DATAC Technologies LTD

Flex.Report V3.1 Help Manual

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Flex.Report V3.1 Help Manual

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Preface

Flex.Report is part of the Flex.Win suite of programs and allows RealFlex SCADA data, both realtime and historical, to be available in Microsoft® Excel by simply opening a spreadsheet via the Flex.View application on a Microsoft Windows® PC.

Related documents

The following documents are related to the use of the Flex.Report program.

- Flex.View Getting Started, document reference number 5000-0001-0050.
- Flex.View Help Manual, document reference 5000-0001-0040.
- Flex.Builder Help Manual, document reference 5000-0001-0041.
- Flex.Gallery Help Manual, document reference 5000-0001-0042.
- Flex.Start Help Manual, document reference 5000-0001-0043.
- Flex.Language Help Manual, document reference 5000-0001-0044.
- Flex.Converter Help Manual, document reference 5000-0001-0045.
- Flex.CFE Help Manual. Document reference number 5000-0001-0060.

Software information

This Help Manual describes facilities contained in the Flex.Report application program, version 3.1.1.

Conventions

The following conventions are used throughout this document:

➔ **The beginning of a sequence of instructions:**

1, 2, 3 etc. A set of steps in a sequence of instructions.

- A single step in an instruction.

Highlight — This term defines the action of moving the cursor to illuminate an alphabetic or numeric character, word or phrase to initiate a procedure.

OR: — In a sequence of instructions the text OR: is used to indicate a choice of steps. Either execute the one step before the OR: or the one step after it.

Mouse conventions

Within the text the left mouse button is assumed for all mouse operations unless otherwise stated.

Click — Press and release the left-hand mouse button without moving the pointer. This action is used to select an object or perform an action.

Double-click — Press and release the left-hand mouse button twice in quick succession.

Drag — Press the left-hand mouse button without releasing it and then move the pointer. This action tracks the position of the mouse pointer. The action ends when the mouse button is released.

Press — Press the left-hand mouse button without releasing it. This action is generally used to select an object for action.

Release — Release the mouse button after pressing it. This action is generally used to conclude an action initiated by a press or a drag.

1 Introduction

1.1 Overview

Flex.Report allows the use of Microsoft® Excel to display and present live and historical RealFlex SCADA data. By means of menus and dialogs, a user can easily and quickly create spreadsheets that can display and analyze SCADA data. These spreadsheets are then available to other users by simply opening the spreadsheet. It automatically connects to the RealFlex SCADA system and displays live or historical data.

Existing RealFlex4 reports can be imported for automatic conversion to Flex.Report format and are then available for use within Excel.

Features

- Live data constantly updated in Excel, can also be displayed in HTML format
- Data can be presented using Excel trends and bar graphs
- Historical data available for easy report generation and enhancements using standard Excel features
- Easy access to data through standard Excel
- All data quality flags available, e.g., Invalid, Manual Overwrite, Alarm Disable etc.
- Replacement for older DDE interface
- Reliable TCP/IP interface with automatic network reconnection
- RealFlex4 reports can be imported into Excel Worksheets
- Menu and dialog features allow easy generation of functions
- Runs on Microsoft Windows PC, connected to the RealFlex server using TCP/IP through LAN or WAN

1.2 Compatibility with RealFlex4 reports

Flex.Report report blanks cannot be used in the RealFlex4 Historical Generator as Flex.Report provides advantages for requests and data retrieval, which are not supported in the RealFlex4 Historical Generator.

It is possible to load into Flex.Report a report blank created in the RealFlex4 Historical Generator. The imported report blank can then be modified for use within the Flex.View application.

To load a RealFlex4 report blank, please refer to Section 3.2, "Converting an existing RealFlex4 Report File".

1.3 About Flex.Report

Selecting "About Flex.Report" from the "Datac" menu will display Flex.Report program information similar to the display below.

Use this command to display information about the Flex.Report software you are using, such as; software version number and build number; licence type (Development or Runtime); registration ID and copyright. This information can be given to the support engineer in the event of a problem with Flex.Report.

- From the **Datac** menu, select the **About Flex.Report** option.

  The "About Flex.Report" window will appear:

From the "About Flex.Report" window, you can visit the Datac WEB site, or send an e-mail to the Datac Sales department to enquire about other Flex.Win and Datac products.

➔ **To send our Sales department an e-mail:**

1. Click on the **sales@datac-technologies.com** hyperlink. Your e-mail application will be opened where the Datac contact address will be entered automatically.
2. Type in your query or request and send the e-mail to us in the normal way.

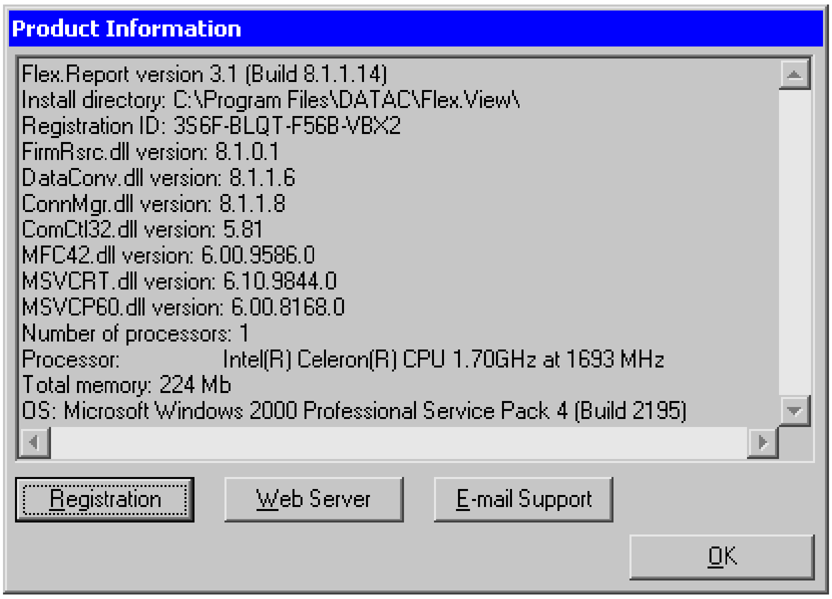
➔ **To visit the Datac Control Technologies Limited WEB site:**

- Click on the **www.datac-technologies.com** hyperlink. Your WEB browser will be opened and the Datac WEB site will be dialled.

1.4 Product Information

Selecting "Product Information" from the “Datac” menu will display the product information and all its components including information about the hardware and operating system.

From the "Product Information" window you can register the Flex.Report application or if you have any comments or have any problems during the system execution, you can send us an e-mail attaching the "Product information". This will help us to define the reason of your problems and eliminate the errors.



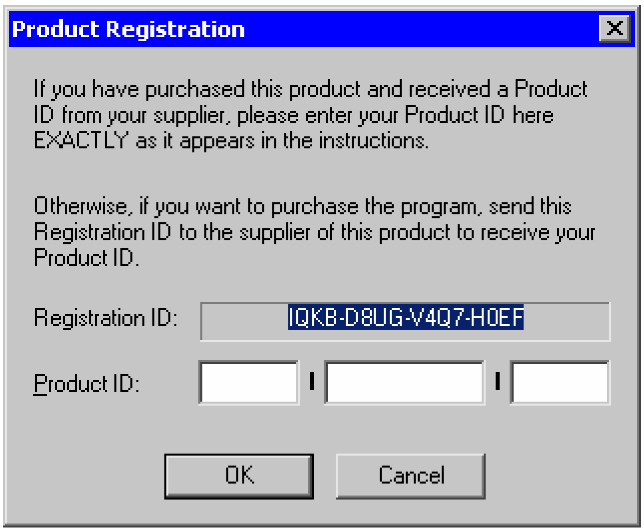
1.4.1 To Register the application

The **Registration** button is used when a user does not have the Flex.Report product enabled on the Hardware Key, i.e., they have not purchased the product.

You must e-mail Datac and provide the Registration ID number displayed in the "Product Registration" window. Datac will then supply you with a Product ID number by e-mail.

When you receive the Product ID number:

1. Click on the **Registration** button. The "Product Registration" window will appear:



2. Enter the "Product ID", then click on the **OK** button. This will program the Hardware Key to enable the Flex.Report product.

1.4.2 To visit the Datac Control International Limited WEB site

- Click on the **Web Server** button. Your WEB browser will be opened and the Datac WEB site will be dialled.

1.4.3 To send us an e-mail

1. Click on the **E-mail Support** button.
2. When prompted, say **Yes** to copying the Application summary to the Clipboard. Your e-mail application will be opened where the Datac contact addresses will be entered automatically.
3. Paste the text from the Clipboard to your e-mail program adding information about your problems.
4. Send the e-mail to us in the normal way.

Click on the **OK** button to close the "Product Information" window.

1.5 Changing Language

The "Change Language" option from the "Datac" menu, allows you to choose and specify a product specific language for use within Flex.Report.

Product specific language translations are produced using the "Flex.Language" program and saved on your Windows PC as a custom translation file in your "C:\Program Files\Datac\Flex.View" directory. For details, please refer to the "Flex.Language" program Help documentation.

➔ **To access the Language window:**

- From the **Datac** menu, select the **Change Language** option.

  The "Language" window will appear:

The "Language" window is divided into two sections, "Enable product interface language translation" and "Advanced settings".

Enable product interface language translation section:

Note: If the "Enable product interface language translation" option is not active, no tick in check-box, then Flex.Report will use the default language as specified in the "Default language used for all products" field of the "Translation Language Settings" window within the "Flex.Language" program.

➔ **To enable a Product specific language:**

1. Click on the **Enable product interface language translation** check-box. A tick will appear when enabled and the "Use product specific language:" option listed below will become active. Click again to disable (no tick).

2. For the "Use product specific language:" option, choose a user specified language setting for use within Flex.Report by clicking on the button to the right of this field and choosing required language from the drop-down list.

   If you reset the language for the Flex.Report program, after choosing the required language from the drop-down list, the following massage will appear:

   You will need to restart the program before the changes can take effect.

The character set on your PC will change to the selected language. For example, if you have "Spanish" and "English" character sets installed on your PC, you will be able to choose "Spanish" from the drop-down list. Now the character set used will be "Spanish". You are then able to construct a new menu or edit an existing menu in "Spanish". The same applies to all other aspects, e.g., a new text box in a display will be in the "Spanish" character set.

Note: The "Flex.Language" program can be used to remotely set or override the "Enable product interface language translation" settings.

Advanced settings section:

Selecting the **Advanced settings** option, tick in check-box, will reveal the **I want language settings to affect current Windows® user only** option.

Selecting the **I want language settings to affect current Windows® user only** option, tick in check-box, allows you to set the Flex.Report character set for the user currently logged onto the Windows PC.

For example, if you were to log onto a Windows 2000 PC as "John" and opened Flex.Report (logged in as "USERA") and have selected "Spanish" as the chosen language, then the character set in Flex.Report will be Spanish.

If you were to log off the Windows 2000 PC and another user logged on as "David", and opens Flex.Report (logged in as "USERA"), the character set will revert to the default character set of "English" and not your preferred language of "Spanish".

After all changes have been made to the "Language" window, click on the **OK** button to save your changes, or click on the **Cancel** button to close window and not save changes.

1.6 FlexReport Help

This command links you to the on-line Help and provides topics and tips to help you accomplish your tasks.

➔ **To access the Flex.Report on-line Help:**

- From the **Datac** menu, select the **FlexReport Help** option.

2 Getting started

2.1 Starting the Flex.Report program

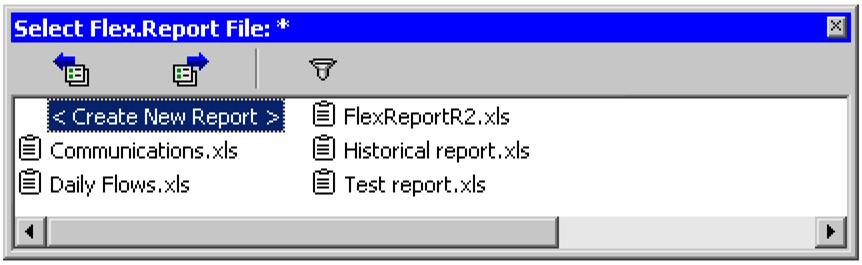
Use this method of starting Flex.Report when creating a new report or editing an existing report.

➔ **Starting Flex.Report:**

1. Within the **Flex.View** application program, from the **Configuration** menu, click on the **Report Generator** option.

   For Microsoft Windows look and feel:

   The "Select Flex.Report File: *" window appears displaying the "< Create New Report >" option and listing all reports available for the project, sorted alphabetically by name.



   If all selections are not shown and the window is full, clicking on the   buttons located in the toolbar will scroll the list left or right to the desired name. You can also use the scroll bar if the required report name is not visible.

   To locate a specific name, click on the  button. The "Set Filter" dialog box will appear:

   Enter a text string to search for. For example, if you wanted to locate all reports with "xyz" in the name, you would enter "*xyz*" and click on the **OK** button. The asterisk before and after "xyz" is used as a wild card.

   The "Select Flex.Report File" window will change to list only those reports containing "xyz" in the name.

Current state of Reports:

In the "Select Flex.Report File: *" window, a symbol to the left of the report name signifies the current state of the report. Symbols are as follows:

Report is as registered on the RealFlex server.

Report is a draft or has been edited, but not yet registered on the RealFlex server. You will also find that when you move the pointer over a Draft report, a Tooltip will appear displaying "Draft File". For details on how to send files to the RealFlex server, please refer to the Flex.View Help information.

For RealFlex4 look and feel:

The "Select Flex.Report File: *" window appears displaying the "< Create New Report >" option and listing all reports available for the project, sorted alphabetically by name.

If all selections are not shown and the window is full, clicking on the buttons located in the upper left corner of the window will scroll the list one page up or down to the desired report.

To locate a specific report, click on the asterisk (*) button and enter a text string to search for. For example, if you wanted to locate all reports with "xyz" in the name, you would enter "*xyz*" and press **Enter**. The asterisk before and after "xyz" is used as a wild card.

The "Select Flex.Report File: *" window will change to list only those reports containing "xyz" in the name.

You may also choose to simply type the name (or first letters of a name) from the keyboard in the field to the right of the asterisk (*) button. A box will appear around the closest matching name.

Current state of Reports:

When you move the pointer over a Draft report, a Tooltip will appear displaying "Draft File". For details on how to send files to the RealFlex server, please refer to the Flex.View Help information.

2. To create a new report, click on **< Create New Report >**. To edit an existing report, click on the required report name.

   The Microsoft Excel application will automatically open. A new menu option called "Datac" will be added to the Microsoft Excel menu bar. The title bar will also change to display "Microsoft Excel - New.xls" for a new report, or "Microsoft Excel - [report name]" for an existing report.

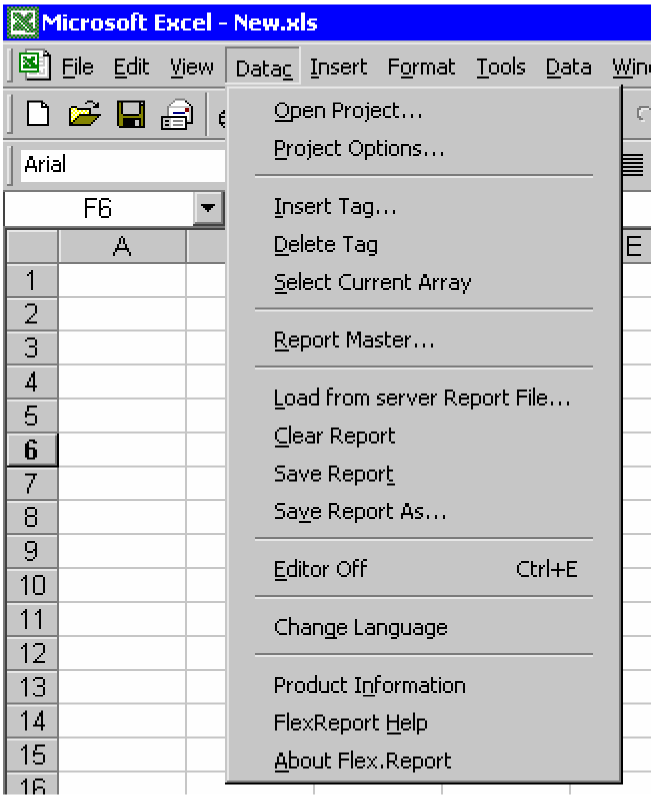
When creating a new report, Flex.Report initially starts in "Edit" mode.

When editing an existing report, Flex.Report initially starts in "Work" mode, the "Connecting To Server" dialog box will appear and Flex.Report will attempt to connect to the Node 1 IP address for the Project. When the connection is successful, live data is downloaded from the RealFlex server. Any connection problems or errors are reported.

Note: Existing reports that are registered on the RealFlex server are opened as "Read-Only" files.

2.1.1 Edit mode

The "Datac" menu in "Edit" mode will display the following menu list:



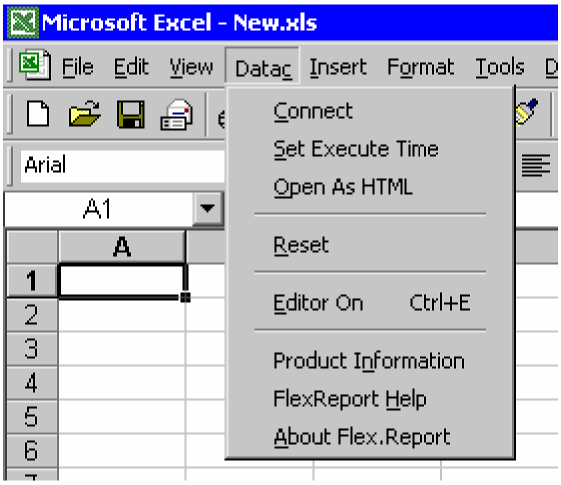
➔ **To switch to "Work" mode:**

- Click on the **Editor Off** option.

  Shortcut: Keypad **Ctrl+E**

2.1.2 Work mode

The "Datac" menu in "Work" mode will display the following menu list:



➔ **To switch to "Edit" mode:**

1. Click on the **Editor On** option.

   Shortcut: Keypad **Ctrl+E**

   The following message will appear:

2. Click on the **Yes** button to continue, or click on the **No** button to abort the operation.

Once you have opened Flex.Report, you can:
- Create a report by inserting a formula manually. Please refer to Section 3.3 for details.
- Use the "Insert Tag" menu option to create or edit a report. Please refer to Section 3.4 for details.
- Use the "Report Master..." menu option to create or edit a report. Please refer to Section 3.5 for details.
- Convert an existing RealFlex4 report file. Please refer to Section 3.2 for details.
- View existing reports. Please refer to Section 4.2 for details.

2.2 Projects

2.2.1 Opening a Project

If the project has been registered in the system, you can use this command to open a project. See also the "Connect Project once Opened" option in the "Project Options" window, Section 2.2.3.

➔ **To open a project:**

1. From the **Datac** menu, select the **Open Project...** option. The "Open Project" window will be displayed listing all the registered projects available on your system.

2. In the "List of registered projects:" field, click on and highlight required project then click on the **Open** button.

   The "Project Options" window will be displayed.

3. If required, set the Project options, then click on the **OK** button. Please refer to Section 2.2.3 for details.

The "Open Project" window can also be used to manage you projects allowing you to add, remove, rename, backup or restore projects.

To manage your projects, please refer to Section 2.2.2, "Project management".

2.2.2 Project management

The "Project management" section of the "Open Project" window allows you add, remove, rename, backup or restore projects.

2.2.2.1 Accessing the Project Management section

➔ **To access the Project Management section:**

1. From the **Datac** menu, select the **Open Project...** option. The "Open Project" window will be displayed listing all the registered projects available on your system.

2. Click on the **More >>** button. The "Open Project" window will expand to display a "Project management" section and five buttons as shown below.

2.2.2.2 Adding a project registration to the list

➔ **To add a project registration to the list:**

Note: To add a project, the project directory and its associated files must already be available on your PC in the "C:/Program Files/Datac/Projects" directory.

1. Click on the **Add to list** button. The "Browse for Folder" dialog box will be displayed.

2. Select required project folder to be added then click on the **OK** button. The new project, providing it contains valid project files will be added to the "List of registered projects:".

2.2.2.3 Removing a project from the list

➔ To remove a project from the list:

1. From the "List of registered projects:", click on and highlight the project to be removed.
2. Click on the **Remove from list** button. A window is displayed asking you for confirmation. Click on the **Yes** button to remove the project or click on the **No** button to abort the operation.

2.2.2.4 Renaming a project

➔ To rename a project:

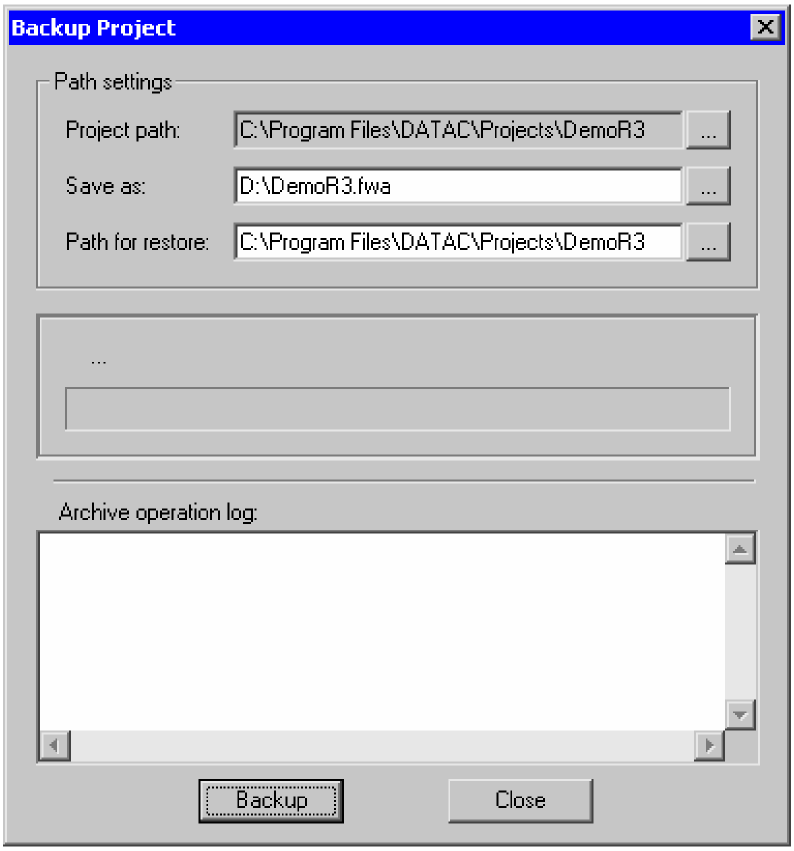
1. From the "List of registered projects:", click on and highlight the project to be renamed.
2. Click on the **Rename** button. The "Rename Project" dialog box will be displayed.
3. Type in the new name for the project then click on the **OK** button.

2.2.2.5 Backing up a project

➔ To backup a project:

The Backup function allows you to backup any registered project on your "C:/Program Files/Datac/Projects" directory and save it as a backup file to a directory on your hard drive or to a floppy disc or CD. You may also backup a project you have on a floppy disc or CD and save it as a backup file to your hard drive.

1. From the "List of registered projects:", click on and highlight the project to be backed up.
2. Click on the **Backup** button. The "Backup Project" window will appear:



3. In the "Project path:" field, the path of the project you selected in the "Open Project" window will have already been entered.

   If you want to backup a different project you have on your hard drive, floppy disc or CD, click on the ... button on the right of this field. The "Browse for Folder" dialog box will appear where you can select the Project file required.

4. In the "Save as:" field, a default path and File name will have been entered automatically.

   If you want to backup the Project to another path and File name, click on the ... button on the right of this field. The "Save As" dialog box will appear. For details on how to use this dialog box, please refer to Section 6.8.

5. Indicate the location and the name of the file to be saved, save as a "Flex.Win Backup Files (.fwa)" file, the file name can differ from the original name, then click on the **Save** button.

   You will be returned to the "Backup Project" window where the path and file name will now be entered in the "Save as:" field.

6. In the "Path for restore:" field, the default path for the restoration of the project is automatically entered. This is the path where the project is currently located and will be remembered and entered in the "Restore path" field of the "Restore Project" window.

   You may change this path for a directory on your hard drive, floppy disc or CD drive. Click on the ... button on the right of this field, the "Browse for Folder" dialog box will appear where you can select the path required.

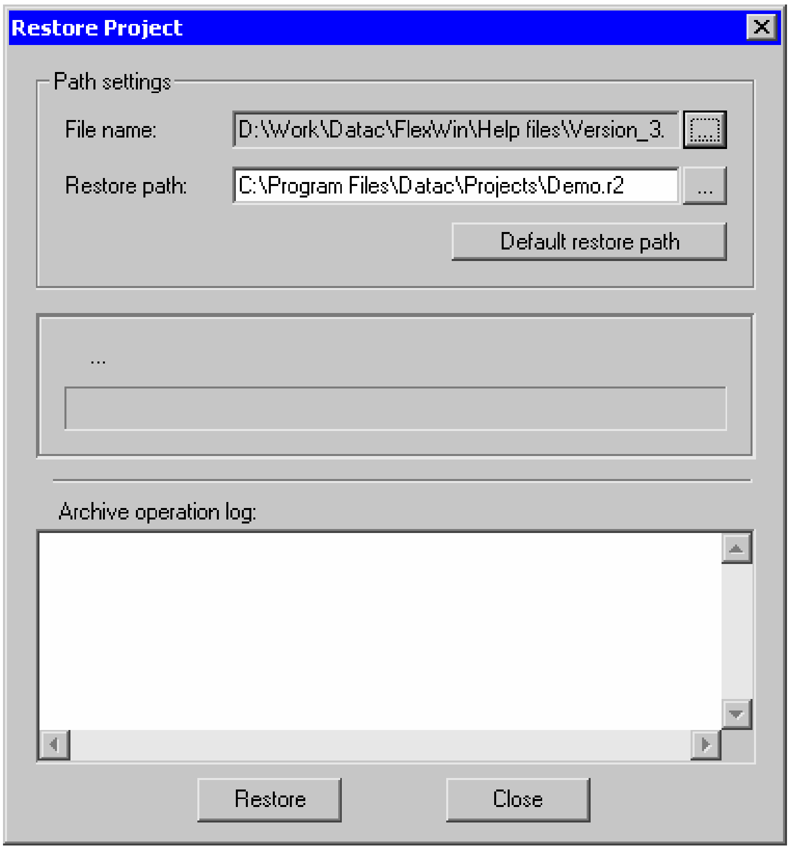
7. Click on the **Backup** button. Details of the operation will be displayed in the "Archive operation log:" area. After successfully backing up the project, the message "Project backup is completed" will appear. Click on the **OK** button to proceed.

2.2.2.6 Restoring a backup project

➔ To restore a backup project:

The Restore function allows you to restore a backup Project file to your "C:/Program Files/Datac/Projects" directory or to a floppy disc or CD.

1. Click on the **Restore** button. The "Restore Project" window will appear:



2. In the "File name:" field, click on the ... button on the right of this field. The "Open" dialog box will appear. For details on how to use this dialog box, please refer to Section 6.7.

3. Locate the file to be restored, open as a "Flex.Win Backup Files (*.fwa)" file, then click on the **Open** button.

   You will be returned to the "Restore Project" window where the path and file name will now be entered in the "File name:" field.

4. In the "Restore path:" field, the destination path for the restored file, based on the location entered in the "Path to restore:" field in the "Backup Project" window when it was backed up, will have been automatically entered.

   If you want to change the destination path and restore the Project to a different directory on your hard drive, a floppy disc or CD, click on the ... button on the right of this field. The "Browse for Folder" dialog box will be displayed to enable you to select a different restore path.

5. Click on the **OK** button.

   You will be returned to the "Restore Project" window where the new path will now be entered in the "Restore path:" field. If you changed the restore path in step 4 above and wanted to reset the path to the default restore path, click on the **Default restore path** button.

6. Click on the **Restore** button. Details of the operation will be displayed in the "Archive operation log:" area.

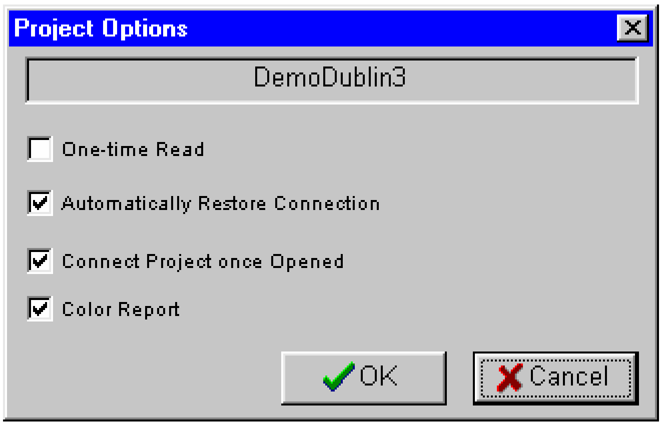
   After successfully restoring the project, the message "Project restore is completed" will appear. Click on the **OK** button to proceed.

2.2.3 Project Options

The "Project Options" window, as shown below, allows you to define the Flex.Report Application and Project preferences.

➔ **To access the Project Options window:**

- From the **Datac** menu, click on the **Project Options...** option. The "Project Options" window will be displayed:



The field in the top of this window, just below the Title bar, displays the name of the currently open project.

Below this field, is listed a selection of Project options, choices are:

One-time Read - When the information has been received from the RealFlex server, the connection will be closed automatically.

Automatically Restore Connection - Reconnects you to the RealFlex server automatically if the connection has been lost.

Connect Project once Opened - Automatically reloads the last project you worked on when restarting Flex.Report.

Color Report - Use color marking of the Excel cells for the tags state representation.

➔ **To select an option:**

- Click on the required option check-box. A tick will appear in the check-box to signify that it has been selected.

After defining the Project Options, click on the **OK** button to save your changes, or click on the **Cancel** button to abort the operation. You will be returned to the previous window.

3 Creating and editing reports

3.1 Flex.Report formula insertion and editing

Within Flex.Report, SCADA data is obtained by using the formula "GetTagValue".

For example: **{=GetTagValue(TagString,RequestString)}**

GetTagValue is an ordinary Excel formula format. It has two parameters. The first (TagString) defines a tag or range of tags, whose state is needed to be obtained. The second (RequestString) defines the request parameters.

TagString format parameters are described in detail in Section 3.1.1.
RequestString format parameters are described in detail in Section 3.1.2.

Flex.Report provides a number of methods for inserting the formula with the aid of menus and dialogs to enable the user to easily and quickly create reports.

3.1.1 TagString format

The "TagString" string describes the tag, whose state is to be obtained.

These string values can be:
- **PROJECT** - the request of the open project properties;
- **SUBTYPE** - the request of the array description;
- **PcuName** - the request of the desired PCU properties;
- **PcuName:TagType:TagName** - the request of the desired tag properties.

3.1.1.1 PROJECT

If the TagString has a "PROJECT" value, then the GetTagValue function will return the open project properties.

The following requests are for the project:
- **CS** - Connect Status
- **I1** - IP-address Node 1
- **I2** - IP-address Node 2
- **P1** - IP-port Node 1
- **P2** - IP-port Node 2
- **PN** - Project Name
- **PP** - Project Path
- **PT** - Server Time
- **PU** - Update Status

CS, PU and PT requests are realtime requests. Other requests return the result of the function immediately.

3.1.1.2 SUBTYPE

If the TagString has "SUBTYPE" value, then the GetTagValue function will return the array of strings, which describes all requests in the RequestString string.

For example,
{=GetTagValue("SUBTYPE","P:N:D")} will return the array of strings: {"PCU Name", "Tag Name", "Description"}

3.1.1.3 PCU Name

If there are no separators ":" in the TagString, then its value will be defined, like PCU Tag Type.

The following requests are for PCU's:

- **AC** - ON/OFF
- **AD** - Address
- **CE** - Comm. Eff%,
- **CH** - PCU Channel
- **DE** - Data Error
- **NA** - Number of Analogs
- **NM** - Number of Meters
- **NR** - No Response
- **NS** - Number of Status
- **NT** - Number of Tanks
- **ON** - ON/OFF (string form)
- **RT** - Retries
- **TS** - Total Scans
- **VS** - Valid Scans

where AD is not a realtime request.

Besides, the requests, described in the "General requests for all types of tags" below. General requests for all types of tags, can be used for PCU's.

3.1.1.4 Tag

The TagString in the "PcuName:TagType:TagName" format is processed like the tag name. There are general requests for all tag types, and specific requests for each type.

General requests for all types of tags

Non realtime request:

- **C** - Value ("Volume" for Tank)
- **D** - Description (extended form)
- **DH** - Description (short form)
- **N** - Tag Name (=PcuName for RTU)
- **P** - PCU Name
- **T** - Tag Type (string form: "ANALOG", "PCU" and ext.)
- **U** - Units (for tag only)

Realtime request:

- **F** - Flags (example, "FA", "F>" etc.)
  - ***** - Reply (boolean form)
  - **>** - Control (b_control)
  - **A** - Any Alarm (b_alarm)
  - **C** - Historical Recording Active
  - **E** - Alarm Enable
  - **F** - Flow Rate

H - Analog Hi Alarm
I - Invalid State (b_invalid)
J - Analog HiHi Alarm
K - Analog LoLo Alarm
L - Analog Lo Alarm
M - Manual Overwrite (over_write, or '#')
N - Reply
S - State Alarm (b_sta)
U - Unacknowledged Alarm (b_unack)

Q - Quality Flags
QD - identical to "Q" request, but has no description for the "SUBTYPE" (see "SUBTYPE" above).

Analog Tags

For the ANALOG tag it is possible to form the following specific requests:
HI - Analog Hi Values
HH - Analog HiHi Values
LO - Analog Lo Values
LL - Analog LoLo Values
RC - Analog Rate-Of-Change value

These requests are not the realtime requests.

Status Tags

For the STATUS tag it is possible to form the following specific requests:
S1, **S2**, **S3**, **S4** - Description Of State 1..4
C1, **C2**, **C3**, **C4** - Color Of State 1..4

These requests are not the realtime requests.

Meter Tags

For the METER tag it is possible to form the following specific requests:
Non realtime request:
RO - Rollover
Realtime request:
CG - Current Gross
CN - Current Net
DA - Daily
HO - Hourly
LG - Last Good
LH - Last Hour
MF - Factor
MO - Monthly
YD - Yesterday
YR - Yearly

Tank Tags

For the TANK tag it is possible to form the following specific requests:
Non realtime request:
NB - Tank number
Realtime requests:
AV - Available Volume
FR - Tank Flow Rate
GR - Gravity
LD - Level (fraction form)
LE - Level

LV - Last Volume
PC - Product Code (Name)
TM - Temperature
VL - Volume

A full list of requests is shown in the Appendix A.

3.1.2 RequestString format

The RequestString format is dependent on the request type; Historical, Time Array or Realtime.

3.1.2.1 Historical Request

There are two formats for the historical-data request:
- With defined time period;
- With defined number of points.

There are two forms of the request, which have different first symbol in the request string:
- "~" - the first form;
- "#" - the second form;

The format of the first form is:

S~X V YYYY/MM/DD HH:MM yy-mm-dd hh:mm CC I DT

The format of the second form is:

S#X V YYYY/MM/DD HH:MM NN CC I

S - is a subtype of the tag for the required date. Its value could be one of the following:
C = Current values for Analog or Status tag
CN = Meter tag, Current Net sub-type
HO = Meter tag, Hourly sub-type
DA = Meter tag, Daily sub-type
MO = Meter tag, Monthly sub-type
YR = Meter tag, Yearly sub-type

X - is the type of the historical request. Its value could be one of the following:
D = dump
X = Raw
A = Avr
S = Min
L = Max

V - is an array "direction"; there are two possible values:
V - Vertical
H - Horizontal
V describes the column range of cells with a formula (column); H - the raw range of cells.

YYYY/MM/DD HH:MM - performs the "Start Time".

A fixed time is written in the general form with four positions for the year, for example: 2002/8/3 00:00.

Another form performs the time, counting from the current moment. This form is called "relative time". Every component is the negative number or the "*" which signifies the current time value sign.

A negative number defines the time period from the current moment. This period could be an hour, minute, day, etc., depend on the number position.

For example:
-1/*/* *:* = the current time in the last year
//-1 *:* = the current time yesterday

Fixed and relative parts could be combined. For example:
*/-1/1 0:0 - the first day of the previous month

The fields to the left could be missed, if their values are identical with the current time value. There should be present the one field for the date part and for the time part. For example:
-1 * - the same is: */*/-1 *:*
-1/* * - the same is: */-1/* *:*

Other format examples used for the fields: YYYY/MM/DD HH:MM are:
- 2001/10/25 *:* = 25 Oct 2001, current time
- */*/* *:* = current date and time
- */*/-2 *:* = current date -2 days, current time
- */*/* *:-2 = current date, current time -2 min
- */*/* -2:* = current date, current time -2 hours
- */-1/* *:* = = current date -1 month, current time
- -2/*/* *:* = current date -2 years, current time

yy-mm-dd hh:mm - defines the "Span Time" period.

The values in these fields are always positive numbers. There should be at least one non-zero value.

0-0-0 0:1 = 1 minute
0-0-0 1:0 = 1 hour
0-0-1 0:0 = 1 day
0-1-0 0:0 = 1 month
1-0-0 0:0 = 1 year

CC and **I** - The "CC" field contains the number of intervals (1-65535). The "I" field contains time Units (minutes, hours etc.) for the intervals defined in the CC field.

It is possible to set:
- **N** - minute(s)
- **H** - hour(s)
- **D** - day(s)
- **W** - week(s)
- **M** - month(s)
- **Y** - year(s)

NN - defines the number of points in the result array for the second form of request.

DT - defines to include or not to include the Date and Time values to the result data array.
- **D** - means to include the date in the result array
- **T** - means to include the time in the result array
- **DT** - means to include the date and time in the result array

Important! If the "DT" field contains the values mentioned above, the result array dimension will be increased with 1 or 2.

The "DT" field could be empty. It is not mandatory.

Examples:

The same information will be obtained for both requests:
{=GetTagValue(TagString,"#G */*/* *:* 5 1 H")}
{=GetTagValue(TagString,"~G */*/* *:* 0-0-0 4:00 1 H")}

3.1.2.2 Time Array Request

The time array request also has two forms.

The format of the first form is:

~V YYYY/MM/DD HH:MM yy-mm-dd hh:mm CC I

The format of the second form is:

#V YYYY/MM/DD HH:MM NN CC I

The time array request format does not contain the fields S, X and DT.

Other fields are the same as the historical request that are described above.

3.1.2.3 Realtime Request

The realtime request string contains several requests, separated with a colon ":" or a semi-colon ";". For example:

"P:D:C:U"

The colon ":" separates the requests which are written in one string. When the semi-colon ";" is present, the obtained data will be placed in a new string or row.

Each request in the RequestString denotes the request for one type of data. Permitted data types are displayed in the "Types of request" topic.

A request in single quotation marks are not analyzed and put in the result array without any changes. This could represent text, i.e., 'text', or a blank column, i.e., ''.

It is possible to set the request representation format in front of the type of request symbol. It is embraced by brackets.-, i.e., "[1.2]request" or "[1]request".

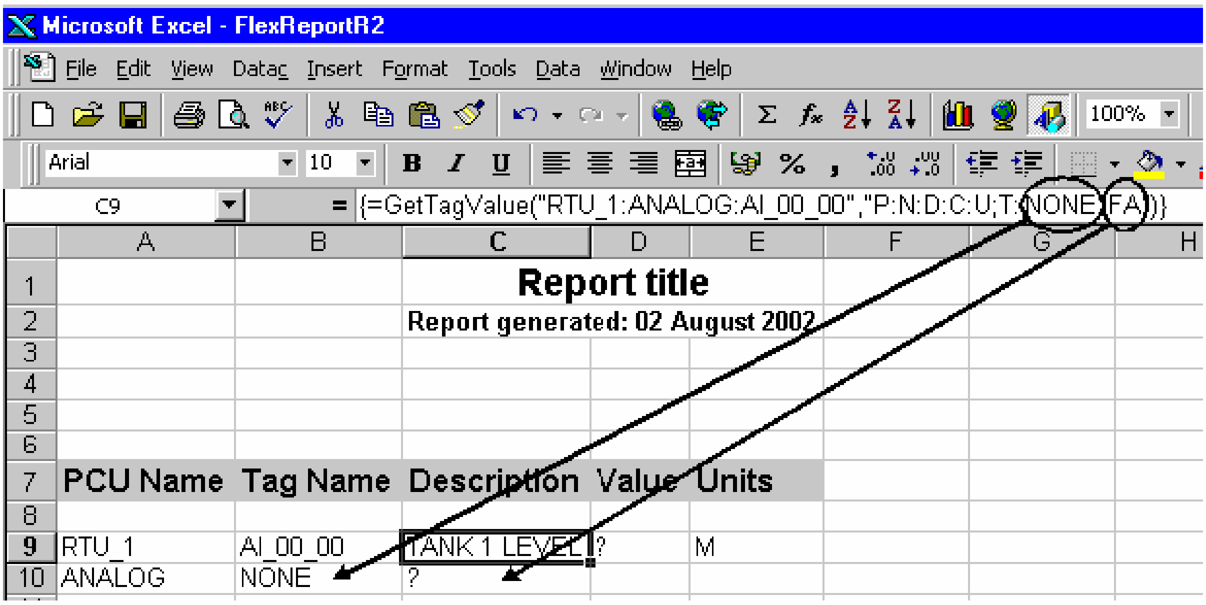
The first form is used to represent the numbers with floating point. The second form is used to represent the integers and strings.

More detailed description of requests could be found in the Appendix A.

Example:

{=GetTagValue("RTU_1:ANALOG:AI_00_00";"P:N:D:C:U;T:'none':FA")}

returns the array, consisted of 2 strings, because the separator ";" is present. "None" string is written to the result report without any changes:


Microsoft Excel - FlexReportR2
File Edit View Datac Insert Format Tools Data Window Help
Arial
10
100%
C9
{=GetTagValue("RTU_1:ANALOG:AI_00_00","P:N:D:C:U;T:NONE;FA")}
Report title
Report generated: 02 August 2002
PCU Name Tag Name Description Value Units
RTU_1 AI_00_00 TANK 1 LEVEL ? M
ANALOG NONE ?

3.2 Converting an existing RealFlex4 Report File

It is possible to load report blanks created in the Historical Generator of the RealFlex server and convert them into Flex.Report report blanks.

➔ **To load a RealFlex report blank:**

1. From the **Datac** menu, select the **Load from server Report File...** option.

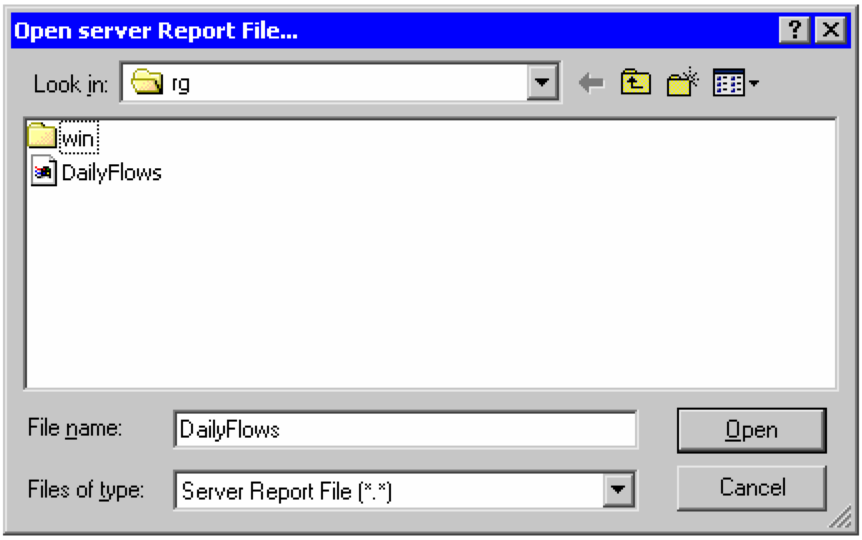
   The "Open server Report File..." dialog box will appear. Please refer to Section 3.2.1 for details.

2. Locate the file to be loaded, open as a "Server Report File (*.*)" file, then click on the **Open** button. Flex.Report will open and convert the selected RealFlex report.

3. Edit and format the report as required then use the "Save Report As..." option from the **Datac** menu to save it as a Flex.Report report.

Note: Flex.Report report files cannot be used in the Historical Generator of the RealFlex server.

3.2.1 Open server Report File... dialog box



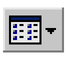
The following options allow you to specify the name and location of the file you're about to open:

Look in: Displays the current folder and its list of available folders and files. Double-click on the folder you want to open. To see where the current folder is located in the hierarchy of folders, click on the  button. The resulting drop-down list displays folders above the selected location.

Go To Last Folder Visited:  Moves to the last folder you visited.

Up One Level:  Moves the Look in folder up one level in the directory hierarchy.

Create New Folder:  Creates a new folder in the current directory hierarchy.

View Menu:  Allows you to change the appearance of items in a folder. Click the View menu button, and then click on **Large Icons**, **Small Icons**, **List**, **Details**, or **Thumbnails** as required from the drop-down list.

File name: Displays files of the type specified in the Files of type box. To open a file, choose from the list, or type a path and filename in the box.

Files of type: Displays the file types you can open, identified by their filename extension. To change the type, choose from the drop-down list.

Open button: Opens the selected file.

3.3 Creating a report by inserting a formula manually

➔ **To create the formula array:**

1. Select the range of cells required. Choose the number of rows to match the number of requested tags (TagString), and choose the number of columns to match the number of requested parameters (RequestString).

2. Press the **F2** key and type in the formula **=GetTagValue(TagString,RequestString)**.

   The parameters for the "TagString format" is described in Section 3.1.1.
   The parameters for the "RequestString format" is described in Section 3.1.2.

3. Press **Ctrl+Shift+Enter** to apply the formula to the selected cells.

3.4 Create or edit a report using the Insert Tag option

The "Insert Tag..." option from the "Datac" menu can be used to insert a formula for obtaining data for a specified tag.

➔ **To insert a Tag:**

1. In the Excel spreadsheet, select the range of cells you need.

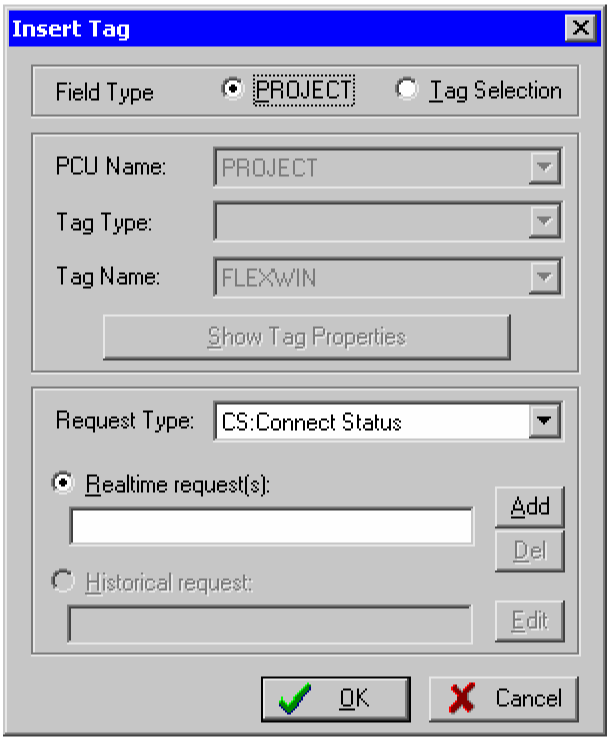
2. From the **Datac** menu, select the **Insert Tag...** option. The "Insert Tag" dialog box will be displayed.

3. In the "Field Type" section, click on the option button for the type of data required:

   PROJECT - realtime request for the properties of the open project.
   Tag Selection - realtime or historical request for the properties of a selected tag.

3.4.1 PROJECT Field Type

Selecting the "PROJECT" Field Type, the "Insert Tag" dialog box will change as shown below:



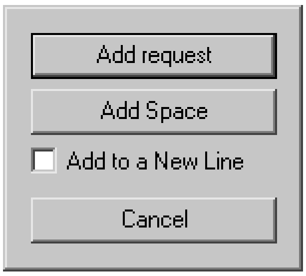
For a PROJECT Field Type, the "PCU Name:", "Tag Type:", "Tag Name:" and "Historical request:" fields are disabled.

➔ **Constructing a Request String:**

1. Click on the  button of the "Request Type:" field and select required request type from the drop-down list.

   For details on Project request types, please refer to Section 3.1.1, "TagString format".

2. Click on the **Add** button. The following sub-menu will appear:



3. Click on the **Add request** button. The selected request type will be added to the Request String in the "Realtime request(s):" field.

   If you want to place the request type onto a new line in the report, before clicking on the **Add request** button, click on the "Add to a New Line" check-box in the sub-menu (A tick will appear when selected).

   See Section 3.4.3 for details on how to delete the Request String or the last request type added.

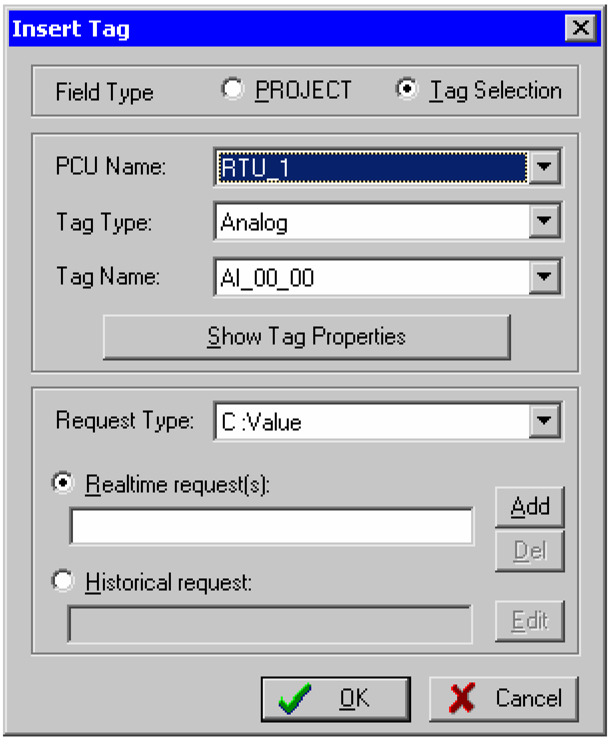
4. Repeat steps 1 to 3 above to add additional request types to the Request String.

If you want to insert a blank cell, click on the **Add** button, then click on the **Add Space** button in the resulting sub-menu.

After completing the Request String, click on the **OK** button. The report blank will be generated where the requested information will be displayed in the selected cells of the spreadsheet.

3.4.2 Tag Selection Field Type

Selecting the "Tag Selection" Field Type, the "Insert Tag" dialog box will change as shown below:



➔ **Constructing a Request String (Realtime request):**

1. Click on the button of the "PCU Name:" field and select required PCU from the drop-down list.

2. Click on the button of the "Tag Type:" field and select required Tag type from the drop-down list. Choices are; "PCU", "Analog", "Meter", "Status" or "Tank".

   When selecting a "Analog", "Meter", "Status" or "Tank" Tag type, the "Tag Name:" field will become active.

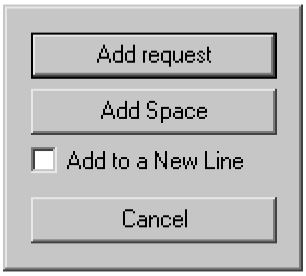
3. When active, click on the button of the "Tag Name:" field and select required Tag name from the drop-down list.

   If you want to view the Tag properties for the selected Tag, click on the **Show Tag Properties** button. The properties for the Tag as set in the Project database will be displayed.

4. Ensure the "Realtime request(s):" option is selected.

5. Click on the button of the "Request Type:" field and select required request type from the drop-down list. For details on request types, please refer to Appendix A.

6. Click on the **Add** button. The following sub-menu will appear:



7. Click on the **Add request** button. The selected request type will be added to the Request String in the "Realtime request(s):" field.

   If you want to place the request type onto a new line in the report, before clicking on the **Add request** button, click on the "Add to a New Line" check-box in the sub-menu (A tick will appear when selected).

   See Section 3.4.3 for details on how to delete the Request String or the last request type added.

8. Repeat steps 5 to 7 above to add additional request types to the Request String.

If you want to insert a blank cell, click on the **Add** button, then click on the **Add Space** button in the resulting sub-menu.

➔ **Constructing a Request String (Historical request):**

1. Click on the button of the "PCU Name:" field and select required PCU from the drop-down list.

2. Click on the button of the "Tag Type:" field and select required Tag type from the drop-down list.

   When selecting a "Analog", "Meter", "Status" or "Tank" Tag type, the "Tag Name:" field will become active.

3. When active, click on the button of the "Tag Name:" field and select required Tag name from the drop-down list.

   If you want to view the Tag properties for the selected Tag, click on the **Show Tag Properties** button. The properties for the Tag as set in the Project database will be displayed.

4. Click on the button of the "Request Type:" field and select required request type from the drop-down list.

   For details on request types, please refer to Appendix A.

5. Select the "Historical request:" option when active.

   Note: Depending on the "Request Type" selected in Step 4 above, the "Historical request:" option may or may not be available.

6. Click on the **Edit** button to the right of the "Historical request:" field. The "Historical Request" dialog box will appear. Please refer to Section 6.1, "Historical Request window" for details.

   If required, edit the parameters in the "Historical Request" dialog box then click on the **OK** button.

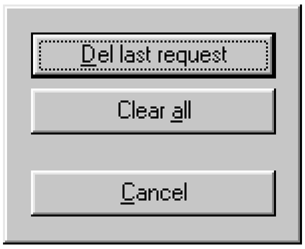
   You will be returned to the "Insert Tag" dialog box where the Request String format will be displayed in the "Historical request:" field. For information on Request String Formats, please refer to Section 3.1.2, "RequestString format".

After editing the Request String, click on the **OK** button. The report blank will be generated where the requested information will be displayed in the selected cells of the spreadsheet.

3.4.3 Deleting the Request String or last request type added

While you are constructing a Realtime Request String, you can delete the whole Request String or the last request type added in the "Realtime request(s):" field.

1. In the "Insert Tag" dialog box, click on the **Del** button. The following sub-menu will appear:



2. To delete the last request type added, click on the **Del last request** button.

   To delete the whole Request String, click on the **Clear all** button.

Save the report after you are satisfied that the report contains required information.

Use the "Save Report" option from the "Datac" menu to save a draft report under its original name.

Use the "Save Report As..." option from the "Datac" menu to save a new report or an existing report under a new name.

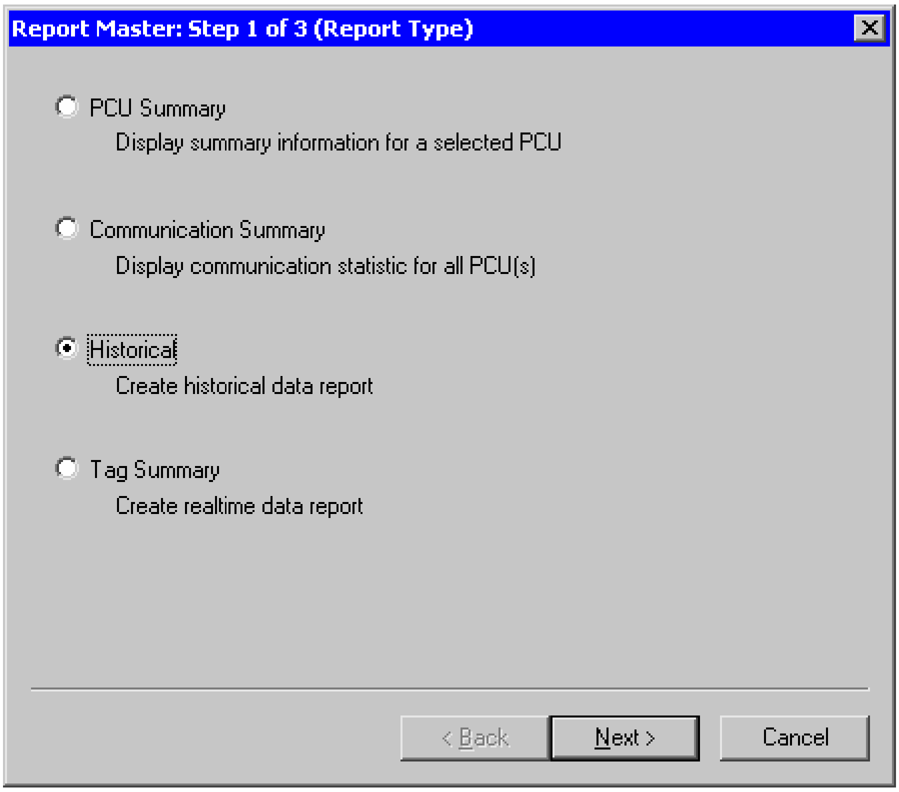
3.5 Automatic report generation

The “Report Master...” option from the “Datac” menu allows you to automatically generate a "PCU Summary", "Communications Summary", "Historical" or "Tag Summary" report.

➔ **To generate a report:**

1. From the **Datac** menu, select the **Report Master...** option.

   The "Report Master: Step 1 of 3 (Report Type)" window will be displayed:



2. Select the type of report you want to generate by clicking on the appropriate option button.
3. Click on the **Next >** button.

   For a **PCU Summary** report, please refer to Section 3.5.1.

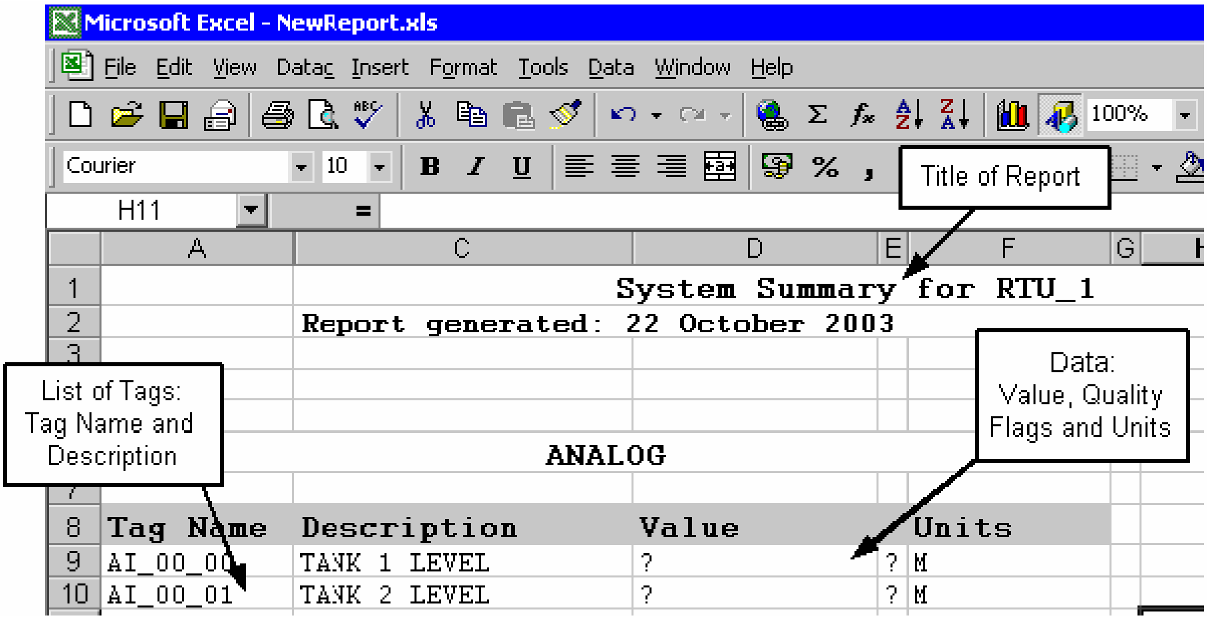
   For a **Communications Summary** report, please refer to Section 3.5.2.

   For an **Historical** report, please refer to Section 3.5.3.

   For a **Tag Summary** report, please refer to Section 3.5.4.

3.5.1 PCU Summary report

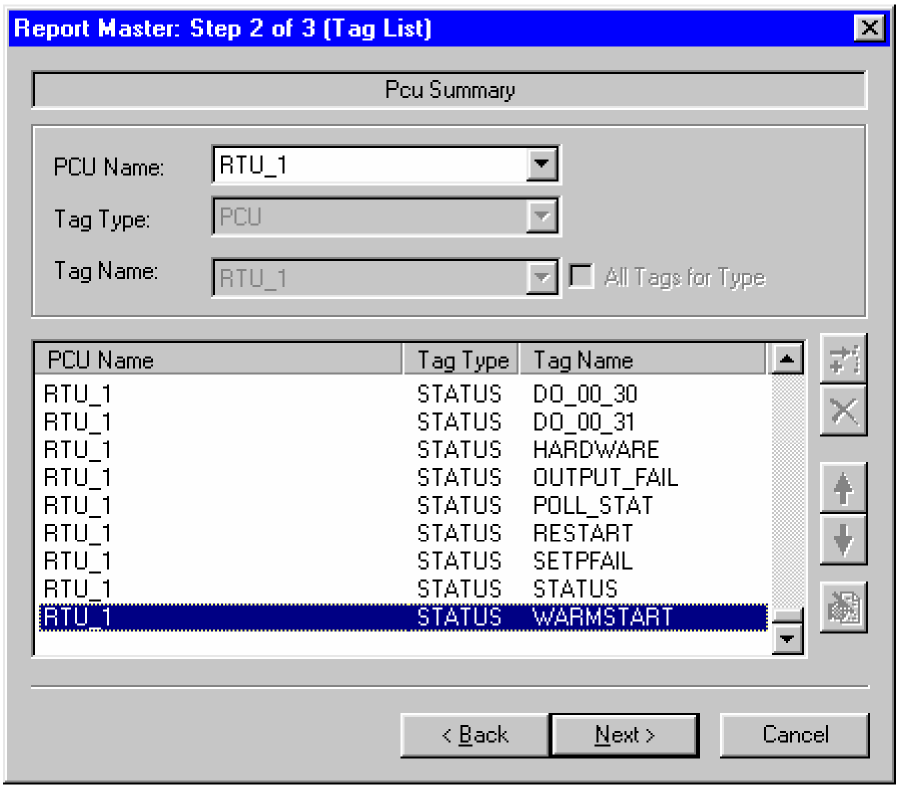
A PCU summary report will display the dynamically updated state and/or value of all scan points associated with a unique PCU. An example of a PCU summary report is shown below.



➔ **To generate a PCU Summary report:**

1. From the **Datac** menu, select the **Report Master...** option. The "Report Master: Step 1 of 3 (Report Type)" window will be displayed.

2. Click on the **PCU Summary** option button, then click on the **Next >** button. The "Report Master: Step 2 of 3 (Tag List)" window will be displayed.



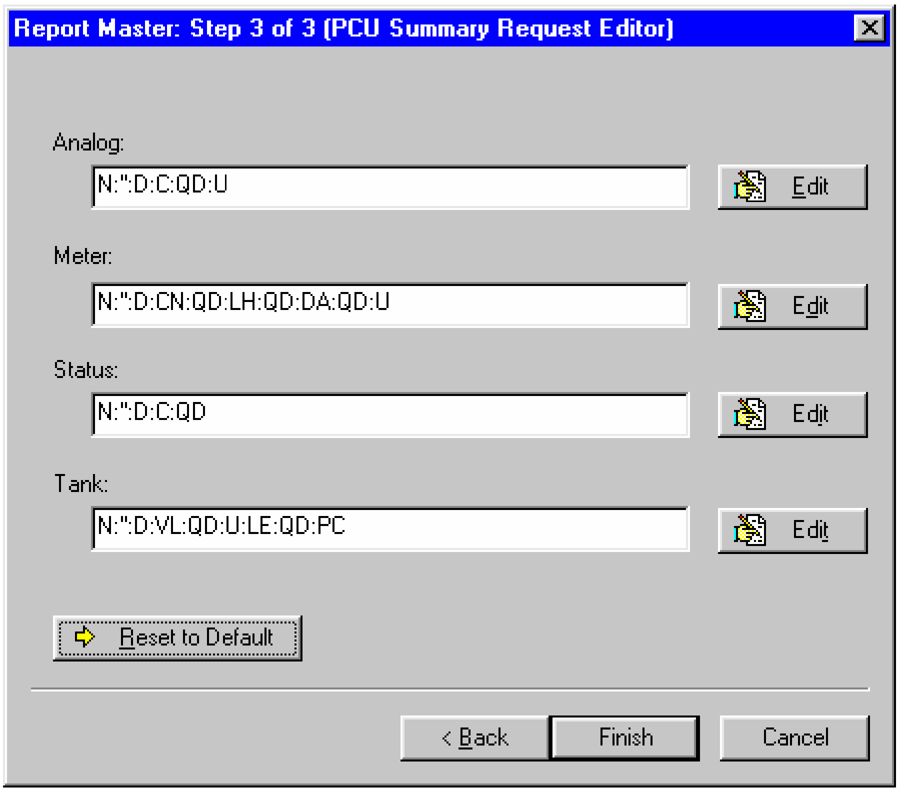
In this window, all Tags associated with the first PCU listed in the drop-down list of the "PCU Name:" field will have been inserted into the field in the bottom of the window.

3. To select another PCU, click on the  button to the right of the "PCU Name:" field and select required PCU from the resulting list.

   The drop-down list will list by name each PCU defined in the RealFlex system for the selected project. You will note that PCU names are presented alphabetically.

   After selecting required PCU, all Tags associated with the selected PCU will be inserted into the field in the bottom of the window.

4. Click on the **Next >** button. The "Report Master: Step 3 of 3 (PCU Summary Request Editor)" window will be displayed:



   Default Request String formats are displayed in each of the Tag type fields. For further information, please refer to Section 3.1.2.

   To edit the Request String formats, click on the 

button to the right of the required Tag type field. A "Request Editor" dialog box will appear. For information on how to edit the Request String, please refer to Section 6.3.

   To reset all Request Strings back to their default values, click on the 

button.

5. After editing the Request Strings, click on the **Finish** button.

   The "Report Options" dialog box will appear.

6. Define all parameters in the "Report Options" dialog box as required. For details, please refer to Section 6.2.

7. After you have defined all parameters, click on the **OK** button.

The PCU Summary report blank will be generated as shown in the example above.

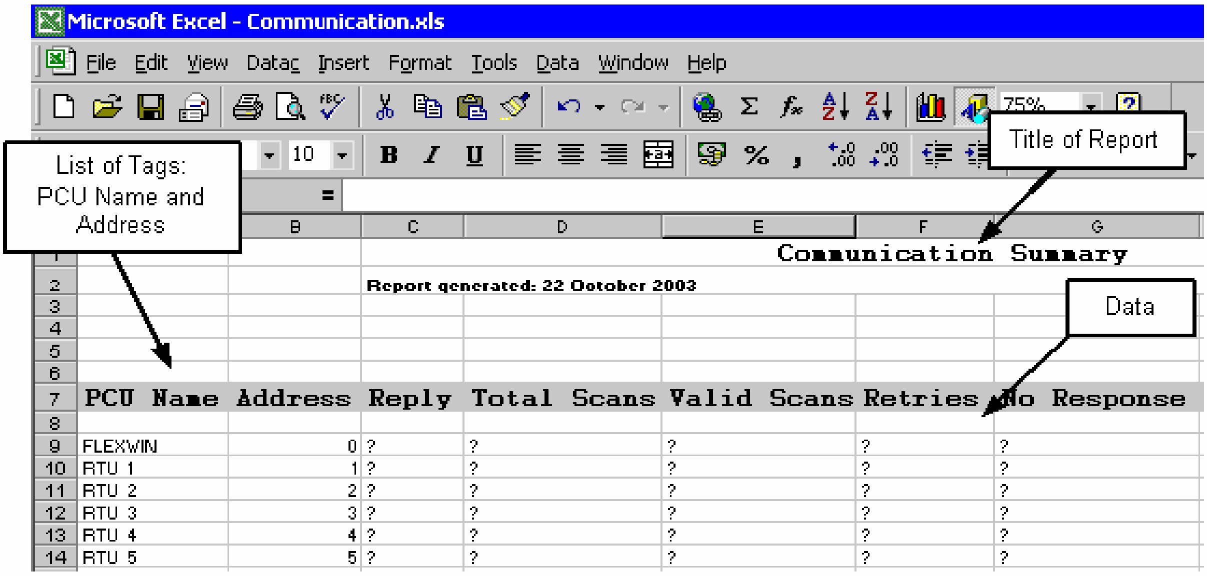
8. Save the report after you are satisfied that the report contains required information.

   Use the "Save Report" option from the "Datac" menu to save a draft report under its original name.

   Use the "Save Report As..." option from the "Datac" menu to save a new report or an existing report under a new name.

3.5.2 Communications Summary report

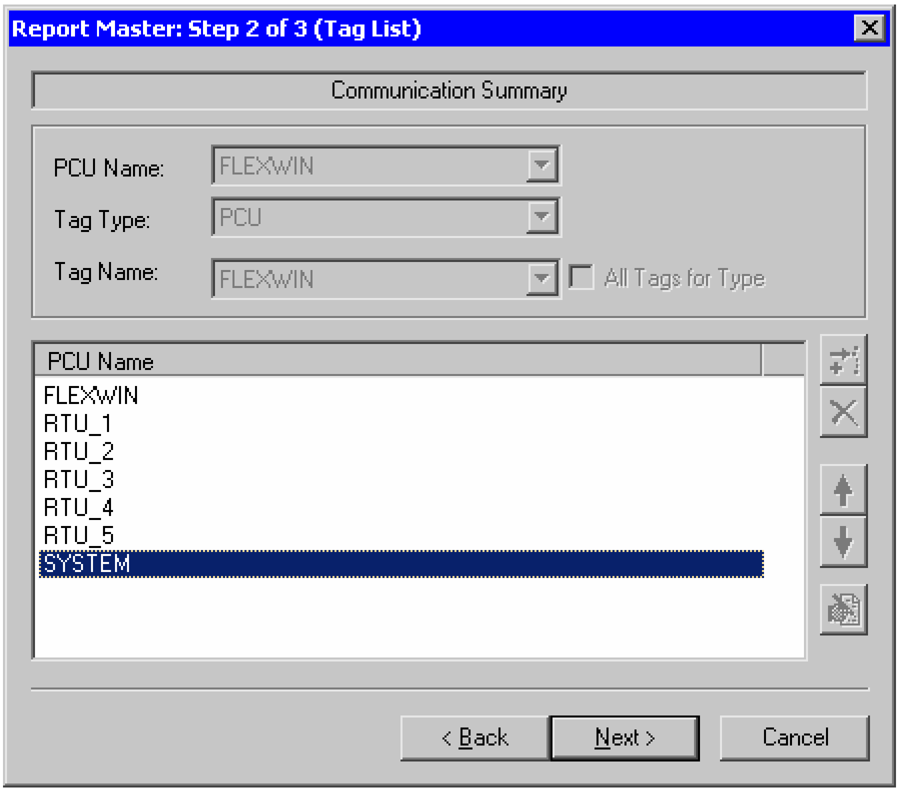
A Communications summary report will display the dynamically updated state and/or value of all communication scan points associated with all PCU's on the RealFlex system. An example of a Communications summary report is shown below.



➔ **To generate a Communications Summary report:**

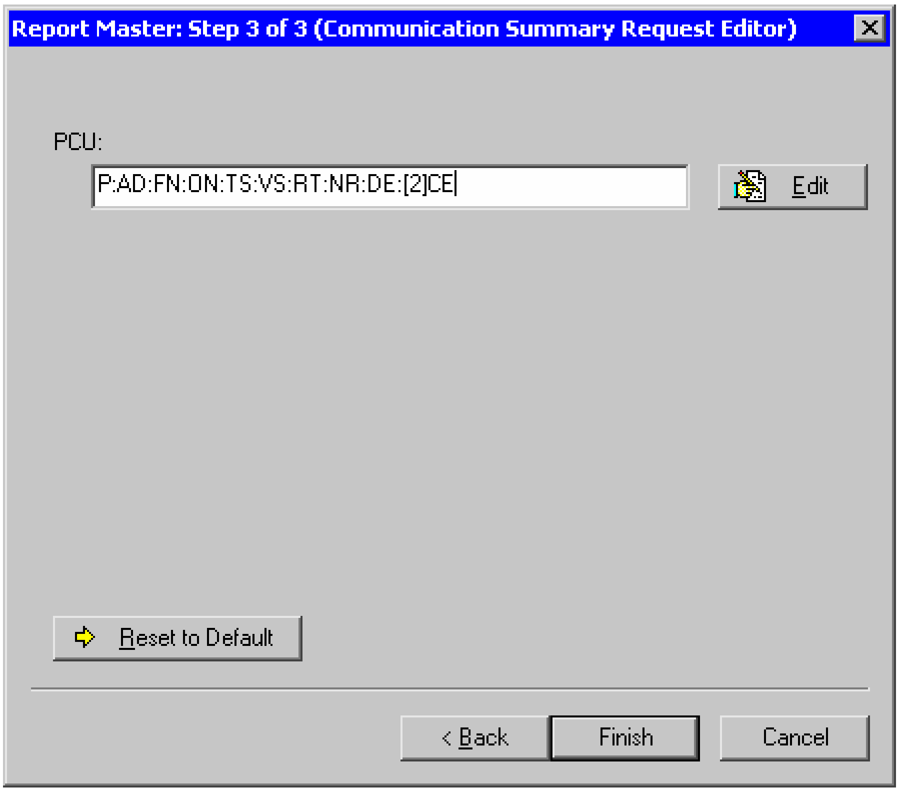
1. From the **Datac** menu, select the **Report Master...** option. The "Report Master: Step 1 of 3 (Report Type)" window will be displayed.

2. Click on the **Communications Summary** option button, then click on the **Next >** button. The "Report Master: Step 2 of 3 (Tag List)" window will be displayed:



In this window, all PCU's associated with the Project will have been inserted into the field in the bottom of the window.

3. Click on the **Next >** button. The "Report Master: Step 3 of 3 (Communication Summary Request Editor)" window will be displayed:



A default Request String format is displayed in the "PCU:" field. For further information, please refer to Section 3.1.2.

To edit the Request String, click on the 

button to the right of the "PCU:" field. The "Request Editor (RTU)" dialog box will appear. For information on how to edit the Request String, please refer to Section 6.3.

To reset the Request String back to its default values, click on the 

button.

4. After editing the Request String, click on the **Finish** button.

   The "Report Options" dialog box will appear.

5. Define all parameters in the "Report Options" dialog box as required. For details, please refer to Section 6.2.

6. After you have defined all parameters, click on the **OK** button.

   The Communication Summary report blank will be generated as shown in the example above.

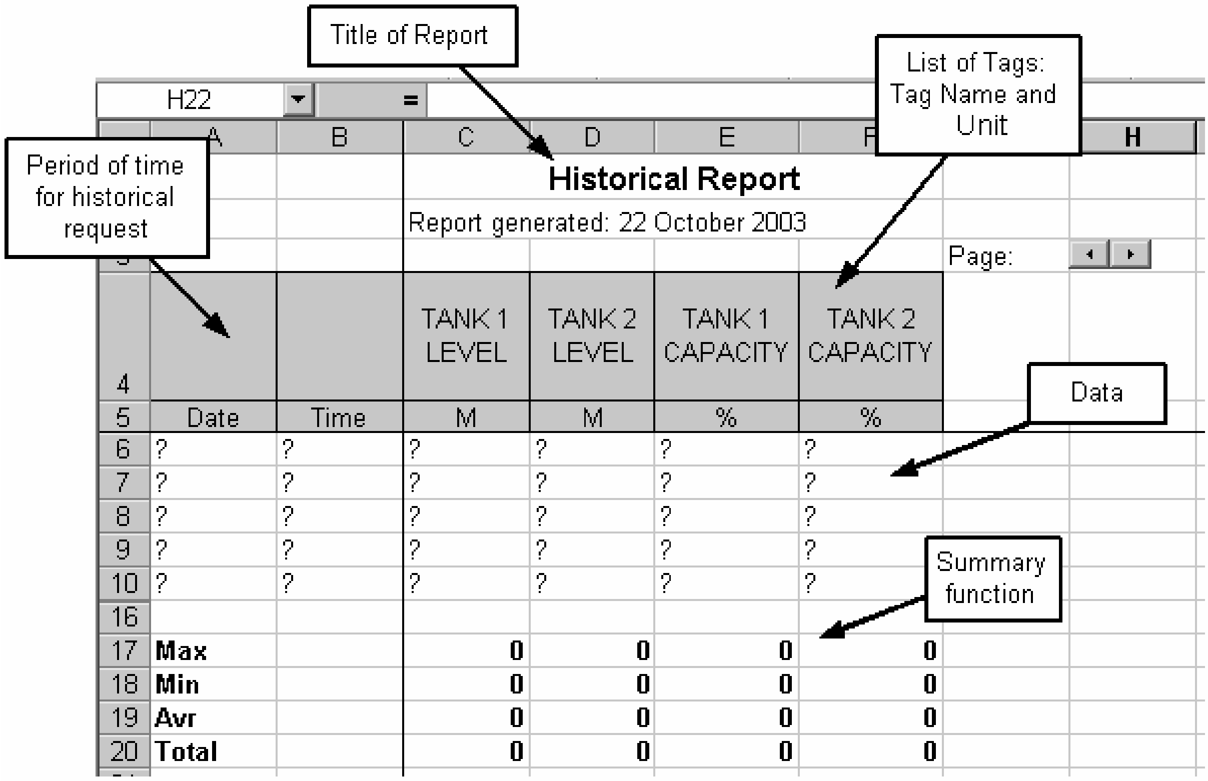
7. Save the report after you are satisfied that the report contains required information.

   Use the "Save Report" option from the "Datac" menu to save a draft report under its original name.

   Use the "Save Report As..." option from the "Datac" menu to save a new report or an existing report under a new name.

3.5.3 Historical Report

An Historical report will display information about the state of selected Tags over a defined period of time. An example of a Historical report is shown below.



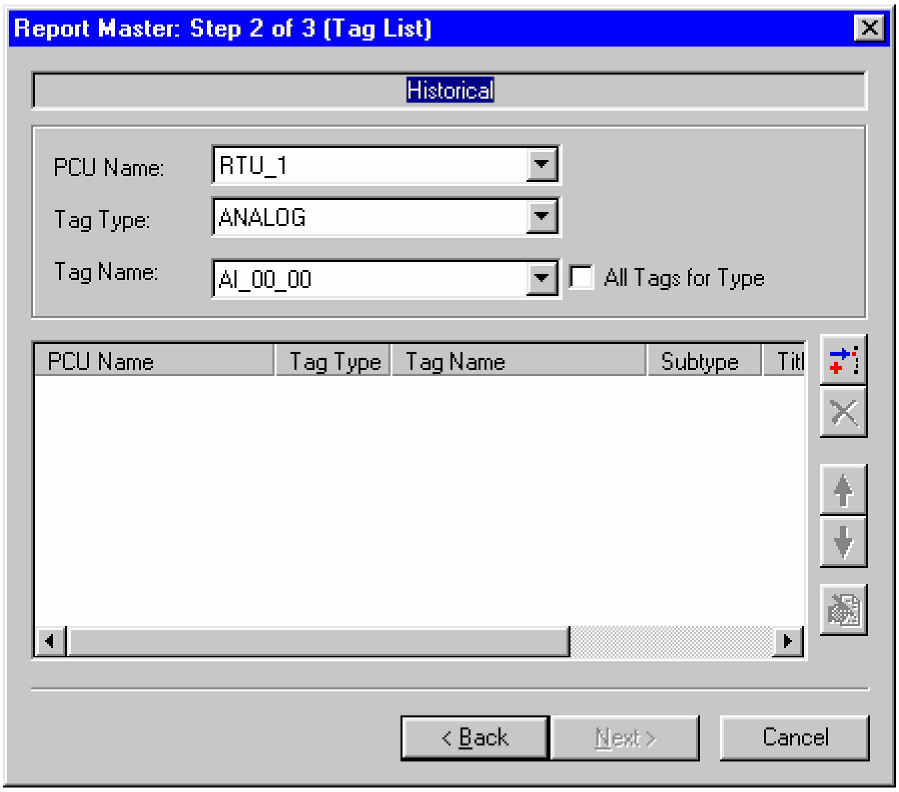
➔ **To generate an Historical report:**

1. From the **Datac** menu, select the **Report Master...** option.

   The "Report Master: Step 1 of 3 (Report Type)" window will be displayed.

2. Click on the **Historical** option button, then click on the **Next >** button.

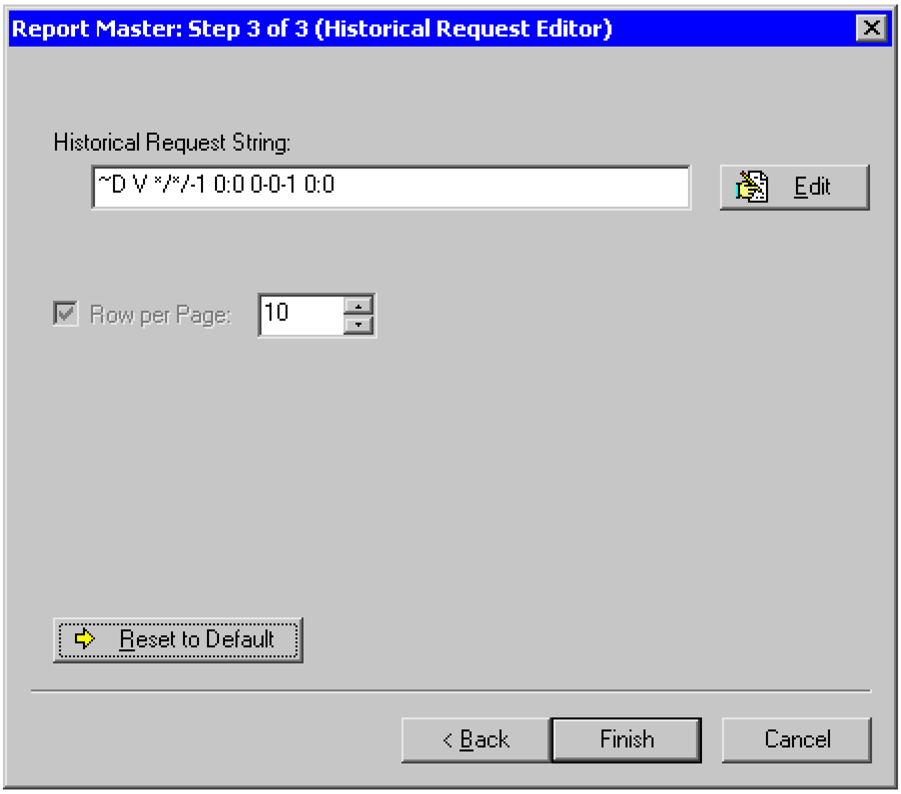
   The "Report Master: Step 2 of 3 (Tag List)" window will be displayed:



When this window is initially opened, no Tags are displayed in the field in the bottom of the window.

3. Add required Tags to the list in the field in the bottom of the window. For details, please refer to Section 6.4, "Tag List (Historical Report)".

4. After selecting required Tags, click on the **Next >** button. The "Report Master: Step 3 of 3 (Historical Request Editor)" window will be displayed:



A default Request String format is displayed in the "Historical Request String:" field. For information on Request String Formats, please refer to Section 3.1.2.

To edit the Request String, click on the  button to the right of the "Historical Request String:" field. The "Historical Request" dialog box will appear. Please refer to Section 6.1.

To reset the Request String back to its default values, click on the  button.

5. If required, set the number of data lines per page to appear in the report by setting the number of lines per page in the field to the right of the "Row per Page:" check-box. the number of lines per page in the field to the right of the check-box. Either click on and highlight the existing number in the field and type in a new number, or use the  spinner buttons to select required number, (Default 10).

   When the report blank is generated, page toggle buttons  will be added to enable you to scroll through the pages.

6. Click on the **Finish** button. The "Report Options" dialog box will appear.

7. Define all parameters in the "Report Options" dialog box as required. For details, please refer to Section 6.2.

8. After you have defined all parameters in the "Report Options" dialog box, click on the **OK** button.

   The Historical report blank will be generated as shown in the example above.

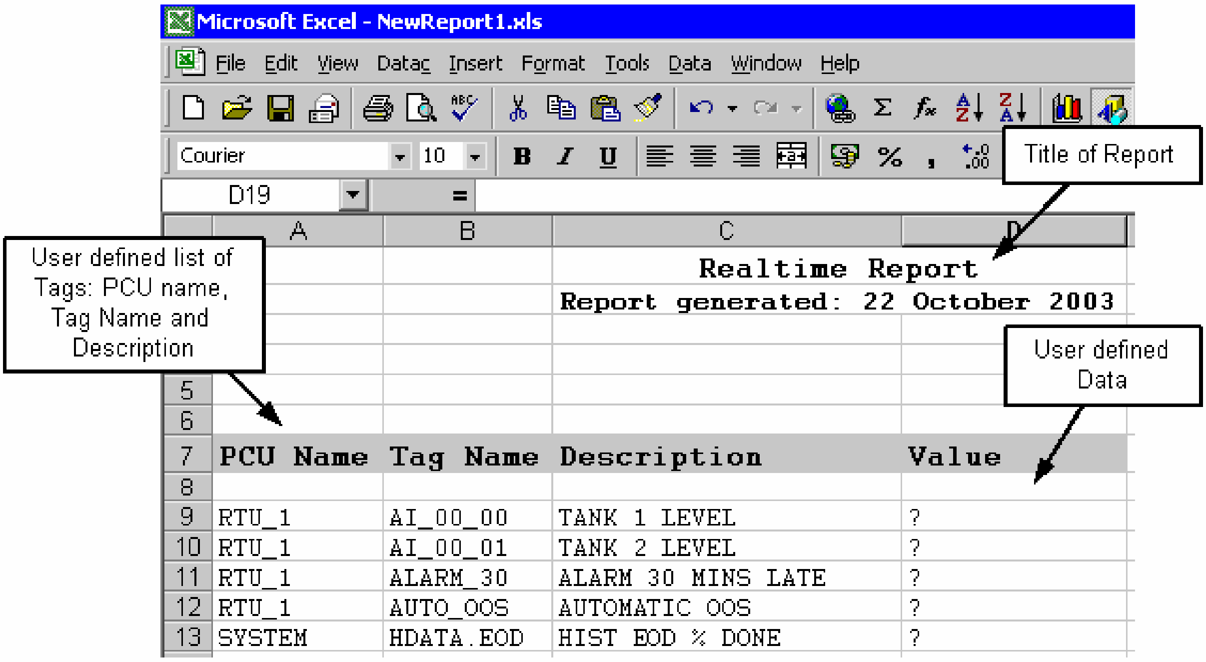
9. Save the report after you are satisfied that the report contains required information.

   Use the "Save Report" option from the "Datac" menu to save a draft report under its original name.

   Use the "Save Report As..." option from the "Datac" menu to save a new report or an existing report under a new name.

3.5.4 Tag Summary report

A Tag summary report will display user selected tag points. An example of a Tag summary report is shown below.



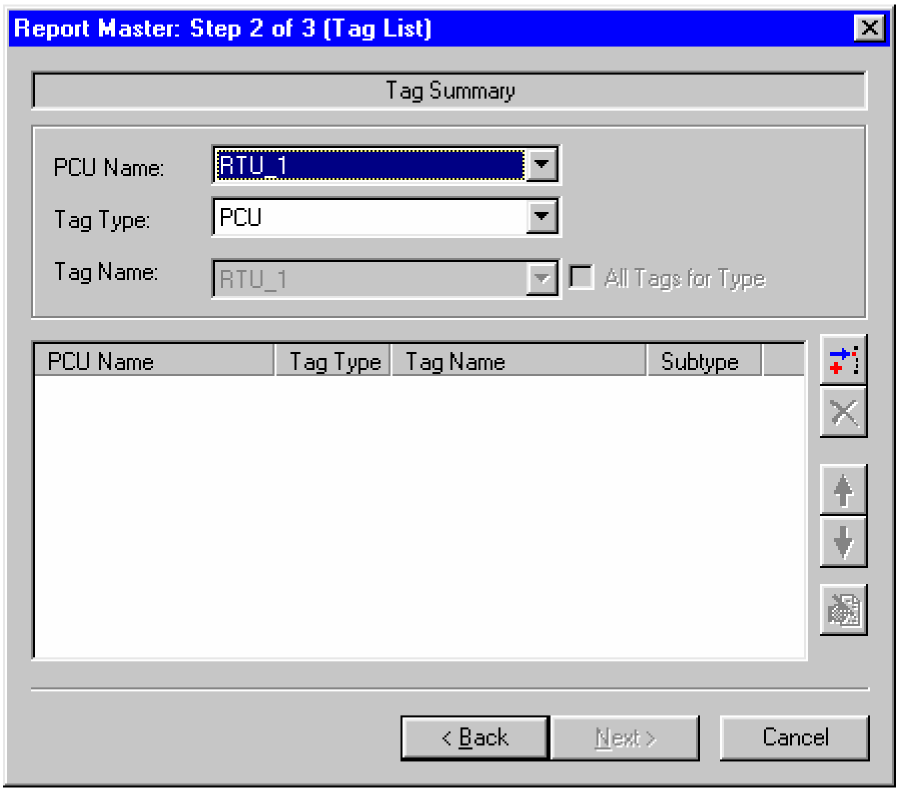
➔ **To generate a Tag Summary report:**

1. From the **Datac** menu, select the **Report Master...** option.

   The "Report Master: Step 1 of 3 (Report Type)" window will be displayed.

2. Click on the **Tag Summary** option button, then click on the **Next >** button.

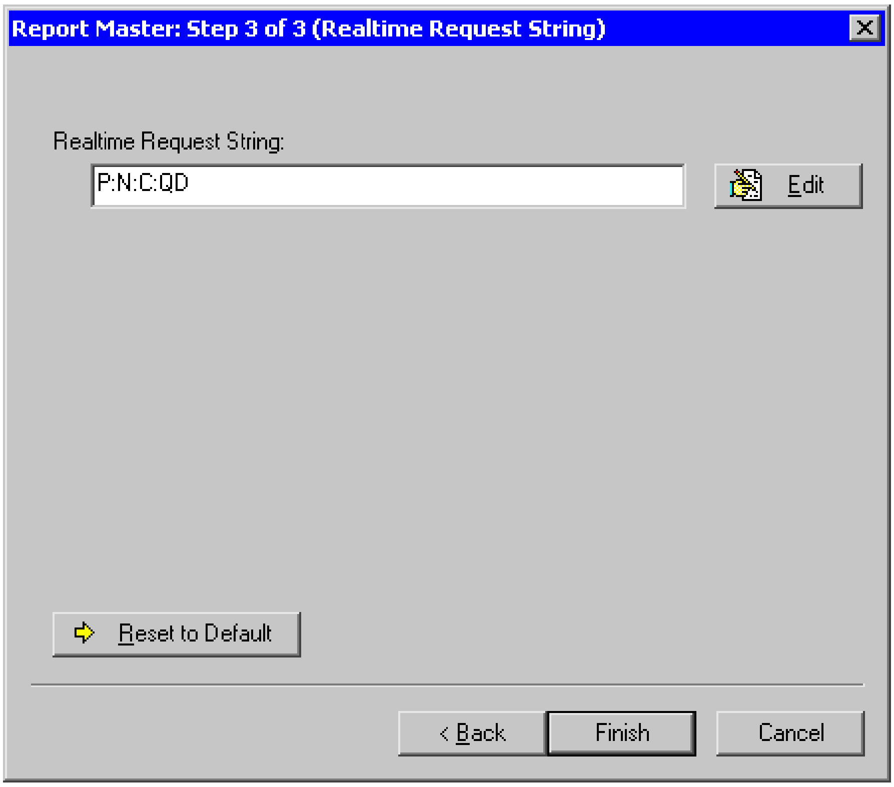
   The "Report Master: Step 2 of 3 (Tag List)" window will be displayed:



When this window is initially opened, no Tags are displayed in the field in the bottom of the window.

3. Add required Tags to the list in the field in the bottom of the window. For details, please refer to Section 6.5, "Tag List (Tag Summary Report)".

4. After selecting required Tags, click on the **Next >** button. The "Report Master: Step 3 of 3 (Realtime Request String)" window will be displayed:



A default Request String format is displayed in the "Realtime Request String:" field. For information on Request String Formats, please refer to Section 3.1.2.

To edit the Request String, click on the 

button to the right of the "Realtime Request String:" field. The "Request Editor (RTU)" dialog box will appear. Please refer to Section 6.3 for details.

To reset the Request String back to its default values, click on the 

button.

5. Click on the **Finish** button. The "Report Options" dialog box will appear.

6. Define all parameters in the "Report Options" dialog box as required. For details, please refer to Section 6.2.

7. After you have defined all parameters in the "Report Options" dialog box, click on the **OK** button.

   The Tag Summary report blank will be generated as shown in the example above.

8. Save the report after you are satisfied that the report contains required information.

   Use the "Save Report" option from the "Datac" menu to save a draft report under its original name.

   Use the "Save Report As..." option from the "Datac" menu to save a new report or an existing report under a new name.

3.6 Saving reports

3.6.1 Save Report (Datac menu)

This command allows you to save changes to the currently open draft report.

Note: Reports that are registered on the RealFlex server are opened in Flex.Report as "Read-Only" files and can only be saved using the "Save Report As…" option from the "Datac" menu.

➔ **To save the draft report:**

- From the **Datac** menu, select the **Save Report** option. The active draft report will be saved using the original file name.

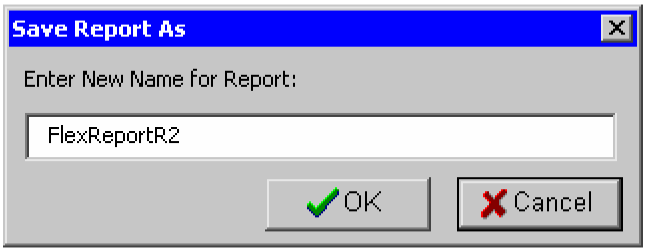
3.6.2 Save Report As... (Datac menu)

This command allows you to save the currently open report under its original name or under a new name.

➔ **To save report:**

1. From the **Datac** menu, select the **Save Report As...** option.

   The "Save Report As" dialog box will appear:



2. If you wish to save the report under a new name, overwrite the original name for the report (maximum of 13 alphanumeric characters with no spaces), then click on the **OK** button.

   When saving draft reports under its original name, you will be prompted to confirm the replacement of the file with a "Yes/No/Cancel" selection.

   The report will be saved as a Microsoft Excel (*.xls) file in the "C:\Program Files\DATAC\Projects\[Project name]\setup\win\rg\win\draft" folder as a Draft file, but not yet registered on the RealFlex server.

   For details on how to send files to the RealFlex server, please refer to the Flex.View Help information.

   Within Flex.View, new reports will now be accessible to users from the "Select Flex.Report File: *" window, the "Demand Reports" window and the "Scheduled Report Properties" window.

3.7 Removing the formula from the spreadsheet

It is not possible to use the **Delete** key to remove part of a formula when it occupies more than one cell in the report spreadsheet.

When attempting to remove part of the formula array, the following Excel error notification will be displayed:

➔ **To delete the formula array:**

1. Choose the range of cells occupied by the formula. To choose the range of cells, select the **Select Current Array** option from the **Datac** menu.
2. Press the **Delete** key, or from the **Edit** menu, select the **Delete...** option.

As an alternative to using Delete, the "Delete Tag" option from the "Datac" menu may be used to delete the formula. Please refer to Section 3.10 for details.

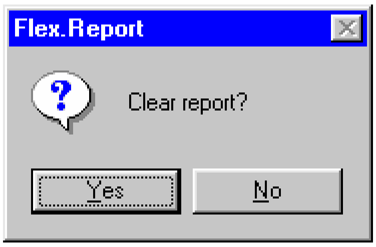
3.8 Clearing a Report

The “Clear Report” option from the “Datac” menu can be used to clear the active report.

➔ **To clear the report:**

1. From the **Datac** menu, select the **Clear Report** option.

   Flex.Report will then request you to confirm the clearing of the report.

2. Click on the **Yes** button to confirm, or click on the **No** button to abort the operation.

3.9 Selecting the Current Array

Prior to using the "Delete Tag" option, the "Select Current Array" option from the "Datac" menu can be used to select all cells within an array using the same "=GetTagValue" formula.

➔ **To Select Current Array:**

1. Click on any cell within the array you want to select.
2. From the **Datac** menu, select the **Select Current Array** option.

   All cells within the current array will now be selected.

3.10 Deleting a Tag

➔ **To delete the Tag:**

1. Choose the range of cells occupied by the formula.

   To choose the range of cells, select the **Select Current Array** option from the **Datac** menu.
2. From the **Datac** menu, select the **Delete Tag** option. A window is displayed asking you for confirmation:

3. Click on the **Yes** button to delete the current tag, or click on the **No** button to abort the operation.

See also Section 3.7, “Removing the formula from the spreadsheet”.

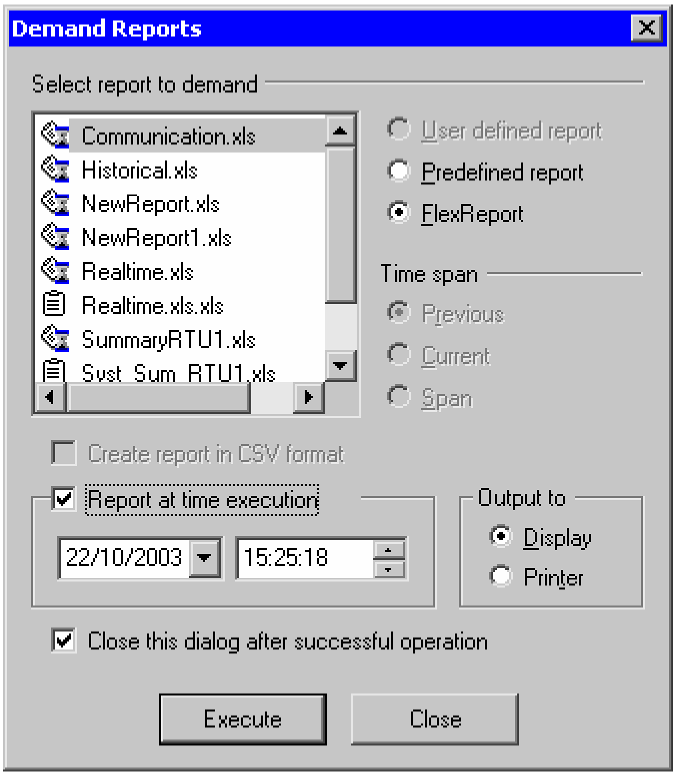
4 Viewing existing reports

4.1 Viewing existing Flex.Report reports via Flex.View

➔ **To open and view an existing Flex.Report report:**

1. From within the Flex.View application program, click on the **Main** menu button. Select **Demand Reports** and then select **User Report** from the resulting sub-menu.

   The "Demand Reports" window will appear.



2. Click on the **FlexReport** option button. The "Demand Reports" window will display all available reports in the "Select report to demand" field.

3. In the "Select report to demand" field, click on and highlight required report.

4. If you want to define the start date and time for the period to be covered, click on the "Report at time execution" check-box, a tick will appear when activated. The date and time fields will become active allowing you to set the date and time period.

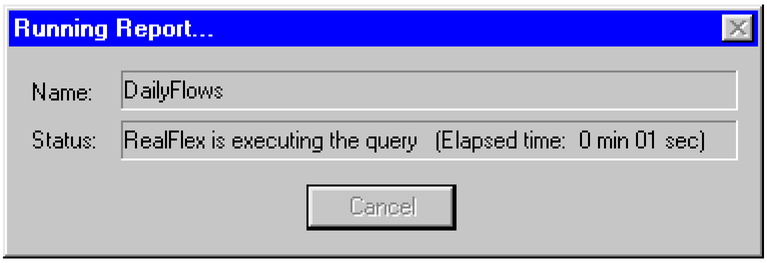
   The "Report at time execution" section is used to define the start date and time for the period to be covered. For example, when selecting a "User Defined Report" and the time set is not changed, then it will have no effect.

If the "Time span" is set to "Previous" or "Current", e.g., for a "Daily report", choosing the "Previous" option will print 24 values for the previous day. Choosing the "Current" option will print values from midnight to current hour. But if you change the "time set" to yesterday, then this date dictates when previous starts.

5. Choose where to send the report. Options are:

   Display - The output is displayed on the Flex.View screen.
   Printer - The output will be sent directly to the printer.

6. Run the report by clicking on the **Execute** button. The "Running Report..." window will appear providing you with details of the report execution in the "Status:" field:



Depending on your selection for the "Output to" option, the report will be displayed on the Flex.View screen or sent direct to the printer.

The "Demand Reports" window will automatically close unless the tick is removed from the **Close this dialog after successful operation** check-box.

4.2 Viewing reports in Work mode

➔ **To view reports:**

■ Open your report as described in Section 2.1, “Starting the Flex.Report program”.

When viewing reports in Work mode you can:
- Connect to the RealFlex server. Please refer to Section for details 4.2.1.
- Disconnect from the RealFlex server. Please refer to Section for details 4.2.2.
- Reset the data. Please refer to Section for details 4.2.3.
- Set the execute time. Please refer to Section for details 4.2.4.
- Open the report in HTML format. Please refer to Section for details 4.2.5.

4.2.1 Connecting to the RealFlex server

➔ **To connect to the RealFlex server:**

■ While in Work mode, from the **Datac** menu, select the **Connect** option.

The "Connecting To Server" dialog box will appear and Flex.Report will attempt to connect to the Node 1 IP address for the selected Project.

When the connection is successful, live data is downloaded from the RealFlex server. Any connection problems or errors are reported.

When connected to the RealFlex server, the "Connect" option in the "Datac" menu will change to "Disconnect" for reports where the "One-time Read" option in the "Project Options" window is not checked.

4.2.2 Disconnecting from the RealFlex server

➔ **To disconnect from the RealFlex server:**

■ While in Work mode, from the **Datac** menu, select the **Disconnect** option.

You will be disconnected from the RealFlex server. All data in the opened report will be frozen at the time of disconnection.

When disconnected from the RealFlex server, the "Disconnect" option in the "Datac" menu will change to "Connect".

4.2.3 Resetting the data

The “Reset” option from the “Datac” menu allows you to reset all data within the report.

➔ **To reset:**

■ While in Work mode, from the **Datac** menu, select the **Reset** option.

Note: For reports where the "One-time Read" option in the "Project Options" window is not checked, you must disconnect from the RealFlex server before the "Reset" option can be selected.

Any existing data in the report will be cleared and replaced by question marks (?) until you reconnect to the RealFlex server.

4.2.4 Setting the Execute Time

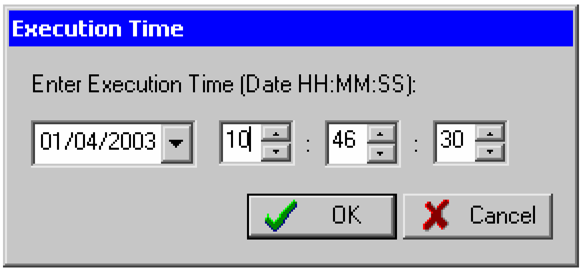
The "Set Execute Time" option from the "Datac" menu can only be used for historical requests. Its main function is to enable a user who runs a daily report to substitute the "Start Time" with the "Set Execute Time" to retrieve past (perhaps lost or mislaid) reports. For example, if you set the "Set Execute Time" to 12th March 2003, you will retrieve the daily report for the 11th March 2003.

➔ **To set and activate the execute time:**

1. While in Work mode and with the required report open, from the **Datac** menu, select the **Set Execute Time** option.

   Note: For reports where the "One-time Read" option in the "Project Options" window is not checked, you must disconnect from the RealFlex server before the "Set Execute Time" option can be selected.

   The "Execution Time" dialog box will appear:



   Four fields are shown representing, from left to right, Date (DD/MM/YYYY), Hours (HH), Minutes (MM) and Seconds (SS).

   ➔ **To set the Date:**

   Either: Click on and highlight the portion of the date in the date field and type in the required date. Shown in the format DD/MM/YYYY.

   Or: Click on the  button to display a calendar as shown below.

   Click on the  or  arrows to scroll through the months.

   Or: Select required month by clicking on the Month shown at the top of the calendar. A pop-up list showing all months will be displayed. Highlight and Select the required month from the list.

   And: Select required year by clicking on the Year shown at the top of the calendar. Use the  spinner buttons to select the required year.

   To select the required day, with the required month displayed, click on the required day.

➔ **To set the Time:**

Either: Click on and highlight the time in each field and type in the required time.

Or: Use the spinner buttons to select the required time.

2. After setting the required date and time, click on the **OK** button. A check mark will appear to the left of this option in the "Datac" menu when active. The report will refresh.

3. Connect to the RealFlex server. When the connection is successful, data for the required Date and Time is downloaded from the RealFlex server. Any connection problems or errors are reported.

➔ **To deactivate the execute time:**

1. While in Work mode, disconnect from the RealFlex server.

2. From the **Datac** menu, select the **Set Execute Time** option. The check mark to the left of this option in the "Datac" menu will be removed.

4.2.5 Open As HTML

The “Open As HTML” option from the “Datac” menu allows you to display the open report in HTML format.

➔ **To open report as HTML:**

- While in Work mode, from the **Datac** menu, select the **Open As HTML** option.

  Your WEB browser application will open and display the report in HTML format.

After the report has been displayed on the screen, you can print the report using the **Print** option or you can save the report as a HTML file using the **Save As** option.

5 Menus

5.1 Datac menu commands

The Datac menu offers the following commands:

5.1.1 Edit Mode

Open Project… - Allows you to open a project. For details, please refer to Section 2.2.1.

Project Options… - Allows you to define the Flex.Report Application and Project preferences. For details, please refer to Section 2.2.3.

Insert Tag… - Allows you to insert a formula for obtaining data for a specified tag. For details, please refer to Section 3.4.

Delete Tag – Allows you to delete a Tag from the report. For details, please refer to Section 3.10.

Select Current Array – Allows you to select all cells within an array. For details, please refer to Section 3.9.

Report Master… - Allows you to automatically generate a "PCU Summary", “Communications Summary", "Historical" or "Tag Summary" report. For details, please refer to Section 3.5.

Load from server Report File… - Allows you to load report blanks created in the RealFlex4 Historical Generator and convert then into Flex.Report report blanks. For details, please refer to Section 3.2.

Clear Report – Allows you to clear the active report. For details, please refer to Section 3.8.

Save Report – Allows you to save the currently open report. For details, please refer to Section 3.6.1.

Save Report As… - Allows you to save the currently open report under a new name. For details, please refer to Section 3.6.2.

Editor Off – Allows you to switch to “Work” mode of operation. For details, please refer to Section 2.1.2.

Change Language – Allows you to choose and specify a product specific language for use within Flex.Report. For details, please refer to Section 1.5.

Product Information - Displays the product information and all its components including information about the hardware and operation system. For details, please refer to Section 1.4.

FlexReport Help - Links you to the on-line Help and provides topics and tips to help you accomplish your tasks. For details, please refer to Section 1.6.

About Flex.Report - Displays Flex.Report program information. For details, please refer to Section 1.3.

5.1.2 Work Mode

Connect – Connects you to the RealFlex server. For details, please refer to Section 4.2.1.

Disconnect - Disconnects you from the RealFlex server. For details, please refer to Section 4.2.2.

Set Execute Time – Allows you to set the Execute Time. For details, please refer to Section 4.2.4.

Open As HTML - Allows you to display the open report in HTML format. For details, please refer to Section 4.2.5.

Reset - Allows you to reset all data within the report. For details, please refer to Section 4.2.3.

Editor On - Allows you to switch to "Edit" mode of operation. For details, please refer to Section 2.1.1.

Product Information - Displays the product information and all its components including information about the hardware and operation system. For details, please refer to Section 1.4.

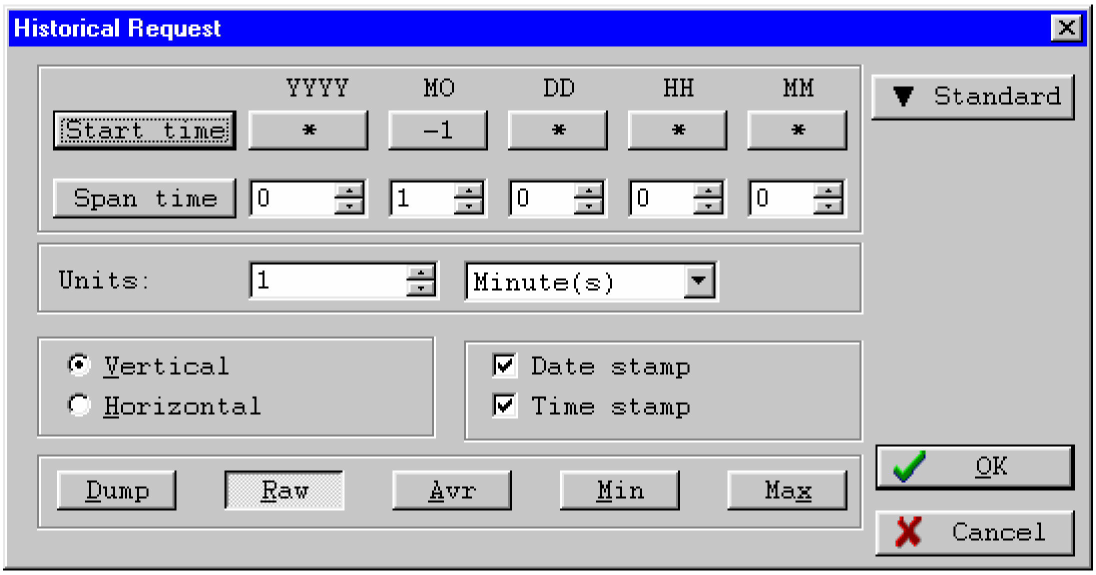
FlexReport Help - Links you to the on-line Help and provides topics and tips to help you accomplish your tasks. For details, please refer to Section 1.6.

About Flex.Report - Displays Flex.Report program information. For details, please refer to Section 1.3.

6 Windows and Dialog Boxes

6.1 Historical Request window

The "Historical Request" window is used to input the request parameters: Start time, Span time, Units and type of request.



From this window, set the type of request before setting the Start time, Span time and Units.

6.1.1 Setting the type of request

- Click on the required button in the bottom of the "Historical Request" window.

  Options are:

  Dump - Returns all data as stored in the RealFlex database. For example, if there are 100 records for the requested point then 100 records will be returned. The Dump request differs from the others, because the data and time columns have to be inserted separately for each tag.
  Raw - The raw count value. For example, if you request a Raw dump at 1 hour intervals, for a fixed period of 1 day regardless of the number of records in the RealFlex database, 24 values will be returned for the requested tag.
  Avr - The average raw count value. See note below.
  Min - The minimum raw count value. See note below.
  Max - The maximum raw count value. See note below.

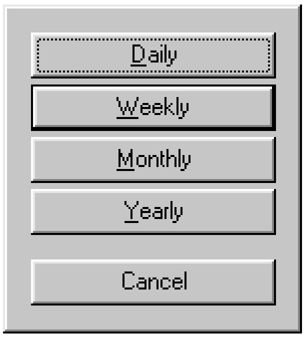
  Note: "Avr", "Min" and "Max" take all the values for the particular record and gets its average, minimum or maximum value for the period. For example, for a yearly report with 1 month intervals 12 values will be returned.

6.1.2 Setting the Start time, Span time and Units

You can set the Start time, Span time and Units to Standard formats, or you can individually set each parameter manually.

➔ Setting Standard formats:

1. Click on the **Standard** button. The following menu will appear:



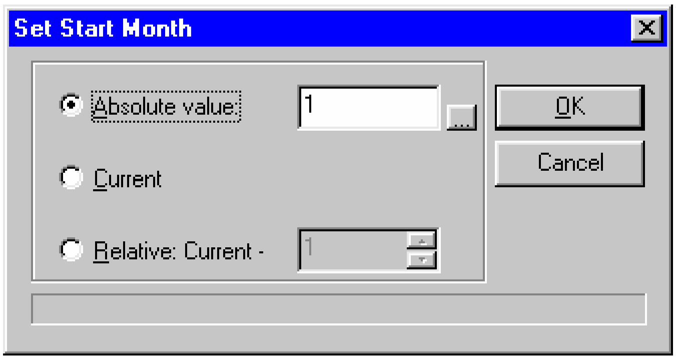
2. Select required option from the menu.

➔ To manually set the Start Time fields

The buttons under the symbols in the "Start time" fields, allow you to individually set the values for those fields from a menu.

The example instructions below show you how to set the Month field:

- Click on the **MO** button (Month field). The "Set Start Month" dialog box will appear:



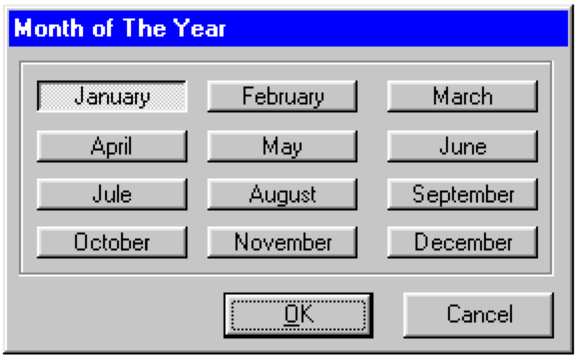
From this dialog box it is possible to set the Absolute value for this field, define it as Current, or Relative. Click on required option button to select.

Absolute value option:

The month of the year defaults to 1 (i.e., January).

➔ To change the month:

1. Click on the  button to the right of the "Absolute value:" field. The "Month of The Year" menu will appear:



2. Click on the required month, then click on the **OK** button. You will be returned to the "Set Start Month" dialog box where the selected month value will appear in the "Absolute value:" field.

   The selected month value will also appear on the button top of the "MO" button in the "Historical Request" window.

The same principal applies to the DD (day), HH (hour) and MM (minute) fields. For the YYYY (Year) field, you can edit the year by typing over the existing year.

Current value option:

Selecting this option will set the start time to the current time. An asterisk "*" will appear on the button top of the "MO" button in the "Historical Request" window to indicate that it is set to the current time.

Relative: Current - option:

Selecting this option allows you to set and define the start time relative to the current time.

➔ **To set the relative time:**

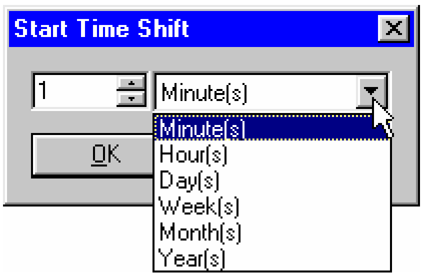
- Enter a time interval in the "Relative: Current -" field. Either double-click on and highlight the existing time and type in the new one, or use the spinner buttons to change the time.

6.1.3 Setting the start time shift

The start time shift is with respect to the current time.

➔ **To set the Start time shift:**

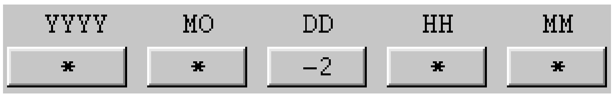
1. Click on the **Start time** button. The "Start Time Shift" dialog box will appear:



2. From this dialog box choose the time units for the shift from the drop-down list.

3. Enter the number of time units. Either double-click on and highlight the existing time and type in the new one, or use the spinner buttons to change the time, then click on the **OK** button.

In the "Historical Request" window, the values in the other fields for the Start time will display an asterisk "*". For example, if you choose 2 Day(s), the Start time will appear as:



See Section 3.1.2, "RequestString format" for an explanation of the figures displayed on the button tops and the resulting Excel formula.

6.1.4 Setting the Span time

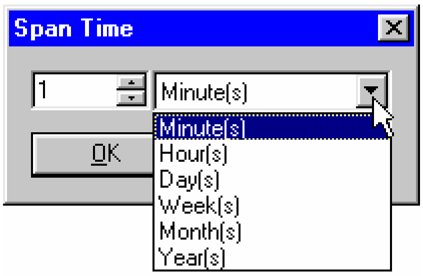
This option defines the units for span-time measurement. You can either set each field manually or set a fixed time period.

➔ **To manually set the Span time fields:**

■ Enter a time interval in each "Span time" field as required. Either double-click on and highlight the existing time and type in the new one, or use the spinner buttons to change the time.

➔ **To set a fixed Span time:**

1. Click on the **Span time** button. The "Span Time" dialog box will appear:



2. From this dialog box choose the time units for the span from the drop-down list.

3. Enter the number of time units. Either double-click on and highlight the existing time and type in the new one, or use the spinner buttons to change the time, then click on the **OK** button.

   The selected span time will be displayed in the "Historical Request" window.

6.1.5 Setting the Units

This sets the number of samples in relation to the Span time. For example, if you set a Span time of 1 Day and the Units to 1 Hour, then 24 lines of data will be displayed in your report, i.e., one for each hour.

The two "Units:" fields contain the number of intervals (1-999) and the time units for the intervals (Minutes, Hours, Days, Weeks, Months or Years). Units cannot be set for a "Dump" request.

➔ **To set the time Units:**

1. In the left-hand field, set the number of intervals. Either double-click on and highlight the existing time and type in the new one, or use the spinner buttons to change the number.

2. In the right-hand field, click on the button and select required time units from the drop-down list.

6.1.6 Setting the orientation for the report

Set the direction you want the data to appear in the report; there are two possible values:

Vertical - All data presented in the report will be displayed vertically.
Horizontal - All data presented in the report will be displayed horizontally.

Note: For an Historical report created via the "Report Master..." option, the report orientation is fixed at Vertical.

6.1.7 Setting Date and Time stamping

You can include or not include the data and time values in the resulting data array. Select required options by clicking on the check-box to toggle between active and non-active. A tick will appear when active.

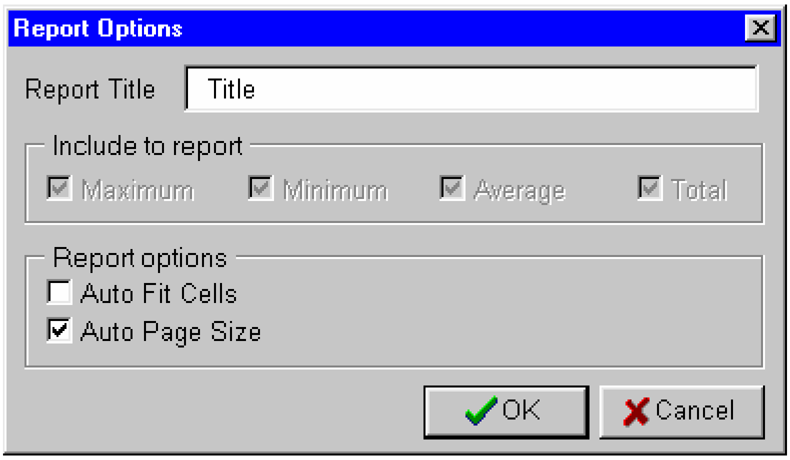
Note: When creating an Historical report via the "Report Master..." option, the "Date stamp" and "Time stamp" options are grayed out and cannot be set.

After defining the Historical Request parameters, click on the **OK** button to save your changes, or click on the **Cancel** button to abort the operation. You will be returned to the previous window.

6.2 Report Options window

The "Report Options" window, as shown below, allows you to define the way the Report is presented and formatted in the Excel spreadsheet.

6.2.1 For a PCU, Communications and Tag Summary report



The significance of each field or option is as follows:

Report Title: In this field, enter a Title for the report. Maximum of 50 characters including spaces.

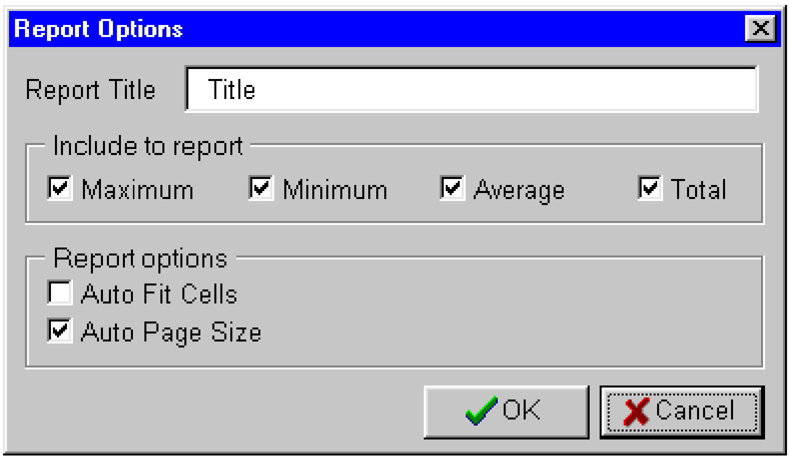
Include to report: Options are disabled for a PCU, Communications and Tag Summary report.

Auto Fit Cells - Allows the column widths to be automatically adjusted to match the width of the written values.

Auto Page Size - Automatically reduces or enlarges the formatting of the print report depending on the report height and width.

Click on the option-box to the left of the required option. A tick will appear when selected.

6.2.2 For an Historical report



The significance of each field or option is as follows:

Report Title: In this field, enter a Title for the report. Maximum of 50 characters including spaces.

Include to report: Allows the insertion of Report Summary functions.

Auto Fit Cells - Allows the column widths to be automatically adjusted to match the width of the written values.

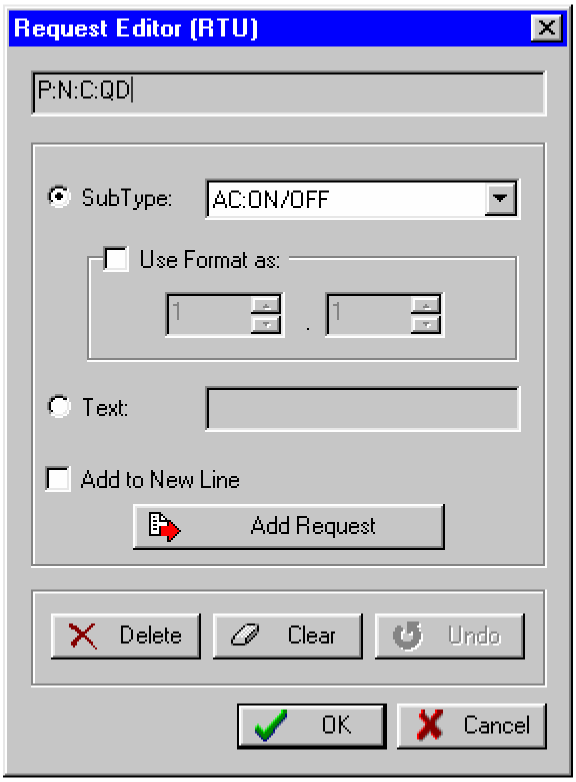
Auto Page Size - Automatically reduces or enlarges the formatting of the print report depending on the report height and width.

Click on the option-box to the left of the required option. A tick will appear when selected.

After defining required report options, click on the **OK** button to save your changes, or click on the **Cancel** button to abort the operation.

6.3 Request Editor dialog box

When generating or editing a PCU, Communications or Tag Summary report, the "Request Editor" dialog box (RTU, ANALOG, METER, STATUS or TANK), is presented when you click on the "Edit" button in the "Master Report: Step 3 of 3" window.



In the field at the top of this window, just below the title bar, the default Request String format is displayed. For information on Request String Formats, please refer to Section 3.1.2.

6.3.1 Buttons

The buttons in the bottom of this window allow you to:

delete the last entry to the Request String.

clear the whole Request String.

cancel your last action.

saves your selections and returns you to the previous window.

aborts the operation without saving changes and returns you to the previous window.

6.3.2 Use Format as: section

The **Use Format as:** section allows you to format the output data for a selected SubType.

For example, if you request the SubType "C" (Value), you can format the output by adjusting the parameters. For a normal output figure of "12345.12345678", setting the first field to 5 (number of digits before the decimal point), and the second field to 3 (number of digits after the decimal point) would give you an output figure of "12345.123".

When formatting is used, the format parameters are added to the Request String, i.e., Value SubType without formatting is displayed as "C". Value SubType with formatting set to "3.2" is displayed as "[3.2]C".

6.3.3 To add a SubType to the Request String

1. Click on the "SubType:" option button.

2. Click on the  button of the "SubType:" field and select required SubType from the drop-down list.

   If required, format the SubType using the "Use Format as:" section.

   For a "Tag Summary", if you want to place the SubType onto a new line in the report, click on the "Add to New Line" check-box. A tick will appear when active.

3. Click on the **Add Request** button.

   The selected SubType will be added to the Request String.

6.3.4 To add Text

1. Click on the "Text:" option button.

2. Type in required text in the "Text:" field. Maximum of 25 characters including spaces.

   For a "Tag Summary", if you want to place the text onto a new line in the report, click on the "Add to New Line" check-box. A tick will appear when active.

3. Click on the **Add Request** button.

   The text will be added to the Request String.

6.3.5 To add a blank column

1. Click on the "Text:" option button.

2. Do not type in any text in the "Text:" field.

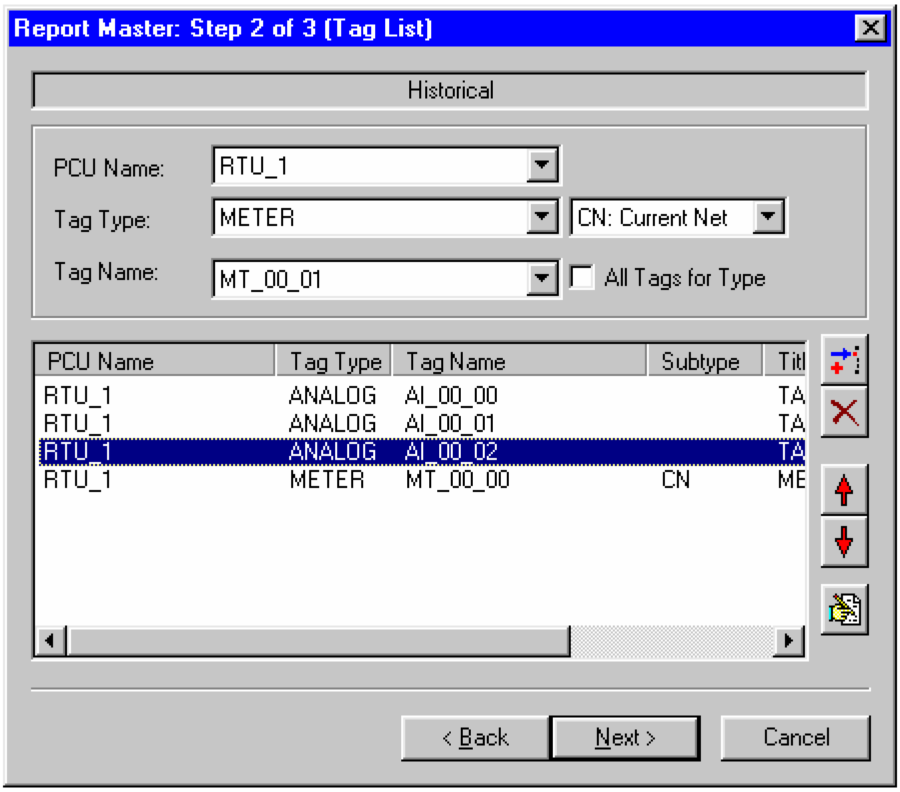
3. Click on the **Add Request** button.

   A :" will be added to the Request String signifying a blank column.

After editing the Request String, click on the **OK** button to save your changes, or click on the **Cancel** button to abort the operation. You will be returned to the "Master Report: Step 3 of 3" window.

6.4 Tag List (Historical Report)

The "Report Master: Step 2 of 3 (Tag List)" window, as shown below, is used to enter a list of tags to be included in your report.



The field in the top of this window, just below the Title bar, displays the type of report.

The significance of each column in the Tag list is:

PCU Name: The name of the PCU.

Tag Type: The Tag Type. Choices are; "Analog", "Meter" or "Status".

Tag Name: The name for the Tag as defined in the system database.

Subtype: For Meter Tags only. Choices are;

CN: Current Net: Total accumulated net.

HO: Hourly: This hour's current accumulation. (Similar to Current Net, but cleared hourly).

DA: Daily: Today's current accumulation, (Similar to Current Net, but cleared daily).

MO: Monthly: Month-to-date accumulation, (Similar to Current Net, but cleared monthly).

YR: Yearly: Year-to-date accumulation, (Similar to Current Net, but cleared yearly).

Title: This can be the default (Standard) name for the Tag as defined in the system database or can be a Title entered via the "Tag Options" dialog box.

Unit: This can be the default (Standard) "units-of-measure" description for the Tag as defined in the system database or can be a description entered via the "Tag Options" dialog box.

Format: Defines the Format for the Tag value as selected via the "Tag Options" dialog box. Choices are; "General", "#00.000" or "#00.00".

6.4.1 Adding individual Tags

1. Click on the button to the right of the "PCU Name:" field and select required PCU from the drop-down list.

2. Click on the button to the right of the "Tag Type:" field and select required Tag Type from the drop-down list. Choices are; "Analog", "Meter" or "Status".

   If a Meter Tag Type is selected, a second field appears to the right allowing you to select required Subtype.

3. Click on the button to the right of the "Tag Name:" field and select required Tag from the drop-down list.

4. To add tag to the list, click on the button.

   Before the tag is added to the list, the "Tag Options" dialog box will be displayed allowing the user to define the tag representation format: the tag title (name), units of measurement and format for the tag value.

   If the **Shift** key is pressed together with the button, the tag will be added to the list automatically, with default parameters.

5. In the "Tag Options" dialog box, define required tag options, then click on the **OK** button. The selected tag will be added to the list.

6. Repeat steps 1 to 5 above to add further tags.

6.4.2 Adding All Tags of the same Tag Type

1. Click on the button to the right of the "PCU Name:" field and select required PCU from the drop-down list.

2. Click on the button to the right of the "Tag Type:" field and select required Tag Type from the drop-down list. Choices are; "Analog", "Meter" or "Status".

   If a Meter Tag Type is selected, a second field appears to the right allowing you to select required Subtype.

3. Click on the "All Tags for Type" check-box. A tick will appear when selected.

4. Click on the button. All tags for the selected PCU and Tag Type will be added to the list automatically, with default parameters.

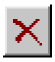
5. Repeat steps 1 to 4 above to add further groups of tags.

6.4.3 Removing Tags

1. In the list of tags, click on and highlight the tag to be removed.

   To select a group of tags that are next to each other, click on and highlight the first tag of the group, hold down the **Shift** key then scroll down the list and select the last tag of the group.

   To select individual tags from the list that are not next to each other, hold down the **Ctrl** key, then select each tag as required.

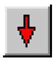
2. After you have selected the tag(s), click on the  button.

   A window is displayed asking you for confirmation. Click on the **Yes** button to remove the Tag(s) or click on the **No** button to abort the operation.

   If you selected **Yes**, the tag(s) will be removed from the list of tags.

6.4.4 Rearranging the order of Tags

The order in which the tags appear in the list (from top to bottom), will set the way the tags are displayed in the report (from left to right).

1. In the list of tags, select the tag to be rearranged.
2. Click on the  or  buttons to move the tag up or down the list until the tag is in the required position.
3. Select other tags that require repositioning and repeat step 2 above until they are in their required positions.

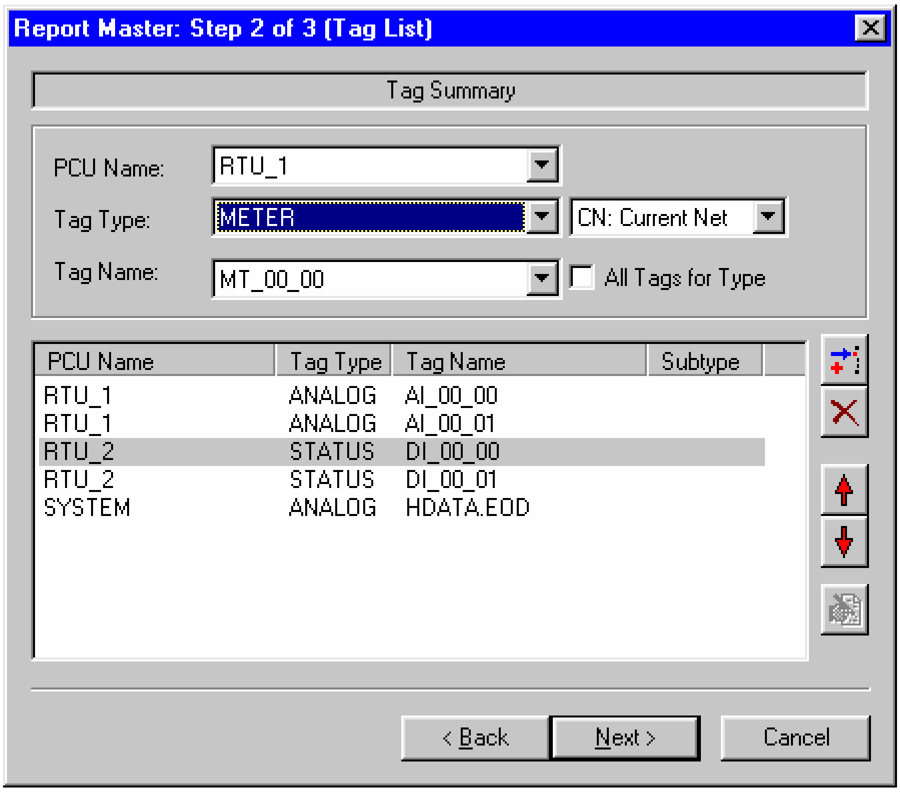
6.4.5 Editing the Tag Options

1. In the list of tags, click on and highlight required tag.
2. Click on the  button. The "Tag Options" dialog box will appear. Edit required option, please refer to Section 6.6, "Tag Options" for details.

After you have selected your tags, click on the **Next >** button to save your changes, or click on the **Cancel** button to abort the operation.

6.5 Tag List (Tag Summary Report)

The "Report Master: Step 2 of 3 (Tag List)" window, as shown below, is used to enter a list of tags to be included in your report.



The field in the top of this window, just below the Title bar, displays the type of report.

The significance of each column in the Tag list is:

PCU Name: The name of the PCU.

Tag Type: The Tag Type. Choices are; "PCU", "Analog", "Meter", "Status" or "Tank".

Tag Name: The name for the Tag as defined in the system database.

Subtype: For "PCU", "Analog", "Status" or "Tank", this will always be Subtype C.

For Meter Tags only, Subtypes are;

CN: Current Net: Total accumulated net.

HO: Hourly: This hour's current accumulation. (Similar to Current net, but cleared hourly).

DA: Daily: Today's current accumulation, (Similar to Current net, but cleared daily).

MO: Monthly: Month-to-date accumulation, (Similar to Current net, but cleared monthly).

YR: Yearly: Year-to-date accumulation, (Similar to Current net, but cleared yearly).

6.5.1 Adding individual Tags

1. Click on the button to the right of the "PCU Name:" field and select required PCU from the drop-down list.

2. Click on the button to the right of the "Tag Type:" field and select required Tag Type from the drop-down list. Choices are; "PCU", "Analog", "Meter", "Status" or "Tank".

   If a Meter Tag Type is selected, a second field appears to the right allowing you to select required Subtype.

3. Click on the button to the right of the "Tag Name:" field and select required Tag from the drop-down list.

4. To add tag to the list, click on the button. The selected tag will be added to the list.

5. Repeat steps 1 to 4 above to add further tags.

6.5.2 Adding All Tags of the same Tag Type

1. Click on the button to the right of the "PCU Name:" field and select required PCU from the drop-down list.

2. Click on the button to the right of the "Tag Type:" field and select required Tag Type from the drop-down list. Choices are; "PCU", "Analog", "Meter", "Status" or "Tank".

   If a Meter Tag Type is selected, a second field appears to the right allowing you to select required Subtype.

3. Click on the "All Tags for Type" check-box. A tick will appear when selected.

4. Click on the button. All tags for the selected PCU and Tag Type will be added to the list automatically.

5. Repeat steps 1 to 4 above to add further groups of tags.

6.5.3 Removing Tags

1. In the list of tags, click on and highlight the tag to be removed.

   To select a group of tags that are next to each other, click on and highlight the first tag of the group, hold down the **Shift** key then scroll down the list and select the last tag of the group.

   To select individual tags from the list that are not next to each other, hold down the **Ctrl** key, then select each tag as required.

2. After you have selected the tag(s), click on the button.

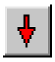
   A window is displayed asking you for confirmation. Click on the **Yes** button to remove the Tag(s) or click on the **No** button to abort the operation.

   If you selected **Yes**, the tag(s) will be removed from the list of tags.

6.5.4 Rearranging the order of Tags

The order in which the tags appear in the list (from top to bottom), will set the way the tags are displayed in the report (from left to right).

1. In the list of tags, select the tag to be rearranged.

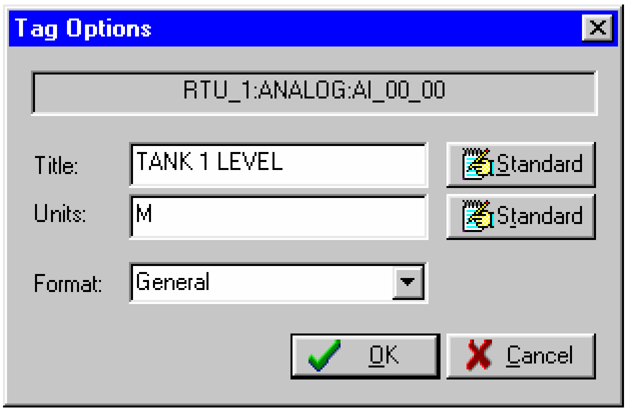
2. Click on the  or  buttons to move the tag up or down the list until the tag is in the required position.

3. Select other tags that require repositioning and repeat step 2 above until they are in their required positions.

After you have selected your tags, click on the **Next >** button to save your changes, or click on the **Cancel** button to abort the operation.

6.6 Tag Options dialog box

The "Tag Options" dialog box, as shown below, allows you to define the tag representation format: the tag title (name), units of measurement and format for the tag value.



The field in the top of this dialog box, just below the Title bar, displays the "PCU Name:Tag Type:Tag Name".

The values displayed in the "Title:" and "Units:" fields can be edited by overwriting the existing value.

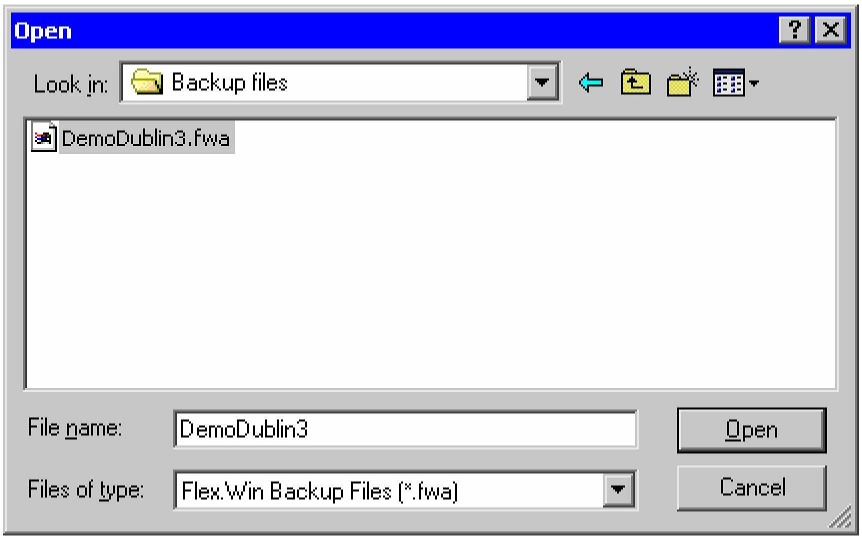
To define the tag value representation format, click on the  button to the right of the "Format:" field and choose required format from the drop-down list. Choices are; "General", "#00.000" or "#00.00".

Click on the 

button, to set the "Title:" and "Units:" to the values written to the project database.

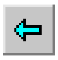
After defining required tag options, click on the OK button to save your changes, or click on the Cancel button to abort the operation. You will be returned to the "Report Master: Step 2 of 3 (Tag List)" window.

6.7 Open dialog box



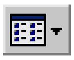
The following options allow you to specify the name and location of the file you're about to open:

Look in: Displays the current folder and its list of available folders and files. Double-click on the folder you want to open. To see where the current folder is located in the hierarchy of folders, click on the  button. The resulting drop-down list displays folders above the selected location.

Go To Last Folder Visited:  Moves to the last folder you visited.

Up One Level:  Moves the Look in folder up one level in the directory hierarchy.

Create New Folder:  Creates a new folder in the current directory hierarchy.

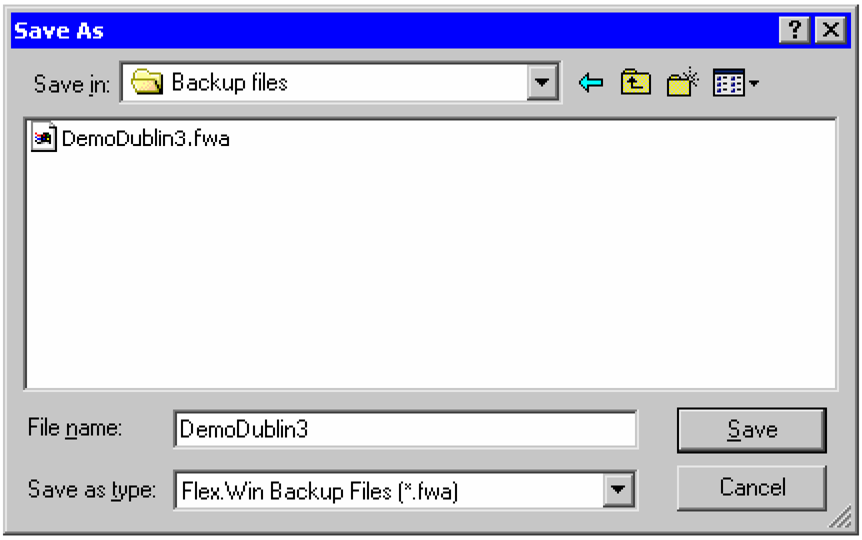
View Menu:  Allows you to change the appearance of items in a folder. Click the View menu button, and then click on **Large Icons**, **Small Icons**, **List**, **Details**, or **Thumbnails** as required from the drop-down list.

File name: Displays files of the type specified in the Files of type box. To open a file, choose from the list, or type a path and filename in the box.

Files of type: Displays the file types you can open, identified by their filename extension. To change the type, choose from the drop-down list.

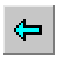
Open button: Opens the selected file.

6.8 Save As dialog box



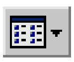
The following options allow you to specify the name and location of the file you're about to save:

Save in: Displays the current folder and its list of available folders and files. Double-click on the folder you want to open. To see where the current folder is located in the hierarchy of folders, click on the  button. The resulting drop-down list displays folders above the selected location.

Go To Last Folder Visited:  Moves to the last folder you visited.

Up One Level:  Moves the Save in folder up one level in the directory hierarchy.

Create New Folder:  Creates a new folder in the current directory hierarchy.

View Menu:  Allows you to change the appearance of items in a folder. Click the View menu button, and then click on **Large Icons**, **Small Icons**, **List**, **Details**, or **Thumbnails** as required from the drop-down list.

File name: Displays files of the type specified in the Save as type box. To save a file, choose from the list, or type a path and filename in the box.

Save as type: Displays the file types you can save as, identified by their filename extension. To change the type, choose from the drop-down list.

Save button: Saves the selected file.

Appendix A - Types of requests

Types of the request used in RequestString formats, in alphabetical order:

AC: ON/OFF
AD: Address
AV: Available Volume

C : Value
C1: State 1 Color
C2: State 2 Color
C3: State 3 Color
C4: State 4 Color
CE: Comm. Eff%
CG: Current Gross
CH: PCU Channel
CN: Current Net
CS: Connect Status

D : Description (extended form)
DA: Daily
DE: Data Error
DH: Description (short form)

F*: Reply
F>: Control
FA: Any Alarm
FC: Historical Recording Active
FE: Alarm Enabled
FF: Flow Rate
FH: Analog Hi Alarm
FI: Invalid State
FJ: Analog HiHi Alarm
FK: Analog LoLo Alarm
FL: Analog Lo Alarm
FM: Manual Overwrite
FN: Reply
FR: Tank FlowRate
FS: State Alarm
FU: Unacknowledged Alarm

GR: Gravity

HH: Analog HiHi Values
HI: Analog Hi Values
HO: Hourly

I1: IP-address Node 1
I2: IP-address Node 2

LD: Level (fraction form)
LE: Level
LG: Last Good
LH: Last Hour
LL: Analog LoLo Values
LO: Analog Lo Values
LV: Last Volume

MF: Factor

MO: Monthly

N : Tag Name
NA: Number of Analogs
NB: Tank Number
NM: Number of Meters
NR: No Response
NS: Number of Status
NT: Number of Tanks

ON: ON/OFF (string form)

P : PCU Name
P1: IP-port Node 1
P2: IP-port Node 2
PC: Product Code
PN: Project Name
PP: Project Path
PT: Server Time
PU: Update Status

Q : Quality Flags
QD: Quality Flags (With no description

RC: Analog ROC (Rate-Of-Change)
RO: Rollover
RT: Retries

S1: State 1 Description
S2: State 2 Description
S3: State 3 Description
S4: State 4 Description

T : Tag Type (string form)
TM: Temperature
TS: Total Scans

U : Units (for tag only)

VL: Volume
VS: Valid Scans

YD: Yesterday
YR: Yearly

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