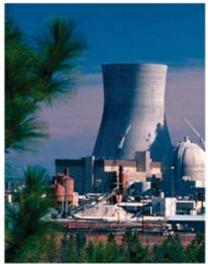
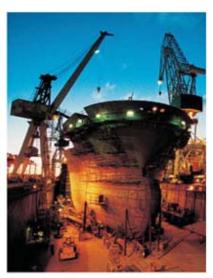
# Enhanced Report Utility *User's Guide*

## Process, Power & Marine









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## **Preface**

This user's guide describes concepts, procedures, and interface features of the Enhanced Report Utility for SmartPlant Instrumentation.

Send documentation comments or suggestions to <a href="mailto:PPMdoc@intergraph.com">PPMdoc@intergraph.com</a>.

Preface		

## Working with Enhanced Reports: An Overview

The Enhanced Report Utility allows you to generate graphical reports for entities such as loops, cables, and terminal strips. Enhanced reports make use of a generic engine that draws various wiring objects based on database query retrieval. For example, in the case of a Panel-Strip report, the report engine gathers the appropriate terminals, groups them according to their terminal strips, sorts them in order according to the information in the database and displays the appropriate connections.

Each enhanced report provides information on the database at a certain moment, such as connected or disconnected wires in a loop.

The Enhanced Report Utility is compatible with other commercial software packages. For example, you can save enhanced reports in formats that are compatible with SmartSketch, AutoCAD, or MicroStation. For more information, about version compatibility, see the SmartPlant Instrumentation Readme file, and click the **Version Compatibility** link.

To simplify your work, you can define a layout and assign it to a group of similar reports instead of having to manipulate each report individually.

You can also define custom symbols for certain reports and associate these symbols with specific SmartPlant Instrumentation entities. Afterwards, you can place these symbols in a desired location on a drawing sheet. On subsequent generation of the report for the entity, the graphical elements always appear in the positions where you initially placed them. For details of how to create custom symbols, see the Symbol Editor Online Help.

#### Modifying Enhanced Reports

After the Enhanced Report Utility generates a report, you can modify the report in a number of ways:

- Move terminal strips and connectors and then save the position. The
  next time you generate the report, the graphical elements appear in
  their new positions.
- Add macros, SmartText, and redlining to the report to provide additional information.
- For some reports, you can invoke devices and wiring elements, view specification sheets, and perform other activities concerning loops, devices, and wiring.

The software saves these items in different ways according to the item type, as summarized in the following table.

Item	Saved at Level
Generated entities such as terminal strips and connectors that you have moved	Layout
Customized templates	Layout
Customized title blocks	Layout
Connector representations (orthogonal or diagonal)	Layout
Some of the display options	Layout
SmartText	Individual report
Redlining items (straight lines, circles, and rectangles)	Layout or report
Drawing symbols	Layout or report

#### Notes

- You associate entities with the layout that you define using the **Enhanced Report Layouts** dialog box.
- You can save bitmaps and redlining items other than straight lines, circles, and rectangles if you make them part of a symbol.

#### **Enhanced Report Types**

Using the Enhanced Report Utility, you can generate the following reports in single or batch mode:

- Cable Harness
- Cable Layout
- Communication Line (Telecom)
- Enhanced SmartLoop
- Equipment Connection (Telecom)
- Fieldbus Loop
- Internal Cross-Wiring
- I/O Tag Assignment
- Location Layout (Custom)
- Network Class (Telecom)
- PA Amplifier (Telecom)
- Panel Layout (Custom)
- Panel-Strip
- Profibus
- Rack Layout (Custom)

- Segment Wiring (Fieldbus)
- Single Speaker (Telecom)
- Strip Signals
- Wiring Equipment Connections

#### **Note**

Modifications such as saving to the database, redlining, macros, and SmartText are not available for Multi-Strip reports.

- Exploring the Interface: An Overview, page 16
- Features of the Enhanced Report Utility, page 14
- Working with Enhanced Reports: An Overview, page 9

Working with Enhanced Reports:	An Overview	

## **Creating Enhanced Reports Common Tasks**

The following tasks are used frequently when you create enhanced reports.

#### **Create a Custom Template**

You can customize a standard drawing template according to your requirements.

For more information, see *Create a Custom Template*, page 21.

#### **Customize a Title Block**

You can customize for your own use the standard title blocks provided with enhanced reports.

For more information, see *Customize a Title Block*, page 24.

#### Edit an Entity

When you generate an enhanced report, you can edit SmartPlant instrumentation data for wiring *entities* directly from the report.

For more information, see *Edit an Entity*, page 42.

#### **Add Smart Text**

This option allows you to add SmartText to a drawing sheet. You can specify the size and properties of SmartText fonts. The software saves SmartText with drawings or reports that you regenerate.

For more information, see *Add SmartText*, page 45.

#### Add a Macro or a Macro Label to a Drawing Sheet

This option allows you to add macros to standard items in an enhanced report. Also, you can attach a label to the left of a macro in a drawing sheet, or you can attach the label to the item on its own without the macro

For more information, see Add a Macro or a Macro Label to a Drawing Sheet, page 50.

#### **Attach Redlining to Drawing Entities**

This option allows you to add annotations to an enhanced report. You can add straight lines, rectangles, circles, and drawing symbols and then attach them to a specific layout, a specific *entity*, or to all the sheets of a particular report.

For more information, see *Attach Redlining to Drawing Entities*, page 69.

#### **Modify Terminal Type Symbols**

This option allows you to edit existing terminal type symbols to fit your own design conventions.

For more information, see *Modify Terminal Type Symbols*, page 41.

#### Save a Report in a Different Format

You can change the format of a generated drawing for use with an external CAD application such as SmartSketch, AutoCAD, or MicroStation.

For more information, see Save a Report in a Different Format, page 77.

#### **Related Topics**

- Delete a Macro or a Macro Label, page 53
- Delete SmartText, page 47
- Edit SmartText, page 46

## **Features of the Enhanced Report Utility**

The following list outlines the features supported by the Enhanced Report Utility, and describes the actions that either you can perform or that the software performs automatically.

Feature	<b>Description of Actions</b>
Display terminal type	Different symbols distinguish terminals according to the predefined terminal type:
	• disconnector
	• knife
	• fuse
	Also, you can define your own terminal types and associate with them symbols that you specify.
Display terminals by terminal sequence	The terminal sequence is fixed in accordance with the actual physical arrangement. Switching cable entries to a box changes the cable alignment.
Save position of elements after dragging	You can drag a strip to change its location while preserving the cable connections or you can drag the connections only. Clicking <b>Save Custom Changes</b> allows you to save the position of these elements per drawing or per layout the next time that you generate the
	drawing.

Feature	<b>Description of Actions</b>	
Display shield and overall shield	You can display the overall shield per strip.	
Display all jumpers	You can display jumpers within a device as a cross bar connecting two terminals or as a separate jumper between the entry and the exit of the signal for each terminal. On the SmartPlant Instrumentation <b>Preferences</b> dialog box, you specify whether to display jumpers.	
Handle overlapping and intersecting connections	When connections intersect in generation, you can specify that the intersection appears with a gap. If you drag devices and the connections intersect, you can gap them without regenerating by clicking <b>Gap</b> . This command affects connected devices or device panels. Wires converge into sets and sets converge into cables, so that the arrangement of cables, sets, and wires in the drawing matches their physical arrangement in reality.	
Indicate discontinuities in a sequence of terminals with gapping symbols	The software indicates an unconnected sequence of terminals with a gapping (break) symbol.	
Display multiple drawing sheets	Where a drawing contains a large number of items, the software can generate several drawing sheets. You can move among the sheets by means of the tabs or navigation arrows at the foot of the drawing.	
Wrap signals between multiple 'lines' or sheets	Signals belonging to drawing items that extend over several lines wrap over those lines. Off-sheet connectors indicate signals that wrap over two sheets.	
Display Plug and Socket devices	The software uses a separate graphical representation for plug and socket devices as opposed to standard connection devices.	
Display CS tag / cabinet attributes	The software can display a dynamic matrix of attributes for Control System (CS) tags or cabinets. Editing the matrix is identical to editing title block items. On the SmartPlant Instrumentation <b>Preferences</b> dialog box, you specify whether to enable the matrix.	
Indicate unwired instruments	The software enables you to indicate on Enhanced SmartLoop reports that the displayed loop includes unwired instruments. The instruments appear separately in a dynamic matrix that is similar to the CS tag matrix. On the SmartPlant Instrumentation <b>Preferences</b> dialog box, you specify whether to enable the matrix.	

Feature	Description of Actions
View drawing generation progress	You can view the process of generating a loop in a separate progress window. On the SmartPlant Instrumentation <b>Preferences</b> dialog box, you specify whether to display the progress window.
Display fieldbus data	The software displays fieldbus items in the Segment Wiring Report and the Fieldbus Loop Report.
Display apparatus positions	The software displays apparatus positions as an additional level between strips and terminals. Positions are, in fact, terminal groups and they appear like terminal groups.
Display report revisions	The software assigns revisions to reports at the level of each <i>entity</i> . You add a revision to an enhanced report on the <b>Loop Drawing List</b> dialog box in SmartPlant Instrumentation or via the <b>Revisions</b> dialog box that you can access from the Enhanced Report Utility. For multiple reports, you revise each of the included reports in an entity level revision on the <b>Global Revisions</b> dialog box. The macro name for the revisions is, for example, Rev_no_11, which functions as an index to the revision number. You can set the revision display order on the title block to appear in ascending or descending chronological order.
Display loops with discontinuities	The software can display loops with a certain amount of discontinuity; however, it cannot display loops with no connections at all.
Select wire representation	The software can display cable wiring and cross-wiring connections either as orthogonal or diagonal lines.

- Exploring the Interface: An Overview, page 16
- Working with Enhanced Reports: An Overview, page 9

## **Using Enhanced Report Utility Help: An Overview**

You can access Help for the Enhanced Report Utility by making a selection from the **Help** menu. You can view information about your copy of the software, including the version number and the copyright, legal, and licensing notices. You can also use the **Help** menu to access the table of contents for Enhanced Report Utility Help topics.

Enhanced Report Utility Help contains overview and procedural information about specific software commands, such as sheet design, item placement, macros, SmartText, and redlining.

Other procedures that affect enhanced report generation, such as defining settings for entities, are described in the SmartPlant Instrumentation Online Help.

#### **Related Topics**

Working with Enhanced Reports: An Overview, page 9

## **Display Enhanced Report Utility Help Topics**

Click Help > Enhanced Report Utility Help

#### **Related Topics**

Enhanced Report Utility Help Command (Help Menu), page 100

## Display Information about the Enhanced Report **Utility**

Click Help > About Enhanced Report Utility.

#### Related Topics

About Enhanced Report Utility Command (Help Menu), page 100

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8 Enhanced Report Utility User's Guide

## **Using Enhanced Report Layouts: An Overview**

Every enhanced report that you generate must be based on a layout. The layout determines the template, title block, and wire representation used for the report, as well as the title block logo, title block position and drawing area margins. You can assign a report to an existing layout, and the layout properties then apply to any report belonging to that layout.

Default layouts are defined for each of the report types. There are standard templates and title blocks that you can select for your layout, or you can use them to customize your own templates and title blocks.

You can also configure the title block alignment and drawing area margins for each layout.

You define the layouts in the SmartPlant Instrumentation environment by selecting one or more *entities* and clicking **Enhanced Report Layouts** on the shortcut menu.

- Customizing Title Blocks: An Overview, page 23
- Displaying Logos: An Overview, page 29
- Using Templates: An Overview, page 21

Using Enhanced Report Layouts: An Overview

## **Using Templates: An Overview**

Enhanced reports include several standard templates. These are files in .sma format that determine the sheet size and orientation for the reports. The default location for these templates is: ...\RAD\Template.

The standard templates are:

Template File	Description
A3tall.sma	A3 portrait
A3wide.sma	A3 landscape
A4tall.sma	A4 portrait
A4wide.sma	A4 landscape
Atall.sma	11 in x 8.5 in portrait (Letter)
Awide.sma	11 in x 8.5 in landscape (Letter)
Btall.sma	11 in x 17 in portrait
Bwide.sma	11 in x 17 in landscape

Also, you can create new customized templates that fit your drawings and your drawing generation conventions.

#### **Notes**

- The software automatically configures the page layout and orientation for your printer according to the template you select.
- Working with a larger template means that the drawing includes more details. The items have fixed sizes that do not change relative to the sheet size.

#### **Related Topics**

- Create a Custom Template, page 21
- Features of the Enhanced Report Utility, page 14
- Working with Enhanced Reports: An Overview, page 9

## **Create a Custom Template**

- 1. On the Windows Taskbar, click **Start > Programs > Intergraph SmartPlant Instrumentation > Enhanced Report Utility**.
- 2 Click File > New
- 3. On the **New** dialog box, select the template on which you want to base your customized template.
- 4. Under Create new, click Template, and then click OK.

- 5. Click File > Sheet Setup.
- 6. Click the **Size and Scale** tab, if it is not already active.
- 7. Under **Sheet size**, do one of the following:
  - Click **Standard**, and then select a standard sheet size from the list.
  - Click **Custom**, and then type the required width and height of the sheet. If required, select different units under **Paper units**.

#### **Caution**

- Do not change any of the settings on the **Background** tab.
- 8. Click **OK** to close the dialog box.
- 9. Click View > Fit.
- 10. Click **File > Save** and save the file under the required name.

#### Note

• The standard templates are located in the path: ...\RAD\Template. You should save your template in the Template folder if you want to use it to create other templates.

#### **Related Topics**

• Using Templates: An Overview, page 21

## **Customizing Title Blocks: An Overview**

The title blocks that appear in enhanced reports are files in .sym format. You can customize the graphic design of the title block elements, change the logo, and associate macros with custom title block fields. There are separate standard title blocks for each report type, and they are located in the path ...\RAD\Template\Types in the appropriate report type folder as follows:

Report Type	Path	Standard Title Block Names
Cable Harness	\RAD\Template\Types\Harness	Cable_Tall.sym, Cable_Wide.sym
Cable Layout	\RAD\Template\Types\Cable	Cable_Tall.sym, Cable_Wide.sym
Communication Line	\RAD\Template\Types\TelecomLine	Telecom_Tall.sym, Telecom_Wide.sym
DCS/PLC (I/O Tag Assignment)	\RAD\Template\Types\DCS	DCS_Tall.sym, DCS_Wide.sym
Enhanced SmartLoop	\RAD\Template\Types\Loop	Loop_Tall.sym, Loop_Wide.sym
Fieldbus Loop	\RAD\Template\Types\FieldbusLoop	Loop_Tall.sym, Loop_Wide.sym
Network Class	\RAD\Template\Types\TelecomClass	Telecom_Tall.sym, Telecom_Wide.sym
PA Amplifier	\RAD\Template\Types\TelecomAmplifier	Strip_Tall.sym, Strip_Wide.sym
Panel-Strip	\RAD\Template\Types\Strip	Strip_Tall.sym, Strip_Wide.sym
Segment Wiring	\RAD\Template\Types\Fieldbus	Fieldbus_Tall.sym, Fieldbus_Wide.sym
Single Speaker	\RAD\Template\Types\TelecomSpeaker	Telecom_Tall.sym, Telecom_Wide.sym
Strip Signal	\RAD\Template\Types\StripSignal	Strip_Tall.sym, Strip_Wide.sym
Telecom Internal Connection	\RAD\Template\Types\Internal	Internal_Tall.sym, Internal_Wide.sym

- Customize a Title Block, page 24
- Define a Title Block Macro, page 24
- Features of the Enhanced Report Utility, page 14
- Place a Logo on an Enhanced Report, page 30
- Working with Enhanced Reports: An Overview, page 9

## **Customize a Title Block**

- 1. On the Windows Taskbar, click **Start > Programs > Intergraph SmartPlant Instrumentation > Enhanced Report Utility**.
- 2. Do one of the following:
  - Click **File** > **Open** and navigate to the required file.
  - In the **Windows Explorer**, double-click the .sym file you want to open.



- The standard title blocks are located according to the report type in the path: ...\RAD\Template\Types\<report type>, where the brackets indicate that the specific report type name applies; for example, for a strip report, <report type> = Strip; for a loop drawing, <report type> = Loop.
- 3. Modify the title block as required.



- You can change the graphical elements of the title block, add or modify macros, or change the logo.
- 4. Click **File** > **Save As** and save the file under the required name.

#### **Related Topics**

- Customizing Title Blocks: An Overview, page 23
- Define a Title Block Macro, page 24
- Place a Logo on an Enhanced Report, page 30
- Title Block Macro List, page 25

### **Define a Title Block Macro**

- 1. On the Windows Taskbar, click **Start > Programs > Intergraph SmartPlant Instrumentation > Enhanced Report Utility**.
- 2. Do one of the following:
  - Click **File** > **Open** and navigate to the required title block file.
  - In the **Windows Explorer**, double-click the .sym file you want to open.

#### 💡 Tip

- The standard title blocks are located according to the report type in the path: ...\RAD\Template\Types\<report type>, where the brackets indicate that the specific report type name applies; for example, for a strip report, <report type> = Strip; for a loop drawing, <report type> = Loop.
- 3. Place a SmartText box at the required location on the title block.
- 4. Select the text box and click **Edit** > **Properties**.
- 5. On the **Text Box Properties** dialog box, click the **User** tab.
- 6. Under Attributes, type the macro name in the Name list.

#### 💡 Tip

- For a list of available macros, see *Title Block Macro List*, page 25.
- 7. If appropriate for the macro, type a number in the **Value** box.
- 8. Click **Add** to assign the macro to the text box.

#### **Related Topics**

- Customizing Title Blocks: An Overview, page 23
- Title Block Macro List, page 25

## **Title Block Macro List**

You specify macros in your title block by adding SmartText and defining the appropriate macro in the user properties. The following list summarizes the macros available for use in the title blocks of enhanced reports.

Name	Value	Description
domain_name		Domain name
domain_desc		Domain description
eng_proj_name		Project name
eng_proj_desc		Project description
plnt_name		Plant name
area_name		Area name
unit_name		Unit name
unit_note		Note added for unit
unit_num		Unit number
owner_name		Owner name
city		City where plant is located
location		Location of plant

Name	Value	Description
pid_name		P&ID drawing name
loop_name		Loop name
loop_note		Loop note
loop_serv		Loop service
loop_func		Loop function
panel_name		Panel name
strip_name		Strip name
group_name		Segment name
line_name		Telecom line name
class_name		Telecom class name
cmpnt_name		Tag number
harness_name		Harness name
cable_name		Cable name
sheetno		Current sheet number
sheettotal		Total number of sheets
sheetcount		<sheetno> of <sheettotal></sheettotal></sheetno>
date		Date of drawing generation
time		Time of drawing generation
dwg_name		Drawing name
dwg_desc		Drawing description
dwg_num		Drawing number
dwg_rev_date	15	Drawing revision date (for revisions 1 to 5)
dwg_rev_num	15	Drawing revision number (for revisions 1 to 5)
dwg_rev_desc	15	Drawing revision description (for revisions 1 to 5)
ref_name	15	Loop drawing reference name (for revisions 1 to 5)
ref_desc	15	Loop drawing reference description (for revisions 1 to 5)
rev_no	15	Revision number (for revisions 1 to 5)
rev_desc	15	Revision description (for revisions 1 to 5)
rev_date	15	Revision date (for revisions 1 to 5)
rev_create_by	15	Created by (for revisions 1 to 5)
rev_drawn_by	15	Drawn by (for revisions 1 to 5)

Name	Value	Description
rev_appr_by	15	Approved by (for revisions 1 to 5)
rev_chk_by	15	Checked by (for revisions 1 to 5)
rev_sign	15	Revision signed by (for revisions 1 to 5)
curr_rev_name	1	Current revision name
ven_prop_by		Vendor proposed by
ven_prop_date		Vendor proposed date
ven_dsgn_by		Vendor design by
ven_dsgn_date		Vendor design date
ven_drwn_by		Vendor drawn by
ven_drwn_date		Vendor drawn date
ven_chk_by		Vendor checked by
ven_chk_date		Vendor checked date
ven_appr_by		Vendor approved by
ven_appr_date		Vendor approved date
cl_engr_by		Client engineered by
cl_engr_date		Client engineered date
cl_chk_by		Client checked by
cl_chk_date		Client checked date
cl_appr_by		Client approved by
cl_appr_date		Client approved date
dwg_udf_c01c102		Drawing user-defined character fields
loop_udf_c01c50		Loop user-defined character fields
rev_udf_c01c20		Revision user-defined character fields

• Define a Title Block Macro, page 24

Customizing Title Blocks: An Overview		

## **Displaying Logos: An Overview**

You can add a user-defined logo for enhanced reports. Adding a logo involves several operations. First, in the Enhanced Report Utility, you create a file with a .sym extension for use as a logo. Next, in SmartPlant Instrumentation, on the **Preferences** dialog box, you define the default layout settings and specify the file path and name of the logo .sym file. Then, in the Enhanced Report Utility, you open the default title block and position the logo as you require.

The software links the logo to the designated position when you generate enhanced reports for *entities* that belong to the default layout.

#### **Related Topics**

- Create a Logo Symbol, page 29
- Define a Logo Path, page 30
- Delete a Logo, page 31
- Place a Logo on an Enhanced Report, page 30
- Using Enhanced Report Layouts: An Overview, page 19

## **Create a Logo Symbol**

- 1. Create a bitmap using a drawing program; for example, Paintbrush.
- 2. On the Windows Taskbar, click **Start > Programs > Intergraph SmartPlant Instrumentation > Enhanced Report Utility**.
- 3. Click File > New.
- 4. On the **New** dialog box, select the template you want to use for your logo.
- 5. Under Create new, click Document, and then click OK.
- 6. Copy the bitmap and paste it into the document.
- 7. If required, move the bitmap to a different location on the document.
- 8. Click Edit > Select All.
- 9. On the main toolbar, click **Symbols** .....
- 10. On the symbol ribbon bar, click **Create Symbol** . The mouse pointer changes to a cross-hair icon.
- 11. Click a point on the drawing sheet to define the origin of the symbol.

#### → Tip

- The **Save As** dialog box automatically appears at this point. You do not need to use **Save As** on the **File** menu to open this dialog box.
- 12. On the **Save As** dialog box, select the folder where you want to save the symbol.
- 13. Type the name that you want for the symbol. The software saves the document with a .sym extension.

- Delete a Logo, page 31
- Displaying Logos: An Overview, page 29

## **Define a Logo Path**

- 1. Open SmartPlant Instrumentation, and on the **Preferences** dialog box, expand **Enhanced Reports**.
- 2. Select the desired report and click **File Paths**.
- 3. Beside **Logo file**, click **Browse** and navigate to the logo file that you want to use.

#### **Related Topics**

- Create a Logo Symbol, page 29
- Place a Logo on an Enhanced Report, page 30

## Place a Logo on an Enhanced Report

- 1. On the Windows Taskbar, click **Start > Programs > Intergraph SmartPlant Instrumentation > Enhanced Report Utility**.
- 2. Click **File** > **Open** and navigate to the required default template for the specified report type.



- You can define the report type template either in the report layout or on the SmartPlant Instrumentation Preferences dialog box, under Enhanced Reports, File Paths for the particular report type.
- If your template contains a default title block, the title block displays the default logo. Before placing a user-defined logo, select the default logo and press the **Delete** key.
- 3. Place an empty text box in place of the deleted logo.

#### 💡 Tip

- The top-left X and Y coordinates of the text box are also the top-left coordinates of your logo.
- 4. Select and then right-click the text box.
- 5. On the shortcut menu, click **Properties**.
- 6. Click User.
- 7. In the **Name** box, type **Logo**.
- 8. Click **Add** and then click **Save**.
- 9. Specify the logo file path on the SmartPlant Instrumentation **Preferences** dialog box.

- Create a Logo Symbol, page 29
- *Define a Logo Path*, page 30
- *Delete a Logo*, page 31
- Displaying Logos: An Overview, page 29

## **Delete a Logo**

- 1. On the Windows Taskbar, click **Start > Programs > Intergraph SmartPlant Instrumentation > Enhanced Report Utility**.
- 2. Do one of the following:
  - Click **File** > **Open** and navigate to the title block .sym file.
  - In the **Windows Explorer**, double-click the title block .sym file.
- 3. In the title block, select the text box you have defined for linking the logo when generating a drawing.



- For the standard logo supplied with the title block, select the logo bitmap.
- 4. Press the **Delete** key.

- Displaying Logos: An Overview, page 29
- Place a Logo on an Enhanced Report, page 30

Displaying Logos: An Overview	

## **Adding Background Sheets: An Overview**

For INtools versions prior to 5.3, make use of background sheets as the exclusive means of displaying title blocks in enhanced reports.

#### **!** Important

- In INtools Version 5.3, title blocks are supplied as .sym files which you can add to enhanced report templates. The advantage of this feature is that you only need to modify the symbol once, and it becomes updated in all the templates in which it appears. For more information, see the topics *Using Templates: An Overview*, page 21 and *Customizing Title Blocks: An Overview*, page 23.
- If you used background sheets in an earlier version of INtools to display your title blocks in enhanced reports, you can continue to use them in Version 5.3 as described in this section.

Several standard background sheets are available for each report type. A separate folder exists for each report type in the path <SmartPlant Instrumentation home folder>\RAD\Template\Types\< report type folder>. The report type folders are: \Loop, \Strip, \Telecom, \Fieldbus, \DCS, and \Cable. In each folder, there is a file, Normal.sma, which contains background sheets for the following standard page sizes:

- A4tall (A4 portrait)
- A4wide (A4 landscape)
- A3tall (A3 portrait)
- A3wide (A3 landscape)
- Atall 8.5 in x 11 in (Letter portrait)
- Awide 11 in x 8.5 in (Letter landscape)

Each background sheet includes a page border, a title block, and title block macros.

#### Note

 Working with a larger sheet means that the drawing includes more details. The items have fixed sizes that do not change relative to the sheet size.

- Add a New Background Sheet, page 34
- Features of the Enhanced Report Utility, page 14
- Title Block Macro List, page 25
- Working with Enhanced Reports: An Overview, page 9

## Add a New Background Sheet

1. In the SmartPlant Instrumentation home folder, navigate to the RAD\Template\Types\Loop folder and double-click the Normal.sma file.

#### **?** Tips

- This file contains the background sheet templates used for drawing generation.
- Other Normal .sma files reside in the \Strip, \Telecom, \Fieldbus, \DCS, and \Cable folders.
- 2. Click View > Working Sheets.
- 3. Click **File** > **Sheet Setup**.
- 4. Click the Size and Scale tab, if it is not already active.
- 5. Under **Sheet size**, do one of the following:
  - Click **Standard**, and then select a standard sheet size from the list.
  - Click Custom, and then type the required width and height of the sheet.

#### **Caution**

- Do not change any of the settings on the **Background** tab.
- 6. Click View > Background Sheets.
- 7. Click Insert > New Sheet.
- 8. Click File > Sheet Setup.
- 9. Click the **Size and Scale** tab, if it is not already active.
- 10. Under **Sheet size**, select the same sheet size as you chose for the working sheet.
- 11. Click the **Name** tab.
- 12. In the **Sheet name** box, type a sheet name.

#### 💡 Tip

- It is recommended that you type a sheet name that enables you to identify the sheet size and orientation easily; for example, A4 Wide.
- 13. Click View > Fit.
- 14. Select a drawing sheet with a title block size similar to the background sheet that you intend to create.
- 15. Click once anywhere on the background sheet and do one of the following:
  - Click Ctrl + A.
  - Click Edit > Select All.

- 16. Do one of the following:
  - Click Ctrl + C.
  - Click **Edit** > **Copy**.
- 17. Select the drawing sheet with the name that you have just inserted.
- 18. Click once anywhere on the background sheet and do one of the following:
  - Click Ctrl + V.
  - Click Edit > Paste.
- 19. Click View > Fit.
- 20. On the main toolbar, right-click and ensure that on the shortcut menu, a check mark appears beside **Change**. If no check mark appears, click **Change**.
- 21. Click once anywhere on the background sheet and do one of the following:
  - Click Ctrl + A.
  - Click Edit > Select All.
- 22. On the Change toolbar, click Scale.
- 23. Click anywhere on the title block.
- 24. Drag the handles to fit the title block to the sheet size and when they fit, click once.



- You can also drag the title block from one of its sides to the required location.
- 25. If necessary, modify the graphical elements, macros, and so forth.
- 26. Click View > Working Sheets.
- 27. Click File > Save.

• Adding Background Sheets: An Overview, page 33

ding Backgroun	d Sheets: An O	verview	 	

# **Reducing Generation Time for Enhanced Reports: An Overview**

If you are generating a large number of enhanced reports, or if the individual reports contain a large amount of data, the time for generation can be long. To reduce the generation time, you can modify a number of settings on the SmartPlant Instrumentation **Preferences** dialog box that disable some of the generation processes and therefore speed up report generation.

When you set these options, the software displays macros rather than retrieving data from the SmartPlant Instrumentation database. To view the data, you can change the settings back to their original values and regenerate the reports at a convenient time.

#### **Related Topics**

Reduce Generation Time for Enhanced Reports, page 37

# **Reduce Generation Time for Enhanced Reports**

- 1. On the SmartPlant Instrumentation **Preferences** dialog box, click **Enhanced** Reports.
- 2. Click 

  to expand the tree and select General.
- 3. Select Disable macro generation and annotation options.
- 4. Clear the following check boxes:
  - Gap connectors on intersection.
  - By-pass strips.
  - **Optimize overlapping connectors.**
  - Redraw all connections.
- 5. Generate the enhanced reports that you require.



You can perform the last four operations per individual report using the appropriate commands on the **Actions** menu.

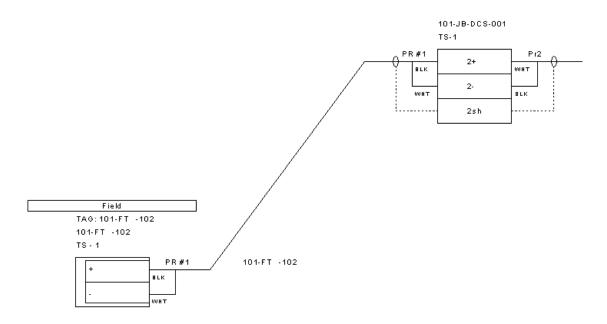
- Formatting Enhanced Reports Common Tasks, page 73
- Reducing Generation Time for Enhanced Reports: An Overview, page 37

Reducing Generation Time for Enhanced Reports: An Overview		

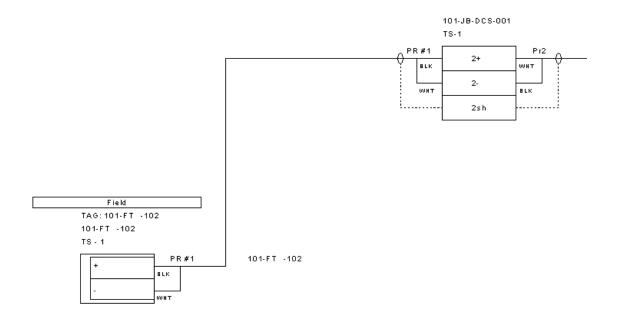
# Setting the Wiring Representation: An Overview

In SmartPlant Instrumentation, you determine how wires between terminals are represented in enhanced reports. You define cable wiring and cross-wiring representations per layout. When editing the default enhanced layout or creating a new one, you can set the wire representation to be diagonal or orthogonal. This affects the wire paths when the terminals are not located on the same horizontal row, as shown in the examples.

# **Diagonal Representation**



# **Orthogonal Representation**



- Create a Custom Template, page 21
- Features of the Enhanced Report Utility, page 14
- Working with Enhanced Reports: An Overview, page 9

# **Modifying Enhanced Reports**

# **Editing Entities**

When you generate an enhanced report, you can edit SmartPlant Instrumentation data for generated entities directly from the report. You can edit data for the following entities:

- Tag numbers
- Cables
- Cable sets
- Wires
- Panels
- Strips
- Terminals

Also, you can generate the following tag documents for the tag numbers in a drawing:

- Specification
- Process Data
- Calculation
- Tag Signal Diagram
- Loop Signal Diagram
- SmartLoop (standard)
- I/O Tag Assignment Report
- CAD (to view the associated loop drawing using a CAD application)
- Segment Map
- Other (to view an external document created in another application)

- Edit an Entity, page 42
- Generate Tag Documents, page 42
- Working with Enhanced Reports: An Overview, page 9

# **Edit an Entity**

- 1. Select the name of a wiring entity such as a tag number, cable, cable set, wire, panel, strip, or terminal.
- 2. Click Actions > Entity > Properties.



- You can also access this command by clicking **Entity Properties** on the **Actions** toolbar.
- 3. Change the properties of the entity as you require on the dialog box that opens.

# **Generate Tag Documents**

- 1. Select the name of the required tag number.
- 2. Click Actions > Tag Documents.



- You can also access this command by clicking **Tag Documents** on the **Actions** toolbar.
- 3. Click an available item in the pop-up window to open the required tag document.

# **Modify Terminal Type Symbols**

- 1. If needed, in the SmartPlant Instrumentation Wiring module, open the **Terminal Type** table and create a new terminal type.
- 2. On the Windows Taskbar, click **Start > Programs > Intergraph SmartPlant Instrumentation > Enhanced Report Utility**.
- 3. If you want to open an existing symbol file, do one of the following:
  - Click **File** > **Open** and navigate to the desired .sym file.
  - In the **Windows Explorer**, double-click the .sym file you want to open.

### → Tip

- To assist you with creating a symbol of the correct size, we recommend that you open the file Term.sym and draw your symbol in relation to the border of the terminal symbol that appears in the file. Term.sym is located in the path: <SmartPlant Instrumentation home folder>\RAD\Symbols.
- 4. Modify the symbol as desired.
- 5. Select the lines and other graphical elements that you want to include as part of the symbol.

- 6. On the main toolbar, click .....
- 7. On the symbol ribbon bar, click . The mouse pointer changes to a cross-hair icon.
- 8. Click the cross-hair icon at the point on the sheet where you want to set the origin of the symbol.
- 9. On the Save As dialog box, navigate to the path: <SmartPlant Instrumentation home folder>\RAD\Symbols, and under File name, type a name for the symbol (.sym) file you have created that is the same as the name of the terminal type that you want to associate with the symbol. For example, if the terminal type name is **Fuse**, you should save the symbol file under the name Fuse.sym.

# Associate a Symbol with an Instrument Type

- 1. In the Instrument Index module, open the **Instrument Type** table and select an instrument type.
- 2. Click **Profile**.
- 3. Under Enhanced SmartLoop symbol, click Browse beside the Symbol file name and path box and navigate to the symbol (.sym) file that you want to associate with the selected instrument type.
- 4. Generate an Enhanced SmartLoop drawing for one or more loops that include tags of the selected instrument type.
- 5. After viewing the result, adjust the symbol file as necessary to display the symbol in the desired position relative to the instruments and at the desired size.

Modifying Enhanced	Reports		

# **Using SmartText: An Overview**

In the Enhanced Report Utility, you can add SmartText to a drawing sheet. Each time you generate an enhanced report for a particular *entity*, the text is retained on the drawing.

You can define SmartText properties, such as font, size, underlining, alignment in the text box, and rotation. Also, you can create a watermark using SmartText and display a SmartText item on any specific drawing sheet, or on all the drawing sheets in a report.

#### **Related Topics**

- Add SmartText, page 45
- *Delete SmartText*, page 47
- Edit SmartText, page 46
- Features of the Enhanced Report Utility, page 14
- Using Macros: An Overview, page 49
- Working with Enhanced Reports: An Overview, page 9

# Add SmartText

1. Click Actions > SmartText > New.



- You can also access this command by clicking **New SmartText** A on the **Actions** toolbar.
- 2. Click the **General** tab.
- 3. Type text in the **Caption** box, if required.

### 💡 Tip

- You can type an unlimited number of lines with up to 28 characters in each line.
- 4. Select **Set as watermark** if you want to define the text as a watermark that appears in a layer below other drawing items.
- 5. Under **Textbox display**, do one of the following:
  - Click **Current sheet** to display the SmartText item on the current drawing sheet only.
  - Click **All sheets** to display the SmartText item on all the sheets of the drawing.

### → Tip

- If you choose **All sheets**, you only need to edit the SmartText properties on one of the sheets, and the software applies the changes to all the other sheets.
- 6. Click the **Text** tab to define the text properties such as font, font size, rotation, and orientation.
- 7. Click a blank area on the drawing sheet to position the text box.

### Tip

- You can select several text boxes by holding Ctrl while clicking each text box and then dragging the selected text boxes to the required location on the drawing.
- 8. Click File > Save Custom Changes.

#### **Related Topics**

- Delete SmartText, page 47
- Edit SmartText, page 46
- Using SmartText: An Overview, page 45

# **Edit SmartText**

- 1. Select a text box.
- 2. Click Actions > SmartText > Properties.



- You can also access this command by clicking **SmartText Properties**on the **Actions** toolbar.
- 3. Click the **General** tab.
- 4. Edit the text in the **Caption** box as required.



- You can type an unlimited number of lines with up to 28 characters in each line.
- The **Set as watermark** option is not available. You can set this option only when defining the SmartText properties for the first time.
- 5. Click the **Text** tab.
- 6. Click **Font** to open a dialog box where you can specify the text font, font style, size, color, and other properties.

### 💡 Tip

- The default font, font style, and size are determined in the **Preferences** dialog box in SmartPlant Instrumentation per enhanced report type; the default font color is Black. Note that if you select a default font other than a TrueType font (indicated by a TT symbol), the Enhanced Report Utility displays all SmartText with a yellow-green font, regardless of any subsequent change you try to make to the font color in the Enhanced Report Utility.
- 7. In the **Horizontal** and **Vertical** lists, select options to align text within the text box boundaries.
- 8. Select **Show Border** if you want to display the text box border.
- 9. In the **Rotation** box, do one of the following:
  - Enter a positive value in degrees to rotate the text counter-clockwise (CCW).
  - Enter a negative value in degrees to rotate the text clockwise (CW).

### 💡 Tip

- You can enter values that include decimals, such as 22.5°.
- 10. In the **Orientation** list, select a text box orientation.

# 💡 Tip

- In the vertical orientation, the software rotates the letters 45° CCW.
- 11. Click File > Save Custom Changes.

# 💡 Tip

• You can also click **Save Custom Changes** on the **Main** toolbar.

#### **Related Topics**

- Add SmartText, page 45
- Delete SmartText, page 47
- Using SmartText: An Overview, page 45

# Delete SmartText

1. Select a SmartText item.



- You can select several drawing items at a time. To do so, hold Ctrl and click each item. The font and border color of the items change when you select them.
- 2. Click Actions > Delete SmartText.

# **→** Tips

- You can also access this command by clicking **Delete SmartText** Actions toolbar.
- You should always use this method, and not the **Delete** key, to delete
  all the occurrences of a SmartText item that appears on several sheets
  of a multiple sheet report.
- 3. Click File > Save Custom Changes.

### Tip

• You can also access this command by clicking **Save Custom Changes** on the **Main** toolbar.

### Note

• When you delete a SmartText item, it is not pasted to the Clipboard and cannot be reinserted. However, you can restore a SmartText item by immediately using **Undo**.

- Add SmartText, page 45
- Edit SmartText, page 46
- Using SmartText: An Overview, page 45

# **Using Macros: An Overview**

You can add macros to standard entities in enhanced reports. Standard entities are drawing items that automatically appear on a generated enhanced report, such as panels, strips, terminals, cables, cable sets, wires, ports, and pins. You can select a standard entity and define a macro for all occurrences of such an entity on the sheet. Alternatively, you can select a macro filter to assign a macro only to the selected entity.

Also, you can attach a label to the left of a macro on a sheet. The software associates the attached label in the database with this particular macro and attaches the label to all occurrences of the macro on the sheet.

Adding a macro involves the following:

- Selecting a standard macro type.
- Selecting a macro name associated with this macro type.
- Applying a filter to the macro, if needed.
- Defining the macro text properties such as font, size, alignment in the text box, and rotation.
- Attaching a label to the macro, if needed.
- Defining the label text properties.

When you modify or move a macro for an entity, it affects all occurrences of that entity on the sheet, unless a filter is used, in which case only those entities to which the filter applies are affected.

### **Notes**

- For entities that have left and right sides, such as apparatus terminals and wires, when you modify or move a macro for such an entity, the action applies only to the corresponding side for all the entities that are defined by the specific macro or filter.
- If, for a default macro such as a panel name, you define a filter that hides a particular macro, a dot appears in place of the macro. The dot is needed to allow editing of the macro filter, adding new macros to the entity associated with the hidden macro, or editing of the entity. If you want to hide the dots, for example when printing the report or saving it in a different format, you need to define the parameter HideEntities = Y in the Smartloop.ini file.

- Add a Macro or a Macro Label to a Drawing Sheet, page 50
- Attach a Macro or a Macro Label to an Entity, page 51
- Delete a Macro or a Macro Label, page 53

- Edit a Macro or a Macro Label, page 52
- Features of the Enhanced Report Utility, page 14
- Move a Macro, page 74
- Using SmartText: An Overview, page 45
- Working with Enhanced Reports: An Overview, page 9

# Add a Macro or a Macro Label to a Drawing Sheet

### **!** Important

- If you want to use a filter during this operation, you must first add the filter using the **Macro Filter** command.
- 1. Ensure that no items are selected on the drawing sheet.
- 2. Click Actions > Macro > New.

### 💡 Tip

- You can also access this command by clicking **New Macro** on the **Actions** toolbar.
- 3. Click the General tab.
- 4. From the **Macro type** list, select an option.
- 5. From the **Macro name** list, select a macro for the chosen macro type.
- 6. Define a filter, if needed.

### **₽** Tip

- If you do not use a filter, the software adds the macro to all *entities* of the same type.
- 7. In the **Caption** box, type a label name if you want to associate a label with the new macro.

# **♀** Tip

- The label appears to the left of the macro on the drawing sheet.
- 8. Click the **Macro Text** tab to define the macro text properties.
- 9. Click the **Caption Text** tab to define the label text properties.
- 10. On the drawing sheet, click where you want the macro to appear relative to the position of the selected item.

# 💡 Tip

- The macro position is fixed relative to the corresponding item so that if you move the item, the macro moves with it; however, you can move the macro independently by using the **Move Macro** command.
- 11. Click File > Save Custom Changes.

#### **Related Topics**

- Attach a Macro or a Macro Label to an Entity, page 51
- Delete a Macro or a Macro Label, page 53
- Edit a Macro or a Macro Label, page 52
- Using Macros: An Overview, page 49

# Attach a Macro or a Macro Label to an Entity

### 😲 Important

- If you want to use a filter during this operation, you must first add the filter using the Macro Filter command.
- 1. Click an item, such as a panel header, to select it.
- 2. Click Actions > Macro > New.

### 💡 Tip

- You can also access this command by clicking **New Macro** on the Actions toolbar.
- 3. Click the General tab.
- 4. From the **Macro type** list, select an option.
- 5. From the **Macro name** list, select a macro for the chosen macro type.
- 6. Define a filter, if needed.

### 💡 Tip

- If you do not use a filter, the software adds the macro to all *entities* of the same type.
- 7. In the Caption box, type a label name if you want to associate a label with the new macro.

# 💡 Tip

- The label appears to the left of the macro on the drawing sheet.
- 8. Click the **Macro Text** tab to define the macro text properties.
- 9. Click the **Caption Text** tab to define the label text properties.
- 10. On the drawing sheet, click where you want the macro to appear relative to the position of the selected item.

# 💡 Tip

- The macro position is fixed relative to the corresponding item so that if you move the item, the macro moves with it; however, you can move the macro independently by using the Move Macro command.
- 11. Click File > Save Custom Changes.



• You can also access this command by clicking **Save Custom Changes** on the **Main** toolbar.

#### **Related Topics**

- Add a Macro or a Macro Label to a Drawing Sheet, page 50
- Delete a Macro or a Macro Label, page 53
- Edit a Macro or a Macro Label, page 52
- Using Macros: An Overview, page 49

# **Edit a Macro or a Macro Label**

- 1. Select a macro.
- 2. Click Actions > Macro > Properties.



- You can also access this command by clicking **Macro Properties** on the **Actions** toolbar.
- 3. Click the **General** tab.
- 4. Under **Macro definition**, if required, select a different macro type or macro name.
- 5. To apply a filter to the macro, under **Filter**, select a filter from the **Filter name** list and select the **Use filter** check box.

# Tip

- You must define filters in SmartPlant Instrumentation using the Macro Filter command to make them available in the list.
- 6. Click the **Macro Text** tab.
- 7. Click **Font** to open a dialog box where you can specify the text font, font style, size, color, and other properties.



- The default font, font style, and size are determined in the **Preferences** dialog box in SmartPlant Instrumentation per enhanced report type; the default font color is **Black**. Note that if you select a default font other than a TrueType font (indicated by a TT symbol), the Enhanced Report Utility displays all macros and labels with a yellow-green font, regardless of any subsequent change you try to make to the font color in the Enhanced Report Utility.
- 8. In the **Horizontal** and **Vertical** lists, select options to align text within the text box boundaries.
- 9. Select **Show Border** if you want to display the text box border.

- 10. In the **Rotation** box, do one of the following:
  - Enter a positive value in degrees to rotate the text counter-clockwise (CCW).
  - Enter a negative value in degrees to rotate the text clockwise (CW).

### 💡 Tip

- You can enter values that include decimals, such as 22.5°.
- 11. In the **Orientation** list, select a text box orientation.

### 💡 Tip

- In the vertical orientation, the software rotates the letters 45° CCW.
- 12. Click File > Save Custom Changes.



• You can also click **Save Custom Changes** on the **Main** toolbar.

#### **Related Topics**

- Add a Macro or a Macro Label to a Drawing Sheet, page 50
- Attach a Macro or a Macro Label to an Entity, page 51
- Delete a Macro or a Macro Label, page 53
- Using Macros: An Overview, page 49

# **Delete a Macro or a Macro Label**

1. Select a macro or a macro label.



- You can select several drawing items at a time. To do so, hold Ctrl and click each item. The font and border color of the items change when you select them.
- 2. Click **Actions** > **Delete Macro** or press the **Delete** key.



- You can also access this command by clicking **Delete Macro** on the **Actions** toolbar.
- 3. Click File > Save Custom Changes.



You can also access this command by clicking Save Custom Changes on the **Main** toolbar

#### **Note**

• When you delete a macro or a macro label, it is not pasted to the Clipboard and cannot be reinserted. However, you can restore a macro or a macro label by immediately using **Undo**.

#### **Related Topics**

- Add a Macro or a Macro Label to a Drawing Sheet, page 50
- Attach a Macro or a Macro Label to an Entity, page 51
- Edit a Macro or a Macro Label, page 52
- Using Macros: An Overview, page 49

# Add a Macro to a Control System Tag or Non-Wiring Tag Symbol File

- 1. Open one of the following symbol files:
  - DCSHeader.sym or DCSDetail.sym for adding macros to control system tags.
  - TagListDetail.sym for adding macros to non-wiring tags.
- 2. Place a SmartText box at the desired location on the symbol.
- 3. Select the text box and click **Edit** > **Properties**.
- 4. On the **Text Box Properties** dialog box, click the **User** tab.
- 5. Under Attributes, type the macro name in the Name list.

### Tip

- For a list of suitable macros, see *Control System Tag Macro List*, page 55 or *Non-Wiring Tag Macro List*, page 56.
- 6. If appropriate for the macro, type a number in the **Value** box.
- 7. Click **Add** to assign the macro to the text box.
- 8. Click File > Save Custom Changes.

### Notes

- To display control system data in generated enhanced reports, in the SmartPlant Instrumentation Preferences dialog box, under Enhanced Reports, View for the particular report type, select Display DCS / PLC attributes, if appropriate.
- To display non-wiring tags in generated enhanced reports, in the Preferences dialog box, under Enhanced Reports, View for the particular report type, select Display non-wiring tag list, if appropriate.

### **Related Topics**

- Add a Macro or a Macro Label to a Drawing Sheet, page 50
- Attach a Macro or a Macro Label to an Entity, page 51
- Define a Title Block Macro, page 24
- Title Block Macro List, page 25
- Using Macros: An Overview, page 49

# **Control System Tag Macro List**

You can add Control System tag macros to enhanced reports. The following list summarizes the available Control System tag macros.

Name	Value	Description
cs_tag_name / cstag		Control System tag
cs_network_no / network		Control System network number
cs_node_no / node		Control System node
cs_udf_c01c100		Control System user-defined fields
cstag_io_type_name / cstagiotype		Control System tag I/O type name
cmpnt_sys_io_type_name / iotype		Control System tag I/O type
cmpnt_sys_io_type_desc / iotypedesc		Control System tag I/O type description
channel_header		Channel / Subslot header
channel_name / ch		Channel
cabinet_name / cab	1,2	Cabinet name (1 - primary; 2 - secondary)
sec_cabinet_name / sec_cab		Secondary cabinet name
file_header / fileheader		CS tag file header for Nest / File / Rack
ip_adress		IP address
module_header		Module header
module_no / module		Module number
nest	1,2	Nest / File / Rack data (1 - primary; 2 - secondary)
sec_nest		Secondary Nest / File / Rack data
panel_address1_header		Address1 / Highway / Network header
panel_address2_header		Address1 / Device / Node header
panel_mfr_name		Panel manufacturer name
panel_mfr_desc		Panel manufacturer description

Name	Value	Description
position_header / posheader		CS Tag position header for Slot / Position
remote_sys_cable / syscable		Remote system cable
slot	1,2	Slot / Position data (1 - primary; 2 - secondary)
sec_slot		Secondary Slot / Position data

# **Non-Wiring Tag Macro List**

You can add macros for tags without wiring to enhanced reports. The following list summarizes the available tag macros.

Name	Description
calib_range_max	Maximum calibration range
calib_range_min	Minimum calibration range
calib_range_uflg_max	Absolute / Gage flag for maximum calibration range
calib_range_uflg_min	Absolute / Gage flag for minimum calibration range
calib_range_uom_max	Units of measure for maximum range
calib_range_uom_min	Units of measure for minimum range
capacitance	Capacitance
capacitance_uom	Units of measure for capacitance
chg_date	Change date
chg_status	Change status
cmpnt_critical_id	Tag criticality
cmpnt_drawing_seq	Tag drawing sequence
cmpnt_find_rem	Tag note / remarks indication
cmpnt_func_type_id	Tag function type
cmpnt_handle_id	Tag status
cmpnt_id	Tag number internal ID
cmpnt_loc_id	Tag location
cmpnt_mfr_id	Tag manufacturer ID
cmpnt_mfr_name	Tag manufacturer name
cmpnt_mod_id	Tag model ID

Name	Description
cmpnt_mod_name	Tag model name
cmpnt_name	Tag name (for example: 101-FT-100)
cmpnt_num	Tag number (for example: 100)
cmpnt_quality_flg	Tag quality
cmpnt_seq	Tag sequence
cmpnt_serv	Tag service
cmpnt_suff	Tag number suffix
cmpnt_sys_io_type_id	Tag system I/O type
cmpnt_type_id	Component type
dcs_range_max	Maximum DCS range
dcs_range_min	Minimum DCS range
dcs_range_uflg	Absolute / Gage flag for DCS range
dcs_range_uom	Units of measure for DCS range
dwg_id	Drawing number
eng_proj_id	Project number
eng_ref_id	Project reference
equip_id	Equipment number
inst_range_max	Maximum instrument range
inst_range_min	Minimum instrument range
inst_range_uflg_max	Absolute / Gage flag for maximum instrument range
inst_range_uflg_min	Absolute / Gage flag for minimum instrument range
inst_range_uom_max	Units of measure for max. instrument range
inst_range_uom_min	Units of measure for min. instrument range
item_price	Item price
line_id	Line number
load_watt	Load value
loop_id	Loop internal ID
loop_name	Loop name (for example: 101-F-100)
loop_num	Loop number (for example: 100)
loop_serv	Loop service
loop_trans_name	Loop internal name
old_cmpnt_name	Old tag number

Name	Description
pipe_class	Pipe class
prefix	Prefix
proc_func_cat_id	Process function catalog number
proc_func_id	Process function number
req_no	Requisition number
spec_cmpnt_mounting	Mounting
spec_cmpnt_po_item_no	Purchase order item number
spec_cmpnt_po_no	Purchase order number
spec_cmpnt_power_supply	Power supply
spec_cmpnt_price	Price
spec_cmpnt_sn	Tag serial number
spec_id	Specification name
tag_trans_name	Tag internal number
tc_field_equipment_id	Typical tag equipment
tc_fire_area	Typical tag fire area
tc_line_number_id	Typical tag number
tc_location_layout	Typical tag location
tc_signal_id	Typical tag signal
type_gen	Drawing generation method
unit_id	Unit ID
user_name	User name
udf_c01c135	Character custom fields 1-135
udf_n01n10	Number custom fields 1-10
udf_d01d05	Date custom fields 1-5
udt_support_id1	Custom table 1
udt_support_id2	Custom table 2
udt_support_id3	Custom table 3
udt_support_id4	Custom table 4

# **Creating Enhanced Reports Using Custom** Symbols: An Overview

A number of reports allow you to use symbols that you have designed and to specify exactly where want to place the symbols on the drawing sheet. Once you have created such a report, you can display it at any time and the software will show the latest data for the entities shown on the report.

The following reports can use custom symbols:

- Location Layout Report used to show a general layout drawing of a location in which panels reside. For details, see Create a Location Layout Report, page 59.
- Panel Layout Report used to show the layout of a panel. For details, see Create a Panel Layout Report, page 63.
- Rack Layout Report used to show the layout of a rack. The principle of creating this report is similar to the creation of a Panel Layout Report.
- Enhanced SmartLoop Report Using Custom Symbols an alternative method used to display Enhanced SmartLoop Reports showing the layout of loops and their associated panels and connections to the control center. For this mode, you design your own symbols to represent various entities in the loop. For details, see Create an Enhanced SmartLoop Report Using Custom Symbols, page 64.

### **Note**

A shipped title block (.sym file) is available for each Layout report. You can modify these title blocks according to your needs. For details, see Customize a Title Block, page 24.

# Associate a Symbol with an Entity

# **!** Important

- Make sure that you have defined a custom symbol folder in the SmartPlant Instrumentation **Preferences** dialog box for the appropriate enhanced report type before you associate a symbol with an entity.
- When you associate a symbol with an entity that can have more than one possible relation to other entities for which you want to display data, make sure that the symbol you select uses macros with the appropriate relations. If a macro has an incorrect relation, the software cannot display the data.

- 1. In the **Domain Explorer**, select the desired entity, for example, a particular panel.
- 2. Right-click the entity and click **Properties**.
- 3. Click the Associate Symbols tab.
- 4. Click New.
- 5. In the **Name** column, select the desired report type.
- 6. Beside the **Symbol File** column, click **Browse**.
- 7. Navigate to the desired .sym file.
- 8. If you require, repeat steps 4 -7 to associate symbols with the entity for other report types.

### **♀** Tip

• When associating symbols with a panel, for example, you will use one symbol to represent the panel in a Location Layout report, and another symbol to represent the panel in a Panel Layout report.

#### **Notes**

- You can associate each entity with one symbol only per available report type.
- You can associate the same symbol with more than one entity if you require.

#### **Related Topics**

- Dissociate a Symbol from an Entity, page 60
- Working with Enhanced Reports: An Overview, page 9

# Associate an Entity with a Custom Symbol on a Drawing Sheet

### • Important

- Make sure that you have defined a custom symbol folder in the SmartPlant Instrumentation **Preferences** dialog box for the appropriate enhanced report type before you associate an entity with a custom symbol.
- When you associate a symbol with an entity that can have more than one possible relation to other entities for which you want to display data, make sure that the symbol you select uses macros with the appropriate relations. If a macro has an incorrect relation, the software cannot display the data.
- 1. On the **Main** toolbar, click **M** to open the Symbol Browser.
- 2. Navigate to the desired folder and drag a symbol onto an open drawing sheet.

- 3. Select the symbol.
- 4. In the **Domain Explorer**, select an entity, for example, a panel.

### **∛** Tip

- If necessary, open the **Domain Explorer** by clicking so on the **Actions** toolbar.
- 5. Click Actions > Entity > Associate.

### 💡 Tip

You can also access this command by clicking Associate Entity on the **Actions** toolbar

### **Note**

Before you can delete a symbol with an associated entity from the report, you must first dissociate it using the **Dissociate** menu command.

#### **Related Topics**

Remove a Custom Symbol from a Drawing Sheet, page 62

# Dissociate a Symbol from an Entity

- 1. In the **Domain Explorer**, select the desired entity, for example, a particular panel.
- 2. Right-click the entity and click **Properties**.
- 3. Click the **Associate Symbols** tab.
- 4. In the data window, select the row with the report type for which you want to dissociate the symbol.
- 5. Do one of the following:
  - Delete the file path that appears under the **Symbol File** column.
  - Click **Delete** to delete the entire line.
- 6. If necessary, repeat the previous steps for symbols of other report types associated with the entity.

#### **Related Topics**

Associate a Symbol with an Entity, page 41

# Remove a Custom Symbol from a Drawing Sheet

- 1. On an open drawing sheet, select the desired symbol.
- 2. Click Actions > Entity > Dissociate.
- 3. If necessary, repeat the previous steps for other symbols.
- 4. Click on a blank area of the sheet.
- 5. Click File > Save Custom Changes.
- 6. Click View > Refresh.

### Note

• If you remove a custom symbol that includes wiring connections, the software replaces the custom symbol with an appropriate default symbol when you regenerate the report.

#### **Related Topics**

• Associate an Entity with a Custom Symbol on a Drawing Sheet, page 60

# **Create a Location Layout Report**

- 1. If needed, using the Symbol Editor, create and associate new location and panel symbols appropriate for this report. For details, see *Create Symbols for a Location Layout* in the *Symbol Editor User's Guide*.
- 2. In SmartPlant Instrumentation, click to display the **Domain Explorer**.
- 3. Expand the **Panels by Location** folder and select one of the locations.
- 4. Right-click the location, and on the shortcut menu, click **Reports** > **Layout**.
- 5. At the print preview prompt, click Yes.



- The print preview prompt appears according to the settings in the **Preferences** dialog box, on the **General** page.
- 6. In the Enhanced Report Utility, click display the **Domain Explorer**.
- 7. Associate each panel under the selected location with an appropriate symbol for use in the Location Layout report.

# → Tip

To locate the panels belonging to the location more conveniently, select the location name on the drawing and click Actions > Entity > Find in Domain Explorer, and then expand the location to display the panels.

- 8. Drag each panel that you associated with a symbol from the **Domain Explorer** onto the drawing sheet in the desired position; this action adds the panel symbols with appropriate data to the report.
- 9. If you have moved any symbols that were already on the drawing, click **File** > Save Custom Changes.

#### **Related Topics**

Creating Enhanced Reports Using Custom Symbols: An Overview, page 54

# **Create a Panel Layout Report**

- 1. If needed, using the Symbol Editor, create and associate new panel and rack symbols appropriate for this report. For details, see Create Symbols for a Panel Lavout in the Symbol Editor User's Guide.
- 2. In SmartPlant Instrumentation, click to display the **Domain Explorer**.
- 3. Do one of the following:
  - Expand the **Panels by Location** folder and select one of the panels under a location.
  - Expand the **Panels by Category** folder and under the desired panel category, select a panel.
- 4. Right-click the panel, and on the shortcut menu, click **Reports** > **Lavout**.
- 5. At the print preview prompt, click **Yes**.

### **?** Tips

- The print preview prompt appears according to the settings in the Preferences dialog box, on the General page.
- The software automatically displays each rack belonging to the panel in a position specified by the value of the rack's **Sequence** property.
- 6. If you have moved any symbols that were already on the drawing, click **File** > **Save Custom Changes.**

### **✓** Note

You can apply this procedure in a similar way to create a Rack Layout report showing racks with associated cards.

#### **Related Topics**

Creating Enhanced Reports Using Custom Symbols: An Overview, page 54

# Create an Enhanced SmartLoop Report Using Custom Symbols

- 1. If needed, using the Symbol Editor, create and associate new symbols appropriate for the wiring entities that will appear in the Enhanced SmartLoop report. For details, see *Create Symbols for an Enhanced SmartLoop Report* in the *Symbol Editor User's Guide*.
- 2. Associate each symbol with the desired wiring entities.

### 💡 Tip

- For a general explanation of how to associate symbols with entities, see *Associate a Symbol with an Entity*, page 59.
- 3. In SmartPlant Instrumentation, click to display the **Domain Explorer**.
- 4. Navigate to the **Loops** folder and select the desired loop for which you want to generate a report.
- 5. Right-click the loop, and on the shortcut menu, click **Apply Generation Method** > **Enhanced SmartLoop** > **By Custom Symbol**.
- 6. Right-click the loop again, and on the shortcut menu, click **Reports** > **Generate Loop Drawings**.
- 7. In the Generate Loop Drawings dialog box, from the Generation method list, select Enhanced SmartLoop.
- 8. Click **OK**.
- 9. At the print preview prompt, click **Yes**.

# Tip

- The print preview prompt appears according to the settings in the **Preferences** dialog box, on the **General** page.
- 10. Modify the report as you desire.
- 11. If you have moved any symbols that were already on the drawing, click **File** > **Save Custom Changes**.

# Note

• If you generate an Enhanced SmartLoop report using the **By Custom Symbol** generation method, and no suitable custom symbol is associated with a particular wiring entity that includes standard terminals, the software uses the symbol FirstTerm.sym as the default symbol for the first terminal in a group of terminals, and the symbol Term.sym for all subsequent terminals - provided that these symbols already exist in the custom symbol folder specified in the SmartPlant Instrumentation **Preferences** dialog box for the Enhanced SmartLoop report.

### **Related Topics**

Creating Enhanced Reports Using Custom Symbols: An Overview, page 54

# **Connecting Individual Wires in an Enhanced Report: An Overview**

After generating an enhanced report using the **Bv Custom Symbols** generation method, you can select symbols that have connection points and join the connection points. Afterwards, you associate the line joining the connection points with a specified wire. Use this method to make wiring connections directly on the drawing sheet

# **Connect Individual Wires**

- 1. Display a report that includes custom symbols defined with connection points.
- 2. On the Actions toolbar, click Activate Connection Mode .
- 3. Click the first terminal connection point to which you want to connect a wire.

# **?** Tips

- The connection point of the terminal becomes highlighted as you move the mouse pointer over it.
- The **Side 1** wire end is connected to the first terminal that you select.
- 4. Click the second terminal connection point to which you want to connect the wire.

### 💡 Tip

- After you have made the wire connections, the newly-connected wire is displayed as a dashed line, indicating that it has not yet been associated with a specific wire in the database.
- 5. On the Actions toolbar, click Activate Connection Mode 5 to return to normal editing mode.
- 6. Using the **Select Tool** , select the wire that you have just connected.
- 7. Click display the **Domain Explorer**.
- 8. Expand the tree, and under Cables, select a cable and expand it to display the cable sets and wires.
- 9. In the **Domain Explorer**, select the desired wire.
- 10. Click Actions > Connection > Associate Wiring Entity .

# **Disconnect Individual Wires**

- 1. Display the desired report.
- 2. Click the line that represents the wire that you want to disconnect.
- 3. Click Actions > Connection > Dissociate Wiring Entity ...

# **Using Redlining Common Tasks**

You can include redlining items for making annotations or adding watermarks in enhanced reports. The following tasks are used frequently when you use redlining.

#### Add and Format a Redlining Item

You can add lines, circles, rectangles, or squares to enhanced reports. After adding a redlining item, you can adjust the item size and format the line type, thickness, and color.

For more information, see Add and Format a Redlining Item, page 68.

#### Add a Symbol as a Redlining Item

You can add standard or modified drawing symbols as redlining items to enhanced reports.

For more information, see Add a Symbol as a Redlining Item, page 68.

### **Attach Redlining to Drawing Entities**

You can attach straight lines, circles, rectangles, and drawing symbols to SmartPlant Instrumentation *entities*. By attaching redlining, you associate one or more graphic items with an entity name and save these associations to the SmartPlant Instrumentation database. It is possible to attach a redlining item to an entity per report, or per enhanced report layout. Also, you can set a redlining item in a fixed position on the drawing or relative to an entity.

For more information, see *Attach Redlining to Drawing Entities*, page 69.

#### Move a Redlining Item

You can move redlining items that are attached relative to entities using a special menu command.

For more information, see *Move a Redlining Item*, page 74.

#### **Delete Redlining**

When you no longer need redlining items, you can delete them from individual reports or from a group of reports associated with a particular layout.

For more information, see *Delete Redlining*, page 70.

- Attach Redlining Dialog Box, page 101
- Using Enhanced Report Layouts: An Overview, page 19

# Add and Format a Redlining Item

- 1. On an enhanced report, add one or more of the following types of items as required:
  - Lines
  - Circles drawn by the center point
  - Rectangles or squares
  - Drawing symbols
- 2. Move the item to the desired location on the sheet, and adjust the size, if required, by selecting the sizing handle and dragging.
- 3. To format a redlining item that is a line, a circle, a square, or a rectangle, select the item and click **Edit** > **Properties**.
- 4. Click the **Format** tab.
- 5. Select a predefined style from the list or select the color, width, and line type that you require.
- 6. Click File > Save Custom Changes.

### Note

• Other types of drawing items such as ellipses and freesketch lines do not get saved to the database with the report; however, you can save all types of drawing items in an external .sym file.

#### **Related Topics**

- Add a Symbol as a Redlining Item, page 68
- Attach Redlining to Drawing Entities, page 69
- Delete Redlining, page 70
- Using Redlining Common Tasks, page 67

# Add a Symbol as a Redlining Item

- 1. After opening an enhanced report, on the main toolbar, click the **Browser** command .
- 2. Navigate to the location of the folder containing the drawing symbol you want to add



- The default symbol path is: ...\RAD\Symbols.
- 3. Drag a drawing symbol from the **Browser** to the desired location on the sheet.
- 4. Click File > Save Custom Changes.

#### **Related Topics**

- Attach Redlining to Drawing Entities, page 69
- Using Redlining Common Tasks, page 67

# **Attach Redlining to Drawing Entities**

1. Add a graphical item to a drawing.



- Graphical items that you can use for attaching as redlining items are lines, circles, rectangles, and drawing symbols. If you add other types of drawing items such as ellipses and freesketch lines, you cannot attach them to drawing entities or save them with the drawing to the database.
- 2. While pressing Ctrl, first select an *entity* and then select the graphical item that you want to attach to the entity.
- 3. Click Actions > Redlining > Attach.



You can also access this command by clicking **Attach Redlining** on the Actions toolbar.

- 4. On the **Attach Redlining** dialog box, under **Save**, do one of the following:
  - Click For this drawing only to save the redlining item with the entity in the current drawing and in all subsequent drawings in which the entity appears.
  - Click For all drawings assigned to the current layout to save the redlining item with the entity in the current drawing and in all subsequent drawings that belong to the same layout as the current drawing.

### Caution 🏲

- If you have already defined the save option as **For all drawings** assigned to the current layout and want to change it to For this drawing only, the software detaches redlining from all the drawings assigned to this layout.
- 5. Under **Position**, do one of the following:
  - Click **Fixed** to fix the position of the selected redlining item on the sheet and attach the redlining item to the selected entity name only.
  - Click **Relative to (entity name)** to attach the redlining item relative to the position of the selected entity name and for all the occurrences of that entity name per drawing or per layout. For this option, when you move an entity, the attached redlining item moves with it.

#### **T** Caution

- Once you have set the redlining item position as **Relative to (entity name)**, after clicking **OK**, you cannot change the position to **Fixed**.
- 6. When choosing **Relative to (entity name)**, in the **Filter name** list, select a filter, if needed.

### 💡 Tip

- You define macro filters using the **Define Filter for Entity** dialog box. Using a filter allows you to attach the redlining items to only the subsets of the selected entities on the drawing. For example, you can attach the redlining items only to those panels that are junction boxes. To cancel the filter, clear the Use Filter check box. If you do not use a filter, the software attaches redlining to all entities of the same type.
- 7. Click **OK**.
- 8. Click File > Save Custom Changes.

#### **Related Topics**

- Add a Symbol as a Redlining Item, page 68
- Add and Format a Redlining Item, page 68
- Delete Redlining, page 70
- Using Redlining Common Tasks, page 67

# **Delete Redlining**

1. Select a redlining item.



- To select several items, hold **Ctrl** and click each item. The font and border color of the items change when you select them.
- 2. Do one of the following:
  - Press the **Delete** key.
  - Click Actions > Delete Redlining.



You can also access this command by clicking Delete Redlining on the Actions toolbar.

3. Click File > Save Custom Changes.

#### **Caution**

• You cannot restore deleted redlining items. If you have saved the redlining per layout, the software dissociates the redlining from the layout. In this case, you can no longer use this redlining in other drawings you generate for the entities assigned to the layout.

# **Inserting Sheets: An Overview**

You can insert additional sheets in enhanced reports. This option is useful if you want to add extensive graphical or textual notes to a report. Sheets that you insert are based on the same template as any existing sheets, and the title block appears on inserted sheets in the same position as for existing sheets.

You can add SmartText items to a sheet and display the textbox on all the sheets, including any sheets that you inserted.

#### **Related Topics**

Insert Additional Sheets in a Report, page 71

# **Insert Additional Sheets in a Report**

1. Click Insert > New Sheet.



- The new sheet is based on the same template as the existing sheets and includes a title block.
- 2. Add SmartText or redlining items to the inserted sheet as required.
- 3. When done, click File > Save Custom Changes.

- Add and Format a Redlining Item, page 68
- Add SmartText, page 45



# Formatting Enhanced Reports Common Tasks

After you generate or edit items for an enhanced report, you can perform a number of formatting operations.

#### **Cut and Paste Items**

You can cut and paste drawing items on a single sheet or between sheets. If you remove all items on a sheet, the software automatically deletes the sheet the next time you generate the report.

#### Move a Macro

You can move macros to alternative positions on a drawing sheet. If you apply a filter to a macro, the software moves only those elements that are defined by the filter.

For more information, see *Move a Macro*, page 74.

## Move a Redlining Item

After you attach a redlining item to an *entity*, you can move redlining items independently of the entities. If you apply a filter to a redlining item, the software moves only those items that are defined by the filter.

For more information, see *Move a Redlining Item*, page 74.

## **Align Drawing Objects**

With this feature, align any group of objects on a report. Note that it is not possible to align macros and redlining items that are attached relative to entities on the drawing sheet.

For more information, see *Align Drawing Objects*, page 75.

### Fix Misaligned Items

A number of commands are available that enable you to fix connections strips that are misaligned (overlapping or intersecting) after you generate a report or perform an editing operation. For general cleaning-up, it is recommended to apply these commands in the following order:

- Redraw All Connections Redraws all the connectors on the sheet to minimize the number of connector overlaps and intersections.
- By-Pass Strips Moves each connector (cable) that intersects a strip so that the connector by-passes the strip.

- Optimize Overlapping Connectors Separates overlapping connectors from one another.
- Gap Connectors Shows gapping for connectors that intersect one another.

All of these commands are available on the **Actions** menu.

## **Related Topics**

- Features of the Enhanced Report Utility, page 14
- Using Macros: An Overview, page 49
- Using Redlining Common Tasks, page 67
- *Using SmartText: An Overview*, page 45
- Working with Enhanced Reports: An Overview, page 9

## Move a Macro

- 1. Make sure that no macros are selected.
- 2. Click Actions > Macro > Move.
  - **Note**
  - You can also access this command by clicking Move Macro to on the Actions toolbar.
- 3. Select a macro text box and drag it to a new position.
  - Tip
  - The software repositions by the same displacement all other *entities* that are specified by the same macro.
- 4. Click File > Save Custom Changes.

#### **Related Topics**

- Add a Macro or a Macro Label to a Drawing Sheet, page 50
- Align Drawing Objects, page 75
- Attach a Macro or a Macro Label to an Entity, page 51
- Delete a Macro or a Macro Label, page 53
- Formatting Enhanced Reports Common Tasks, page 73
- Using Macros: An Overview, page 49

# Move a Redlining Item

- 1. Make sure that no redlining items are selected.
- 2. Click Actions > Redlining > Move.

## **Note**

- You can also access this command by clicking Move Redlining Item on the **Actions** toolbar.
- 3. Select a redlining item and drag it to a new position.

## 💡 Tip

- The software repositions by the same displacement all other *entities* that are attached to the same redlining item.
- 4. Click File > Save Custom Changes.

#### **Related Topics**

- Add and Format a Redlining Item, page 68
- Align Drawing Objects, page 75
- Attach Redlining to Drawing Entities, page 69
- Delete Redlining, page 70
- Formatting Enhanced Reports Common Tasks, page 73
- Using Redlining Common Tasks, page 67

# Align Drawing Objects

1. Select two or more graphical elements on the report or drawing.

## 💡 Tip

- The first graphical element that you select is the one with which all the other selected graphical elements are aligned.
- 2. Click Actions > Align Objects.



- You can also access this command by clicking Align Objects 🖹 on the Actions toolbar.
- 3. On the **Alignment** ribbon, click one of the following icons according to the alignment you require:
  - Align left edges
  - Align right edges
  - Align top edges 👯
  - Align bottom edges **t**

### **Related Topics**

- Formatting Enhanced Reports Common Tasks, page 73
- Move a Macro, page 74
- Move a Redlining Item, page 74

Formatting Enhanced Reports Common Tasks				
	_			

# Saving Enhanced Reports: An Overview

You can specify automatic saving of enhanced reports after generation. The software saves the data in the format and file path that you specify on the SmartPlant Instrumentation **Preferences** dialog box for each type of enhanced report. When working in an Operating owner domain, you can define a separate path for each engineering project.

Also, you can save a generated report in a different format for use with an external CAD application such as SmartSketch, AutoCAD, or MicroStation.

## **Notes**

- SmartSketch versions lower than version 4 are incompatible with files saved in the native .sma format; however, SmartSketch is compatible with files saved in .dxf, .dgn, or .dwg formats.
- You can open an enhanced report that you have saved under any file format (.dxf, .dwg, and so forth), in AutoCAD, provided that you update the Write Version parameter in the Itacad.ini file for the appropriate AutoCAD version as follows:
- 'Write Version=14' (for AutoCAD 14)
- 'Write Version=2000' (for AutoCAD 2000)

## **Related Topics**

- Features of the Enhanced Report Utility, page 14
- Save a Report in a Different Format, page 77
- Working with Enhanced Reports: An Overview, page 9

# Save a Report in a Different Format

- 1. Open an enhanced report.
- 2. Click **File** > **Save As** and save the drawing in one of the following formats, according to the appropriate extension:
  - .sym Intergraph SmartSketch
  - .cgm CGM metafile
  - .dgn MicroStation
  - .dwg or .dxf AutoCAD

#### **Related Topics**

• Saving Enhanced Reports: An Overview, page 77

# **Saving Panel Strip and Connector Positions: An Overview**

In the Enhanced Report Utility, you can save the positions of panel strips and connectors. First, you generate an enhanced report for an *entity*. You can then move around any panel strips and connectors on the drawing sheet as required. You can also cut and paste panel strips on a single drawing sheet or between drawing sheets. After making the changes, you can save the new positions of these entities per drawing or per layout. If you save the position for the drawing only, each of these graphical elements that you moved appears in the specified position on any drawings that you subsequently generate for the entity that you selected in SmartPlant Instrumentation. If you save the position per layout, all corresponding graphical elements appear in the same position on any drawing to which the same layout is assigned.

## **!** Important

 When you save the position per layout, it is essential that all the drawings to which the layout is assigned are associated with the same template and that they have similar graphical elements to avoid overlapping.

## Notes

- If you move a strip that is split between sheets from the edge of a sheet to the middle and then regenerate the drawing after saving the position of the graphical elements, that strip appears on one sheet only.
- If you remove all elements on a particular sheet, that sheet is deleted the next time you generate the drawing.
- You can save the position at the layout level for custom layouts only, not for the default layout.

#### **Related Topics**

Save Panel Strip and Connector Positions, page 78

## **Save Panel Strip and Connector Positions**

- 1. Select a panel strip or a connector.
- 2. Change the position of the element as required.
- 3. Click File > Save Custom Changes.
- 4. On the Save Custom Changes dialog box, click For this drawing only or For all drawings assigned to the current layout.
- 5. Click **Actions** > **Refresh**.

## **?** Tips

- The new connector positions appear on a drawing after you refresh the screen or regenerate a drawing for the same SmartPlant Instrumentation entity.
- This is a useful procedure for presetting the position of the strips on a group of enhanced reports.

## Note

You can save the position at the layout level for custom layouts only, not for the default layout.

# Saving Custom Changes to Enhanced Reports: An **Overview**

In the Enhanced Report Utility, you can save to the SmartPlant Instrumentation database updates to macros, SmartText, and redlining that you have added in a report. In this way, the next time you generate a report for an *entity*, these elements appear on the sheet at the specified positions and with the characteristics that you defined for them.

The software saves SmartText items at the report level for a specific entity such as a loop, a strip, or a cable. The software saves macros in a report according to the layout definition for all entities to which that layout is assigned.

The software can save the following redlining items per report or per layout as required:

- Straight lines
- Circles
- Rectangles
- Drawing symbols

## **Notes**

- To specify whether a redlining item is saved to the database per report or per layout, when you attach the redlining item to an entity, you select the option that you require in the **Attach Redlining** dialog box.
- You can save other redlining items and bitmaps if you make them part of a symbol.
- The software cannot save changes to the properties of drawing elements to the database; for example, if you change the color, thickness, or line style of a connector.

## **Related Topics**

- Features of the Enhanced Report Utility, page 14
- Save Custom Changes to an Enhanced Report, page 80
- Working with Enhanced Reports: An Overview, page 9

# **Save Custom Changes to an Enhanced Report**

- 1. Open an enhanced report.
- 2. Do one of the following:
  - Add or modify a macro, redlining, or SmartText in the report.
  - Move drawing elements such as panel strips or connectors to a new position on the drawing sheet.
- 3. Click File > Save Custom Changes.

### **Related Topics**

• Saving Custom Changes to Enhanced Reports: An Overview, page 79

# **Updating Revisions: An Overview**

You can add or update revisions for any enhanced report by accessing the **Revisions** dialog box. After you refresh the report, the revision data appears in the title block or wherever the report includes revision macros.

## **Related Topics**

Update a Revision, page 81

# **Update a Revision**

1. Click Actions > Revisions.



- You can also access this command by clicking **Revisions** on the Actions toolbar.
- 2. On the **Revisions** dialog box, add a revision or modify existing revision data as you require.
- 3. Click **Actions > Refresh** to view data changes that appear on the report.

## **Related Topics**

Updating Revisions: An Overview, page 81



# Comparing Enhanced Reports: An Overview

Report comparison is available if you have saved revisions for a particular enhanced report. For every saved report revision, there is an archived report, stored according to the archiving option that the Domain Administrator defines in SmartPlant Instrumentation for enhanced reports. When comparing reports, you can generate a comparison report in SmartPlant Instrumentation showing the fields where the values differ. The software indicates differences on enhanced reports graphically by means of cloud symbols.

Using report comparison, you can do the following:

- Compare the currently previewed report with an archived report. For details, see Compare Reports.
- Compare two archived reports. For details, see Compare Archived Reports.

## **Notes**

- Comparison of enhanced reports is only available if the Domain Administrator has selected one of the options for saving revisions of the specified report in the **Report Management** dialog box in the SmartPlant Instrumentation Administration module.
- You must perform the revisions in the Enhanced Report Utility. For details, see Update a Revision. If you perform a revision from SmartPlant Instrumentation, the software does not create an archive.
- If the report can be archived as an enhanced report or as a standard (PowerSoft) report, both report types will be available for comparison. If you compare reports generated by both methods, you will obtain an incorrect comparison result. You must therefore ensure that you select only reports that were archived as enhanced reports.
- Report comparison does not work in **By custom symbol** mode.
- Report comparison does not include any graphical modifications such as changing strip positions or changing the width of a symbol.

## **Related Topics**

- Compare Archived Reports, page 84
- Compare Reports, page 84

## **Compare Reports**

1. Click Actions > Compare Reports.



- You can also access this command by clicking Compare Reports on the Actions toolbar.
- 2. On the **Report Comparison Actions** dialog box, click **Compare the current** report with an archived report.
- 3. On the **Report Revision Archive** dialog box, select the revision corresponding to the archived report that you require.



- If there is a long list of revisions in the data window, type the required revision number in the **Revision filter** box and select **Activate**.
- 4. Click **OK** to open a comparison report in SmartPlant Instrumentation displaying a list of differences between enhanced reports, and a view of both reports in Enhanced Report Utility with a graphical indication of the differences on each report.

## **Notes**

- If the archived and the currently previewed reports are different, the software indicates the differences graphically by means of cloud symbols.
- If the report can be archived as an enhanced report or as a standard (PowerSoft) report, both report types will be available for comparison. If you compare reports generated by both methods, you will obtain an incorrect comparison result. You must therefore ensure that you select only reports that were archived as enhanced reports.
- Report comparison does not include any graphical modifications such as changing strip positions or changing the width of a symbol.

#### **Related Topics**

• Comparing Enhanced Reports: An Overview, page 83

# **Compare Archived Reports**

1. Click Actions > Compare Reports.



You can also access this command by clicking Compare Reports on the Actions toolbar.

- 2. On the Report Comparison Actions dialog box, click Compare two archived reports.
- 3. On the Select Archived Revisions for Report Comparison dialog box, from the Compare data window, select the revision corresponding to the source archived report.
- 4. From the With data window, select the revision corresponding to the target archived report that you want to compare with the source report.

## 💡 Tip

- If there is a long list of revisions in either of the data windows, type the required revision number in the **Revision filter** box and select Activate.
- 5. Click **OK** to open a comparison report in SmartPlant Instrumentation displaying a list of differences between enhanced reports, and a view of both reports in the Enhanced Report Utility with a graphical indication of the differences on each report.

## **Notes**

- If the archived and the currently previewed reports are different, the software indicates the differences graphically by means of cloud symbols.
- If the report can be archived as an enhanced report or as a standard (PowerSoft) report, both report types will be available for comparison. If you compare reports generated by both methods, you will obtain an incorrect comparison result. You must therefore ensure that you select only reports that were archived as enhanced reports.
- Report comparison does not include any graphical modifications such as changing strip positions or changing the width of a symbol.

#### **Related Topics**

Comparing Enhanced Reports: An Overview, page 83

Comparing Enhanced Reports: An Overview				

## Menu Commands

# **Save Custom Changes Command (File Menu)**



Opens the Save Custom Changes dialog box with options for saving to the SmartPlant Instrumentation database custom changes that you make for the following graphical elements:

- Redlining, macros, and SmartText.
- For Enhanced SmartLoop reports, the position of panel strips and connectors that you have moved.

You can save these elements per drawing or per layout. The next time you generate a report for the same entity, the elements appear on the sheet in the specified positions and with the characteristics that you defined for them. If you save the graphical elements per layout, they appear in the same position on any report to which the same layout is assigned.



The software cannot save changes to the properties of drawing elements to the database; for example, if you change the color, thickness, or line style of a connector.

# **Clear Position Command (File Menu)**



Clears the settings you make after manually positioning drawing elements on a sheet and saving using the **Save Custom Changes** command. After clearing the position, the next time you generate the report for the same entity, the elements appear on the sheet in the default positions that the software defines.

# **Delete Sheet Command (Edit Menu)**

Deletes the active drawing sheet and any other sheets whose tabs are selected.

You can delete either a working sheet or a background sheet with this command. To delete a background sheet, set the Background Sheets toggle on the View menu before selecting **Delete Sheet**. To delete a working sheet, clear the **Background Sheets** toggle before selecting **Delete Sheet**.

# **Background Sheets Command (View Menu)**

Switches the view from a *working sheet* to the *background sheet*. When you set this toggle, all of the background sheets in the document are displayed as tabs at the bottom of window. All working sheet tabs are hidden. You can use a background sheet to draw graphics that you want to display on more than one drawing sheet. For example, you can draw borders and title blocks that contain your company logo, your name, and information about the drawings.

You can display background sheet graphics on any or all working sheets, using **Sheet Setup**.

## **Related Topics**

•

## **Working Sheets Command (View Menu)**

Displays all *working sheets* in a document. If a *background sheet* is attached to the working sheet, the graphics on the background sheet are displayed on the working sheet. When you attach a background sheet to a working sheet, the software automatically adjusts the size and the margin of the working sheet to match the size and margin of the background sheet.

## **Related Topics**

•

# **Zoom Area Command (View Menu)**



Enlarges the display of elements in the active window.

## Notes

- If you have an IntelliMouse or a three-button mouse, you can zoom an area by holding **Ctrl**, pressing the mouse wheel or middle mouse button, and dragging the pointer. To stop the repainting of elements in the window, press **Esc**. This feature is convenient if you are working with a large document. To refresh the window, press **F5**.
- You can also right-click to access **Zoom Area** on the shortcut menu.

# **Zoom In Command (View Menu)**



Enlarges the display of elements around a specified point in the active window.

## **Notes**

- If you have an IntelliMouse or a three-button mouse, you can zoom in by rolling the wheel of the IntelliMouse. To stop the repainting of elements in the window, press Esc. This feature is convenient if you are working with a large document. To refresh the window, press F5.
- You can also right-click to access **Zoom In** on the shortcut menu.

# **Zoom Out Command (View Menu)**



Reduces the display of elements around a specified point in the active window.

## **Notes**

- You can also zoom out by rolling the wheel of the IntelliMouse. To stop the repainting of elements in the window, press Esc. This feature is convenient if you are working with a large document. To refresh the window, press F5.
- You can also right-click to access **Zoom Out** on the shortcut menu.

# **Previous Command (View Menu)**

Restores the previous view.



- Previous View is available only if you use the Customize command to place it on a toolbar or menu.
- You can also right-click to access **Previous** on the shortcut menu.

# Fit Command (View Menu)



Fits all visible elements in the active view.



• You can also right-click to access **Fit** on the shortcut menu. If a selection is defined only those elements in the selection set are fitted.

# Pan Command (View Menu)



Allows you to move in any direction from a specific point in a document to see other areas of the drawing or model.



• You can also right-click to access **Pan** on the shortcut menu.

# **Refresh Command (View Menu)**



Refreshes the report with updated data.

# **Entity > Associate Command (Actions Menu)**



Allows you to associate the selected entity with a specific symbol type. This option applies for the Custom Symbol generation method only.



Before you can choose this command, you must select an entity.

# **Entity > Dissociate Command (Actions Menu)**



Dissociates the selected entity from the symbol type with which it is associated.



Before you can choose this command, you must select an entity.

# **Entity > Properties Command (Actions Menu)**



Opens the appropriate dialog box in SmartPlant Instrumentation for editing the selected entity, for example, tag number, panel, terminal, cable, and so forth.

## **7** Tips

- Before you can choose this command, you must select an entity.
- To view data changes that appear on the report, on the **View** menu, click **Refresh**.

# **Entity > Define Filter Command (Actions Menu)**



Opens the **Define Filter for Entity** dialog box in SmartPlant Instrumentation to allow you to define or modify a filter. The filter determines whether or not the software displays macro values for a particular entity.

# Tag Documents Command (Actions Menu)



Opens the **Documents** window in SmartPlant Instrumentation where you can view and edit documents related to the tag such as specification sheet, process data sheet, signal diagrams, and so forth.



Before you can choose this command, you must select a tag number.

# Connection > Connection Window Command (Actions Menu)



Opens the **Connection** window in the SmartPlant Instrumentation Wiring module to allow you to edit the wiring connections of the selected entity.

## **♀** Tips

- Before you can choose this command, you must select a strip or a terminal.
- To view data changes that appear on the report, on the **View** menu, click **Refresh**

# Connection > Activate Connection Mode Command (Actions Menu)



Allows you to add connectors or jumpers between connection points on a custom symbol.



 Before you can choose this command, you must select a strip or a terminal.

# Connection > Associate Wiring Entity Command (Actions Menu)



Allows you to associate a connector symbol (line) on a drawing sheet with a particular cable, set, or wire. This option applies for the Custom Symbol generation method only.



 Before you can choose this command, you must select a strip or a terminal.

# **Connection > Dissociate Wiring Entity Command** (Actions Menu)



Dissociates a connector symbol (line) from a cable, set, or wire with which it is associated.

# **Optimization > Redraw All Connections Command** (Actions Menu)



Redraws all the connectors on the sheet to minimize the number of connector overlaps and intersections.

# **Optimization > By-Pass Strips Command (Actions** Menu)



Moves each connector (cable) that intersects a strip so that the connector by-passes the strip.

# **Optimization > Optimize Overlapping Connectors Command (Actions Menu)**



Separates overlapping connectors from one another.

# **Optimization > Gap Connectors Command (Actions** Menu)



Shows gapping for connectors that intersect one another.

# **Align Objects Command (Actions Menu)**



Displays the **Alignment** ribbon for setting the alignment of two or more graphical elements. You can align items by their left, right, top, or bottom edges.

## Note

• It is not possible to align macros and redlining items that are attached relative to entities on the drawing sheet.

# **Align By Connection Command (Actions Menu)**



Displays the **Alignment** ribbon for setting the alignment of two or more connected graphical elements based on the position of the connector between them. You can align items by the left or right connector position (for vertically aligned connectors), or by the top or bottom connector position (for horizontally aligned connectors).

## **☑** Note

• It is not possible to align macros and redlining items that are attached relative to entities on the drawing sheet.

# Redlining > Attach Command (Actions Menu)



Attaches a redlining item (line, circle, rectangle, or drawing symbol) to the current drawing sheet or layout, as you specify.

## **?** Tips

- Before you can choose this command, you must select a redlining item.
- You can also select an entity and then select a redlining item to attach to all the entities that are of the same type as the selected entity.
- To retain redlining items when you regenerate the report, on the **File** menu, click **Save Custom Changes**.

# Redlining > Move Command (Actions Menu)



Allows you to move redlining items (lines, circles, rectangles, or drawing symbols) that are attached relative to entities on the current drawing sheet or layout.

## 💡 Tips

- You must choose this command before you can select a redlining item to move.
- To retain the new positions of the redlining items when you regenerate the report, on the File menu, click Save Custom Changes.

# Redlining > Delete Command (Actions Menu)



Deletes a redlining item.

## **P** Tips

- Before you can choose this command, you must select a redlining item.
- If you delete a redlining item that you attached to an entity type or to a layout, the software deletes all instances of the redlining item that appear with the entity type or on the drawing sheets that belong to the layout.

# SmartText > New Command (Actions Menu)



Adds SmartText to the report.

## **P** Tips

- You can specify whether the SmartText appears on the current drawing sheet or all the sheets in the case of a multiple sheet drawing.
- To retain the SmartText when you regenerate the report, on the **File** menu, click Save Custom Changes.

# **SmartText > Properties Command (Actions Menu)**



Allows you to view and edit the text and font properties of a SmartText item.



 Before you can choose this command, you must select an existing SmartText item.

# **SmartText > Delete Command (Actions Menu)**



Deletes SmartText items.

## **?** Tips

- Before you can choose this command, you must select a SmartText item
- You should use this command, rather than the **Delete** key, if you want to delete all occurrences of a SmartText item that appear on all the sheets of a multiple sheet drawing.

# Macro > New Command (Actions Menu)



Adds a macro to a symbol.

## **!** Important

 To add a macro to a symbol, you must first assign an entity type for the symbol.

# **Macro > Properties Command (Actions Menu)**



Allows you to edit the properties of a macro or a macro label.

## Tip

 Before you can choose this command, you must select an existing macro or macro label.

# Macro > Move Command (Actions Menu)



Allows you to move macros for generated entities (panels, strips, terminals, cables, cable sets, wires, ports, pins, and so forth) on the current drawing sheet or layout.

## 💡 Tips

- You must choose this command before you can select a macro to move.
- To retain the new positions of the macros when you regenerate the report, on the File menu, click Save Custom Changes.

# Macro > Delete Command (Actions Menu)



Deletes a macro with its label.



Before you can choose this command, you must select an existing macro or macro label.

# **Generate Entity Report Command (Actions Menu)**



With an entity selected on the current report, opens a dialog box from which you can select any other report type that is available for the entity for generating a report.

## **Compare Reports Command (Actions Menu)**



Opens the **Report Comparison Actions** dialog box in SmartPlant Instrumentation to allow you to compare the current enhanced report with an archived report or to compare two archived reports. The software displays the comparison as a standard SmartPlant Instrumentation data report and also by indicating graphical differences on both of the reports by means of cloud symbols.

## Note

• Report comparison is only available if the SmartPlant Instrumentation Domain Administrator has selected one of the options for saving revisions of the specified report in the **Report Management** dialog box in the Administration module.

# **Revisions Command (Actions Menu)**



Opens the **Revisions** dialog box in the SmartPlant Instrumentation Loop Drawings module to allow you to add or update revisions for the selected entity. Revision data appears in the report title block.



• To view data changes that appear on the report, on the **View** menu, click **Refresh**.

# **New Sheet Command (Insert Menu)**



Creates a new drawing sheet in the document using the default drawing sheet settings. You can change the default settings using **Sheet Setup**.

You can create either a *working sheet* or a *background sheet* with this command. To create a background sheet, set the **Background Sheets** toggle on the **View** menu before selecting **New Sheet**. To create a working sheet, clear the **Background Sheets** toggle before selecting **New Sheet**.



• You can use the **Tools > Customize** command to place the **Insert Sheet** button on a toolbar.

## **Domain Explorer Command (Tools Menu)**



Displays the **Domain Explorer**, from which you can associate entities with symbols, or drag entities with symbol associations onto the drawing sheet.

# Reference Explorer Command (Tools Menu)

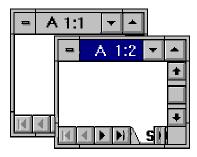


Displays the **Reference Explorer**, from which you can associate entities with symbols, or drag entities with symbol associations onto the drawing sheet.

## **New Window Command (Window Menu)**



Opens a new window that displays the same document as the active window. The new window appears on top of all the other windows and becomes the active window. If you change the contents of the open document in one window, the other windows that contain the same document reflect the changes.





You can use **Tools > Customize** to place the **New Window** button on a toolbar.

# **Cascade Command (Window Menu)**



Overlaps windows diagonally across the screen.



 Cascade Windows is available only if you use the Customize command to place it on a toolbar or menu.

# **Tile Horizontally Command (Window Menu)**

Arranges windows to fit horizontally on the screen. All the windows appear at an even distance from each other on the screen.

# **Tile Vertically Command (Window Menu)**

Arranges windows to fit vertically on the screen. All the windows appear at an even distance from each other on the screen.

# **Window List Command (Window Menu)**

Displays an alphabetical list of open document windows below the commands on the **Window** menu. You can easily access another open document by clicking one of the window names on the list.

# **Enhanced Report Utility Help Command**

Displays the table of contents for the Enhanced Report Utility Help topics, which include step-by-step instructions for using the software, reference information, examples of features, and technical support information. It also provides access to the Help index and full-text search.

# **About Enhanced Report Utility Command (Help Menu)**

Displays information about your copy of the software, including the version number and the copyright, legal, and licensing notices.

# **Dialog Boxes**

# **Attach Redlining Dialog Box**

Sets options for attaching redlining items to *entities* on a drawing. You use this dialog box to define the position and save options for the redlining item.

#### Save

**For this drawing only** - Click to save the selected redlining item with the entity it is attached to on all the drawings that you generate for that entity.

For all drawings assigned to the current layout - Click to save the selected redlining item with the entity it is attached to on all drawings that belong to the same layout as the current drawing.

#### **Position**

These options are only available when you select an entity with the redlining item.

**Fixed** - Click to fix the position of the selected redlining item on the sheet and attach the redlining item to the selected entity only.

**Relative to (entity name)** - Click to attach the redlining item relative to the position of the selected entity and for all the occurrences of that entity per drawing or per layout. For this option, when you move an entity, the attached redlining item moves with the entity.

#### **Filter**

When you attach a redlining item to an entity, you attach it to all the entities of the same type; for example, to all panels. Using a filter allows you to attach redlining to specific items belonging to the entity selected on the drawing; for example, to all panels that are junction boxes.

**Filter name** - Select a filter from the list of definitions you have made in the **Define Filter for Entity** dialog box.

**Description** - Type a meaningful description of the filter.

**Use filter** - Select this check box if you want to use the filter when setting the redlining position as relative to an entity. If you clear the box, the software attaches the selected redlining items to all occurrences of the entity selected on the drawing.

#### **Related Topics**

- Attach Redlining to Drawing Entities, page 69
- Using Redlining Common Tasks, page 67

# **Clear Position Dialog Box**

Sets options for clearing the position of panel strips and connectors that you previously positioned manually and saved after generating an enhanced report. The next time you generate the report, these drawing elements appear in their default positions. You can clear the position per drawing or per layout.

## Clear position for

**This drawing only** - Select to clear the position of the drawing elements for the current report only.

**All drawings assigned to the current layout** - Select to clear the position of the drawing elements for all reports that belong to the same layout as the current drawing.

# **Generate Entity Report Dialog Box**

Allows you to generate any available report for an entity that you select in a currently displayed report. For example, you can select a panel on a loop report and display the panel report for that panel. If the panel report includes racks, you can select a rack and display the appropriate rack report, and so forth.

**Report type** - Select the desired report to generate. The reports available depend on the entity that you selected.

# **Macro Properties Dialog Box**

Sets options for adding a macro to a label. The software saves these options with the loop settings when you regenerate the drawing. You use this dialog box to define the macro and its properties.

## **Related Topics**

- Add a Macro or a Macro Label to a Drawing Sheet, page 50
- Attach a Macro or a Macro Label to an Entity, page 51
- Using Macros: An Overview, page 49

## **General Tab (Macro Properties Dialog Box)**

Sets general options for defining a macro.

#### Macro definition

**Macro type** - Select the type that describes the selected *entity* most accurately; for example, select **Instrument**, **Panel**, or another type. Macros are categorized according to the type of entities that they influence.

**Macro** - Select a macro such as **Panel Name**, **Manufacturer**, or **Model**. The available macros depend on the macro type that you selected.

**Macro relation** - For cases where the selected macro represents the property of an entity that can relate to the current entity in several possible ways, you must select the particular relation that you want to apply. For example, you can have a loop with a strip belonging to wiring equipment in a rack, and another loop with a strip that is located directly in a rack. To resolve the rack data correctly, you must define a macro with a different relation for each loop. When creating a layout, the macro relation path must reflect the actual relationship between the entities. For this reason, you can only use that layout for loops where the relationship between the entities is identical.

#### **Filter**

A filter allows you to specify the addition of a macro to specific entities. When you add a macro to an entity, you actually add it to all the entities of the same type; for example, you can define a filter that adds a macro only to those panels that are junction boxes. You define filters in the **Define Filter for Entity** dialog box.

**Filter** - Select a filter from the list of definitions.

**Description** - Type a description of the filter that is meaningful to you.

**Use filter** - Select this check box if you want to use the filter when adding the macro. If you clear the check box, the software applies the macro to all occurrences of the standard item, such as panels, on the drawing.

#### Label

**Caption** - Type the text that you want to appear as the label caption. Press the **Enter** key to start a new line.

**Display caption only** - Select to display only the macro caption without the database value of the entity.

**Display 'Null' when no data is available** - Select to display the string 'Null' in the case where no value for the property exists in the database.

## **Related Topics**

- Add a Macro or a Macro Label to a Drawing Sheet, page 50
- Attach a Macro or a Macro Label to an Entity, page 51
- Using Macros: An Overview, page 49

## Macro Text Tab (Macro Properties Dialog Box)

Sets text properties such as font, size, alignment in the text box, and rotation.

## **Style**

The preview window displays the appearance of the selected font.

**Font** - Click to open the standard Windows Font dialog box to define the font, font style, size, color, and other properties. Note that the default font, font style, and size are determined in the **Preferences** dialog box in SmartPlant Instrumentation per enhanced report type; the default font color is **Black**. If you select a default font other than a TrueType font (indicated by a TT symbol), the Enhanced Report Utility displays the text with a yellow-green font, regardless of any subsequent change you try to make to the font color in the Enhanced Report Utility.

#### Border

**Show border** - Select this option to display a border around the text.

## **Alignment**

**Horizontal** - Select the horizontal alignment of the text: left, center, or right.

**Vertical** - Select the vertical alignment of the text: top, center, bottom, or justified.

#### **Placement**

**Rotation** - Type the rotation angle of the text in degrees. You can enter positive values from 0 to 360 degrees, or negative values to 180 degrees. The text rotates clockwise when you type a negative value.

**Orientation** - Select horizontal or vertical orientation of the text inside the text box.

## **Related Topics**

- Add a Macro or a Macro Label to a Drawing Sheet, page 50
- Attach a Macro or a Macro Label to an Entity, page 51
- *Using Macros: An Overview*, page 49

## **Caption Text Tab (Macro Properties Dialog Box)**

Sets text properties such as font, size, alignment in the text box, and rotation.

#### Style

The preview window displays the appearance of the selected font.

**Font** - Click to open the standard Windows Font dialog box to define the font, font style, size, color, and other properties. Note that the default font, font style, and size are determined in the **Preferences** dialog box in SmartPlant Instrumentation per enhanced report type; the default font color is **Black**. If you select a default font other than a TrueType font (indicated by a TT symbol), the Enhanced Report Utility displays the text with a yellow-green font, regardless of any subsequent change you try to make to the font color in the Enhanced Report Utility.

#### Border

**Show border** - Select this option to display a border around the text.

## **Alignment**

**Horizontal** - Select the horizontal alignment of the text: left, center, or right.

**Vertical** - Select the vertical alignment of the text: top, center, bottom, or justified.

#### **Placement**

**Rotation** - Type the rotation angle of the text in degrees. You can enter positive values from 0 to 360 degrees, or negative values to 180 degrees. The text rotates clockwise when you type a negative value.

**Orientation** - Select horizontal or vertical orientation of the text inside the text box.

## **Related Topics**

- Add a Macro or a Macro Label to a Drawing Sheet, page 50
- Attach a Macro or a Macro Label to an Entity, page 51
- Using Macros: An Overview, page 49

## **Save Custom Changes Dialog Box**

Sets options for saving the position of panel strips and connectors that you moved after generating an enhanced report, or for saving SmartText, macros, or redlining that you added or modified in the report. You can save custom changes per drawing or per layout.

## Save position for

**This drawing only** - Select to retain the position of the drawing elements for the current drawing only.

**All drawings assigned to the current layout** - Select to retain the position of the drawing elements for all reports that belong to the same layout as the current drawing. Note that this option applies for custom layouts only, not for the default layout.

# **SmartText Dialog Box**

Sets options for adding text that the software saves with an enhanced report for a particular *entity* whenever you generate the report. You use this dialog box to retain or modify the text properties in future reports generated for the same entity.

## **Related Topics**

- Add SmartText, page 45
- *Edit SmartText*, page 46
- Using SmartText: An Overview, page 45

## **General Tab (SmartText Dialog Box)**

Sets general options for SmartText.

#### **Text**

**Caption** - Type the text that you want to appear on the Enhanced SmartLoop drawing.

#### Watermark

**Set as watermark** - Select the box if you want to use the text as a watermark, which means that it appears behind other drawing items. This option is only available when you add SmartText for the first time.

## **Textbox display**

These options are only available when you add SmartText for the first time.

**Current sheet** - Click to display the SmartText item on the current drawing sheet only.

**All sheets** - Click to display the SmartText item on the all the drawing sheets.

#### **Related Topics**

- Add SmartText, page 45
- Edit SmartText, page 46
- Using SmartText: An Overview, page 45

## Text Tab (SmartText Dialog Box)

Sets text properties such as font, size, alignment in the text box, and rotation.

#### Style

The preview window displays the appearance of the selected font.

**Font** - Click to open the standard Windows Font dialog box to define the font, font style, size, color, and other properties. You determine the default font, font style, and size in the SmartPlant Instrumentation **Preferences** dialog box enhanced report type; the default font color is **Black**. If you select a default font other than a TrueType font (indicated by a TT symbol), the Enhanced Report Utility displays the text with a yellow-green font, regardless of any subsequent change you try to make to the font color in the Enhanced Report Utility.

#### Border

**Show border** - Select this option to display a border around the text.

## **Alignment**

Horizontal - Select the horizontal alignment of the text: left, center, or right.

**Vertical** - Select the vertical alignment of the text: top, center, bottom, or justified.

#### **Placement**

**Rotation** - Type the rotation angle of the text in degrees. You can enter positive values from 0 to 360 degrees, or negative values to 180 degrees. The text rotates counter-clockwise when you type a positive value.

**Orientation** - Select the orientation of the text inside the text box: horizontal or vertical.

## **Related Topics**

- Add SmartText, page 45
- Edit SmartText, page 46
- *Using SmartText: An Overview*, page 45

Dialog Boxes	

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