

# Snapshot Reports for 800xA

## User Guide

System Version 5.1

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# Snapshot Reports for 800xA

User Guide

System Version 5.1

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# About This User Manual

## General



Any security measures described in this document, for example, for user access, password security, network security, firewalls, virus protection, etc., represent possible steps that a user of an 800xA System may want to consider based on a risk assessment for a particular application and installation. This risk assessment, as well as the proper implementation, configuration, installation, operation, administration, and maintenance of all relevant security related equipment, software, and procedures, are the responsibility of the user of the 800xA System.

Snapshot Reports for 800xA is a system extension to the ABB 800xA system. The Snapshot Reports for 800xA contains all components needed to create a large variety of snapshot reports integrated with the 800xA system. The reports are available for all 800xA user categories.

## User Manual Conventions

Microsoft Windows conventions are normally used for the standard presentation of material when entering text, key sequences, prompts, messages, menu items, screen elements, etc.

## Feature Pack

The Feature Pack content (including text, tables, and figures) included in this User Manual is distinguished from the existing content using the following two separators:

## Feature Pack Functionality

<Feature Pack Content>

Feature Pack functionality included in an existing table is indicated using a table footnote (\*):

\*Feature Pack Functionality

Feature Pack functionality in an existing figure is indicated using callouts.

Unless noted, all other information in this User Manual applies to 800xA Systems with or without a Feature Pack installed.

## Warning, Caution, Information, and Tip Icons

This User Manual includes Warning, Caution, and Information where appropriate to point out safety related or other important information. It also includes Tip to point out useful hints to the reader. The corresponding symbols should be interpreted as follows:



Electrical warning icon indicates the presence of a hazard that could result in *electrical shock*.



Warning icon indicates the presence of a hazard that could result in *personal injury*.



Caution icon indicates important information or warning related to the concept discussed in the text. It might indicate the presence of a hazard that could result in *corruption of software or damage to equipment/property*.



Information icon alerts the reader to pertinent facts and conditions.



Tip icon indicates advice on, for example, how to design your project or how to use a certain function

Although Warning hazards are related to personal injury, and Caution hazards are associated with equipment or property damage, it should be understood that operation of damaged equipment could, under certain operational conditions, result

in degraded process performance leading to personal injury or death. Therefore, fully comply with all Warning and Caution notices.

## Terminology

A complete and comprehensive list of terms is included in *System 800xA System Guide Functional Description (3BSE038018\*)*. The listing includes terms and definitions that apply to the 800xA System where the usage is different from commonly accepted industry standard definitions and definitions given in standard dictionaries such as Webster's Dictionary of Computer Terms. Terms that uniquely apply to this User Manual are listed in the following table.

## Released User Manuals and Release Notes

A complete list of all User Manuals and Release Notes applicable to System 800xA is provided in *System 800xA Released User Manuals and Release Notes (3BUA000263\*)*.

*System 800xA Released User Manuals and Release Notes (3BUA000263\*)* is updated each time a document is updated or a new document is released. It is in pdf format and is provided in the following ways:

- Included on the documentation media provided with the system and published to ABB SolutionsBank when released as part of a major or minor release, Service Pack, Feature Pack, or System Revision.
- Published to ABB SolutionsBank when a User Manual or Release Note is updated in between any of the release cycles listed in the first bullet.



A product bulletin is published each time *System 800xA Released User Manuals and Release Notes (3BUA000263\*)* is updated and published to ABB SolutionsBank.

## Related Documentation

<b>Document ID</b>	<b>Description</b>
3BSE034678*	System 800xA Manual Installation
3BSE034679*	System 800xA Automated Installation
3BSE037410*	System 800xA Administration and Security
3BDS011222*	System 800xA Configuration
3BSE036904*	System 800xA Operations
3BSE036342*	System 800xA Upgrade

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# Section 1 Introduction

This document describes how to install, configure and use the product Snapshot Reports for 800xA, which is a system extension to the ABB 800xA system. The Snapshot Reports for 800xA contains all components needed to create a large variety of snapshot reports integrated with the 800xA system. The reports are available for all 800xA user categories.

## Product Overview

The Snapshot Reports for 800xA product is a search engine for the 800xA system. It provides functionality (aspects) to configure Snapshot search templates towards the Aspect Object database. The searches can then be requested, through a Snapshot Report View aspect, as single reports or as a combined report including several search templates.

Snapshot Reports for 800xA has the following functions:

- To find information in the 800xA system such as:
  - AC800M Valves in area 15 that are closed and in manual mode.
  - I/O Modules with forced I/O signals available.
  - The values of MV, OP and SP present for all PID objects.
  - Types of Valves in control systems that are in a closed position.
  - Drives currently using more than 200 kW.
  - Objects where the Operators Note has been changed/edited during the last 8 hours.
- Presents the search result in a list format.
- The list can be used as snapshot report for presentation.

- The list can be used as a link to the 800xA objects by using the Object Context Menu function.
- The list can be exported to Excel, then saved to a disk or be printed.

The following features exist:

- Create reports in table (grid) format useful for any type of reporting based on searches in the 800xA Aspect Object database. The searches allow users to combine search criterion of four main categories:
  - Name patterns of all types of aspect entities (Object name, Object Type name, Aspect name or Aspect Category name).
  - Criterion related to the properties of a specified **800xA Type** (Function block (AC800M), Object Type, Hardware Type, etc. or Aspect category)
  - Criterion related to a specified object position in a specified 800xA structure.
  - And or Or functionality based on the chosen properties combined with criteria (=, !=, <, >, or Blank).
- Information presented can be freely configured from the relevant properties of the selected Object Type, Function Block, and Aspect Category.
- Property column can be summarized.
- Report information can be sorted based on selected column.
- Several report templates can be combined into a report collection.
- Execution of a report and presenting it as a list consisting of one to many reports.
- Exported to Excel for further actions.

To create an Excel sheet, using a pre configured report requires two mouse clicks.

## Requirements

The following software must be installed before using the Snapshot Reports for 800xA software:

- System 800xA.
- 800xA Snapshot license (loaded in the 800xA System licensing server).
- Microsoft Excel (Optional).

## Prerequisites

An 800xA system must have been created and started. Refer to ABB 800xA Installation manuals and User guides for all information regarding the 800xA product.

To fully utilize Snapshot Report functionality Microsoft Office (Excel) needs to be installed. If not, attempts to export to Excel will result in an error message.





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## Section 2 Installation

This section describes the installation procedures of Snapshot Reports for 800xA product. To carry out the installation process, a User Login with Windows Administrator privileges is required.



The Snapshot Reports for 800xA system extension needs to be installed on all 800xA nodes that use the snapshot functionality.

The installation procedures requires that the 800xA core system is already installed. The following installation steps are recommended:

1. A full backup (for safety reasons) of the computer disks needs to be done according to 800xA backup instructions.
2. The **Snapshot Reports for 800xA** software should be installed according to this guide.
3. A **Snapshot Report for 800xA** license should be added to the 800xA license system. For more information about License handling, refer to *System 800xA Manual Installation (3BSE034678\*)* or *System 800xA Automated Installation (3BSE034679\*)*.
4. Another full backup (for safety reasons) of the computer disks needs to be done according to 800xA backup instructions.

### Install Snapshot Reports for 800xA

Steps for the installation of the Snapshot Reports software:

1. Browse the installation CD or other distribution media for the folder **Snapshot Reports for 800xA**. Double-click the **setup.exe** file.

To generate a log file with information about the installation select **Generate log file check box** (recommended) as shown in [Figure 1](#).



*Figure 1. Snapshot Reports installation*

- The **Copy To Server** button copies the product installation files to a server.
  - The **Browse** button explores the content of the installation media.
  - The **Exit** button will close the setup program.
  - The **Home** button will take back to [Figure 1](#).
2. In the displayed installation dialog, select **Snapshot Reports for 800xA** in the product list on the left, and press the **Install** button to begin the installation.
  3. Click **Next** to continue or **Cancel** to quit the installation.
  4. The next dialog box that is displayed contains licensing information. Read the agreement carefully.

After reading the license text, select **Accept** to accept the terms of the agreement to continue, or select **Decline** to reject. By selecting **Decline** user will exit the setup. If **Accept** is selected, the next dialog box appears and the setup will continue.

5. In the dialog box below, enter the name and company name and click **Next** to continue.
6. When the installation dialog prompts for the type of installation choose **Typical**. The installation dialog also prompts for the path for installation on the disk. Use the default *C:\Program Files\ABB Industrial IT\Snapshot Reports* for **800xA**, or provide a path that suits the configuration by selecting the **Browse** button. The installation can be placed anywhere on the disk, but it is preferable to place it where the 800xA system is installed.



There is no difference between **Complete** and **Custom** installation it will perform the same installation as **Typical**.

Click **Next** to proceed.

7. A confirmation box will appear, prompting to confirm the installation of Snapshot Reports for 800xA. Click **Install** to start the installation.
8. Completion of the installation is indicated by a confirmation dialog box. Click **Finish** to proceed, if the **Open Readme File check box** is selected the system will open the **Readme file for Snapshot Reports for 800xA**.
9. The Readme file will open in a new notepad window confirming the installation.
10. Use the Windows function, Add/Remove programs to verify successful installation.



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## Section 3 Snapshot Reports for 800xA Set-up

The following section describes the steps to add the Snapshot Reports for 800xA system extension to an Aspect System and how to configure it.

### Add to the 800xA system

After installation of the Snapshot Reports for 800xA, it must be loaded into the 800xA aspect system with the aid of the Configuration Wizard. The Configuration Wizard is used for most of the configuration tasks in the 800xA system. The Snapshot Reports for 800xA software is a System Extension and should be loaded into an already configured and active 800xA system.

Load the Snapshot Reports for 800xA system extension to the aspect server according to the instructions:

1. Start the Configuration Wizard for the 800xA system **Start > All Programs > ABB Industrial<sup>IT</sup> 800xA > System > Configuration Wizard**.
2. Start the system (if not started).
3. Select **System Administration** in the Configuration Wizard and click **Next**.
4. Select **System** and click **Next**.
5. Select **System Extension Load** and click **Next**.
6. Mark the **Snapshot Reports for 800xA** and click the > button to move Snapshot Reports for 800xA to the right list and click **Next** to proceed.
7. Click **Finish** to load the Snapshot Reports for 800xA.

## Verification

The installation can be verified by browsing to **<installation disk>:/Program Files/ABB Industrial<sup>IT</sup>/Snapshot Report for 800xA**.

The folder contains a readme file and an extended log file.

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## Section 4 Configuration

There are several different ways to configure and use the Snapshot Reports for 800xA aspects. This section describes some of these possibilities and also gives you hints and examples of how and where to create your Snapshot aspects. Refer to *System 800xA Configuration (3BDS011222\*)* before getting into the details in this section.

### Before you start

Log in as an 800xA application engineer to be able to perform the tasks explained in this section.

### Configuration Overview

This section will give you an overview of the Snapshot aspects regarding their relation, access rights, the intentional use and the search and configuration possibilities.

### Snapshot Report aspects

The Snapshot search functionality is achieved by using two different aspects, the SnapshotReportTemplate and the SnapshotReportViewer aspect.

#### **The SnapshotReportTemplate:**

- is created in dedicated Snapshot Folders in the 800xA Library structure.
- consists of a configuration part and a search part (Tabs in the aspect window).
- is used by the Application Engineer to configure search templates for dedicated objects or aspects within the 800xA system.

- shall be saved with a name that is understandable and related to the performed search.
- can be used by one or several SnapshotReportView aspects.
- can be used by the Application Engineer to perform dedicated searches during runtime.

**The SnapshotReportViewer aspect:**

- can be placed in:
  - dedicated Snapshot Folders in the 800xA Library structure.
  - on object types in the 800xA Object Type structure, thus provide the Snapshot Report Viewer aspect to be inherited to each instance of this type.
  - on an object in any 800xA structure where the search actually are going to be used.
- consists of a configuration part and a search part.
- is configured by the Application Engineer.
- can be configured to search:
  - in a dedicated 800xA structure (For example, Control Structure, Functional Structure).
  - from the object where it is placed (that is from the object and below).
  - from a dedicated object in a suitable 800xA Structure.
- shall be saved with a name that is understandable and related to the performed search.
- can use one or several SnapshotReportTemplates in a single search or a combined search (using several templates).
- can be accessed by the Operator or Maintenance personnel from an 800xA process display through Aspect links, the Object Context Menu of objects including a SnapshotReportView aspect or through drop-down lists in the header of the workplace.



## Snapshot Reports - Name convention

Define a naming convention for the Snapshot search templates and view aspects before adding and configuring Snapshot report templates and view aspects in 800xA system. When creating Snapshot Report Viewer aspects, a list of available templates, that is the names of the search template aspects will be shown. To navigate among these templates in an efficient way it is recommended to have a dedicated naming convention.

The template aspects are sorted in alphabetic order so giving them a number as first character is a useful method. Also when creating an excel report based on a snapshot search, the name of the template or view aspect will be used as information in the created excel sheet. This information should give a good indication where and what the search was intended for.

## Snapshot Reports - Structural overview

Before the user starts to add Snapshot aspects to the 800xA system the user must decide which structural strategy (Snapshot aspect placement) the user intends to use.

The **Snapshot Report Template** folder in the Library structure is created during the import of Snapshot Reports for 800xA and is the default folder for all Snapshot report templates. It might also be a good idea to create Snapshot template subfolders to differentiate template categories, depending on how many templates to be created and also the level of different control systems present in your 800xA system.

Following are examples of different template categories:

- AC800M templates category
  - AC800M Forced IO - Search templates for forced IO signals (one template for each AC800M I/O).
  - AC800M PID in Manual - Search templates for AC800M PID objects (one template for each type of PID object) that are set to Manual mode.
- 800xA template category
  - 800xA New Objects - Search templates to find objects created in the 800xA system during a number of different time spans for example 8, 24 and 40 hours.

- Operator Notes - Search templates for Operator Notes entered during a number of different time spans for example 2, 8 and 24 hours.
- AC400 template category
  - AC400 Process Section - Search template for the process section property.
  - AC400 Objects in Manual Mode - Search template for Manual Mode.

The **Snapshot Report Viewer aspect** is used to create generic search views that searches through the complete 800xA system using one or several of the Snapshot Report templates. It is also possible to create search views that either combine a number of search templates in one search or runs one particular search and then gives the user the possibility to choose between other search templates.

Snapshot Report Views can be placed in the 800xA system in three different ways:

- In a dedicated folder in the library structure, for example in a Snapshot folder named Production Area X. In this case each individual Snapshot Report Viewer aspect must specify from where (Production Area X in the Functional structure) in 800xA the search shall be executed from.
- In the 800xA structure where they actually are going to be used. For example, All Snapshot Report Viewer aspects for Production Area X are placed in the **root object** of Production Area X in the Functional structure. In this case, the **Search from object** function will be used.
- On object types in the 800xA Object Type structure, thus provide the Snapshot Report Viewer aspect to be inherited to each instance of this type. This kind of placement shall only be made for very generic searches and on top level object types like network or controllers. Also in this case, the **Search from object** function will be used.

## Possible search criterion

Snapshot Reports has multiple search criterion. There are many possibilities, especially, before starting to combine the different search criterion.

## Name patterns

Select one of the following:

<b>Name pattern</b>	<b>Search criterion</b>
None (blank)	Empty text field - No limitations for the search
Object name pattern	An 800xA object name pattern to search for. Use * to indicate if one or several characters can be ignored in the beginning and/or end of the name.
Object Type pattern	An Object Type name pattern to search for. Use * to indicate if one or several characters can be ignored in the beginning and/or end of the name.
Aspect name pattern	An aspect name pattern including * to search for.
Aspect category pattern	An aspect category name pattern including * to search for.

The name pattern search is a way to find a set of objects, function blocks or aspects fulfilling the name pattern. It is also a way to reduce the number of objects that fulfill other criterion.

## 800xA Types / Aspect Categories

Choose between the following types/categories:

Type search	Search criterion
None	No type criterion
800xA Type search Based on the type object in 800xA, examples: <ul style="list-style-type: none"> <li>• Object Type.</li> <li>• Function Block Type.</li> <li>• Hardware Type.</li> <li>• Controller Type.</li> </ul>	The properties of the selected 800xA type will be made available for configuration. The properties can be configured: <ul style="list-style-type: none"> <li>• For search conditions (&gt;, &lt;, = or !=).</li> <li>• Either <b>And</b> or <b>Or</b> condition between the properties.</li> <li>• For presentation.</li> <li>• To be summarized.</li> </ul>
Aspect category searches Based on the aspects in 800xA, examples: <ul style="list-style-type: none"> <li>• Operator Notes.</li> <li>• Control Connection.</li> <li>• Hardware Unit.</li> </ul>	The properties of the selected aspect category together with the name aspect will be made available for configuration. The properties can be configured: <ul style="list-style-type: none"> <li>• For search conditions (&gt;, &lt;, = or !=).</li> <li>• Either <b>And</b> or <b>Or</b> condition between the properties.</li> <li>• For presentation.</li> <li>• According to Aspect change date.</li> <li>• To be summarized.</li> </ul>

## Structure and position

Refine the search by selecting a structure and position:

Structure/Position	Description
All	No structural criterion. The Search will be made in all 800xA structures.
Structure	Limit the search to objects included in a specified structure for example the Control Structure or the Functional Structure.
Downwards from current object in selected structure	Limit the search to objects included in a specified structure placed below the object, where aspect resides in.
Downwards from selected object and structure	Limit the search to objects included in a specified structure placed below a selected object.

## OPC Group Subscription

The amount, time out and group update rate for the OPC Group used by Snapshot is configurable, and also adjustable depending on the performance of the data provider (800xA or OPC Servers such as AC 800M, AC 400, MOD 300 or any other OPC servers).

The Snapshot OPC Group request can be configured according to:

- **Number of properties per group** - Represents the number of properties Snapshot requests in each OPC Group, before evaluation and presentation in the Snapshot list view.



Snapshot will keep on requesting groups until the whole scope of the search is processed.

- **Time out in ms per group** - Represents how long Snapshot waits for a valid response from 800xA.



If no response is received within the setup time out, the Snapshot search is terminated.

- **Wait for Quality Good in ms** - Represents how long Snapshot will wait for OPC Quality Good values in each Group.



Snapshot will deliver the group result and proceed with the next OPC group when:

- All values in the present group have OPC Quality Good
- The time out setting for OPC Quality Good values has elapsed.

The configurable subscription parameters makes it possible to adjust and tune the Snapshot search related to the performance of the expected data provider (for example OPC Servers like AC 800M, AC 400, MOD 300, and Freelance).

Configuring Snapshot searches in the most efficient way, requires good knowledge about the data provider (normally an OPC Server located on a Connectivity Server), the controllers, and the control network of the requested data.



1. When requesting internal 800xA data (such as Name, Description, and General Property data) or data from another OPC Server source having high data providing possibilities (large OPC cache, such as AC 800M), the number of properties in each group can be increased considerably (1000 to 5000 properties).
2. Request data that can impose a high load on the controller and/or the controller network, must be requested by using smaller groups (10 to 100 properties) and a longer time out for *Wait for OPC Quality Good*. This decreases the load on the controller and controller network and secures that all properties are delivered with OPC Quality Good.
3. Understand the performance of the data sources before configuring your Snapshot Reports.

## Snapshot Search Combinations

The main task of Snapshot Reports is to search and present objects accomplishing certain conditions. Each row in the search result represents an object accomplishing the search criterion in the Snapshot Template.

The following are the different methods of search configuration in a Snapshot Template:

- **Name Pattern search** (Object name, Object type, Aspect name and Aspect type)  
This can be combined with **Type search** and **Aspect search** or can be used as a stand-alone search criteria.
- **Type search**  
This limits the search to find only one specific 800xA Type.
- **Aspect search**  
This looks for a specific aspect type.
- **Search where configuration**  
The search is done on all or specific structures, or in a specific location in the workplace.

## Object Name Pattern

Specifies the name of an object in 800xA.

### Examples:

- Using the Object name pattern **\*G56\*** will find and present all objects including **G56** in the 800xA Object name.
- Using the Object name pattern **\*G56\*** combined with a **Type search of PID** will find and present all objects of type **PID** including **G56** in the 800xA Object name.
- Using the Object name pattern **\*G56\*** combined with an **Aspect search of Log Configuration** will find and present all objects including **Log Configuration** and that has an object name including **G56**.

## Object Type Pattern

Specifies the name of an object type in 800xA.

### Examples:

- Using the Object type pattern **\*TDC\_\*** will find and present all objects including **TDC\_** in the 800xA Object Type name.
- Using the Object Type pattern **\*TDC\_\*** combined with a **Type search of TDC\_PID** will find and present all objects of type **TDC\_PID**.
- Using the Object Type pattern **\*TDC\_\*** combined with an **Aspect search of Log Configuration** will find and present all objects which have **TDC\_** in the 800xA Type name including a **Log Configuration** aspect.

## Aspect Name Pattern

Specifies the name of an aspect within an object.

### Examples:

- Using the Aspect name pattern **\*5h5s\*** will find and present all objects including an aspect with **5h5s** in the name.
- Using the Aspect name pattern **\*5h5s\*** combined with a **Type search of TDC\_PID** will find and present all objects of type **TDC\_PID** including an aspect with **5h5s** in the name.
- Using the Aspect name pattern **\*5h5s\*** combined with an **Aspect search of Log Configuration** will find and present all objects including a **Log Configuration** and an aspect with **5h5s** in the name.

## Aspect Type Pattern

Specifies the name of an aspect type within an object.

### Examples:

- Using the Aspect Type pattern **\*Log\_\*** will find and present all objects including an aspect type with **Log\_** in the name.



- Using the Aspect Type pattern **\*Log\_\*** combined with a **Type search of PID** will find and present all objects of type **PID** including an aspect type with **Log\_** in the name.
- Using the Aspect Type pattern **\*Log\_\*** combined with an **Aspect search of Control Connection** will find and present all objects including a **Control Connection** and including an aspect with **Log\_** in the aspect type name.

## Considerations

To avoid high load and slow search in Workplace and Aspect Directory service when using Aspect name pattern, Aspect category pattern, and Object type pattern in combination with *From other object...* search, change the search path to *In structure....*

## Create Snapshot Report folders

This section describes how to create new Snapshot Report folders. Creation of new Snapshot folders can be of interest if you want to differentiate template categories or create dedicated Snapshot Report View folders for specific search areas. For further details on structural possibilities refer to [Snapshot Reports - Structural overview](#) on page 25.

To create a new Snapshot Folder, follow the steps below:

1. Browse to the 800xA structure and position where the user wants to create a new Snapshot folder. Right-click and select **New Object**.

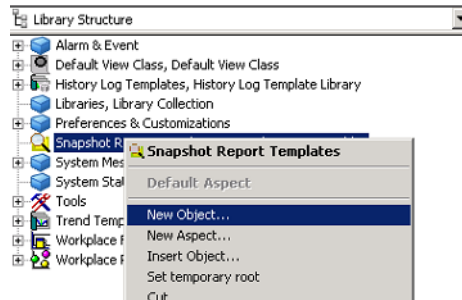


Figure 2. New object - Snapshot Report folder

2. Browse for the Snapshot Report folder object in *Industrial/ABB/ABB/Snapshot Reports*. Give the new Snapshot folder an appropriate name and click **Create**.

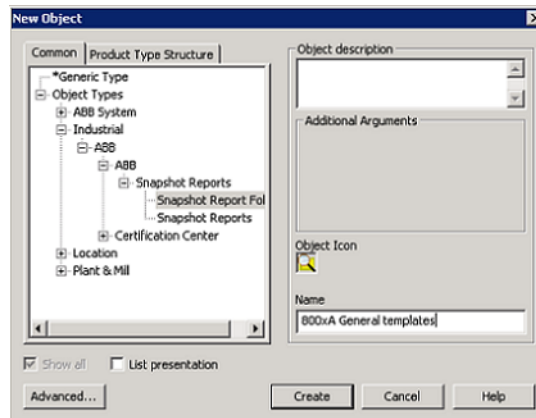


Figure 3. Creation of a Snapshot Report template

3. A new Snapshot folder is now created and ready to be filled with new Snapshot templates or Snapshot Report Viewer aspects.

## Create Snapshot Report templates

This section describes the steps required to create Snapshot Report templates and also provides examples on how the Snapshot Templates can be configured to narrow the search.

1. Right-click on the Snapshot Report template folder where a new template needs to be created and select New Aspect as shown in [Figure 4](#).

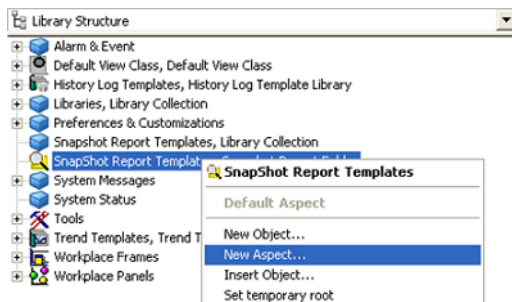


Figure 4. Create Snapshot Report template

2. Browse to the SnapshotReportTemplate aspect, the **Name** field displayed in [Figure 5](#) requires a unique and easily understandable name.

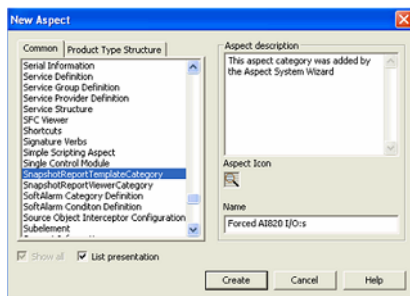


Figure 5. Creation of a Snapshot Report template.

3. Configure the new Snapshot Report template. As there are many possible search combinations it is not possible to show how to configure them all. Instead, a number of typical examples are listed below:
  - [Example 1: Forced AI820 I/O:s.](#)
  - [Example 2: New Objects 24 hours.](#)
  - [Example 3: PidSimpleReal in Manual](#)
  - [Example 4: Flow Measurement.](#)
  - [Example 5: Operator notes last 8 hours.](#)



It is possible to configure the structure, position or downward search attribute in the Snapshot Report template, this structure and position setting will however be overridden by the configuration settings in the Snapshot Report Viewer aspect if the search is executed through the Snapshot Report Viewer aspect.

### **Example 1: Forced AI820 I/O:s**

1. Double-click on the new Snapshot template aspect to view the configuration view of the template.

2. Select the Type box, click on the **Browse** button to the right of the drop-down window. Browse for a Hardware type in the Object Type structure as shown in [Figure 6](#) and Click **Ok**.

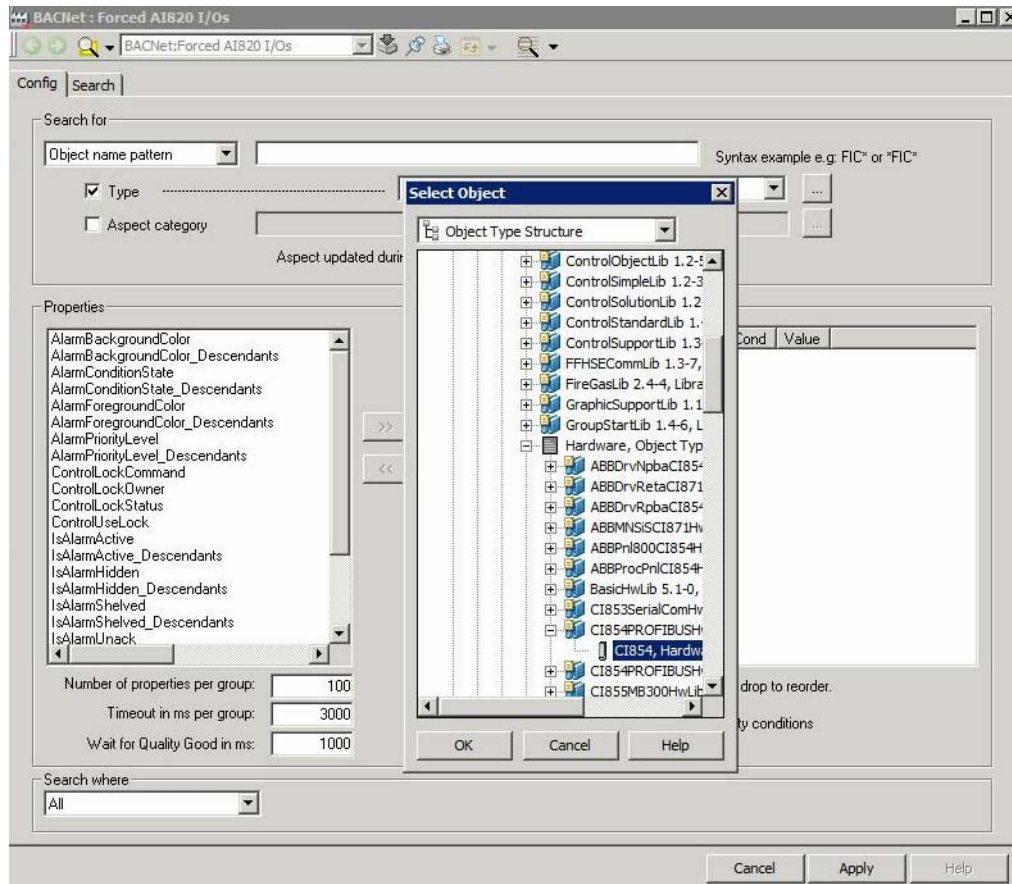


Figure 6. Template configuration view

3. In the Drop-down List, select the AI820 Hardware Type.



5. The template is now configured and ready for a test search.

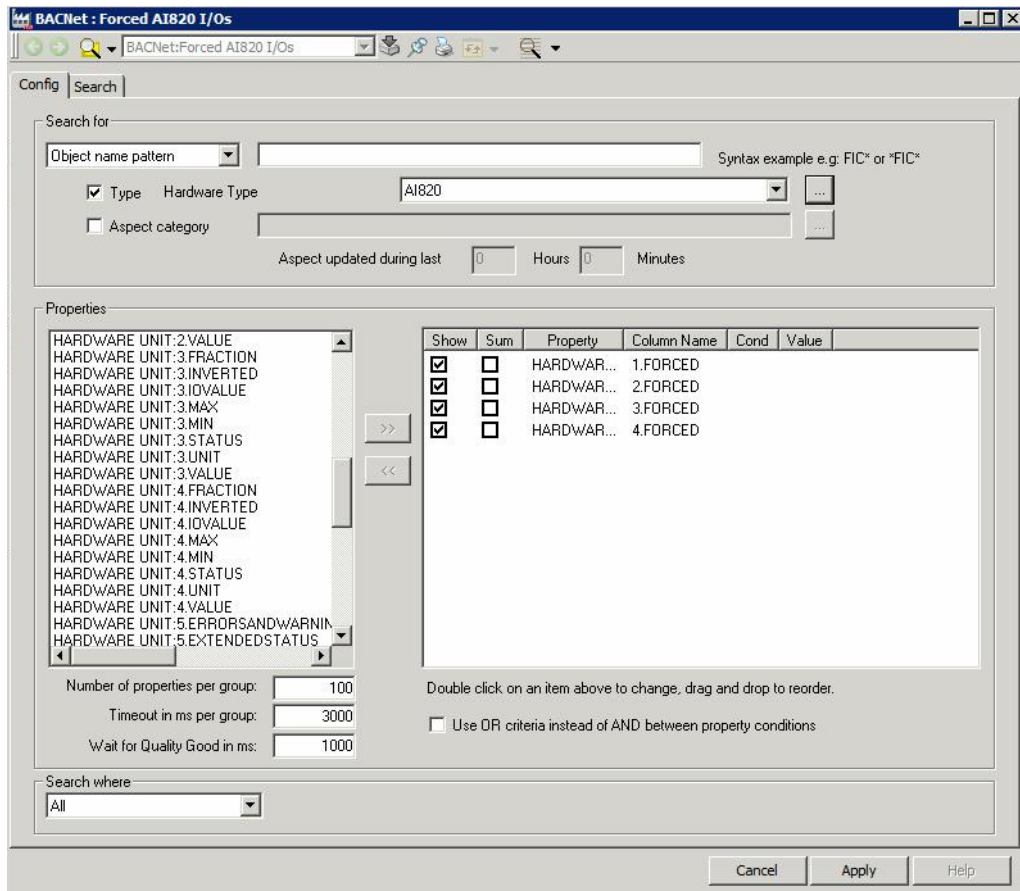


Figure 8. Template ready for test search

6. Select the Search tab and click on the Search button. Three AI820 I/O:s were found in the searched 800xA system. All Forced parameters indicating OPC quality Bad. If required, go back to the Config tab and narrow the search to the Control Structure in the **Search Where** configuration area. Save the template using the **Apply** button.

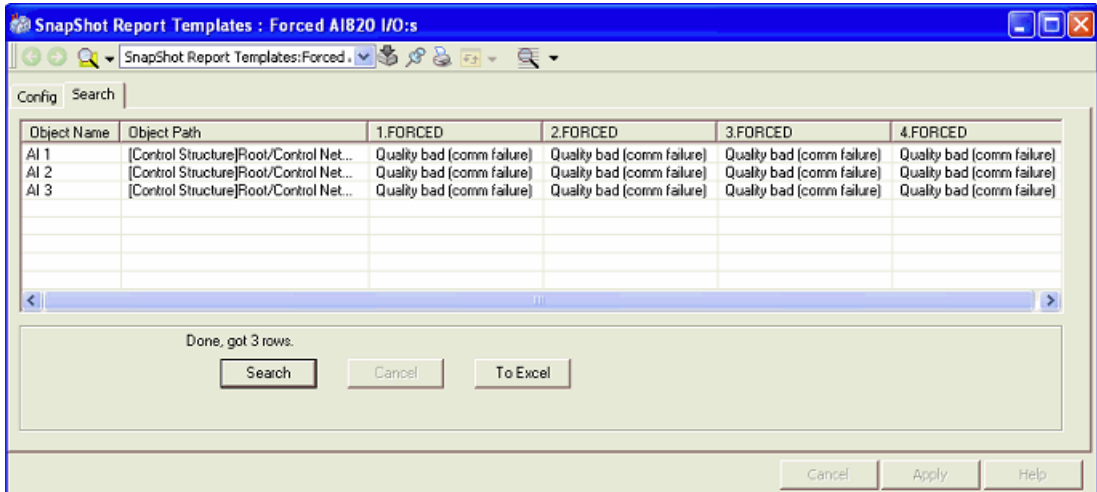


Figure 9. Template Search



Searching for forced AC800M I/O:s is also possible by using the aspect search and the Hardware Unit aspect. By using the Hardware Unit aspect, all AC800M I/O modules in the AC800M Library will be searched using the same Snapshot template.

## Example 2: New Objects 24 hours

1. Create a Snapshot Report Template aspect called New Objects 24 hours.
2. Double-click on the new Snapshot template aspect to view the configuration view of the template.



3. Check the Aspect box, click on the browse button to the right of the drop down window. Browse for a Name aspect. Click **OK**.

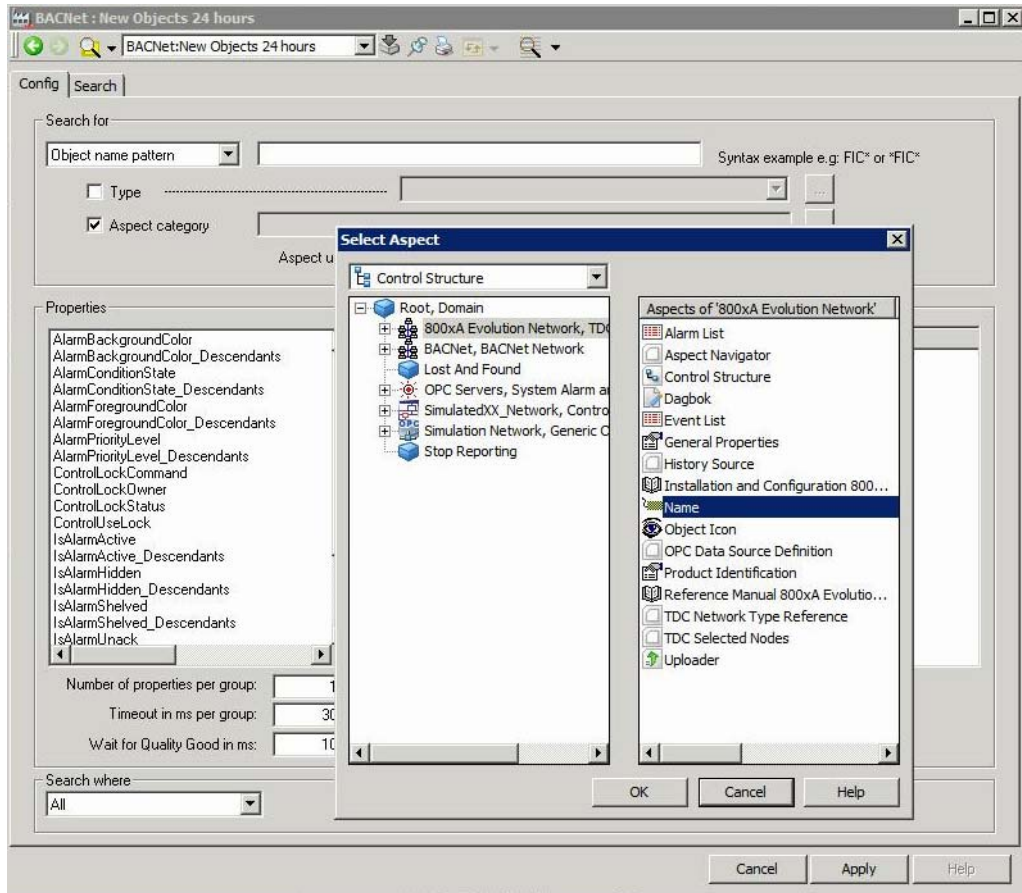


Figure 10. Create New Object search

- In the Properties window, select the Description and Unique parameters, use the >> button to select them for presentation. Set the Hours field to 24 in the **Aspect updated during last** function as shown in [Figure 11](#).

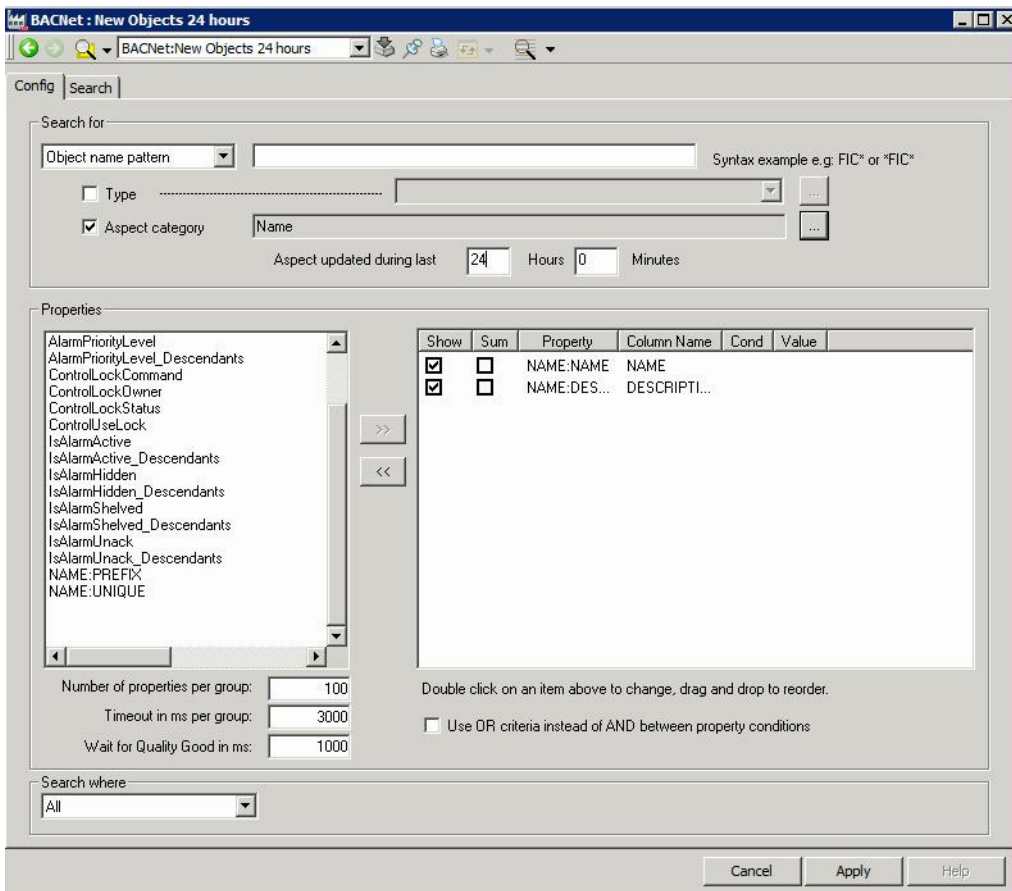


Figure 11. New Object 24 hours

5. Make a test search for the report using the Search tab, to verify that it works. When verified, save it using **Apply**.

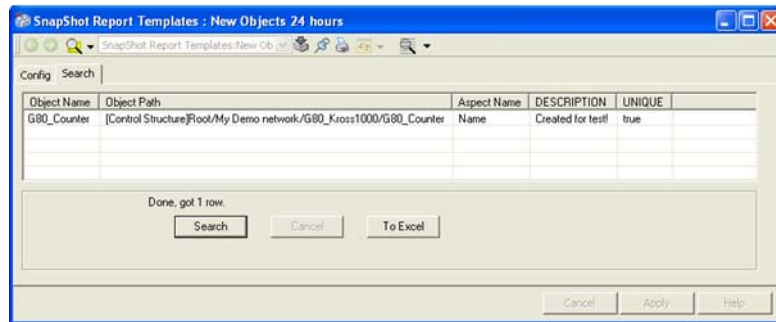


Figure 12. New Object search

### Example 3: PidSimpleReal in Manual

1. In the Snapshot template folder. Right-click on the folder and select New Aspect.
2. Create a new Snapshot Report Template and give the template a suitable name (PidSimple in Manual).
3. Double-click on the new Snapshot template aspect to view the configuration view of the template.

4. Check the Type box, click on the browse button to the right of the drop-down window. Browse for a Function block type in the Object Type structure. Click **OK**.

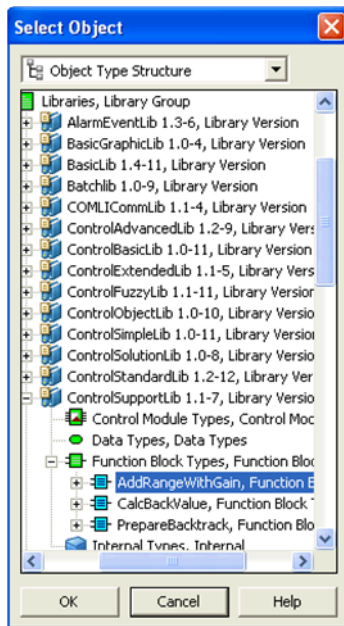


Figure 13. Select function block type

5. In the Drop-down List, select the PidSimpleReal function block type.
6. In the Properties window, select the INTERACTIONPAR:AUTOMODE parameter, use the >> button to select the mode property for presentation.

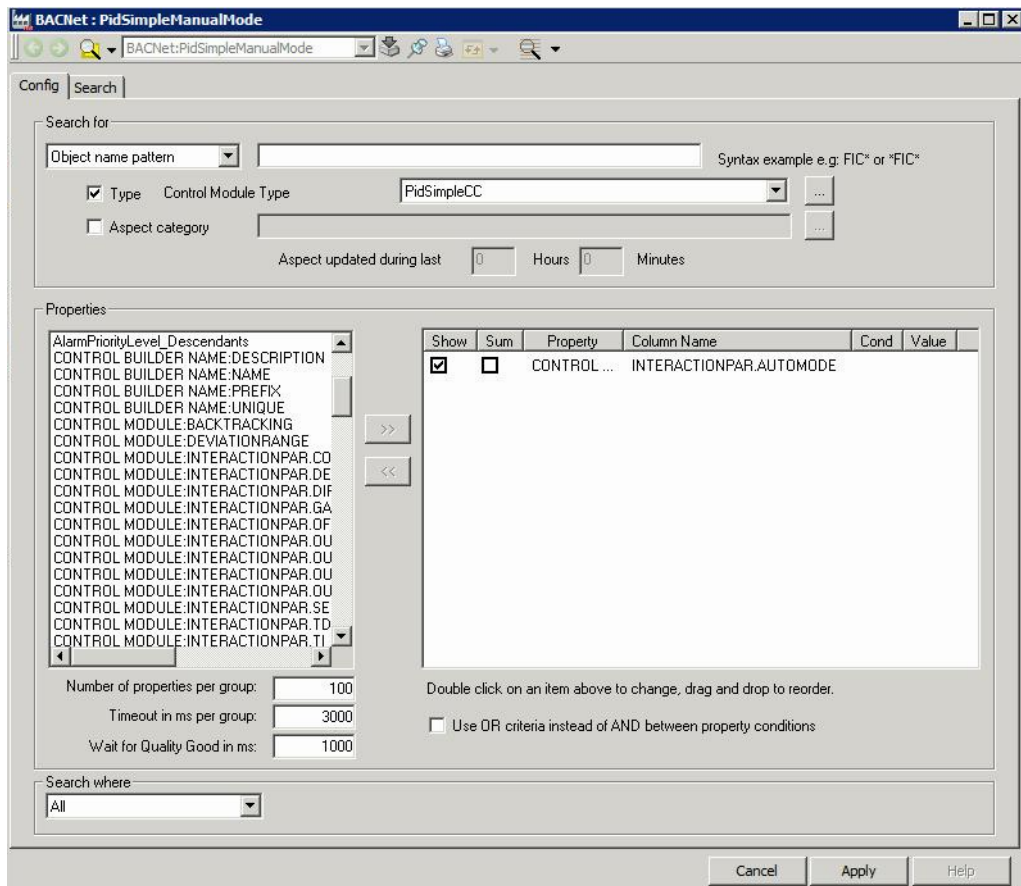


Figure 14. Select PidSimple template configuration

- The template is now configured and ready for a test search. Select the Search tab and click on the Search button.

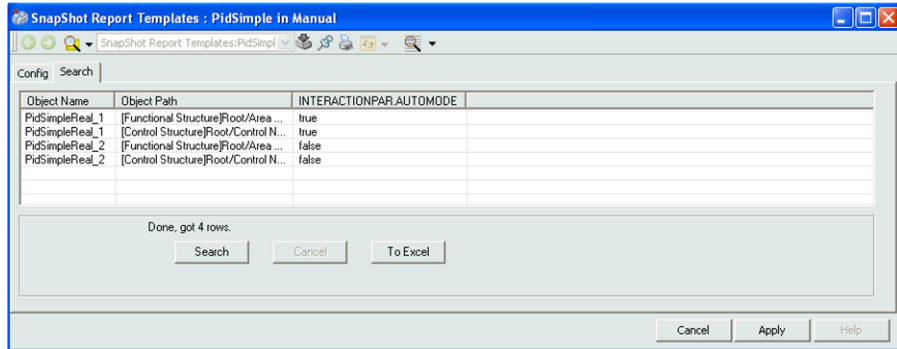


Figure 15. PidSimpleReal search result

8. After the test search go back to the Config tab and specify the search to only present PidSimpleReal objects in manual mode which are present in the control structure. Double-click in the **Cond** field as shown in Figure 16 and select =, also set true in the Value field. Specify the Control Structure in the **Search where** configuration area.

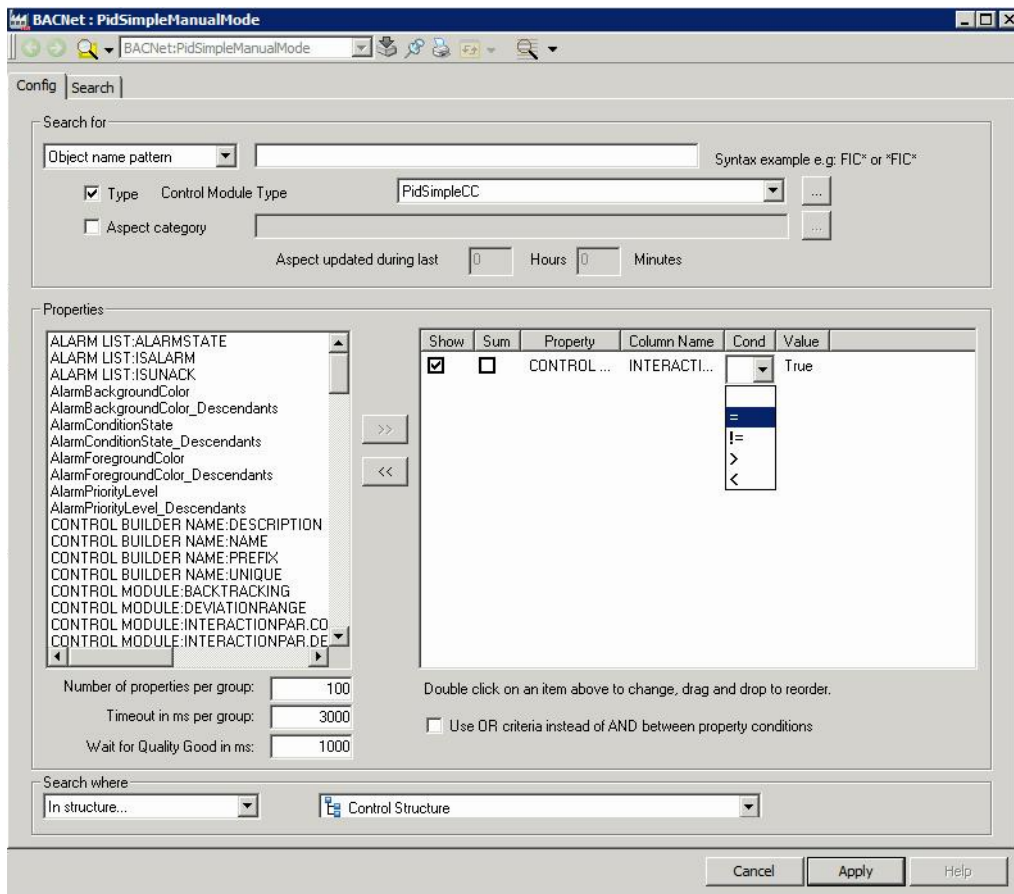


Figure 16. Narrow down the PidSimpleReal in Manual search

- Go back to the Search tab and perform a new search.

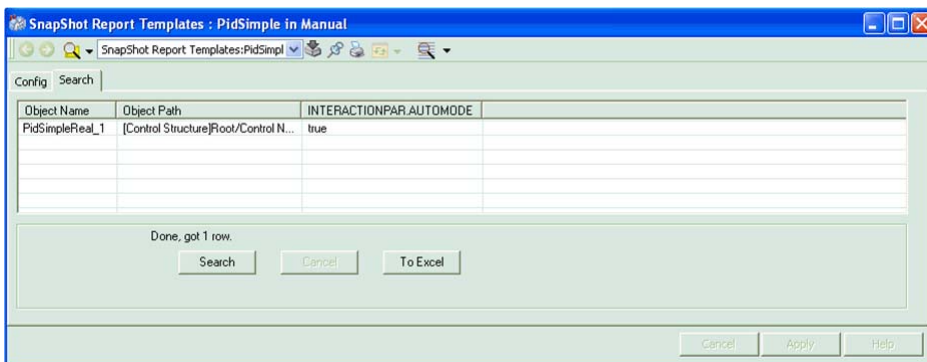


Figure 17. PidSimple in Manual mode, search result

- Click **Apply** to Save the template.



Searching for objects in manual mode is also possible by using the aspect search. The aspect search is effective when the 800xA types have the same type of parameter to indicate the same type of condition.

#### Example 4: Flow Measurement.

- In the Snapshot template folder. Right-click on the folder and select **New Aspect**.
- Create a new Snapshot Report Template and specify the template a suitable name (Flow Measurement).
- Double-click on the new Snapshot template aspect to view the configuration view of the template.



4. Select the Type box, click on the browse button to the right of the drop-down window. Browse for an (in this example) Object type in the Object Type structure. Click **OK**.

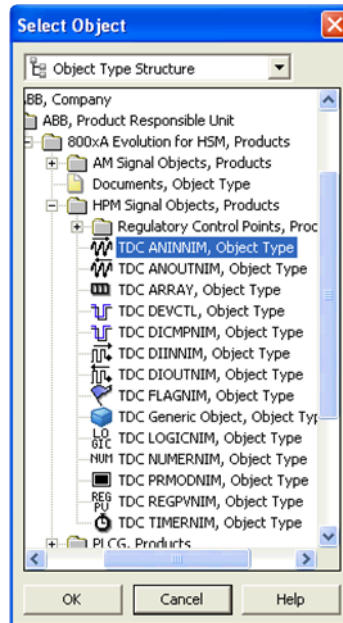


Figure 18. Select Object type

5. In the Drop-down List, select the Flow measurement object type (TDC ANINNIM in this example).
6. In the Properties window, select the PV parameter which holds the object value (Flow measurement value), use the >> button to select the PV property for presentation.

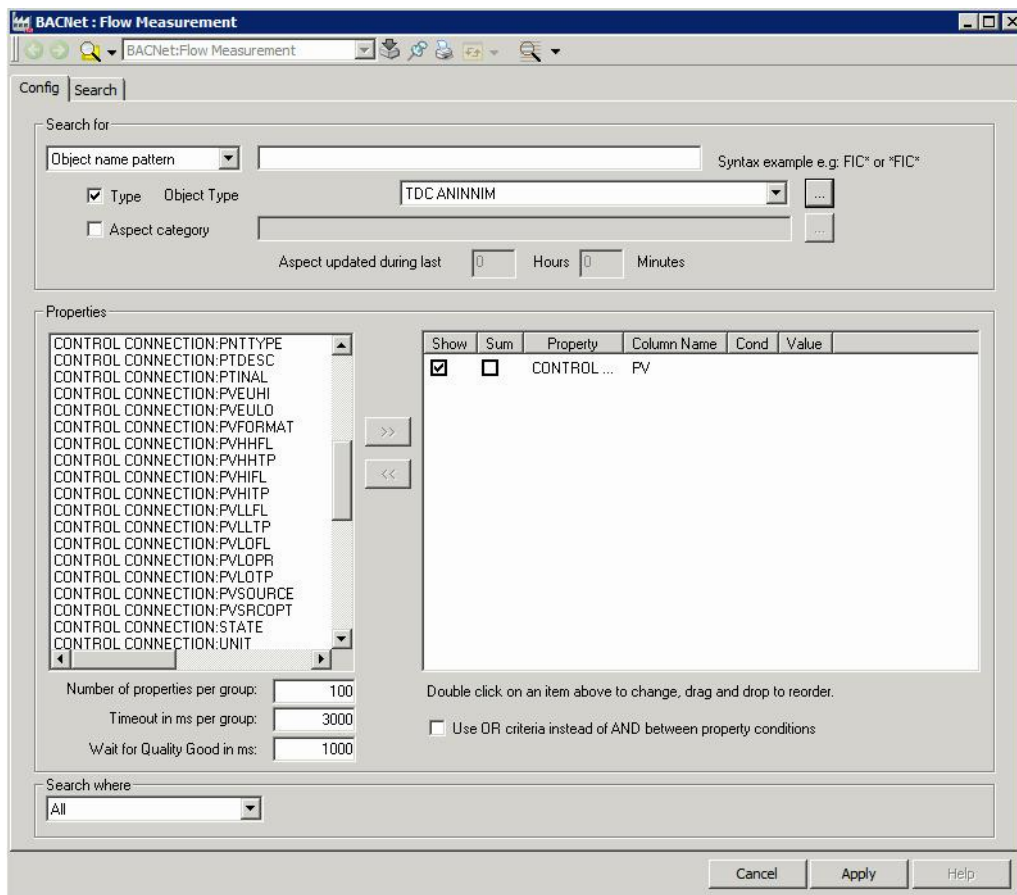


Figure 19. Select PV parameter for presentation

- Perform a test search. Select the Search tab and click on the **Search** button.

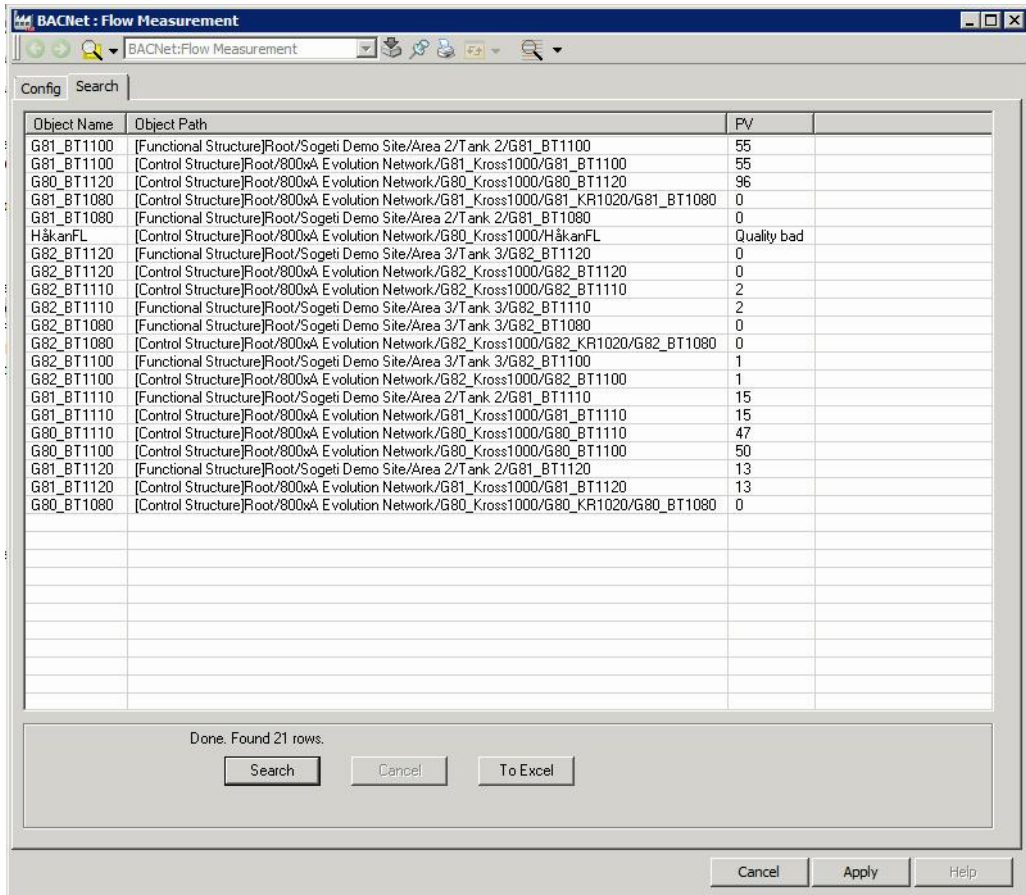


Figure 20. Flow Measurement search

8. After the test search, go back to the Config tab and specify the search to only present objects with names starting with G82...(Flow Measurement objects in the example). Use the Name field and enter the text G82. Also summarize the total Flow Measurement by checking the Sum field on the PV property as shown in Figure 21. Narrow the search to Control Structure to avoid duplicate hits on the same object.

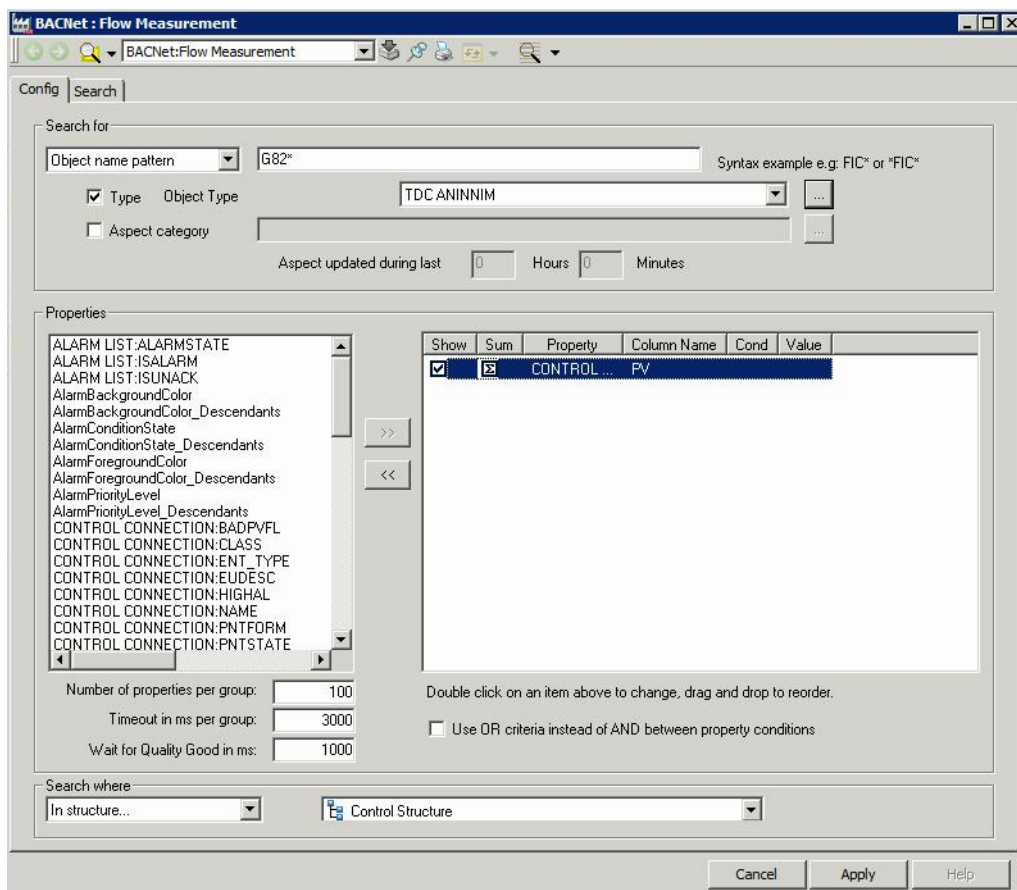


Figure 21. Specify Flow Measurement search

9. Perform a new Search based on the search criteria. Click **Apply** to Save the template.

Object Name	Object Path	PV
G82_BT1120	[Control Structure]Root/800xA Evolution Network/G82_Kross1000/G82_BT1120	0
G82_BT1110	[Control Structure]Root/800xA Evolution Network/G82_Kross1000/G82_BT1110	2
G82_BT1080	[Control Structure]Root/800xA Evolution Network/G82_Kross1000/G82_KR1020/G82_BT1080	0
G82_BT1100	[Control Structure]Root/800xA Evolution Network/G82_Kross1000/G82_BT1100	3
Total:		5

Done. Found 4 rows.

Search Cancel To Excel

Cancel Apply Help

Figure 22. Search result Flow Measurement

### Example 5: Operator notes last 8 hours

1. Create a Snapshot Report Template aspect called Operator Notes Last 8 hours. Double-click on the new Snapshot template aspect to view the configuration view of the template.
2. Check the Aspect box, click on the browse button to the right of the drop-down window. Browse for an Operator Note aspect. Click **OK**.

3. Select the property HOLDSDATA and set up the condition !=0. Set the Aspect updated during last function to 8 hours.

These conditions will present all 800xA objects including an Operator Note that contain data and have been changed during the last 8 hours. Clear the Show column, the list will then show a list of objects that fulfill the criteria.

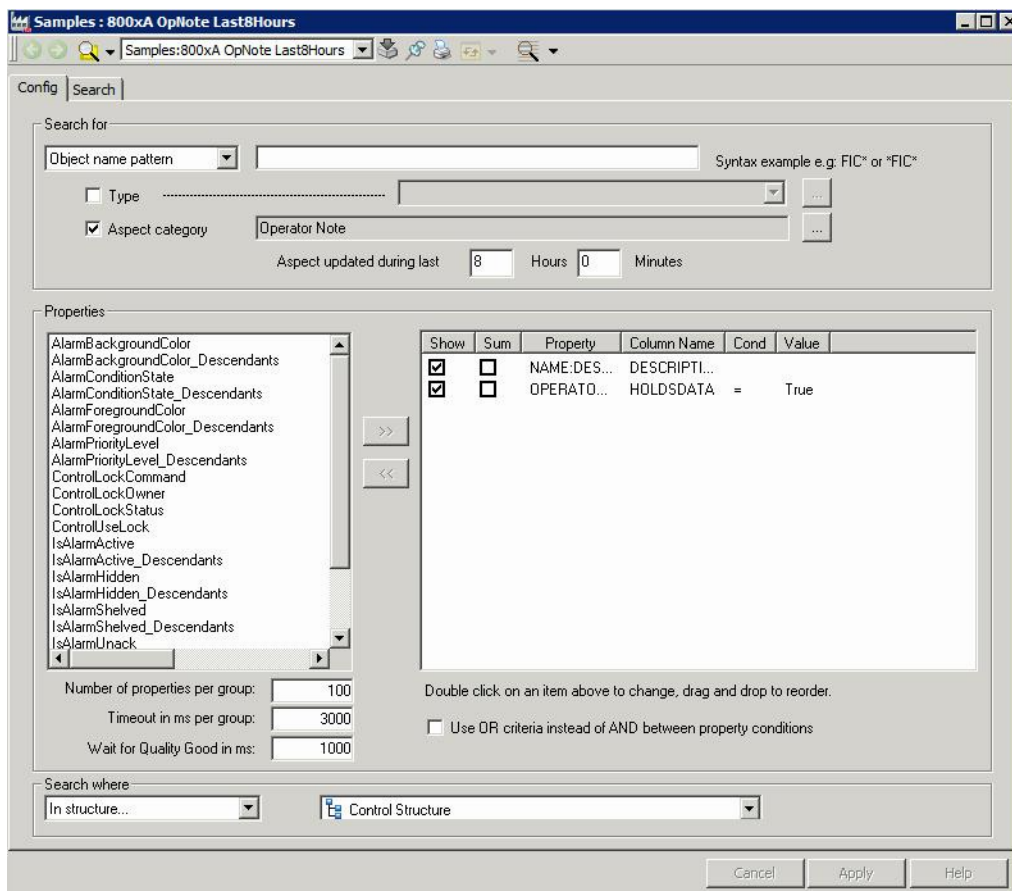


Figure 23. Operator Note template

4. Perform a new Search for the purpose of testing. Click **Apply** to save the template.
5. Copy the 8 hour template and rename it to Operator Notes 24 hours. Open the config view and change the **Aspect to updated during last function** to 24 hours. Save the template. Reuse the templates until the time spans that are going to be used during runtime are covered.

## Create Snapshot Report Viewer aspects

A couple of scenarios are described below:

- [Create a Snapshot Report consisting of one template.](#) (This example goes more into detail regarding the additional choices that the configuration view provides.)
- [Create a Snapshot Report consisting of a set of templates.](#)
- [Combine several report templates into a collection](#)

### Create a Snapshot Report consisting of one template

1. Right-click on the object or Snapshot Report folder to create the aspect, select the SnapshotReportViewerCategory and provide a name to the new Snapshot Report Viewer aspect (in the example, CS Operator Notes, where CS stands for Control structure).
2. Right-click on the new aspect and select Config View.

3. Select one of the presented Snapshot Report templates as shown in Figure 24.

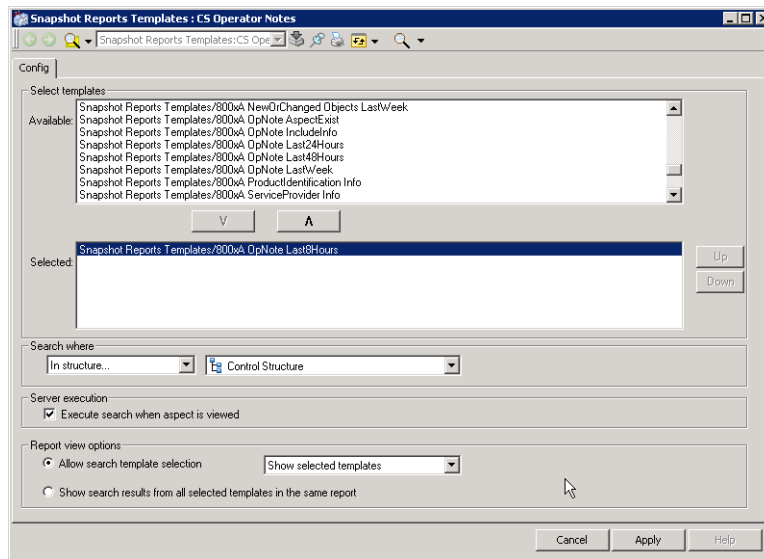


Figure 24. Choose a template to include



4. Based on the listed alternatives available select the criteria for search:
  - Use the template definition (Defined by template).
  - Search in All structures.
  - From current object (from the position where the View aspect is placed).
  - From another object in a selected structure.
  - From a dedicated structure (In structure).

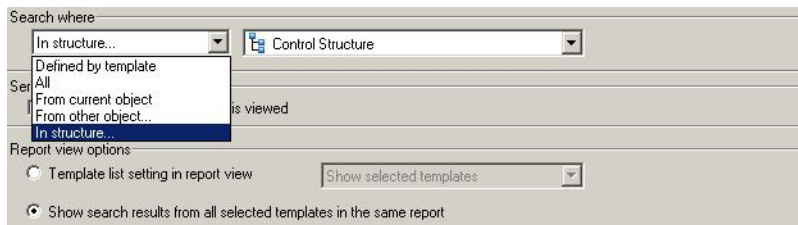


Figure 25. Structural additions to search

5. Select or clear the **Execute Search when aspect is selected** check box depending on whether the report needs to be to executed during opening or not.
6. Select how the Snapshot report viewer should visualize and manage usage of other templates as shown in Figure 26:
  - Do not show the template list - Gives no possibilities to execute other templates from this View aspect.
  - Show selected templates - Gives the user the possibility to select and execute all templates added to the **Selected list**.
  - Show all templates - Gives the user the possibility to select and execute all search templates.

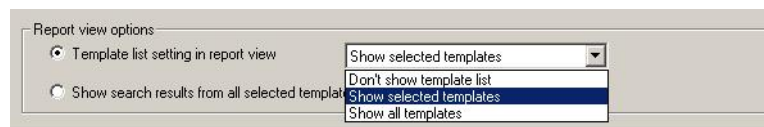


Figure 26. Showing other templates

## Create a Snapshot Report consisting of a set of templates

1. This example will extend the CS Operator Notes aspect with possibility to execute several templates from the same Snapshot Report View aspect. Right-click on the aspect and select Config View.
2. Select all templates created for Operator Note searches. The template at the very top of the selected ones will be executed when the aspect is accessed by an 800xA user.

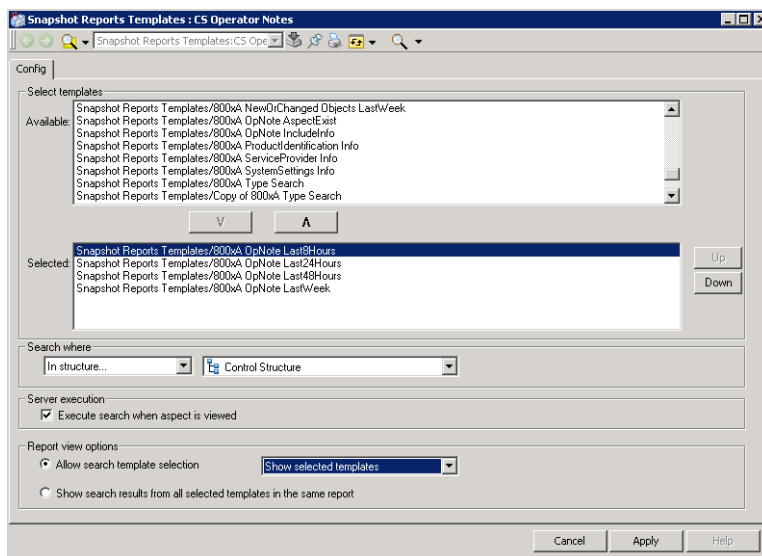


Figure 27. Select several templates

3. Select the Control structure (overriding whatever structure and position configuration the individual templates may have). Select **Show selected templates** from the drop-down **Show Templates as list**, click **Apply** and exit the Config view.



It is also possible to clear the **Execute Search when aspect is selected**, this will allow the user to select among the pre-configured Snapshot Templates before the initial search is executed.

4. Select the CS Operator Note View aspect, the 2 hour search will be executed. The 800xA User will also have the possibility to extend the search regarding time through the Configured template drop-down list.

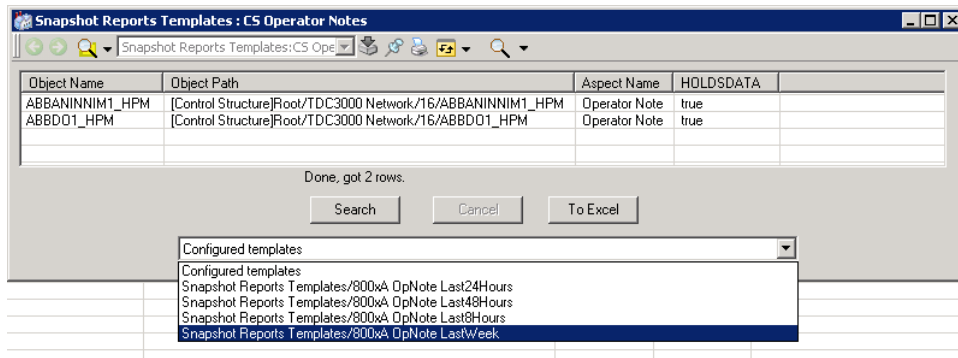


Figure 28. Operator Note search

## Combine several report templates into a collection

1. Right-click on the object or Snapshot Report folder where the user wants to create a Snapshot Report Viewer aspect, select the SnapshotReportViewerCategory and provide a name to the new Snapshot Report aspect (In this example PID:s in Manual Mode).

2. Right-click on the new aspect and select Config View. Select all templates configured for PID:s in manual mode also select the **Show Templates as a combined report**. Click **Apply** and exit from the aspect. Users can bring up the report and study the result.

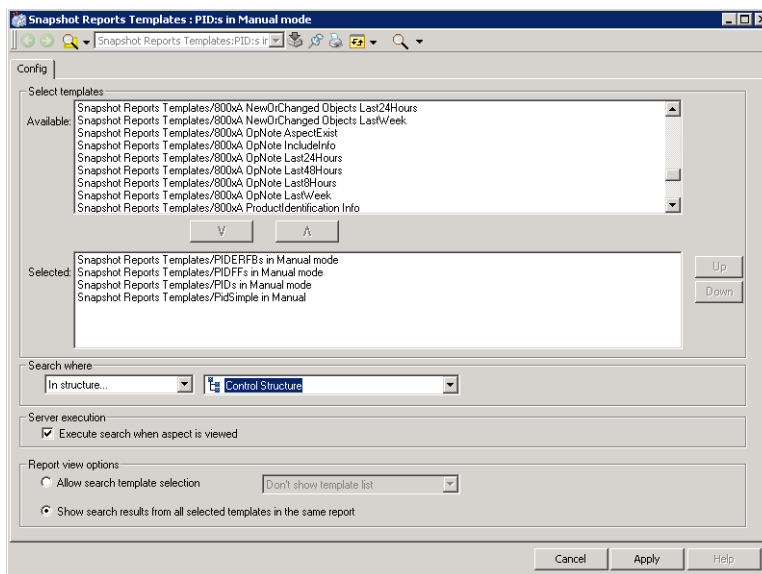


Figure 29. Configure report collection

- In Figure 30 shows PID objects with manual mode in the Control Structure.

The screenshot shows a window titled "SnapShot Report Templates : PID:s in Manual Mode". The window contains a table with the following data:

Object Name	Object Path	MODE
<b>PID:FBs in Manual mode</b>		
Object Name	Object Path	MODE
<b>PID:F in Manual mode</b>		
Object Name	Object Path	MODE
G82_PU1023	[Control Structure]Root/My Demo network/G82_Kross1000/G82_KR1020/G82_SA1021/G82_PU1023	MAN
<b>PID:s in Manual mode</b>		
Object Name	Object Path	MODE
G80_PU1022	[Control Structure]Root/My Demo network/G80_Kross1000/G80_KR1020/G80_SA1021/G80_PU1022	MAN
G80_PU1041	[Control Structure]Root/My Demo network/G80_Kross1000/G80_KR1020/G80_HA1040/G80_PU1041	MAN
<b>PidSimple in Manual</b>		
Object Name	Object Path	INTERACTIONPARAU
PidSimpleReal_1	[Control Structure]Root/Control Network/Snapshot/Applications/Application_1/Programs/Program2/Pi...	false
PidSimpleReal_2	[Control Structure]Root/Control Network/Snapshot/Applications/Application_1/Programs/Program2/Pi...	false

At the bottom of the window, there is a status bar that says "All done" and three buttons: "Search", "Cancel", and "To Excel".

Figure 30. PID:s in manual search



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# Section 5 Working with Snapshot Reports

## Executing

The Snapshot reports are easy to execute. Here are some examples:

- From the Plant Explorer Workplace:
  - Execute the search by a direct left-click on the SnapshotReportViewer aspect.
- From the Operator Workplace:
  - Right-click on an object (Graphic Element) which contains a configured SnapshotReportViewer aspect, use the object context menu to select the report aspect. The report will be executed in a separate window and the result presented as a grid.
  - Place a shortcut in the Application bar of the workplace for easy access to the report aspects. Click on the shortcut (use a suitable icon to find it) to start the report aspect.
  - Place an aspect link in process displays - click on the symbol for which the user needs to start the report aspect.

Once the report aspect is started it executes and presents the matching objects according to users configuration.



A Snapshot Report search will not be successful when the Aspect Server is down or is restarted, re-execute the Snapshot Report search when the Aspect Server is up and running.

## Working with the Search result

The Snapshot search result (Grid information) can be organized and sorted in different ways. Users can:

- Sort the search result based on information in a particular column. Click on the column header for a particular property and the whole search result will be sorted according to the information in this column. This action is also possible for each template search in a combined report.
- Re-order columns by drag and drop by using a mouse.
- Hide or show columns through right-click on the Grid header row, select or deselect columns as shown in [Figure 31](#).

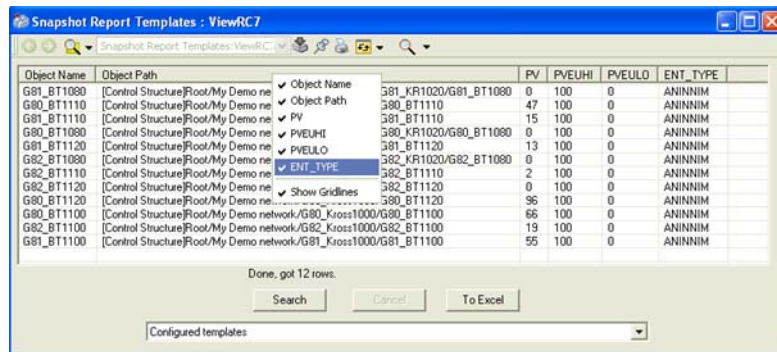


Figure 31. Hide/show column rows

## Working with Object Context menu

A useful function in Snapshot Reports for 800xA is the direct link from the search result to the actual object instance in the 800xA system.

Each object fulfilling the search criterion in a Snapshot search is presented on a separate row in the grid (search result). To view or access the aspects on an object, right-click on the row and the Object Context menu is presented. Choose the aspect to be opened, the aspect is then opened in a separate window.



In Figure 32 the object context menu is used to open a PID faceplate.

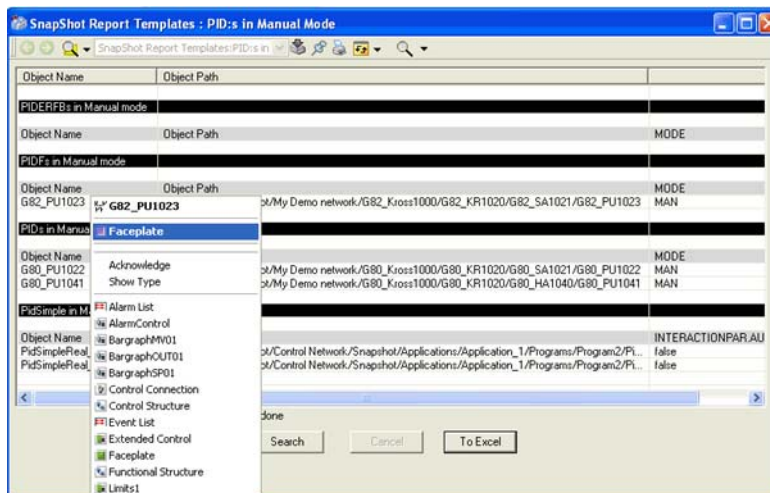


Figure 32. Object Context menu

## Exporting search result to Excel

After receiving the Snapshot search result save the search result in a report. This is done by selecting the **To Excel** button in the lower right corner of the Snapshot search result window.

The header of the Excel report will contain the name of Snapshot Report Viewer aspect and which Snapshot Report template that has been used to perform the search, the extension of the header text will include date and time of the performed search.



If the Snapshot Report Viewer aspect is configured as a combined report, only the name of the Snapshot Report Viewer aspect will be written in the Excel header.

Figure 33 shows a report of the PIDs in Manual Mode search from previous sections.

Snapshot Report: PID:s in Manual Mode Thursday, June 11, 2009 5:54:24 PM	
<b>Snapshot Report: PID:s in Manual Mode Thursday, June 11, 2009 5:54:24 PM</b>	
<b>PIDERFBs in Manual mode</b>	
Object Name	MODE
<b>PIDs in Manual mode</b>	
Object Name	MODE
G82_PU1023	MAN
<b>PIDs in Manual mode</b>	
Object Name	MODE
G80_PU1022	MAN
G80_PU1041	MAN
<b>PidSimple in Manual</b>	
Object Name	INTERACTIONPAR,AUTOMODE
PidSimpleReal_1	false
PidSimpleReal_2	false

Figure 33. Exported to Excel



The generated Excel sheet will not include the Object path information or columns that has been hidden in the Grid presentation.

---

## Section 6 Maintenance

### Backup and Restore routines

Snapshot Reports for 800xA is a standard 800xA implementation the general backup procedures described in *System 800xA, Administration and Security (3BSE037410\*)* can be used to backup the Snapshot Reports for 800xA aspects. It might also be required to backup the Excel export files.

### Upgrade Snapshot Reports for 800xA

Snapshot Reports for 800xA is a standard 800xA system extension and handled according to normal 800xA update and upgrade routines. Refer to *System 800xA Upgrade (3BSE036342\*)* for further information.



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# Revision History

## Introduction

This section provides information on the revision history of this User Manual.



The revision index of this User Manual is not related to the 800xA 5.1 System Revision.

## Revision History

The following table lists the revision history of this User Manual.

<b>Revision Index</b>	<b>Description</b>	<b>Date</b>
-	First version published for 800xA 5.1	June 2010
A	Updated for 800xA 5.1 Rev A	May 2011
B	Updated for 800xA 5.1 Rev D	December 2013

## Updates in Revision Index A

The following table shows the updates made in this User Manual for 800xA 5.1 Rev A.

Updated Section/Sub-section	Description of Update
Section 1, Product Overview	<p>Changed the following bullet point</p> <p style="padding-left: 40px;">from:</p> <p>The list can be exported to Excel, saved to a disk or printed.</p> <p style="padding-left: 40px;">to:</p> <p>The list can be exported to Excel, then saved to a disk or be printed.</p>
Section 1, Requirements	Updated the Requirements sub-section.
Section 4, Snapshot Search Combinations	Added a new sub-section <i>Snapshot Search Combinations</i> .
Section 4, Considerations	Added a new sub-section <i>Considerations</i> .
Section 4, Create Snapshot Report templates	<p>Changed the following information note</p> <p style="padding-left: 40px;">from:</p> <p>User can configure the structure, position or downward search attribute in the Snapshot Report template, this structure and position setting will however be overridden by the configuration settings in the Snapshot Report Viewer aspect if the search is executed through the Snapshot Report Viewer aspect.</p> <p style="padding-left: 40px;">to:</p> <p>It is possible to configure the structure, position or downward search attribute in the Snapshot Report template, this structure and position setting will however be overridden by the configuration settings in the Snapshot Report Viewer aspect if the search is executed through the Snapshot Report Viewer aspect.</p>

Updated Section/Sub-section	Description of Update
Section 4, Create Snapshot Report Viewer aspects	Updated screen shots <i>Structural additions to search</i> and <i>Showing other templates</i> .
Section 5, Executing	Added information note on Snapshot Report search.

## Updates in Revision Index B

The following table shows the updates made in this User Manual for 800xA 5.1 Rev D.

Updated Section/Sub-section	Description of Update
Section 4, Configuration	Added a new sub-section <i>OPC Group Subscription</i> .
Section 4, Configuration	Updated the images in the sub-section <i>Create Snapshot Report Templates</i> .







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