you have multiple CIUs.
- Make use of any serial port modules you may have available.

2.13.1.1 Constraints on live data fetch rate

Fast facts:

- A single CIU can give up to 20 values/s
- Multiple CIUs can give up to 20 values/s each
- Serial port modules can give 80 values/s
- Rovisys OPC90 Server gives 50-100 values/s

To increase bandwidth:

- Multiplex CIUMon servers to your EWS CIUs using OPC90 Servers.
- Use multiple CIUMon servers

2.13.1.2 Constraints on live data fetch rate (cont'd)

Single CIU

- Will probably be on Ring 1 (unless not possible, or main system not Loop 1)
- Limited to 20 values / second
- Non Loop-1 data will be fetched via Loop 1 – be aware of increased Loop 1 load

2.13.1.3 Constraints on live data fetch rate (cont'd)

Multiple CIUs

- You have more than one EWS, connected to CIUs on different loops. CIUMon can share the CIU connection with the EWS
- Multiplex CIUMon and EWS using RoviSys OPC90 Server Lite Plus. DOUBLE or TRIPLE data rate with new 2010 OPC90 Server .
- 10-20% cost of CIU makes its spare bandwidth available for DBDOC
- Get up to 20 more values/s in Hyperview for each connected CIU

2.13.1.4 Constraints on live data fetch rate (cont'd)

Serial Port Modules

- SPMs very useful when used with DBDOC
- Each can give up to 80 values / second
- System directly gains throughput, since data fetched via an SPM does not load the CIU

2.13.2 Managing live data load for the Watch Window

Tips for managing live data load due to blocks you are plotting in the Watch Window.

- Watch the Send and Recv numbers in the status bar. They show requests and responses per second from both the Watch Window and live data on documents.

- Increase the Update Interval in Options | View.
- Pause data collection for blocks or groups of blocks you are not actively trending.
- Increase the block update interval where possible.
- Be aware that Watch Window blocks collect data even when the Watch Window is not open.

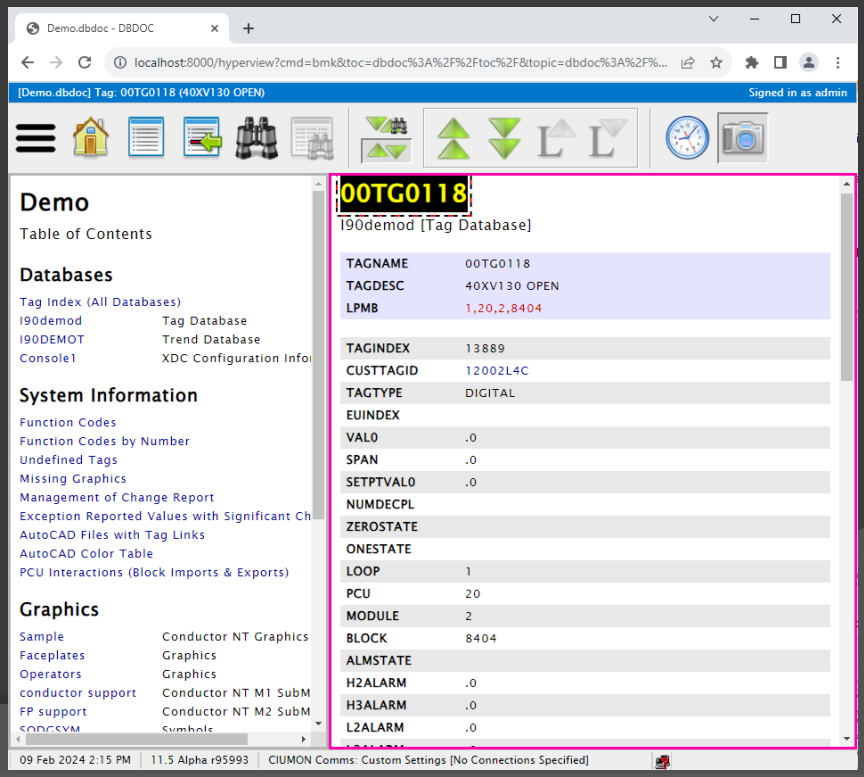
2.13.3 How to tell how much data is being requested

- Watch the Send and Recv numbers in the status bar. They show requests and responses per second from both the Watch Window and live data on documents.

- If Recv < Send, CIUMon can't keep up. Reduce data load.
- Remember that all the Hyperviews sharing a CIUMon-CIU connection share the available bandwidth.
- View CIUMon statistics for a global picture of how multiple Hyperviews are loading a CIUMon. Use CIUMon Options or turn on CIUMonController statistics.

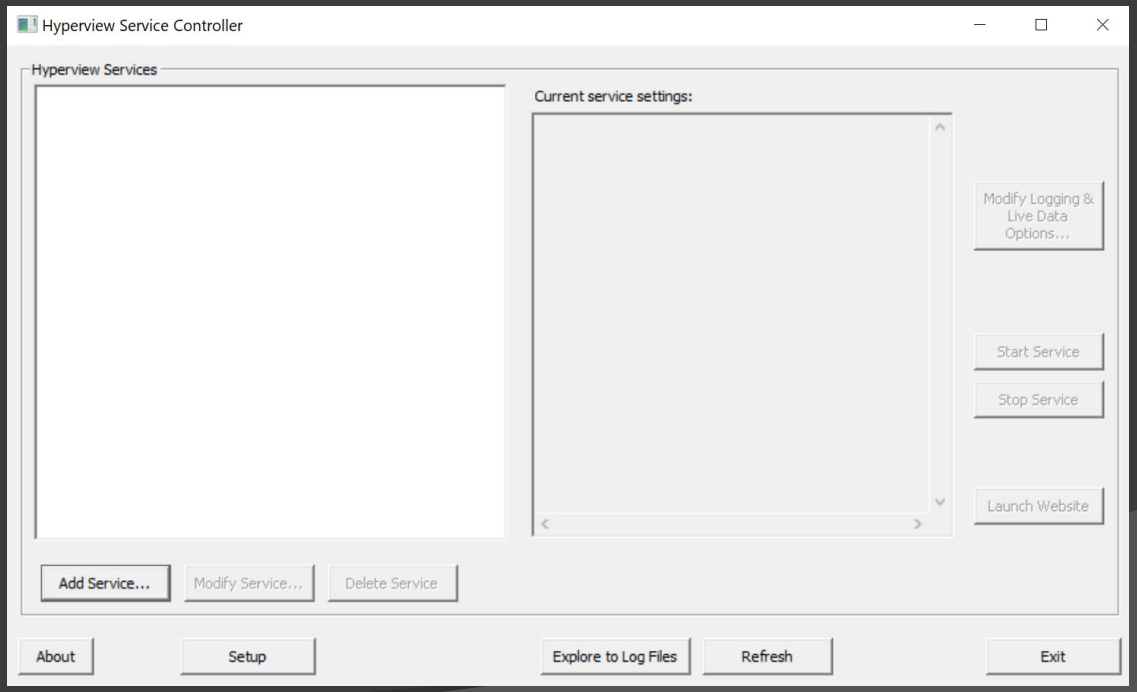
2.14 Using Hyperview from a web browser

- DBDOC supports using a subset of Hyperview functionality from a standard web browser
- This is an ideal setup for tablets and other non-Windows devices



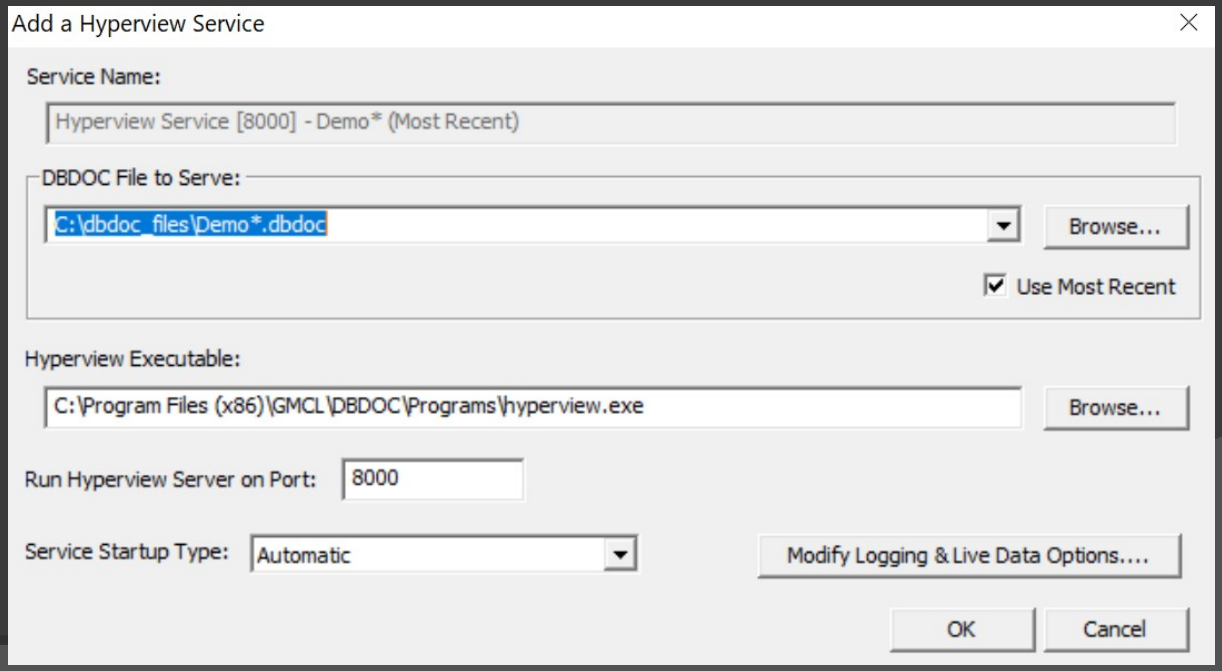
2.14.1 Running the Hyperview Service Controller

- The Hyperview Service Controller will manage Hyperview services.
- It will need to be run as administrator for full functionality.



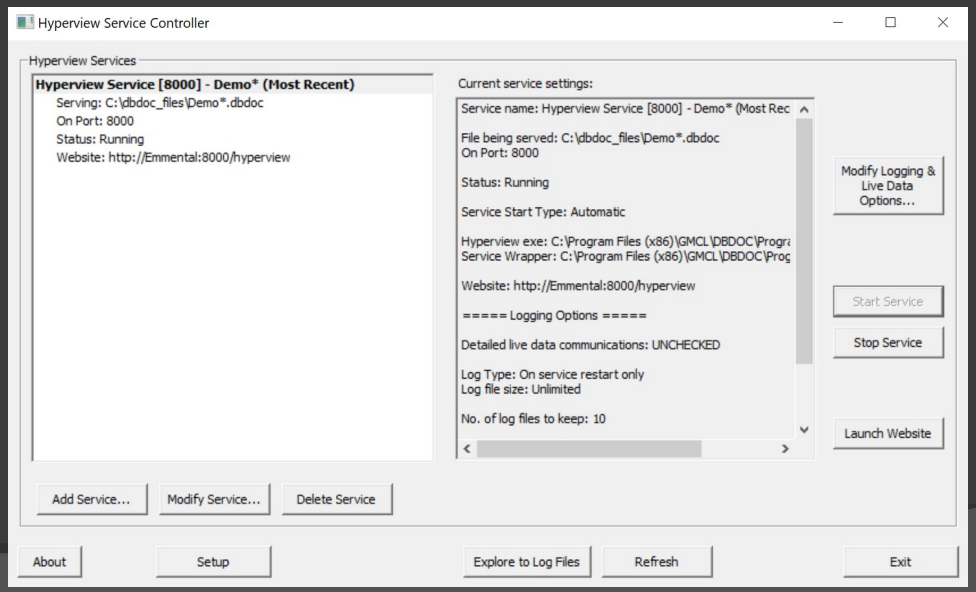
2.14.2 Creating a Hyperview service

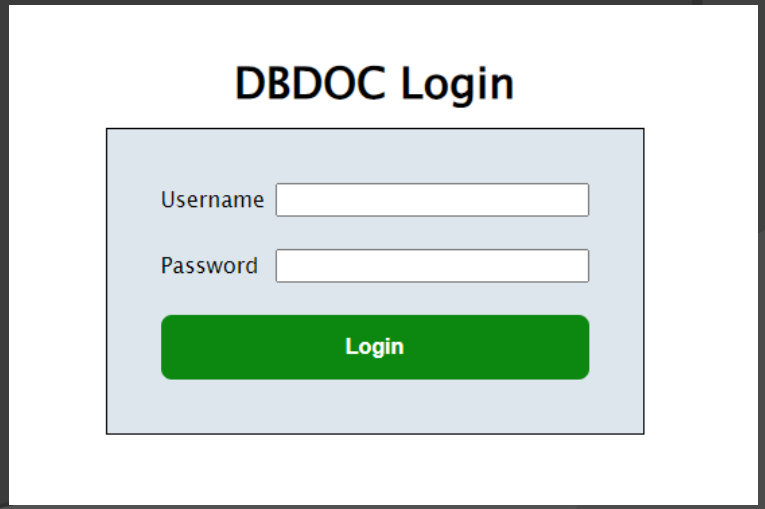
- Click Add Service… to set up the new service.
- Most of the information will be filled in and should work by default. The main thing required is the path to a .dbdoc file.



2.14.3 Running a Hyperview service

- Once the service is created, select it and click Start Service to start up the web server.
- The link is displayed in the Website entry but you can also click Launch Website to open the link in your default browser.



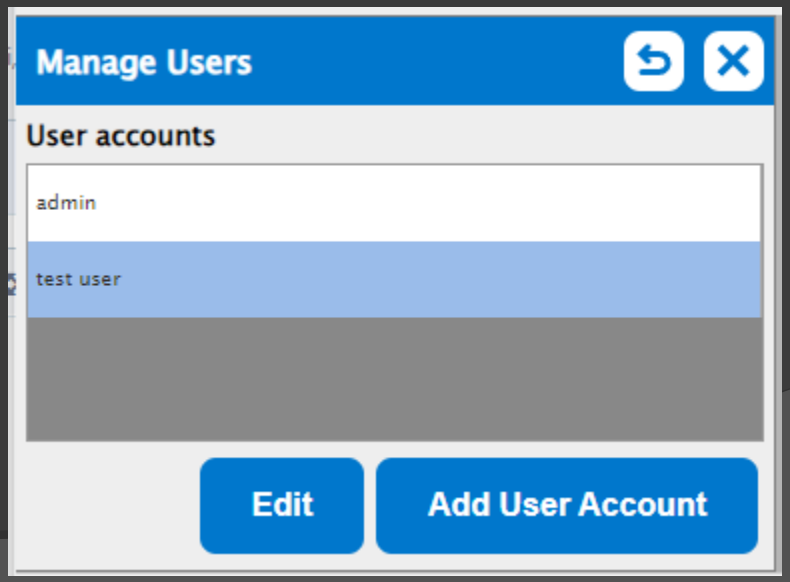


2.14.3 Running a Hyperview service (cont'd)

- The Hyperview service will be available to anyone on the same local network as the host.
- The address should be "<hostname>:<port>" where hostname is the name of the host machine on the network.
- The port can be changed in the service settings.

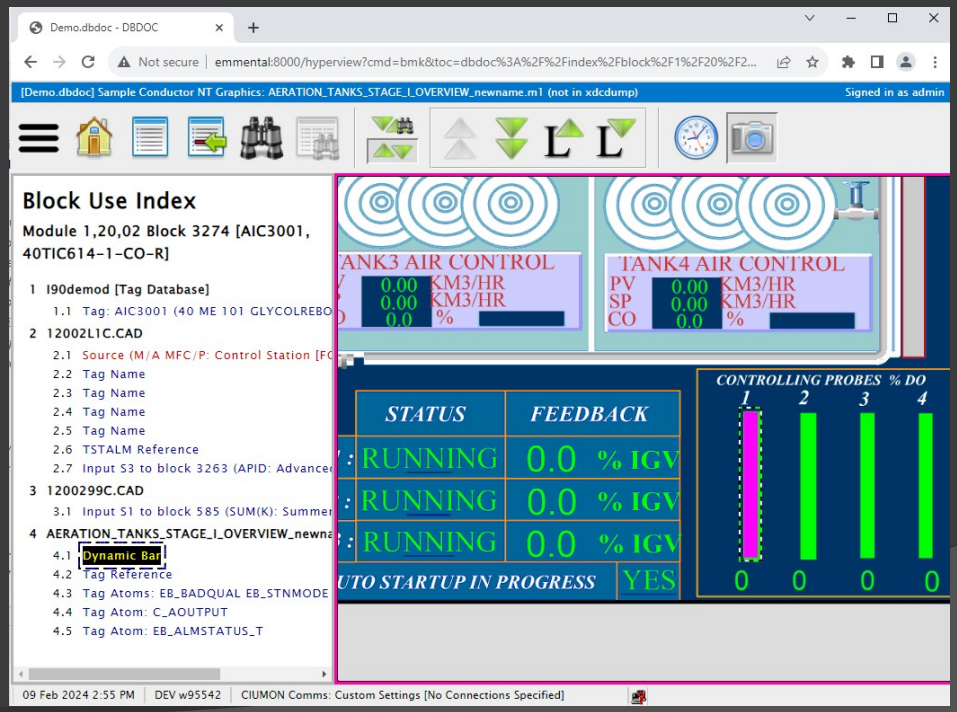
2.14.4 Browser Hyperview accounts

- Access to the Hyperview service is restricted through user accounts.
- By default there is a single admin account that can create and manage further accounts.
  - Contact GMCL for the default admin password.



2.14.5.1 Browser Hyperview functionality - navigation

- Navigation can be done much like in regular Hyperview, using links and hotspots.
- The browser's forward and back history will work here too.

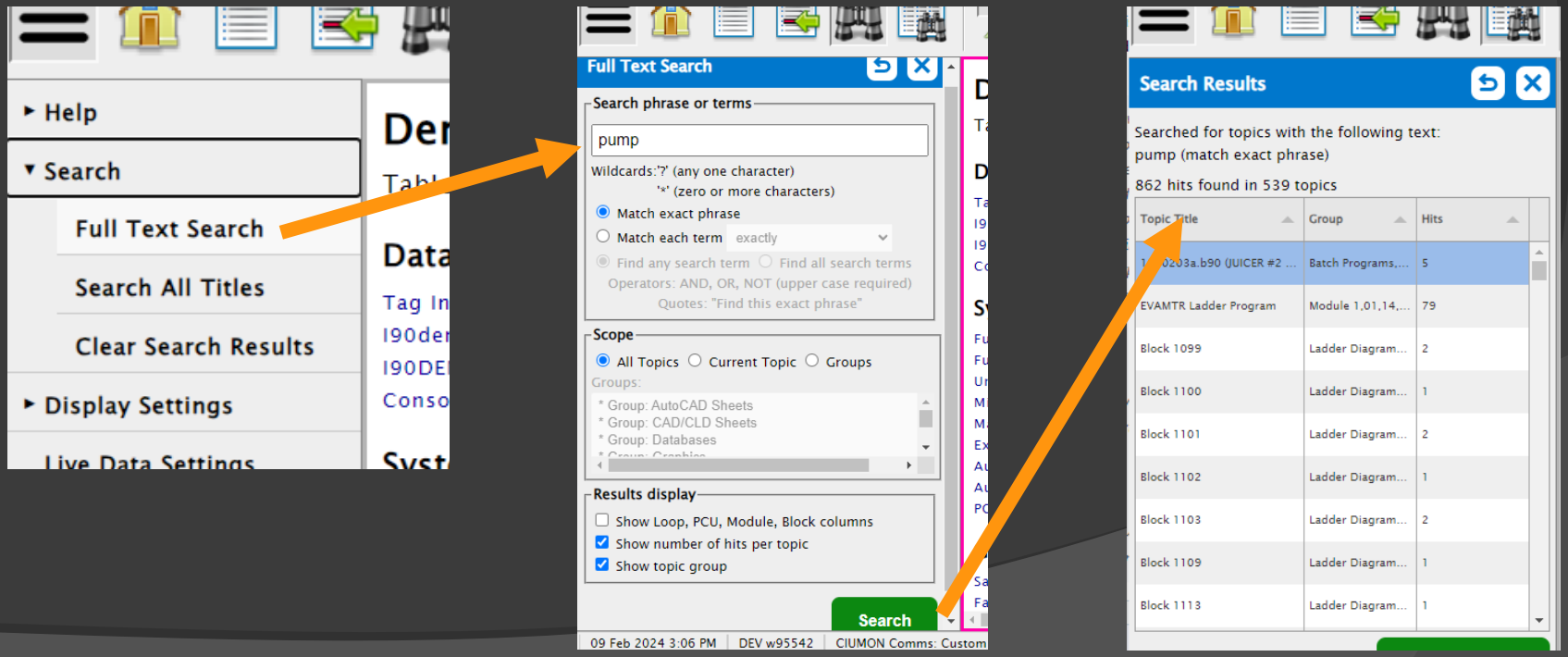


2.14.5.1 Browser Hyperview functionality-navigation (cont'd)

- Many of the navigation tools found in regular Hyperview are in the toolbar
  - Go to Home 
  - Go to Table of Contents 
  - Synch Table of Contents 
  - Next/Previous topic 
  - Next/Previous index entry 

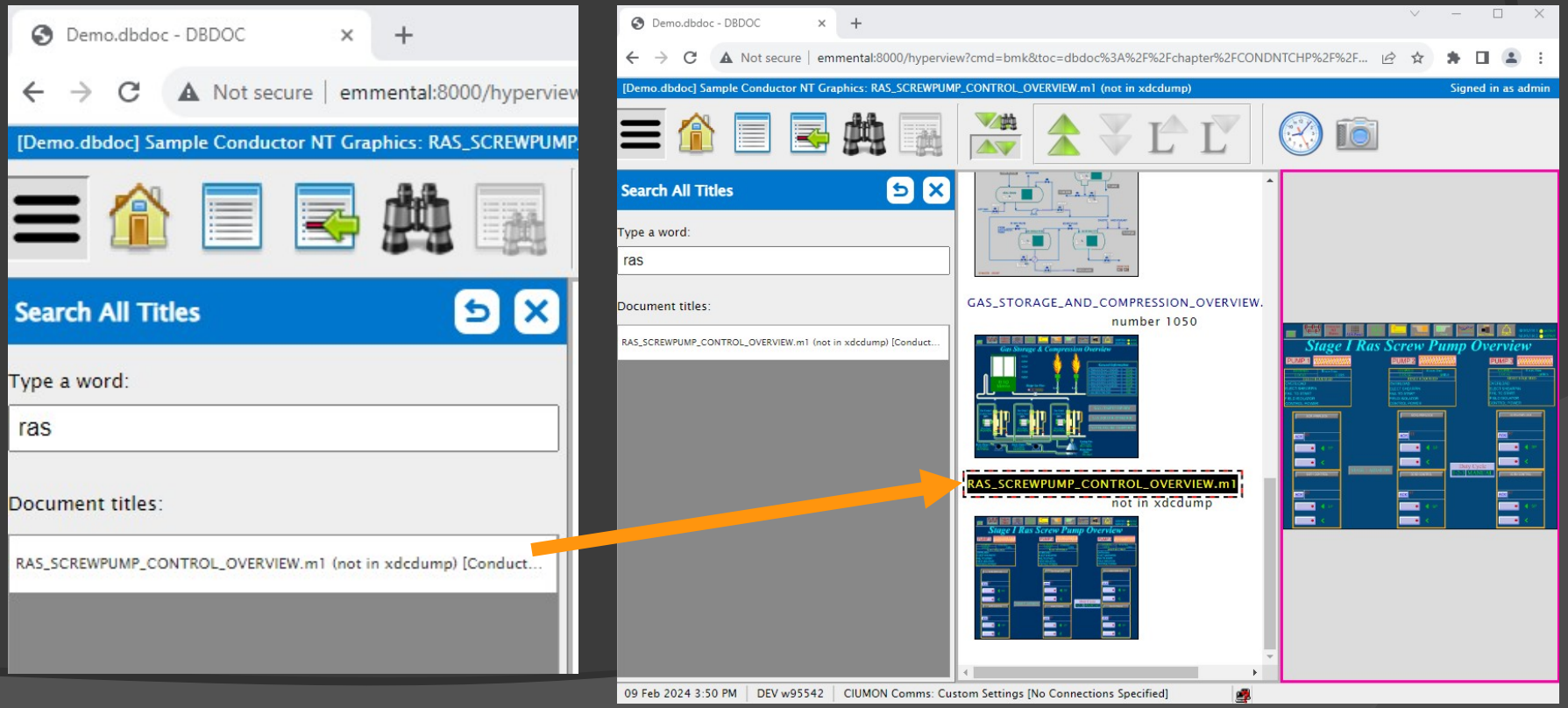
2.14.5.2 Browser Hyperview functionality – text search

- You can search the entire project file for a phrase.
- Open the main menu, expand the Search menu, and click Full Text Search.



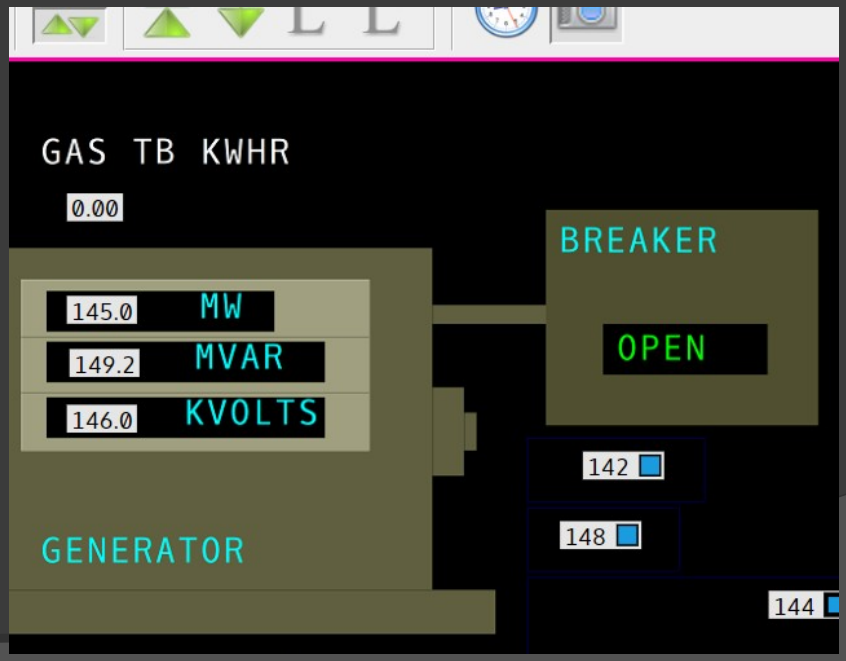
2.14.5.3 Browser Hyperview functionality – title search

- You can also search for a specific document by its title.
- In the Search menu, click Search All Titles.



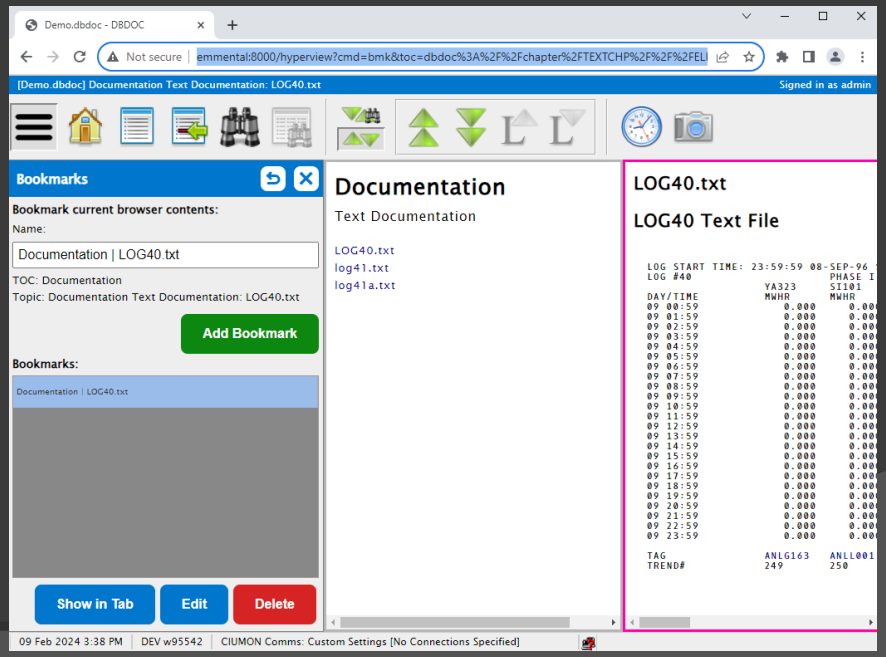
2.14.5.4 Browser Hyperview functionality – live data

- Live data settings need to be built into the .dbdoc file in BuildPlus to appear in Browser Hyperview.
- The Hyperview service will fetch and display the live data in the browser just like in regular Hyperview.



2.14.5.5 Browser Hyperview functionality – bookmarks

- Bookmarks can also be defined using the main menu.
- A bookmark URL can be copied from the browser's navigation tab and shared between browsers and machines on the same network just like any other URL.



For more information on the Hyperview Browser

See the online documentation at gmcl.com, or the built in application help.

G. Michaels Consulting Ltd