Instrument Index Module

Overview

The Instrument Index module allows you to create, modify, and maintain a comprehensive database that contains all your instrumentation data.

The module offers tools for adding, editing, duplicating, and deleting loop and tag numbers. Instrument types and their profile are organized in a comprehensive fashion providing easy data entry. Other data, such as model and manufacturer, P&ID drawing numbers, lines, locations, system I/O types, equipment names are organized in supporting tables.

The Instrument Index module also provides other functions that include item-oriented (tag, loop, and so forth), filtered, sorted and customizable database viewing options. You can generate reports in several formats, attaching remarks to items, creating specific summaries, and viewing and managing history.

Starting the Instrument Index Module

The following procedure explains how to start the Instrument Index module where you create, modify, and maintain a comprehensive database that contains all of your instrumentation data.

➢ To start the Instrument Index module

- Do one of the following:
  - On the **Modules** menu, click **Instrument Index**.
  - Click  .

 **Note**

- You can open more than one module, if needed, and keep several modules running simultaneously. The number of modules that you can run simultaneously depends, of course, on your computer resources.

Creating an Instrument

The following procedure explains how to create an instrument in the **Domain Explorer**.

When you define new tag numbers, the software creates them according to the instrument type profiles that you defined in the **Instrument Type Profile** dialog box for a selected instrument type. Defining a profile allows you to set instrument type default settings for new tag numbers and thus create them with certain predefined properties based on the instrument type you select for the new tag number. You set profiles for every instrument type that you use.

Consequently, make sure that you set and activate all the required instrument type profiles before you start creating new tag numbers. See Defining Instrument Type Default Settings to learn how to define the required instrument type profile default settings.

Note

- When creating a new tag number, you can determine whether or not process data is required for it, and if so, at what stage the information should be entered by a process engineer. For details of workflow implementation, see Workflow.

➢ To create an instrument

1. Press F7 to open the **Domain Explorer**.
2. Expand the plant hierarchy to display the **Instruments** and **Loops** folders.
3. Do one of the following:
   - To create an instrument unassociated with a loop number, right-click the **Instruments** folder, point to **New** and then click **Instrument**.
   - To create an instrument that is associated with a specific loop number, expand the **Loops** folder, right-click a loop, and then on the shortcut menu, point to **New** and click **Instrument**.
4. In the **New Tag Number** dialog box, do the following:
   a) From the **Tag class** list, select the desired tag class according to whether you want to create a conventional, Foundation Fieldbus, HART instrument, Telecom tag, and so forth.
   b) Type the name of the new tag number.

Note

- If you are working with the **Free** naming convention, select the **Select instrument type** check box to open a pop-up window that allows you to select the appropriate instrument type.

5. Click **OK**.
6. If the **Select Instrument Type** dialog box opens (because there is more than one record for a given instrument type acronym), select the required instrument type and click **OK**.

Notes

- If the tag number does not correspond to an existing loop name, the software prompts you to enter a loop name based on the tag number you have entered. If the loop identifier already matches an existing loop, the software will automatically associate the new tag number with the loop.
- If the loop convention includes the loop function parameter, the prompt will always appear. In this case, you have to complete the loop number.
  If a profile exists for the selected instrument type, any new tags for that instrument type will be created with the selected default settings.

7. In the **Loop Name** dialog box, do one of the following:
   - Type the loop number that the new tag is associated with.
   - Accept the displayed loop number.
   - Click **Cancel** to create the tag number without a loop association. Note that if a loop with the same name exists, the tag number is automatically associated with it, without creating a new loop.
8. Click **OK** to create the loop number.
9. In the **Loop Number Properties** dialog box, accept the loop number properties or modify them as you require and then click **OK**.
10. In the **Tag Number Properties** dialog box, on the **General** tab, enter the tag number properties that you require. For details, see Tag Number Properties (General).
11. To enter power supply properties, see Entering Power Supply Data for Panels and Instrument Tags.
12. Click **OK**.

Working with Loop Numbers

Creating New Loop Numbers

This help topic describes how to create a loop number and add it to your database. You can create loop numbers by using one of the following procedures:

- Create an individual loop number.
- Duplicate an existing loop number.
- Create numerous loop numbers from a typical loop in batch mode.

Naming New Loop Numbers

When renaming existing loop numbers or creating new ones, make sure that the loop number names comply with the naming conventions set for the current <unit> by the Domain Administrator for the current <unit>. In the alphanumeric and the numeric parts of the name, you can type any character (letters, digits, spaces, and so forth). You can customize the loop name template but only the Domain Administrator can change the naming conventions.

See Customizing New Loop Names to learn how to customize the loop name template for new loops.

Creating Individual Loop Numbers

This feature enables you to create individual loop numbers.

➢ To create an individual loop number

1. Do the following to create a loop number from the **Domain Explorer** without opening the Instrument Index module:

   a) In the **Domain Explorer**, expand your current <plant> hierarchy to display the **Loops** folder.

   b) Right-click the **Loops** folder, then on the shortcut menu, point to **New** and click **Loop**.

Note

- You can also create a loop number from the Instrument Index module. In the **Instrument Index Module** window, click on the toolbar or on the **Edit** menu, point to **Loop Numbers** and click **New Loop Number**.

2. In the **New Loop Number** dialog box, type the name of the new loop number. Use the **Tab** key or the left and right arrow keys to move the cursor to the next place. Alternatively, you can use the mouse pointer to select the characters and then type the new content.

Tip

- The data field in the **New Loop Number** dialog box displays the loop name template which is based on the loop naming convention defined by the Domain Administrator for the current <unit>. In the alphanumeric and the numeric parts of the name, you can type any character (letters, digits, spaces, and so forth). You can customize the loop name template but only the Domain Administrator can change the naming conventions. See Customizing New Loop Names to learn how to customize the loop name template for new loops.

A loop number example: 101- FIC – 2225/E

Segment		Description
101	—	prefix derived from the loop naming convention defined by the Domain Administrator.
F	—	measured variable
IC	—	loop function
2225	—	loop number
E	—	suffix

3. Click **OK**.

4. In the **Loop Number Properties** dialog box, edit the loop number as required.

Tip

- You can define a functional requirement while creating a new loop. For details, see Defining a Functional Requirement for a Loop.

5. Click **OK** to close the **Loop Number Properties** dialog box.

6. At the prompt, do one of the following:

- Click **Yes** to create a new tag number that will automatically be associated with the new loop number.
- Click **No** to complete the loop creation process without creating a new tag number.

Note

- You can associate existing tag numbers with the new loop number by clicking  . See Associating Multiple Tag Numbers with a Loop.

Associating a Tag Number with a New Loop

This option allows you to create a new loop number on the fly while editing a tag number. You can then associate the current tag number with that new loop you are creating.

➢ To create a new loop while editing a tag number

1. Select a tag number for editing using one of the following editing modes:
   - Single-row editing mode.
   - Multi-row editing mode.
2. In the **Tag Number Properties** dialog box, click **New Loop**.
3. In the **New Loop Number** dialog box, type the name of the new loop number and click **OK**.
4. Edit the properties of the new loop number as required In the **Loop Number Properties** dialog box and click **OK**.
5. In the **Tag Number Properties** dialog box, click **OK**.

Editing Loop Number Properties

This option allows you to modify the properties of an existing loop number. You can also edit the target loop number when duplicating an existing loop number.

➢ To edit loop number properties

1. Do the following to edit the properties of a loop number from the **Domain Explorer** without opening the Instrument Index module:
   a) In the **Domain Explorer**, expand your current <plant> hierarchy to display the **Loops** folder.
   b) Double-click the **Loops** folder to display the existing loops.
   c) Right-click a loop, then on the shortcut menu, click **Properties**.

Note

- You can also edit the properties of a loop number from the Instrument Index module. In the **Instrument Index Module** window, click  on the toolbar or on the **Edit** menu, point to **Loop Numbers** and click **Loop Number Properties**.

2. In the **Enter Loop Name** dialog box, do one of the following:

   - Type the loop number that you want to edit and click **OK**.
   - Click **Find** without typing any loop number and do the following:

     a) In the **Find Loop** dialog box, find the required loop number.

     b) In the **Search results** data window, select the loop numbers whose properties you want to edit and click **OK**.

3. In the **Loop Number Properties** dialog box, edit the loop properties by typing values or selecting values from the lists.

   Tips

   - If needed, click the ... button beside an appropriate list arrow to open the pertinent supporting table where you can rename a loop number, add, edit, or delete an item on the list.
   - You can define a functional requirement while creating a new loop. For details, see Defining a Functional Requirement for a Loop.

4. Select **Apply P&ID drawing to tags** to apply the P&ID drawing number data to any new tag numbers that will be subsequently associated with this loop. Then, in the **Loop Browser View** window (in the Browser module), you will be able to select a different drawing number (if available) and propagate it to all tag numbers associated with this loop. If you are editing an existing loop which is already associated with a P&ID drawing number, selecting this option replaces the existing drawing number values with the new drawing number that you type in the **P&ID drawing** field.

5. Select the **Apply service to tags** check box to download the loop service to any new tag numbers that will be subsequently associated with the current loop. If you are editing an existing loop which is already associated with tag numbers, selecting this option replaces the existing tag service values with the new loop service that you type in the **Loop service** field.

6. Select **Apply equipment to tags** to apply the equipment data to any new tag numbers to be subsequently associated with this loop.

   Notes

   - If you clear the **Apply P&ID drawing to tags** check box, you will still be able to define a P&ID drawing reference for subsequently associated new tag numbers by selecting a required drawing number from the **P&ID** list in the **Tag Number Properties** dialog box.
   - If the loop you are editing already contains associated equipment, selecting this option replaces the existing equipment values with the new equipment that you type in the **Loop equipment** field.

7. Select the **Update document number** check box to update the document number of the associated loop drawing. A document number naming convention can contain segments that represent loop number properties. Therefore, if you select this check box, changing a loop number property that is used in the document number segment also changes the document numbers in accordance with this change. For details on document number naming conventions, see the Administration module Help, Document Number Naming Convention Examples.
   After you select this check box, the software updates numbers of all documents containing the current loop number. For the current loop number, the software overrides the default or user-defined numbers of all the documents that appear in the **Loop Drawing List** dialog box of the Loop Drawings module.

8. Click **OK**.

9. At the prompt, do one of the following:

   - Click **Yes** to edit the tag numbers associated with the current loop.

   - Click **No** to close the **Loop Number Properties** dialog box and save new loop number values without editing the associated tag numbers.

Editing Multiple Loop Numbers

This option allows you to select a group of loop numbers and modify the profile of these loop numbers. This option is especially effective if you do not want to edit the tag numbers associated with the loops you are editing.

➢ To edit multiple loop numbers

1. Start the Instrument Index module and do one of the following:

   - On the **Edit** menu, point to **Loop Number** and click **Loop Number Properties**.

   - Click  .

2. In the **Enter Loop Number** dialog box, click **Find** without typing any loop number.

3. In the **Find Loop** dialog box, find the loop numbers you require.

4. In the **Search results** data window, the loop numbers you require. You can hold down the **Ctrl** key and select a group of loop numbers or click **Select all**.

5. Click **OK**.

6. In the **Loop Number** dialog box, edit the loop properties by typing values or selecting values from the lists.

Tip

- If needed, click the ... button beside appropriate list arrows to open an appropriate supporting table where you can rename a loop number, add, edit, or delete an item in the list.

7. Select **Apply service to tags** to apply the loop service of the current loop number to the associated tag numbers.

8. Select **Apply P&ID to tags** to propagate the P&ID drawing number data to all the tag numbers associated with the current loop number.

9. Select **Apply equipment to tags** to propagate the equipment data to all the tag numbers associated with the current loop number.

10. Click **Next** to edit the properties of another loop.

Caution

- When you save the new loop number values, The software does not update the properties of the tags associated with the loop numbers you are editing. When editing multiple loop numbers, the software does not prompt you to edit the associated tag numbers.

11. Click **OK** to close the **Loop Number** dialog box and save new loop number values.

Duplicating Loop Numbers

This option enables you to create a new loop number by duplicating an existing one. SmartPlant Instrumentation creates a new loop number based on the properties of a source loop that you select. This feature is useful when you want to create a loop number similar to an existing one. You duplicate a loop number and then edit its properties as needed. Note that you can duplicate a loop number in the same <unit> as the source loop number or in any other <unit> of the current domain.

➢ To duplicate an existing loop number

1. Do the following to duplicate a loop number from the **Domain Explorer** without opening the Instrument Index module:

   a) In the **Domain Explorer**, expand your current <plant> hierarchy to display the **Loops** folder.

   b) Double-click the **Loops** folder to display the existing loops.

   c) Right-click a loop, then on the shortcut menu, click **Duplicate**.

Note

- You can also duplicate a loop number from the Instrument Index module. In the **Instrument Index Module** window, click  on the toolbar or on the **Edit** menu, point to **Loop Numbers** and click **Duplicate Loop Number**.

2. In the **Enter Loop Number** dialog box, do one of the following:

   - Type the loop number that you want to duplicate and click **OK**.
   - Click **Find** to find a source loop number in the **Find Loop** dialog box.

3. Do one of the following after entering or finding the source loop number:

   - In the **Enter Loop Number** dialog box, click **OK**.
   - In the **Find Loop** dialog box, click **OK**.

4. In the **Duplicated Loop Number** dialog box, type the name of the new loop number or modify the displayed one. Note that all loop numbers must have unique names in the current <unit>.

Note

- You can change the measured variable of the new loop number or keep it the same as the source one. New tag numbers associated with the new loop number will be affected accordingly, that is, the measured variable of the new tag numbers will change if the measured variable of the new duplicated loop is changed. For example, if you are duplicating Loop 101-F-102 and you change the measured variable of the new loop to T, the new tag numbers associated with the new loop number will change their instrument type in accordance with the new measured variable: source Tag Number 101-FE-102 will change to 101-TE-102.

Tips

- The data field in the **Duplicated Loop Number** dialog box displays the loop name template, which is based on the loop naming convention defined by the Domain Administrator for the current <unit>. In the alphanumeric and the numeric parts of the name, you can type any character (letters, digits, spaces, and so forth). You can customize the loop name template but only the Domain Administrator can change the naming conventions. See Customizing New Loop Names to learn how to customize the loop name template for new loops.

- A loop number example: 101- FIC – 2225/E

Segment		Description
101	—	prefix derived from the loop naming convention defined by the Domain Administrator.
F	—	measured variable
IC	—	loop function
2225	—	loop number
E	—	suffix

5. If required, do the following to create the duplicated loop number in a different <unit> in the current domain:

   a) Select **Create in another <unit>**.

   b) In the **Select Target <Unit>** dialog box dialog box, select the target <unit>.

   a) Click **OK** to return to the **Duplicated Loop Number** dialog box.

6. Click **OK** in the **Duplicated Loop Number** dialog box.

7. In the **Loop Number Properties** dialog box, edit the new loop number if required.

   Tip

   - You can define a functional requirement while creating a new loop. For details, see Defining a Functional Requirement for a Loop.

8. Click **OK**.

9. When duplicating a loop that has associated tag numbers, In the **Create Loop Tags** dialog box, do the following to create new tag numbers that will be associated with the new loop number:

   a) Select the appropriate check boxes beside the tag numbers that you want to create. The software duplicates the tags associated with the source loop and associates the new tags with the new loop number.

   b) Modify the names of the new tag numbers as needed. Note that you cannot change the prefix and the separator.

   Note

   - If your current <unit> uses the FREE or LOOP naming conventions, you can also select the **Select instrument type** check box to open the appropriate dialog box where you select the required instrument type for the tags you are associating with the target loop number.

   c) Select **Copy the instrument type from the source tag numbers** to keep the instrument type of the source tags.

   d) Click **OK**.

10. When prompted to edit the tag numbers, do one of the following:

    - Click **Yes** to edit the tag numbers you have duplicated.
    - Click **No** to duplicate the tag numbers with their existing parameter values.

Deleting Loop Numbers

This option allows you to delete loop numbers that are no longer required. You can delete a single loop number or several ones as needed. When deleting a loop number, several batch deletion options are possible depending on your loop number deletion preference settings. You can delete several loop numbers in batch mode (without being prompted to confirm each deletion) or delete several loop numbers one by one, confirming the deletion of each loop number. Note that if you are deleting a loop number associated with wiring, SmartPlant Instrumentation automatically disconnects all the required instruments.

Tip

- You can also delete one or more loop numbers using the **Domain Explorer** without opening the Instrument Index module. In the tree view of the **Domain Explorer**, click the **Loops** folder. Then, in the **Entities** pane, select the loops you want to delete. Right-click the selected loop numbers and then on the shortcut menu, click **Delete**.

➢ To delete one or more loop numbers

1. In the Instrument Index module.
2. On the **Edit** menu, point to **Loop Numbers** and click **Delete Loop Number**.
3. In the **Enter Loop Name** dialog box, do one of the following:
   - Type the loop number that you want to delete.
   - Click **Find** without typing a loop number, so that you can select several loop numbers for deletion in the **Find Loop** dialog box.
4. In the **Find Loop** dialog box, if required, click the **Find loops with one or more fieldbus tags** check box to narrow your search results to loops that contain tags with a fieldbus system I/O type.
5. Click **Find**.

   Tip

   - To you can view more loop number rows, select **Show more search results**.

6. In the **Search results** data window, select the loop numbers that you want to delete and click **OK**.

7. In the **Delete Loop Number** dialog box, click **Delete**.

Caution

- If you are deleting several loop numbers and you have selected the **Skip deletion confirmation** option in your loop deletion preferences, all the loop numbers you have highlighted in the **Search results** data window will be deleted on the fly without prompting to confirm each deletion.

Moving Loop Numbers

This option allows you to select a group of loop numbers and move them to another <unit> in the current <plant>.

➢ To move one or more loop numbers to another <unit>

1. In the Instrument Index module, on the **Edit** menu, point to **Loop Numbers** and click **Move Loop Number**.
2. In the **Enter Loop Number** dialog box, do one of the following:
   - To move one loop number, type the required loop number and click **OK**.
   - To move a group of loop numbers, click **Find** and do the following in the **Find Loop** dialog box:
     a) In the **Search results** data window, hold down **Ctrl** and highlight the required loop numbers, or select the **Select all** check box to move all the displayed loop numbers.
     b) Click **OK**.
3. In the **Select Target <Unit>** dialog box, select the <unit> to which you what to move the selected loop numbers.
4. Click **OK**.

Renaming Multiple Loop Numbers

This option allows you to rename multiple loop numbers in the current <unit>. You can also modify the loop number service and edit associated tag numbers if required.

➢ To rename multiple loop numbers

1. Start the Instrument Index module and do one of the following:
   - On the **Edit** menu, point to **Loop Numbers** and click **Rename Multiple Loop Numbers**.
   - Click  .
2. In the **Enter Loop Number** dialog box, click **Find**.
3. In the **Find Loop** dialog box, find the loop numbers you want to rename.
4. Click **OK**.
5. In the **Rename Multiple Loop Numbers** dialog box, do the following:
   a) Select the **Select** check box next to each loop number that you want to rename.

   Tip

   - Select the **Select all** check box to rename all the loops in the **Rename Multiple Loop Numbers** dialog box.

   b) In the **New Loop Number** field, type the new loop number name.

   Caution

   - Make sure that your new loop number names comply with the naming conventions of the current <unit>. All loop numbers must have unique names in the current <unit>.

   c) Click in the **Loop Service** field and modify the value if needed.

   d) Select the **Edit tag numbers** check box to edit the properties of the tag numbers associated with the selected loop numbers after you rename these loops numbers.

   e) Click **Rename**.

   Tip

   - If after clicking **Rename** some of the selected loop numbers have not been renamed, the **Result** field of the **Rename Multiple Loop Numbers** dialog box displays the reason why you could not rename these loop numbers.

Renaming Single Loop Numbers

This option allows you to rename a single loop number.

Tip

- You can also rename the drawing file name if the loop number that you are renaming is associated with a CAD drawing. To do so, set a preference on the **Rename** page of the **Preferences** dialog box before performing this procedure.

➢ To rename a single loop number

1. Start the Instrument Index module and do one of the following:
   - On the **Edit** menu, point to **Loop Numbers** and click **Loop Number Properties**.
   - Click  .
2. In the **Enter Loop Number** dialog box, do one of the following:
   - Type the name of the loop that you want to rename and click **OK**.
   - Click **Find** to open the **Find Loop** dialog box, where you can find the required loop number, and click **OK**.
3. In the **Loop Number Properties** dialog box, click  next to the **Loop number** field.
4. In the **Rename Loop Number** dialog box, type the new loop number name.

   Cautions

   - Make sure that your new loop number name complies with the naming conventions for the current <unit>.
   - All loop numbers must have unique names in the current <unit>.
5. Click **Rename**.

6. If you set the software to open the **Rename Loop Drawing File** dialog box after renaming a loop number, do the following to rename the file name of the associated CAD drawing:

   a) In the data window, of the **Rename Loop Drawing File** dialog box, select a check box beside a desired file name.

   b) Type a new name over the name displayed in the **New Drawing File** column.

   Tip

   - If more than one file appears in the data window, the drawing type is multi-drawing.

Defining a Functional Requirement for a Loop

This option allows you to define a functional requirement for a selected loop number.

Functional requirement is the combination of loop function and process function data for a specific loop. For example, for Loop FIC-100, **F** refers to process function and **IC** to process function. **C** can be interpreted as measuring and control.

During the early stages of a project, the loop functional requirements are known. However, the functional requirements for the project devices are not known yet. To make cost estimations during the early stages of your project, you need loop functional requirements that contain process data, such as loop number, DN, pipe specifications, and so forth. Later on in your project, you can copy these functional requirements to the real devices.

Note that you can define multiple functional requirements for a specific loop number. Also, you can generate a specification for a loop that has a functional requirement.

➢ To define a functional requirement for a loop

1. Create or edit a loop number.

2. In the **Loop Number Properties** dialog box, click **Func. Req**.

3. In the **New Tag Number** dialog box, under **Tag number** type the new tag number name and click **OK**.

4. In the **Select Process Function** dialog box, select the process function that you need and click **OK**.

5. In the **Tag Number Properties** dialog box, define the properties of the new tag number as you require.

Working with Tag Numbers

Creating Tag Numbers

When you define new tag numbers, the software creates them according to the instrument type profiles that you defined in the **Instrument Type Profile** dialog box for a selected instrument type. Defining a profile allows you to set instrument type default settings for new tag numbers and thus create them with certain predefined properties based on the instrument type you select for the new tag number. You set profiles for every instrument type that you use.

Consequently, make sure that you set and activate all the required instrument type profiles before you start creating new tag numbers. See Defining Instrument Type Default Settings to learn how to define the required instrument type default settings.

Notes

- You can also create a new tag number in the **Domain Explorer** without opening the Instrument Index module. For details, see Creating an Instrument.
- When creating a new tag number, you can determine whether or not process data is required for it, and if so, at what stage the information should be entered by a process engineer. For details of workflow implementation, see Workflow.

➢ To create a tag number

1. Start the Instrument Index module.
2. Do one of the following:
   - On the **Edit** menu, point to **Tag Numbers** and click **New Tag Number**.
   - Click  .
3. Define the new tag number as required. For details, see Creating an Instrument.

Naming a New Tag Number

Follow these guidelines for entering a new tag number in the data field of the **New Tag Number** dialog box:

1. Use the **Tab** key or the left and right arrow keys to move the cursor to the next place. Make corrections or changes by overwriting the existing values. Alternatively, you can use the mouse pointer to select the characters and then type the new content.

2. The data field displays the tag number name template which is based on the tag naming convention defined by the Domain Administrator for the current <unit>. In the alphanumeric and the numeric parts of the name, you can type any character (letters, digits, spaces, and so forth). You can customize the tag number name template to set a default, but only the Domain Administrator can change the naming conventions. See Customizing New Tag Number Names to learn how to customize the tag name template for new tag numbers.

Example 101- FE 2225/E:

Segment		Description
101	—	prefix derived from the tag naming convention defined by the Domain Administrator
FE	—	function identifier
2225	—	loop number that this tag is associated with
E	—	suffix

Editing Tag Number Properties

This option enables you to edit individual tag numbers. If you want to edit the tag numbers associated with a particular loop, use the **Loop Number Properties** option (see Editing Loop Numbers). You can edit individual tag numbers that you enter in the **Enter Tag Number** dialog box or select the required tag numbers from **Search results** data window in the **Find Tag** dialog box. You can also edit multiple tags by selecting them in an Instrument Index Standard Browser view. To learn how to edit multiple tags, see Editing Tag Number Data in Multi-Row Mode.

➢ To edit tag number properties

1. Do the following to edit the properties of a tag number from the **Domain Explorer** without opening the Instrument Index module:

   a) In the **Domain Explorer**, expand your current <plant> hierarchy to display the **Instruments** folder.

   b) Double-click the **Instruments** folder to display the existing tag numbers.

   c) Right-click a tag number, then on the shortcut menu, click **Properties**.

Note

- You can also edit the properties of a tag number from the Instrument Index module. In the **Instrument Index Module** window, click on the toolbar or on the **Edit** menu, point to **Tag Numbers** and click **Tag Number Properties**.

2. Do one of the following:

   - On the **Edit** menu, point to **Tag Numbers** and click **Tag Number Properties**.
   - Click.

3. In the **Enter Tag Number** dialog box, do one of the following:

   - To edit a single tag number, type the tag number in the box.
   - To edit a multiple tag numbers, click **Find** to open the **Find Tag** dialog box and select the tag numbers that you want to edit.

4. In the **Tag Number Properties** dialog box, on the **General** tab, type the required data or select the appropriate values from the lists.

5. To enter power supply properties, see Entering Power Supply Data for Panels and Instrument Tags.

6. After modifying the data, click **Apply** and then click **Next** to display the next tag number for editing.

   Tip

   - Editing the properties of an existing tag number does not affect its existing association with a loop. See Changing an Existing Tag Loop Association for details.

   - The data that appears in the **Prefix**, **Number**, and **Suffix** fields is derived from the tag number itself.

Adding Notes to Tag Properties

This option enables you to append a short text to the properties of a tag number that you are editing.

➢ To enter tag number remarks

1. Select a tag number for editing using one of the following editing modes:

   - Single-row editing mode.

   - Multi-row editing mode.

2. In the **Tag Number Properties** dialog box, click **Note**.

3. In the data window of the **Tag Number Notes** dialog box, type any text you need and click **OK**. Note that you can also paste text you copied from another Windows-based application.

4. In the **Tag Number Properties** dialog box, click **Save** and then **Close**.

Entering Tag Number Remarks

You use this option to enter a short remark to tag number properties in an Instrument Index Standard Browser view. You add your tag number remarks in the **Rem** column. The browser view displays  in the **Rem** column for the tag numbers that contain remarks.

➢ To enter tag number remarks

1. In an Instrument Index Standard Browser view, click  and select the Instrument Index Standard Browser.

    **Note**

   - If necessary, define a custom browser view that you want to use for displaying the remarks.

2. Ensure that the **Rem.** column is selected for displaying in the browser view by doing the following:

   a) From the selected view, click  .

   b) Under **Style settings**, click **Edit**.

   c) Scroll down the **Field Name** column to the **Rem.** field and select the **View** check box.

   d) Click **Save**.

3. Open the browser view, select the tag number that you require, and do one of the following:

   - Double-click the **Rem** field.
   - On the toolbar, click  .
   - On the **Actions** menu, click **Remarks**.
   - Right-click the selected tag, then on the shortcut menu point to **Tag Number Activities** and click **Remarks**.

4. In the **Remarks** dialog box, type the required text in the fields provided.

5. In the **Notes** box, type a short note if needed.

    **Tip**

   - The text that you enter in the **Notes** box also appears in the **Tag Number Notes** dialog box.

Duplicating Tag Numbers

This option enables you to create a new tag number by duplicating the properties of an existing one and then editing the new tag number properties as required. You can create the new duplicated tag number in the same <unit> as the original tag number or any other <unit> in the current domain.

➢ To duplicate a tag number

1. Do the following to duplicate a tag number from the **Domain Explorer** without opening the Instrument Index module:

   a) In the **Domain Explorer**, expand your current <plant> hierarchy to display the **Instruments** folder.

   b) Double-click the **Instruments** folder to display the existing tag numbers.

   c) Right-click a tag number, then on the shortcut menu, click **Duplicate**.

Note

- You can also duplicate a tag number from the Instrument Index module. In the **Instrument Index Module** window, click  on the toolbar or on the **Edit** menu, point to **Tag Numbers** and click **Tag Number Duplicate**.

2. In the **Enter Tag Number** dialog box, do one of the following:

   - Type the tag number that you want to duplicate.
   - Click **Find** to open the **Find Tag** dialog box.

3. Click **OK**.

4. In the **Duplicated Tag Number** dialog box, modify the name of the displayed tag number. Avoid duplicate tag numbers.

5. Select the **Create in another <unit>** check box if you want to create the new tag number in another <unit> of the current domain. Do not select this check box to create the new tag number in the same <unit> as the source tag number.

Notes

- If you select the **Create in another <unit>** check box, the **Select Target <Unit>** dialog box opens where you select the target <unit> for the new tag number and click **OK**.
- If you are working with the **Free** naming conventions, select the **Select Instrument Type** check box to open a dialog box that allows you to select the appropriate instrument type. This dialog box also opens if more than one instrument type is appropriate for the tag number that you typed.

6. In the **Loop Name** dialog box, type the loop number that you want to associate the new tag number with or accept the displayed loop number.

7. Click **OK** to associate the new tag number with displayed loop number or click **Cancel** not to associate the new tag number with any loop for now. You can associate this tag number with a loop later. For details, see Associating Tag Numbers with Loops.

8. In the **Tag Number Properties** dialog box, on the **General** tab, type the required data or select the appropriate values from the lists.

9. To enter power supply properties, see Entering Power Supply Data for Panels and Instrument Tags.

Deleting Tag Numbers

This option enables you to delete one or more tag numbers that are no longer in use.

➢ To delete a tag number

1. Start the Instrument Index module.

Tip

- You can also delete one or more tag numbers using the **Domain Explorer** without opening the Instrument Index module. In the tree view of the **Domain Explorer**, click the **Instruments** folder. Then, in the **Entities** pane, select the tag numbers that you want to delete. Right-click the selected tag numbers and then on the shortcut menu, click **Delete**.

2. On the **Edit** menu, point to **Tag Numbers** and click **Delete Tag Numbers**.

3. In the **Enter Tag Number** dialog box, do one of the following:

   - Type the tag number that you want to delete.
   - Click **Find** to open the **Find Tag** dialog box.

4. in the **Search results** data window of the **Find Tag** dialog box, select one or more tags that you want to delete.

5. Click **OK** and then delete the tag numbers when prompted.

Note

- If the deleted tag number was the last tag number associated with a loop number, the software prompts you to delete the loop as well.

Deleting Tags Numbers in a Browser View

In an Instrument Index Standard Browser view, you can delete tag numbers in batch mode. Use the following procedure to delete the required tag numbers.

➢ **To delete tags numbers in the browser view**

1. Open an Instrument Index Standard Browser view.
2. Select and then right-click the tag numbers you want to delete.

   Tip

   - Hold down the **Shift** or **Ctrl** key to select several tag numbers.

3. Do one of the following:

   - On the shortcut menu, point to **Tag Number Activities**, and click **Delete Tag Number**.
   - On the **Actions** menu, click **Delete Tag Number**.

   Note

   - When deleting the last tag number associated with a loop, the software prompts you to delete the loop as well.

Moving a Tag Number to Another <Unit>

You use this procedure to move a tag number to another <unit> in the same plant or to a <unit> in a different <plant> in the domain.

Note

- If you move an instrument tag to a target <unit> whose tag naming conventions are different from the naming conventions of the <unit> where the source tag is, the software applies the target <unit> naming conventions to the duplicated tag number.

➢ **To move a tag number to another <unit>**

1. Start the Instrument Index module.
2. On the **Edit** menu, point to **Tag Numbers** and click **Move Tag Number**.

3. In the **Enter Tag Number** dialog box, do one of the following:
   - Type the tag number that you want to move.
   - Click **Find** to open the **Find Tag** dialog box.
4. In the **Select Target <Unit>** dialog box, select the <unit> to which you want to move the current tag number.
5. Click **OK** to move to tag number.

Moving Multiple Tag Numbers in the Browser View Window

You use this procedure to move one or more tag numbers in the **Browser View** window. You can move tag numbers to another <unit> in the same plant or to a <unit> in a different <plant> in the domain.

 **Note**

- If you move an instrument tag to a target <unit> whose tag naming conventions are different from the naming conventions of the <unit> where the source tag is, the software applies the target <unit> naming conventions to the duplicated tag number.

➢ To move tag numbers to another <unit>

1. Open an Instrument Index Standard Browser view.
2. Select tag numbers that you want to move to another <unit>.
3. Do one of the following:
   - On the **Actions** menu, click **Move Tag Number**.
   - On the shortcut menu, point to **Tag Number Activities**, and then click **Move Tag Number**.
4. In the **Select Target <Unit>** dialog box, select the <unit> to which you want to move the selected tag numbers.
5. Click **OK**.

Renaming a Tag Number

You use this feature to rename an existing tag number.

➢ To rename a tag number

1. Start the Instrument Index module.
2. Do one of the following:
   - On the **Edit** menu, point to **Tag Numbers** and click **Tag Number Properties**.
   - Click  .
3. In the **Enter Tag Number** dialog box, do one of the following:
   - Type the tag number that you want to edit.
   - Click **Find** to open the **Find Tag** dialog box.
4. In the **Tag Number Properties** dialog box, if needed, change the instrument type of the tag you want to rename.
5. Click **Rename**.
6. In the **Rename Tag Number** dialog box, edit the tag instrument type, number or suffix as required, and change the tag class if required.
7. Click **OK**.

   Caution

   - Make sure that the new name complies with the naming conventions for the current <unit>.

8. If the instrument type acronym is not unique, select the required instrument type from the **Select Instrument Type** dialog box and click **OK** to open the **Tag Number Renaming Options** dialog box.

9. If you want to rename the associated control system tags, do the following:

   a) Select the **Rename CS tag** check box.

   b) In the **New Control System Tag** data field, modify the control system tag name as required.

   Cautions

   - If you have connected several CS tags to the current tag number, the system automatically assigns the same new name to all the CS tags. You must rename the new CS tags manually to make the names unique.

   - Before clicking **OK**, note that all the wiring entities that were associated with the old CS tag will be renamed according to the new control system tag name, and the associated specification will be deleted. Verify whether the appropriate loop blocks and hook-ups are associated with the new tag number.

10. Click **OK** to close the **Tag Number Renaming Options** dialog box.

Tag Number Renaming Options

When you rename a tag, two situations are possible for changing the process function and the instrument type of that tag:

- **The Process Function has not changed** — for example: renaming 108-PT-2212 to 108-PI-2212. Renaming a tag number this way does not change the **process** which the tag describes. Therefore, all the process data information that has been associated with the old tag will be automatically associated with the new tag. You can also delete the old process data if required.
- **The Process Function has changed** — for example: renaming 108-PT-2212 to 108-FT-2212. If you rename a tag number this way, only **general** process data properties, such as pressure, temperature, and density will be propagated from the old tag number to the new one. Process data properties **specifically associated** with the tag's process function, for example, range, alarm trip settings, upper level, and so forth, will either not be propagated to the renamed tag or only be propagated partially. In this case, the old tag's additional properties and calculation results will not propagate to the new tag either.

See the Process Data module topics to learn more about the above issues.

Changing a Tag Instrument Type

This option allows you to change the instrument type and process function of a tag number. You make this change when editing tag number properties that can be done in single or multi-mode.

Caution

- Prior to changing the instrument type, familiarize yourself with the tag number renaming options.

➢ To change the instrument type of a selected tag number

1. Select a tag number for editing using one of the following editing modes:
   - Single-row editing mode.
   - Multi-row editing mode.
2. In the **Tag Number Properties** dialog box, do one of the following:
   - From the **Instrument type** list, select the instrument type that you require.
   - Click ... to open the **Instrument Type** dialog box, where you can modify the existing instrument types or add a new instrument type to the list.
3. In the **Tag Number Properties** dialog box, click **Apply**.

   Note

   - Instead of clicking **Apply**, you can click **Rename** to rename the current tag number as required.

4. If the selected instrument type belongs to a different process function, in the **Tag Number Renaming Options** dialog box do the following:
   - Select **Keep general process data** to delete only specific process data associated with the tag whose instrument type you are changing.
   - Select **Delete process data** to delete all the process data associated with the tag whose instrument type you are changing.
5. If you want to rename the associated control system tags, do the following:
   a) Select the **Rename CS tag** check box.
   b) In the **New Control System Tag** data field, modify the control system tag name as required.

Caution

- If you have connected several CS tags to the current tag number, the system automatically assigns the same new name to all the CS tags. You must rename the new CS tags manually to make the names unique.
- Before clicking **OK**, note that all the wiring entities that were associated with the old CS tag will be renamed according to the new control system tag name, and the associated specification will be deleted. Verify whether the appropriate loop blocks and hook-ups are associated with the new tag number.

6. Click **OK** to return to the **Tag Number Properties** dialog box.

Adding and Editing Criticality Values

Use this option to create and customize instrument criticality values that appear on the **Criticality** list in the **Associate Categories and Criticality** dialog box.

➢ To create and customize instrument criticality values

1. Do one of the following to open the **Instrument Criticality** dialog box:
   - In the **Instrument Index Module** window, on the **Tables** menu, click **Instrument Criticality**.
   - Right-click a tag number in an Instrument Index Standard Browser view, on the short-cut menu, point to **Tag Number Activities** and click **Associate Categories and Criticality**. Then, in the **Associate Categories and Criticality** dialog box, click  beside the **Criticality** list arrow.
2. In the **Instrument Criticality** dialog box, do one of the following:
   - Click **New** to append a new row to list of existing options and type a criticality name and description.
   - Highlight a row and edit the **Criticality** and **Description** fields.
   - Highlight a row and click **Delete** to delete this criticality option.

Tip

- If the criticality list is long, start typing a criticality name in the **Find criticality** box. In the data window, SmartPlant Instrumentation highlights the required name as you type.

Caution

- After you delete a row, this criticality dissociates from all tags for which it was defined. This criticality option will no longer be available in the **Associate Categories** dialog box.

3. Click **OK** to save the settings and close the dialog box.

Adding and Editing Tag Number Categories

This option enables you to edit the name and the description of the available tag number categories. Using this option, you can also add new categories which you will be able to associate with tag numbers.

➢ To add or edit instrument category

1. Open an Instrument Index Standard Browser view.
2. On the **Actions** menu, click **Tag Categories**.
3. Click **New** to add a new tag category row.
4. Type the required tag category name and description.
5. To edit an existing tag category, double-click a field and type the new value.
6. To delete an existing tag category:
   a) Select a tag category in the data window.
   b) Click **Delete** to delete the highlighted category.
   c) When prompted to confirm the deletion, click **Yes** to confirm the deletion or click **No** to keep the selected category
7. Click **OK** to save the changes you made to the tag categories.

Creating a Control System Tag from a Browser View

Use this feature to create a control system tag for a selected instrument in an Instrument Index Standard Browser view. The new CS tag then becomes available for I/O assignment.

Caution

- Prior to creating a control system tag from the browser view, make sure that you have selected the **Control system** check box when defining an instrument type profile for the selected instrument. If you do not select this check box, SmartPlant Instrumentation will not be able to create the required control system tags.

➢ To create a control system tag for a selected instrument

1. In the browser view, select the tag numbers that you require.
2. Right-click the selected tags and on the shortcut menu click **Generate a Control System Tag**.
3. In the **Results** dialog box, view the CS tag creation results, and then click **Close**.

Creating Device Panels and Cables from a Browser View

This option enables you to create device panels and device cables for selected instruments in an Instrument Index Standard Browser view. This option is useful when you have a number of instruments that were created without wiring properties. After modifying the instrument type profile of these tag numbers and selecting a reference device panel in the instrument type profile, you can then select the pertinent tag numbers in the browser view and create device panels and cables for these tags based on the selected default settings.

Caution

- To make this feature work, you must select a reference panel in the instrument type profile of the selected tag number before you attempt to create a new device panel. You can also select a reference device cable if you want SmartPlant Instrumentation to create device cables with the device panels.

➢ To create a device panel and device cable from a browser view

1. Open an Instrument Index Standard Browser view.
2. Select and then right-click the required tag numbers.
3. On the shortcut menu, click **Generate Device Panel and Cable** to begin the propagation process.
4. In the **Results** dialog box, view the propagation results, and then click **Close**.

Note

- If the software propagated the wiring profile properties successfully, you can view the point-to-point wiring diagram for these tags.

Instrument Type

Overview

You use instrument type to identify and classify instruments in SmartPlant Instrumentation. SmartPlant Instrumentation provides a number of predefined instrument types, such as FE, PT, and so forth. You can add new instrument types and modify the shipped ones as required. You can also delete an instrument type that is not in use, but the software does not let you delete an instrument type that you already used to create a tag number.

SmartPlant Instrumentation uses standard function identifier acronyms to identify instrument types. However, some function identifier acronyms are not unique and are used for more than one instrument type. For instance, FE can refer to D/P Type Flow Element or a Mass Flow Sensor. As a result, when creating a new tag number with such an acronym, the software opens the **Select Instrument Type** dialog box where you select the appropriate instrument type.

You classify all instrument types in SmartPlant Instrumentation according to process function. You use process function to associate an instrument with a specific type of specification, process data, and calculation sheet. For example, if you need to associate a tag number with a specification that contains flow information, this tag number must have an instrument type that belongs to the Flow process function.

For each instrument type that you define, you also set a profile definition that allows you to automate the creation of tag numbers with a number of predefined properties.

When defining an instrument type, you also define its profile. Instrument type profile allows you to automate the creation of tag numbers with a number of predefined properties. In other words, when you create a new tag number based on a particular instrument type, SmartPlant Instrumentation automatically creates and associates a number of entities that that you chose in the instrument type profile that serves as a basis for the new tag number. For more information about instrument type profiles, see Defining Instrument Type Default Settings.

Defining an Instrument Type

You use this option to define a new instrument type or edit the properties of an existing instrument type.

➢ **To define an instrument type or edit an existing one**

1. In the **Instrument Index Module** window, on the **Tables** menu, click **Instrument Types**.

2. In the **Instrument Types** dialog box, from the **Process function** list, select the process function that you require.

3. Do one of the following:

   - Click **New** to append a new data row in the data window.

   - Click a selected row to edit the values of an existing instrument type.

4. Under **Instrument Type**, type an instrument type acronym. You can have duplicate acronyms if needed.

   Tip

   - If you have duplicate instrument type acronyms, when creating new tags based on such an instrument type, SmartPlant Instrumentation opens the **Select Instrument Type** dialog box and lets you select the exact instrument type that you require for the new instrument.

5. Under **Description**, type a brief description as desired.

6. Under **CS Tag Instrument Type Alias**, type an alias for a control system tag instrument type. Do this only if you want to create control system tags that will have an alias instrument type associated with the current instrument type. Leave this field blank if you are not going to create CS tags based on the current instrument type or if you want the CS tags to have the same instrument type as the tag number.

7. If you selected the General process function, under **General Process Function Sub-Category**, select a value that you predefined in the **General Process Function Sub-Category** supporting table.

Defining a General Process Function Sub-Category

This option enables you to create a sub-category for the General process function. You can then select one of these sub-category values for any General process function in the data window of the **Instrument Types** dialog box.

➢ To define a new General process function sub-category

1. In the **Instrument Index Module** window, on the **Tables** menu, click **General Process Function Sub-Category**.
2. Click **New** to append a new data row.
3. Type the new sub-category name, for example, Mechanical, Electrical, and a description, as you require.

Defining Instrument Type Default Settings

Instrument type profile is a group of default settings that allow you to create new tag numbers with certain predefined properties. For example, you can create new tag numbers associated with a particular specification, system I/O type, reference device panel, and so forth. You define an instrument type profile for each instrument type. As a result, SmartPlant Instrumentation creates new tag numbers with the predefined properties based on the instrument type that you select for the new tag number. You define a profile for each instrument type that you use.

➢ To define an instrument type profile

1. In the **Instrument Index Module** window, on the **Tables** menu, click **Instrument Types**.
2. From the **Process function** list, select the process function that you require.
3. In the data window, select the instrument type you desire.
4. Click **Profile**.
5. Make your definitions as you require.

Note

- Make sure that your preferences are set to activate the options that you require.

Defining Wiring and Control System Profiles

Setting wiring and control system default settings allows you to create new tag numbers with the settings that you defined for the instrument type. For example, you can automatically define new instruments as control-system-enabled so that new tag numbers with the current instrument type profile will be part of a control system and be able to send and receive signals. You can also include automatic creation of control system (CS) tags, selection of reference panels and cables, and connector definitions.

➢ To define and modify wiring and control system data for your instrument type profiles

1. In the **Instrument Index Module** window, on the **Tables** menu, click **Instrument Types**.
2. In the **Instrument Types** dialog box, from the **Process function** list, select the process function type.
3. Do one of the following:
   - Create a new instrument type.
   - In the data window, select an existing instrument type.
4. Click **Profile**.

   Note

   - In the **Instrument Type Profile** dialog box, on the **General** tab, you can edit fields as needed.
5. On the **Wiring and Control System** tab, select the **Include wiring** check box.
6. To define new instrument tags as control-system-enabled, select the **Control system** check box.

   Note

   - This enables the corresponding tag numbers for tag assignment.
7. To enable automated creation of coupled control system tags, select **Automatic CS tags**.
8. From the **Reference device panel** list, select an appropriate reference panel for this instrument type. These are device panels that were created in **Reference Explorer**.

9. If your reference device panel settings enable the **Conventional connections** group box, do the following for each connection that you need for the current instrument type:

   a) Do one of the following:

      - To add a connection, click **New**.
      - To edit the properties of an existing connection, click **Properties**.

   b) In the **Conventional Connection Properties** dialog box, define the settings that you require, and click **OK**.

   Tip

   - Note that when the software creates the wiring entities according to an instrument type profile, it always connects the created cable to the **right** side of the panel that it creates. Therefore, you are not allowed to select a left-oriented terminal from the **Starting terminal** list in the **Conventional Connection Properties** dialog box. You can check the configuration of a terminal by right-clicking it in the **Domain Explorer** and selecting **Properties** on the shortcut menu.

10. If your reference device panel settings enable the **Plug-and-socket connections** group box, do the following for each connection that you need for the current instrument type:

    a) Do one of the following:

       - To add a connection, click **New**.
       - To edit the properties of an existing connection, click **Properties**.

    b) In the **Plug-and-Socket Connection Properties** dialog box, define the settings that you require, and click **OK**.

Copying Instrument Type Profile Data

Use this procedure to copy instrument type profile data from one instrument type to another. This procedure is useful when you want to define instrument types with similar profile properties. This way you do not need to define all the profile data for a new instrument type from scratch. After completing this procedure, you can access the profile associated with the target instrument type and change the required properties.

Caution

- If you want to copy the specification profile properties, note that both the source and the target instrument type must belong to the same process function. When the source and the target instrument type belong to different process functions, the system copies the data without the specification profile properties.

➢ To copy data from one instrument type profile to another

1. Start the Instrument Index module.
2. On the **Tables** menu, click **Instrument Types**.
3. From the **Process function** list, select the process function that you require.
4. Click **Profile**.
5. In the **Instrument Type Profile** dialog box, click **Copy From** to open the **Copy Instrument Type Profile Data** dialog box.
6. From the **Process function** list, select the required process function.
7. In the data window, select the instrument type whose profile data you want to copy.
8. Click **OK** to reopen the **Instrument Type Profile** dialog box, where you can view the new profile properties.
9. Define the instrument type profile as you require.

Recommendations for Fieldbus Instrument Type Profile Definition

You need to define fieldbus instrument type profiles, so that fieldbus instruments that you create accurately acquire the necessary properties. Instrument tags that were created prior to a new instrument type definition or modification of an existing profile are not affected by new definitions.

When defining an instrument type profile for fieldbus tags, take note of the following:

- On the **General** tab, under **Specification**, select an appropriate fieldbus specification.
- Select **Include system I/O type**, and then from the list, select one of the following:
  - Foundation Fieldbus
  - Profibus DP
  - Profibus PA
- Associate function blocks with the instrument type profile.
- On the **Wiring and Control System** tab, select the appropriate reference device panel and reference cable.
- On the **Fieldbus** tab, select the **Include fieldbus** check box and set the default profile options for new fieldbus instruments as you require.

Naming Control System Tags

When creating CS tags automatically, you can instruct SmartPlant Instrumentation to use CS tag naming conventions or use the shipped predefined naming convention for CS tags. SmartPlant Instrumentation will name new CS tags according to the rules you set only after the Domain Administrator set the control system tag naming conventions for the current <unit>. If the CS tag naming conventions haven't been set, the software will use the following predefined rule for all automatically created CS tags:

INSTUMENT TYPE + NUMBER + \SUFFIX

After the Domain Administrator defines the control system tag naming conventions for the current <unit>, you can decide whether to use the tag number's instrument type for the CS tag or set an alias for the new CS tags. If you do not set an alias for these CS tags, SmartPlant Instrumentation will name them according to the instrument type of the tag numbers with which they are created. Note that the length of the alias text should not exceed the length of the instrument type alias string defined by the Domain Administrator in the **Standard Naming Conventions** dialog box.

Caution

- The CS tag alias will be enabled only if the Domain Administrator has selected INST. TYPE ALIAS from the **Description** list in the **Standard Naming Conventions** dialog box when setting the control system tag naming conventions.

➢ To set an alias for automatically created CS tags

1. Make sure that your Domain Administrator has set the naming conventions for control system tags that you create in the current <unit>.
2. Define the instrument type profile for the required tag numbers and enable the automatic creation of CS tags.
3. In the **Instrument Types** dialog box, highlight the required instrument type.
4. Click in the **CS Tag Instrument Type Alias** field for the selected instrument type and enter the CS alias by overtyping the displayed value.
5. Click **OK** to accept your settings and close the **Instrument Types** dialog box.

Typical Loops and Tags

Managing Typical Loops

A typical loop is a combination of user-defined loop properties that you can use as a template for creating loops and tags in batch mode. These properties include a loop measured variable, loop type, loop function and so forth. This template must contain at least one typical tag.

You can create as many typical loops as required and use them to create loops in batch mode. Typical loops with associated typical tags can be very useful when you need to create numerous loops based on the same loop template.

You can view all the typical loops you have created in the current domain. The list of typical loops is automatically updated after you create a new typical loop, or if you edit or duplicate existing loops.

Note

- If you use the Free naming convention standard in the current domain, you cannot work with typical loops and tags.

➢ To manage typical loops

1. In the **Instrument Index Module** window, on the **Edit** menu, click **Typical Loop Management** to open the **Typical Loop Management** dialog box.
2. Do one of the following:
   - Click **New** to add a new typical loop to the list.
   - Select the required loop in the list and click **Properties** to edit the existing loop.
   - Select the required loop in the list and click **Duplicate** to duplicate the existing loop.

Creating Typical Loops

Use this procedure to create a new typical loop.

You can create as many typical loops as required and use them to create loops in batch mode. Typical loops with associated typical tags can be very useful when you need to create numerous loops based on the same loop template.

Creating a new typical loop is the first stage in batch loop creation procedure. This is when you make all the required typical loop definitions including the typical loop name, measured variable, and so forth. At this stage, you also select the appropriate instrument types for the typical tags you associate with this typical loop.

When creating tag numbers during batch loop creation based on typical loops, the software creates new tags according to your settings on the **Duplicate** page on the **Preferences** dialog box for the Instrument Index module. You can set the software to do the following:

- Create the new tags based on the instrument type profile of the typical tag number defined for the selected typical loop.
- Create the new tags based on the properties of the typical tags defined for the selected typical loop in the **Typical Tag Number** dialog box.

For more details, see Setting Tag Preferences for Batch Loop Creation.

Note

- If you use the Free naming convention standard in the current domain, you cannot work with typical loops and tags.

➢ To create a typical loop

1. Start the Instrument Index module.
2. On the **Edit** menu, click **Typical Loop Management**.
3. In the **Typical Loop Management** dialog box, click **New**.
4. In the **Typical Loop Properties (New)** dialog box, in the **Loop name** field, type a unique name for the new typical loop.
5. In the **Loop service** field, type an appropriate loop service if needed.
6. In the **Loop suffix** field, type a suffix if required.

   Tip

   - Use a suffix if you want to have numerous typical loops with the same names. This is useful when you have numerous typical loops that perform the same or similar function.

7. From the **Measured variable** list, select the required measured variable for the new typical loop. If the required value is not available, click … next to the list arrow to open the **Loop Measured Variables** dialog box where you can add a new loop process variable identifier or edit an existing one.
8. From the **Loop type** list, select the required loop type for the new typical loop. If the required value is not available, click … next to the list arrow to open the **Loop Types** dialog box where you can add a new loop type or edit an existing one.
9. From the **Loop function** list, select the required loop function for the new typical loop. If the required value is not available, click … next to the list arrow to open the **Loop Functions** dialog box where you can add a new loop function identifier or edit an existing one.
10. In the **Note** field, type a short note if needed.
11. Select the **Apply service to tags** check box to propagate the loop service you entered for this typical loop to all typical tags that are associated with it.
12. Click **Add** to append a new typical tag row in the **Associated typical tags** data window.
13. In the data window, do the following:

    a) From the **Instrument Type** list, select the instrument type that you require.

Notes

- Typical tags do not have any profile data associated with the instrument type that you specify for typical tags. However, if you set your preferences for tag creation to the profile options, the software creates the new tag numbers based on the instrument type profile defined for the typical tags that are associated with the current typical loop.
- Make sure that you define the instrument type profiles prior to creating a typical loop.
- The software allows you to select only those instrument types that belong to the conventional tag class.

b) In the **Number** field, enter the required typical tag number.

c) In the **Suffix** field, enter the required typical tag suffix to ensure tag name uniqueness.

Caution

- Ensure that the typical tag naming conventions comply with the required naming convention rules.

Notes

- The **New Tag Name** field automatically displays the name of the new typical tag after defining the typical tag instrument type, number, and suffix.

14. Click **Add** to add as many typical tags as required and then click **OK** to create the typical loop with the associated tags.

Note

- On clicking **OK**, you are prompted to edit the newly-created typical tag.

Duplicating Typical Loops

This option enables you to duplicate an existing typical loop.

Duplicating a typical loop involves defining a new typical loop name and new typical tag names to ensure name uniqueness.

➢ To duplicate a typical loop

1. Start the Instrument Index module.
2. On the **Edit** menu, click **Typical Loop Management**.
3. Select a typical loop to duplicate.
4. In the **Typical Loop Management** dialog box, click **Duplicate**.

   Note

   - The changes you make to the source typical loop affect the properties of the target typical loop only.

5. In the **Loop name** field, type a unique name for the new typical loop.
6. In the **Loop service** field, type an appropriate loop service if required.
7. In the **Loop suffix** field, type a suffix if required.

   Tip

   - Use a suffix if you want to have numerous typical loops with the same names that are distinguished by the suffix only. This is useful when you have numerous typical loops that perform the same or similar function.

8. From the **Measured variable** list, select the required measured variable for the new typical loop. If the required value is not available, click ... beside the list arrow to open the **Loop Measured Variables** dialog box where you can add a new loop process variable identifier or edit an existing one.
9. From the **Loop type** list, select the required loop type for the new typical loop. If the required value is not available, click ... beside the list arrow to open the **Loop Types** dialog box where you can add a new loop type or edit an existing one.

10. From the **Loop function** list, select the required loop function for the new typical loop. If the required value is not available, click  beside the list arrow to open the **Loop Functions** dialog box where you can add a new loop function identifier or edit an existing one.

11. In the **Note** field, type a short note if required.

12. Select the **Apply service to tag** check box to propagate the loop service you entered for this typical loop to all typical tags that are associated with it.

13. Click **Add** to append a new typical tag row in the **New associated typical tags** data window.

14. In the data window, do the following:

    a) From the **Instrument Type** list, select the required instrument type.

 **Note**

- The software retrieves profile data associated with this instrument type and applies this data to new tag numbers only when performing batch loop creation.

    b) In the **Number** field, enter the required typical tag number.

    c) In the **Suffix** field, enter the required typical tag suffix to ensure tag name uniqueness.

 **Caution**

- Ensure that the typical tag naming conventions comply with the required naming convention rules.

 **Notes**

- The **New Tag Name** field automatically displays the name of the new typical tag after defining the typical tag instrument type, number and suffix.

15. Click **Add** to add as many typical tags as required and then click **OK** to create the typical loop with the associated tags.

Batch Loop Creation from Typical Loops

You use this feature to create numerous loop numbers based on existing typical loops. The software creates these loop numbers in batch mode. The software also lets you verify that the data you selected and entered will not stop the loop creation process.

When creating numerous loop numbers based on existing typical loops, the software also creates new tag numbers and associates them with the newly created loops. The software creates these tag numbers according to your settings on the **Duplicate** page of the **Preferences** dialog box.

➢ To create multiple loops from a typical loop

1. Start the Instrument Index module.

2. On the **Edit** menu, click **Batch Loop Creation** to open the **Batch Loop Creation** dialog box.

3. Under **Loop creation sets**, select an existing typical loop from the **Typical Loop** list. SmartPlant Instrumentation will base the new loops on this typical loop.

   Tip

   - If you have a long list of typical loops, click **Find** to find the typical loop you require:

     a) In the **Find Typical Loop** dialog box, enter the required search parameters and click **Find**.

     b) Select the required typical loop in the **Search results** data window and click **OK**. The selected typical loop will automatically appear in the **Typical Loop** field of the **Batch Loop Creation** dialog box.

4. In the **New Loop Number** field, type the numbers of the new loops that will be created based on the selected typical loop.

   Tip

   - To avoid duplicate loop numbers in your <plant>, check which tag number numeric segments are available before starting batch loop creation.

Note

- You can create as many loops based on the selected typical loop as you require. To create more than one loop, simply type the required new loop number names in the **New Loop Number** field. You can enter a range of loop names or a list as needed.

  For noncontiguous alphanumeric or numeric loop numbers, type the loop numbers with commas between them. For a range of numeric loop numbers, type the range of loop numbers with a hyphen between them. For example, to create loops 1000, 1001, 1002, 1003, 1057, FT10, F11,and F12 type: 1000-1003, 1057, FT10, F11, F12.

5. Click **Add** to add new data row to create another set of loops. You can add as many sets of loops as required for batch creation.

Caution

- You should verify the data correctness if you are creating numerous loop numbers. The creation process may stop if SmartPlant Instrumentation encounters a problem with one of the loops. To avoid this situation, click **Verify** to correct some possible data problems before you proceed with the loop creation. (For more details, see Verifying New Loop Numbers.)

6. Click **Create** to start the loop creation.

Note

- If for some reason the loop creation process fails, the software displays an appropriate message informing you that a particular set in a specified row has not been created. Moreover, the **Done** check box for that row remains cleared.

7. Click **Close**.

Verifying New Loop Numbers

When creating numerous loops and tag numbers from typical loops in batch mode, some data problems might cut short the creation process. If, during batch loop creation, SmartPlant Instrumentation encounters a data problem with one loop, the creation process cannot proceed with the rest of the typical loops. To avoid this problem, SmartPlant Instrumentation helps you verify that you selected and entered data that will not stop the creation process. SmartPlant Instrumentation verifies the following:

- Loop number uniqueness.
- Loop and tag number naming conventions.
- Loops and tags reserved for other projects.

The verification procedure takes much less time than the actual creation; therefore, you should do it before you start creating new loops and tag numbers.

➢ To verify data correctness for new loops and tags

1. In the **Batch Loop Creation** dialog box, select the required typical loops and type the new loop numbers in the **Loop creation set** data window as described in Batch Loop Creation from Typical Loops.

2. Click **Verify**.

3. If a data problem is encountered, follow the instructions given by the software to correct the problem.

Editing Typical Loops

This feature enables you to edit the properties of an existing typical loop. You can modify the existing typical loop properties and associate new typical tags with the current loop.

➢ To edit typical loop properties

1. In the Instrument Index module, on the **Edit** menu, click **Typical Loop Management**.

2. In the **Typical Loop Management** dialog box, select the required typical loop and click **Properties**.

3. In the **Typical Loop Properties** dialog box, edit the fields as needed.

   Notes

   - The **Loop name** and the **Measured variable** fields are required fields.

4. In the **Associated typical tags** data window, select an existing typical tag that has been already associated with the current loop and do one of the following:

   - Click **Properties** to open the **Typical Tag Number Properties** dialog box to edit the typical tag properties.

   - Click **Delete** to delete the selected tag.

5. Click **Add** to append a typical tag row in the **Associated typical tags** data window.

6. In the data window, do the following:

   a) In the **Instrument Type** column, select the required instrument type from the list. The selected instrument type serves as a typical tag associated with the current typical loop.

   b) In the **Number** field, type the required typical tag number.

   c) In the **Suffix** field, type the required typical tag suffix to ensure tag name uniqueness.

   Caution

   - Ensure that the typical tag naming conventions comply with the required naming convention rules.

Note

- The **New Tag Name** field automatically displays the name of the new typical tag after defining the typical tag instrument type, number, and suffix.

7. Add as many typical tags as required and click **OK** to associate the newly added typical tags with the current loop.

Deleting Typical Loops

Use the following procedure to delete the required typical loop with or without the associated typical tags.

➢ To delete a typical loop

1. In the Instrument Index module, on the **Edit** menu, click **Typical Loop Management**.
2. In the **Typical Loop Management** dialog box, select the required typical loop and click **Delete**.
3. In the **Delete Typical Loop** dialog box, review the typical loop properties and click **Delete**.
4. In the **Typical Loop Management** dialog box, click **Close**.

Editing Typical Tags

This procedure enables you to edit the properties of an existing typical tag. Also, you can rename a typical tag if needed.

You might want to edit the properties of the typical tags if you plan to perform batch loop creation according to specific tag data you define in the **Typical Tag Number Properties** dialog box.

Depending on your preference options, when creating loops in batch mode, the software creates conventional tag numbers using the profile data of the source instrument type, or creates typical tags using specific source tag data you define in the **Typical Tag Number Properties** dialog box.

➢ To edit typical tag properties

1. Start the Instrument Index module.
2. Do one of the following:
   - When editing a typical loop, in the **Typical Loop Properties** dialog box, in the **Associated typical tags** group box, click **Properties** to open the **Typical Tag Number** dialog box (see Step 6 in this procedure).
   - On the **Edit** menu, point to **Tag Number** and click **Tag Number Properties**.
   - Click  .
3. In the **Enter Tag Number** dialog box, do one of the following:
   - Type the tag number that you want to edit.
   - Click **Find** to open the **Find Tag** dialog box.
4. In the **Find Tag** dialog box, from the Tag class list select the **Typical** check box, enter the required search parameters if needed and click **Find**.
5. In the **Search results** data window, select the typical tag that you want to edit and click **OK**.
6. In the **Typical Tag Number Properties** dialog box, modify the typical tag properties as you require.
7. Click **OK**.

Editing Typical Tags in a Browser View

Use the following procedure to edit the properties of one or more typical tags in an Instrument Index Standard Browser view. You can select typical tags, edit the properties of each typical tag separately and associate these typical tags with other existing typical loops.

➢ To edit multiple typical tags

1. Open the Browser Manager by doing one of the following:
   - From an Instrument Index Standard Browser view, click  .
   - On the main SmartPlant Instrumentation toolbar, click  .
   - On the **File** menu, click **Browser Manager**.
2. Select the browser (**Instrument Index Standard Browser** or a PowerSoft Browser that supports tag number data, if available) that has the default view that you want to open.
3. Select the appropriate browser view.
4. Click **Edit**.
5. On the **View profile** display, from the **Data level** list, select Typical.
6. Click **Save**.
7. Open the browser view and use the **Shift** or **Ctrl** key to select the typical tags that you require.
8. Do one of the following:
   - On the **Actions** menu, click **Properties**.
   - Click  .
   - Right-click the selected tag numbers, and then on the shortcut menu, point to **Tag Number Activities** and click **Properties**.
9. In the **Typical Tag Number Properties** dialog box, edit the typical tag properties as required.

Changing Typical Tag Association

This option allows you to associate a typical tag with another typical loop.

➢ **To change the association of a typical tag**

1. Do one of the following:
   - Open the **Typical Tag Number Properties** dialog box when editing a single typical tag.
   - Open the **Typical Tag Number Properties** dialog box when editing typical tags from an Instrument Index Standard Browser view.
2. Click **Loop**.
3. In the **Select Typical Loop** dialog box, select the required typical loop.
4. Click **OK** to return to the **Typical Tag Number Properties** dialog box.

   Note

   - You can view the new typical loop name in the **Loop name** field.

5. Click **Save** to re-associate the current typical loop to the selected typical loop.

Supporting Tables

Supporting tables are dialog boxes that you use to define and edit loop and tag number attributes. The loop attributes are the values that are available from the lists in the **Find Loop** and **Loop Number** dialog boxes. The tag number attributes are those that appear in an Instrument Index Standard Browser view or in the **Tag Number Properties** and **Find Tag** dialog boxes. In other words, supporting tables allow you to control the content of the various drop-down lists in the dialog boxes mentioned above. Line number, manufacturer, and model information are also stored in supporting tables.

You access a supporting table by clicking  next to the required list arrow in either the **Loop Number Properties** or **Tag Number Properties** dialog box. You can also open the required supporting table by selecting an item on the **Tables** menu in the **Instrument Index Module** window. In the browser view, you can quickly search a supporting table for an item in a selected list, add and modify list items as needed.

Caution

- Only one user can edit a record in a multi user version. Any record toggled to the **Edit** status is locked from being updated by other users until the supporting table dialog box is closed. Changes to the records are saved to the database only after the dialog box is closed.

➢ To define an new supporting table value

1. In the **Instrument Index Module** window, on the **Table** menu, click the option that you require.
2. Click **New**.
3. Define the supporting table value as you desire.

Instrument Manufacturer Supporting Table

Use this supporting table to store instrument manufacturer data in the current domain. Instrument manufacturer is a tag number attribute. The **Instrument Manufacturers** supporting table allows you to control the content of the **Manufacturer** lists in the **Tag Number Properties** and **Find Tag** dialog boxes as well as the **Manufacturer** column in an Instrument Index Standard Browser view.

The **URL** feature on the **Instrument Manufacturer** dialog box allows you to enter a desired URL that can be double-clicked to automatically launch the Internet Explorer and go to the pertinent Web site if you have Internet connection.

➢ **To define a new instrument manufacturer or edit an existing one**

1. In the **Instrument Index Module** window, on the **Tables** menu, click **Instrument Manufacturer**.

2. Click **New** to append a new data row or click in a field of a selected row to edit the data.

3. Type the instrument manufacturer values in the appropriate fields as follows.

   - **Manufacturer** - type the required manufacturer name. For example, Fisher, Honeywell, Rosemount, and so forth.

   - **Description** - type a description for the manufacturer if required.

   - **URL** - type a URL that will become a hyperlink to the required web site. Double-clicking this link launches the Internet Explorer and, if you are connected to the Internet, go to the pertinent site.

Instrument Model Supporting Table

Use this supporting table to store instrument model data in the current domain. All instrument models are categorized by instrument manufacturer. Instrument manufacturer information is held in the **Instrument Manufacturer** dialog box. Instrument model is a tag number attribute. The **Instrument Models** supporting table allows you to control the content of the **Model** lists in the **Tag Number Properties** and **Find Tag** dialog boxes as well as the **Model** column in an Instrument Index Standard Browser view.

➢ **To define a new instrument model or edit an existing one**

1. In the **Instrument Index Module** window, on the **Tables** menu, click **Instrument Model**.

2. From the **Manufacturer** list, select the required instrument manufacturer for which you want to create the new model.

   Tip

   - When editing the properties of an existing instrument model, you can change its manufacturer assignment. To do that, select a row and click **Change Manufacturer**.

3. Click **New** to append a new data row or click in a field of a selected row to edit the data.

4. Type the instrument model values in the appropriate fields as follows.

   - **Model** – type the required model name.
   - **Description** – type a description for the model if required.
   - **Process Function** – select the required process function for the instrument model from the list. This value appears in the **Module** list in the **Tag Number Properties** dialog box and wherever there is a **Module** list in an Instrument Index Standard Browser view.

Function Block Supporting Table

Use this supporting table to add new user-defined function blocks to your instrument index, delete the redundant ones, or modify the definition of existing user-defined function blocks. You can also enable the **Multiple** and **Execution Time** features for any existing function block.

➢ To define a new function block or edit an existing one

1. In the **Instrument Index Module** window, on the **Tables** menu, click **Function Blocks**.
2. Click **New** to append a new data row or click in a field of a selected row to edit the data.
3. Type the function block values in the appropriate fields as follows.

   - **Function Block** - type the required function block name.
   - **Description** - type a description for the function block if required.
   - **Multiple** - select the check box to define this function block as a multiple function block. This will enable you to create multiple function blocks of the same type when adding or editing a tag number associated with this function block.
   - **Execution Time** - select the check box to enable execution time definition for the current function block. You will be able to set the execution time when associating this function block with an instrument type or a tag number.

   Note

   - You cannot delete or rename shipped function blocks.

Managing Custom Tables

You use custom tables, as defined by the Domain Administrator, to contain supporting data for instruments. After you enter your data in a **Custom Table** dialog box, you can use this data as additional tag attributes when setting a profile in the **Instrument Type Profile** dialog box, and when editing tag number properties in the **Tag Number Properties** dialog box.

Note

- The Domain Administrator has rights to create the required custom tables for each <plant>. If the Domain Administrator does not create any custom tables, the **Custom Tables** menu option is not available.

➢ To manage a custom table

1. In the **Instrument Index Module** window, on the **Tables** menu, point to **Custom Tables**, and click the name of the table that you want to open.
2. In the supporting table that opens, to add a new record, click **New**, and then type a unique name and an optional description.
3. To edit an existing record, click a value that you want to edit, and modify as needed.
4. To delete a record, select the row that you want to delete, and click **Delete**.

Managing Intrinsic Safety Circuit Types

Use this procedure to maintain the contents of the IS (intrinsic safety) circuit type supporting table from the Instrument Index module. You can also maintain this supporting table from the Wiring module.

➢ To create or edit an intrinsic safety circuit type

1. Open the Instrument Index module.
2. On the **Tables** menu, click **Intrinsically Safe Circuit Types**.
3. To create a new IS circuit type, click **New**.
4. Under **Intrinsically Safe Circuit Type**, type the unique and required type name.
5. Under **Intrinsically Safe Circuit Description**, type the description.
6. Under **Drawing Name**, type the drawing name.
7. From the **Area Classification** list, select the area classification.
8. Click **Properties**.
9. In the **Intrinsically Safe Data Input** dialog box, under **Non-hazardous area loop components**, enter the relevant data for the non-hazardous devices, such as barrier, isolator, and so forth. Note that you must define the **R1**, **C2**, and **L2** values.
10. Under **Hazardous area loop components**, enter the relevant data for the hazardous devices, such as transmitters, I/P converters, and so forth. Note that you must define the **R1**, **C2**, and **L2** values.
11. Click **OK** to close the **Intrinsically Safe Data Input** dialog box.

Working with Lines

You can create, modify, and delete lines in the Instrument Index module. The **Lines** dialog box holds all the line data in your <plant>. Lines are categorized according to line types. You can create new line types and then add new lines to these types as required. You can also change the type of an existing line if needed and copy line data from a selected line to several target lines.

➢ To access line data

1. Start the Instrument Index module.
2. To open the **Lines** dialog box, do one of the following:
   - On the **Tables** menu, click **Lines**.
   - In the **Tag Number Properties** dialog box, click … next to the **Line** list arrow.

Creating a New Line

This option enables you to create a new line in the Instrument Index module.

➢ To create a new line

1. Start the Instrument Index module.
2. To open the **Lines** dialog box, do one of the following:
   - On the **Tables** menu, click **Lines**.
   - In the **Tag Number** dialog box, click … next to the **Line** list arrow.
3. From the **Line type** list, select the required line type or select the **Show all line types** check box.

   Note

   - If the required line type does not exist, click … next to the **Line type** list arrow.

4. Click **New** to open the **Line Properties** dialog box.
5. Define the line properties as you require and click **OK**.

Editing Line Data

This option enables you to edit the data of an existing line. Line data comprises such properties as the line number, pipe material and standard, line size, its internal diameter, and wall thickness.

➢ To edit line data

1. Open the **Lines** dialog box.
2. From the **Line type** list, select the required line type or select the **Show all line types** check box.
3. Select the required line in the data window.
4. Click **Properties** to open the **Line Properties** dialog box.
5. Define the line properties as you require and click **OK**.

Creating and Modifying Line Types

Line types are used for categorizing the lines in your <plant>. Each line must belong to a particular line type, for example, Process or Utilities. You can create as many line types as required and move the existing lines from one type to another.

➢ To create a new line type or modify an existing one

1. Open the **Lines** dialog box.
2. Click  next to the **Line type** list arrow.
3. In the **Line Type** dialog box, click **New** to append a new data line.
4. Type the line type name and description in the appropriate fields.
5. To modify a line type, highlight the required line type and click in the desired field.

   Tip

   - To quickly find a line type in a long list of line types, type the line type name in the **Find Line Type** box. SmartPlant Instrumentation will automatically highlight the line type you are looking for.

Changing the Type of a Line

This feature enables you to change the line type of an existing line.

➢ To change the line type of a selected line

1. Open the **Lines** dialog box.
2. From the **Line type** list, select the required line type or select the **Show all line types** check box.
3. Select the required line in the data window.
4. Click **Change Type**.
5. In the **Change Type** dialog box, highlight the required line type and click **OK**.

Note

- If the required line type does not exist, click **Cancel** to close the **Change Type** dialog box, then click ... next to the **Line type** list arrow.

Copying Line Data

You use this feature to copy line process data from a selected line to one or more target lines.

➢ To copy line process data from a selected line

1. Open the **Lines** dialog box.
2. From the **Line type** list, select the required line type or select the **Show all line types** check box.
3. Select the source line from which you want to copy process data.
4. Click **Copy Line**.
5. In the **Copy Line Data** dialog box, select the required line type of the target line.
6. In the **Target lines** data window, highlight the target lines to which you want to copy the source line data or select the **Select All** check box to highlight all the displayed lines.

Tip

- You can use the filter facility to display only the required lines in the **Target lines** data window.

7. Select the **Include pipe data** check box to copy the pipe data together with the process data of the source line.

8. Click **OK** to start the copying process.

Tip

- Note that you can also copy line process data while working in the Process Data module. The Process Data module allows you to select a source line in the **Copy Line Data** dialog box different from the one you highlighted in the **Lines** dialog box.

Deleting a Line

This option allows you to delete a line that is no longer in use. Note that you cannot delete a line that is associated with a tag number.

➢ To delete a line

1. Open the **Lines** dialog box.

2. From the **Line type** list, select the required line type or select the **Show all line types** check box.

3. Highlight the required line in the data window.

4. Click **Delete**.

Defining or Modifying Pipe Specs

Pipe spec is a specification that defines various process conditions for a specific pipe.

Use this procedure to define a pipe spec to the **Pipe Specs** supporting table from the Instrument Index module, or to modify properties of an existing pipe spec.

➢ To create a new pipe spec or modify an existing one

1. In the **Instrument Index Module** window, on the **Tables** menu, click **Lines**.

2. In the **Lines** dialog box, under **Line type**, select a line type, or click ... to create a new line type.

3. Click **New** to open the **Line Properties** dialog box.

4. Beside the **Pipe spec** list, click ... to open the **Pipe Specs** dialog box.

5. Do one of the following:

   - To create a new pipe spec, click **New** and type entries in the **Pipe Spec** and **Description** boxes.

   - To edit an existing pipe spec, click a field in a highlighted row and modify the existing entry as needed.

Deleting Pipe Specs

Use this procedure to delete a pipe spec from the **Pipe Specs** supporting table within the Instrument Index module.

Note

- You cannot delete a pipe spec that is currently assigned to lines or tag numbers.

➢ To delete a pipe spec

1. In the **Instrument Index Module** window, on the **Tables** menu, click **Lines**.
2. In the **Lines** dialog box, under **Line Type**, select a line type, or click ... to create a new line type.
3. Click **New** to open the **Line Properties** dialog box.
4. Beside the **Pipe spec** list, click ... to open the **Pipe Specs** dialog box.
5. Select the pipe spec that you want to delete, and click **Delete**.
6. Repeat the previous step for each pipe spec that you want to delete.

Associating Tag Numbers with Loops

There are several different ways that you can associate a tag number with a loop.

You can select a particular loop number and make a batch tag number association or dissociate any tag numbers from the selected loop as needed.

Another way is to select a tag number and change its loop association if it exists. You can also create a new loop with which you want to associate a selected tag number and associate it with this loop on the fly.

Associating Multiple Tag Numbers with a Loop

This option allows to select an existing loop number and associate it with the required tag numbers. You make the association using the **Associate Tag Number** dialog box which displays the selected loop numbers and all the tags that are already associated with it. You can also associate numerous tag numbers with the selected loop.

➢ To associate multiple tag numbers with a selected loop

1. Start the Instrument Index module.
2. Do one of the following:
   - On the **Actions** menu, click **Associate**.
   - Click  .
3. In the **Enter Loop Number** dialog box, do one of the following:
   - Type the name of the required loop number in the **Enter Loop Number** data field.
   - Click **Find** to open the **Find Loop** dialog box. Search for a desired loop, select it, and then click **OK**. The selected loop number will then appear in the **Enter Loop Number** data box.
4. Click **OK** in the **Enter Loop Number** dialog box.
5. In the **Associate Tag Number** dialog box, click **Find** to open the **Find Tag** dialog box.
6. In the **Find Tag** dialog box, search for the tag numbers that you want to associate with the current loop.
7. In the **Associate Tag Number** dialog box, under **Available tags**, select a tag numbers and click 

. Repeat this step for every tag number that you want to associate with the current loop.
8. Click **OK** to make the association.

Changing an Existing Tag Loop Association

This option enables you to change the loop number association of a selected tag number. You change this association when editing a tag number.

➢ **To change the loop association of a selected tag number**

1. Select a tag number for editing using one of the following editing modes:
   - Single-row editing mode.
   - Multi-row editing mode.
2. In the **Tag Number Properties** dialog box, click **Loop**.
3. In the **Find Loop** dialog box, enter the required search parameters as needed and click **Find**.
4. Select the loop you require in the **Search results** data window and click **OK**.

Associating a Tag Number with a New Loop

This option allows you to create a new loop number on the fly while editing a tag number. You can then associate the current tag number with that new loop you are creating.

➢ **To create a new loop while editing a tag number**

1. Select a tag number for editing using one of the following editing modes:
   - Single-row editing mode.
   - Multi-row editing mode.
2. In the **Tag Number Properties** dialog box, click **New Loop**.
3. In the **New Loop Number** dialog box, type the name of the new loop number and click **OK**.
4. Edit the properties of the new loop number as required In the **Loop Number Properties** dialog box and click **OK**.
5. In the **Tag Number Properties** dialog box, click **OK**.

Dissociating Tag Numbers from Loops

This feature enables you to dissociate tag numbers from a selected loop.

➢ **To dissociate tag numbers from a selected loop**

1. Start the Instrument Index module.
2. Do one of the following:
   - On the **Actions** menu, click **Associate**.
   - Click  .
3. In the **Enter Loop Number** dialog box, do one of the following:
   - Type the name of the required loop number in the **Enter Loop Number** data field.
   - Click **Find** to open the **Find Loop** dialog box and search for the loop that you need.
4. Click **OK** in the **Enter Loop Number** dialog box.
5. In the **Associate Tag Numbers** dialog box, under **Associated Tags**, select the tag number that you want to dissociate from the current loop.
6. Click 

to move the selected tag number to the **Available Tags**.
7. Repeat steps 5 and 6 for every tag that you want to dissociate.
8. Click **OK** to make the dissociation.

Editing and Viewing Data

Editing Data in an Instrument Index Standard Browser View: An Overview

You can edit the data fields in a browser view by either selecting one row or by selecting multiple rows. The single-edit mode is useful when you need to edit one row or a few rows. The multi-edit mode is a more powerful tool. In addition to being able to edit multiple rows, you can also carry out certain editing operations that are not available in the single-edit mode.

Viewing and Editing Data

You can view, organize, and edit your instrument index data by opening an Instrument Index Standard Browser view in the Browser module. You can also add a PowerSoft browser that supports the display of tag data and define a view for it to use with the Instrument Index module.

In the selected browser view, you can access numerous commands to manage your instrument index data. You can edit the tag number properties in the multi-edit or single-edit mode, create new loop and tag numbers, associate an instrument with a tag category, associate and open external documents, generate process data sheets and specifications for tags, and so forth.

➢ To browse the instrument index data

1. Start the Instrument Index module.
2. Do one of the following to open the browser view defined for the Instrument Index module:
   - On the **Actions** menu, click **Browse Index**.
   - Click  .

Defining a Standard Browser View for the Instrument Index

When you view and edit tags from the Instrument Index using a browser view, the **Browse** command opens a designated custom view in the Instrument Index Standard Browser. This procedure describes how to create and define the custom view so that it can be used for this purpose.

➢ To define a custom view for the Instrument Index Standard Browser

1. Open the **Browser Manager** by doing one of the following:
   - From an existing Instrument Index Standard Browser view, click  .
   - On the main SmartPlant Instrumentation toolbar, click  .
   - On the **File** menu, click **Browser Manager**.
2. Do one of the following:
   - Select the Instrument Index Standard Browser.
   - Add a PowerSoft Browser that supports the display of tag number data.
3. Define the browser you require to use with the Instrument Index module as follows:
   a) In the browser profile, click **Edit**.
   b) Select **Define as browser for Instrument Index module**.
   c) Click **Save**.
4. Create a view or open an existing view for this browser.
5. Define this view as the default view by doing the following:
   a) In the view profile, click **Edit**.
   b) Select the **Set as default view** check box.
   c) Click **Save**.

Single Row Editing

Single-row editing allows you to modify the data for one tag number at a time from a browser view. You edit the data by typing or selecting values from the available lists. You can also use the **buffer** to copy data from one row and then paste in multiple rows as needed.

➢ To edit tag number data in single-row mode

1. Open an Instrument Index Standard Browser view.
2. Highlight the required tag number.
3. Click in a required field to edit the data. Do one of the following:
   - Type over the displayed value.
   - Select an item from a list.

   Tip

   - If the item you need is not on the list you just opened or if it is a long list and you need to scroll down to find your value, click to open the appropriate supporting table where you can find the required item on the fly. (For details, see Accessing a Specific Supporting Table.)

4. Press Tab to move to the next field.

   Note

   - Fields that hold tag number data (**Name**, **Prefix**, **Number**, and **Suffix**) cannot be edited.
   - Changes you make to a record are automatically saved to the database when you proceed to another record or when you close the browser view.

Adding a New Value to a Drop-Down List

This option allows you to add a new value to a drop-down list. All values are stored in the supporting tables that you can access from various windows and dialog boxes. You can access a supporting table from a menu by selecting the appropriate item from the **Tables** menu or by clicking ... in a dialog box.

➢ To add a new item to a drop-down list

1. Open the appropriate supporting table by clicking ... in the appropriate dialog box or by selecting the appropriate menu item on the **Tables** menu.
2. In the appropriate supporting table dialog box, click **New**.
3. Type the required value in the fields provided. Press **Tab** to move to the next field.

   Note

   - To enter another new value, click **New** again.

4. Click **OK** to accept the new values and close the dialog box.

Accessing a Specific Supporting Table

This feature enables you open the supporting table dialog box for an active column in an Instrument Index Standard Browser view. There are two main uses of this feature:

- Adding, editing, duplicating or deleting items in a supporting table. For details, see Supporting Tables.
- Finding a drop-down list item in an active column of the browser view on the fly. This option is especially useful when you have a long list of items in a drop-down list and you need to scroll up or down to find the item you need. Opening a supporting table for that drop-down list enables you to quickly find the required item which will automatically be selected for you after closing the supporting table dialog box.

➢ To access a supporting table from a browser view

1. Open an Instrument Index Standard Browser view.
2. Highlight the tag number that you require.
3. Click in a column of the highlighted row and do one of the following:
   - On the **Actions** menu, click **Open Supporting Table**.
   - Click  .
4. In the supporting table that opens, type the item you are looking for in the **Find** box.
5. Click **OK** after the software highlights the row you need.

 **Note**

- Clicking **OK** closes the supporting table and displays the selected item in the drop-down list.

 **Tip**

- If the item you are looking for does not exist in the supporting table, click **New** and add an item. Clicking **OK** after adding the new item automatically selects this item in the active drop-down list in the browser view.

Finding a Record in a Browser View Column

This option allows you to search the displayed instrument index data for a specific record. You can search for any record that exists in any of the browser view columns. For example, you can find a specific tag number, an instrument type, or a system I/O type, and so forth. The following search options are available:

- Find a record by entering the whole value, for example, 101-FV 100 (the full tag number name) or CONTROL VALVE (the full instrument type" value).
- Find a record by entering a string which is a part of a value, for example, FV (or just V) or CONTROL VALVE (the full instrument type" value).
- Search for a record as you type in the value.

➢ To find a record in a browser view column

1. Open an Instrument Index Standard Browser view.
2. Click on a column header to select the column you want to search. Note that all the fields in the column become highlighted.
3. Do one of the following:
   - On the **Actions** menu, click **Find**.
   - Click  .

   Tip

   - After selecting a column, the software opens the **Find** dialog box in which you type the value you are looking for.
4. Select **Case sensitive** if you want to distinguish between uppercase and lowercase characters. When selected, SmartPlant Instrumentation finds only those instances in which capitalization matches the text you typed in the data field.
5. Select the required **Match** option:
   - **Whole value** — searches for occurrences that are whole values and not part of a larger value.
   - **String** — searches for a particular string that you type in the data field.
   - **As typed** — searches for a value as you type it in the data field.

6. Click **Find**.

Note

- Click **Find** again to find the next occurrence.

7. Close the **Find** dialog box when done.

Sorting the Tag Rows in a Browser View

This option enables you to sort the tag number rows in an Instrument Index Standard Browser view by a selected column for the current work session. You can set a default sorting sequence for the browser view that takes effect every time you open the browser view. You use the following procedure to override the default sorting sequence for the current session. After closing the browser view, the sorting sequence you set now will be lost and the default one will be applied when you reopen the browser view.

You can sort the rows in ascending or descending order as needed.

➢ To sort the tag numbers according to a column in the browser view

1. Open an Instrument Index Standard Browser view.
2. Double-click on the column header by which you want to sort the tag numbers.

Note

- The first time you double-click a header, the software sorts the data in ascending order — an arrow pointing down appears next to the header according to which the data is sorted.

3. To sort the data in descending order, double-click the same header again. An arrow pointing up appears next to the header according to which the data is sorted.

Editing Tag Number Data in Multi-Row Mode

Multi-row mode allows you to select several rows of tag number data that you can edit. You select the required tag numbers by highlighting multiple tag rows in the browser view. The editing is done in the **Tag Number Properties** dialog box, from which you also have access to the appropriate supporting tables if you need to update the available options in the lists.

➢ To edit tag number data in multi-row mode

1. Open an Instrument Index Standard Browser view.
2. Select the tag numbers that you require. (Press and hold **Ctrl** while you click the rows you want to select or press and hold **Shift** if you want to highlight consecutive rows.)
3. Do one of the following:
   - On the **Actions** menu, click **Properties**.
   - Click  .
   - Right-click the selected tag numbers, and then on the shortcut menu, point to **Tag Number Activities** and click **Properties**.
4. In the **Tag Number Properties** dialog box, edit the data for each tag as you require. You can also do the following:
   - Click **New Loop** to create a new loop number and then associate it with the current tag number.
   - Click **New** to create a new tag number.
5. When you have edited data for a particular tag number, click **Apply**.
6. Click **Next** or **Previous** to move from one tag number to another.

Counting Tag Number Rows in a Browser View

This option enables you to the count the total number of tag number rows currently displayed in an Instrument Index Standard Browser view, where each tag number row represents one record in the database. When selecting several tag number rows, you can count both the total and the selected number of records. Also, when the list of records is long, you can count the total number of tag number rows before the software finishes retrieving the records from the database.

➢ To count tag number rows

1. Open an Instrument Index Standard Browser view.
2. Select as many tag number rows as required.
3. Do one of the following:
   - Right-click the highlighted row or rows, and on the shortcut menu, click **Count Records**.
   - On the **Actions** menu, click **Count Records**.
   - Click  .

Viewing Point-to-Point Wiring Diagrams

For a tag that contains wiring information, you can open the point-to-point wiring diagram directly from an Instrument Index Standard Browser view.

➢ To view a point-to-point wiring diagram

1. Open an Instrument Index Standard Browser view.
2. Do one of the following:
   - On the **Actions** menu, click **Documents**.
   - On the toolbar, click 
3. In the **Documents** pop-up window, select **Tag Signal Diagram**.

Viewing Data History in a Browser View

SmartPlant Instrumentation can indicate changes to the data currently displayed in an Instrument Index Standard Browser view with the data stored in the audit trail repository for the date range that you specify. You can choose any or all of the following modes of emphasis:

- You can set a color to emphasize changes on the screen.
- You can set a shade of gray to emphasize the changed data in printed reports and their previews.
- You can set bold and italic font style for emphasis on the screen and in print.

Note

- History indication is available only if the System Administrator has activated the audit trail functionality. When the audit trail functionality is activated, each time that you save data after making changes, the data is recorded in the audit trail repository.

➢ To view data history in a browser view

1. Open an Instrument Index Standard Browser view.
2. On the **Options** menu, click **History Options**.
3. Select the date range for data history comparison, by doing one of the following:
   - In the **From** and **To** data fields, type the appropriate dates.
   - Select the appropriate dates using the spinners.

   Note

   - To set the **To** data field value as today's date, click **Today**.
4. To set a font style to emphasize changes on the screen and in print, do one or both of the following:
   - Select **Bold**.
   - Select **Italic**.

5. To change the color used to display changes on the screen:

   a) Beside the **Highlight color for display** box, click ....

   b) In the **Color** dialog box, choose the color that you require.

   c) Click **OK** to save your new color settings and return to the **History Options** dialog box.

6. To change the shade of gray used to emphasize the changed data in printed reports and their previews:

   a) Beside the **Grayscale for printing** box, click ....

   b) In the **Grayscale** dialog box, slide the bar to the required position.

   c) Click **OK** to save your new grayscale settings and return to the **History Options** dialog box.

7. Click **OK** to save your current history options and close the **History Options** dialog box.

8. On the **Options** menu, click **Mark Changes** to mark changes in the data currently displayed in the browser view for the dates that you specified in the **History Options** dialog box.

Note

- To clear all history indications in the browser view, cancel the **Mark Changes** selection on the **Options** menu.

Setting a Date Range for Field Value Changes

This option enables you to define a period within which you can track changes made to a specific value in an Instrument Index Standard Browser view.

➢ To track field value changes

1. Open an Instrument Index Standard Browser view.
2. On the **Options** menu, click **Date Range for Changes**.
3. In the **From** field, select or type the date from which you want to start displaying the changes using the DD/MM/YY format.
4. In the **To** field, select or type the date until which you want to display the changes using the DD/MM/YY format.

   Tip

   - Click **Today** to display the current date in the **To** field.

5. Click **OK** to accept your settings and close this dialog box.

Tracking Field Value Changes

In an Instrument Index Standard Browser view, each field can display one specific instrumentation value. You can use the following procedure to view the changes you have made to a value in any field. You can view both the new and the old values, and generate a report that displays these changes.

 **Tip**

- To shorten the period within which you want to track field changes, set a date range.

 **Note**

- The system records field value changes in the audit trail repository. Before using this option on Sybase Adaptive Server Anywhere, make a revision in the **Spec Binder** module to add records to the audit trail repository. This operation is required because on Sybase Adaptive Server Anywhere, if you want to track field value changes, the audit trail repository must not be empty.

➢ To track field value changes

1. Open an Instrument Index Standard Browser view.
2. Select the tag numbers that you require, and then right-click.
3. On the shortcut menu, click **Field Value Changes**.

    **Note**

   - Under **Previous values** in the **Field Value Changes** dialog box, for the value you have selected in the browser view, you can view the previous values, the date of the value change, the user name of the user who changed the value, and the change status.

4. Click **Print** to generate and print out a value changes report.

Accessing Relevant Data from a Browser View

You can quickly access relevant data for selected instruments. You can open an existing specification, process data sheet, or a calculation sheet directly from an Instrument Index Standard Browser view and then perform the appropriate action in the module that opens.

➢ To access a specification from a browser view

1. On the **File** menu, click **Preferences**.
2. In the tree view pane, to expand the tree, click ⊞ beside **Specifications**.
3. Click **General**.
4. In the **Browser view options** group box, select Always from the **Open specification sheet** list.
5. Click **OK** to close the **Preferences** dialog box.
6. In an Instrument Index Standard Browser view, select tag numbers and click  on the **Main** toolbar.

➢ To access a process data sheet from a browser view

1. On the **File** menu, click **Preferences**.
2. In the tree view pane, to expand the tree, click ⊞ beside **Process Data**.
3. Click **General**.
4. In the **Browser view options** group box, select Always from the **Open process data sheet** list.
5. Click **OK** to close the **Preferences** dialog box.
6. In an Instrument Index Standard Browser view, select tag numbers and click  on the **Main** toolbar.

➢ **To access a calculation sheet from a browser view**

1. On the **File** menu, click **Preferences**.
2. In the tree view pane, to expand the tree, click ⊞ beside **Calculation**.
3. Click **General**.
4. In the **Browser view options** group box, select Always from the **Open calculation sheet** list.
5. Click **OK** to close the **Preferences** dialog box.
6. In an Instrument Index Standard Browser view, select tag numbers and click  on the **Main** toolbar.

Displaying Existing Wiring Connections

This option enables you to display or modify the existing wiring connections for the highlighted tag numbers in an Instrument Index Standard Browser view.

➢ **To display existing wiring connections**

1. In the browser view, highlight the tag numbers that you require.
2. Right-click the highlighted tags and on the shortcut menu click **Device Panel Connection**.

You can now view and modify the existing connections as required.

Accessing I/O Assignment from a Browser View

This option allows you to access the **I/O Assignment** window for instruments you selected in an Instrument Index Standard Browser view. This way you can implement the input/output assignment for the selected tags on the fly, by-passing the **Wiring Module** window.

➢ **To access the I/O Assignment window**

1. In the browser view, highlight the tag numbers that you require.
2. Right-click the highlighted tags and on the shortcut menu click **I/O Assignment**.

You can now view, modify, or define new I/O assignments for the selected tag numbers.

Changing the Process Function and Instrument Type in Batch Mode

This option enables you to change the process function and the instrument type of multiple tag numbers in batch mode. You can choose whether to change both the process function and the instrument type or only the instrument type.

➢ To change the process function and instrument type of tags in batch mode

1. In an Instrument Index Standard Browser view, select the required tag numbers.
2. Right-click the selected tag numbers.
3. On the shortcut menu, point to **Tag Number Activities** and click **Change Instrument Type**.
4. In the **Select New Process Function and Instrument Type** dialog box, do one of the following:
   - To change both the process function and the instrument type in batch mode, from the **Process function** list, select the required process function, and in the data window highlight the required instrument type.
   - To change only the instrument type in batch mode, in the data window, select a different instrument type.

   Tip

   - To find and select the instrument type that you require quickly, start typing in the **Find instrument type** field, and the software highlights the record in the data window as you type. If the instrument type is not available, you can create a new one. For more details about instrument type definition, Instrument Type: An Overview.
5. Click **OK**.

Note

- When changing the process function, clicking **OK** opens the **Tag Number Renaming Options** dialog box; when changing the instrument type only, clicking **OK** completes the procedure.

6. In the **Tag Number Renaming Options** dialog box, do one of the following:

   - Select the **Keep general process data** option to delete only process data that is specific for each tag number.

   - Select the **Delete process data** option to delete all the process data associated with the tag numbers.

7. Select **Change all** so that SmartPlant Instrumentation does not prompt you to change the process function and the instrument type for each tag number.

   Caution

   - Before clicking **OK**, note that all the wiring entities that were associated with the old CS tag will be renamed according to the new control system tag name, and all the specifications associated with the tags will be deleted. Verify that the appropriate loop blocks and hook-ups are associated with the new tag number.

8. Click **OK** when done.

   Note

   - If among the tags whose process function and instrument type you are changing there are control system tags, SmartPlant Instrumentation reopens the **Tag Number Renaming Options** dialog box, so that you can rename the CS tags if you want to.

Document Generation

Generating a Specification Sheet for an Instrument

This option enables you to generate specifications for the instruments you select in an Instrument Index Standard Browser view. This option is useful when you need to create a specification for a tag number for which a specification profile was defined **after** that tag number had been created. Note that this option is applicable only to instruments for which you have not generated specifications yet.

Caution

- You can generate a specification only if the tag has a specification data profile.

➢ To generate specification sheets for selected tag numbers

1. Open an Instrument Index Standard Browser view.
2. Select the required tag numbers and do one of the following:
   - On the **Actions** menu, click **Generate a Specification Sheet**.
   - Right-click the selected tag numbers and on the shortcut menu click **Generate a Specification Sheet**.
3. In the **Results** dialog box, take note of the generation results and then click **Close**.

Tip

- Now you can access the new specifications in one of two ways:
  - Select the required tag numbers in the browser view and click  .
  - Select the required tag numbers in the browser view and on the **Actions** menu, click **Documents**.

Generating a Process Data Sheet for an Instrument

This option enables you to generate process data sheets for the instruments you select in an Instrument Index Standard Browser view. This option is useful when you need to create a process sheet for a tag number for which a process data profile was defined **after** that tag number had been created. Note that this option is applicable only to instruments for which no process data sheets have been generated yet.

Caution

- You can generate a process data sheet only if the tag that has an appropriate instrument type. For details, see Defining an Instrument Type.

➢ To generate process data sheets for selected tag numbers

1. Open an Instrument Index Standard Browser view.
2. Highlight the required tag numbers and do one of the following:
   - On the **Actions** menu, click **Generate a Process Data Sheet**.
   - Right-click the selected tag numbers and on the shortcut menu click **Generate a Process Data Sheet**.
3. In the **Results** dialog box, take note of the generation results and then click **Close**.

Tip

- Now you can access the new process data sheets in one of two ways:
  - Highlight the required tag numbers in the browser view and click  .
  - Highlight the required tag numbers in the browser view and on the **Actions** menu, click **Documents**.

Generating a Drawing and Revision Report

This feature enables you to view and print out a report listing the drawings (documents) and the drawing revision data for the tag numbers currently displayed in an Instrument Index Standard Browser view. The report displays all the appropriate tags according to the filtering and sorting conditions that you defined for the browser view.

You can display any of the following drawings:

- Specification
- Process data sheet
- Calculation sheet
- Loop drawing
- Hook-up drawing
- P&ID drawing

You can also display revision data for any of the following drawings:

- Specification
- Process data sheet
- Calculation sheet
- Loop drawing
- Hook-up drawing

➢ To generate a drawing and revision report

1. Open an Instrument Index Standard Browser view.
2. On the **Actions** menu, click **Drawing Report**.
3. In the **Select Drawings and Revisions** dialog box, do one of the following:
   - Under **Drawings**, select the check boxes beside the drawings you want to include in the drawing report.
   - Select the **Select all drawings** check box.

4. Under **Revisions**, do one of the following:

   - Select the check boxes beside the revisions you want to include with the drawing report.
   - Select the **Select all revisions** check box.

   Tip

   - You can select revisions, if available, only after you have selected the appropriate drawings.

Creating a List of Available Tags

Use this feature to generate a report that lists all the available numeric segments of tag numbers in the current <unit> or <plant>.

➢ To create a list of available tag number numeric segments

1. In the **Instrument Index Module** window, on the **Reports** menu, click **Available Tag Numeric Segments**.
2. In the **Generate Available Tags List** dialog box, do the following to set your report criteria:
   a) In the **Numeric segment range** group box, enter the range of numbers that will be included in the report.
   b) Select **Current <unit>** or **<Plant>** to specify the plant hierarchy level for the tag numbers that will be included in the report.
   c) In the **Process function selection** group box, do one of the following:
      - Select the **Process function** option button and then the required process function from the list if you want to base your report on one specific process function.
      - Select the **Select all** option to base your report on all the existing process functions. Now you can also select the **Include duplicate numbers for different process functions** check box if you want to include any duplicate numeric segments in tag numbers belonging to different process functions.
   d) Select the **Exclude reserved tags** check box to exclude the numeric segments of reserved tag numbers.
   e) Click **OK**.
3. When prompted to open the report print preview, click **Yes** to display the print preview or click **No** to print out the report without opening its print preview.

Generating Loop Summary Reports

This option enables you to generate a summary report of the existing loop numbers in the current <unit> or in all the <units> in the <plant>.

You can generate the following summary reports:

- Summary of all loop numbers.
- Summary of loop numbers with no associated tags.

➢ To generate a loop summary report

1. With the **Instrument Index Module** window open, on the **Reports** menu, click **Loop Summary**.
2. In the **Report Selection Options** dialog box, do one of the following:
   - Select **Current <unit>**, so that you can generate a loop summary report of the loop numbers in the <unit> you are working.
   - Select **Current <area>**, so that you can generate a loop summary report of the existing loop numbers in all the <units> in the current <area>.
   - Select **All <units> in the <plant>**, so that you can generate a loop summary report of the existing loop numbers in all the <units> in the current <plant>.
3. Click **OK**.
4. In the **Loop Selection** dialog box, do one of the following:
   - Select **All loops** to generate the Summary of All Loop Numbers report.
   - Select **Loops with no associated tags** to generate Summary of Loop Numbers with no Associated Tags report.
5. Click **OK** to generate a report.
6. If needed, when prompted, click **Yes** to open the generated report in the **Print Preview** window.

Generating Custom Table Reports

Use this procedure to generate a report that displays the values used in one or more custom tables. Custom tables hold user-defined information for instrument tags.

Note

- You can only use custom tables after the Domain Administrator creates the custom tables and names them as appropriate.

➢ To generate a custom table report

1. With the **Instrument Index Module** window open, on the **Reports** menu, point to **Tables** and then click **Custom Tables**.

2. In the **Select Custom Tables for Report** dialog box, beside every custom table that you want to include in the report, select a check box from the **Include** column.

   Tip

   - To include all of the available custom tables into the report, select the **Include all** check box.

External Documents

Associating External Documents

You can associate any external file with a tag number. This external file can serve as an additional document for the selected tag number and it can be viewed and modified from SmartPlant Instrumentation. The document can be a .doc, .txt, .bmp, .wav, .psr file, or in any format supported by your Windows environment.

➢ To associate an external file with one or more tag numbers

1. Open an Instrument Index Standard Browser view.
2. In the browser view, highlight the tag numbers with which you want to associate an external file.
3. On the **Actions** menu, click **Associate Documents**.
4. In the **Associate Documents** dialog box, click **Associate**.
5. In the **Associate External Document** dialog box, navigate to the required file and click **Open**.
6. Click in the **Description** field and type a brief description as needed.

   Note

   - If you need to update the filepath of a document, you can do it by clicking in the **Location** field and tying the required information.

7. Click **OK** to close the dialog box.

Opening an External File Associated with an Instrument

This option allows you open an external file associated with an instrument. You can do this on the fly while associating files with an instrument. SmartPlant Instrumentation will start the appropriate application that is associated with the file you want to open.

➢ **To open an external file associated with an instrument**

1. Open an Instrument Index Standard Browser view.
2. In the browser view, highlight the required tag numbers.
3. On the **Actions** menu, click **Associate Documents**.
4. In the **Associate Documents** dialog box, highlight the external file you want to open.
5. Do one of the following:
   - Click **Open**.
   - Double-click the filename in the **Name** field.

Dissociating an External Document

This option enables you to dissociate an external document from an instrument.

➢ **To dissociate an external document from an instrument**

1. Open an Instrument Index Standard Browser view.
2. Highlight the required tag numbers.
3. On the **Actions** menu, click **Associate Documents**.
4. In the **Associate Documents** dialog box, highlight the external file you want to dissociate.
5. Click **Dissociate**.
6. Click **OK** to save the changes and close the dialog box.

Viewing Associated Documents

Tag numbers in SmartPlant Instrumentation are associated with various documents whether these are documents generated by the software or external documents that can be opened with another application. SmartPlant Instrumentation displays the type of document that is associated with a selected tag number in the **Documents** pop-up window from which you can open the appropriate document on the fly.

Using this option, you can view the following documents associated with a tag number:

- Various reports generated in other modules: Specifications, Process Data, Calculation, and so forth
- Enhanced SmartLoop drawings
- Loop drawings generated using your CAD application (SmartSketch, AutoCAD or MicroStation)
- Hook-Up drawings
- External documents created using other applications.

➢ To view the documents associated with a tag number

1. Open an Instrument Index Standard Browser view.
2. Select the required tag numbers and then do one of the following:
   - On the **Actions** menu, click **Documents**.
   - Click  .

   Tip

   - If you want to view a particular type of document for several tags, you can view a report showing related documents for all the tags in the browser view. On the **Actions** menu, click **Related Documents Report**.
3. In the **Documents** pop-up window, click one of the available options to display the print preview of the available documents. The disabled options represent unavailable document types.

Notes

- To view the external documents, click **Other**, and then in the **Associated Documents** dialog box, select a document and click **Open**.
- If you have associated a CAD drawing comprising several sheets, clicking **CAD Loop Drawings** opens the **View Drawing File** pop-up window, where you can open the CAD drawing sheet by sheet.
- If you have associated more than one hook-up drawing with the tag number, clicking **Hook-Up Drawing** opens the **Associated Hook-Up Drawings** dialog box. In this dialog box you need to select the required drawing file and click **View** to open the hook-up drawing in your CAD application.

4. To close the **Documents** pop-up window, click  .

Assigning Pipe Specs to Instruments

You can assign pipe specs to instrument tag numbers in the Browser module or in the default view of the Instrument Index Standard Browser accessed from the Instrument Index module. You have to assign pipe specs to tag numbers if you want to use pipe-spec sub-libraries in the Hook-Ups module and assign the tag numbers to hook-ups.

Prior to assigning pipe specs to instrument tag numbers, you make pipe spec definitions in the **Pipe Specs** supporting table, which you can access either from the Instrument Index or from the Process Data module. In these modules, you can also assign pipe specs to line numbers.

➢ To assign pipe specs to instruments

1. Do one of the following:

   - Start the Browser module and do the following:

     a) In the **Browser Manager**, under **Browser group**s, click Instrument Index to display a list of available browsers, and then click Instrument Index Standard Browser.

     b) Define a new view profile for this browser.

     c) When defining style setting for the view, select the Tag Number and Pipe Spec fields.

   - Start the Instrument Index module and do the following:

     a) On the toolbar, click  .

     b) On the **Browse View – Default View** window, click  to open the **Browser Manager**.

     c) Under Instrument Index Standard Browser, select Default View and then add the Pipe Spec field to the default view.

Note

- For more information on how to create view styles, see Creating View Styles.

2. On the **Browser Manager** toolbar, click  to open the **Browser View** window.

3. For each tag number, select a desired pipe spec from the list in the **Pipe Spec** column.

 **Tip**

- After you assign tags to hook-ups in the Hook-Ups module, you can open a view for the Hook-Up Tag List browser. This browser displays only those tags that are associated with hook-ups. In this browser view, you can also change the pipe spec associations as you require.