ADP
Advanced Data Processing V6.0
User’s manual
## Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>About this document</td>
<td>5</td>
</tr>
<tr>
<td>0.1</td>
<td>Revision history</td>
<td>5</td>
</tr>
<tr>
<td>0.2</td>
<td>Referenced documents</td>
<td>5</td>
</tr>
<tr>
<td>0.3</td>
<td>General</td>
<td>6</td>
</tr>
<tr>
<td>0.4</td>
<td>Document structure</td>
<td>7</td>
</tr>
<tr>
<td>0.5</td>
<td>Online help</td>
<td>8</td>
</tr>
<tr>
<td>0.6</td>
<td>Document conventions</td>
<td>9</td>
</tr>
<tr>
<td>0.6.1</td>
<td>Symbols used</td>
<td>9</td>
</tr>
<tr>
<td>0.6.2</td>
<td>Typographical conventions</td>
<td>9</td>
</tr>
<tr>
<td>1</td>
<td>What is ADP?</td>
<td>11</td>
</tr>
<tr>
<td>1.1</td>
<td>Advanced Data Processing</td>
<td>11</td>
</tr>
<tr>
<td>1.2</td>
<td>Operating principle</td>
<td>12</td>
</tr>
<tr>
<td>1.3</td>
<td>CAFM – Computer-aided facility management</td>
<td>13</td>
</tr>
<tr>
<td>2</td>
<td>Basics you should know</td>
<td>14</td>
</tr>
<tr>
<td>2.1</td>
<td>ADP report</td>
<td>14</td>
</tr>
<tr>
<td>2.2</td>
<td>Report properties</td>
<td>16</td>
</tr>
<tr>
<td>2.3</td>
<td>ADP objects</td>
<td>19</td>
</tr>
<tr>
<td>2.4</td>
<td>Programs</td>
<td>19</td>
</tr>
<tr>
<td>3</td>
<td>Compose and start ADP reports</td>
<td>20</td>
</tr>
<tr>
<td>3.1</td>
<td>How to create an ADP report</td>
<td>20</td>
</tr>
<tr>
<td>3.2</td>
<td>How to create an ADP report template</td>
<td>26</td>
</tr>
<tr>
<td>3.3</td>
<td>How to create an ADP report from a report template</td>
<td>27</td>
</tr>
<tr>
<td>3.4</td>
<td>How to start an ADP report?</td>
<td>28</td>
</tr>
<tr>
<td>4</td>
<td>Compose and start jobs</td>
<td>32</td>
</tr>
<tr>
<td>4.1</td>
<td>What is a job?</td>
<td>32</td>
</tr>
<tr>
<td>4.2</td>
<td>How to compose a job</td>
<td>33</td>
</tr>
<tr>
<td>4.3</td>
<td>How to start a job</td>
<td>37</td>
</tr>
<tr>
<td>5</td>
<td>ADP object properties</td>
<td>41</td>
</tr>
<tr>
<td>5.1</td>
<td>How to find the properties</td>
<td>41</td>
</tr>
<tr>
<td>5.2</td>
<td>ADP reports properties</td>
<td>41</td>
</tr>
<tr>
<td>5.2.1</td>
<td>ADP report tab</td>
<td>42</td>
</tr>
<tr>
<td>5.3</td>
<td>ADP report template properties</td>
<td>44</td>
</tr>
<tr>
<td>5.4</td>
<td>Report data series properties</td>
<td>45</td>
</tr>
<tr>
<td>5.4.1</td>
<td>Report tab</td>
<td>45</td>
</tr>
<tr>
<td>5.4.2</td>
<td>Series and Point tabs</td>
<td>46</td>
</tr>
<tr>
<td>5.5</td>
<td>Local filter properties</td>
<td>46</td>
</tr>
<tr>
<td>5.5.1</td>
<td>Report Entry tab</td>
<td>46</td>
</tr>
<tr>
<td>5.5.2</td>
<td>Report tab</td>
<td>47</td>
</tr>
<tr>
<td>5.5.3</td>
<td>Series tab</td>
<td>48</td>
</tr>
<tr>
<td>5.5.4</td>
<td>Point tab</td>
<td>49</td>
</tr>
<tr>
<td>5.6</td>
<td>Job properties</td>
<td>50</td>
</tr>
<tr>
<td>5.6.1</td>
<td>Job tab</td>
<td>50</td>
</tr>
<tr>
<td>5.6.2</td>
<td>Advanced tab</td>
<td>51</td>
</tr>
<tr>
<td>5.7</td>
<td>Start dialog properties</td>
<td>52</td>
</tr>
<tr>
<td>Section</td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>5.7.1</td>
<td>Start dialog box for ADP reports</td>
<td>52</td>
</tr>
<tr>
<td>5.7.2</td>
<td>Start dialog box for jobs</td>
<td>53</td>
</tr>
<tr>
<td>5.8</td>
<td>Shortcut properties</td>
<td>54</td>
</tr>
<tr>
<td>5.8.1</td>
<td>Shortcut tab</td>
<td>54</td>
</tr>
<tr>
<td>6</td>
<td>Mapping data series to the time period of report</td>
<td>55</td>
</tr>
<tr>
<td>6.1</td>
<td>What is it?</td>
<td>55</td>
</tr>
<tr>
<td>6.2</td>
<td>Determine values to be displayed</td>
<td>55</td>
</tr>
<tr>
<td>6.2.1</td>
<td>Report with &quot;resolution=no interval&quot;</td>
<td>55</td>
</tr>
<tr>
<td>6.2.2</td>
<td>Report with predefined resolution</td>
<td>56</td>
</tr>
<tr>
<td>6.3</td>
<td>Examples—Values to be displayed</td>
<td>57</td>
</tr>
<tr>
<td>6.3.1</td>
<td>Data series display with spontaneous data (COV)</td>
<td>57</td>
</tr>
<tr>
<td>6.3.2</td>
<td>Data series display with sampling values</td>
<td>59</td>
</tr>
<tr>
<td>6.3.3</td>
<td>Data series display with mean, minimum, maximum, difference, or sum values</td>
<td>61</td>
</tr>
<tr>
<td>6.4</td>
<td>Capture range</td>
<td>62</td>
</tr>
<tr>
<td>7</td>
<td>Trend display</td>
<td>63</td>
</tr>
<tr>
<td>7.1</td>
<td>The most important features at a glance</td>
<td>63</td>
</tr>
<tr>
<td>7.2</td>
<td>Standard operating functions</td>
<td>67</td>
</tr>
<tr>
<td>7.2.1</td>
<td>File menu</td>
<td>67</td>
</tr>
<tr>
<td>7.2.2</td>
<td>Retrieve detailed information on any point of a curve</td>
<td>67</td>
</tr>
<tr>
<td>7.2.3</td>
<td>Display detailed information for a specific point in time</td>
<td>67</td>
</tr>
<tr>
<td>7.2.4</td>
<td>Assign a data series to the primary or secondary y-axis</td>
<td>67</td>
</tr>
<tr>
<td>7.2.5</td>
<td>Show data series names</td>
<td>68</td>
</tr>
<tr>
<td>7.2.6</td>
<td>Change line thickness</td>
<td>68</td>
</tr>
<tr>
<td>7.2.7</td>
<td>Copy data series to the clipboard</td>
<td>68</td>
</tr>
<tr>
<td>7.2.8</td>
<td>Change window size and graphic selection</td>
<td>68</td>
</tr>
<tr>
<td>7.2.9</td>
<td>Change the displayed report time span</td>
<td>68</td>
</tr>
<tr>
<td>7.2.10</td>
<td>Zoom a desired area</td>
<td>69</td>
</tr>
<tr>
<td>7.3</td>
<td>Design properties</td>
<td>70</td>
</tr>
<tr>
<td>7.3.1</td>
<td>Basic design options</td>
<td>70</td>
</tr>
<tr>
<td>7.3.2</td>
<td>Enhanced design properties</td>
<td>71</td>
</tr>
<tr>
<td>7.3.3</td>
<td>Define the font types</td>
<td>76</td>
</tr>
<tr>
<td>7.4</td>
<td>Save Trend design properties</td>
<td>77</td>
</tr>
<tr>
<td>7.4.1</td>
<td>Procedure</td>
<td>77</td>
</tr>
<tr>
<td>7.4.2</td>
<td>Assign saved design properties to a report</td>
<td>77</td>
</tr>
<tr>
<td>8</td>
<td>Excel display</td>
<td>78</td>
</tr>
<tr>
<td>8.1</td>
<td>Excel macro and Excel design file</td>
<td>78</td>
</tr>
<tr>
<td>8.2</td>
<td>Create a macro file</td>
<td>80</td>
</tr>
<tr>
<td>8.3</td>
<td>Create an Excel design file</td>
<td>81</td>
</tr>
<tr>
<td>8.4</td>
<td>Excel display</td>
<td>83</td>
</tr>
</tbody>
</table>

Glossary: 83

Index: 86
1 About this document

1.1 Revision history

This document contains the following changes as compared to version ADP 4.0, dated 2006-09-01 (CM2B8705en).

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Changes</th>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>2006-09-01</td>
<td>New text: Logical data series</td>
<td>3; 11; Glossary; Index</td>
<td>—</td>
</tr>
<tr>
<td>5.1</td>
<td>2014-01-20</td>
<td>Chapter 8 – Table Display: deleted</td>
<td>all</td>
<td>—</td>
</tr>
</tbody>
</table>

1.2 Referenced documents

**CAFM documentation**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>—</td>
<td>PDM User’s guide</td>
<td>User’s guide</td>
<td>CM2B8736en_03</td>
</tr>
<tr>
<td>—</td>
<td>ADP User’s guide</td>
<td>User’s guide</td>
<td>CM2B8705en_03</td>
</tr>
<tr>
<td>—</td>
<td>CC User’s guide</td>
<td>User’s guide</td>
<td>CM2B8716en_03</td>
</tr>
</tbody>
</table>

User level 4 and higher require substantial knowledge of VISONIK data processing (DP). The ADP engineering manual references all relevant documents. The table below contains the most important documents:

<table>
<thead>
<tr>
<th>Document</th>
<th>Contents</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>VISONIK® DCS Functions A-Z</td>
<td>User’s guide - Version 20</td>
<td>CM2U8568E</td>
</tr>
<tr>
<td>VISONIK® Point types and parameters</td>
<td>Documentation on basics for VISONIK point types and parameters, version 20</td>
<td>CM2Z8568E</td>
</tr>
<tr>
<td>VISONIK® DCS Loader Operator handbook</td>
<td>Loading the VISONIK DCS configurations</td>
<td>CM2U8373E</td>
</tr>
</tbody>
</table>

**Database documentation**

PDM uses one of several available standard databases. Refer to the supplied documentation for detailed information on this topic. In this document, we will limit ourselves to a few general comments on using the database.

**Engineering manual**

Available in English only.

This user’s guide is intended for Siemens Building Technologies technical personnel or authorized contractors only.

It contains extensive information on the PDM and ADP engineering process, and installation and PDM program group setup.
1.3 General

Validity
This document is valid for ADP version 6.0.

Contents and target audience
This document contains all information to enable you to quickly use the fully installed ADP program.

Note
ADP is not available as an independent program on your installation. All ADP functions are available in the PdmExplorer. When installing ADP, the PdmExplorer is expanded by the corresponding ADP objects.

As only Siemens Building Technologies specialists are authorized to install and configure ADP, detailed information on planning, installation, setup, etc. is available in the engineering manual only.

Caution: All users with access level 2 or higher can irretrievably change or delete certain data. For this reason, we recommend that even professionals read all chapters relevant to their work prior to carrying out any operations.

Product errors?
Missing text?
If you find errors or discover inadequate product or documentation information, please notify the Common Support of Siemens Building Technologies, Building Automation. Doing so helps us further optimize our products.

Our address
Siemens Switzerland Ltd
Building Technologies Division
International Headquarters
Common Support Entry 5500
Gubelstrasse 22
6301 Zug
Switzerland
Phone +41 41 724 5500
E-mail fieldsupport-zug.ch.sbt@siemens.com
web www.siemens.com/buildingtechnologies
1.4 Document structure

This user’s guide combines both instructions and reference material. The structure is oriented to typical workflows for initial setup of ADP. The document structure thus is as follows:

Introduction  Chapter 0  About this document
               Chapter 1  What is ADP?

Basics  Chapter 2  Basics you should know

Operation  Chapter 3  Compose and start ADP reports
              Chapter 4  Compose and start jobs
              Chapter 5  ADP object properties

Display reports  Chapter 6  Mapping data series to the time period of report
                  Chapter 7  Trend display
                  Chapter 8  Excel display

Terms
Index

To easily locate specific information, the following are available at the end of this document:

- Summary of all terms and definitions.
- Index.
1.5 Online help

You can open online help at any time and for all programs.

Context-sensitive help

Both PdmExplorer and PdmFinder support context-sensitive help, i.e., each text or field offers the corresponding help text.

Context-sensitive help is available in two ways, whereby both methods are equally valid:

Method 1

Click the desired text or field.
Press <F1> on the keyboard.

or

Right-click

Right-click the desired text or option field or right-click the name of the associated field (in some cases, PDM uses a right-click for other purposes).

Step-by-step procedure

The online help offers step-by-step instructions for certain tasks.

Help menu

Start Help via the Help menu. The startup page contains all topics with step-by-step instructions.

Help on individual topics

For topical searches, the left part of the help program contains three tabs: Contents (table of contents), Index (search by keywords) and Search (full text search).

Glossary

Shows all definitions of terms in alphabetical order.

Exit online help

Closes Help.

Print

You can print the active help topic by clicking [Print] in the Help toolbar.

Quick information

As soon as you click a menu or a corresponding symbol on the toolbar, the status bar at the bottom of the window provides a brief description of the associated function.
1.6 Document conventions

1.6.1 Symbols used

<table>
<thead>
<tr>
<th>Caution:</th>
<th>Users with access level 2 or higher may change or delete data. When you see the symbol to the left, data may be lost irretrievably.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of data!</td>
<td>The symbol to the left denotes information that helps you properly operate and use the programs. This information is based on experience; we strongly suggest that you observe all hints.</td>
</tr>
<tr>
<td>Practical hints</td>
<td>Important information is printed on a gray background.</td>
</tr>
</tbody>
</table>

1.6.2 Typographical conventions

For button and field names as well as short descriptions of functions or repetitive processes, the following conventions apply throughout this user's guide:

**Keyboard keys**
Keyboard keys are always printed in angle brackets < >.
Example: `<Shift>, <Shift + N>`

**Names for dialog boxes and fields**
Names of dialog boxes and fields in Windows are italicized.
Example: In the *Definitions* dialog box, ....

**Input in fields**
When prompted to type in a value in a field, the following short description is used:
Example: *Type in the name of the data series in the Series field.*
Example: *Type "13" in the Series field.*
Keyboard entries are always set in quotation marks "...".

**Windows buttons**
Buttons are always printed in brackets [ ].
Example: *When you click [Cancel], the ...*
Example: *[Save].*  
This is a prompt to click [Save].

**Menu names and items**
Names of menus and menu items are printed in SMALL CAPS.
Example: *Select NEW METER from the DIMENSIONS menu to ...*

**Instructions**
Individual steps of instructions to be performed in a specific order are separated by a | slash.
Example:  
**SYSTEM | METER | Right-click | NEW METER**  
This tells you to right-click the METER menu item in the SYSTEM menu. A submenu opens. Select the NEW METER menu item.

**Mouse click**
In the instructions, right click \(\mathbb{C}\) and double click \(\mathbb{C}\) are specially noted. Otherwise, left click \(\mathbb{C}\) is assumed.

**Context menus**
Right-click \(\mathbb{C}\) in most cases opens the context menu.

**Date and time format**
The date and time settings depend on the settings of your Windows installation [Start > Settings > Control Panel > Regional Settings].
"Year 2000" issue
If year numbers are entered with just two digits, the following assignments apply:
50 – 99  =  1950 – 1999
00 – 49  =  2000 – 2049
In CC as well as in PDM DataComm and DataEdit, the following applies to the leap day
(February 29) for the years 2000, 2004, 2008 and future leap years:
First set the day to 1, then select the month and year, and then set the day to 29. The
system accepts this procedure, but you cannot save this date!
This procedure is required as the date is checked for plausibility when entered. The
program prevents entry of invalid dates.

Important
The symbol to the left denotes important information; in addition, the text is printed on a
gray background.
### 2 What is ADP?

#### 2.1 Advanced Data Processing

ADP—an data evaluation and reporting program—guarantees gap-free processing and presentation of all operating data.

High availability and optimal use of data from building automation plants is very important. To achieve this goal, ADP fulfills one basic requirement.

ADP generates meaningful reports from data which is stored in the PDM database in any combination and in selectable time spans. These reports can then be displayed and printed in various forms.

Example for a comparison of temperature curves:

![Temperature Curves Example](image)

**ADP strengths**

ADP as a program primarily focuses on displaying any process data in meaningful presentations.

- ADP allows you to analyze weaknesses in your operation and supervise and evaluate corresponding optimization measures. This allows for efficient and transparent building operations.
- Visualization of process data via graphical illustrations or tables as well as a combination of both.
- ADP provides an integrated spreadsheet program. Additionally, you can export data to MS Excel for further editing.
- Proof of adherence to required operating states, laws on emissions, manufacturing conditions.
- Long-term data evaluation. Within the framework of the ISO9000 documentation requirement, long-term, archived operating data can be retrieved at any time and processed in the form of ADP reports.
- In order to efficiently generate ADP reports, the program provides report templates.
2.2 Operating principle

**ADP main functions**

As shown in the illustration below, all building data required by ADP are available in the PDM database.

ADP serves to visualize this data individually or in any combination.

ADP provides two main functions:

- **Define reports**
  - To define the data series whose data are summarized and presented in a report for comparative purposes.
  - Definition of report displays (List, Excel, Trend).
  - Definition of a report’s time resolution.

- **Display reports**
  Reports can be viewed on-screen or printed:
  - manually via the corresponding command in ADP or
  - automatically at predefined times
  The time span, i.e., the time and date range that a report is supposed to cover, as well as the report’s start time and date are freely selectable.

![Principle of operation for ADP-PDM-CC](image-url)
2.3 CAFM – Computer-aided facility management

The term CAFM includes the following three components:
- Technical building management
- Administrative building management (not part of this document)
- Infrastructural building management (not part of this document)

For technical building management, Siemens Building Technologies provides the following three software packages:
- **PDM**: Includes all administrative functions for the PDM database.
- **ADP, CC**: Application programs that process and prepare saved building data according to various aspects.

Comparing ADP and CC

**ADP** differs from **CC** (Consumption Control), designed especially for energy data:
- Because of its high flexibility in terms of data selection and display and
- because of its capability for substantially smaller resolutions for data acquisition.

**CC** on the other hand:
- Focuses on cost models, unit conversion, and distribution of energy on various structures as its primary features, and
- works with daily values.
3 Basics you should know

PDM basics

Extensive information on the topics below are available in the PDM User’s Guide (CM2B8733en) under the same chapter heading or in the online help glossary.

- **PDM database**
  - Interval, storage time, formula, time stamp, quality attribute.

- **Compression types**
  - Sampling, difference, mean, maximum, minimum, sum.

- **Data series**
  - Data point.
  - Recorded, calculated, constant and logical data series

Refresher

Data series

ADP / CC can only access data for which a data series was created.

When creating a data series, the data structure required to save the data is created in the PDM database.

A data series contains values that relate to a specific data point AND a defined interval, e.g., the hourly mean value of the outside temperature.

**Thus:** For values based on a specific data point and recorded for various time intervals (e.g. hourly and daily mean values of the outside temperature), various data series must be generated accordingly.

3.1 ADP report

An ADP report only comprises references to data series, but not current lists or graphics.

<table>
<thead>
<tr>
<th>Report Series Name</th>
<th>Series Name</th>
<th>Type</th>
<th>Offset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside temperature</td>
<td>Outside temp</td>
<td>Recorded</td>
<td>None</td>
</tr>
<tr>
<td>Outside temperature right only</td>
<td>Room temp</td>
<td>Filter Local</td>
<td>None</td>
</tr>
<tr>
<td>Room temperature - set point</td>
<td>Outside temp</td>
<td>Continuous</td>
<td>None</td>
</tr>
<tr>
<td>Outside temperature average 1</td>
<td>Outside temp</td>
<td>Calculated</td>
<td>None</td>
</tr>
</tbody>
</table>

Assign the data series to the ADP report you want to display on screen.

- The order of the individual entries determines the order of the columns when a report is printed.
- The same data series may appear several times, e.g., with different date ranges.
- A report may also contain data series used for internal calculations in reports only, and not displayed in ADP reports.
- If an ADP report contains data series with multiple intervals or if the intervals do not match the resolution of the ADP report, the following applies:
  - The data series values are set to the time defined in the ADP report resolution. If there are no values for the predefined time, the most recent valid value of the respective data series is displayed.
  - The following applies to Trend displays with "Resolution = None": All values of all data series are displayed.

Symbols

- Recorded, calculated, or constant report data series.
- Report data series that do **not** appear in the ADP report.
When you open an ADP report, all associated data series are displayed.

### Report data series

<table>
<thead>
<tr>
<th>Report Series Name</th>
<th>Series Name</th>
<th>Type</th>
<th>Offset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside temperature</td>
<td>Outside temperature</td>
<td>Recorded</td>
<td>None</td>
</tr>
<tr>
<td>Outside temperature rights only</td>
<td>Outside temperature rights only</td>
<td>Filter Local</td>
<td></td>
</tr>
<tr>
<td>Room temperature - set point</td>
<td>Room temperature - set point</td>
<td>Constant</td>
<td>None</td>
</tr>
<tr>
<td>Air temperature</td>
<td>Air temperature</td>
<td>Recorded</td>
<td>None</td>
</tr>
<tr>
<td>Air temperature - average</td>
<td>Air temperature - average</td>
<td>Calculated</td>
<td>None</td>
</tr>
</tbody>
</table>

8701o31: ADP reports – (Report) series name

Data series referenced in a report are called **report data series**.

Report data series have two additional, report-specific features:
- An offset, i.e., a corrective value allowing for shifting the defined time span. (To, for example, compare the “current month” to the “previous month” of a data series).
- An option to display the data series in a report or not.

### ADP report template.

A report template corresponds to an ADP report whose definition is not yet complete. Contrary to the ADP report, it contains **at least one local filter entry** allowing you to easily locate a specific data series.

8701o31a: ADP reports – Filter entry

When you replace all filter entries of the report template by the desired data series entries, an ADP report template becomes an ADP report.

### Symbol

For greater clarity, the following symbol appears when a report template is created:

Local filter entry.

### Use

Report templates are a comfortable means to quickly create new ADP reports with similar designs. As the report template specifies the design, you only need to assign the respective data series.
3.2 Report properties

Report design
- Type of display.
- Time resolution used to display data in a report.
- Time span in days, weeks, etc. for which you intend to display data in a report.

Types of display
We provide four basic types of display to create reports, each offering specific advantages and disadvantages with regard to design.

List
The data is listed in a table display. Design efforts are minimal.

Trend
Allows you to display curves without spending much time on design. You can easily adjust the design to special information needs even after retrieving the report.

Hint: To quickly and easily analyze a data series, drag and drop it in the Trend window.

Excel
Linking a report to Microsoft Excel 7.0 (or later) is intended primarily for experts. Excel provides interesting statistical functions that can also be used, for example, to calculate correlations.

Resolution
Resolution is the time frame used to display data in an ADP report.

Example
You want a row-by-row display of hourly mean values in an ADP report. In this case, set the "Resolution" to one hour.

Application note
We recommend to select a resolution that matches the data series intervals. However, this is not mandatory. Data of data series that do not match this interval are standardized accordingly.

- The data series values are set to the time defined in the ADP report resolution. If there are no values for the predefined time, the most recent valid value of the respective data series is displayed.
- The following applies to Trend displays with "Resolution = None":
  All values of all data series are displayed.

Time Span Shown
The concrete time span for which the report displays data results from the time span (or report time span), the offset,., the present report start date, and the set job properties (e.g. first weekday=Monday).

The following four options are available:

Example:
It is Friday, February 1999, 1600 hours, when you start a report.

If the "Number" field defines a period that extends over several days, weeks, etc., the date range is expanded by the corresponding previous days or weeks, etc.

1. Current time span
The report includes the current, not yet completed date and time range:

1-day  From Fri 02.19. 00:00 through Fri 02.19. 23:59
1-week From Mon 02.15. 00:00 through Sun 02.21. 23:59
1-month From Mon 02.01. 00:00 through Sun 02.28. 23:59
1-year From Fri 02.01. 00:00 through Fri 12.31. 23:59

but always without data after Fr 19.02., 1600 hours.

2. Completed time span
The report includes the previous, completed date and time span:

1-day  From Thu 02.18. 00:00 through Thu 02.18. 23:59
1-week From Mon 02.08. 00:00 through Sun 02.14. 23:59
1-month From Fri 01.01. 00:00 through Sun 01.31. 23:59
1-year From Thu 01.01.2014 00:00 through Thu 12.31.2014 23:59

3. Sliding time span
The report includes the time span for one day, one week, etc. until the exact current time.

Reports...
1-day  From Thu 02.18. 16:00 through Fri 02.19. 15:59
1-week From Fri 02.12. 16:00 through Fri 02.19. 15:59
1-month From Thur 01.19. 16:00 through Fr 02.19. 15:59
1-year From Fri 02.19.2014 16:00 through Fri 02.19.2015 15:59

4. Freely selectable time range
The report includes all data between both the indicated start date and the stop date.

Offset, shifted time span
The offset represents the corrective value included in the definition of the date range applied to report data display.

This corrective value can be:

- **Relative** to the start time, e.g., Offset= -2 years.
- **Absolute** for a specific year, e.g., Offset= 1996.
  In this case, select “Reference year” as the unit.

Application example
Assumption: A data series contains monthly values for multiple years. The time span is 1 year and the resolution in the report is 1 month.

Offset: If the data series is added three times to a report, but each time with a different offset (e.g., offset = -2 years, -1 year, and 0 years), the data of this data series can be displayed in neighboring columns shifted by one year.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>02</td>
<td>-2 Years</td>
<td>1998</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>January</td>
<td>203</td>
<td>270</td>
<td>315</td>
</tr>
<tr>
<td>12</td>
<td>February</td>
<td>227</td>
<td>263</td>
<td>307</td>
</tr>
<tr>
<td>13</td>
<td>March</td>
<td>250</td>
<td>265</td>
<td>295</td>
</tr>
<tr>
<td>14</td>
<td>April</td>
<td>240</td>
<td>268</td>
<td>294</td>
</tr>
</tbody>
</table>

8701c33: Data series with offset (table display)

Note
The offset entered for a data series only applies to the local report.
**Unsupported offset function**

ADP does not support combinations containing an offset of months and a time span of years.

**Example**

<table>
<thead>
<tr>
<th>Offset</th>
<th>1 month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report</td>
<td>Trend</td>
</tr>
<tr>
<td>Resolution</td>
<td>1 week</td>
</tr>
<tr>
<td>Period</td>
<td>1 year</td>
</tr>
</tbody>
</table>

**Quality attribute**

The quality attribute provides information on both generation and reliability of the respective value. An entry may have several quality attributes.

**PDM sets the following values:**

- 0 OK.
- + Value inserted via the PDM tool "DataEdit".
- ! Value corrected via the PDM tool "DataEdit".
- i The processed interval contained at least one bad value.
- ^ Value imported from the archive.
- n Data gap. PDM fills in "0" to eliminate the gap.

**VISONIK and DESIGO INSIGHT set the following values:**

- 3 Manual entry.
- 4 Limit under/overflow.
- 5 No event.
- 6 Out of service.
- 7 No value available.
- 8 Hardware problem.

**Combined QAs**

Quality attributes can be combined. For example QA 5 (no event) and QA 8 (hardware problem). DataEdit displays this entry as QA "58". Note: Multi-digit QAs always represent combined QAs.

**Unreliable values**

The PDM database does not use unreliable values for internal calculations (e.g., "compress", "calculated data series") unless specified explicitly. These values are replaced by the last known good value. If no "good" value is available, "0" is used instead.

The following values are considered unreliable:

Values with quality attributes "6", "7", "8" or "n".

But not, if they occur in combination with the quality attributes:

- "i" (the processed interval contained at least one bad value).
- "!" The value was corrected via the PDM tool "DataEdit".

**Note:** MS2000, TS1500, and UNIGYR do not have quality attributes.
3.3 ADP objects

ADP uses the following objects. For better recognition, they are always displayed together with a symbol.

### Referenced data series

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="min31" /></td>
<td><strong>Recorded report data series:</strong> Data series referenced in an ADP report.</td>
</tr>
<tr>
<td><img src="image2" alt="min33" /></td>
<td><strong>Calculated report data series:</strong> Data series referenced in an ADP report.</td>
</tr>
<tr>
<td><img src="image3" alt="min32" /></td>
<td><strong>Constant report data series:</strong> Data series referenced in an ADP report.</td>
</tr>
<tr>
<td><img src="image4" alt="min34" /></td>
<td><strong>Invisible report data series:</strong> This data series is used only for internal calculations in reports and is not visible.</td>
</tr>
</tbody>
</table>

### ADP reports

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image5" alt="ic_beri" /></td>
<td>ADP report.</td>
</tr>
<tr>
<td><img src="image6" alt="mini2" /></td>
<td>ADP report: Open.</td>
</tr>
<tr>
<td><img src="image7" alt="mini35" /></td>
<td>Link to ADP report (shortcut): PDM allows you to create shortcuts to reports (and data points and data series). These shortcuts are marked by a small arrow similar to Windows.</td>
</tr>
<tr>
<td><img src="image8" alt="min40" /></td>
<td>ADP report, write-protected: Access level 5 allows you to save and write-protect ADP reports. However, as soon as you copy a write-protected report, write-protection no longer applies and the standard symbols for ADP reports are again displayed.</td>
</tr>
<tr>
<td><img src="image9" alt="ic_beriVor" /></td>
<td>ADP report template: ADP reports with at least one local filter.</td>
</tr>
<tr>
<td><img src="image10" alt="ic_beriVoro" /></td>
<td>ADP report template: Open.</td>
</tr>
<tr>
<td><img src="image11" alt="mini30" /></td>
<td>Local filter: Contains preset search criteria for data series. A local filter, as opposed to a global filter, is valid only within the report template.</td>
</tr>
</tbody>
</table>

3.4 Programs

**PdmExplorer**
The PdmExplorer is the main user interface for PDM and ADP.

**PdmFinder**
The PdmFinder allows you to carry out targeted searches for data points, data series, and ADP reports. You can start the PdmFinder parallel to the PdmExplorer and keep it open in the background to run searches at any time.

**Auto Task**
The Auto Task program allows you to automate the following:
- Upload data from the database.
- Compress PDM data.
- Archive PDM data.
- Start ADP jobs (i.e., print and save ADP reports).
4 Compose and start ADP reports

The following structure applies to this chapter:

- Step-by-step instructions only.
- Refer to "ADP object properties" for detailed information on what to enter in the individual text and option fields.

Tip!
Use context-sensitive online help for your daily tasks (right-click or press F1 for the desired text or option field). The information provided is largely identical to that in "ADP object properties".

4.1 How to create an ADP report

Necessary steps
Proceed as follows to compose a report:

1. Step Optional: Create a new folder.
If needed, create a new folder for storing ADP reports in the PdmExplorer.

2. Step Create a new, blank ADP report in the respective folder.

3. Step Assign the desired data series to the blank ADP report.

4. Step Make all necessary adjustments in each report data series.

The ADP report is now defined and ready to be started either individually or as a reference in a job.

Step 1: Create a new folder.

When?
This step is optional.
In the PdmExplorer, you can create any number of subfolders in the ADP report folder to save your ADP reports.
Standard Windows NT/2000 functionality applies to creating, copying, and deleting folders and ADP reports.

ADP reports comprising at least one filter entry are called ADP report templates. ADP report templates are best saved to a special folder.
Step-by-step procedure

Left part of the PdmExplorer:
1. Select the higher ADP report folder.

Right part of the PdmExplorer:
2. Right-click a blank area (not a report!).

In the context menu:
3. Click **NEW | FOLDER**.
    You can now name the newly created folder.

**Tip**

*Create a shortcut to an ADP report.*
You can save the same report to several folders to, for example, best structure your report storage structure.
To this end, we recommend to not copy the associated report, but merely save a shortcut in the new folder.

Left part of the PdmExplorer:
1. Open the ADP report folder.
   The right portion of the Explorer displays all associated ADP reports.

Right part of the PdmExplorer:
2. Select the desired report, press **CTRL + SHIFT** and drag and drop the report to the desired ADP report folder (left portion of the PdmExplorer).

---

### Step 2: Create an empty ADP report

---

**Step-by-step procedure**

Left part of the PdmExplorer:
1. Select the desired report folder.

Right part of the PdmExplorer:
2. Right-click a blank area (not a report!).

In the context menu:
3. Click **NEW | REPORT**.
   The Wizard starts.
In the Report Wizard 1/2:

4. Specify the name of the new ADP report.

In the Report Wizard 2/2:

5. Define the following:
   - Display type [List, Excel, Trend].
   - Resolution.
   - Time span (range for which to display data).
   - Optional: Assign the template and the quality attribute.

In the Report Wizard:

6. Click [Finish]. The program generates a new report.
Step 3: Link data series to the ADP report

**Refresher**

Assign the data series to the ADP report you want to display on screen.

- The order of the individual entries determines the order of the columns when a report is printed.
- The same data series may appear several times, e.g., with different date ranges.
- A report may also contain data series used for internal calculations in reports only, and not displayed in ADP reports.

**A) With the aid of the PdmExplorer**

![Diagram of PdmExplorer]

8701038: Link a data series to an ADP report (with PdmFinder)

**Step-by-step procedure**

1. Left part of the PdmExplorer:
   - Open the desired data series (Recorded, Calculated, Constant, Logical).

2. Right part of the PdmExplorer:
   - Select the desired data series and **drag and drop** it in the respective ADP report (left part of PdmExplorer).
B) With the aid of the PdmFinder

In the PdmExplorer:

1. Open the new or the ADP report you want to change.
   All corresponding report data is displayed to the right.

In the PdmFinder:

2. Find the new data series and drag and drop it in the right part of the PdmExplorer.

Step 4: Report-specific adjustments

You can individually adjust each report data series in an ADP report. This allows you to influence the way data series are displayed in a report.

Note

All adjustments apply only to the respective report. If you use the same data series in a different report, the adjustments have no influence.
Step-by-step procedure

1. Open the desired ADP report.
   All corresponding report data is displayed to the right.

   Right part of the PdmExplorer:
   2. Right-click the report data series.

**Change order**

The order of the individual entries determines the order of the columns when a report is printed.

In the context menu:
3. Click **Move Up** or **Move Down**.
   The active report data series is moved up or down within the list.

**Change label**

The name of the data series is used as the caption for report data series, e.g., column headings, to be printed or displayed on-screen. To create short and meaningful captions, redefine the suggested data series name in the **Report Series Name** column.

In the context menu:
4. Click **Rename**.
   You can now rename the report series.

   Note
   - The name of the data series remains as is and the new name is used only as a caption in the report.
   - The entry applies only to this ADP report.

In the context menu:
5. Click **Properties** in the context menu.
   The following dialog box opens:

   ![PDM Property Sheet dialog box](image)

   In the **Report** tab:
   6. Change the following as needed:
      - Offset [the corrective value included when defining the date range for the ADP report data display].
      - **Show in Report** checkbox (data series).

   The information on the **Series** and **Point** tabs are for information only and cannot be changed.
4.2 How to create an ADP report template

An ADP report template corresponds to an ADP report whose definition is yet incomple-
te. Contrary to the ADP report, it contains at least one local filter entry allowing you to
easily locate a specific data series.

Procedures for generating and ADP report and an ADP report template are largely the
same. However, instead of data series, you must link at least one filter to the ADP re-
port.

The following applies to linking a filter to an ADP report:

**Step-by-step procedure**

Left part of the PdmExplorer:

1. Open the Filter folder.

Right part of the PdmExplorer:

2. Select the desired filter and drag and drop it in the respective ADP report (left part
   of PdmExplorer).

**Refresher**

A filter comprises preset search criteria to find data series, data points, or ADP reports.

**Global filters**

Global filters are created with the help of PdmFinder and saved automatically in the
PdmExplorer Filter folder.

Refer to the "PDM user's guide" for detailed instructions on creating global filters.

**Local filters:**

Filter entries in an ADP report template are local filters. Local filters are created by
copying global filters to a report template.

Local filters are valid only within the corresponding report template. Modifying a local
filter does not influence global filters.
4.3 How to create an ADP report from a report template

To do this, replace all local filters by the respective data series in the report template.

Step-by-step procedure

Left part of the PdmExplorer:
1. Open the desired report template.
   All associated data series and local filters are displayed to the right.

Right part of the PdmExplorer:
2. **Right-click** Local Filter.
   The PdmExplorer opens the context menu for the local filter.
   
   In the context menu:
   - **Click ASSIGN.**
     The PdmExplorer starts the PdmFinder. The local filter settings are automatically transferred to the PdmFinder.

   In the PdmFinder:
   - **[FIND REPORT].**
     The PdmFinder finds all data series that match the search criteria of the local filter.

   In the PdmFinder:
   - Drag and drop the desired data series from the PdmFinder to the report template.

Right part of the PdmExplorer:
6. Manually **delete** the local filter.
   Delete all local filters after all data series have been found.
   This converts a report template to an ADP report.
4.4 How to start an ADP report?

There are three methods:

Method A:
- Free selection of the display type and the time span. This overrides default values.

Method B:
- Direct start using predefined values.
  - Method B1: Double-click the ADP report.
  - Method B2: Use the context menu.
  - Method B3: Double-click the desktop shortcut.

Method C:
- Automatic start via Auto Task.

Method A
Step-by-step procedure

**Free selection** of the display type and the time span. This overrides default values.

Left part of the PdmExplorer:
1. Right-click the desired ADP report.

In the context menu:
2. Click **Run**.

The program opens the calendar.

In the calendar:
3. Change the preset values.
   If needed, change the values for the display type and the time span.
   These changes only apply to an immediate report display, and do not impact predefined values.

In the calendar:
5. Click **OK**.
   The desired ADP report is displayed on-screen.
Tip!

**Start several reports at the same time**

When you open the left part of the PdmExplorer instead of an ADP report in the report folder, the right part lists all associated ADP reports. This list allows you to select **multiple** ADP reports and start them via "Run".

**Method B1**

**Step-by-step procedure**

Direct start via double-click.

Left part of the PdmExplorer:

1. **Double-click** the desired ADP report.

**Method B2**

**Step-by-step procedure**

Direct start with predefined values via the context menu.

Left part of the PdmExplorer:

1. Right-click the desired ADP report.

In the context menu:

2. **Click** Run.

The program immediately starts the ADP report and includes all predefined settings for the time span set via:

- **TOOLS | OPTIONS | Run Defaults** tab.

![Options - Run Default tab](image)

8701043: Options – Run Default tab

**Note**

Reports started via the context menu Run, Run, or via double-click, or via the desktop shortcut, are always displayed on-screen.
Method B3
Step-by-step procedure

Direct start with predefined values via the desktop shortcut.

Left part of the PdmExplorer:

1. Right-click the desired ADP report.

In the context menu:

2. Click CREATE SHORTCUT ON DESKTOP in the context menu.
Windows now creates a shortcut on the desktop pointing to the ADP report.

On the desktop:

3. Double-click the shortcut.

The program immediately starts the ADP report and includes all predefined settings for the time span set via:

- TOOLS | OPTIONS | RUN DEFAULTS tab.

Note
Reports started via the context menu Run, Run…, via double-click, or via the desktop shortcut, are always displayed on-screen.

Method C
Step-by-step procedure

Automatic start via Task Scheduler.

For this type of start, add the corresponding ADP report to the Task Scheduler list.

Important! Automated procedures can be started using a task scheduler program. Usually such programs come along with operating systems (in MS Windows 7 it is called Task Scheduler). In this documentation we don’t give a detailed description of a task scheduler but add the instructions needed to proceed with the workflow, e.g. as given by the Task Scheduler of Windows 7.

Left part of the PdmExplorer:

1. Right-click the desired ADP report.

In the context menu:

2. Click CREATE SHORTCUT ON DESKTOP.
Windows now creates a shortcut on the desktop pointing to the ADP report.

On the desktop:

3. Right-click the shortcut.
Windows opens the shortcut's context menu.

In the context menu:

4. Click PROPERTIES | SHORTCUT tab.

In the Properties dialog box, Shortcut tab:

5. Copy (CTRL C)
To do this, select the whole contents of the Target field.

In the Task Scheduler

6. ACTIONS | CREATE BASIC TASK
Starts the Assistant guiding through the task creation process. You will be asked to enter a task name, recurring start mode, start date, recurring mode, and action to be performed, etc.

In the corresponding field of the Task Scheduler:

7. Paste (CTRL V).
Special attention is paid to the script which had been read out from 3 to 5 above and now has to be entered in the Task Scheduler. Likely names of the entering fields are: Script, Arguments, etc.
**Paste** copies the clipboard contents or the Target field contents to the Command Line field.

**Important:** At the end of the "Command Line" field, insert a space followed by `-ma`. (See also "Note" below.)

**Example**

```
"C:\Program Files (x86)\Siemens\PDM-ADP\ADP32\PdmRunnerClient.exe" -S:"dÅ@ä]ÊVZ" -U:"dÅBaaºAp" -P:"sjv" -R:"Hl>átqţz,₂ α'om¼Gî1°4û~µ=ç[-ıp... %€§2û~±4ýînx¼låÅK[åëVÕ_AFÝÝÉá ě³,îq'9ihR" -TS:"4" -ma
```

**Note**

Execute ADP reports only after data loading has been started. ADP report execution is delayed automatically until data loading is complete. Delays occur only if "-ma" was added to the "Command Line".
5 Compose and start jobs

The following structure applies to this chapter:

- Step-by-step instructions only.
- Refer to “ADP object properties” for detailed information on what to enter in the individual text and option fields.

Tip!

Use context-sensitive online help for your daily tasks (right-click or press F1 for the desired text or option field). The information provided is largely identical to that in “ADP object properties”.

5.1 What is a job?

A job contains one or several ADP reports and can be started as follows:

- Manually.
- Automatically via Auto Task.

Note

- The job only contains shortcuts to ADP reports. The actual ADP reports are saved in the ADP report folder.
- Jobs are always saved in the PDM folder CONFIGURATION | AUTOMATION | REPORTS.
5.2 How to compose a job.

Step 1: Create a blank job

When?
This step is optional.
You can create any number of jobs as needed in the PdmExplorer folder CONFIGURATION | AUTOMATION | REPORTS.
Standard Windows NT/2000 functionality applies to creating and deleting jobs.

Step-by-step procedure

Left part of the PdmExplorer:
1. Select the CONFIGURATION | AUTOMATION | REPORTS folder.

Right part of the PdmExplorer:
2. Right-click a blank area (not the job!).

In the context menu:
3. Click New | Job.

The program creates a new job and allows you to assign a new name as per standard Windows procedures.

Step 2: Link ADP reports to a job

Refresher

Job
- A job contains one or several ADP reports executed either by manual selection or automatically via Auto Task.
- The job properties dialog box allows you to specify if the associated ADP reports are to be displayed on-screen, printed, or saved to file.
- The job only contains shortcuts to ADP reports. The actual ADP reports are saved in the ADP report folder.
A) With the aid of the PdmExplorer

1. Open the Configuration | Automation | Reports folder.

2. Select the desired ADP report and drag and drop it on the respective job.

B) With the aid of the PdmFinder

1. Open the Configuration | Automation | Reports folder.

2. Find the desired ADP report and drag and drop it in the respective job (left part of the PdmExplorer).

Step-by-step procedure
Step 3: Job-specific adjustments

You can adjust each individual job.

Step-by-step procedure

1. Right-click the desired job.

   In the context menu:

2. Click Properties.

   The program opens the following dialog box:

   ![PDM Property Sheet dialog box]

   In the Job tab:

3. Change the following as needed:
   - Time span for which you display data in the report.
   - Output medium [Printer, Screen, File].

   In the Advanced tab:

4. Change the following as needed:
   - Initial conditions for the start time of day, month, year, and week.

Default settings

Click [OK] to save the values of both tabs as "default settings".

Note: The "default settings" apply only to jobs and not to manual ADP reports. There is no relationship to the values set via Tools | Options | Run Default tab.
Step 4: Report-specific adjustments

You can adjust each individual report within a job.

Caution!
The job only contains shortcuts to ADP reports. The actual ADP reports are saved in the ADP report folder.

Changes to report shortcuts are not saved to a local copy but directly to the original ADP report.

This is meaningful, but, at the same time, differs from Windows conventions. A specific message on changes reminds you of this difference.

Step-by-step procedure

In the PdmExplorer:

1. Open the desired job.
   All associated ADP reports are displayed to the right.

   Right part of the PdmExplorer:

2. Right-click the desired ADP report.

   In the context menu:

3. Click Properties.
   The PdmExplorer opens the following dialog box:

   ![PDM Property Sheet](image)

4. Change the following as needed:
   - Shortcut to the ADP report.

5. Change the following as needed:
   - Display type [List, Excel, Trend].
   - Time span [range for which you want to display data].
   - Resolution.
   - Template assignment.

Caution!

Step-by-step procedure
5.3 How to start a job

There are three methods:

Method A:
- Free selection of the display type and the time span. This overrides default values.

Method B:
- Direct start using predefined values.
  - Method B1: Double-click a job.
  - Method B2: Use the context menu.
  - Method B3: Double-click the desktop shortcut.

Method C:
- Automatic start via Auto Task.

Method A
Step-by-step procedure

Free selection of the display type, the time span and the output medium. This overrides default values.

Left part of the PdmExplorer:

1. Right-click the desired job.

In the context menu:

2. Click Run.

The program opens the Run Job window.

In the Run Job dialog box:

3. Change the following as needed:
   - Display type [List, Excel, Trend].
   - Time span [range for which you want to display data].
   - Output medium [Printer, Screen, File].
   Changed information applies to all reports of this job.

In the Run Job dialog box:

4. [OK].

All ADP reports specified in the job are either saved, printed, or displayed on-screen.
Method B1
Step-by-step procedure

Direct start via double-click.

Left part of the PdmExplorer:

1. **Double-click** the desired job.

Method B2
Step-by-step procedure

Direct start with predefined values via the context menu.

Left part of the PdmExplorer:

1. Right-click the desired job.

In the context menu:

2. **Click** **RUN**.

The program immediately starts the job and includes all predefined settings with regard to display, time span, and output medium under

- Context menu: **PROPERTIES** | **JOB** and **ADVANCED** tabs.
Method B3  
Step-by-step procedure

**Direct start** with predefined values via the desktop shortcut.

Left part of the PdmExplorer:

1. Right-click the desired job.

In the context menu:

2. Click Create Shortcut on Desktop.

Windows now creates a shortcut on the desktop for the associated job.

On the desktop:

3. Double-click the shortcut.

   The program immediately starts the job and includes all predefined settings with regard to display, time span, and output medium under
   - Context menu: **PROPERTIES | JOB** and **ADVANCED** tabs.

Method C  
Step-by-step procedure

**Automatic** start via **Task Scheduler**.

For this type of start, add the corresponding **ADP report** to the **Task Scheduler** list.

**Important!** Automated procedures can be started using a task scheduler program. Usually such programs come along with operating systems (in MS Windows 7 it is called **Task Scheduler**). In this documentation we don't give a detailed description of a task scheduler but add the instructions needed to proceed with the workflow, e.g. as given by the Task Scheduler of Windows 7.

Left part of the PdmExplorer:

1. Right-click the desired ADP Job.

In the context menu:

2. Click **CREATE SHORTCUT ON DESKTOP**.

Windows now creates a shortcut on the desktop pointing to the ADP Job.

On the desktop:

3. Right-click the shortcut.

Windows opens the shortcut’s context menu.

In the context menu:

4. Click **PROPERTIES | SHORTCUT** tab.

   In the Properties dialog box, **Shortcut** tab:

   5. **Copy (CTRL C)**

   To do this, select the whole contents of the **Target** field.

   In the Task Scheduler

   6. **ACTIONS | CREATE BASIC TASK**

   Starts the Assistant guiding through the task creation process. You will be asked to enter a task name, recurring start mode, start date, recurring mode, and action to be performed, etc.

   In the corresponding field of the Task Scheduler:

   7. **Paste (CTRL V)**.

   Special attention is paid to the script which had been read out from 3 to 5 above and now has to be entered in the Task Scheduler. Likely names of the entering fields are: Script, Arguments, etc.

   **Paste copies the clipboard contents or the Target field contents to the Command Line field.**
**Important:** At the end of the "Command Line" field, insert a space followed by `-ma`. (See also the following example as well as the Note.)

**Example**

```
"C:\Program Files (x86)\Siemens\PDM-ADP\ADP32\PdmRunnerClient.exe" -S:"dÅ@ä\ÊVZ" -U:"dÅBâaºAp" -P:"sjv" -R:"H£éz" -T:"4" -ma
```

**Note**  Execute ADP reports only **after** data loading has been started. ADP report execution is delayed automatically until data loading is complete. Delays occur only if "-ma" was added to the "Command Line".
5  ADP object properties

For your daily tasks, use the context-sensitive online help.
(Right-click or press F1 on the desired text or option field).
The online help information largely matches the information provided in this chapter.

5.4 How to find the properties

The following applies to all ADP objects:

- Point to the desired object and right-click to open the context menu.
- On the context menu, select PROPERTIES.

Remarks
Access to context menu functions depends on the PDM user permissions.

5.5 ADP reports properties

Refresher
An ADP report only contains data series references. It does not contain current data, lists, or graphics.
- Assign the data series to the ADP report in the order in which you want to display them on-screen.
- The same data series can appear several times in an ADP report, e.g., with different date ranges.
- A report may also contain data series used for internal calculations in reports only, and not displayed in ADP reports. The data series values are retrieved directly from the PDM database each time you retrieve an ADP report.
5.5.1 ADP report tab

The text fields correspond to those of the "Report Wizard 2/2".

![Image](image.png)

87016f55: ADP object properties

**Header data**
Name, path, creation date, and ADP report creator.

**Types of display**
We provide four basic types of display to create reports, each offering specific design properties.

- **List**
The data is listed in a table display. Design efforts are minimal.

- **Trend**
Allows for quick and simple display of curves as y-t display. Zooming and x-axis settings using the mouse (scaling and excerpt) are ideal for quick analysis.

  **Hint:** To quickly and easily analyze a data series, drag and drop it in the Trend window.

- **Excel**
Linking a report to Microsoft Excel 7.0 (or later) is intended primarily for experts. Excel provides interesting revision functions such as statistical functions that can also be used, for example, to calculate correlations.

**Resolution**
Resolution is the time frame used to display data in an ADP report.

**Example**
You want a row-by-row display of hourly mean values in an ADP report. In this case, set the "Resolution" to one hour.

**Period**
Time span (or report time span) stands for a period of time in days, weeks, etc. for which you want to display data in a report.

The report period thus only indicates if the report is a daily, weekly, monthly, or yearly report, e.g., 3 weeks.

**Design file**
Predefined design settings for an ADP report (Trend properties, F1 template or Excel macro).
Quality attribute

Selection to indicate whether the calculated values are to be displayed with or without the resulting quality attribute.

Checkbox not selected:
The ADP report displays only data series values.

Checkbox selected:
The ADP report displays both data series values and quality attributes.

The quality attribute provides information on both generation and reliability of the respective value. An entry may have several quality attributes.

PDM sets the following values:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>OK.</td>
</tr>
<tr>
<td>+</td>
<td>Value inserted via the PDM tool &quot;DataEdit&quot;.</td>
</tr>
<tr>
<td>!</td>
<td>Value corrected via the PDM tool &quot;DataEdit&quot;.</td>
</tr>
<tr>
<td>i</td>
<td>The processed interval contained at least one bad value.</td>
</tr>
<tr>
<td>^</td>
<td>Value imported from the archive.</td>
</tr>
<tr>
<td>n</td>
<td>Data gap. PDM fills in &quot;0&quot; to eliminate the gap.</td>
</tr>
</tbody>
</table>

VISONIK and DESIGO INSIGHT set the following values:

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Manual entry.</td>
</tr>
<tr>
<td>4</td>
<td>Limit under/overflow.</td>
</tr>
<tr>
<td>5</td>
<td>No event.</td>
</tr>
<tr>
<td>6</td>
<td>Out of service.</td>
</tr>
<tr>
<td>7</td>
<td>No value available.</td>
</tr>
<tr>
<td>8</td>
<td>Hardware problem.</td>
</tr>
</tbody>
</table>

Description.

This text field allows you to individually document the ADP report that you are editing.
5.6 ADP report template properties

**Refresher**
A report template corresponds to an ADP report whose definition is not yet complete. Contrary to the ADP report, it contains **at least one local filter entry** allowing you to easily locate a specific data series.

![ADP report template for a trend](image)

**Header data**
Name, path, creation date, and author of most recent change.

**Layout**
Graphical display of the report [List, Excel, Trend].

**Resolution**
Time resolution used to display the data in a report, e.g., one value per hour.

**Period**
Time span (number and unit) used to display data in a report, e.g., 3 weeks.

**Design file**
Predefined design settings for an ADP report.

**Quality attribute**
Specify whether a quality attribute is to be displayed in the report: [Yes, No].

**Description.**
This text field allows you to document the ADP report template that you are editing.
5.7 Report data series properties

A report data series is a data series that is linked to an ADP report. Report data series differ from normal data series through the additional Offset and Show in Report features.

5.7.1 Report tab

You can individually adjust each report data series in an ADP report. All adjustments are valid only for the associated report.

### PDM Property Sheet

#### Report Entry

Name of the report data series.

#### Offset

The offset represents the corrective value included in the definition of the date range applied to report data display.

This corrective value can be:
- **Relative** to the start time, e.g., Offset= -2 years.
- **Absolute** for a specific year, e.g., Offset= 2015.

In this case, select “Reference year” as the unit.

**Validity**: The offset entered for a data series only applies to the local report.

#### Application example

**Assumption**: A data series contains monthly values for multiple years. The time span is 1 year and the resolution in the report is 1 month.

**Offset**: If the data series is added three times to a report, but each time with a different offset (e.g., offset = -2 years, -1 year, and 0 years), the data of this data series can be displayed in neighboring columns shifted by one year.
You can suppress the report data series when you output the ADP report. This may be meaningful, for example, when a data series is referenced only by a formula.

**Validity:** Suppression of the data series applies only to the associated report.

### 5.7.2 Series and Point tabs

The information on the Series and Point tabs are for information only and cannot be changed.

### 5.8 Local filter properties

**Refresher**

A filter comprises preset search criteria to find data series, data points, or ADP reports.

**Local filters**

Filter entries in an ADP report template are local filters. Local filters are created by copying global filters to a report template.

Local filters are valid only within the corresponding report template. When you modify a local filter, global filters are not impacted.

#### 5.8.1 Report Entry tab

![Local filter properties - Report Entry tab](image)

**Header data**

Name and type of the local filter.
5.8.2 *Report* tab

Search mask for ADP reports

**Name**
ADP report name, including the wildcards "*" and "?".

**Layout**
Graphical display of the report [List, Excel, Trend].

**Type**
ADP report or ADP report template.

**Resolution**
Time resolution used to display the data in a report, e.g., one value per hour.

**Period**
Time span (number and unit) used to display data in a report, e.g., 3 weeks.

**Design file**
Predefined design settings for an ADP report.

**Quality attribute**
Specify whether a quality attribute is to be set in the report: [Yes, No].
5.8.3 **Series tab**

![Series tab screenshot](image)

**Search mask for data series**

**Name**
Data series name, including the wildcards “*” and “?”.  

**Type**
Data series type: [Recorded, Calculated, Constant, Logical].

**Compression function**
Type of data compression:  
[No compression, Mean, Minimum, Maximum, Sampling, Difference, Sum].

**Interval**
Interval at which a compressed value has been calculated and saved in the database, e.g., 1 hour.

**Parameters**
Point parameter whose value is saved in the data series.

**Unit.**
Physical unit of the point parameter.

**Storage time**
Number of days over which data of a data series is saved in the PDM database.
### 5.8.4 Point tab

![Image](image.png)

#### Search mask for data points

<table>
<thead>
<tr>
<th>Name</th>
<th>Data point name, including the wildcards &quot;***&quot; and &quot;?&quot;.</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>System responsible for acquiring the data point: [DESIGO INSIGHT, external, MS2000/TS1500, UNIGYR, VISONIK].</td>
</tr>
<tr>
<td>Configuration type</td>
<td>Data point configuration type according to the selected system.</td>
</tr>
<tr>
<td>Address</td>
<td>Address used to reference the data point.</td>
</tr>
<tr>
<td>Description</td>
<td>Data point designation.</td>
</tr>
</tbody>
</table>
5.9 **Job properties**

5.9.1 **Job tab**

**Note:** Entries in this tab apply only to jobs and not to manual ADP reports. There is no relationship to the values set via Tools | Options | Run Default tab.

![PDM Property Sheet](image)

870162: Job properties – Job tab

**Current**

The ADP report includes the current, not yet completed date and time range.

**Complete**

The ADP report includes the previous, completed date and time span.

**Sliding**

The ADP report includes the time span for one day, one week, etc. until the exact current time.

**Direct**

The ADP report includes all data between both the indicated start date and the stop date.

**Note:** On entering time information, day, month, year, hours, and minutes can be replaced by entering "nn" (or "nnnn" for year). In this case, the corresponding element is saved with the values that are currently valid (e.g., the current month).

**Action**

Selection to display the ADP reports for this job on-screen, print them, or save them to file.
5.9.2  **Advanced** tab

![Image](image.png)

8701o63: Job properties – Advanced tab

**Start Day On**  
The time when a day begins [0..24].

**Start Month On**  
Day of a month that marks the beginning of a month [1..31].

**Start Year In**  
Month that marks the beginning of a year [January. December].

**Start Week On**  
Weekday that marks the beginning of a week [Monday. Sunday].

**[Save]**  
Saves all values of both tabs as a default setting.

**Note:** The "default settings" apply only to jobs and not to manual ADP reports. There is no relationship to the values set via Tools | Options | Run Default tab.

**[Restore]**  
Restores the default values in the current job.
5.10 Start dialog properties

5.10.1 Start dialog box for ADP reports

The following display types are available:

- **List**  The data are displayed as number values in tables.
- **Excel**  Evaluation occurs in Excel only.
- **Trend**  Display of curves and flows.

**Period**

Time span (or report time span) stands for a period of time in days, weeks, etc. for which you want to display data in a report.

The report period thus only indicates if the report is a daily, weekly, monthly, or yearly report, e.g., 3 weeks.

**Start/Stop Synchronization**

Both the start and the end date are synchronized, i.e.:

If you change the start date in the calendar, the program determines the associated end date and vice versa; additionally, different numbers of days in a month are included. The calculated values are based on the current date and the selected time span.

Both the start and the end date are **not synchronized**, i.e.:

The start and end date in the calendar can be set independent of each other to exact days and hours.

**Align to Time Span Start**

When you set synchronization, the start date is moved automatically in accordance with the default settings for the beginning of a day, month, and year.

See context menu: Job | Advanced tab.

**Start / Period**

Start date and time for an ADP report.

Hint: If the start and stop date are both within the same month (± 1 week into another month), you can directly mark the time span in the calendar.

**Stop**

Stop date and time for an ADP report.

**[OK]**

Start of an ADP report.
5.10.2 Start dialog box for jobs

### Layout
Specify if the same display is to be used for all ADP reports of the job. [List, Excel, Trend].

### Time Span Shown
Specify if the time span for which you want to display data in the ADP report
- Derived from the job properties.
- Entered at this location.

### Action
Selection to display the ADP reports for this job on-screen, print them, or save them to file.

[OK].
Start the job.
5.11 Shortcut properties

5.11.1 Shortcut tab

PdmExplorer handles shortcuts to ADP reports, data series, and data points as objects. The example below shows the shortcut to an ADP report.

![Screenshot of PDM property sheet](image)

8701066: PDM properties – Shortcut tab

**Header data**

Name, type, path, generation date, and creator of the shortcut. Path for the referenced ADP report.

**Target**

Name of the referenced ADP report.

**Description.**

This text field allows you to document the shortcut that your are editing.

**Report tab**

The Report tab displays all properties of the original report. Note: This type of original object display does not correspond to Windows standard functionality.
Mapping data series to the time period of report

6 Mapping data series to the time period of report

Compression interval
The compression interval specifies the time periods at which a compressed value is to be calculated and saved in the data series.

Report resolution (short form: resolution)
The report resolution indicates the time resolution (e.g. 1 value per day) applied to displaying data series values in a report.
In this context, the terms "report time span" and "resolution interval" are used.

6.1 What is it?

Normally, you select the report resolution to match either the compression intervals for the data series to be displayed or the recording interval for uncompressed data series. However, this is not mandatory.

This chapter describes how data series values, whose compression or recording intervals do not match the selected report resolution, are displayed in a report.

Example: Display of "spontaneous data" in a report featuring daily values.

PDM preps the data series values as follows to map them to the selected report resolution:

- Determine the data series values suitable for report display and, if necessary, shift the values to the report resolution.
- Consider the capture range for values with min. time deviation from the interval limit.

PDM preps the data series values and passes them on to ADP. They are then available in ADP for all types of display (List, Trend, Excel).

6.2 Determine values to be displayed

6.2.1 Report with "resolution=no interval"

The following applies to the evaluation types "Trend" and "Excel": All values for the selected data series are displayed in the report according to the individual time stamp.
Faulty values—marked by an associated quality attribute in the data series to be displayed—can be hidden. The corresponding curve then has gap.

The following applies to the evaluation type "List":
All values for the selected data series are displayed in one report row each according to their time stamps (one row per different time stamp).

Note When displaying multiple data series per report row, a value is displayed for each data series, even if a data series does not have time stamp data for the row. Remember this when interpreting a report!
6.2.2 Report with predefined resolution

If data series values whose compression interval does not match the predefined report
interval (resolution) are displayed in a report, the values are mapped as per the follo-
wing rules to the report resolution.
This time adjustment only applies to report display. The real values and time stamps
are not changed in the database.

For compatibility reasons (e.g. to VISONIK), determination of the values to be displayed
depends on the respective type of compression for the data series.

The following applies to all types of compression:

- If a value of the data series to be displayed matches the start time of the reso-
lution interval, then this value is used.
- Faulty values with a quality attribute in the data series to be displayed, are not
considered for display.

The following applies to recorded data series with spontaneous data and to recorded
and derived data series with sample values:

- If the data series does not supply a value whose time stamp matches that of
the resolution interval’s start time, the last good known value of this data se-
ries is used.

The following applies to all other data series, i.e., for difference, mean, minimum,
maximum, and sum values:

- If the data series to be displayed does not supply a value whose time stamp
matches that of the resolution interval’s start time, the last good known value
after the start time of the resolution interval is used.
6.3 Examples—Values to be displayed

The following examples do not consider the capture range.

6.3.1 Data series display with spontaneous data (COV)

6.3.1.1 With "resolution=no interval"

A data series without function and interval is displayed in a report without resolution indication.

The data series and the report are defined as follows:

**Data series definition**

![Data series definition](image1)

**Report definition**

![Report definition](image2)

**Report display**

The time stamps for the values are displayed in the report as saved in the database. There is no shift.

![Report display](image3)
6.3.1.2 With predefined report resolution

A data series without function and interval is displayed in a report with predefined resolution.

The data series and the report are defined as follows:

<table>
<thead>
<tr>
<th>Data series definition</th>
<th>Report definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data series definition</td>
<td>Report definition</td>
</tr>
<tr>
<td>8734o88en</td>
<td>8734o96en</td>
</tr>
</tbody>
</table>

In the example, several spontaneous values are available within the resolution interval. Even though the report was defined by using a predefined resolution, only one value per interval is to be displayed in the report.

**Report display**

In the report, the spontaneous values are moved to the start point of the next resolution interval, i.e. to the right. Among multiple values, the value closest to the interval limit is displayed. If values are missing, the last known good value of this data series is used.

![Diagram showing display with report resolution](image-url)
6.3.2 Data series display with sampling values

6.3.2.1 With "resolution=no interval"

A data series with compression function "sampling value" is displayed in a report without predefined resolution.
The data series and the report are defined as follows:

**Data series definition**

![Data series definition](8734098en)

**Report definition**

![Report definition](8734099en)

**Report display**
The time stamps for the values are displayed in the report as saved in the database. There is no shift.

![Report display](8734020: Display without report resolution)
6.3.2.2 With predefined report resolution

A data series with compression function "sampling value" is displayed in a report with predefined resolution. The report resolution selected is greater than the compression interval for the data series.

The data series and the report are defined as follows:

Data series definition

![Data series definition](image1)

Report definition

![Report definition](image2)

As the resolution defined in the report is greater than the compression interval of the data series, several values are available for the resolution interval. Even though the report was defined by using a predefined resolution, only one value per interval is to be displayed in the report.

Report display

In the report, the spontaneous values are moved to the start point of the next resolution interval, i.e. to the right.

Among multiple values, the value closest to the interval limit is displayed.

If values are missing, the last known good value of this data series is used.

![Report display](image3)
6.3.3 Data series display with mean, minimum, maximum, difference, or sum values

6.3.3.1 With predefined report resolution

A data series with one of the above compression functions is displayed in a report with predefined resolution. The report resolution selected is greater than the compression interval for the data series.

The data series and the report are defined as follows:

**Data series definition**

**Report definition**

Report display

In the report, the values to be displayed are moved to the start point of the current resolution interval, i.e. to the left.

Among multiple values, the value closest to the interval limit is displayed.

If values are missing, the first known good value after the start time of the resolution interval is used.
6.4 Capture range

Values, whose time stamp deviates less than 10 seconds (capture range) from the start point of a resolution interval, are corrected with regard to time. Depending on the compression type (see previous section), they are assigned either to the preceding or the succeeding resolution interval. This function cannot be disabled or changed, as it is a canned program function.

This logic ensures that values, which are recorded at very small time delays for reasons of transmission, are not assigned to the wrong resolution interval.

**Example**

In the example, spontaneous i.e. uncompressed data, is displayed in a report with "resolution = 1 hour".
The example shows that the values are moved within the capture range to the next interval limit (left).

The data series and the Trend report (list) are defined as follows:

<table>
<thead>
<tr>
<th>Data series definition</th>
<th>Report definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data series values.</td>
<td>Values visible in list or Trend.</td>
</tr>
</tbody>
</table>

![Image](8734o88en)

![Image](8734o89en)

![Image](8734o90en)

![Image](8734o91en)
7 Trend display
7.1 The most important features at a glance

8701001: The TREND window

Trend window – mouse button functions

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Left mouse button</th>
<th>Right mouse button</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Graph</td>
<td>✱ + drag: zoom</td>
<td>✱ Diagram menu</td>
</tr>
<tr>
<td>2</td>
<td>Curves</td>
<td>✱ Popup; (time/value of the last point)</td>
<td>✱ Curve menu item.</td>
</tr>
<tr>
<td>3</td>
<td>Primary y-axis</td>
<td>–</td>
<td>✱ Diagram menu</td>
</tr>
<tr>
<td>4</td>
<td>Secondary y-axis</td>
<td>–</td>
<td>✱ Diagram menu</td>
</tr>
<tr>
<td>5</td>
<td>Data series name</td>
<td>–</td>
<td>✱ Diagram menu</td>
</tr>
<tr>
<td>6</td>
<td>X-axis, time stamp</td>
<td>✱ Time stamp on; if active, indication of value and QA in legend.</td>
<td>–</td>
</tr>
<tr>
<td>7</td>
<td>Hotspot</td>
<td>✱ Time stamp from</td>
<td>–</td>
</tr>
<tr>
<td>8</td>
<td>Start time, end time</td>
<td>Slider; Setting of the display's start and end time.</td>
<td>–</td>
</tr>
<tr>
<td>9</td>
<td>Display Data selection</td>
<td>Slider; Data selection display with defined time span.</td>
<td>–</td>
</tr>
</tbody>
</table>

(Continued next page)
The most important features at a glance (continued)

8701001: Trend window (repeat display)

### Trend window – mouse button functions

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Left mouse button</th>
<th>Right mouse button</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Curve-defining primary y-axis (name of report data series)</td>
<td>🗿 Selection of &quot;Curve&quot; from the main menu.</td>
<td>🗿 Curve menu item.</td>
</tr>
<tr>
<td>11</td>
<td>Curve-defining secondary y-axis (name of report data series)</td>
<td>🗿 Selection of &quot;Curve&quot; from the main menu.</td>
<td>🗿 Curve menu item.</td>
</tr>
<tr>
<td>12</td>
<td>Statusleiste</td>
<td>Bottom left: Program status.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bottom right: Number of values for the selected data</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>series, magnifying glass and quality attribute</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>status.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Diagram border</td>
<td>🗿 + drag: Maximize/minimize diagram.</td>
<td>–</td>
</tr>
<tr>
<td>14</td>
<td>Palette Bar</td>
<td>Color selection for diagram elements (click and drag).</td>
<td>–</td>
</tr>
<tr>
<td>15</td>
<td>Pattern Bar</td>
<td>Pattern selection for diagram elements (click and drag)</td>
<td>–</td>
</tr>
<tr>
<td>16</td>
<td>Menu bar</td>
<td>Menu for <em>File, Diagram, and Curve.</em></td>
<td>–</td>
</tr>
<tr>
<td>17</td>
<td>Name of the displayed report.</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Name of the active design file.</td>
<td>–</td>
<td></td>
</tr>
</tbody>
</table>

**Left-click**  | **Left double-click** | **Right-click** |

---

64 / 88
Trend displays the data series as curves.

The menus File, Diagram, and Curve help you design the Trend window:

**File menu**

<table>
<thead>
<tr>
<th>Menu item</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load Properties</td>
<td>Load individually created design properties for a Trend window.</td>
</tr>
<tr>
<td>Save Properties</td>
<td>Save design properties for a Trend window. Prerequisite:</td>
</tr>
<tr>
<td>Save Properties As</td>
<td>The design properties must already be saved under any name (see title bar).</td>
</tr>
<tr>
<td>Default Properties</td>
<td>Drop-down list box; allows for loading standard settings from a tab file as well as saving standard settings in a tab file. Note: The standard settings are used automatically if no design file is specified for the report.</td>
</tr>
<tr>
<td>Print</td>
<td>Windows functionality.</td>
</tr>
<tr>
<td>Print Preview</td>
<td>Windows functionality.</td>
</tr>
<tr>
<td>Print Setup</td>
<td>Windows functionality.</td>
</tr>
<tr>
<td>Beenden</td>
<td>Windows functionality.</td>
</tr>
</tbody>
</table>

**Diagram menu**

<table>
<thead>
<tr>
<th>Menu item</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy</td>
<td>Submenu: Data, bitmap, meta file; copy window contents to different file formats.</td>
</tr>
<tr>
<td>Normal</td>
<td>2D display of the Trend window.</td>
</tr>
<tr>
<td>3D</td>
<td>3D display of the Trend window.</td>
</tr>
<tr>
<td>Data</td>
<td>Data table display.</td>
</tr>
<tr>
<td>Autoscale</td>
<td>Submenu: First y-axis, second y-axis; Activation/deactivation of automatic adjustment for curves in the display field.</td>
</tr>
<tr>
<td>X-Axis Division</td>
<td>Number of visible vertical lines (incl. chart border). This allows for labeling the x-axis at full-hour ticks (one or several hours).</td>
</tr>
<tr>
<td>Quality attribute</td>
<td>Active/Inactive. If active, values with bad QAs are displayed differently.</td>
</tr>
<tr>
<td>Steplines</td>
<td>Switches between step and continuous curve characteristics.</td>
</tr>
<tr>
<td>Zoom</td>
<td>Reset the zoomed window to standard size (the function is activated automatically on left-click and drag).</td>
</tr>
<tr>
<td>Palette Bar</td>
<td>Show/hide the color bar; assign colors to diagram background and curves by color/drag to the selected object.</td>
</tr>
<tr>
<td>Pattern Bar</td>
<td>Show/hide the pattern bar to assign patterns to curves by clicking a pattern and dragging it to the selected curve.</td>
</tr>
<tr>
<td>Legend</td>
<td>Show/hide curve legends [10, 11].</td>
</tr>
<tr>
<td>Chart Properties</td>
<td>Display properties setting for a chart/diagram using five tabs.</td>
</tr>
<tr>
<td>Font Properties</td>
<td>Define font types for diagram/chart labeling.</td>
</tr>
</tbody>
</table>

**Curve menu**

<table>
<thead>
<tr>
<th>Menu item</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Y-Axis</td>
<td>Assign y-axis of a screen curve to the left (primary) or right (secondary) y-axis. The place where the curve name is displayed depends on the status of the associated y-axis (primary/secondary axes).</td>
</tr>
<tr>
<td>Secondary Y-Axis</td>
<td></td>
</tr>
<tr>
<td>Visible</td>
<td>Show/hide the activated curve. (Click the curve directly or the curve legend).</td>
</tr>
<tr>
<td>Curve Name</td>
<td>Toggle item; show/hide the curve name.</td>
</tr>
<tr>
<td>2D Line Thickness</td>
<td>Change the curve’s line thickness.</td>
</tr>
</tbody>
</table>
Copy to Clipboard | Save the table values for a (curve) to the clipboard. Format: Clipboard format for Excel and Formula 1.

Remove | Windows functionality.

- The curve legends [10, 11] indicate which curve represents which report data series.
- The time resolution on the x-axis [6] changes in accordance with the currently displayed report time span.

**Important**
- If the quality attributes (QA) are active in the report, unreliable * values (with QAs 6, 7, 8, and n) are not displayed in curves. The curve is interrupted at these locations.
- Definition for unreliable:

\[
\text{Unreliable} = (6 + 7 + 8 + n) \cdot (i + 1)
\]

- In other words: A gap in a curve points to an unreliable value. You can locate this value (including QA) by activating the time stamp [6].
- Trend does not allow you to display more than 10 data series and not more than 10,000 values per data series.
7.2 Standard operating functions

7.2.1 File menu

When you open the Trend window for the first time the [Save Properties] and [Save Properties As] buttons have no meaning. They become important only after you change the window settings, e.g., when you change the background color or the font. You can save these changes for later use.

Save Properties As

This button allows you to save settings under a new name and retrieve them later via “Load Properties”.

Load Properties

Allows you to retrieve earlier saved settings at any time. The window settings are then adjusted to the loaded properties.

Save Properties

Use to save a previously loaded Trend design file, changed during the active session.

Default Properties

Drop-down list box with [Load from tab file] and [Save to tab file]. Use this drop-down list box if:

· Other default settings are active and you want to load the settings from the tab file to the current session.
· You have changed the settings and want to save the new settings as the default settings to the tab file.

Print

Print, Print Preview, Printer Setup and Exit:

Windows functionality.

Important information for the following sections

Remember the basic functions of the mouse buttons:

· (right-clicking) an element (=object) opens the menu items for the associated object (context menu).
· (left-clicking) opens a standard menu featuring Windows functionality as well as various functions not available from the menus.

7.2.2 Retrieve detailed information on any point of a curve

If you require more information on any point on the curve, do the following:

· Curve at any point : A window appears with the present value (time and value).
  When between two points , the data from the prior point is displayed.
· Curve : The Curve context menu opens.
· Within a graph : The Diagram context menu opens.

7.2.3 Display detailed information for a specific point in time

If you want to display an exact point in time for a specific event on a curve:

· Move the mouse pointer below the diagram to the point in time you want to display.
· A vertical line with the exact time stamp appears. The exact value of the data series for this point in time is displayed in the curve legend.
· To remove the vertical line, click the hotspots [7] to the left or to the right outer border next to the time stamps of the x-axis.

Additionally, all quality attributes other than 0 (0 is not displayed for “OK”) are displayed. This proves especially helpful for values with quality attributes 7, 6, 8, 8 which are not displayed in the curve. Note: QAs are displayed only if activated in the report.

7.2.4 Assign a data series to the primary or secondary y-axis
It may sometimes prove useful to assign one of the displayed data series to a secondary y-axis located to the right of the graphic. Proceed as follows:

- Click the desired data series on the curve.
- Click "Secondary Y-Axis" in the open menu.
  
  Note: When Autoscale is active, the partition of the secondary y-axis is oriented to the bandwidth of the existing values.

- If you want to reassign the values to the left axis:
  Repeat the above procedure and select "Primary Y-axis".
  
  Note: You cannot hide the left y-axis.

- Click the legend of the desired data series (selects the curve).
- In the Series menu, click the desired axis.

### 7.2.5 Show data series names

You can show or hide the curves and the names of the data series for each curve. The names are shown to the left or the right in dependence of the assigned y-axis. Proceed as follows to show the name:

- Point the mouse pointer to the desired curve.
- Right-click to open the Series menu and select Visible or Curve Name.

  Note: A curve name is shown only if the respective curve touches the left (or right) diagram border in the currently displayed area.

Hide a curve or a data series name:

- Apply the above procedure!
- Click the legend of the desired data series (selects the curve).
- In the Series menu, click Curve Name or Visible (checkmark disappears).

### 7.2.6 Change line thickness

This menu allows you to change the line thickness of the selected curve. Any values between 1 and 10 are available. The selected line thickness particularly impacts the curve display; printed curves are not impacted as much.

### 7.2.7 Copy data series to the clipboard

This menu item allows you to copy data series to the clipboard and then paste them in the respective application (e.g., Excel). Refer to the chapter on lists for more detailed information.

### 7.2.8 Change window size and graphic selection

Proceed as follows to change the window size and the graphic selection (standard Windows functionality):

- Move the mouse pointer to a line until the pointer becomes a double arrow.
- Press and hold down the left mouse button.
- Move the mouse pointer over the desired point and release the mouse button.

### 7.2.9 Change the displayed report time span

After retrieving a Trend report, the displayed width corresponds to the requested time span.
The report time span as well as the start and end times (time and date) are displayed below the graphic by the three windows connected via a bar.

The windows to the left and right serve as the operating elements to restrict the report time span to the desired range: Use the center window to move the defined time span to any other data within the current report.

**Moving the start and end times**

- To restrict the report time span, left-click the start time window or the right end time window, hold down the button and move the window.

  Both time indication and display change according to the movement. Vertical time lines are rescaled automatically for unchanged time spans.

- Note: If you want to redisplay the entire time selection, pull both windows (left and right) to the outer edges.

![Zooming a time span window](image)

**Moving the reduced selection**

If the displayed selection was reduced as described above, you can move it within the defined report time span as follows:

- Click the centre time box containing the reduced report time span, hold down the mouse button and move it to the right or left:
  The start and end time indications change accordingly.

  You can also drag the report left of the left or to the right of the right time stamp. The range moves together with the effective time period: The smaller the reporting period, the smaller the steps when moving. In the above example, the report time span is moved via clicking by ±12 hours.

**Alternative procedure**

You can also drag the report left of the left or to the right of the right time stamp. The range moves together with the effective time period: The smaller the reporting period, the smaller the steps when moving. In the above example, the report time span is moved via clicking by ±12 hours.

**7.2.10 Zoom a desired area**

- Click the corner of the desired selection and hold down the mouse button: The pointer turns into a magnifying glass.

- Move the magnifying glass to the opposite corner of the desired selection and release the mouse button: At the same time, the y-axes are re-scaled.

- Repeat this procedure as needed.

To display the original selection:

- Click again "Zoom" in the "View" menu (the checkmark disappears).
### 7.3 Design properties

Trend provides a number of options to individually adjust the diagram display and to save the adjustments for later use. These options are primarily available in the **Diagram** menu. Open this menu as follows:

- **(right-click)** the diagram background or
- **(left-click)** the menu bar.

#### 7.3.1 Basic design options

Yes. When you click this menu item, a drop-down list box with the [Data], [Bitmap], and [Metafile] fields appears. These three fields allow you to copy session or screen data to the clipboard:

<table>
<thead>
<tr>
<th>Field</th>
<th>Function</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data</td>
<td>Copies all data series of a session to the clipboard.</td>
<td>RTF; compatible with Microsoft Excel</td>
</tr>
<tr>
<td>Bitmap</td>
<td>Copies the Trend screen contents to the clipboard.</td>
<td>bmp; Windows bitmap format</td>
</tr>
<tr>
<td>Meta File</td>
<td>Copies the window contents to the clipboard.</td>
<td>bmp; Windows metafile format</td>
</tr>
</tbody>
</table>

The options as shown to the left represent the basic set of options to design a Trend window. They allow you to easily and quickly change the basic display properties.

Please note the following:

- Click to switch on the desired option (●).
- **Important:** Certain options are on/off only!
- **Active options** are marked with a dot (●).

**What is “normal”?”**

Simply put: You want to view the default display as set by the system (or the default as defined by you). To do this, click **"Normal"** and the normal view appears. Toggle only between 3D and Data!

**Everything is two-dimensional. What about 3D?**

3D, of course, is possible. Click **"3D"**: All curves as well as the graphics background are displayed in the standard 3D display.

To return to 2D, click **Normal**.

**Show numbers only**

You can do this as well: Click **"Values"**. The data series is listed in rows of numbers only.

If you prefer a graphical display, click **"Normal" or 3D"**.

**How to adjust the scales to the y-axis**

Using **"Autoscale"** and **"click [Primary Y-Axis] / [Secondary Y-Axis] to turn the function on or off."**

The scale of the corresponding axis automatically adapts to changes (e.g. window size) according to the criteria to make it easier to read.

**X-axis labeling**

Number of visible vertical lines (incl. chart border). This allows for labeling the x-axis at full-hour ticks (one or several hours).

**Quality attributes: Active or inactive?**

You decide. Click **"click to turn on or off the attribute. When active, values with "bad" QAs are displayed differently."**

**Step or ramp?**
Linking individual points not directly but via step lines (horizontal continuance starting from the old value, vertical jump to the new value).

**How to view the entire report time span**

Click “Zoom” to reduce the enlarged data series selection to the standard selection (the entire data series is displayed). Note:

- This option is available only to reset the standard selection.

To enlarge the selection, left-click and specify the selection you want to enlarge.

**Where to assign colors**

You can assign colors to the following elements:

- x/y-axes caption.
- Graphics axes background.
- Each curve (data series) in 2D or 3D mode.

**Where to assign patterns**

You can assign patterns to the following elements:

- Each curve (data series) in 2D or 3D mode.

**How to assign both color and/or pattern**

You can assign both color and pattern to the following elements as follows:

- Move the mouse pointer to a color or pattern field.
- Permanently click the field to the left.
- Move the mouse pointer (a tilted color bucket) to the desired element and release the left mouse button.

**Is there a detailed legend on curves?**

Yes, by on “Legends”. The bar at the lower bottom of the graphic indicates the following parameters:

- Name of the curve (name of the report data series).
- Assignment of colors to the associated curves.
- Allocation of the y-axis.
- Additional indication of the exact curve value for function “Vertical with time stamp”.

### 7.3.2 Enhanced design properties

**Introduction**

Use Chart Properties and Font Properties to design the Trend window’s graphic display. You can save and load the properties.

In order to open the associated menus, click “Diagram”, then click “Chart Properties” or “Font Properties”.

The window provides several tabs to set specific properties. The tabs are briefly described below. You can familiarize yourself with the window by trying out the various functions.

**Impact of the changes?**

Hint: To check the changes:

- Click “Apply” in the respective tab.

**Make changes or not?**

Depending on whether you want to execute not yet accepted changes:

- Click “OK” or “Cancel”.

**Chart properties**

“General” tab
The "General" tab provides the following general settings:

- Grid Lines
- Color Scheme
- 3D Cluster
- Color Lines
- Point Type
- Point Size
- 3D Line thick

Click "Diagram", "Chart Properties" and then "General" to open this tab.

**Grid Lines**

"Grid Lines" provides the following variants to display gridlines:

- No lines
- Horizontal lines only
- Vertical lines only
- Horizontal and vertical lines.

**Color Scheme**

3D display only. "Color Scheme" allows you to assign color and/or texture to the curves.

*Note: Both color and pattern type must be assigned to the curves (similar to the graphics range) via the color and pattern bars. Refer to the sections above for procedures.*

**Color without pattern**

Select this field (three colored squares) if you only want to assign colors to the 3D curves. This is especially useful for screen display and quality color prints.

**Black/white pattern**

If you want to assign a black&white pattern to 3D curves, select this field (black&white pattern). This is especially suited for software printing.

**Color pattern**

This field allows you to select a combination of patterns and colors for each curve, i.e., you can color the curves using colored patterns. This is especially suited for color printing.

**3D Cluster**

3D display only. Select if you want to display the curves (data series) as clusters on the z-axis (3rd dimension).

**Color Lines**

2D display only. Allows you to specify if the curves are to be displayed by means of the colors defined for the data series or black&white.

**Point type, point size**

2D and 3D display. Use to assign a point to the data acquisition points. The following point types are possible:

- Square
- Triangle
- Circle
- Cube
- Marble
- Variable (other form per series)

The slider allows you to adjust the point size over 11 sizes.

*Note: 1 This option is effective only when "Point markers" is selected in the "Series" tab.

2 Point displays are *not well suited* to 3D displays!*

Point display is better suited for 2D black&white printing.

**Marker Volume**

(Only effective in 3D displays if "3D Cluster" is selected).

This slider allows you to specify the width for the curve bands.

This has no influence on the z-axis depth.
Chart properties
"Series" tab

The "Series" tab allows for the following settings:

- Multiple Types
- Point markers
- Show Values
- Borders
- Connecting Lines
- Multiple Shapes
- 3D Line thick

Click "Diagram", "Chart Properties" and then "Series" to open this tab.

Data series

Select the data series to which you want to apply the data series-specific settings.

Multiple Types

Allows you to specify if the type properties should apply to just the currently selected data series or to all data series in the current report.

Point markers

Allows you to specify if the individual data points should have the point types and sizes as set in the "General" tab.

Show Values

(Meaningful only if "Point markers" is selected).
Allows you to specify if you want to display the value for each point that you display.

Tips:
Do not use this setting for larger sections (e.g., full view), as individual values may overlap.

Borders

(3D display only).
If you select this option,
- the data series bands, and
- the acquisition times of the data are displayed in a black outline.

Connecting Lines

Use this option to specify if the individual points of a data series are to be connected by lines. Note the following!

Important: You must always select this option to display curves.
If cleared, only individual points are visible (nothing at all after zooming). If, in addition, "Point markers" is cleared, the Trend display section is blank.

Color

Select the series color to display the previously selected data series.

Multiple Shapes

(3D display only).
Allows you to specify if the 3D line thickness is to apply to all data series or only to the currently selected one.

3D line thickness

(3D display only).
The slider allows you to change the width of the curve bands in the 3D display.
The “Scale” tab allows you to make the following settings:

- Change allocation to either y-axis 1 or 2.
- Minimum
- Maximum
- Scale unit
- Decimals
- Automatic/Fixed (y-axis calibration)
- Show Zero axis
- Linear/logarithmic (y-axes)

Click “Diagram”, “Chart Properties” and then “Scale” to open this tab.

### Main and secondary Y-axis, X-axis

Allows you to define the y-axis to which the new/changed settings in this tab are to be applied.

### Minimum

(Y-axes only).
Enter the smallest value to be displayed in Trend.

### Maximum

(Y-axes only).
Enter the greatest value to be displayed in Trend.

### Axis factor

It may sometimes be necessary to multiply data series values with a factor to properly display them on the selected y-axis.

This field enables you to enter the factor to be used and indicated in the display.

### Decimals

Enter the desired number of decimals (0 - 8).

### Automatic/fixed

These two fields allow you to specify if the Y-axis division should appear automatically or should be fixed by applying the scale units to the right.

#### Note:

- This function only changes the display (not the range).
- We recommend a fixed y-axis setting for printing.

### Show Zero axis

Allows you to specially highlight the zero axis (or the zero axis for 3D displays).

### Linear/logarithmic

These fields allow you to specify:

- If the subdivision of the y-axes is to be linear or logarithmic in form.
- The basis of the logarithm.
The “3D View” tab allows you to make the following settings:

- z-axis depth
- 3D
- Full 3D View
- Shadows

These settings substantially influence the overall display of a diagram/chart. Click "Diagram", "Chart Properties" and then "3D View" to open this tab.

**Z-axis depth**

(3D view only).

Adjust the depth of the z-axis by means of the slider (not labeled). When you do this, the width of the curve bands is adjusted in proportion to the z-axis depth.

**3D**

This setting displays the data series in standard 3D view.

**3D Variable**

Allows you to display the curve bands in adjustable 3D views. An interactive graphic (blue and red balls) and two fields for manual entry of the x- and y-angles support you in this process.

*Important: When selected, the "Show more details on a specific point in time" (vertical line with time stamp) function is not available.*

**Shadows**

(3D view only) Option to shade the lower side of the curve bands.

**Chart properties**

"Titles" tab

The "Titles" tab comprises the following fields:

- Top
- Left
- Right
- Bottom

Enter the texts that are displayed on top, to the left and right, and at the bottom of the graphic in these four fields.

The allocation of titles is different depending on the curve display.

Click "Diagram", "Chart Properties" and then "Titles" to open this tab.

*If the y-axis description and the title caption overlap, select one of the following options depending on the display:*

- For 2D and standard 3D displays, adjust the graphics selection (refer to "Change the window size and the graphics selection").
- For full 3D displays, adjust the observation angle (refer to "Full 3D view"; suitable values are x = 30°, y = 300°).
7.3.3 Define the font types

Note: This version of Trend no longer has font restrictions. You can now allocate any font to a Trend report. Save the settings with the report name (refer to "Save a Trend display").

"Font Properties" window

Select "Font Properties" from the "Diagram" menu to open the Font Properties window:

Change fonts

The "Font Properties" window allows you to use any font available on your computer (or server) for Trend. The field to the right contains all captions whose font types you can change. To change the font of any one of the captions:

- Double-click the corresponding line or select the line, then select "Font" (the standard Windows dialog box for font types opens).
- Select both font type and size (standard Windows functionality).

Note: Use only TrueType® font types. All other font types may produce unwanted effects in Trend.
7.4 Save Trend design properties

7.4.1 Procedure

Newly defining the same design properties (multiple use) does not make sense. You can therefore save the design properties as follows:

- Select "Save Properties As" from the Trend "File" menu.
- Select a file name in the "Save Design File" window.

Important:
1. All design files must have a .trd extension.
2. When naming files, please observe the recommendations located in chapter "Basics on Reports and Design".

8701o16: The Store Trend Properties window

7.4.2 Assign saved design properties to a report

You cannot directly reuse a Trend design from the Trend dialog box. The saved design properties must be selected when defining a report by indicating the above created design file.

Refer to chapter "Generate reports/templates" for more detailed information.
8 Excel display

The procedure described in the following sections refers to the external Microsoft Excel spreadsheet program in English, versions 7 (Office 95) and Excel 8 (Office 97). However, as only experienced Excel users should create macros, we have restricted our instructions to just the most important information. Please refer to your Excel documentation for further information on Excel.

Remember to observe all general notes regarding Excel design in the chapter "Report and design: Basics".

The DEMO database contains various reports for Excel. Use these reports for your work.

8.1 Excel macro and Excel design file

This version (2.x) of ADP uses three different design macros as opposed to the earlier user-defined macro (RunMacro):

- ShowMacro
- PrintMacro
- SaveMacro

These macros allow you to create different on-screen and print designs for the same report. Furthermore, you can automatically save the currently generated report.

The table below shows the relationship between the three Excel design macros and the program processes:

<table>
<thead>
<tr>
<th>Macro1</th>
<th>Display</th>
<th>Display &amp; Print</th>
<th>Display &amp; Save</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use ShowMacro of the indicated file.</td>
<td>Use ShowMacro of the indicated file.</td>
<td>Use ShowMacro of the indicated file.</td>
<td></td>
</tr>
<tr>
<td>If not possible: Use RunMacro2 on the indicated file.</td>
<td>If not possible: Use RunMacro2 on the indicated file.</td>
<td>If not possible: Use RunMacro2 on the indicated file.</td>
<td></td>
</tr>
<tr>
<td>Not indicated file</td>
<td>Use PrintMacro of the indicated file.</td>
<td>Use SaveMacro of the indicated file.</td>
<td></td>
</tr>
<tr>
<td>Not indicated file</td>
<td>If not possible: Use PrintMacro of the DefMacro32.xls3 standard macro file.</td>
<td>If not possible: Use SaveMacro of the DefMacro32.xls3 standard macro file.</td>
<td></td>
</tr>
<tr>
<td>Keep MS Excel open (allows the user to view the report).</td>
<td>Close Microsoft Excel when it was not open prior to starting your work.</td>
<td>Close Microsoft Excel when it was not open prior to starting your work.</td>
<td></td>
</tr>
</tbody>
</table>

1 Corresponds to the design file from the report properties.
2 Macros from ADP version 1.x. These macros will run smoothly, provided they were created on the English version 5.0.
3 If this is not possible (also), an error message appears.
Note

Principally, there are two ways to create your own design file:

1. Use the default DefMacro32.
   In this context, use only a copy of DefMacro32.xls.

2. Use the standard macro DefMacro32 as the basis (use only a copy of DefMacro32.xls!).
   In this case, supplement the parts of the renamed copy ("MyMacro") as desired. The program then runs the macros as per the above listing.

The basic macro DefMacro32.xls contains all steps necessary to generate an Excel worksheet report in three sub-macros.

Your own design file MyMacro allows you to freely edit the sub-macros. To do this, you can also use specific parts of the DefMacro32.xls as well as change other parts in your own design file.
8.2 Create a macro file

Below is a step-by-step description on how to create your own macro "MyMacro"

1. Open a workbook in Excel.

2. Specify the macros you want to overwrite (write your own macro for those areas where standard functionality does not cover your requirements).

   **Tipp:** Hint: Adopt the structure of the following example. This way, you only need to add your changes. Please proceed as follows:

   a. Copy the DefMacro32.xls file.
      
      *The file is located at C:/Users/Public/Documents/Siemens/PDM-ADP/Excel*

   b. Rename the copy, e.g. as MyMacro.xls.

   c. In Excel: Open the renamed file.

   d. In the quick access toolbar: Click Developer > Visual Basic.

   ![Visual Basic Window]

   This action opens the Visual Basic window. In the window the file MyMacro32.xls is displayed. The macro is placed as project «Module1» in > DefMacro32.xls (MyMacro32.xls) > Modules.

   *The macro already contains the design properties.*

   You now can edit the macro as per your needs.

3. Save the workbook containing the macro under the name that was used in the *Edit Report/Template* window in the *Design File* field.
8.3 Create an Excel design file

General procedures to create an Excel design file are similar to the procedures for creating the corresponding files in Formula One.

1. Create a new workbook with at least two worksheets (the last worksheet for raw data; the first worksheet for graphical implementation).
2. Save the new workbook under the name referenced by DefMakro32 or MyMacro.

- Open the report with real data or at least simulated data.
- When opening the report, the data in the Raw Data worksheet looks as follows:

```
<p>| | | | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

```

3. Reorganize the data in the new worksheet if necessary.
4. Display them in graphic form on the first worksheet by using the "Chart Wizard".

The fields to be evaluated are transferred similar to the procedure in Formula One:

- Define the design details such as graphic type, labeling, scale, and other general layout characteristics.
- Select all entries (but not the formats!) in the cells of the worksheet containing the raw data and delete them via <Delete>.
- Save the workbook under the design file name used in the RunMacro. Select the Excel folder under PDM-ADP.
You can now open the report, which should appear in Excel as follows:

8701o28: Presentation tab of the Excel design file
Glossary

ADP - Advanced Data Processing

PROGRAM TO EDIT AND PRESENT ANY PROCESS DATA.

ADP as a program primarily focuses on displaying process data in meaningful presentations. Use ADP for the following:
- Define ADP reports.
- Display ADP reports.
- Quickly and easily analyze data.

ADP report.

REPORT BASED ON REFERENCES TO THE DATA SERIES.

The ADP report does not contain current data, lists, or graphics.
- Assign the data series to the ADP report in the order in which you want to display them on-screen.
- The same data series can appear several times in an ADP report, e.g., with different date ranges.
- A report may also contain data series used for internal calculations in reports only, and not displayed in ADP reports.

The data series values are retrieved directly from the PDM database each time you retrieve an ADP report.

ADP report template.

ADP REPORT WHOSE DEFINITION IS NOT YET COMPLETE.

The ADP report template contains, contrary to the ADP report, at least one local filter entry allowing you to easily locate a specific data series.

When you replace all filter entries of the report template by the desired data series entries, an ADP report template becomes an ADP report.

Resolution

TIME RESOLUTION USED TO DISPLAY DATA IN AN ADP REPORT.

Example: You want a row-by-row display of hourly mean values in an ADP report. In this case, set the "Resolution" to one hour.

Auto Task

PROGRAM TO AUTOMATE THE FOLLOWING TASKS:
- Upload data from the database.
- Compress PDM data.
- Archive PDM data.
- Start ADP jobs (i.e., print and save ADP reports).

Report data series

DATA SERIES BELONGING TO ADP REPORT, DISPLAYED WHEN THIS ADP REPORT IS OPENED.
Report data series (cont'd) Report data series have two additional, report-specific features:
- An offset, i.e., a corrective value that allows for shifting the defined time span (refer to offset).
- An option to display the data series in a report or not.

Job Functionality containing one or more ADP reports and can be started automatically or manually via the Auto Task:

Logical data series Data series that merges old and new recorded data series as per the model below.

ADP objects ADP uses the following objects. For better recognition, they are always displayed together with a symbol.

Referenced data series

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Recorded report data series." /></td>
<td>Recorded report data series.</td>
</tr>
<tr>
<td><img src="image" alt="Calculated report data series." /></td>
<td>Calculated report data series.</td>
</tr>
<tr>
<td><img src="image" alt="Constant report data series." /></td>
<td>Constant report data series.</td>
</tr>
<tr>
<td><img src="image" alt="Report data series" /></td>
<td>Report data series</td>
</tr>
<tr>
<td><img src="image" alt="Invisible report data series." /></td>
<td>Invisible report data series.</td>
</tr>
</tbody>
</table>

The primary purpose of logical data series is the application of ADP reports. This makes it possible to retain data depiction when migrating to Desigo.

ADP reports

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="ADP report." /></td>
<td>ADP report.</td>
</tr>
<tr>
<td><img src="image" alt="ADP report." /></td>
<td>ADP report.</td>
</tr>
<tr>
<td><img src="image" alt="Link to ADP report (shortcut)." /></td>
<td>Link to ADP report (shortcut).</td>
</tr>
<tr>
<td><img src="image" alt="ADP report, write-protected:" /></td>
<td>ADP report, write-protected:</td>
</tr>
<tr>
<td><img src="image" alt="ADP report template." /></td>
<td>ADP report template.</td>
</tr>
<tr>
<td><img src="image" alt="ADP report template." /></td>
<td>ADP report template.</td>
</tr>
<tr>
<td><img src="image" alt="Local filter" /></td>
<td>Local filter</td>
</tr>
</tbody>
</table>

Access level 5 allows you to save and write-protect ADP reports. However, as soon as you copy a write-protected report, write-protection no longer applies and the standard symbols for ADP reports are again displayed.

Offset

A corrective value is included on defining the date range for report data display.
This corrective value can be:

- **Relative** to the start time, e.g., Offset = -2 years.
- **Absolute** for a specific year, e.g., Offset = 1996.

In this case, select “Reference year” as the unit.

**PDM database**

A DATABASE BASED ON A ’STANDARD RELATIONAL DATABASE SYSTEM’.

For small projects, we recommend an MSDE database, and for large projects, an MS-SQL server database.

The PDM database is a common database and is used by the following programs:

- **ADP** Advanced Data Processing and
- **CC** Consumption Control

**PdmExplorer**

CENTRAL INTERFACE FOR PDM AND ADP.

**PdmFinder**

PROGRAM FOR THE TARGETED SEARCH FOR DATA POINTS, DATA SERIES AND ADP REPORTS.

You can start the PdmFinder parallel to the PdmExplorer and keep it open in the background to run searches at any time.

**Quality attribute**

INFORMATION ON BOTH GENERATION AND RELIABILITY OF THE RESPECTIVE VALUE.

An entry may have several quality attributes.

**PDM sets the following values:**

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>OK</td>
</tr>
<tr>
<td>+</td>
<td>Value inserted via the PDM tool &quot;DataEdit&quot;</td>
</tr>
<tr>
<td>!</td>
<td>Value corrected via the PDM tool &quot;DataEdit&quot;</td>
</tr>
<tr>
<td>i</td>
<td>The processed interval contained at least one bad value.</td>
</tr>
<tr>
<td>^</td>
<td>Value imported from the archive.</td>
</tr>
<tr>
<td>n</td>
<td>Data gap. PDM fills in &quot;0&quot; to eliminate the gap.</td>
</tr>
</tbody>
</table>

**Visonik and Desigo Insight set the following values:**

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Manual entry.</td>
</tr>
<tr>
<td>4</td>
<td>Limit under/overflow.</td>
</tr>
<tr>
<td>5</td>
<td>No event.</td>
</tr>
<tr>
<td>6</td>
<td>Out of service.</td>
</tr>
<tr>
<td>7</td>
<td>No value available.</td>
</tr>
<tr>
<td>8</td>
<td>Hardware problem.</td>
</tr>
</tbody>
</table>

**Shirted time**

See **Offset**.

**Period**

(also: report time span) TIME SPAN IN DAYS, WEEKS, ETC. FOR WHICH YOU INTEND TO DISPLAY DATA IN A REPORT.

The report period thus only indicates if the report is a daily, weekly, monthly, or yearly report.

**Report time span**

CONCRETE TIME SPAN FOR WHICH YOU TO DISPLAY DATA IN THE REPORT.

Derived from the concrete time span for which the report displays data results from the time span (report time span), the offset, the present report start date, and the set job properties (e.g. first weekday=Monday).

**Time stamp**

ATTRIBUTE TIME FOR AN ENTRY IN A DATA SERIES.

Each entry of a data series has a **time stamp** showing the time when the value was valid. The time stamp supplies the date and—depending on the interval—the exact hour for each value.
## Index

<table>
<thead>
<tr>
<th>Page</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3D ..................................................75</td>
</tr>
<tr>
<td></td>
<td>3D Variabel ................................ ......75</td>
</tr>
<tr>
<td>A</td>
<td>Achsenfaktor ......................................74</td>
</tr>
<tr>
<td></td>
<td>Automatic/fixed ....................................74</td>
</tr>
<tr>
<td>C</td>
<td>CAFM ................................................13</td>
</tr>
<tr>
<td></td>
<td>Connecting Lines ...................................73</td>
</tr>
<tr>
<td></td>
<td>Context-sensitive help ...........................8</td>
</tr>
<tr>
<td></td>
<td>Create Excel design file .......................81</td>
</tr>
<tr>
<td></td>
<td>Create macro file ..................................80</td>
</tr>
<tr>
<td>D</td>
<td>Database documentation ............................5</td>
</tr>
<tr>
<td></td>
<td>Decimals .............................................74</td>
</tr>
<tr>
<td></td>
<td>Document Structure ................................7</td>
</tr>
<tr>
<td></td>
<td>Documentation Access and target readers ....6</td>
</tr>
<tr>
<td></td>
<td>Engineering manual ................................5</td>
</tr>
<tr>
<td></td>
<td>Relevante VISONIK documents ...................5</td>
</tr>
<tr>
<td>E</td>
<td>Excel design .......................................78</td>
</tr>
<tr>
<td>F</td>
<td>Farbe ................................................73</td>
</tr>
<tr>
<td>G</td>
<td>Grid Lines ..........................................72</td>
</tr>
<tr>
<td>I</td>
<td>ISO9000 .............................................11</td>
</tr>
<tr>
<td></td>
<td>Italics ...............................................9</td>
</tr>
<tr>
<td>L</td>
<td>Linear/logarithmic ................................74</td>
</tr>
<tr>
<td></td>
<td>Logical data series ................................14</td>
</tr>
<tr>
<td>M</td>
<td>Marker volume .......................................72</td>
</tr>
<tr>
<td></td>
<td>Marker Volume .......................................72</td>
</tr>
<tr>
<td></td>
<td>Multiple Types .....................................73</td>
</tr>
<tr>
<td>S</td>
<td>Shadow ...............................................75</td>
</tr>
<tr>
<td></td>
<td>Short description ..................................9</td>
</tr>
<tr>
<td></td>
<td>Show Zero axis ......................................74</td>
</tr>
<tr>
<td></td>
<td>Small caps ..........................................9</td>
</tr>
<tr>
<td>T</td>
<td>Trend Display exact point in time .............67</td>
</tr>
<tr>
<td></td>
<td>Graphic selection ..................................68</td>
</tr>
<tr>
<td></td>
<td>Move start or end time ...........................69</td>
</tr>
<tr>
<td></td>
<td>Move the selection ...................................69</td>
</tr>
<tr>
<td></td>
<td>Register 3D-Ansicht ................................75</td>
</tr>
<tr>
<td></td>
<td>Register Allgemeines ...............................72</td>
</tr>
<tr>
<td></td>
<td>report ................................................76</td>
</tr>
<tr>
<td></td>
<td>Retrieve curve point details ...................67</td>
</tr>
<tr>
<td></td>
<td>Specify design properties .......................71</td>
</tr>
<tr>
<td></td>
<td>Tab &quot;Series&quot; ........................................73</td>
</tr>
<tr>
<td></td>
<td>Tab &quot;Titles&quot; .........................................75</td>
</tr>
<tr>
<td></td>
<td>Tab &quot;Scale&quot; ..........................................74</td>
</tr>
<tr>
<td></td>
<td>Time span restrictions .........................69</td>
</tr>
</tbody>
</table>