

European Tool Set

PRVCONF / PRVCODE

User's Guide

Version 3.42

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Read this first

What does this chapter contain?

The sections below provide important basic information to help you understand this User's Guide.

What assumptions are made?

In order to understand this User's Guide, you must be familiar with the Windows operating system.

What abbreviations have been used?

The table below contains all abbreviations as used throughout this document.

ETS	European Tool Set: set of software tools providing optimal support for the project engineering process
PDT	Plant Description Tool
SDT	System Design Tool (generic term)
SDT Shell	System Design Tool shell for the Automation Level Network
SDT ALN	System Design Tool for the Automation Level Network (generic term)
PRVCONF	System Design Tool for the Automation Level Network of UNIGYR and VISONIK systems
RS-CONF	System Design Tool for the Automation Level Network of INTEGRAL systems
SDT-FLN	System Design Tool for the Floor Level Network
EDB	Exchange Database: common, open database in ETS
ISP	Location
Device ID	Device identification
User ID	User identification
ALN	Automation Level Network
FLN	Floor Level Network
MSTE	Marketing and Sales Tool Europe: sales and bid support
PCSE	Project Control System Europe: workflow support
PULSS - OM - EM	Process support program of Landis & Staefa Germany Offer module Engineering module

What shortcuts have been used?

The following shortcuts are used in this document:

Shortcut	Meaning
ALT, TAB, ENTER, ...	Press the respective key.
[OK] / ↵	Confirm entries, messages or actions by clicking [OK] or by pressing the ENTER / ↵ key.
(Example)	All examples within workflows are printed in this form and font.
[OK] / [...]	All buttons in windows or dialog boxes are printed in this form.
"File / Save"	Menu selections are printed in this form. Example: From the "File" menu, choose "Save".
"Option"	Field names are always presented in this format.

1. Introduction

Explanations This chapter contains general information on the contents of this document as well as on PRVCONF and PRVCODE.

1.1 About this document

This user's guide is intended for all individuals who plan, sell and/or process projects for VISONIK and UNIGYR systems. It primarily describes the functions of PRVCONF and how to use them. For requirements or hints, refer to the additional documentation indicated for the respective topic.

Where do I find what?

This user's guide contains the following chapters and topics:

Chapter	Contents
	Read this first (previous page) <i>Requirements, abbreviations and shortcuts necessary for using this document and for using PRVCONF</i>
1	Introduction (this chapter) <ul style="list-style-type: none">– <i>General information that you need to know</i>– <i>What you need to know about L&S building management systems</i>– <i>Basic concepts of PRVCONF and PRVCODE</i>
2	Getting started with PRVCONF: <ul style="list-style-type: none">– <i>How to start PRVCONF</i>– <i>Important information for data exchange</i>– <i>Layout of the PRVCONF window</i>– <i>How to save data and quit PRVCONF</i>
3	Sales tasks: <ul style="list-style-type: none">– <i>Best practices for handling a project created using PDT</i>– <i>Best practices for handling a project created via point list</i>
4	Engineering tasks: <ul style="list-style-type: none">– <i>Best practices for handling UNIGYR projects</i>– <i>Best practices for handling VISONIK projects</i>
5	Detailed information on PRVCONF: <ul style="list-style-type: none">– <i>Information and procedures less commonly needed during everyday tasks</i>– <i>Background information on project processing and detailed information</i>– <i>Answers to frequently asked questions</i>– <i>Explanations of error messages and troubleshooting</i>
6	Detailed information on PRVCODE: <ul style="list-style-type: none">– <i>Working with PRVCODE</i>– <i>Information less commonly needed during everyday tasks</i>– <i>Explanations of error messages and troubleshooting</i>

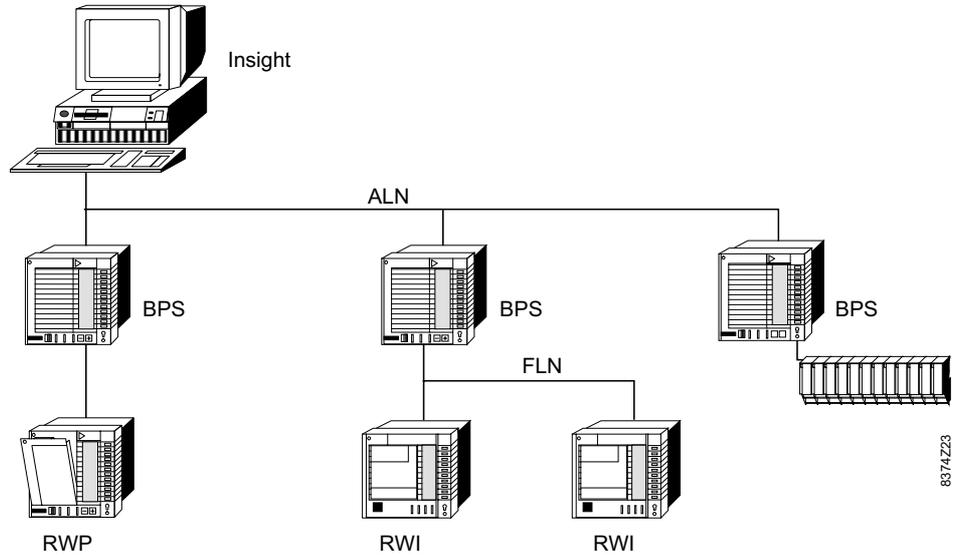
Additional documents	<p>The following L&S documents contain further basics, information and support with regard to project execution:</p> <ul style="list-style-type: none">• ETS Basics (Order No: CM2U8374E)• PDT User's Guide (Order No: CM2U8377E)• SDT Shell User's Guide (Order No: CM2U8379E)• SDT-FLN User's Guide (Order No: CM2U8376E)• UNIGYR Design User's Guide (Order No: CM2B8359E)• DCS Loader User's Guide (Order No: CM2U8373E)• VISONIK Upload User's Guide (Order No: CM2U8370E)
Where do I find further information?	The RELEASE.DOC file, which is included on the installation disk set, provides additional information.
<i>Note</i>	We strongly recommend that you read the RELEASE.DOC file carefully before using PRVCONF so that you have the latest information on the current version of the program.
Version information	This user's guide refers to ETS version 1.40, PRVCONF version 3.42 and PRVCODE version 1.40.

1.2 System knowledge

Explanations

The "ETS Basics" document (Order No: CM2U8374E) provides an overview of the conceptual relationships and terminology of L&S building management systems as well as basic information on project handling and working with ETS.

System example



ALN design

You can use PRVCONF to design the Automation Level Network (ALN) of both UNIGYR and VISONIK systems.

PRVCONF and PRVCODE produce the configuration data for VISONIK systems, but UNIGYR Design is required for UNIGYR systems.

FLN Design

SDT-FLN is used for designing the Floor Level Network (FLN).

1.3 Philosophy

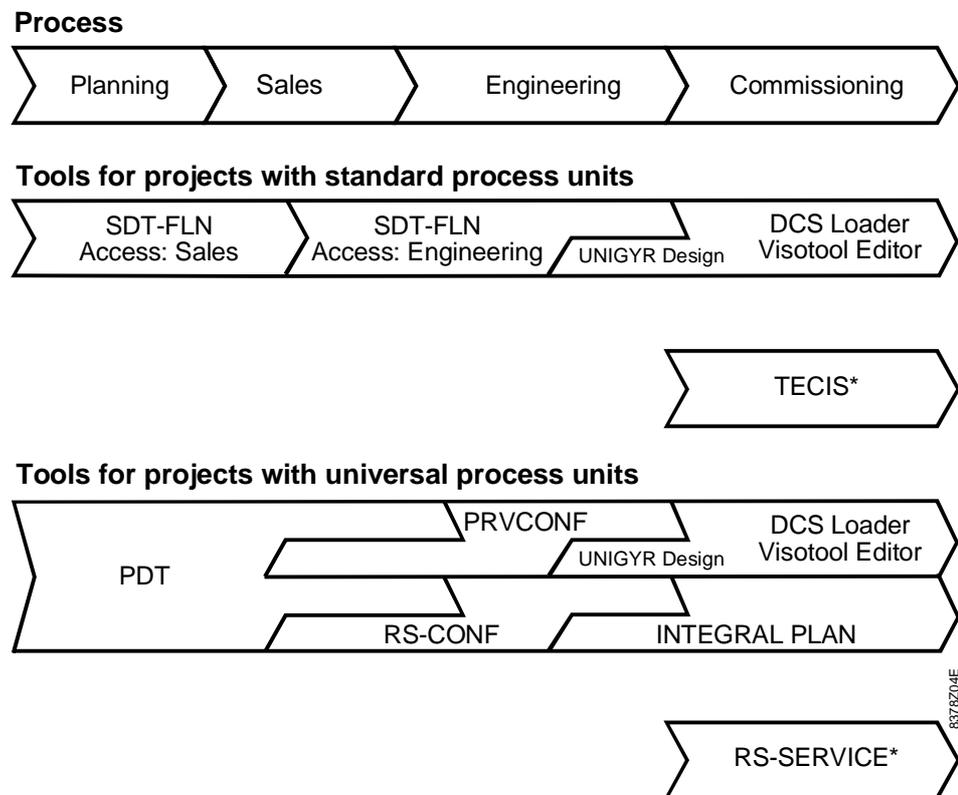
Explanations The following sections mainly describe the basic concepts for project handling and using PRVCONF.

1.3.1 Field of application of PRVCONF and PRVCONF

Explanations PRVCONF is used during the sales phase to determine the system design for UNIGYR and VISONIK systems so that a quantified project scope can be established.

The materials for installation are determined during the engineering phase. In the case of UNIGYR projects, data is generated for further processing in UNIGYR Design. In the case of VISONIK, the loadable configuration and programming for the process units and the DCS are generated.

When do I use PRVCONF? The illustration below provides guidelines for the correct choice of tool for each task.



**Applications for
VISONIK and UNIGYR**

Task	VISONIK	UNIGYR
Process unit design - Plant allocation	PRVCONF	PRVCONF
Definition and ordering of materials - Field devices - Process units and accessories		PRVCONF or UNIGYR Design
Control panel design - I/O allocation - Power installation design (using third-party tool)		
Data point information - Text - User name as per L&S spec. as per customer spec. - I/O address (only if separate)		
Programming	PRVCONF	
Data point parameter setting		UNIGYR Design
Loadable configuration - BPS - DCS	PRVCONF	
Operation graphics	during Installation	during Installation
Message texts	on site	on site
Scheduler programming	on site	on site

PRVCONF for UNIGYR

If the plants for a UNIGYR project were described using PDT, we recommend that you use PRVCONF to define the required materials.

You can use either PRVCONF or UNIGYR Design for I/O allocation. If you can quickly create the plants by copying and modifying existing plants, UNIGYR Design proves especially advantageous.

Use of PRVCONF
(VISONIK only)

PRVCONF generates a loadable configuration and the corresponding COLBAS code for the process units. The loadable file is derived from the MTF metafile generated by PRVCONF. In combination with the required system tasks, procedures etc. from the library, a COLBAS file for a PRV or BPS type process unit is generated.

2. Getting started with PRVCONF

2.1 Starting PRVCONF

How do I proceed?

Proceed as follows to start PRVCONF:

Step	Procedure
1	Double-click the SDT Shell icon
2	Select "Project / Open" to open the appropriate project for VISONIK or UNIGYR systems, or select "Project / New" to create a new project.
3	Carry out the data transfer using the "SDT-ALN / Write data to PRVCONF" command.
4	Select "SDT-ALN / Start PRVCONF"

Notes

- Start PRVCONF via SDT Shell only.
- The VISONIK or UNIGYR system project to be processed must be open; projects are selected in SDT Shell.

What is next?

You can now start editing the open project. Instructions for using PRVCONF are provided in chapter 3 and onward of this document.

2.2 Data from the Exchange Database

Local data in PRVCONF

PRVCONF cannot access the Exchange Database (EDB) directly. Instead, it uses its own local, non-volatile data. Therefore, it is important to write the data from the EDB to PRVCONF before you start PRVCONF and to write the data back to the EDB after you quit PRVCONF. The two databases remain synchronized in this way.

Note

Writing the data from PRVCONF to the EDB takes some time. During the transfer, do not use any other application that accesses the database.

Database repair

If a large number of transfers are carried out between the EDB and PRVCONF, the Exchange Database can become damaged. The SDT Shell User's Guide (Order No: CM2U8379E) contains instructions on how to repair the EDB, see chapter "Database repair".

Restoring the original data

If you do not want to save the changes you made in PRVCONF, quite PRVCONF without saving the data. Do not transfer the data from PRVCONF. Instead, write the data to PRVCONF again — acknowledge the message "Data transfer already performed. Do you want to repeat it?" by clicking [Yes].

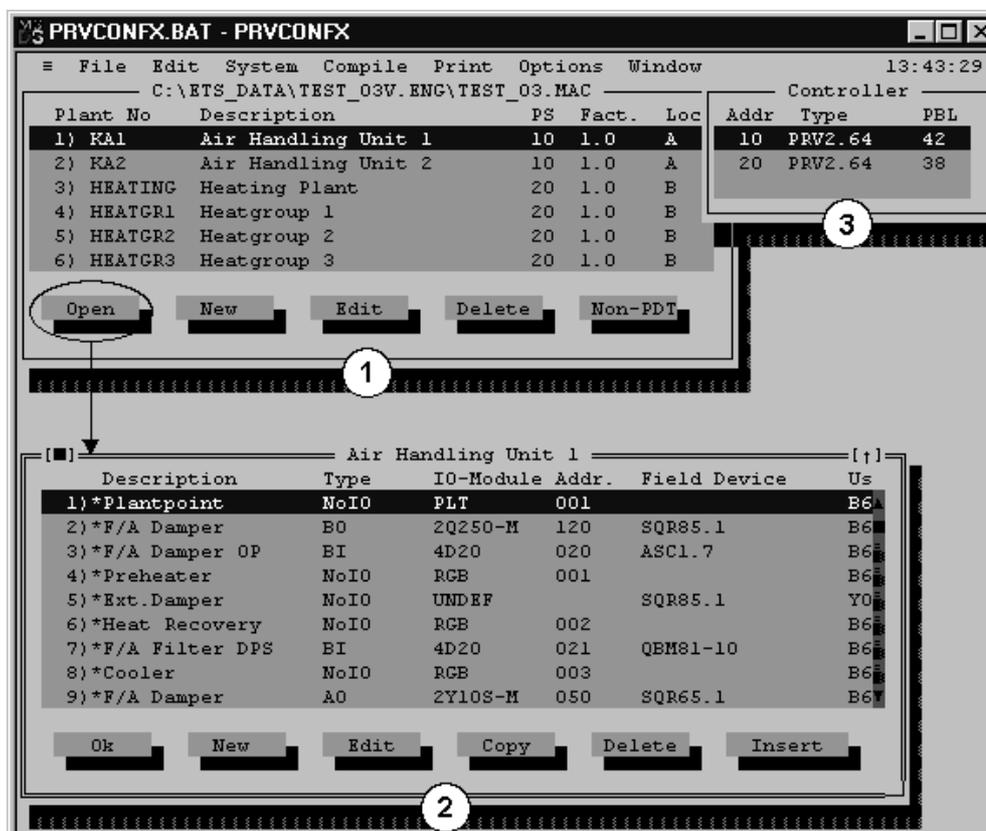
2.3 Application window layout

PRVCONF and PRVCODE are both DOS programs. The application window has no toolbars — functions are started using the menu bar or function keys.

2.3.1 PRVCONF main window with other windows

List windows

When you start PRVCONF, the plant list is always open in the main window.



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No.	Designation	Description
①	Plant list	List of all plants contained in the project
②	Data point list	List of all data points contained in the open plant
③	Process unit list (stations)	Not available until after compilation: List of all process units required for the project, including an indication of P-bus load.

Data point list presentation

You can change the data point list by selecting "Options / Point window".

Modifying windows using icons

[■]	Close the window.
[↑]	Maximize / minimize the window.
Lower right corner of window	Change the window size.

2.4 Saving data

Saving a file

To save the current data, select "File / Save".

SDT Shell is used to write the data to the EDB.
(see SDT Shell User's Guide, Order No: CM2U8379E)

Note

While you are working with ETS, do not use the "File / Save as" menu command, otherwise the other tools will not be able to find the data.

Archiving data

SDT Shell is used to archive the data of the entire project
(see SDT Shell User's Guide, Order No: CM2U8379E)

2.5 Quitting PRVCONF

You can quit PRVCONF at any time. If your project contains unsaved changes, a message appears.

To quit PRVCONF, select "File / Exit".

3. Sales tasks

What does this chapter contain?

This chapter focuses on the description of workflows. They provide step-by-step instructions for the sales phase based on a best-practice approach.

The principal aim of this phase is to identify cost-relevant factors. This means that the emphasis is on quantities and cost estimates. At this point, technical details are less important.

Project situations

Workflow descriptions are provided for the following project situations:

Project situation	Section
Quantification for projects from PDT	3.1
Quantification using point lists	3.2

Note

For information on important considerations regarding the EDB see 2.2 "Data from the Exchange Database"

3.1 Quantification for projects from PDT

Explanation

This section describes the workflow for projects that have been mainly edited using PDT. Therefore, largely complete definitions of the plants and the associated points and field devices are present.

Before you begin

Before you begin, ensure that the following requirements are fulfilled:

- Project description and HVAC related information are present (e.g. locations [ISPs], auxiliary functions).
- Customer requirements and customer data are known.
- UNIGYR or VISONIK data points have been generated in PDT as appropriate.
- The desired UNIGYR or VISONIK project is open in SDT Shell.

Quick guide

Step	Procedure	Detailed instructions
1	In SDT Shell carry out the data transfer, and then start PRVCONF.	Page 13
2	Select "Compile / Options" to set the system options.	Page 19
3	Select "Compile / Text+Address Options" to set limits.	Page 19
4	Check the field devices and module types.	Page 20
5	Select "Compile / Allocate" to allocate the process units (stations) to the locations.	Page 21
6	Select "Compile / Compile" to generate the I/O modules.	Page 23
7	Define the process unit accessories.	Page 24
8	Select "System / Server > Edit" to define the system devices.	Page 24
9	Select "File / Save" to save the data, and then select "File / Exit" to quit PRVCONF.	Page 15
10	Transfer the data to SDT Shell, and then print the sales lists in SDT Shell.	

3.1.1 Setting system options

Purpose	The system type, process unit version and size of the I/O module rails are defined. Select "Compile / Options", and then make the following definitions for the sales phase:
Process unit version	In the " <i>PS Version</i> " field, select the process unit type and version. For VISONIK: PRV1.x or PRV2.x For UNIGYR: PRU10.x or PRU2.X
<i>Note</i>	You must select a process unit type that corresponds to the selected system.
System	Select the desired system (UNIGYR, VISONIK ...).
<i>Note</i>	This option is not available if a system has already been defined under "System / Server".
I/O module rail dimensions	In the " <i>Dim. PTX</i> " field, select the size of the module rails that you require.
Further options	You do not have to define any further options for the sales phase.

3.1.2 Setting limits

Purpose	The reserves of the process units are defined. Select "Compile / Text+Address options", and then enter the limits in percent:
P-bus	Percentage loading of the P-bus.
Addr	Percentage assignment of I/O addresses.
<i>Note</i>	These limits are taken into account during allocation of process units.

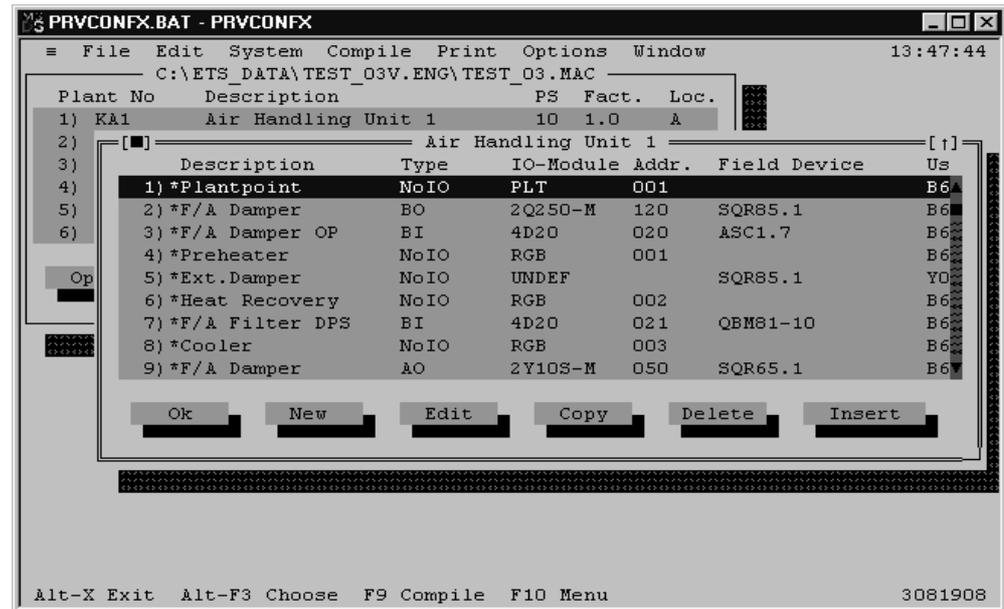
3.1.3 Checking field devices and module types

Purpose

In order to determine the quantities of materials, the list of field devices is completed.

Example

The field devices are listed in the "Field Device" column of the data point list.



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How do I proceed?

Step	Procedure
1	Select a plant from the plant list, and then click [Open].
2	Check the field devices listed in the "Field Device" column of the data point list. If a required field device is not defined or needs to be changed, or if the I/O module type needs to be changed: Click [Edit], and then enter the required field device in the corresponding field, or change the I/O module type.
3	To close the data point list, click [OK].
4	Repeat steps 1 to 3 for the remaining plants.

Field device definition

A field device can be defined in two different ways:

- Type the field device type designation directly in the text field. If the product is not listed in the catalogue, a dialog box appears. Enter the designation, price and cost of the device in this dialog box.
- Catalogue selection: Delete the existing field device designation and type the first letter of the desired type designation. Click [Search Mat.] to display a list of corresponding field devices from the catalogue.
To view additional information about the field device, click [Info Mat.].

To add accessories, first enter a plus sign (+).

Module types

You cannot change the point type of the data points generated in PDT. For example, you can only change BO + BI to BOBI or AO to Y3P in PDT itself. This action is often not necessary during the sales phase because the I/O module costs remain about the same.

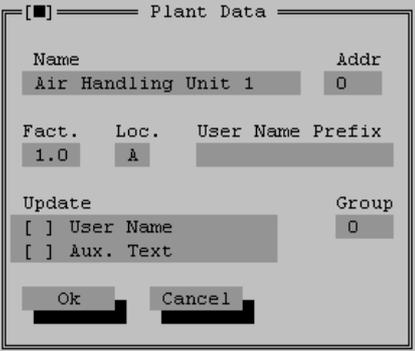


If a large number of remote P-bus rails (each with a small number of data points) are required, this fact must be reflected in the cost calculation. Use the module rail number for this purpose (see page 65)

3.1.4 Allocating process units to locations

Purpose Based on the existing plants, the required number of process units and their P-bus loads are calculated for each location (ISP).

Changing a location If necessary, you can change the locations (ISPs) of individual plants.

Step	Procedure
1	Select a plant from the plant list, and then click [Edit]. The "Plant Data" window appears.
2	 <p>8375003E</p> <p>Overwrite the designation in the "Loc." field.</p>
3	Confirm with [OK].

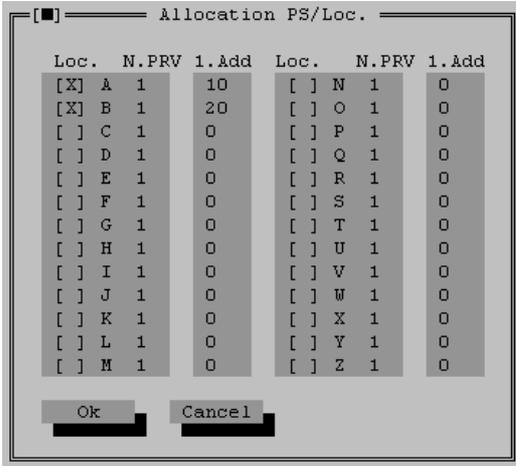
Automatic allocation of process units

The required number of process units with their individual levels of utilization is calculated automatically, and the allocation of process units is optimized. For technical reasons, address ranges must be assigned for process units.

Requirement

The addresses are not locked.

How do I proceed?

Step	Procedure
1	<p>Select "Compile / Allocate". The "Allocation PS/Loc." window appears:</p>  <p style="text-align: right;">8375004E</p> <ul style="list-style-type: none"> • For each location, enter the first process unit address in the "1. Add." field. • If automatic calculation is required, select the check box [] in the Loc. column. Clear all other check boxes.
2	To start the automatic allocation process, click [OK].
3	Select "File / Save" to save the data.

Recommendation

We recommend that you assign addresses in steps of 10 in order to leave sufficient space for later additions.

Notes

- If plants with different locations are assigned to the same process unit, a warning message appears after compilation.
- You can enter an estimate of the required number of process units in the "N.PRV" field. This makes the calculation process faster.
- If the project contains a large number of similar plants, the program may not be able to find an optimum. You can cancel the optimization by pressing ESC as soon as a cost estimate appears.

Manual allocation of process units

With this procedure, you can allocate plants directly to process units.

How do I proceed?

Step	Procedure
1	Select a plant from the plant list, and then click [Edit].
2	Enter the process unit address in the "Addr." field.
3	Confirm with [OK].

Note

If plants with different locations are assigned to the same process unit, a warning message appears after compilation.

3.1.5 Generating I/O modules

Purpose The required I/O modules are generated for each process unit. The layout of the modules and their respective addresses is displayed in the "Module Layout" window for verification purposes.

The "Module Layout" window Select "Compile / Compile". After successful compilation, the layout of the I/O modules for each process unit is displayed in the "Module Layout" window.

The process units and their P-bus loads are listed in a separate window.

The best way to close the windows displaying the module layouts is to select "Window / Close all windows".

Note If the maximum P-bus load or the address range is exceeded, including the reserve, the layout window of the respective process unit assumes a different colour. In this case, you must manually divide the affected plant between two process units.

Example for VISONIK

		Modul Layout		SS 10	PBL=34	l={}	
00	MW	1	2R1K	2R1K	2U10	2U10	[0,1,2,3,4,5,6,7]
01	MW	5	2R1K	2U10	2U10	-----	[0,1,2,3,4,5]
02	ML1:i	9	4D20	-----	4D20R	-----	[0,1,2,3,4,5]
03	ML1:i	13	4D20	-----	4D20	-----	[0,1,2,3,4,5,6,7]
04	ML1:i	17	4D20	-----	-----	-----	[0,1,2,3]
05	ST:Ui	21	2Y10S-M	2Y10S-M	2Y10S	2Y10S-M	[0,1,2,3,4,5,6,7]
06	ST:Ui	25	2Y10S-M	-----	-----	-----	[0,1]
07	SB1:i	29	2Q250-M	4D20	2Q250-M	4D20	[0,1,2,3]
10	SB1:i	33	2Q250-M	4D20	2Q250-M	4D20	[0,1,2,3]
11	SB1:i	37	2Q250-M	4D20	-----	-----	[0,1]
12	SB1:i	41	2Q250-M	-----	-----	-----	[0,1]
13	-----	45	-----	-----	-----	-----	[]
14	-----	49	-----	-----	-----	-----	[]
15	-----	53	-----	-----	-----	-----	[]
16	-----	57	-----	-----	-----	-----	[]
17	-----	61	-----	-----	-----	-----	[]
20	-----	65	-----	-----	-----	-----	[]
21	-----	69	-----	-----	-----	-----	[]
22	-----	73	-----	-----	-----	-----	[]
23	-----	77	-----	-----	-----	-----	[]

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3.1.6 Defining process unit accessories

Purpose

In order to complete the quantification of the materials, the accessories for the individual process units are defined.

Defining accessories

Select the desired process unit from the process unit list, and then select "Edit / Edit". The "Options PS..." window appears. All of the fields are relevant for costs and must be completed correctly.

Example: Accessories for a PRV2.X type process unit.

Communication	Options	PS Type
<input type="checkbox"/> without	<input type="checkbox"/> Printer	<input checked="" type="checkbox"/> PRV2.00
<input type="checkbox"/> SDLC	<input type="checkbox"/> Modem	<input type="checkbox"/> PRV2.32
<input type="checkbox"/> V.24		<input type="checkbox"/> PRV2.64
<input checked="" type="checkbox"/> SDLC&V.24		<input type="checkbox"/> PRV2.128

Extension	Memory	PS Name
<input checked="" type="checkbox"/> without	<input checked="" type="checkbox"/> 0.5M	PS No. 030
<input type="checkbox"/> Monogyr	<input type="checkbox"/> 1.0M	
<input type="checkbox"/> FLN		

Ok Cancel

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Selecting a larger process unit

If necessary, you can select a higher process unit type of the same range in this window.

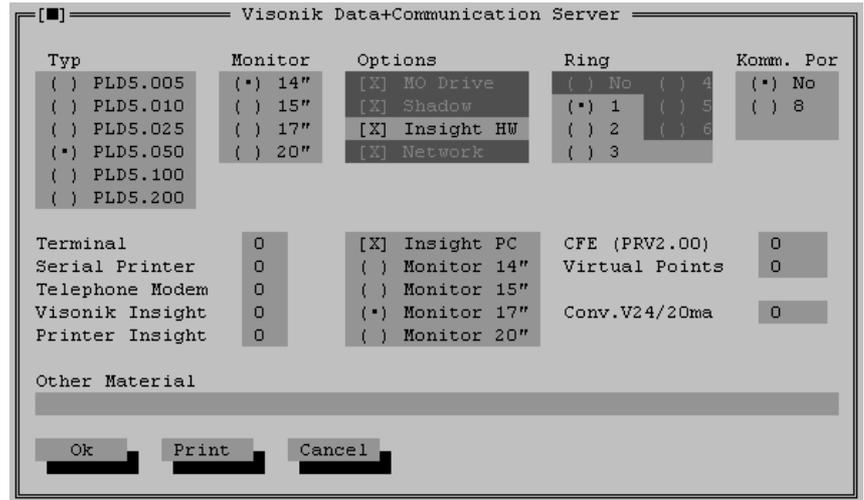
3.1.7 Defining system devices

Purpose If already known, you can define the hardware and software for a UNIGYR or VISONIK system. Otherwise, you must enter this information with MSTE or PULSS.

How do I proceed?

Step	Procedure
1	Select "System / Server > Edit" — the "Type" window appears.
2	Select a type (see 5.3.5 "System hardware and software" for details). Confirm with [OK].
3	A dialog box appears for the system you selected.

Example: VISONIK PLD



8375O19E

Note

The settings appear in the following lists:

- System device list, printed via SDT Shell
- Summary, printed via PRVCONF

3.2 Quantification using point lists

Explanation

The following workflow describes the procedure for a VISONIK project when PRVCONF is not used with a project described in PDT but with an existing point list (approximate number of points per location). The functions are not known and only a summary calculation is possible.

Before you start

Before you start, make sure that you have a point list that is subdivided into locations.

Quick guide

Step	Procedure	Detailed instructions
1	Create a new project in SDT Shell.	
2	Carry out the project data transfer, and then start PRVCONF.	Page 13
3	Select "Compile / Options" to set the system options.	Page 27
4	Select "Compile / Text+Address Options" to set limits.	Page 27
5	Create a summary plant for each location.	Page 28
6	Split up the plants ("Edit / Split plants")	Page 29
7	Select "Compile / Allocate" to allocate the process units to the locations.	Page 30
8	Select "Compile / Compile" to generate the I/O modules.	Page 30
9	Define the process unit accessories.	Page 31
10	Select "System / Server > Edit" to define the system devices.	Page 32
11	Select "File / Save" to save the data, and then select "File / Exit" to quit PRVCONF.	Page 15
12	Transfer the data to SDT Shell, and then print the sales lists.	

Note

The described procedure applies in principle to both VISONIK and UNIGYR systems. In the case of UNIGYR, however, you will often receive incorrect cost calculations because the plant/partition distribution is completely random.

3.2.1 Setting system options

Purpose	The system type, process unit version and size of the I/O module rails are defined. Select "Compile / Options", and then make the following definitions:
Process unit version	In the " <i>PS Version</i> " field, select the process unit type and version. For VISONIK: PRV1.x or PRV2.x For UNIGYR: PRU10.x or PRU2.X
<i>Note</i>	You must select a process unit type that corresponds to the selected system.
System	Select the desired system (UNIGYR, VISONIK ...).
<i>Note</i>	This option is not available if a system has already been defined under "System / Server".
I/O module rail dimensions	In the " <i>Dim. PTX</i> " field, select the size of the module rails that you require.
Further options	You do not have to define any further options for the sales phase.

3.2.2 Setting limits

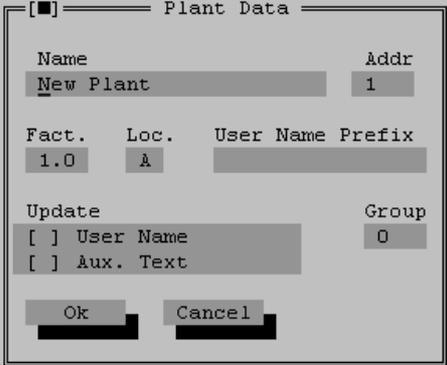
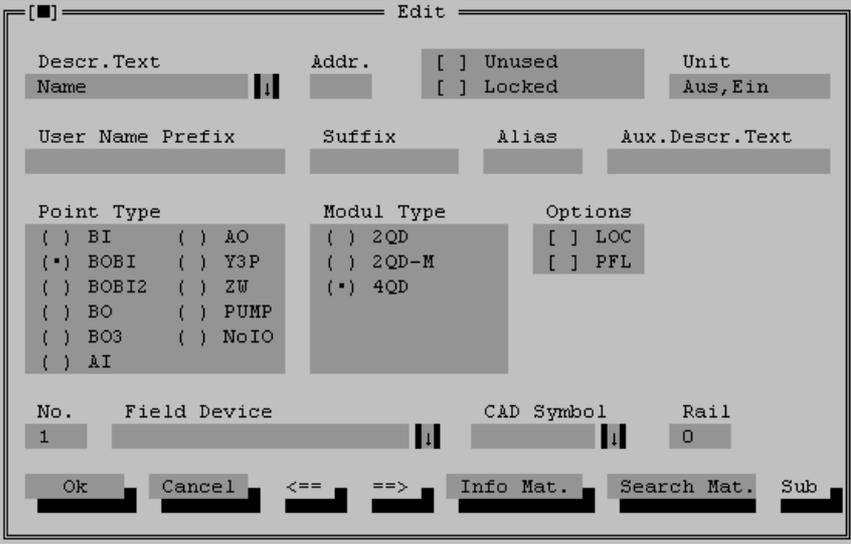
Purpose	The reserves for the process units are defined. Select "Compile / Text+Address options", and then enter the limits in percent:
P-bus	Percentage loading of the P-bus.
Addr	Percentage assignment of I/O addresses.
<i>Note</i>	These limits are taken into account during allocation of process units. In the case of quantification via point list, plan for at least 20% reserve in order to prevent the cost estimate from being too low.

3.2.3 Creating a summary plant for each location

Purpose

Because no detailed specifications are known, one plant is created for each location. In the plant, data points are defined using the total amount of points of the same type.

How do I proceed?

Step	Procedure
1	In the plant list, click [New].
2	 <p>8375006E</p> <p>Enter the name of the location in the "Name" field, and then enter the location's code letter.</p> <p>Confirm with [OK].</p>
3	In the plant list, click on [Open]. The data point list opens.
4	Click [New].
5	 <p>8375007E</p> <p>Enter the following information in the dialog box:</p> <ul style="list-style-type: none"> • Summary data point name (in the "Descr. Text" field). • Point type • Module type and options • Number of points of the selected type (in the "No." field), max. 99 <p>Confirm with [OK].</p>
6	Repeat steps 4-5 for all further point types.
7	Repeat steps 1-5 for all further locations.



Field device

The "No." field defines the number of data points, **NOT** the number of **field devices**.

Entering field devices during this process makes no sense for the following reasons:

- The number of field devices is incorrect.
- In reality, different field devices with different costs are used.

3.2.4 Splitting plants

Purpose

The points of the summary plants for each location are divided among a number of smaller plants of realistic size. These plants can then be allocated to process units.

If the size of the plant you want to split exceeds the preset plant size, a message appears. When you acknowledge the message, a new plant opens.

How do I proceed?

Step	Procedure
1	Select "Edit / Split plants", and then acknowledge the message.
2	You can either leave the plant name as is or you can overwrite it.
3	Confirm with [OK].

Note

Plant splitting is carried out according to the plant size setting in the PRVCONF.INI file (see 5.2.2 "Important INI files"). You do not normally have to make any changes to this file.

3.2.5 Allocating process units to locations

Purpose Based on the existing point lists (plants), the required number of process units and their P-bus loads are calculated for each location (ISP).

Automatic allocation of process units The required number of process units with their individual levels of utilization is calculated automatically and allocation is optimized. For technical reasons, address ranges must be assigned for process units.

Step	Procedure
1	Select "Compile / Allocate".
2	For each location, enter the first process unit address in the "1. Add." field.
3	To start the automatic allocation process, click [OK].
4	Select "File / Save" to save the data.

Note Because all of the plants in each location will be of similar size, the program may not be able to find an optimum. You can cancel the optimization by pressing ESC as soon as a cost estimate is displayed.

3.2.6 Generating I/O modules

Purpose The required I/O modules are generated for each process unit. The "Module Layout" window displays for verification purposes the layout of the modules and their respective addresses.

Module Layout Select "Compile / Compile". After successful compilation, the layout of the I/O modules for each process unit appears in the "Module Layout" window.

The process units are listed in a separate window.

The easiest way to close the windows displaying the module layouts is to select "Window / Close all windows".

Note If the maximum P-bus load or the address range is exceeded, including the reserve, the layout window of the respective process unit assumes a different colour. In this case, you must manually divide the affected plant between two process units.

3.2.7 Defining process unit accessories

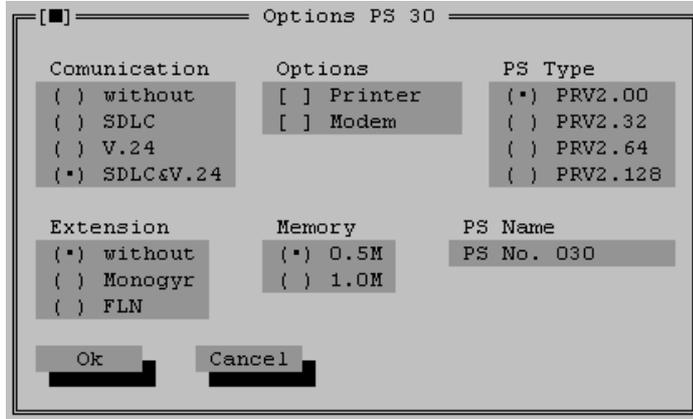
Purpose

In order to complete the quantification of the materials, the accessories for the individual process units are defined.

Defining accessories

Select the process unit in the process unit list, and then select "Edit / Edit". The "Options PS..." window appears. All of the fields are relevant for costs and must be completed correctly.

Example: Accessories for a PRV2.X type process unit.



8375010E

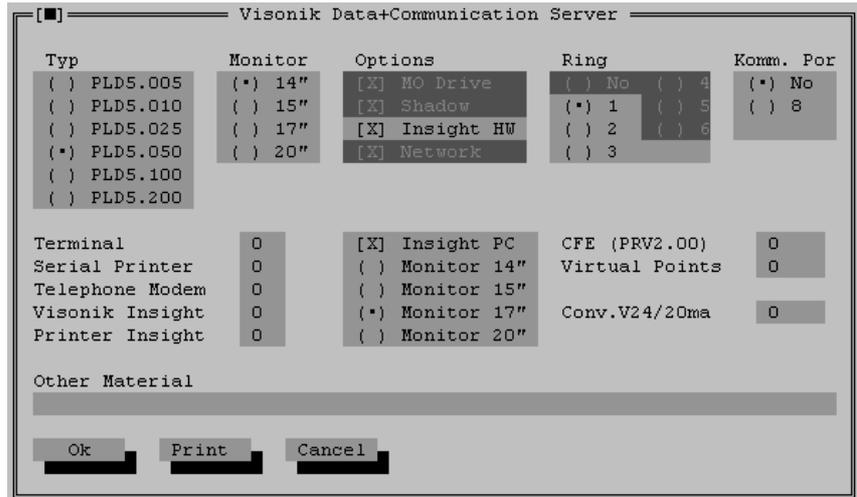
3.2.8 Defining system devices

Purpose If already known, you can define the hardware and software for a UNIGYR or VISONIK system. Otherwise, you must enter this information with MSTE or PULSS.

How do I proceed?

Step	Procedure
1	Select "System / Server > Edit" — the "Type" window appears.
2	Select a system (see 5.3.5 "System hardware and software" for details). Confirm with [OK].
3	A dialog box appears for the selected system.

Example: VISONIK PLD



8375O19E

Note

The settings are displayed in the following lists:

- System device list, printed via SDT Shell
- Summary, printed via PRVCONF

4. Engineering tasks

What does this chapter contain?

This chapter focuses on the description of workflows. They provide step-by-step instructions for the engineering phase based on a best practice approach.

The purpose of this phase is to produce the complete installation documentation and create the system configuration.

Project situations

The following sections provide workflow descriptions for five different project situations:

Project situation	Section
Workflow for a UNIGYR project with ALN plants only	4.1
Workflow for a UNIGYR project with ALN and FLN plants	4.2
Workflow for a new VISONIK project	4.3
Workflow for VISONIK enhancement	4.4
Workflow for a VISONIK project with ALN and FLN plants	4.5

Before you start

Before you start, ensure that the following requirements are fulfilled:

- The project data from the sales phase, and therefore the quantified project scope, is present in PRVCONF (see chapter 3 "Sales tasks")
- Customer requirements and customer information are specified in greater detail.
- Plant descriptions with I/O points, field devices and auxiliary functions are present and checked.
- The respective UNIGYR or VISONIK project is open in SDT Shell.



Do not start the system design unless you have detailed knowledge of the plants.

4.1 Workflow for a UNIGYR project with ALN plants only

Description

The project contains applications for universal process units on ALN only.

Recommendation

Use the standard and default plants in PDT to create the plant description. Use PRVCONF to design the process units, process unit accessories and system devices. If you also use PRVCONF to address the I/O modules, you can use the lists from SDT Shell as implementation documents.

Complete the processing of the project using UNIGYR Design.

Quick guide

Step	Procedure	Detailed instructions
1	Start PRVCONF via SDT Shell.	Page 13
2	Select "Compile / Options" to check / set the compiler options.	Page 35
3	Select "Compile / Text+Address Options" to check / set the limits and text options.	Page 35
4	Check the sales data, and make changes if appropriate. If necessary, enter I/O module rail numbers.	Page 36
5	Create the instance names for the I/O function blocks and assign process unit addresses.	Page 38
6	Assign I/O module addresses.	Page 40
7	Define process unit accessories.	Page 41
8	Select "System / Server > Edit", and define the system devices.	Page 42
9	Select "Compile / Compile" to generate the HLK file with I/O function blocks and lock the addresses.	Page 43
10	Save the data and quit PRVCONF.	Page 15
11	Transfer the data to SDT Shell and print the lists for material procurement and installation.	Page 43
12	Transfer to UNIGYR Design.	

4.1.1 Checking / setting compiler options

Purpose	The sales settings are checked and the options for engineering are set.
What settings are needed?	Select "Compile / Options", and then set the following options:
System	UNIGYR
PS version	Process unit version PRU10.x or PRU2.x
Dim. PTX	Module rail size (to fit control panel).
File	Select the " <i>Configuration</i> " check box if you want to generate the HVAC file.
Option	Select the " <i>Lock Addresses</i> " check box if the addresses are to be entered manually or if the control panel is already under construction.
Further options	See 5.3.1 "Compiler options".

4.1.2 Checking and setting limits and text options

Purpose	The process unit reserves and the text options are defined.
Setting limits	Select "Compile / Text+Address Options", and then enter the limits in percent:
P-bus	Percentage loading of the P-bus
Addr	Percentage assignment of I/O addresses
<i>Note</i>	These limits are taken into account during allocation of process units.
Setting text options	You can set these options in the same window as described above.
User name structure and offsets	The user name structure and offsets are not relevant to UNIGYR.
Option	Select the check boxes for the text options " <i>TXI2+TXU</i> " and " <i>TXI 32 Char</i> ".
User name option	Select the " <i>Use only prefix</i> " option

4.1.3 Checking the sales data

Purpose Changes and modifications may have been requested between initial bidding and the placement of the order. Therefore, the data received from sales must be checked against the order requirements and, if necessary, supplemented or corrected.

What needs to be checked? Check especially the following data against the consulting engineer's information:

- Actuators and valves (type, size, actuator voltages).
- Emergency operation and manual switches
- Supervision (feedback signals, contactor supervision, ...)
- Field devices
- Data point texts and physical units
- Module rail numbers

How do I proceed? In the case of PDT plants, you must use PDT to make the following changes: delete data points, create new data points, change point types (e.g. BO+BI to BOBI or AO to Y3P).

You can edit the material data of actuators, valves and field devices as well as module types and data point texts either in PDT or in PRVCONF.

Checking data Proceed as follows to check material data as well as module types and data point texts:

Step	Procedure
1	Highlight a plant from the plant list, and then click [Open].
2	Highlight a data point in the data point list, and then click [Edit].
3	Check the module type and the options in the respective fields.
4	Highlight the field device, and then click [Info Mat.] to check whether it is present in the materials database.
5	Use the [==>] button to select the next data point in the plant.
6	Repeat steps 3 to 5 until you have checked all of the data points. Click [OK] to close the window.
7	Click [OK] to close the data point list.
8	Repeat steps 1 to 7 for all remaining plants.

Additional data points Data points that you add in PRVCONF are displayed without graphics in PDT. Proceed as follows to add new data points:

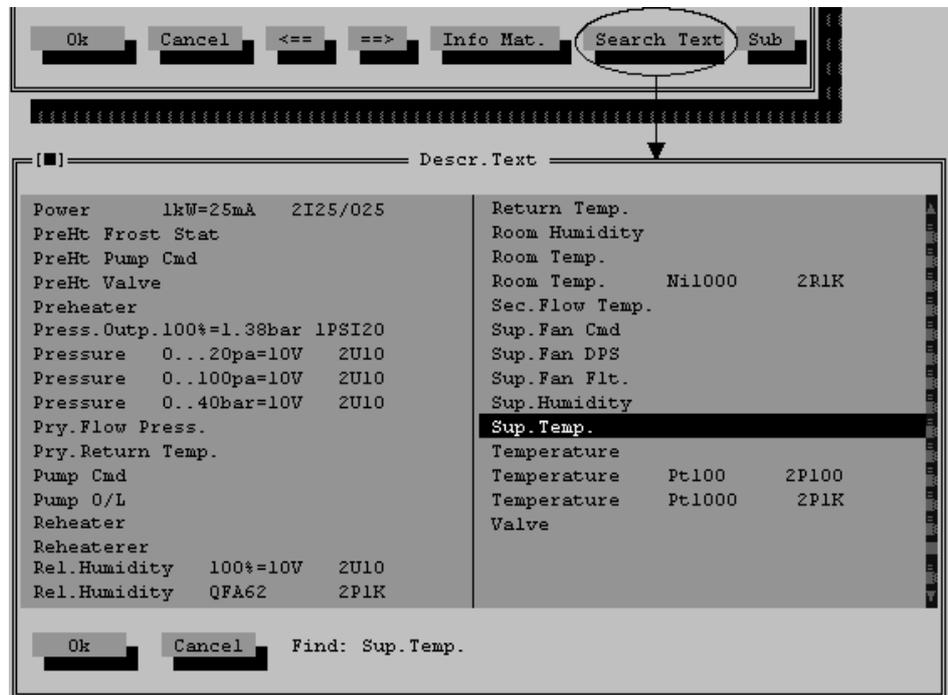
Step	Procedure
1	In the data point list, click [New].
2	Make the following settings in the "Edit" window: <ul style="list-style-type: none">• Data point name (in the "Text" field)• Point type• Module type and options• Field device type (where necessary)• Units / status text Confirm with [OK].

Descriptive text definition

The descriptive texts are very important for the engineering phase because the instance names of the I/O function blocks are created from them.

You can define the data point name in two different ways:

- Enter the name directly in the "Descr. Text" field.
- Catalogue selection: Delete the existing descriptive text and type the first letter of the desired text (entry is case-sensitive). Click [Search Text] to display a list of corresponding texts from the catalogue.



8375O26E

Auxiliary text

The auxiliary text appears in lists and on I/O module labels. It is normally the same as the plant name.

Field device definition

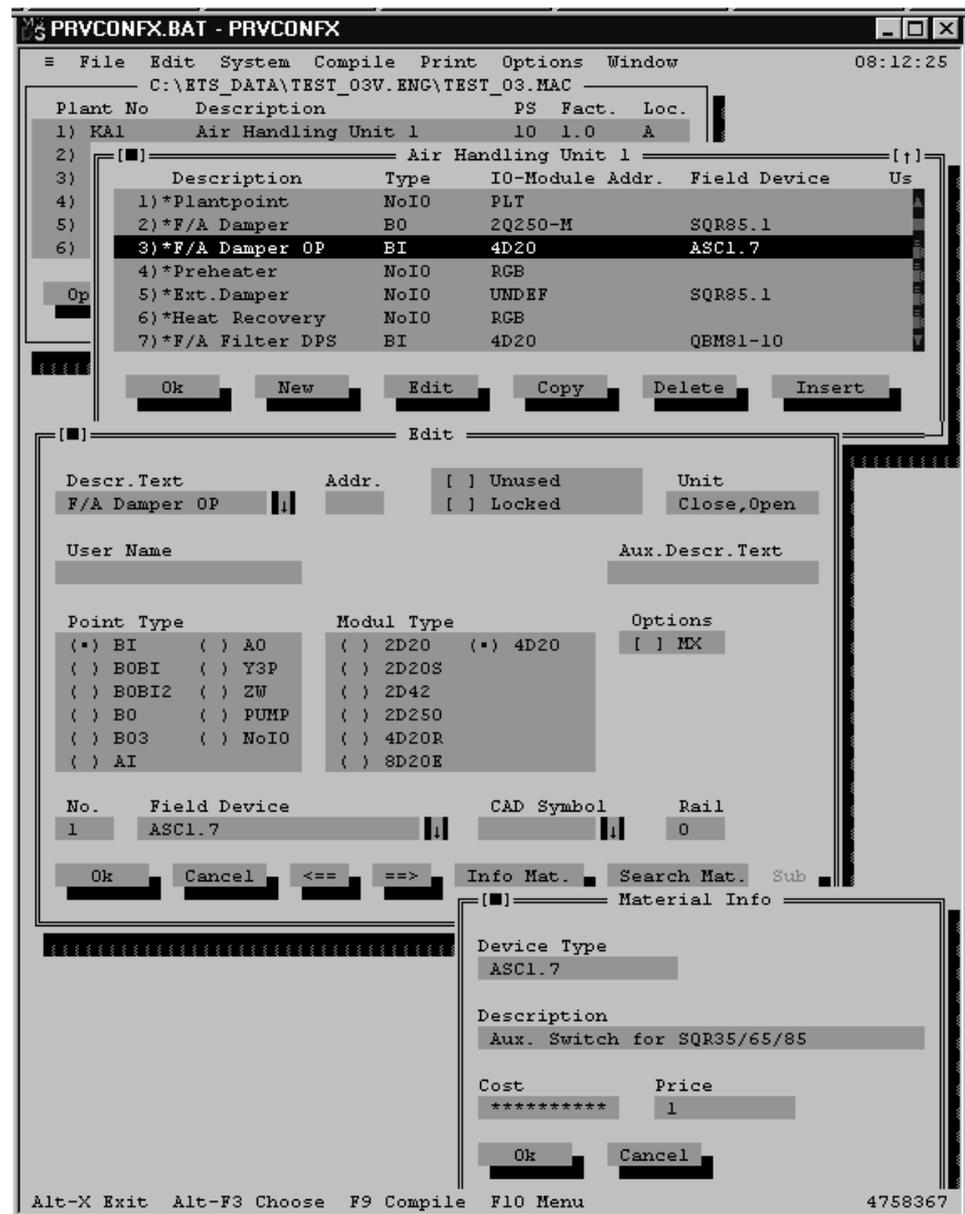
You can define a field device in two different ways:

- Type the field device type designation directly in the text field. If the product is not listed in the catalogue, a dialog box appears. Enter the designation, price and cost of the device in this dialog box.
- Catalogue selection: Delete the existing field device designation and type the first letter of the desired type designation. Click [Search Mat.] to display a list of corresponding field devices from the catalogue.
To view additional information about the field device, click [Info Mat.].

To add accessories, first enter a plus sign (+).

Example

When you are checking the material data of a field device, the following windows are open:



8375O08E

I/O module rail number definition

How do I proceed?

Note

If you want to install the I/O modules of the data points on particular rails, enter the module's rail number (>0) for each data point.

In the data point list, click [Edit] for each of the respective data points, and then enter the rail number in the "Rail" field. Confirm with [OK] or [==>].

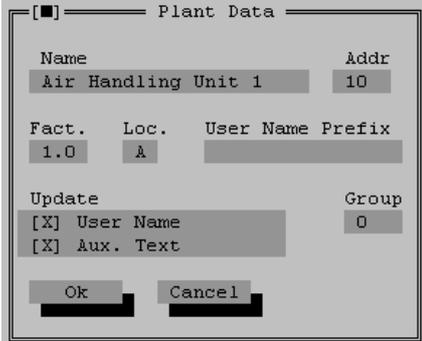
Rail number = 0 means that the respective data point is assigned randomly to a module. If you define a rail number (>0), enter the rail number for all data points that are located on that I/O module rail.

4.1.4 Generating instance names and assigning process unit addresses

Purpose

The instance names for the I/O function blocks are generated and the process unit addresses assigned for the installation documents.

How do I proceed?

Step	Procedure
1	<p>In the plant list, click [Edit] for each plant. The "Plant Data" window appears.</p>  <p style="text-align: right; margin-right: 20px;">8375O09E</p>
2	<p>Enter the following:</p> <ul style="list-style-type: none"> • In the "Addr" field, enter the process unit address. • Under "Update", select the "User Name" check box. • Under "Update", select the "Aux. Text" check box.
3	<p>Confirm with [OK].</p> <p>Result: An instance name is generated from the descriptive text for each data point and the plant name is copied to the "Aux. Text" field of the data point.</p>

Note

The instance names of the I/O function blocks are displayed in the "User Name" field of the data point.

4.1.5 Assigning I/O module addresses

Purpose The I/O module addresses are assigned for installation in the control panel.

Addresses can be assigned manually or automatically.

Manual addressing

The I/O module addresses are already defined in a CAD drawing or control panel plan. In order to keep the documentation consistent, transfer these addresses manually to the individual data points.



The addresses must be locked **at the beginning** of the engineering phase in order to prevent automatic overwriting during compilation.

How do I proceed?

Step	Procedure
1	Select "Compile / Options", and then select the "Lock Addresses" check box under "Option".
2	In the data point list, click [Edit] for each data point. The "Edit" window appears.  Enter the address in the "Addr" field.
3	Select "Compile / Compile" to check that the address assignment is correct.

Notes

- Compile frequently to continually check the results.
- In case of address conflicts, a warning message appears and the conflict is corrected. If you confirm "Reconstruct old Data" with [Yes], the calculated layout of the I/O modules is written to an *.MLG file. Best method for locating the error: see page 72.
- In case of I/O instance name conflicts, the affected data points are written to a *.LOG file.

Automatic addressing

The I/O module addresses are not yet defined and assigned automatically by PRVCONF during compilation.

You must lock the addresses at the latest when you pass the data on to another person (e.g. control panel builder) so that the addresses are not changed on recompilation.

How do I proceed?

Step	Procedure
1	Select "Compile / Compile" to generate the I/O addresses.
2	If the data is ready to be passed on, lock the addresses: Select "Compile / Options", and then select the "Lock Addresses" check box under "Option".

Note

- In case of I/O instance name conflicts, the affected data points are written to a *.LOG file.

The "Module Layout" window

After successful compilation, the layout of the I/O modules for each process unit is displayed in the "Module Layout" window with the respective addresses.

After checking the modules, the easiest way to close the windows containing the module layouts is to select "Window / Close all windows".

Note

If the maximum P-bus load is exceeded, the layout window of the respective process unit assumes a different colour.

4.1.6 Defining process unit accessories

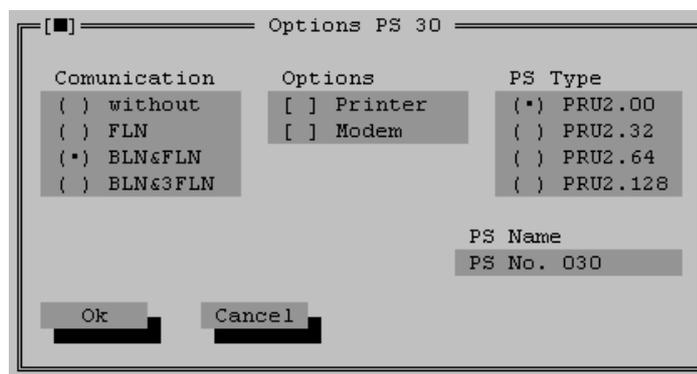
Purpose

In order to complete the materials lists, the accessories of the individual process units are defined.

Defining accessories

Highlight the process unit in the process unit list and select "Edit / Edit". The "Options PS..." window appears.

Example: Accessories for a PRU2.X type process unit



8375O14E

Selecting a larger process unit

If necessary, you can select a higher process unit type of the same range in this window.

4.1.7 Defining system devices

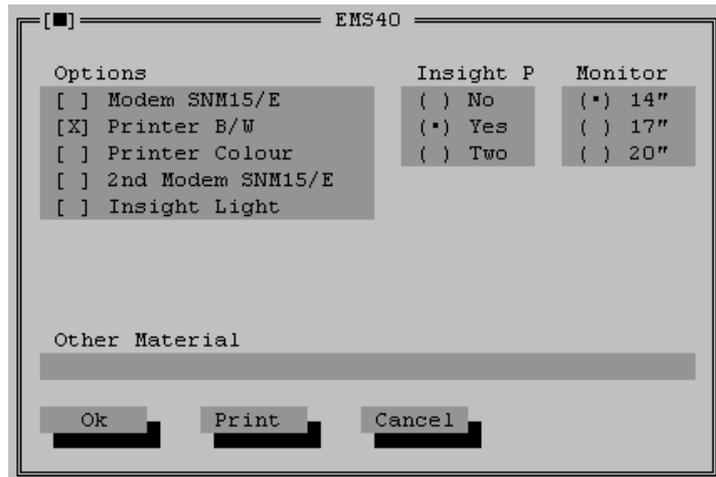
Purpose

In order to complete the materials lists, the UNIGYR system hardware and software is defined.

How do I proceed?

Step	Procedure
1	Select "System / Server > Edit". The "Type" window appears.
2	Select a type (see 5.3.5 "System hardware and software" for details). Confirm with [OK].
3	A dialog box appears for the selected system.

Example UNIGYR EMS40:



8375O21E

Note

- The settings appear in the following lists:
- System device list, printed via SDT Shell
 - Summary, printed via PRVCONF

4.1.8 Generating the HLK file with I/O function blocks

Purpose The HLK file is generated for further processing in UNIGYR Design.

How do I proceed?

Step	Procedure
1	Select "Compile / Options", and then select the " <i>Configuration</i> " check box under " <i>File</i> " and the " <i>Lock Addresses</i> " check box under " <i>Option</i> ". Confirm with [OK].
2	Select "Compile / Compile". Result: The I/O module addresses are checked and the *.HLK file is generated.
3	Save the data.

4.1.9 Data transfer and list printout

Purpose The data generated in PRVCONF is written to the EDB. This makes the data available for ETS and MSTE or PULSS.

Materials and data point lists for materials procurement as well as checklists for commissioning are generated in SDT Shell.

How do I proceed?

Step	Procedure
1	Select "File / Save".
2	Select "File / Exit" to quit PRVCONF.
3	In SDT Shell, select "SDT-ALN / Read data from PRVCONF" to start the data transfer.
4	Use the "Lists / ..." menu to generate and print the required lists.
5	Select "Generators / Labels" to generate and print the module labels.

4.2 Workflow for a UNIGYR project with ALN and FLN plants

Description The project contains some customized plants in universal process units (ALN) and a large number of standard applications in FLN devices which have to be integrated.

Procedure Process the project completely in UNIGYR Design.
If you want to use ETS, use PDT and PRVCONF to process the ALN plants and use SDT-FLN to process the FLN plants.

See:

- UNIGYR Design User's Guide (Order No: CM2B8359E)
- PDT User's Guide (Order No: CM2U8377E)
- SDT-FLN User's Guide (Order No: CM2U8376E)

4.3 Workflow for a new VISONIK project

Description

The project contains largely customized plants in universal process units (ALN) and a Data Communication Server (DCS).

Quick guide

Step	Procedure	Detailed instructions
1	Start PRVCONF via SDT Shell.	Page 13
2	Select "Compile / Options" to check / set the compiler options.	Page 46
3	Select "Compile / Text+Address Options" to check / set the limits and text options.	Page 47
4	Transfer user name and auxiliary text and assign the process unit address and group number.	Page 48
5	Check the sales data and make changes if appropriate. If necessary, enter I/O module rail numbers.	Page 49
6	Assign technical addresses.	Page 51
7	Define process unit accessories	Page 54
8	Select "System / Server > Edit" and define the system devices.	Page 55
9	Select "Compile / Compile" to generate the configuration data for the DCS and lock the I/O module addresses.	Page 56
10	Save the data and quit PRVCONF.	Page 15
11	Transfer the data to SDT Shell and print the lists for material procurement and installation.	Page 56
12	Start PRVCODE via SDT Shell.	Page 57
13	Select "Generate / Generate now" to generate the loadable BPS configuration.	Page 57
14	Select "File / Exit" to quit PRVCODE.	

Notes

- Section 4.3.11 describes the Procedure for projects with phased commissioning.
- After commissioning, we recommend that you create a final documentation set. The procedure is described in the VISONIK Upload User's Guide (Order No: CM2U8370E).

4.3.1 Checking / setting compiler options

Purpose	The sales settings are checked and the options for engineering are set.
What settings are needed?	Select "Compile / Options", and then set the following options:
System	VISONIK
PS version	Process unit version PRV1.x or PRV2.x
	If you select PRV1.x, the text catalogues and configuration data for DCS V10 are created automatically; if you select PRV2.x, those for DCS V12 and higher are created.
Dim. PTX	Module rail size (to fit control panel).
File	Select the " <i>Configuration</i> " check box if you also want to generate the VIS and MTF files.
Option	Select the " <i>Lock Addresses</i> " check box, if the addresses are to be entered manually or if the control panel is already under construction.
Further options	See 5.3.1 "Compiler options".

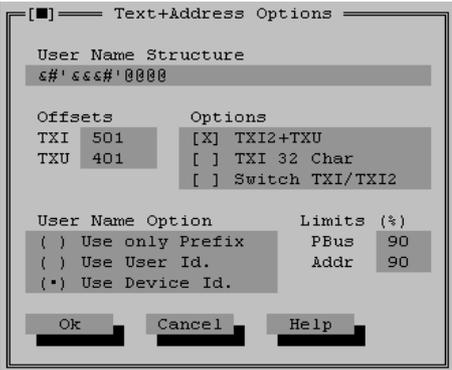
4.3.2 Setting limits and text and address options

Purpose

The process unit reserves and the text options are defined.

The user name structure is the same for the entire project. At the same time, the composition of the user name is defined. The text offset determines the text number from which the project-specific text database is written. The other text options define how the texts appear in the lists and on the DCS.

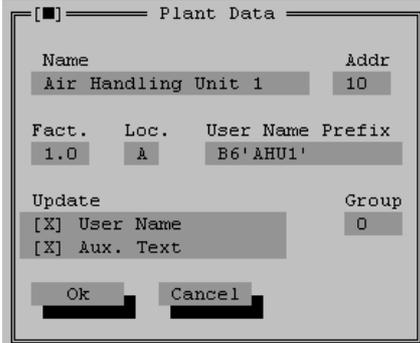
How do I proceed?

Step	Procedure
1	<p>Select "Compile / Text+Address Options". The "Text+Address Options" window appears.</p>  <p>8375012E</p>
2	<p>Enter the following:</p> <ul style="list-style-type: none">• Define the user name structure in the "User Name Structure" field by referring to [Help] for this window.• Select the user name option (Use only prefix / Use user ID / Use device ID).• Enter the offsets for TXI and TXU.• Under "Option", select check boxes for the text options.• Under "Limits (%)" enter the percentage loading of the P-bus and the percentage assignment of I/O addresses. <p>Confirm with [OK].</p> <p>See 5.3.2 "Text and address options" for detailed information.</p>

4.3.3 Transferring user name and auxiliary text, and assigning process unit addresses and group numbers

Purpose The user name prefix and the auxiliary text are transferred to the individual data points. The process unit addresses and the group number are assigned to the plant.

How do I proceed?

Step	Procedure
1	<p>In the plant list, click [Edit] for each plant. The "Plant Data" window appears.</p>  <p style="text-align: right;">8375O13E</p>
2	<p>Enter the following:</p> <ul style="list-style-type: none"> • In the "Addr" field, enter the process unit address. • In the "Group" field, enter the group number (see page 95 for details). • Enter the user name prefix (if not already present). • Under "Update", select the "User Name" check box. • Under "Update", select the "Aux. Text" check box.
3	<p>Confirm with [OK].</p> <p>Result: The user name prefix and the plant name are transferred to the appropriate fields for each data point.</p>

Note

The plant name always appears as the auxiliary text of a data point. If you selected "Switch TXI/TXI2" under the text options, the auxiliary text is used as TXI when the configuration is generated.

4.3.4 Checking the sales data

Purpose

Changes and modifications may have been requested between initial bidding and the placement of the order. Therefore, the data received from sales must be checked against the order requirements and, if necessary, supplemented or corrected.

What needs to be checked?

Check especially the following data against the consulting engineer's information:

- Actuators and valves (type, size, actuator voltages)
- Emergency operation and manual switches
- Supervision (feedback signals, contactor supervision, ...)
- Field devices
- Data point texts and physical units
- Module rail numbers

How do I proceed?

In the case of PDT plants, you must use PDT to make the following changes: delete data points, create new data points, change point types (e.g. BO+BI to BOBI or AO to Y3P).

You can edit the material data of actuators, valves and field devices as well as module types and data point texts either in PDT or in PRVCONF.

Checking data

Proceed as follows to check material data as well as module types and data point texts:

Step	Procedure
1	Highlight a plant from the plant list and click [Open].
2	Highlight a data point in the data point list and click [Edit].
3	Check the module type and the options in the respective fields.
4	Highlight the field device, and then click [Info Mat.] to check whether it is present in the materials database.
5	Use the [==>] button to select the next data point in the plant
6	Repeat steps 3 to 5 until you have checked all of the data points. Click [OK] to close the window.
7	Click [OK] to close the data point list.
8	Repeat steps 1 to 7 for all remaining plants.

Additional data points

Data points that you add in PRVCONF are displayed without graphics in PDT. Proceed as follows to add new data points:

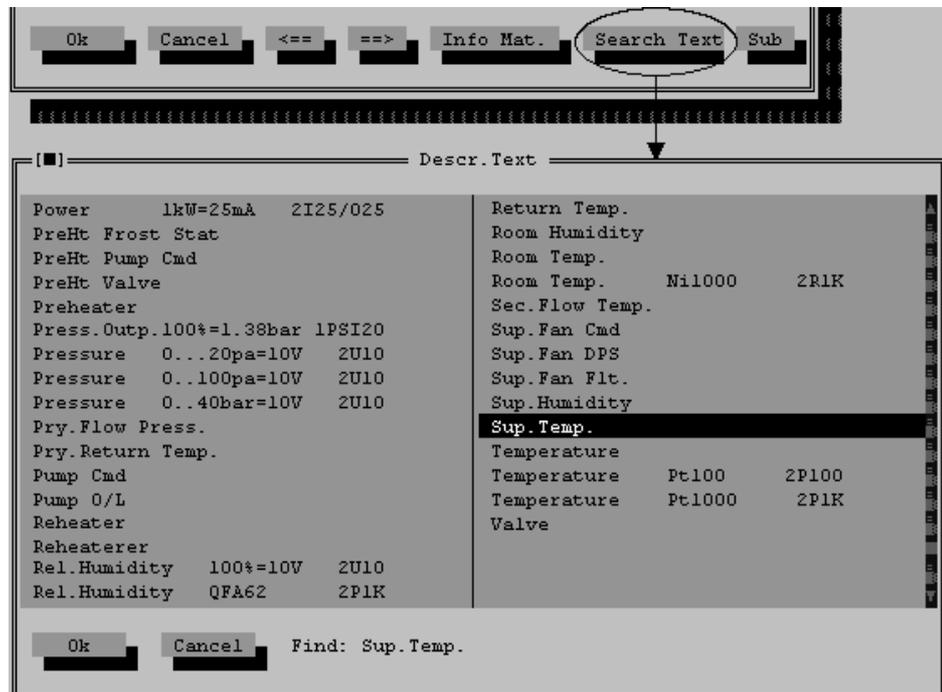
Step	Procedure
1	In the data point list, click [New].
2	Enter the following in the "Edit" window: <ul style="list-style-type: none">• Data point name (in the "Text" field)• Point type• Module type and options• Field device type (where necessary)• Units / status text Confirm with [OK].

Descriptive text definition

The descriptive texts are very important for the engineering phase because they appear in all system reports.

You can define the data point name in two different ways:

- Enter the name directly in the "Descr. Text" field.
- Catalogue selection: Delete the existing descriptive text and type the first letter of the desired text (entry is case-sensitive). Click [Search Text] to display a list of corresponding texts from the catalogue.



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Auxiliary text

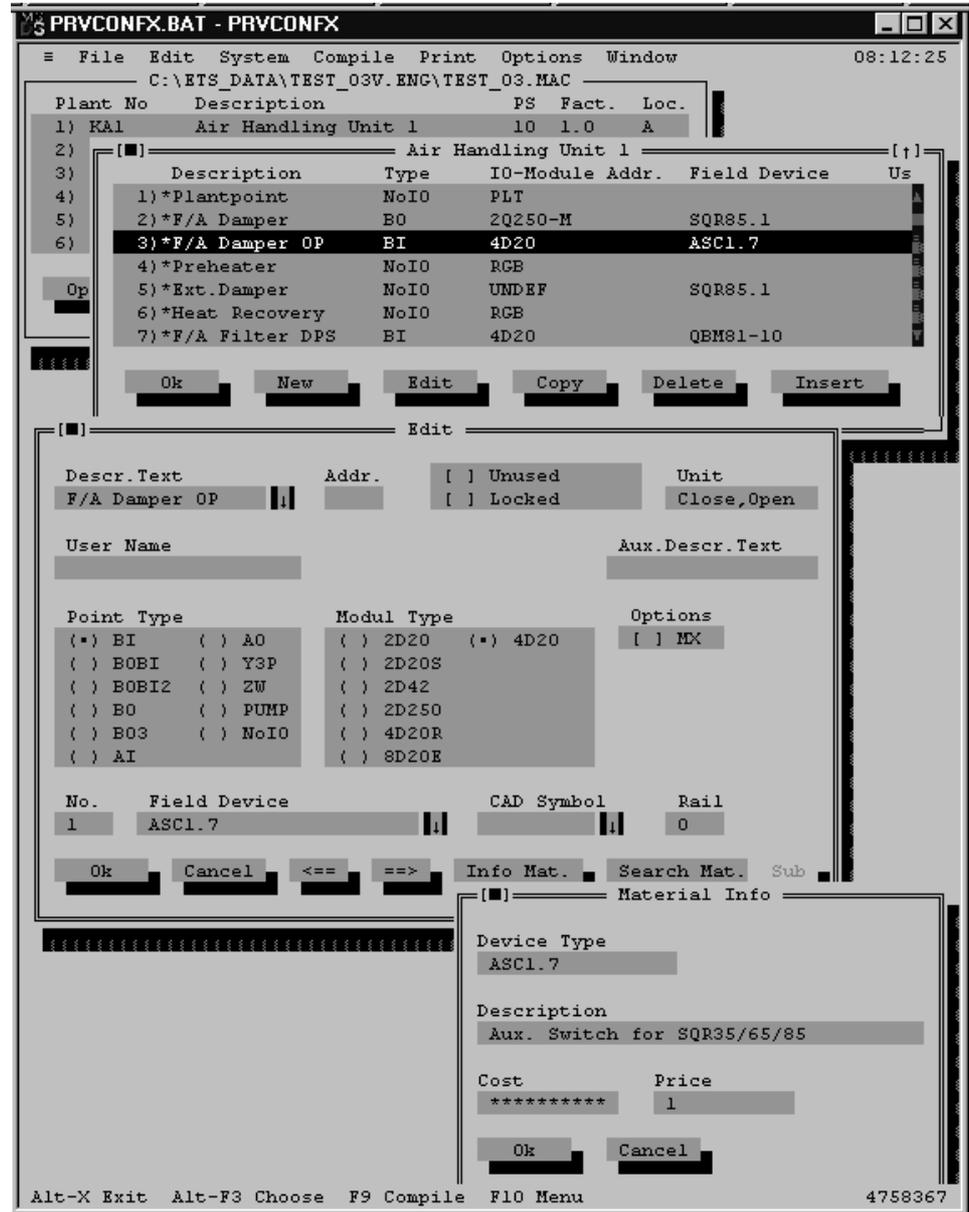
The auxiliary text appears in lists and on I/O module labels. It is normally the same as the plant name.

Field device definition

You can define a field device in two different ways:

- Type the field device type designation directly in the text field. If the product is not listed in the catalogue, a dialog box appears. Enter the designation, price and cost of the device in this dialog box.
- Catalogue selection: Delete the existing field device designation and type the first letter of the desired type designation. Click [Search Mat.] to display a list of corresponding field devices from the catalogue.
To view additional information about the field device, click [Info Mat.].

To add accessories, first enter a plus sign (+).



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I/O module rail number definition

If you want to install the I/O modules of the data points on particular rails, enter the module's rail number (>0) for each data point.

How do I proceed?

In the data point list, click [Edit] for each of the respective data points, and then enter the rail number in the "Rail" field. Confirm with [OK] or [==>].

Note

Rail number = 0 means that the respective data point is assigned randomly to a module. If you define a rail number (>0), enter the rail number for all data points that are located on that I/O module rail.

4.3.5 Assigning technical addresses

Purpose For installation in the control panel, the technical addresses, and therefore the I/O module addresses, are assigned.

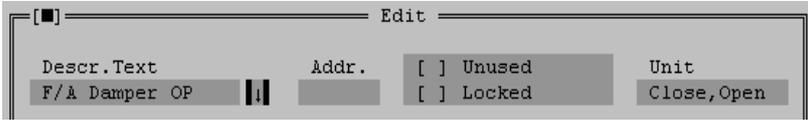
Addresses can be assigned manually or automatically.

Manual addressing The technical addresses are already defined in a CAD drawing or control panel plan. In order to keep the documentation consistent, transfer these addresses manually to the individual data points.



The addresses must be locked **at the beginning** of the engineering phase in order to prevent automatic overwriting during compilation.

How do I proceed?

Step	Procedure
1	Select "Compile / Options", and then select the "Lock Addresses" check box under "Option".
2	In the data point list, click [Edit] for each data point. The "Edit" window appears.  Enter the address in the "Addr" field.
3	Select "Compile / Compile" to check that the address assignment is correct.

Notes

- Compile frequently to continually check the results.
- In case of address conflicts or illegal addresses, a warning message appears, which indicates that, depending on the problem, either addresses have changed or an empty I/O module was created. If you respond with [Yes] to "Reconstruct old Data", the calculated layout of the I/O modules is written to an *.MLG file. Best method for locating the error: see page 72.
- In case of user address conflicts, the affected data points are written to a *.LOG file.

Automatic addressing

The technical addresses are not yet defined and assigned automatically by PRVCONF during compilation.

When the system design is completed — at the latest when you pass the data on to another person (e.g. control panel builder) — you must lock the addresses so that they are not changed on recompilation.

How do I proceed?

Step	Procedure
1	Select "Compile / Compile to generate the technical addresses.
2	If the data is ready to be passed on, lock the addresses: Select "Compile / Options", and then select the "Lock Addresses" check box under "Option".

Note

In case of user address conflicts, the affected data points are written to a *.LOG file.

The "Module Layout" window

After successful compilation, the layout of the I/O modules for each process unit is displayed in the "Module Layout" window with the respective addresses.

After checking the modules, the easiest way to close the windows containing the module layouts is to select "Window / Close all windows".

Note

If the maximum P-bus load is exceeded, the layout window of the respective process unit assumes a different colour.

4.3.6 Defining process unit accessories

Purpose In order to complete the materials lists, the accessories of the individual process units are defined.

Defining accessories Highlight the process unit in the process unit list and select "Edit / Edit". The "Options PS..." window appears.

Example: Accessories for a PRV2.X type process unit

Communication	Options	PS Type
<input type="checkbox"/> without	<input type="checkbox"/> Printer	<input checked="" type="checkbox"/> PRV2.00
<input type="checkbox"/> SDLC	<input type="checkbox"/> Modem	<input type="checkbox"/> PRV2.32
<input type="checkbox"/> V.24		<input type="checkbox"/> PRV2.64
<input checked="" type="checkbox"/> SDLC&V.24		<input type="checkbox"/> PRV2.128

Extension	Memory	PS Name
<input checked="" type="checkbox"/> without	<input checked="" type="checkbox"/> 0.5M	PS No. 030
<input type="checkbox"/> Monogyr	<input type="checkbox"/> 1.0M	
<input type="checkbox"/> FLN		

Ok Cancel

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Selecting a larger process unit If necessary, you can select a higher process unit type of the same range in this window.

4.3.7 Defining system devices

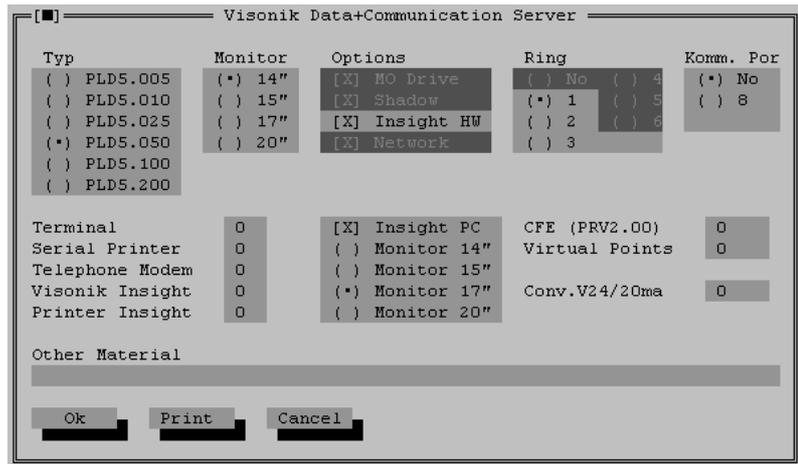
Purpose

In order to complete the materials lists, the VISONIK system hardware and software is defined.

How do I proceed?

Step	Procedure
1	Select "System / Server > Edit" — the "Type" window appears.
2	Select a type (see 5.3.5 "System hardware and software" for details). Confirm with [OK].
3	A dialog box appears for the selected system.

Example VISONIK PLD:



Note

- The settings appear in the following lists:
- System device list, printed via SDT Shell.
 - Summary, printed via PRVCONF.

4.3.8 Generating the DCS configuration data

Purpose

The definition of the configuration, including the project-specific text numbers, is finalized.

A loadable DCS configuration file (*.VIS) is generated with all point data, such as type, technical address, user name, texts (TXI, TXI2, TXU), group allocation, and with the text catalogues. You can download this file to the VISONIK server via the DCS Loader.

Additionally, an MTF file is generated for each process unit. A loadable BPS configuration file can be derived from the MTF file using PRVCONF.

Note

Do not generate the configuration too early as this fixes the text numbers. Fixed text numbers can no longer be released.

How do I proceed?

Step	Procedure
1	Select "Compile / Options", and then select the "Configuration" check box under "File" and the "Lock Addresses" check box under "Option". Confirm with [OK].
2	Select "Compile / Compile". Result: The technical addresses are checked, and the *.VIS and *.MTF files as well as the project-specific text database are generated.
3	Save the data and then quit PRVCONF.

4.3.9 Data transfer and list printout

Purpose

The generated data is written to the EDB. From there, it can be transferred to MSTE or PULSS.

Materials and data point lists for materials procurement as well as checklists for commissioning are generated in SDT Shell.

How do I proceed?

Step	Procedure
1	Select "File / Save".
2	Select "File / Exit" to quit PRVCONF.
3	In SDT Shell, select "SDT-ALN / Read data from PRVCONF" to start the data transfer.
4	Use the "Lists / ..." menu to generate and print the required lists.
5	Select "Generators / Labels" to generate and print the module labels.

4.3.10 Creating the loadable configuration for BPS

Purpose The programming, parameter settings and the loadable configuration for the process units are created using PRVCONF. This program is started via SDT Shell.

Requirement An MTF file must be present.

How do I proceed?

Step	Procedure
1	In SDT Shell, select "Generators / PRVCONF".
2	Select a process unit, and then click [Generate].
3	Use the "Edit / Config > ..." cascade menu to define the program and text configuration.
4	To generate the configuration, select "Generate / Generate now".
5	Open the next process unit by selecting "File / Open", and then repeat steps 3-5.
6	Select "Exit" to quit PRVCONF.

Note

- You must generate the configuration for each process unit individually.
- Chapter 6 provides detailed information on PRVCONF.

4.3.11 Procedure for projects with phased commissioning

Description

Installation and commissioning is carried out in phases. It is thus meaningful to divide the overall project into sub-projects that correspond to the various phases. This improves the manageability of the project and the results from PRVCONF correspond exactly to one commissioning phase.

Quick guide

Step	Procedure	Detailed instructions
1	Use the file manager to create a folder for the overall project.	
2	Divide the overall project into sub-projects according to the commissioning plan.	
3	Create the first sub-project (new project) in SDT Shell.	
4	Process the sub-project in the same way as a new VISONIK project.	Page 45
5	Create the second sub-project (new project) in SDT Shell.	
6	Copy the project-specific text files (*.RZI and *.RZU) from the first sub-project folder to the second.	
7	Process the second sub-project in the same way as a new VISONIK project	Page 45
8	and so on ...	

Note:

Before making changes to one of the sub-projects, always copy the current text files to the sub-project folder.

4.4 Workflow for VISONIK enhancement projects

Description

The project involves the enhancement of an existing VISONIK system.

Observe the following rules:

- The existing configuration is not changed.
- A possibly required DCS version change must be carried out first.
- If EKL-X are to be replaced by PRV..., apply the Group Company-specific procedures for exchanging the I/O modules.

Quick guide

- If new process units are added:

Step	Procedure
1	Upload the texts from the DCS.
2	Create the enhancement project (new project) in SDT Shell.
3	Create the text library and copy it to the project folder.
4ff.	Process the project in the same way as a new VISONIK project.

- If existing process units are to be modified:

Step	Procedure
1	Upload the point data and texts from the DCS.
2	Create the project with VISONIK Upload and copy the data of the process units to be modified from the DCS to the EDB.
3	Create the text library and copy it to the project folder.
4	Document the actual state of the process units to be modified.
5ff.	Process the project in the same way as a new VISONIK project.

4.4.1 Project preparation

Uploading the DCS configuration

The existing DCS configuration must be uploaded first.

For a detailed description of the individual steps, refer to the following document: "VISONIK Upload User's Guide", Order No: CM2U8370E.

Creating an enhancement project

Creating an enhancement project with VISONIK Upload is meaningful only if existing process units are to be modified which means that their configuration data is required.

In the case of enhancement projects where only new process units are added, only the text libraries are required.

Creating a text library

An enhancement project should generally be based on the text library of the existing system.

How do I proceed?

Variant 1 — texts from the DCS upload file:

Step	Procedure
1	Copy the DCS upload file to the project folder.
2	Create a text library using the following DOS command: <code>C:\ETS_PROG\MKITEXT project_folder\upload_file project_folder</code> Result: VISITEXT.IDZ, VISITEXT.REZ, VISUTEXT.IDZ, VISUTEXT.REZ
3	From the ...ETS_LIB\TEXTLIB\TXT_V14.* folder, copy the VISONIK.INI file to the project folder.

Variant 2 — combining texts from the DCS with the ETS catalogue:

Step	Procedure
1	Copy the DCS upload file to the project folder.
2	From the ...ETS_LIB\TEXTLIB\TXT_V14.* folder, copy the standard text files VISITEXT.TXT, VISUTEXT.TXT and STDTEXT.VIS as well as the VISONIK.INI file to the project folder.
3	Merge the DCS texts from the DCS upload file with the standard text files. Check that no text numbers are used more than once.
4	From the ...ETS_PROG folder, copy the program MKITEXT.EXE to the project folder.
5	Open a DOS window, set the default folder to the project folder, and then enter the following DOS command to create the text library: <code>MKITEXT (NO filename)</code> Result: VISITEXT.IDZ, VISITEXT.REZ, VISUTEXT.IDZ, VISUTEXT.REZ

Notes

- Apply variant 2 if the new plants are created using PDT and the m-text libraries of the existing system were created with an earlier version of ETS or they are empty.
- If text numbers are repeated, the **DCS texts** must be kept. Changes to the standard texts must also be reflected in the file STDTEXT.VIS.
- In the case of variant 2, the file STDTEXT.VIS must also be downloaded on DCS configuration.

Documenting the project history

Before you continue, print the appropriate lists of the existing system in SDT Shell. By doing this you have documented the project start.

4.4.2 Further processing

How do I continue?

Step	Procedure
1	Open the DCS upload file in the editor. Note down the highest p-text number for TXI and TXU and the user name structure of the existing system.
2	Start the data transfer to PRVCONF.
3	Select "Compile / Text+Address Options", and then set the offset for TXI and TXU and enter the user name structure.
4	If existing process units are to be modified: Select "Compile / Options", and then select the " <i>Lock Addresses</i> " check box under " <i>Option</i> ". Select "Compile / Compile" in order to check whether the data is correct.
5	Create the enhancement and generate the configuration (same as new project, see page 45).

Notes

- PRVCONF assigns the p-text numbers from the offset upward. If the text catalogues of the existing system have gaps, you can define the beginning of a sufficiently large, free section as the offset.
- In the case of some point options (e.g. ZW with SYN), PRVCONF may report the configuration as illegal when compiling the data of an existing process unit. Deactivate the option to be able to continue.

4.5 Workflow for a VISONIK project with ALN and FLN plants

Description The project contains some customized plants in universal process units (ALN) and a large number of standard applications (ALN + FLN) and individual room controls (FLN).

Tools for ALN and FLN For technical reason (processor load), we recommend that you do **not** use the FLN master devices for plant control.

In this case, PDT and PRVCONF can be used to process the primary plants, and SDT-FLN can be used to process the FLN devices.

Quick guide

Step	Procedure
1	Start SDT Shell, and then create a sub-project for ALN.
2	Process the project in the same way as a new VISONIK project (see page 45).
3	Start SDT-FLN, and then create a sub-project for FLN. (choose a name different than that for the ALN sub-project!)
4	If the same text library is to be used: Copy the text files from the ALN sub-project to the FLN sub-project.
5	Continue to process the project with SDT-FLN. (See SDT-FLN User's Guide, Order No: CM2U8376E)

5. Detailed information on PRVCONF

What does this chapter contain?

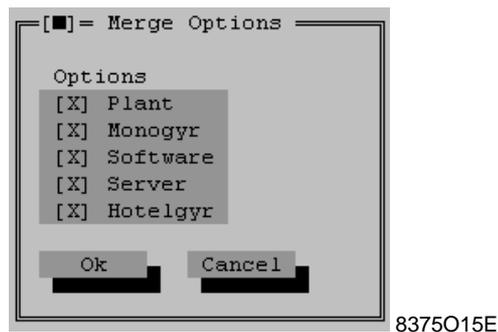
The sections below contain special information and are intended primarily for experienced users. This information will help you handle your project more efficiently with PRVCONF. The individual sections deal with the following topics:

Topic	Section
Special operations: Functions that you do not need regularly.	5.1
Background information on project processing	5.2
Detailed information about settings and options	5.3
Frequently asked questions about PRVCONF	5.4
Error messages with explanations	5.5

5.1 Special operations

5.1.1 Merging projects

Using the function "File / Merge projects" you can add previously saved project data to the current plant configuration.



Select the desired options in the dialog box.

5.1.2 Reloading plants

If a plant is inadvertently destroyed or deleted during processing with PRVCONF, you can reload the original plant from the active project.

Select "File / Reload plants".

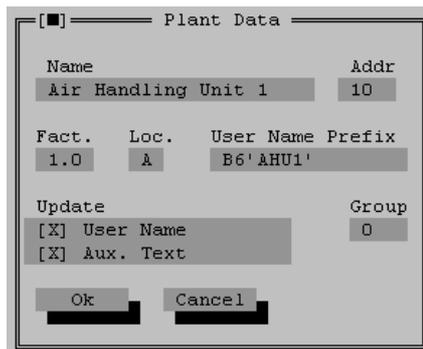
Result:

The loaded plants are added to the existing ones. Delete the plants that you do not need.

5.1.3 Editing plant data

VISONIK

The entries in the "Plant Data" window apply to the plant and to all **new** data points.



Name		Addr
Air Handling Unit 1		10
Fact.	Loc.	User Name Prefix
1.0	A	B6'AHU1'
Update		Group
<input checked="" type="checkbox"/> User Name		0
<input checked="" type="checkbox"/> Aux. Text		

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Conditions

Changes to the user name prefix and plant name are only adopted in **existing** data points under the following conditions:

- The respective check box is selected under "*Update*".
- The respective text (user name prefix or auxiliary text) of the data point is the **same** as the text displayed on **opening** the "Plant Data" window.
- Click [OK] to close the "Plant Data" window.

Data points with manually edited user name prefixes or auxiliary texts are not be modified.

UNIGYR

With the selection "*Update: User name*", valid I/O instance names are generated from the data point texts. The previous contents of the "*User name prefix*" data point field are overwritten.

The contents of the "*User name prefix*" field in the "Plant Data" window are meaningless.

"Addr" field

Address of the process unit for this plant.

"Group" field

Group number for this plant. << See page 95 for details on meaningful values.

5.1.4 Editing a data point

The screenshot shows a dialog box titled "Edit" with the following fields and controls:

- Descr. Text:** "Name" (text field), "Addr." (text field), "[] Unused" (checkbox), "[] Locked" (checkbox).
- Unit:** "Aus, Ein" (text field).
- User Name Prefix:** (text field), **Suffix:** (text field), **Alias:** (text field), **Aux. Descr. Text:** (text field).
- Point Type:** A list of options: () BI, () AO, (*) BOBI, () Y3P, () BOBI2, () ZW, () BO, () PUMP, () BO3, () NoIO, () AI.
- Modul Type:** () 2QD, () 2QD-M, (*) 4QD.
- Options:** [] LOC, [] PFL.
- No.:** 1 (text field), **Field Device:** (text field), **CAD Symbol:** (text field), **Rail:** 0 (text field).
- Buttons:** Ok, Cancel, <==, ==>, Info Mat., Search Mat., Sub.

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Making changes

Changes are accepted by clicking [OK], [<==] or [==>].

Texts

The "Descr. Text" field should always contain the data point name, and the "Aux. Descr. Text" field the plant or sub-plant name.

If you want to use the two texts the other way round in the system and on I/O module labels, select "Options / Text+Address Options" and then select the "Switch TXI/TX12" check box.

Point type

You cannot modify the point type and options of PDT data points (identified with an asterisk *). This ensures that the data can be re-imported in PDT.

Module type

Changing the module type may cause address changes, if already generated.

Rail

If you want to install the I/O module belonging to a data point on a particular I/O module rail, enter the rail number (>0).

Rail number = 0 means that the respective data point is assigned randomly to a module. If you enter rail numbers, enter rail numbers for all data points.

CPNR

Conversion parameter number for AI, AO and Y3P points in VISONIK. See 5.3.7 "Conversion parameters CPNR" for details on standard conversion parameter sets.

Unused

If the "Unused" check box is selected, the data point occupies a channel of an I/O module, but it is not configured. This provides a means to selectively reserve I/O channels.

Locked

If the "Locked" check box is selected, the data point's address is not changed during compilation.

[Sub] button

Pump couplings have sub-points, whose types and addresses cannot be modified. Clicking [Sub] opens the "Modify Subpoints" window where you can edit the point texts and user names of the sub-points.

The [Sub] button does not become active until a point of type "PUMP" has been created and confirmed with [OK].

Submenu for sub-points

Descr.Text	User Name Prefix	Suffix	Unit	Addr.
PreHP Setpoint	B6'C20'P02'	PrHP_SP	m WS	002
PreHP Op.State	B6'C20'P02'	PrHP_OS		010
PreHP FaultState	B6'C20'P02'	PrHP_FS		012
PreHP Pressure	B6'C20'P02'	PrHP_DP	m WS	020
PreHP Flow Rate	B6'C20'P02'	PrHP_FR	m ³ /h	022
PreHP PowerCons.	B6'C20'P02'	PrHP_PC	kW	030
PreHP Rotation	B6'C20'P02'	PrHP_Rt	r/min	032

Ok Cancel Search Text

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A base address, which can be created automatically or manually assigned to the primary point, is assigned to the pump module itself.

Each sub-point has a fixed address (offset address). Therefore, you cannot edit the "Addr" field.

5.1.5 Move, copy, insert

Use	In the plant list or data point list.
Move	Changes the order of the plants or points in the list. The function does not work with PDT data points because the order is permanently fixed by PDT.
Copy	Copies the selected plant or data point and adds it to the bottom of the list.
<i>Note</i>	The point addresses and user name are not copied.
VISONIK	When you copy a plant, the "Plant Data" window appears. Enter the new plant name. If you want to modify the user name prefix and auxiliary text of the data points: <ul style="list-style-type: none">• Enter the user name prefix in the appropriate field.• Select both check boxes under "<i>Update</i>".• Confirm with [OK]
UNIGYR	When you copy a plant, the "Plant Data" window appears. Enter the new plant name. With the selection " <i>Update: User Name</i> ", valid I/O instance names are generated from the data point texts. The previous contents of the " <i>User name prefix</i> " data point field are overwritten. The contents of the " <i>User name prefix</i> " field in the "Plant Data" window are meaningless.
Insert	Inserts a new plant or data point in the respective list above the insertion point.

5.1.6 Creating user names

Transferring user name and auxiliary text

Proceed as follows to create user names for the data points or instance names for the I/O function blocks:

Step	Procedure
1	In the plant list, click [Edit].
2	VISONIK: define or modify the user name prefix in the " <i>User name prefix</i> " field, if necessary.
3	Under " <i>Update</i> ", select the " <i>User Name</i> " check box. <ul style="list-style-type: none">• VISONIK: When you click [OK], the defined user name prefix is transferred to all data points whose prefix is the same as that displayed on opening the "Plant Data" window.• UNIGYR: When you click [OK], an I/O function block instance name is generated from each data point name.
4	Under " <i>Update</i> ", select the " <i>Aux. Text</i> " check box. When you click [OK], the plant name is copied to all data points whose auxiliary text is the same as that displayed on opening the "Plant Data" window.
5	Confirm with [OK].

Manually entering user name

The user name can be entered manually for each data point.

Click [Edit] in the data point list, and then complete the respective fields.

5.1.7 Merging plants or copying with addresses

The points of two plants can be merged. These points are then added to the selected plant.

Note:

Unlike the "Edit / Copy" command, the point addresses, the user name prefix and the auxiliary text are also copied. The user name prefix is applied to the plant to which the data points are copied.

Merging plants

Proceed as follows to merge two plants:

Step	Procedure
1	From the plant list, select the plant to which you want to copy the points.
2	Select "Edit / Merge plants".
3	In the dialog box, enter the number of the plant from which the points are to be copied.
4	Respond to the question "Do you want to delete the plant?" with [YES]. Result: the old plant is deleted.

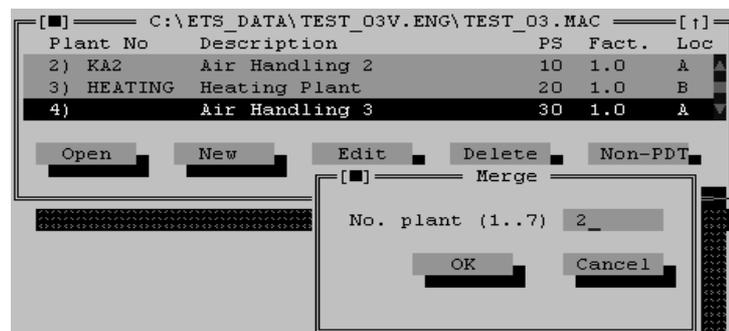
Copying a plant with addresses

Proceed as follows to copy a plant with it's point addresses:

Step	Procedure
1	In the plant list, click [New] to create a new plant to which the points are to be copied.
2	In the "Plant Data" window, enter the plant name, process unit address, location, user name prefix and group number, and then confirm with [OK]. <i>Note:</i> The plant must belong to a different process unit in order to prevent subsequent address conflicts.
3	Enter the user name prefix in the "Plant Data" window.
4	Select the new plant.
5	Select "Edit / Merge plants".
6	In the dialog box, enter the number of the plant from which the points are to be copied.
7	Respond to the question "Do you want to delete the plant?" with [NO]. Result: the old plant remains intact.

Example

The points from plant No. 2 are copied to plant No. 4.



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5.1.8 Removing links to PDT plants

Identification of PDT link In the plant list, the "Plant No." column contains the filenames of plants that have been created using PDT. Plants that have been created in PRVCONF have an item number only.

Plant No	Description
1) KA1	Air Handling Unit 1
2) KA2	Air Handling Unit 2
3)	Air Condition

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Removing the link PDT If the PDT plant was used "only" as a means of quickly creating data points, you can remove the link to PDT. Proceed as follows:

Step	Procedure
1	From the plant list, select the plant.
2	Click [Non-PDT].
3	Respond to the message "Do you really want to remove the link to the PDT plant?" with [YES]. Result: The plant filename in the plant list and the asterisks (*) in the data point list are deleted.

Note

Although the link to the PDT plant has been removed, the plant still exists in PDT. Do not process the plant any further in PDT because the data points from PRVCONF are not linked to the plant parts.

5.1.9 Resetting addresses

By selecting "Edit / Reset addresses", you can reset/delete the data points' technical addresses or the I/O module addresses of the selected plant.

5.1.10 Creating and deleting spare points

Creating spare points

If the "*Sep.modules/plant*" option is selected under "Compile / Options", separate modules are allocated to each plant which creates "unused" points.

Spare points can also be created intentionally for individual data point and module types which has an effect on module assignment:

Insert a new data point in the appropriate place, and then select the "*Unused*" check box in the data point's "Edit" window.

Removing spare points

Remove the spare points after compilation but before generation of the configuration by selecting "Edit / Remove unused points".

The occupied space remains intact, but the spare point does not appear in the lists.

5.1.11 Locking individual data points

You can lock the address of every single data point individually. During compilation, only the addresses of the unlocked data points are generated. The same conditions apply as for the "Lock addresses" option which applies to the entire project.

In the data point list, click [Edit], and then select the "*Locked*" check box.

5.1.12 Resolving address and user name conflicts

Two types of conflict may occur during compilation:

- Duplicated or illegal technical addresses (\$ address in VISONIK, P-bus address in UNIGYR).
- Duplicated user names or names that do not comply with the user name structure.

Duplicate or illegal technical addresses

In the case of duplicated or illegal technical addresses, PRVCONF changes the addresses automatically — even if they are locked — and creates a valid module layout. If the addresses are locked, a message appears indicating from which address onward the process unit has been modified. After you click [OK], the question "Reconstruct old Data?" appears. You normally respond with [YES]. PRVCONF then saves the newly calculated, correct layout in an *.MLG file.

What is the best method for locating the error?

Double-click the affected process unit in the process unit list. The window that opens contains a list of all data points in the process unit, sorted by addresses. The error is directly above the address indicated in the error message.

Description	Type	IO-Module	Addr.	Field Device	User
*Ext. Temp.	AI	2R1K	000	QAM22	B6' AH
*F/A Temp.	AI	2R1K	001	QAM22	B6' AH
*Ext. Temp.	AI	2R1K	002	QAM22	B6' AH
*F/A Temp.	AI	2R1K	003	QAM22	B6' AH
*Sup. Temp.	AI	2U10	004		B6' AH
*Sup. Humidity	AI	2U10	005		B6' AH
*Room Temp.	AI	2U10	006		B6' AH
*Room Humidity	AI	2U10	007		B6' AH
*Ext. Temp.	AI	2R1K	010	QAM22	B6' AH

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You can also print the *.MLG file and compare it with the plant point lists of the affected process unit. Make a check mark beside each occupied I/O channel until you find a discrepancy.

Duplicate or non-compliant user names

If a user name is repeated, an error message appears during compilation, and the affected data points are written to a *.LOG file. You can view this file in PRVCONF (see 5.1.16 "Viewing a file").

If the user name does not comply with the user name structure, the window of the affected data point opens during compilation. Correct the user name in the data point window or click [Cancel] to discontinue the operation, and then change the user name structure.

5.1.13 Printing

In PRVCONF, you can print various lists for internal use.

Recommendation

Use SDT Shell to print the lists for the bid and installation documents sets.

Requirements

PRVCONF is a DOS program that prints via a DOS-compatible printer. Contact your system manager to verify that the following requirements are fulfilled:

1. A DOS printer is installed under Win 3.1 or WINDOWS 95/NT and assigned to one of the parallel ports LPT1, 2 or 3.
2. Select the correct printer port under the print options of PRVCONF. For network printers, this must be LPT2 or 3.
3. PRVCONF.INI contains the correct initialization string. In the case of network printers, the initialization string must be blank.

Note

The DOS printers installed on the PC are indicated under [Printer Ports] and [Devices] in the WIN.INI file.

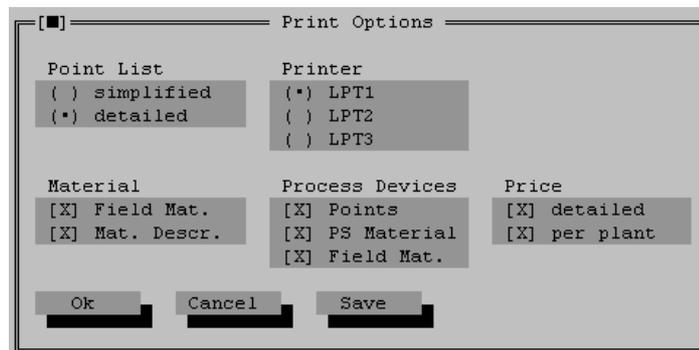
What can I print?

Select "Print / ..." to print the following lists:

- Print window
Prints the point list of the selected plant.
- Print plant
Prints the point lists of all plants in the active project.
- Print process unit
Prints the point list for each process unit with the module layout.
- Print summary
Prints the summary of materials for the entire project (process units, field and system devices).
- Print to file
Prints all project lists to a file called "ProjName.OUT" according to the selected print options. This includes:
 - Point list of each plant with the number of I/O points.
 - All process units with the plants they contain and the number of I/O points.
 - Materials for each process unit and for the data server (if defined).
 - Summary of all materials (process units, field and system devices).

Setting print options

Before printing, define the desired options. Select "Print / Options" or "Options / Print".

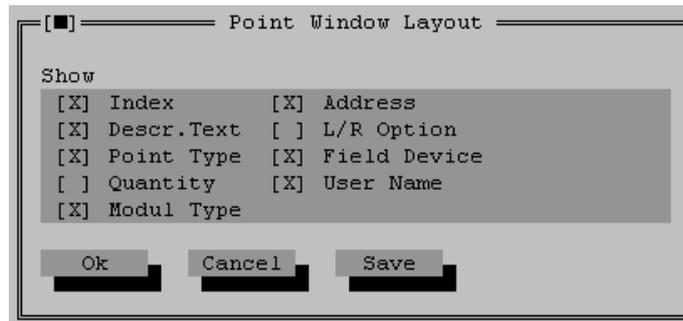


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Point List	<ul style="list-style-type: none">• Simplified The point list is printed in simplified form — point types only (no addresses or module types).• Detailed The point list is printed with technical addresses and module types.
Printer	Printer port: If more than one printer is in use, you can select the desired printer port LPT1...LPT3.
Material	<ul style="list-style-type: none">• Field Mat. If this option is selected, the field devices of each plant will be printed with a description.• Mat. Descr. If this option is selected, the material description is added.
Process devices	Depending on the selected options, the points and materials, including the process unit layout and field devices of the respective plants, are printed for each process unit.
Price	If the price calculation module of PRVCONF is active, the material prices are displayed.
[Save].	Saves the current settings in the window.

5.1.14 Setting the data point list options

You can modify the display of the data point list under "Options / Point window". The "Point window layout" window contains a list of possible columns that can appear in the data point list.



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Select the desired check boxes, and then confirm with [OK].

If you want to keep the settings for later sessions, click [Save] before closing the window with [OK].

5.1.15 Colour settings for the application window

You can individually define the colours for the PRVCONF window environment via the setup menu [≡].

Setting foreground and background colours

Step	Procedure
1	Select "≡ / Colors"
2	Select the appropriate screen area in the "Group" field.
3	Select the appropriate option in the "Item" field.
4	Select the foreground and/or background colour.
5	Confirm with [OK]. The colours are updated in the application window.

Notes

- The text below the colour palettes reflects the current colour settings for both foreground and background.
- The combination black on black is not possible.

Saving the current colour settings

If you changed the colours during the current session, a message appears when you quit PRVCONF, asking whether you want to save the current colour settings.

Yes: The new colours become active the next time you start PRVCONF.

No: The original colours become active the next time you start PRVCONF.

5.1.16 Viewing a file

Purpose

The ≡ symbol at the left side of the menu bar contains the setup menu. You can use the "Visualization" command in this menu to view the contents of a file without having to quit PRVCONF. For example, you can view the LOG file which contains a list of duplicated user names or you can check the VIS or MLG file.

How do I proceed?

Proceed as follows to view a file:

Step	Procedure
1	Select "≡ / Visualization" (or press ALT-V)
2	Find the file (e.g. *.LOG)
3	Select the file and confirm with [OK].

5.1.17 Functions you should not use

Do not use

Do not use the following functions while you are working with ETS:

- "File / Save as"
Because the other tools would not be able to find the data.
- "File / DOS Shell"
Because the DOS shell may be overloaded.
- "System / Monogyr"
Because this system is no longer included in the product range.
- "System / Hotelgyr"
Because PRVCONF supports the old HOTELGYR system that is supported in Italy only.

Not described

The price calculation functions and settings are not described in this document because they were introduced only in one group company (Italy).

5.2 Background information on project processing

5.2.1 VISONIK text databases

Explanation	<p>In order to generate the configuration with the text numbers, PRVCONF must know the fixed texts and the texts that are assigned in the course of project processing. For this purpose, PRVCONF use two types of text database:</p> <ul style="list-style-type: none">• Text database with fixed texts Comprises the following files: VISITEXT.IDX VISITEXT.RZE VISUTEXT.IDX VISUTEXT.RZE• Text database with newly created texts Comprises the following files: ProjectName.RZI ProjectName.RZU
What are fixed texts?	<p>The fixed text database contains all of the texts and physical units that exist in the system being processed.</p>
New projects	<p>In the case of new projects, these are the texts and units from catalogues TXI #g, TXI #m and TXU #g, TXU #m. These texts are the same for the entire group company; the text database from the library can be used.</p>
Enhancement projects	<p>In the case of enhancement projects, the existing texts and units in TXI #p and TXU #p are also considered fixed. For this reason, the fixed text database must be created from the texts in the system at the beginning of the project.</p>
What are newly created texts?	<p>The newly created text database contains all project-specific texts created in PRVCONF. Only those texts are included that are not contained in the fixed text database. Text numbering begins at a definable offset, i.e., there is no coordination with the numbering of the fixed database.</p>
Text database with fixed texts for new projects	<p>This library database comprises the global TXI and TXU texts (g-texts) and the TXI and TXU texts defined in the group company (m-texts). These texts and units correspond to those used in the PDT default plants.</p> <p>The libraries supplied by Headquarters are coordinated with Germany and Great Britain.</p>
General text libraries with fixed texts	<p>The text files are contained in the following folder: ...\ETS_LIB\TEXTLIB</p> <p>The text structures for "PRV1/DCS V10" and for "PRV2/DCS V12" and higher are different. Therefore, "DCS V10" requires a separate text catalogue.</p> <p>The general text libraries to be used are listed in the ETS.INI file. The entry is included under:</p> <pre>[Text Library Paths]</pre> <p><i>Example from the English version:</i></p> <pre>[Text Library Paths] PRV1=C:\ETS_LIB\TEXTLIB\VIS_V10.ENG PRV2=C:\ETS_LIB\TEXTLIB\TXT_V14.ENG PRU1=C:\ETS_LIB\TEXTLIB\TXT_V14.ENG PRU2=C:\ETS_LIB\TEXTLIB\TXT_V14.ENG</pre>

Fixed text database in the project folder

If PRVCONF finds a text database in the project library, it uses this database instead of the general text library. The text database must include the following files

VISITEXT.IDX
 VISITEXT.RZE
 VISUTEXT.IDX
 VISUTEXT.RZE
 VISONIK.INI

If you want to archive the text library with the project data, copy all of the files from the general text library to the respective project folder **before starting PRVCONF for the first time**.

Note

If in case of new projects you copy the text files to the active project folder, PRVCONF always accesses the original text files regardless of whether changes are made to the general fixed text databases.

Large-scale projects

In the case of very large-scale projects consisting of a large number of sub-projects that are processed simultaneously, it is worthwhile creating a fixed text database with common point texts and units.

Use this text database only to ensure that uniform texts and physical units are used. Use [Search Text] to find and apply each text.

Downloading texts to the DCS

When the DCS configuration is generated, the fixed texts are not included in the VIS file. If the DCS does not contain the correct texts, use the DCS Loader to download the texts from the file STDTXTnn.VIS.

See "DCS Loader User's Guide" (Order No: CM2U8373E)

Deleting texts from the DCS

If the DCS contains completely wrong texts, you can delete them using a DCT script.

Step	Procedure
1	Open a DOS window.
2	Set the default folder to ...\\VISOTOOL.4\DCS_LOAD, and then enter the following DOS command: DCT_RUN DTXIV14G.CMD user password Result: The texts on the DCS are deleted one at a time. <i>Note:</i> The deletion operation takes some time (approx. 1h).

Fixed text database for enhancement projects

In case of enhancement projects, the fixed text database must be created on the basis of the existing DCS. The texts can be uploaded from the DCS using either VISOTOOL Editor or a DCT script. We recommend that you use the DCT script.

Uploading texts from the DCS

How do I use the DCT script? (Recommended)

Step	Procedure
1	Open a DOS window.
2	Set the default folder to ...\\VISOTOOL.4\\DCS_LOAD, and then enter the following DOS command: DCT_RUN UPV14GER.CMD user password See also " VISONIK Upload User's Guide" (Order No: CM2U8370E)
3	Copy the file DCT.RPT to the project folder.
4	Create a text library using the following DOS command: C:\ETS_PROG\MKITEXT ProjectFolder\DCT.RPT ProjectFolder

How do I use the VISOTOOL Editor?

Step	Procedure
1	Upload the TXI texts: Command: <CTRL>P, TX, ig,6,* for g-texts Command: <CTRL>P, TX, im,6,* for m-texts Command: <CTRL>P, TXi, ip,6,* for TXU texts
2	Save the texts in VISITEXT.TXT in the project folder of the enhancement project.
3	Upload the TXU texts: Command: <CTRL>P, TX, ug,6,* for g-texts Command: <CTRL>P, TX, um,6,* for m-texts Command: <CTRL>P, TXi, up,6,* for TXU texts
4	Save the texts in VISUTEXT.TXT in the project folder.
5	Copy the program MKITEXT.EXE from the ...\\ETS_PROG folder to the project folder.
6	Open a DOS window, set the default folder to the project folder, and then enter the following DOS command to create the text library: MKITEXT (do not enter a filename) Result: VISITEXT.IDZ, VISITEXT.REZ, VISUTEXT.IDZ, VISUTEXT.REZ

Text database with new texts	When the configuration is first generated in PRVCONF, a text database with the new, project-specific texts is created in the project folder. The database comprises the files ProjectName.RZI and ProjectName.RZU, neither of which can be edited.
Delete text numbers	If you want to delete all newly assigned text numbers, delete the files ProjectName.RZI and ProjectName.RZU. Only the text numbers are deleted — the actual texts and physical units remain intact.
Large-scale projects	In the case of very large-scale projects consisting of a large number of sub-projects that are processed simultaneously, you must either: <ul style="list-style-type: none">• use different text number offsets for the individual sub-projects, or• each time you generate the configuration of a sub-project, copy the RZI and RZU files to all other sub-projects.

5.2.2 Important INI files

Explanation	PRVCONF uses a number of INI files to control the program's behaviour during compilation and configuration generating.
PRVCONF.INI	<p>This file contains Group Company-specific control parameters for PRVCONF and is saved in the following folder: ...\ETS_PROG</p> <p>The settings apply to all projects. If a project requires individual settings, copy the file to the project folder.</p> <p>In addition to various settings made by your Tool Manager, you can define special text settings here.</p>
Settings under [GLOBAL]	
PRUlayout	<p>I/O module layout for PRU Define PRU layout (ignore options and continuous addressing, 0=No, 1=Yes) PRUlayout=1</p> <p>0 I/O module addressing as per the VISONIK concept 1 Continuous I/O module addressing (customary with UNIGYR)</p>
TXI2prefix	<p>Delimiter for TXI2 Define TXI2 prefix character for PRV2 (default none) TXI2prefix=' '</p> <p>Any character that is entered here is inserted in front of TXI2 during compilation with PRVCONF. This prevents the TXI and TXI2 texts from appearing without spacing, e.g. in DCS reports.</p>
TXUformat	<p>TXU format check Define TXU format check (1=always 8 character) TXUformat=0</p> <p>0 Number of characters as entered, max. 8 1 Fills up to 8 characters with blanks.</p>
PLTAddrOpt	<p>Address options Define PLT+ZON Address Option (0=enable, 1=disable standard group concept) PLTAddrOpt=0</p> <p>0 Resets PLT addresses as per standard DDC. (e.g. PLT10 becomes PLT1) 1 Uses manually entered PLT addresses. (e.g. PLT10 remains PLT10)</p>
FastAlloc	<p>Automatic process unit allocation method Define Process unit Allocation (0=No, 1=Yes) FastAlloc=1</p> <p>0 Precise but slow method 1 Simplified, fast method</p> <p>The simplified method may produce overloaded process units. The error is detected during compilation.</p>
PBLSplit	<p>Plant size for splitting Define Plant Size for Splitting</p> <p>; 0 = no split function (menu item grayed) ; 1 = big plants (115 P-Bus load for PRV, 57 for PRU) ; 2 = medium big plants (57 P-Bus load for PRV, 28 for PRU) ; 3 = medium small plants (28 P-Bus load for PRV, 14 for PRU) ; 4 = small plants (14 P-Bus load for PRV and PRU)</p> <p>PBLSplit=4</p> <p>The number entered defines the plant size that is produced when the "Edit / Split plants" function is selected.</p>

PointViewerMask	<p>Point list presentation Layout of Point Window PointViewerMask=879 Do not change in the INI file — set the display options for the point list in PRVCONF.</p>
PriceCalculation	<p>Activation of price calculation Price Calculation Options PriceCalculation=0 Only to be activated in Italy.</p>
Print Option	<p>Print options Printer Options PrintOption=16893 Do not change in the INI file — set the print option in PRVCONF.</p>
InitPrinter	<p>Printer initialization string ESC-Sequence for Printer Initialization (use only for local printer !) Sequence for printer on LPT1: IBM Character set for HP "ESC(10U" InitPrinter1=1B 28 31 30 55 Sequence for printer on LPT2: none InitPrinter2= Sequence for printer on LPT3: none InitPrinter3= This string is used to initialize the printer before printing. Must be blank in case of network printer!</p>
Settings under [ALLOC]	<p>Details for automatic process unit allocation. These settings are only effective if "FastAlloc=1" is selected.</p>
PBLFactor AddrFactor	<p>Process unit loading Default values (if entry not present) are PBL 90%, Addr 90% PBLFactor=90 AddrFactor=90 These limits can be modified in the "Text+Address Options" window in PRVCONF.</p>
AutoExpand	<p>Process unit creation Enable fast increment of Process unit (Default value is 0=No) AutoExpand=1 0 A new process unit is created only after the existing ones have been optimized. 1 Optimization is not carried out until after the initial layout.</p>
FirstTimeOut SecondTimeOut	<p>Timeout until cancel Allocation Timeout in seconds (-1 = no timeout) FirstTimeOut=20 SecondTimeOut=300 Time in seconds after which the initial layout (FirstTimeOut) and the optimization process (SecondTimeOut) is cancelled.</p>

ETS.INI	<p>This file contains the general control parameters for ETS; it is saved in the following folder: ...\\ETS_PROG</p> <p>PRVCONF uses the following sections of this file:</p>
[Functional Part Library]	<p>Function library names and paths</p> <p>If the code is generated automatically for a plant, PRVCONF receives from PDT the name of the library used and determines the path that is passed to PRVCONF.</p>
[Text Library Paths]	<p>Paths of the text libraries for PRV1, PRV2, PRU1 and PRU2 as well as PRU10</p> <p>This path is used if the project folder contains no text library.</p>
MODUL.INI	<p>This file contains the module sequence that is used during compilation; it is saved in the following folder: ...\\ETS_PROG</p> <p>The settings apply to all projects. If a project requires individual settings, copy the file to the project folder.</p>
<i>Note</i>	<p>When modifying this file, you must move the entire line (e.g. "6; AI") to the new position in each case.</p>
CVP_PRV.ASC	<p>This file contains the VISONIK conversion parameter sets (see 5.3.7 "Conversion parameters CPNR"); it is saved in the following folder: ...\\ETS_PROG</p>
PRVCONF.DAT	<p>This file contains the material information for system devices and options; it is saved in the following folder: ...\\ETS_PROG</p>
VISONIK.INI	<p>This file contains the VIS file header and the system version. Additionally, the DCS language and version as well as the language and version of the text catalogue to be loaded is defined for the DCS loader.</p> <p>The file must be in the same folder as the text libraries. It is normally saved in the following folder: ...\\ETS_LIB\\TEXTLIB</p> <p>The settings apply to all projects. If a project requires individual settings, copy the file to the project folder.</p>

5.2.3 Important project files

The project folder contains the following important files:

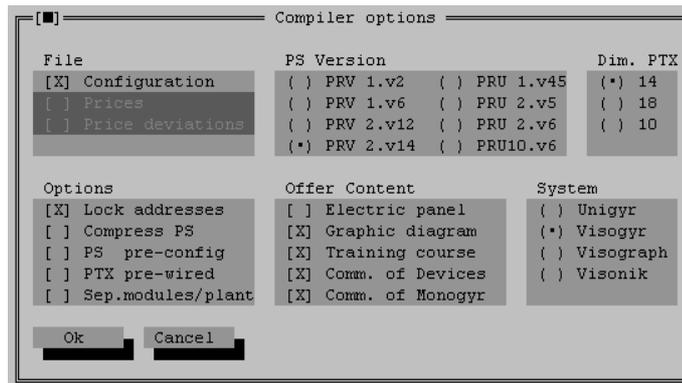
- *.MAC Main PRVCONF file with all project data (plants, points, field devices, texts)
Note: In case of uncontrolled termination of PRVCONF, the MAC file is automatically saved under the name "EMSAVE.MAC" in the project folder.
- *.LMC File containing all project data at the status of when the "Write data to PRVCONF" function was executed.

This file is used for the "Reload plants" function.
- *.MTF File for data exchange with PRVCODE
- *.VIS VISONIK configuration file
The file contains data such as the technical addresses, user names, TXI and TXU for the VISONIK DCS.

The file is created when the "Configuration" option is set during compilation.
Note: The address structure can be structured to a greater degree in PRVCONF than in the DCS. Therefore, the "ADRFORM" entry in the VIS file must be checked.
- *.LOG Contains duplicated user names
- *.MLG Contains the valid I/O module layout that is created in case of address conflicts.
- *.MDB Exchange database file
- *.HLK HVAC code file (for UNIGYR)
- *.EKL Configuration file for a PRV process unit (one file for each process unit)
- *.BPS Configuration file for a BPS process unit (one file for each process unit)
- *.RZI File with project-specific point texts TXI
- *.RZU File with project-specific point texts TXU
- *.TXT File with CAD links (for Italy)

5.3 Detailed information

5.3.1 Compiler options



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File

Configuration

If this option is selected, the following files are created:

- *.HLK for the UNIGYR HVAC code
- *.VIS for the VISONIK configuration
- *.TXT for CAD Link (Italian CAD solution)

Prices and

Price deviations

Not available

PS Version

Process unit selection for a VISONIK or UNIGYR system

Dim. PTX

Module rail size (to fit control panel)

System

System selection

Option

Lock Addresses

The technical addresses for the entire project are locked during the compilation process, i.e., they remain unchanged if the following conditions are fulfilled:

- Technical addresses must be unique.
- In VISONIK systems, only one point type is permitted for each group of eight octal technical addresses. Depending on point type, not all of the eight address locations can be utilized.
- Points for combined sensors (e.g. QAM64) must be located on the same module.

If these conditions are fulfilled, the addresses will remain unchanged. If not, an error message appears, indicating the first changed address (e.g. "1st address changed \$260"). On message acknowledgement, the subsequent addresses are changed as if the "Lock Addresses" option were not selected.

Compress PS

If this option is selected, optimization of the address range occurs. The space requirement of each process unit is reduced by summarizing suitable point types (e.g. a number of feedback signals) on a single module.



We recommend that you do **not** use this option! Activate this option only if absolutely certain that the process unit concerned will not be enhanced at a later date!

PS pre-config. and
PTX pre-wired

Process unit is pre-configured or the terminal rail is installed in the control panel (for UNIGYR in Italy only).

If selected, these options are taken into account in both the materials list and the price calculation.

Sep. modules/plant

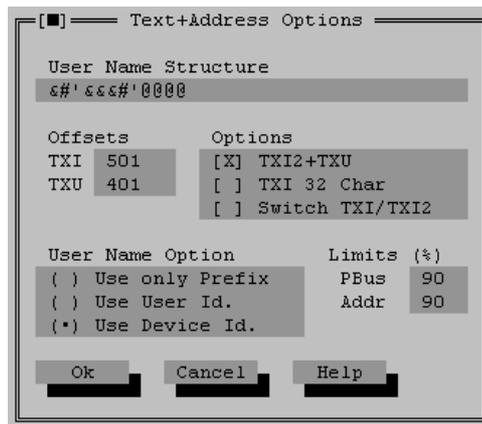
If this option is active, the plants will be compiled in such a way that each has its own I/O modules. If deactivated, the plants are compiled for optimal module utilization.

Offer content

Only applicable if price calculation is active (Italy only)

The activated items are added to the price calculation after compilation. Otherwise, they must be entered manually.

5.3.2 Text and address options



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User name structure

Defines the user name structure. VISONIK permits user names up to 28 characters long.

The meaning of the characters used is explained in a table which you can display by clicking [Help].

Type	Character	Possible input
Symbol	#	Only numerals permitted
	?	Letters only (upper or lower case)
	&	Upper case letters only
	@	Letters (upper or lower case) and numerals
	!	Upper case letters and numerals
Control	* 1)	Repetition
	[]	Option (see explanation below)
	} 1)	Group
	, 1)	Set of alternatives
	; 1)	Use next character "as is"

1) We recommend that you do not use these characters!

All of the characters not listed in the table (letters, numerals, symbols) are transferred to the user name.

Example with appended comment (alias)

@@'@@@@@'@@@["*@]

The appended part of the user name (in brackets) can be entered variably, i.e., the number of characters is free.

User name option

Option for building a user name using:

- only part (prefix only)
- prefix and user ID
- prefix and device ID

VISONIK

The user ID and device ID are separate data fields in PDT. The device ID is specified by German standards. The user ID is intended for customized user names.

UNIGYR

Only the "Use only prefix" option is possible with UNIGYR because the user name corresponds to the I/O instance name and is derived from the data point text.

Offsets Offset for the TXI text number and TXU text number in the project-specific text catalogue. In the case of enhancement projects on existing systems, the offset must provide for a sufficiently large free range so that none of the existing texts are overwritten.

Option Text options for:

- TXI2+TXU:
The TXI2 and TXU texts appear in the data point list.
- TXI 32 Char:
32 characters are shown in the VIS file (otherwise only 16).
- Switch TXI/TXI2
The TXI and TXI2 texts are switched in the configuration.

Abbreviations TXI, TXI2,
TXU

- TXI Data point name
- TXI2 Plant name
- TXU Unit / state text

Limits Percentage utilization limits for:

- P-bus load
- Address range

5.3.3 Data points

Point types

The PRVCONF point types correspond to the P-bus I/O modules and therefore to the UNIGYR I/O function blocks.

PRVCONF knows the following point types:

Point type		Option(s)
BI	Binary input	MX
BOBI	Binary output + binary input in the same P-bus module	LOC PFL
BOBI2	2-step command: binary output + binary input in the same P-bus module	LOC
BO	Binary output	LOC PFL FBV
BO3	Triple binary output (3-step command)	LOC PFL FBV
AI	Analog input	—
AO	Analog output	—
Y3P	Output for 3-position actuator	—
ZW	Counter value	SYN
Pump	Pump coupling	—
NOIO	This point type occupies no module space, but it is treated as a normal point. Examples: <ul style="list-style-type: none"> • Valve bodies, damper actuators etc. are NOIO points with respective field devices. The module type is undefined (Undef) in this case. • Function points such as RGB, VIP, PLT or ZON 	

Options (VISONIK only)

The options can be used to define more complex VISONIK data points (e.g. SBR1:E)

See also "VISONIK Fundamentals, Point Types and Parameters" (Order No: CM2Z8566E)

The selected options can affect the number of modules and the point type in the system.

- MX Multistate status signal (currently not supported)
- LOC Remote / local
- PFL Power fail
- FBV Feedback
- SYN Synchronisation input

Pump coupling

Pump coupling data points form a "point team". This consists of the primary point, which has the point type and the base address, and the sub-points with automatically set point types and offset addresses.

The point teams for Grundfos and Wilo are as follows:

Relative PRV address	P-bus	Data point	Type	Range
\$000 ... \$001	0	Pump command	AO	OFF, ON
\$002 ... \$003	1	Differential pressure setpoint	AO	0...100.0m
\$010 ... \$011	4	Status	AI	0...255
\$012 ... \$013	5	Error	AI	0...255
\$020 ... \$021	8	Differential pressure actual	AI	0...100.0m
\$022 ... \$023	9	Throughput	AI	0...400.0m ³ /h
\$030 ... \$031	12	Power input	AI	0...4000W
\$032 ... \$033	13	Speed	AI	0...4000min ⁻¹

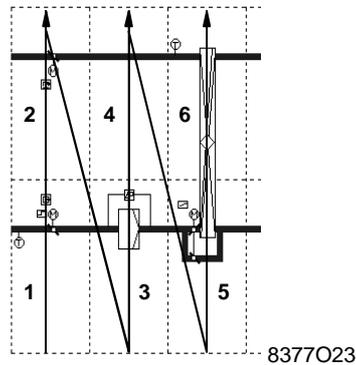
The first data point (pump command) is the primary point.

PDT points

Data points created in PDT are identified by an asterisk (*). As long as the link remains intact, the point type and options cannot be modified. This ensures that the data can be re-imported in PDT.

Point sequence

The point sequence is defined by the arrangement of the plant parts in PDT.



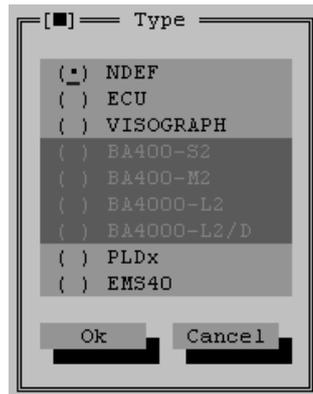
5.3.4 Compilation rules

General	During compilation, PRVCONF generates the necessary I/O modules for all process units. The program recognizes the process units by their PS addresses. Each time the compilation process is started, the I/O modules are re-calculated from the data points.
Sequence	The data points with locked addresses are processed first. The remaining data points are processed according to the sequence of point types defined in the MODUL.INI file. Points of the same type are processed in the sequence of plants and points.
Locked addresses	Locked addresses are changed if conflicts occur (duplication or incorrect type). An error message appears. The change normally affects all of the subsequent data points with higher technical addresses. Therefore, reconstruct the old data.
Special cases	<ul style="list-style-type: none">• If the addresses are locked so that the first module of a module group is missing, the module is created without data points.• If the "<i>Sep.modules/plant</i>" option is selected, unused data points are created to fill up the modules. Delete these points before generating the configuration.

5.3.5 System hardware and software

Server

Under "System / Server > Edit", you can define the system devices for a system.



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Note

To modify a defined system, delete the system ("System / Server > Delete") and define it again.

Types

The following types are available:

- | | |
|-------------|--|
| | <ul style="list-style-type: none">• NDEF Non-defined system |
| for VISONIK | <ul style="list-style-type: none">• ECU System without a server for process units of type EKL-X/PRV. The ECU can support a maximum of 20 connected substations of which 10 are connected via SDLC ring and 10 via modem.• VISOGRAPH System without server and with old PC operation (do not use)• BA... System with old PDP server (do not use)• PLDx System with new PC server for DCS |
| for UNIGYR | <ul style="list-style-type: none">• EMS 40 This system is based on PRU process units equipped with an LCD and pop cards for visualization and parameter setting. A graphic PC station is also provided for plant management via dynamic process pictures. |

Settings

Depending on the system, various system components and configuration data can be defined.

Software

Under "System / Software" you can select billable software modules, if provided by the tool manager. These modules are taken into account in the price calculation.

As a standard, some communication protocols from Italy can be selected.

5.3.6 Materials data

Explanation

The materials data is stored in two materials databases. These are:

- General materials database with standard sensors, actuators and devices, in the files:
ALLMAT.REZ
ALLMAT.IDX
- Special materials database with group company specific field devices, in the file:
NONLGMAT.FRM

Special materials

All materials with manually entered description, cost and price information are stored in the special materials database. PRVCONF looks for this database in the active project folder, and then in the ETS program folder. If not found, it is created in the project folder.

Note

Under Windows 3.1, PRVCONF saves and looks for the special materials database in the ETS_DATA folder instead of the active project folder.

5.3.7 Conversion parameters CPNR

Explanation

The CPNR parameter allows a set of value conversion parameters (CVP) to be assigned to the AI, AO and Y3P point types in VISONIK. The correct set must be determined on the basis of the sensor and module type. The possible sets are stored in the CVP_PRV.ASC file.

Sets from CVP_PRV.ASC

The file contains the following sets as standard:

CPNR	Designation	Slope	Offset	Non-linearity
1	Outside temperature Ni1000 2R1K	0.050000	-52.40000	0.0000000
2	Room temperature Ni1000 2R1K	0.050000	-52.40000	0.0000000
3	Cold water Ni1000 2R1K	0.050000	-52.40000	0.0000000
4	Hot water Ni1000 2R1K	0.050000	-52.40000	0.0000000
5	Temperature Pt100 2P100	0.081675	-273.30000	-0.0000125
6	Temperature Pt1000 2P1K	0.081675	-273.30000	-0.0000125
7	Relative humidity QFA62 2P1K	0.033420	-9.43190	0.0000000
8	Relative humidity 100%=10V 2U10	0.031250	-14.00000	0.0000000
9	Absolute humidity 20g/m3=10V 2U10	0.006250	-2.80000	0.0000000
10	Enthalpy 100kJ/kg=10V 2U10	0.031250	-14.00000	0.0000000
11	Pressure 0...20pa=10V 2U10	0.006250	-2.80000	0.0000000
12	Pressure 0..100pa=10V 2U10	0.031250	-14.00000	0.0000000
13	Pressure 0..40bar=10V 2U10	0.012500	-5.60000	0.0000000
14	Position 0..100% =10V 2U10	0.031250	-14.00000	0.0000000
15	Power input 1kW=25mA 2I25/025	0.000312 50	-0.14000	0.0000000
16	Pressure output 100%=1.38bar 1PSI20	0.013800	0.00000	0.0000000
100	FLN conversion	0.010000	0.00000	0.0000000
101	Pump coupling	1.000000	-48.00000	0.0000000
102	Pump coupling	0.100000	-4.80000	0.0000000
103	Pump coupling	0.001000	-0.04800	0.0000000

Notes

- CPNR=0 corresponds to the predefined set CVP0 for the L&S Ni1000 temperature sensor on modules 2R1K/4R1K or a slope of 1 for AO and Y3P.
- CVP numbers 100 to 110 are reserved.
- If additions are made to the conversion parameter sets, add the texts to the text catalogue.

5.3.8 Standard DDC concept

Explanation	<p>The standard DDC concept supports:</p> <ul style="list-style-type: none">• Identical, simple operation of all plants regardless of whether they are running on integrated or stand-alone process units.• Simple programming with standard procedures and tasks <p>The standard DDC concept is described in the DDC.PPT file, the standard procedures and tasks in the STD_TSK.DOC file.</p>
Plant identification	<p>All points of a plant are identified by the "GROUP" parameter. Values 1...15 are used for plants with operator interfaces, values 101...255 for plants without operator interfaces.</p>
Plant operation	<p>Plant operation is implemented using the function points PLT+ZON. PLT+ZON 1...15 are reserved for plants with operator interfaces. The corresponding control tasks are 10...150.</p>
<i>Example</i>	<p>PLT1 and Task10 belong to the plant with group number GROUP=1 etc.</p>
<i>Note</i>	<p>The group numbers are checked during compilation.</p>
Configuration	<p>The "PltAddrOpt=..."option in PRVCONF.INI has the following effect:</p> <ul style="list-style-type: none">• If "PltAddrOpt=0" is set, the configuration uses the standard DDC concept. PLT+ZON 1...15 are reserved for plants in which PLT+ZON are generated from the function description in PDT.• If "PltAddrOpt=1" is set, the addresses of function points PLT+ZON can be freely assigned in PRVCONF.

5.3.9 Limitations of PRVCONF

Number of plants and process units	<p>PRVCONF can process a maximum of 70 plants per location and 63 plants per process unit.</p> <p>Divide projects with more than 100 plants or more than 15 process units into two or more sub-projects, otherwise there will be insufficient memory for compilation.</p>
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5.4 Frequently asked questions

What does this section contain?	The following section provides answers to questions that go beyond the scope of the standard workflow and primarily address experienced users.
What should I do if a plant is too large?	<p>Go back to PDT and divide the plant up according to the principles of control engineering.</p> <p>Variant of a summary plant during the sales phase: If the summary plant is too large, split it up. See 3.2.4 "Splitting plants", Page 29.</p>
Can I add an existing project or plants from it to the project I am working on?	<p>Using the function "File / Merge projects", you can add previously saved project data to the current plant configuration (see also page 63).</p> <p>Use [Delete] to delete any plants that you do not need.</p>
What should I do if more than one person wants to work on the same project?	<p>The project is similar to the "Procedure for projects with phased commissioning" (see page 58).</p> <p>Divide large projects into sub-projects. Provided that no text numbers are assigned, a number of people can work on the sub-projects simultaneously. However, as soon as text numbers are assigned or configurations are generated, the sub-projects must be completed sequentially. The first project to be finished is "frozen" and the text catalogues with #p-texts (RZI and RZU files) are copied to the next sub-project.</p>
Can data point addresses be deleted again?	Select "Edit / Reset addresses". The addresses of all data points in the selected plant are deleted when you acknowledge the system message with [Yes].
What happens if data points are generated for the wrong system in PDT?	<ul style="list-style-type: none">• Case 1: Data points are generated for INTEGRAL instead of VISONIK or UNIGYR The following error message appears during the data transfer to PRVCONF: "Project system type is neither VISONIK nor UNIGYR. Continue anyway?" Click [No], and then generate the correct data points in PDT.• Case 2: Data points for UNIGYR instead of VISONIK (or vice versa). PRVCONF does not set the system options automatically, and it does not display an error message. If in doubt, go back to PDT and generate the data points again.
Can PDT read data points that have been created in PRVCONF?	Yes. However, the data points are displayed without graphics.

5.5 Error messages

This section is intended to help you troubleshoot errors.

A number of error messages and situations are described in the following table:

Situation / message	Cause	Solution
Warning: "Same user address used twice!"	Two or more data points have the same user name.	Select "≡ / Visualization", and open the *.LOG file. The duplication is documented in this file.
Warning: "One or more addresses changed, starting at ..."	The addresses were locked during compilation, but the conditions for addressing were not fulfilled. See page 85	Respond with [Yes] to the system message "Reconstruct old Data?". Select "≡ Visualization", and open the *.MLG file. This file shows the modified module layout. Change the incorrect addresses, and repeat the compilation process (see page 72).
Warning: "Empty IO Module generated in PS ... because of illegal module addr."	The manually assigned addresses leave the first module in a group of four unoccupied.	Re-assign the addresses, or install the unoccupied I/O module with the rest.
Error: "Error in User Address Structure!"	The defined structure and the entered user names do not match.	The first data point where the error was found is displayed. Correct the user names for each plant or individual data point, or change the user name structure.
Error: "Field material not consistent."	Field devices must not be entered for software points	—
Error: "Set of options not consistent or not allowed."	The selected combination of options is not possible because it is either meaningless or illegal.	In the case of PDT points, restore original settings. In the case of UNIGYR, do not use options.
Error: "Can not read the file." "Disk- or Version error."	The MAC file was damaged by an uncontrolled termination of PRVCONF (system crash).	Delete the MAC file in the file manager. Repeat all changes made since the last data transfer.

6. Detailed information on PRVCODE

What does this chapter contain?

The following sections provide specialized information addressed to users in the engineering phase. The individual sections deal with the following topics:

Topic	Section
Working with PRVCODE	6.1
Special operations	6.2
Background information on the COLBAS code	6.3
Detailed information	6.4
Error messages	6.5

6.1 Working with PRVCODE

6.1.1 Starting PRVCODE

Always start PRVCODE via SDT Shell. The MTF file of the selected process unit is opened automatically whereby the last three characters of the filename indicate the process unit address (001 ... 999).

Important

An MTF file must have been generated in PRVCONF. This is achieved by selecting the "Configuration" option in PRVCONF before compiling.

6.1.2 Defining the program and text configuration

By selecting "Edit / Config", you can add the following program parts and procedures to the process unit's configuration:

- | | |
|---------------------------------------|-----------------|
| • Local operation task | User Dialogue |
| • Standard procedures | Procedures |
| • Standard text | Standard Texts |
| • Status text | Status Texts |
| • Local print task | Local Print |
| • Data exchange between process units | Data Exchange |
| • Dialup communication task | Telephone |
| • Local data acquisition task | Data Processing |
| • Selection of auxiliary tasks | Auxiliary Tasks |

User Dialogue

The following selection is available:

- | | |
|-------------------------------------|----------------|
| • Local operation task | User Dialogue |
| • Auxiliary menu for operation task | Auxiliary Menu |
| • Local message buffer | Message Buffer |

Procedures

A window appears that allows you to select the required procedures by double-clicking.

If COLBAS CODE was already generated using a PDT function library, the required procedures are already selected.

Standard Texts

The following selection is available:

- | | |
|----------------------------------|-----------|
| • Texts #g001 ... 009 | Header |
| • Texts for reports | Protocols |
| • Texts for FLN integration | FLN |
| • Texts for dialup communication | Phone |
| • Texts for RX integration | RX |

Status Texts

The following selection is available:

- | | |
|------------------------------|------------------------|
| • Status texts #g001 ... 009 | Header |
| • Process unit status texts | Initialization Reasons |
| • P-bus diagnostic texts | PBus Diagnostic |
| • BLN communication path | BLN Communication Way |
| • Plant status texts | Plant Status Reason |
| • Dialup status texts | Phone State |

Local Print, Data Exchange, Telephone, Data Processing

The required programs can be selected individually.

The local printer task is pre-selected for commissioning.

Auxiliary Tasks

A window appears that allows you to select the required program parts by double-clicking. The following program parts are supplied by Headquarters:

- | | |
|---|-----------|
| • Scheduler configuration in BPS | BPS_TSC |
| • Conversion parameter calculation | CONVERR |
| • FLN setup task | FLNSETUP |
| • Dialup setup task | TELSETUP |
| • FLN commissioning | FLN_COMM |
| • Local peak demand limiting in BPS (PDL) | PEAKLIMIT |
| • PDL test task | PDL_TEST |

6.1.3 Generating the configuration and code

Select "Generate / Generate now" to generate the loadable file for the process unit.

The file contains:

- Selected texts
- Point configuration
- Any plant control tasks (if created with the PDT function library)
- System tasks
- Selected tasks and procedures

(See 6.1.2 "Defining the program and text configuration").

6.2 Special operations

6.2.1 Changing parameters

When the configuration is generated, the appropriate parameter values for each point type are added from the file BPS.PAR or PRV.PAR (in the ETS_PROG folder).

You can change the parameter values for the individual point types by opening and modifying the above files in an editor.

6.2.2 Editing a new process unit

You can select a new process unit file with "File / Open". The settings remain intact.

6.3 Background information on the COLBAS code

Plant tasks

PRVCODE creates the control tasks for the plants if in PDT:

1. A function description was added to the plant.
2. The function description contains code segments.
3. The "Generate code links" function was executed.

The "KLIMA" function library provided by Headquarters contains a number of standard control tasks. The other libraries contain no control tasks because they differ from group company to group company.

The expert document PRVCODE.DOC provides information on creating code segment libraries.

System tasks

PRVCODE generates System tasks 5, 252, 253 and 254 automatically. The tasks work correctly if the plant control tasks comply with the standard DDC concept. Example:

- Initialization in lines 1-999, loop as line 1000
- DATA statements for cascade control in lines 520 + 570
- DATA statement with event reaction in line 950
- DATA statement for permitted plant states in line 980
- DATA statement for local operation tasks in lines 990 and 992

6.4 Detailed information

6.4.1 Structure of the generated file

The loadable file for a process unit is generated by selecting "Generate / Generate now".

The generated file (*.EKL for PRV / *.BPS for BPS) has the following structure and contents:

Contents	Library (source)
File header with general information	MTF file
Standard texts and status texts	Text libraries
Conversion parameters CVP	CVP_PRV.ASC via MTF file
Plants with: <ul style="list-style-type: none"> • I/O points and texts *) • Function points (PLT, RGB, ...) **) • Control tasks (Task 10 for plant 1 etc.) ***) 	MTF file MTF file MTF file
Tasks (predefined sequence) <ul style="list-style-type: none"> • Coordination task (TSK 5) • Priority reaction task (TSK 252) • Event reaction task (TSK 253) • Power return task (TSK 254) 	The library directories for the tasks are defined in PRVCODE.INI. File: Task5 Task252 Task253 Task254
The tasks selected in the PRVCODE menu appear in the order defined in PRVCODE.INI: <ul style="list-style-type: none"> • Dialup tasks • Printer task • Data exchange between process units • Data acquisition task • Message buffer task • User dialogue task • Project-specific operation procedure • Auxiliary tasks • Procedures 	The library directories for the tasks are defined in PRVCODE.INI. File: <ul style="list-style-type: none"> • Tele • LocPrint • DataExch • DataProc • MsgBuffer • OpTask • UserProc • Selected from all files with the extension (*.AUX) "AuxTasks" • Selected from the "FBLib" file

*) Plants are referred to as groups in VISONIK. Group numbers 1...15 are assigned to plants with code, group numbers 101...163 to plants without code.

**) Added if "Generate Code Links" was selected in PDT, virtual points were defined and function parts with incorporated code were selected.

***) Added if "Generate Code Links" was selected in PDT and function parts with incorporated code were selected.

Note

Characters entered in PDT (ASCII format) are converted according to the PC setting rules (ANSI format) by PRVCONF. If these rules do not comply with the VISONIK definition (e.g. umlauts), program errors can occur.

6.4.2 Important INI file

PRVCODE.INI The file has a section for PRV and one for BPS. It is located in the following folder:

...\ETS_PROG

PRVCODE.INI defines which files are used in which order.

Entries

Output file

Output File

Output=*.EKL

The filename extension of the output file for PRV is *.EKL, and for BPS it is *.BPS.

The remaining entries are described in the expert document PRVCODE.DOC.

6.5 Error messages

The following table is intended to help you troubleshoot errors.

Situation / message	Cause	Solution
Error: "File C:ETS_DATA\...MTF does not exist	The "configuration" option was not set during compilation in PRVCONF and no MTF file was created.	Go back to PRVCONF. Select "Compile / Options", and select the "Configuration" check box (the "Lock Addresses" option must also be selected). Compile.

7. Supplement PRVCONF / PRVCODE User's Guide

Version 3.42

7.1 Same p-texts for subprojects

New Several persons may simultaneously work on subprojects. The text database containing the p-texts for all subprojects is generated in the **main project folder**.

How do I proceed? The subprojects are generated and edited as new projects in the main project folder.

Step	Procedure
1	In the file manager or Explorer, generate the new main project folder
2	Generate subprojects as new projects in PDT or SDT-Shell
3	Edit subprojects similar to new projects
4	Prior to initial compiling in PRVCONF: Select "Compile / Text+Address Options", and then the "Common #p Texts" check box

Result following compilation:

The *.RZI and *.RZU text files are generated in the main project folder.

Notes

Warning	Cause	Solution
Common #p file is locked. Text file cannot be generated.	Another compilation process is currently active in a different subproject.	Confirm the message with [OK] and try again later.
Delete existing local #p text file?	During an earlier compilation process, p-texts were generated in the subproject because the option "Common #p texts" was not selected.	[OK] deletes the p-texts from the subproject folder and writes them to the common text database in the main project folder

**PRVCONF / PRVCODE
Documentation
CM2U8375E**

The above described new function replaces the following in the PRVCONF / PRVCODE User's Guide:

- Chapter 5.2.1 Text databases for VISONIK: Text database with new texts, large projects
- Chapter 5.4 Frequently asked questions: What should I do if more than one person wants to work on the same project?...

7.2 Additional *.INI file settings

7.2.1 PRVCONV.INI

New	Options for configuration file
VISFileOpt	Define VIS file options (0 = only global Vis file, ; 1 = one file for each controller ; 2 = global and splitted files)
	0 Only one configuration file comprising all data
	1 One configuration file for each process unit
	2 One configuration file comprising all data and one file for each process unit

7.2.2 MODULE.INI

New	Setting for sequence of point types and of I/O modules. The MODULE.INI file explains both format and allocation of numbers.
<i>Example</i>	6; AI No sorting of AI I/O modules 1, 14,15; BI First 4D20, then 4D20R followed by all others
<i>Note</i>	Do not use commas when writing comments.

7.2.3 CVP_PRV.ASC

	This file is located in the following folder: ...\ETS_PROG
New	These settings apply to all projects. If you must modify the settings for a specific project, copy the file to the corresponding project folder.

