

**SIEMENS**



# SIMATIC PDM Process Device Manager

SIMATIC PCS 7

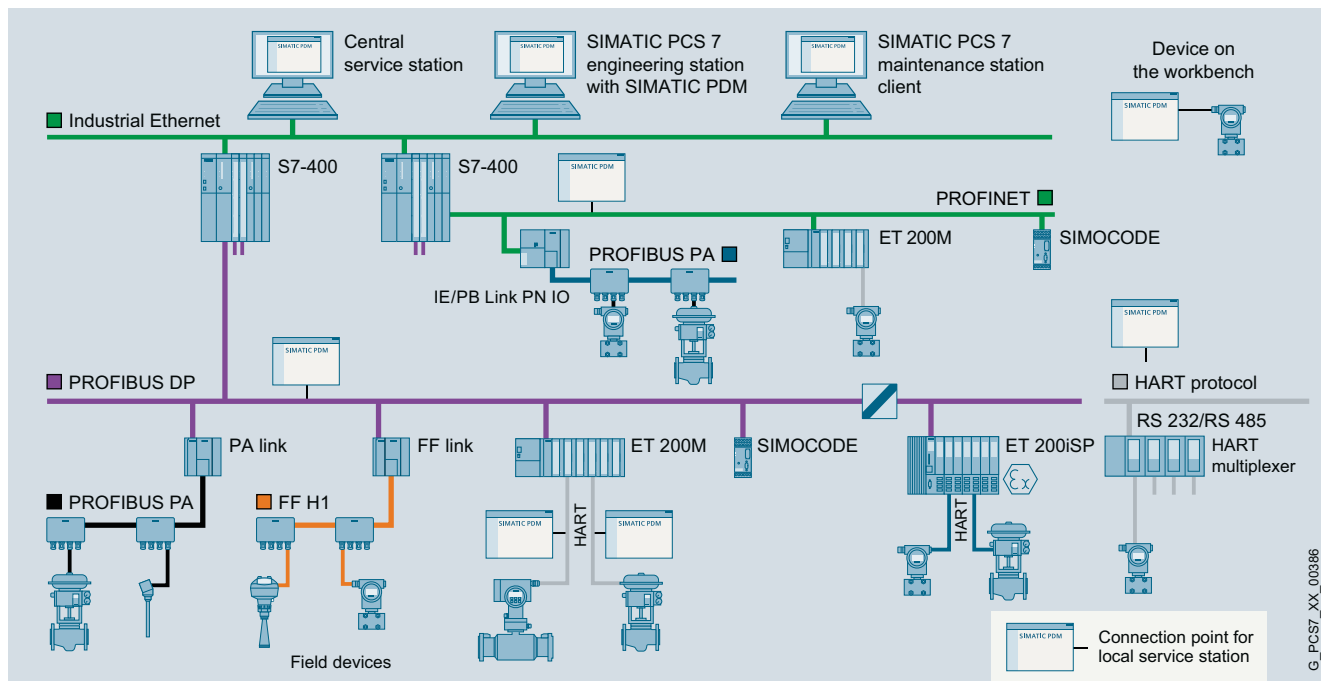
Brochure

Edition  
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[siemens.com/simatic-pdm](http://siemens.com/simatic-pdm)

# SIMATIC PDM Process Device Manager

## Overview



Configuration options with SIMATIC PDM

SIMATIC PDM (Process Device Manager) is a universal, manufacturer-independent tool for the configuration, parameter assignment, commissioning, diagnostics and maintenance of intelligent field devices (sensors and actuators) and field components (remote I/Os, multiplexers, control room devices, compact controllers), which in the following sections will be referred to simply as devices.

Using only one software, SIMATIC PDM enables the processing of more than 4 500 devices and device variants from Siemens and over 200 manufacturers worldwide with a uniform user interface. Parameters and functions for all supported devices are displayed in a consistent and uniform fashion independent of their communications interface.

With respect to device integration, SIMATIC PDM is the most powerful open Process Device Manager on the global market. Devices which previously were not supported can be integrated in SIMATIC PDM by importing their device descriptions (EDD). This provides security and saves investment, training and consequential costs.

### Possible applications of SIMATIC PDM

- **System-integrated**  
in a SIMATIC PCS 7 / STEP 7 configuration environment, for example, the engineering station and maintenance station of the SIMATIC PCS 7 process control system
- **Stand-alone**
  - **Central service station** on a stationary computer on the system bus with access to devices connected to the supported automation systems (S7-300, S7-400, S7-1500)
  - **Local service station** on a mobile computer directly on the device or local fieldbus segment (independent of the automation system)

### Software and hardware requirements

Supported operating systems	<ul style="list-style-type: none"> <li>■ Windows 7 Enterprise/Ultimate SP1, 32/64-bit</li> <li>■ Windows Server 2008 SP2 or 2008 R2 SP1/SP2, 64-bit, Standard Edition</li> </ul>
Language support	<ul style="list-style-type: none"> <li>■ User interface in 7 languages (English, German, French, Spanish, Italian, Chinese and Japanese)</li> <li>■ Device description languages as offered by the respective manufacturer</li> </ul>
Hardware requirements	<ul style="list-style-type: none"> <li>■ PG/PC/notebook with processor corresponding to operating system requirements</li> </ul>

# Functions

## SIMATIC PDM core functions

SIMATIC PDM offers a diverse range of functions such as:

- Creation of project-specific device libraries
- Setting and modification of device parameters
- Comparing, e.g., project and device data
- Plausibility testing of data input
- Device identification and testing
- Device status indication (operating modes, alarms, states)
- Simulation
- Diagnostics (standard, detailed)
- Management, e.g., networks and PCs
- Export/import (parameter data, logs, documents)
- Commissioning functions, e.g. measuring circuit tests of device data
- Device management (lifecycle management)
- Global and device-specific change log for user operations (audit trail)
- Device-specific calibration logs
- Graphic representations of echo envelope curves, trend displays, valve diagnostics results, etc.
- Display of incorporated manuals
- Document manager for integration of up to 10 multimedia files

## Support of system management

SIMATIC PDM supports the operative system management in particular through:

- Uniform representation and operation of devices
- Uniform representation of diagnostic information
- Indicators for preventive maintenance and servicing
- Detection of changes in the project and device
- Increase in operational reliability
- Reduction of investment, operating and maintenance costs
- Forwarding of device information to higher-level Maintenance Stations

## Communications and routing

SIMATIC PDM supports the following types of communication with the devices:

- PROFIBUS DP/PA
- HART (modem, RS 232 and via PROFIBUS/PROFINET/Wireless)
- Modbus
- Ethernet
- PROFINET
- FOUNDATION Fieldbus (FF H1)

From the engineering station and the maintenance station of the SIMATIC PCS 7 process control system, you can use SIMATIC PDM to navigate to the connected devices via the various bus systems and remote I/Os. The devices configured per EDD can be edited throughout the plant with the help of this routing functionality. The following processing functions are available:

- Read diagnostic information from the device
- Modify device settings
- Adjust and calibrate devices
- Monitor process values
- Generate simulation values
- Re-assign parameters to devices

On the maintenance station, operating personnel can be assigned functional rights for device processing corresponding to the role.

The image displays several overlapping windows from the SIMATIC PDM software:

- Dokumenten-Manager:** A window with a table listing files. The table has columns for 'No.', 'File', 'Select', and 'Title'. Below the table are 'Open' and 'Reset' buttons for each row.
- Online-Hilfe:** A window with a search bar and a list of help topics.
- Handbuch:** A window showing a table of contents with numbered entries: Profibus (1), Using SIMATIC PDM (2), Installation (3), PDM Expertise Connector (4), Integrating devices into SIMATIC PDM (5), Views (6), Functions (7), Status and alarm boxes in SIMATIC PDM (8), Status and alarm boxes for SIMATIC PDM in the SIMATIC Manager (9), PDM view (10), News, Tips & Tricks (12), and Appendix (A).
- Hilfenfenster:** A window titled 'Help for SIMATIC PDM (v8.0)' with a tree view of help topics.
- FAQ:** A window titled 'FAQ' with a list of frequently asked questions.

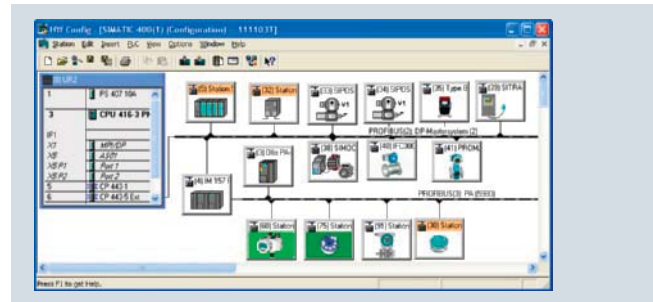
# Engineering

## Clearly structured engineering with coordinated views

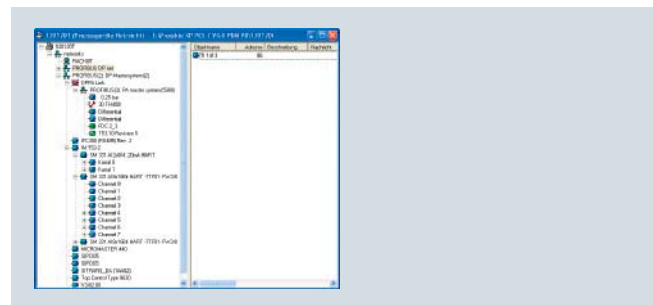
The ergonomic operator interface of SIMATIC PDM satisfies the requirements of the guidelines VDI/VDE GMA 2187 and IEC 65/349/CD. Even complex devices with several hundred parameters can be represented clearly and processed quickly. Expansion of the device description language EDDL also allows display elements to be shown perfectly.

Operators are provided with several views of the project and the devices to be processed, and their application depends on the procedure and mode of use of the Process Device Manager:

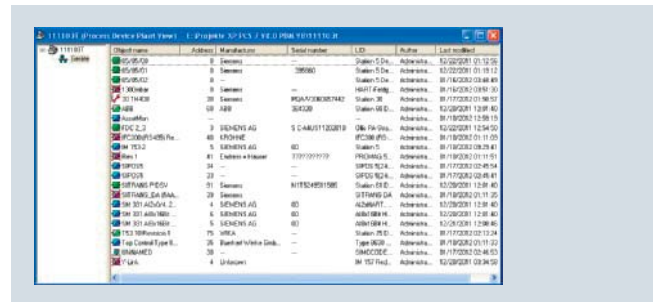
- Hardware project view** for the SIMATIC PDM integrated in SIMATIC PCS 7/STEP 7  
 View of SIMATIC PCS 7/STEP 7 hardware project from which the SIMATIC PDM parameter assignment user interface can be directly opened for the devices. Devices are configured using HW Config and displayed graphically or in tabular form.
- Process device network view**, preferably for stand-alone use  
 Project view for clear representation of the hierarchical hardware structure with all networks, communications components, and devices. This can be automatically produced by scanning the actual plant. The parameter data gained in the stand-alone version of SIMATIC PDM can be imported into a SIMATIC PCS 7/STEP 7 project.
- Process device plant view**  
 View of all devices/TAGs present in the project (independent of the communications path used) with additional information on the diagnostics state of the devices and communications paths. Uniform symbols are used as the basis for displaying the diagnostics state of all devices.
- Parameter view**  
 View of device parameters with a wide variety of functions:
  - Parameter assignment functions, e.g. measurement unit, measuring range
  - Online functions, e.g. display values, charts, diagnostics
  - Calibration functions, e.g. zero, runtimes of valves
  - Comparison functions, e.g. devices, saved project data
  - Export/import functions, e.g. parameters, projects
  - Logging functions
- Lifelist view for commissioning and service**  
 Single or cyclically generated network view for the identification and addressing of devices (see page 11)



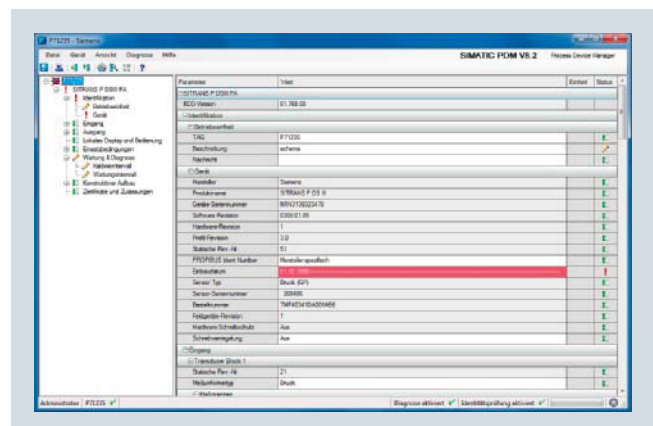
Hardware project view



Process device network view



Process device plant view



Parameter view

# Device integration

## Device integration made easy

### Electronic Device Description (EDD)

SIMATIC PDM supports all devices which are defined by means of the Electronic Device Description (EDD). EDD is standardized to EN 50391 and IEC 61804. Internationally, it is the most widely used standardized technology for device integration. At the same time, it is the guideline of the established organizations for

- PROFIBUS and PROFINET (PI - PROFIBUS & PROFINET International)
- HART (HCF: HART Communication Foundation)
- FF (Fieldbus Foundation)

The devices are integrated directly in SIMATIC PDM through a company-specific device description package (EDD and additional documents and attachments), or the current HCF or Fieldbus Foundation libraries. The management of project-specific device libraries improves transparency.

PROFIBUS devices are described in the EDD in terms of functionality and construction using the Electronic Device Description Language (EDDL). Using this description, SIMATIC PDM automatically creates its user interfaces with the specific device information.

Fieldbus Foundation provides pre-defined device descriptions (standard DD) for the basic functions of specific field device types. The basic functions are implemented using various standard function and transmission blocks.

### Advantages of the EDD

The advantages of the EDD as a text-based device description are quite clear:

- Independent of the operating system
- Forms an inseparable function unit together with the device
- Long-term stability throughout the entire device life cycle, yet can be modified and/or extended at any time
- Contents can be individually matched to any device by the device manufacturer
- Gives the device manufacturer a wide scope of possibilities for generating unique features, e.g.
  - Implementation of manufacturer-specific diagnostics functions in addition to standard diagnostics
  - Integration of own documents and help texts
  - Implementation of plans for device-specific handling sequences, e.g. commissioning, calibration, servicing
  - Wizards as commissioning aids

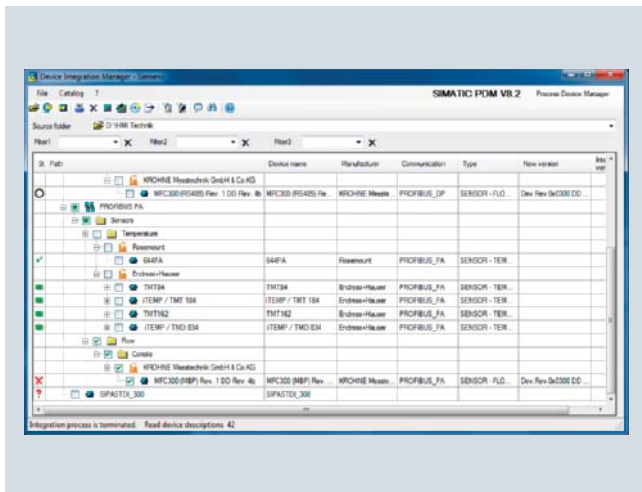
The current device description library of SIMATIC PDM covers more than 4 500 devices from over 200 manufacturers worldwide. By simply importing the manufacturer's device-specific EDD, existing devices can be updated and further devices can be integrated in SIMATIC PDM. It is thus possible to keep the device range up to date at all times and to add to the number of manufacturers and devices supported by SIMATIC PDM.

The image shows two screenshots from the SIMATIC PDM software. The left screenshot is the 'Certificate of Conformity for SIMATIC PDM' form, which includes fields for field device data (product name, manufacturer, software version, hardware version, device description version), communication type (PROFIBUS DP, PROFIBUS PA, PROFINET, HART, FF, Modbus), profile application, certificates, integration in Device DVD, type of integration, integration via, and EDD changes compared to previous version. The right screenshot is the 'Device-DVD 1#2012' list of integrated devices, which is a table with columns for Manufacturer, Device, Communication, Catalog, Version, DD-Revision, Device-Revision, State, and Conformity Certificate.

Manufacturer	Device	Communication	Catalog	Version	DD-Revision	Device-Revision	State	Conformity Certificate
ABB	Contract	HART	ACTUATOR - ELECTRIC	1.11.00	0#002	0#001		
ABB	TZDC/TZDC-200	HART	ACTUATOR - ELECTRO-PNEUMATIC	1.13.00	0#003	0#001		
ABB	FEK08	HART	SENSOR - FLOW - ELECTRO-MAGNETIC		0#001	0#008		
ABB	FBM400	HART	SENSOR - FLOW - ELECTRO-MAGNETIC		0#000	0#000		
ABB	200T-261 [1.110.0]	HART	SENSOR - PRESSURE	V.1.10.00	0#001	0#001		
ABB	200T-263265 [1.111]	HART	SENSOR - PRESSURE	1.11.14	0#001	0#002		
ABB	808T Pressure	HART	SENSOR - PRESSURE		0#001	0#001		
ABB	TH02	HART	SENSOR - TEMPERATURE		0#004	0#001		
ABB	TT020-081	HART	SENSOR - TEMPERATURE		0#001	0#002		
ABB	TT020-02	HART	SENSOR - TEMPERATURE		0#004	0#002		
ABB	TZDC-110210 [1.111.0]	PROFIBUS_PA	ACTUATOR - ELECTRO-PNEUMATIC	1.11.00	0#003	0#008		
ABB	TZD-F	PROFIBUS_PA	ACTUATOR - ELECTRO-PNEUMATIC		0#001	0#008		
ABB	FCM0808	PROFIBUS_PA	SENSOR - FLOW - CORIOLIS	08082007	0#002	0#008		
ABB	FEI08-CP	PROFIBUS_PA	SENSOR - FLOW - ELECTRO-MAGNETIC		0#001	0#001		
ABB	FEK08FFEN08	PROFIBUS_PA	SENSOR - FLOW - ELECTRO-MAGNETIC		0#000	0#000		
ABB	FBM400	PROFIBUS_PA	SENSOR - FLOW - ELECTRO-MAGNETIC		0#001	0#008		

Declaration of conformity (left) and contents of the device library (right)

# Device integration



SIMATIC PDM device import with the Device Integration Manager

## Device Integration Manager

The Device Integration Manager supports user-friendly import of the device descriptions with practical functions and clear displays, e.g.:

- Information on device descriptions
- Information on the device descriptions used
- Filter and search functions
- Direct import from compressed files
- Documentation functions
- Checking functions (semantics, syntax, completeness)
- Creation of project-specific device libraries
- Delete function for imported device descriptions

## Quality assurance

As an open parameter assignment tool, SIMATIC PDM is not subject to any restrictions. To guarantee high quality in device integration, conformity in the case of all new additions or corrections must be verified by certification. A declaration of conformity contains:

- Information on the device
- Information on existing certificates
- Changes as compared to previous versions
- Verifications for the test with SIMATIC PDM
- Compatibility information



## Technical support

### Support Request

You can request support from a service specialists via a "Support Request" in Technical Support on the Internet:  
[www.siemens.com/automation/support-request](http://www.siemens.com/automation/support-request)

### Regional contact partners

You can find the Technical Support responsible for your region on the Internet at:  
[www.automation.siemens.com/partner](http://www.automation.siemens.com/partner)

## Device integration via partner companies

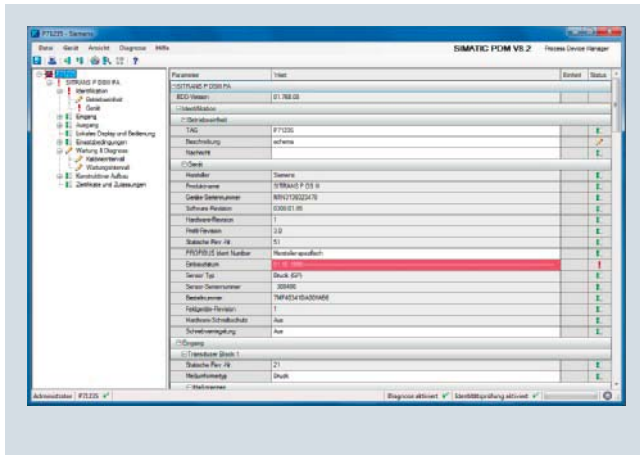
If you would like to use any devices which cannot be found in the SIMATIC PDM device description library, we will be pleased to help you integrate them.

Siemens AG does not itself integrate any device descriptions of field device manufacturers in the EDD Device Library of SIMATIC PDM. It has negotiated appropriate service agreements with selected partner companies for this.

You can find information about the procedure and contact information for the partner companies on the Internet:  
[support.industry.siemens.com/cs/ww/en/view/50898953](http://support.industry.siemens.com/cs/ww/en/view/50898953)

# Parameter view

Central device view with uniform representation



Parameter view - single

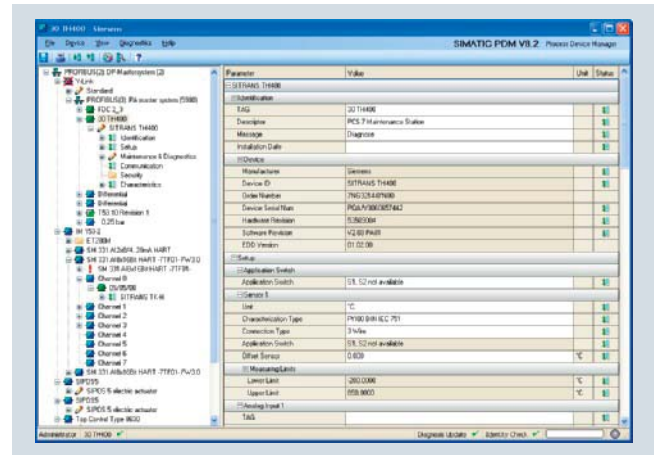
The parameter view quickly provides a comprehensive overview of a device. It has a clear layout.

Visualization and handling are uniform for all devices, that is, regardless of device type, device manufacturer, and device communication:

- Toolbar for general functions
- Menu with device functions
- Working window divided into two sections with navigation window (left) and parameter window with parameter name, value, engineering unit and status
- Parameter status is controlled via the navigation tree
- User-specific language switching (standard language: English)

Each device can be selected, processed and loaded directly, with all device functions accessible.

The device structure and contents are defined by the device description provided by the manufacturer.



Parameter view - multiview

The read/write parameters have a light background and can be easily distinguished from the read-only parameters with their gray background. Modifications, invalid values, initial values and read/write status are clearly identified in terms of color and text.

Since users can easily differentiate the functions provided by SIMATIC PDM from the device-specific functions, they are quickly able to find the right contact partner for their support request.

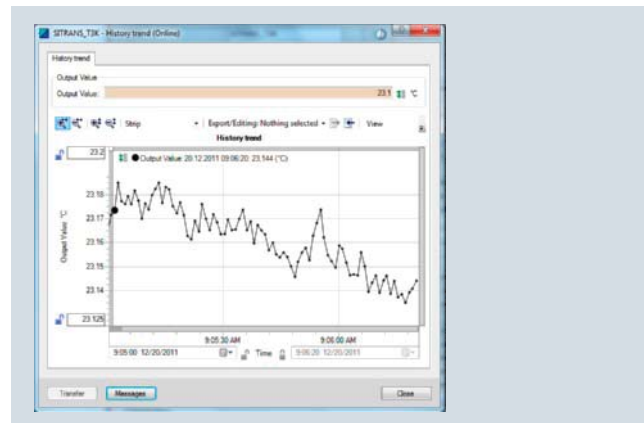
Depending on the selection, the navigation window of the parameter view is either focused on a single device or it displays the device within the hierarchical network structure (multiview). Multiview is very convenient for displaying complete networks or modular components such as remote I/O with connected HART field devices.

# Informative online displays

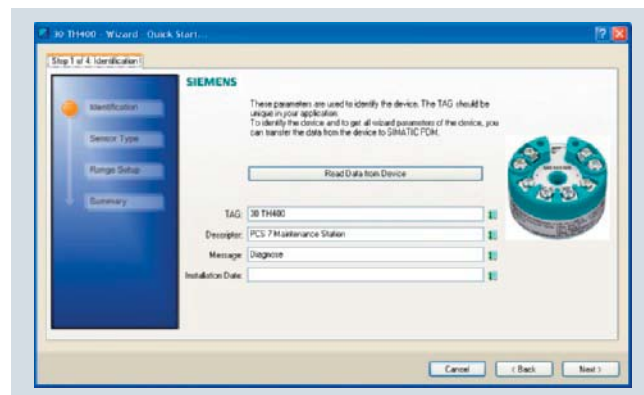
SIMATIC PDM offers numerous possibilities for online communication with the devices. Values/parameters that can be visualized and accessed online are defined by the respective device manufacturer using the electronic device description (EDD). Standardized online displays are used for the display. They are optimally tailored for various functions relating to the device descriptions, and also permit online operations in some cases.

Examples of online functions which can then be implemented are:

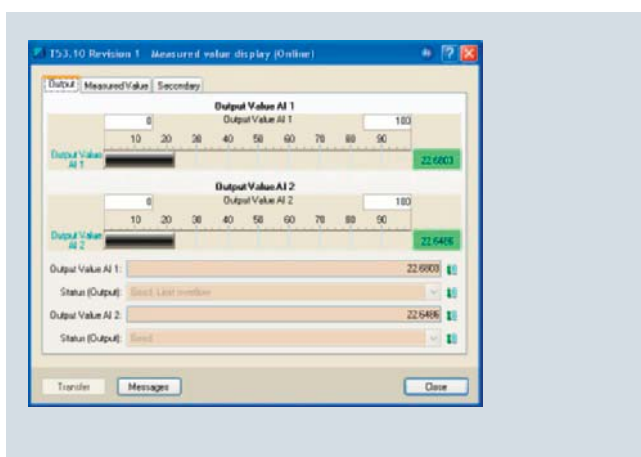
- Monitoring of process values
- Monitoring of measured signal raw values
- Monitoring of internal device status or wear values
- Calibration functions
- Zero settings
- Min/max pointer
- Trend curves with several variables
- X/Y curves, e.g. envelope curves for radar level meters
- Diagnostics states
- Resetting to factory settings
- Operating mode switchover
- Online parameter assignment
- Simulation of process variables, states and diagnostics messages
- Classification of device-specific diagnostics
- Quick start-up



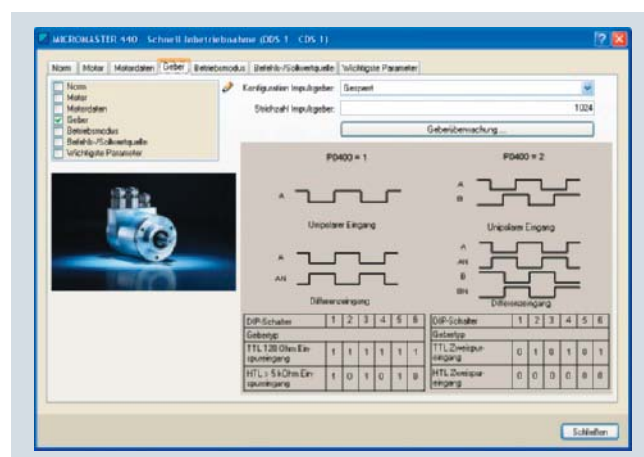
Trend view



Display of a commissioning wizard



Measured value display



Drive configuration for frequency converters



# Device management

Essential criteria for the use of intelligent field devices include:

- Simple and efficient engineering
- Stable device descriptions across the entire life cycle of the production plant/device

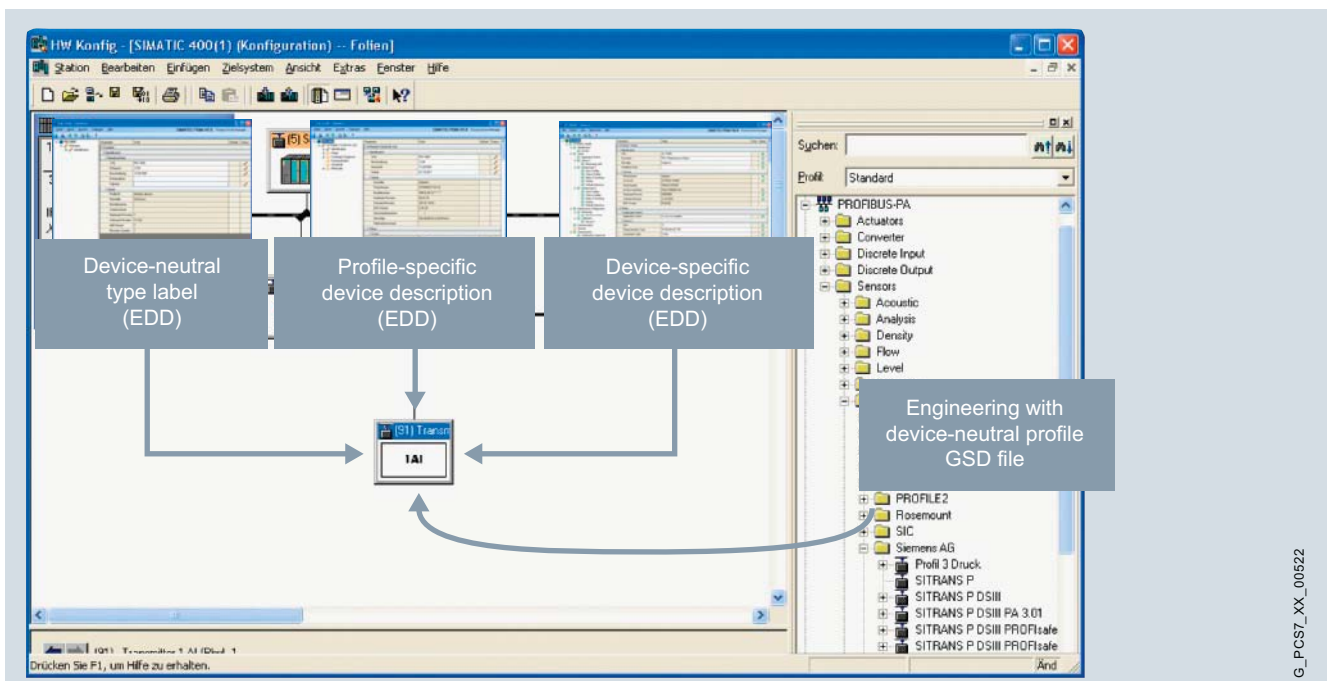
The device types, versions, and manufacturers used in production plants are often not yet known at the time of planning and configuration. Moreover, commissioning, maintenance, service, and device replacement must be as easy and problem-free as possible for the plant personnel. With device-neutral configuration and different device management scenarios, SIMATIC PDM is able to meet these challenges.

## Device-neutral configuration

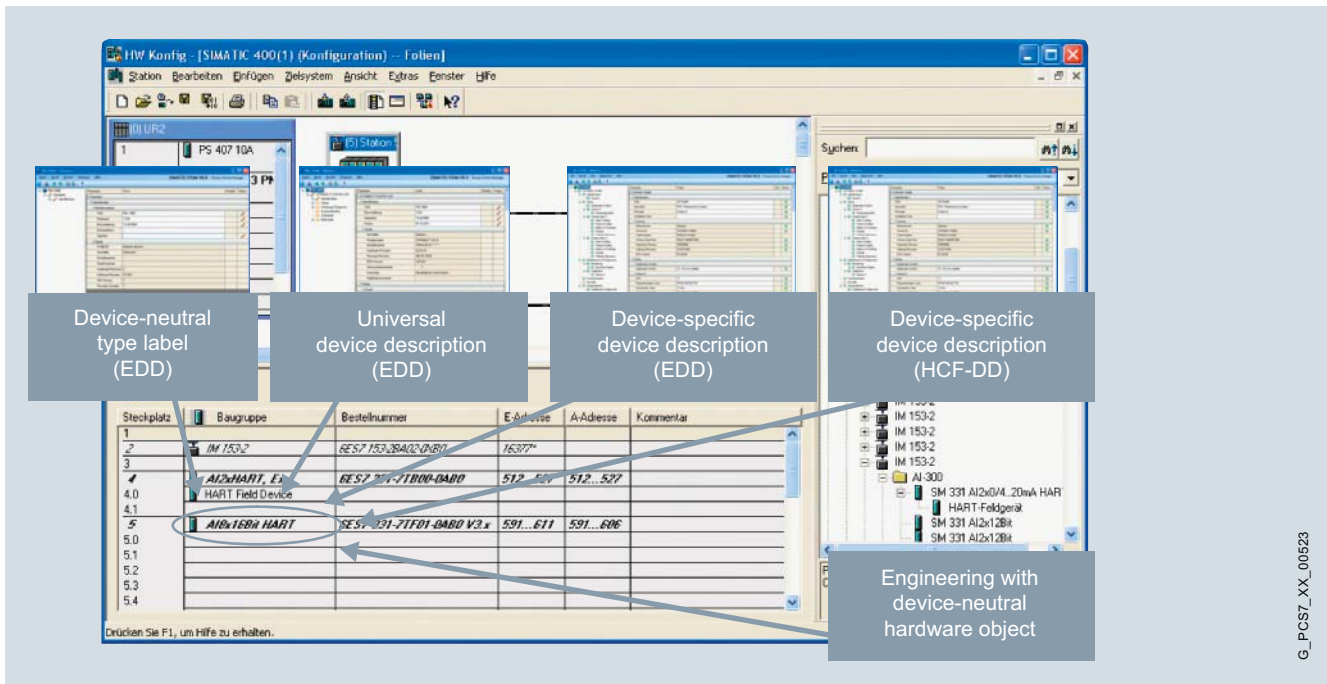
In device-neutral configuration of process tags, it is not necessary to know the precise device type or the manufacturer of the field device. A typical example of this is the connection of HART field devices on 4 to 20 mA interfaces of HART-enabled analog modules in remote I/O stations. On these 4 to 20 mA interfaces, any field devices with a suitable interface can be connected and operated via a "neutral channel".

The configuration of the process tag in the automation project is independent of the field device used later. Using SIMATIC PDM, a device-neutral device description containing only the process tag data, for example, can be assigned for the period up to commissioning. However, to be able to use the full device functionality, device-specific parameter assignment cannot be avoided. For this purpose, a device-specific EDD is simply assigned with SIMATIC PDM.

With SIMATIC PDM, the principle of configuring via a "neutral channel" can also be used for field devices on PROFIBUS DP/PA. This requires the use of device-neutral profile GSD files during the hardware configuration. These files are specified and provided by the "PROFIBUS & PROFINET International" organization.



Configuration options for PROFIBUS DP/PA devices



Configuration options for HART devices

The "neutral channel" on PROFIBUS DP/PA is significantly more user-friendly than the "neutral channel" on a 4 to 20 mA interface. Multiple measured values can be transferred simultaneously in both directions via this channel. In this way, for example, analog or binary actuating signals can be transferred to analog actuators, and in the opposite direction, analog or binary feedback (including status information) from the automation system can be read.

The device management of SIMATIC PDM supports both the assignment of the device-specific description to a field device, and its updating or replacement (e.g. in the case of a device replacement) without the loss of parameter data.

#### Configuration options for PROFIBUS DP/PA devices

- Use of a profile GSD with 1+n process values (AI, AO, DI, DO) or a positioning channel
- Use of a device-neutral EDD for the electronic rating plate
- Use of a profile EDD corresponding to the process tag type, e.g. temperature or pressure
- Use of a device-specific EDD

#### Configuration options for HART devices

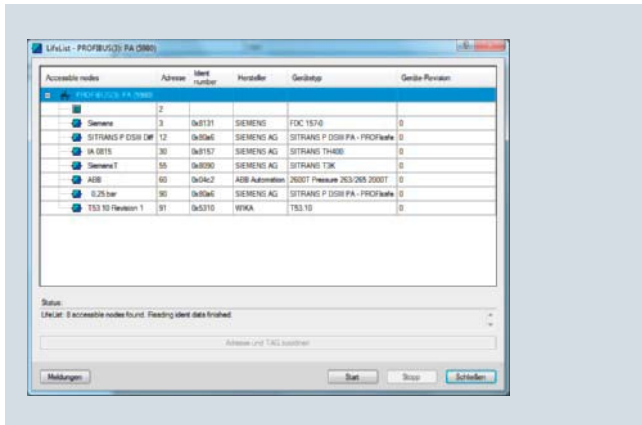
- Use of a device-neutral EDD for the electronic rating plate
- Use of a universal HART EDD in accordance with the "Universal HART Commands" of the HCF
- Use of the device-specific EDD from the device description library of the HCF
- Use of the device-specific EDD from the device description library of SIMATIC PDM

#### Corrections/updates and device replacement

Depending on the communication used, SIMATIC PDM supports different device management scenarios:

- **Updating of device descriptions (EDD)**  
DIM detects compatible corrections and function expansions. It assigns the updated EDD automatically to all devices.
- **Upgrading of device descriptions (EDD)**  
DIM detects incompatible corrections and function expansions. The EDD is inserted in the device description library for manual assignment.
- **Support of field device replacement/substitution** with
  - Devices of the same type and version
  - Devices of the same type but different version
  - Devices of a new device generation of the same type from the same manufacturer
  - Devices from different manufacturers on the basis of the PA profile

# Lifelist



Lifelist

## User-friendly view for service and commissioning

The Lifelist is a network view for identification, diagnostics and online parameter assignment of devices. It is created on-line. It can be created once or cyclically. As a result of its special orientation, the Lifelist is an ideal working environment for service and commissioning.

It permits scanning of PROFIBUS DP and PROFIBUS PA lines including subordinate structures, and displays these in a clear form. It is also possible to include HART devices that are connected through a HART modem. It is therefore no longer absolutely necessary to have a knowledge of the plant structure during service work.

The Lifelist is not just a display and source of information – it provides much more:

- The parameter assignment interface of the devices can be called directly from the Lifelist without having to open a project. All the offline and online functions of the devices are thus immediately available.
- Addresses and TAGs can be directly modified online in the Lifelist.
- Existing projects can be synchronized using the Lifelist.
- The contents of the Lifelist can be exported as an XML file.
- The Lifelist can be transferred easily into a SIMATIC PDM stand-alone project.

The Lifelist displays the following information for the devices and all connected components:

- Addresses
- TAG
- Device type
- Device status
- Manufacturer
- Software revision
- Profile version

The device status (diagnostic information) is identified by meaningful, easily recognizable, and uniform symbols for all devices.

If an EDD exists for a device, the determined diagnostic information is compiled using this device description. This results in increased convenience, since the diagnostic information is language-dependent and can be displayed together with additional device-specific information such as cause of fault, effect of fault, and notes for troubleshooting. Apart from this, the diagnostic information is displayed as defined in the PROFIBUS GSD.

The Lifelist offers two levels for scanning the PROFIBUS:

- Scan for identification of connected devices
- Scan for device identification, with option for additional determination of diagnostics state and device status



# HART OPC server

## Detection of HART multiplexer network structures

The optional product component, SIMATIC PDM HART server, uses the original HART OPC server. SIMATIC PDM thus provides excellent support for service and commissioning, especially in stand-alone applications.

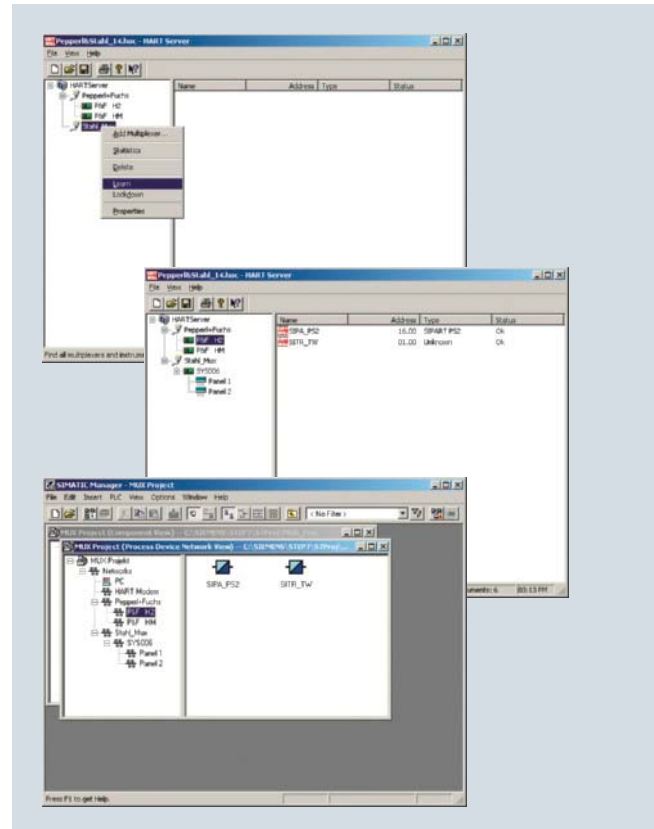
HART multiplexer networks can be scanned using the HART OPC server, and their structures displayed clearly. The structures can be automatically imported into a SIMATIC PDM project or used to synchronize existing projects. It is therefore unnecessary to have knowledge of the HART multiplexer network structure.

A further function of the HART OPC server is reading of the device identification which immediately assigns the correct device description to SIMATIC PDM.

The HART OPC server is suitable for single-stage and multi-stage multiplexers, e.g. P&F multiplexers or MTL multiplexers.

Detailed information on which types of multiplexer are supported by the HART OPC server can be obtained directly from the manufacturers or from the HCF (HART Communication Foundation).

With SIMATIC PDM, WirelessHART adapters and WirelessHART field devices can also be processed via the HART OPC server.



Integration of HART OPC server in SIMATIC PDM

# Asset management

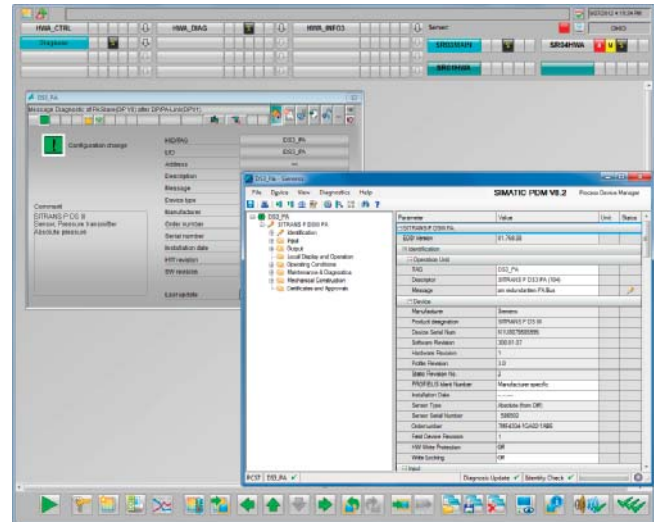
Asset management comprises all activities and measures which serve to retain or increase the value of a plant. In addition to system management, process control, and process optimization, these primarily include maintenance and repairs which retain and increase the plant value, so-called plant-level asset management.

As a result of its comprehensive functionalities for configuration, parameter assignment, commissioning, diagnostics and maintenance of intelligent field devices and components, SIMATIC PDM is particularly suitable for plant-level asset management.

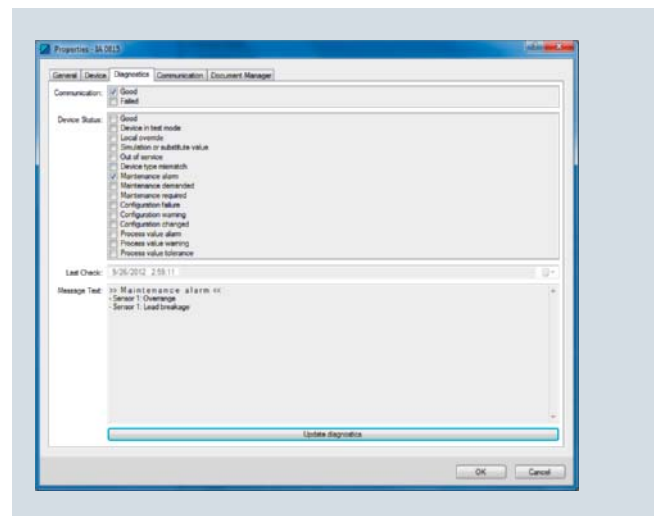
In order to deliver meaningful and reliable results, asset management systems require a large amount of basic information. In real plants, this data is highly heterogeneous and unstructured, which makes it very difficult to access. SIMATIC PDM is able to determine the device data relevant to plant-level asset management, and to transfer this in XML format over a standardized interface to higher-level asset management systems (SIMATIC PCS 7 Maintenance Station or SIMATIC PDM Maintenance Station). The basis for this is the electronic device descriptions (EDD) which are autonomous of the operating system. Collecting the data and interpreting the results are independent of the device type, in other words, it makes no difference whether the device is an actuator or sensor, or a PROFIBUS, HART or FF device.

However, SIMATIC PDM is far more than just a collector of data for higher-level asset management systems. It also provides a variety of its own asset management functions:

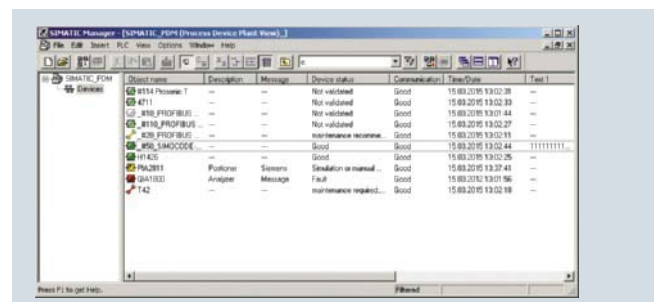
- Determination of differences between the offline data and the current parameters in the device
- Multilingual presentation of diagnostics data read from the devices (device-specific data and profile data)
- Uniform presentation and identification of diagnostics and status data of all devices with uniform symbols
- Data transfer to an asset management system activated by a request from this system
- Extensive logging functions (change log, calibration report)
- Export interface for all data
- Integration of project-specific and device-specific documents



Call of SIMATIC PDM in the SIMATIC PCS 7 Maintenance Station



Detailed diagnostics display of a device in SIMATIC PDM



Process device plant view with diagnostics status display

# Practical functions

## Exporting and importing of data

SIMATIC PDM can export configuration and parameter data and import it again in a convenient manner. In this way, data can be exchanged between different projects, computers, or field devices, for example. The export is always made in XML format.

In the life cycle of a production plant, the export and import functions support device management as follows:

- Export of parameter data, diagnostic information, and assigned user documents
- Export of data for individual devices or entire network structures, whereby the parameter data is saved individually for all field devices and made available for individual import
- Import of parameter data with or without process tag labels
- Import of exported device data regardless of device type and version, so that parameter data of the same type can be transferred to field devices of different versions and from different manufacturers

During the import, the data is compared and supplemented, if necessary. Parameters of existing field devices or modules are thus overwritten, and non-existent field devices or modules are created. If no device description is assigned, assignment takes place in accordance with the contents of the import file. However, no field devices or modules are deleted.

Examples of effective utilization of data export and import are:

- Generation of parameter typicals (default parameter settings) for device types
- Transfer of parameters read out of the devices by SIMATIC PDM into the office world (e.g. Excel spreadsheets)
- Determination of plant configurations, and transfer of structure and parameter settings to a project

## Change log

A change log can be activated in SIMATIC PDM. This records which user has executed which actions or changes for each field device.

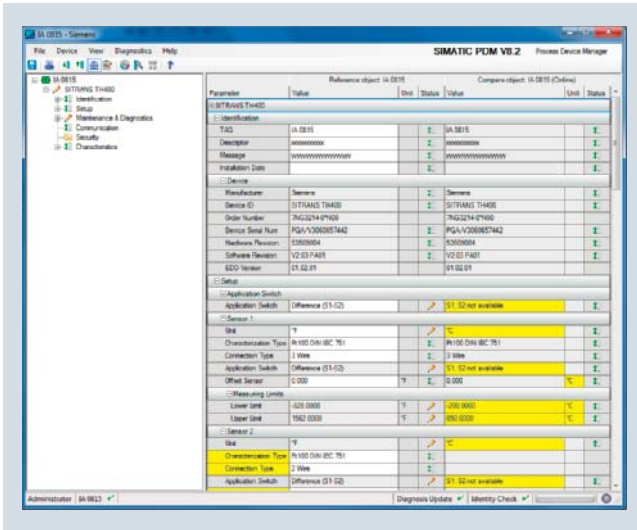
The functions of the change log include:

- Archiving functions (manual or automatic)
- Filter and search functions (for text, actions, or field devices)
- Input of user comments on executed actions
- User-defined entries in the change log

Object ID	Object Name	Action	Timestamp	Description	Details	Comment	User Name	Computer Name	Object Path	Asset ID
60	IA 0815	User	2/27/2015 2:28:22 PM	Change Device	Pipe defect	done	Administrator	RACH	PROFIBUS(2); DP-Masternsystem (2); IM 153-2 HF/PROFIBUS(5); PA-Masternsystem (5980); IA 0815	
60	IA 0815	Save	2/27/2015 2:26:58 PM	Save			Administrator	RACH	PROFIBUS(2); DP-Masternsystem (2); IM 153-2 HF/PROFIBUS(5); PA-Masternsystem (5980); IA 0815	
60	IA 0815	Update Diagnostics	2/27/2015 2:26:53 PM	Update diagnostics	Communication: Good Device Status: Maintenance alarm Message test >> Maintenance alarm << - Sensor 1: Overrange - Sensor 1: Level breakage		Administrator	RACH	PROFIBUS(2); DP-Masternsystem (2); IM 153-2 HF/PROFIBUS(5); PA-Masternsystem (5980); IA 0815	
60	IA 0815	Update Diagnostics	2/27/2015 2:26:35 PM	Update diagnostics	Communication: Good Device Status: Good Message test:		Administrator	RACH	PROFIBUS(2); DP-Masternsystem (2); IM 153-2 HF/PROFIBUS(5); PA-Masternsystem (5980); IA 0815	
60	IA 0815	Update Diagnostics	2/27/2015 2:26:26 PM	Update diagnostics	Communication: Good Device Status: Good Message test:		Administrator	RACH	PROFIBUS(2); DP-Masternsystem (2); IM 153-2 HF/PROFIBUS(5); PA-Masternsystem	

Number of entries: 9

Change log



Data comparison between two devices

## Data comparison

SIMATIC PDM offers the facility for comparing parameters and settings, and to then decide what should be imported or adjusted. The compared objects and differences are clearly and unambiguously identified in color.

The following comparison functions are available:

- Comparison of offline data in the project database with the actual device data
- Comparison of offline data of two different devices in the project database
- Comparison of data of two different devices

## Logging and documentation

A SIMATIC PDM system function enables an individual calibration report to be produced for each integrated field device. The selected parameters are automatically imported into this log.

Internet links and documents, e.g. device manuals, integrated into the device description by the manufacturer can be accessed quickly and easily using the parameter view's help menu.

Up to 10 individual multimedia files (text, charts, video, audio) can be additionally included with each device by means of a documentation manager which is also integrated in the parameter view's help menu. These files can be assigned to individual process tags specific to the plant.

# Design

## Customer-oriented product structure

Components	Product packages							
	SIMATIC PDM as a service station			SIMATIC PDM on engineering/maintenance station				
	Minimum configuration	Basic configuration	Application-specific configurations					
	SIMATIC PDM Single Point	SIMATIC PDM Basic	SIMATIC PDM Service	SIMATIC PDM S7	SIMATIC PDM PCS 7	SIMATIC PDM PCS 7 Server	SIMATIC PDM PCS 7-FF	
SIMATIC PDM TAGs in the scope of delivery	1	4	4 + 100	4 + 100	4 + 100	4 + 100	4 + 100	
<b>SIMATIC PDM expansion options</b>								
Count-relevant licenses (cumulative)	- 10 TAGs - 100 TAGs - 1 000 TAGs	<i>cannot be expanded</i>	o	o	o	o	o	o
SIMATIC PDM Basic			●	●	●	●	●	●
SIMATIC PDM Extended			o	o	●	●	●	●
SIMATIC PDM integration in STEP 7/PCS 7			o	o	●	●	●	●
SIMATIC PDM Routing			o	o	o	●	●	●
SIMATIC PDM Server			o	o	o	o	●	o
SIMATIC PDM Communication FOUNDATION Fieldbus			o	o	o	o	o	●
SIMATIC PDM HART server			o	o	o	o	o	o
SIMATIC PDM Command Interface			o	o	–	–	–	–

### SIMATIC PDM product structure

- Product component is part of the product package
- o Optional product component for the product package, can be purchased separately
- Product component is not relevant or not available for the product package

The functionality and performance of SIMATIC PDM can be adapted to the individual needs of the customer (see table). The customer has the following basic options:

- Use of the minimum configuration SIMATIC PDM Single Point
- Selection of an application-specific product configuration
- Construction of a desired configuration starting from the SIMATIC PDM Basic configuration

The selection depends on the application, for example:

- System-integrated in the configuration environment of the engineering station and the maintenance station of the SIMATIC PCS 7 process control system
- Stand-alone as a service station:
  - Centrally on a stationary computer on the system bus
  - Locally on a mobile computer directly on the device or on the local fieldbus

SIMATIC PDM Single Point cannot be expanded. In contrast, SIMATIC PDM Basic, Service, S7, PCS 7, PCS 7 Server and PCS 7 FF can be expanded both functionally and with cumulative TAG licenses.

A TAG in this case corresponds to a SIMATIC PDM object, which represents individual field devices or components within a project, e.g. measuring instruments, positioners, switching devices or remote I/Os. Also regarded as a TAG is every diagnostics-enabled device detected by diagnostics with the Lifelist whose detailed diagnostics are implemented via the device description (EDD).

Central and local service station based on the SIMATIC PDM Service product package. The central service station also requires the SIMATIC PDM Routing option. All options of the SIMATIC PDM services product package are available for both service stations.



### SIMATIC PDM Single Point

This low-cost minimum configuration with handheld functionality is tailored to processing exactly one field device via point-to-point connection. It is not expandable. All device functions are supported as defined in the device description. Possible types of communication are PROFIBUS DP/PA, PROFINET, Modbus, Ethernet and HART.

### SIMATIC PDM Basic

The basic building block to create individual SIMATIC PDM configurations from individual components contains all the functions required for operation and parameter assignment of the devices and is fully enabled for the communication types PROFIBUS DP/PA, PROFINET, Modbus, Ethernet and HART.

SIMATIC PDM Basic without an expansion can manage projects with up to 4 TAGs and, provided the system requirements are met, can be used for stand-alone operation on any computer (PCs/notebooks) with local connection to bus segments or direct connection to the device.

### SIMATIC PDM Service

This product package is pre-configured for mobile use in service for projects with up to 104 TAGs. It offers service technicians all the functions of SIMATIC PDM Basic and also permits use of the change log, calibration report, and detailed diagnostics in the Lifelist. Expanded with the SIMATIC PDM Routing option, it is suitable for setting up a central service station on the system bus.

### SIMATIC PDM S7

The product package designed for the use of SIMATIC PDM in a SIMATIC S7 configuration environment provides native support for projects with up to 104 TAGs. SIMATIC PDM S7 combines SIMATIC PDM Basic with the functions change log, calibration log, detailed diagnostics in the Lifelist and PDM integration in HW Config.

### SIMATIC PDM PCS 7

As a product package for integration into the engineering system (engineering toolset) and the Maintenance Station of SIMATIC PCS 7, it is primarily designed for projects with up to 104 TAGs. It expands SIMATIC PDM Basic with a change log, calibration log and detailed diagnostics in the Lifelist, as well as functions for PDM integration in HW Config and the routing from the central engineering station to the field devices.

### SIMATIC PDM PCS 7 Server

The product package expands the functionality of SIMATIC PDM PCS 7 with the SIMATIC PDM Server option. An Electronic Device Description (EDD) can be used to configure integrated field devices on each client of the SIMATIC PCS 7 Maintenance Station.

### SIMATIC PDM PCS 7-FF

The product package expands the functionality of SIMATIC PDM PCS 7 with the SIMATIC PDM Communication FOUNDATION Fieldbus option. This enables SIMATIC PDM to communicate in a SIMATIC PCS 7 configuration environment with field devices on the FOUNDATION Fieldbus H1 via the FF Link.

### SIMATIC PDM Extended option

This option for SIMATIC PDM Basic enables the use of additional service functions such as the change log, calibration log or detailed diagnostics in the Lifelist, as well as export and import functions, printing functions, document manager and comparison functions.

### Option for SIMATIC PDM Integration in STEP 7/PCS 7

This option is used for integrating SIMATIC PDM in a SIMATIC S7 or SIMATIC PCS 7 configuration environment. SIMATIC PDM can then be started directly from HW Config in STEP 7/SIMATIC PCS 7.

### SIMATIC PDM Routing option

When SIMATIC PDM is used in a central engineering / service station or with a SIMATIC PCS 7 Maintenance Station client with an Ethernet bus connection to the automation systems, this option enables editing of field devices configured per EDD across and beyond the various bus systems and remote I/Os throughout the plant.

### SIMATIC PDM Server option

With this option, selected field devices can be edited on each client of the SIMATIC PCS 7 Maintenance Station via SIMATIC PDM parameter assignment user interface.

### SIMATIC PDM Communication FOUNDATION Fieldbus option

With this option, SIMATIC PDM can communicate via the FF Link with field devices on the FOUNDATION Fieldbus H1.

### SIMATIC PDM HART Server option

This option enables SIMATIC PDM to use the HART OPC Server for communication with HART field devices via HART multiplexers from various manufacturers, as well as the configuration of WirelessHART field devices.

### SIMATIC PDM Command Interface option

This option enables remote control of configurations for stand-alone operation based on SIMATIC PDM Basic or SIMATIC PDM Server in regard to configuration and field device operation. This is only possible for specific projects and requires programming skills.

### SIMATIC PDM TAGs

Depending on the project size, SIMATIC PDM Basic, Service, S7, PCS 7, PCS 7 Server and PCS 7-FF can be expanded with cumulative licenses for 10, 100 and 1000 TAGs (count-relevant licenses).

# Highlights

## General product features

- Powerful software with uniform user interface and comprehensive functions for engineering, parameter assignment, commissioning, diagnostics and maintenance of field devices and components
- Intuitive and secure operation of all integrated devices based on a common user interface and operator guidance in 7 languages (English, German, French, Spanish, Italian, Chinese and Japanese)
- Simple, functional and reliable device management
- Uniform, easily recognizable diagnostics symbols for all devices
- Archiving of all parameter, maintenance and diagnostic information in a consistent database
- Application options:
  - Stand-alone, as a local or central service station
  - System-integrated in SIMATIC PCS 7 / S7 engineering station and the SIMATIC PCS 7 Maintenance Station

## Device integration and communication

- Global leader in device integration:
  - More than 4 500 different devices from over 200 manufacturers worldwide
  - Almost all PROFIBUS PA devices are integrated
  - Almost all HART devices are integrated
  - Simple integration of new field devices and components by importing their device description (EDD), which is independent of the operating system
  - Existing device descriptions can be updated quickly and easily
- Wide variety of options for communication with the devices, e.g. using PROFIBUS DP/PA, PROFINET, Ethernet, Modbus, FOUNDATION Fieldbus or HART communication (modem, RS 232, WirelessHART, PROFIBUS, PROFINET):
  - With local connection on a bus segment or directly on the device
  - From the central engineering station / service station or the SIMATIC PCS 7 Maintenance Station client per "routing"

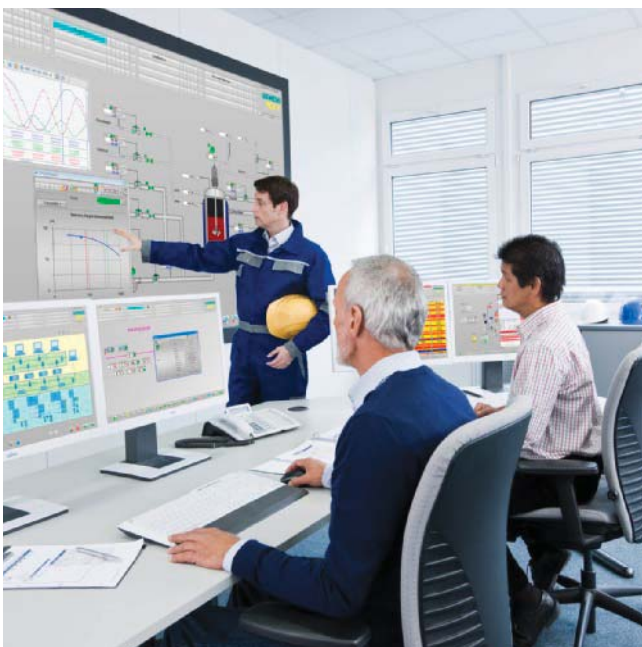


## Detail functions

- Access to all parameters as well as all diagnostic and maintenance information of a device
- Comparison of parameter sets (e.g. reference and actual parameters, or online/offline data of two devices)
- Display of process values with status
- Simulation of process values for loop tests
- Determination, processing and presentation of device data for asset management
- Global and device-specific change log (audit trail)
- Device-specific calibration report
- Homogeneous and consistent help texts for the devices, generated from the device descriptions
- Integration of up to 10 multimedia files per document manager
- Comparison function

## User advantages and rationalization potential

- High degree of standardization through compliant device descriptions (EDD) based on an internationally standardized language (EDDL)
- Rationalization of configuration and parameter assignment using convenient export and import functions
- High plant availability through device parameters which can be modified online
- Low training requirements through intuitive operator guidance as well as functions which are easy to learn, operate and understand



### SIMATIC PDM device list

You can find a device list (representative cross-section of the field devices and components that can be configured with SIMATIC PDM) in our Industry Online Support in the product announcement about the current device description library:  
[support.industry.siemens.com/cs/ww/en/ps/16983/pm](https://support.industry.siemens.com/cs/ww/en/ps/16983/pm)

## Get more information

Wide range of information on all aspects of the SIMATIC PDM Process Device Manager:

[www.siemens.com/simatic-pdm](http://www.siemens.com/simatic-pdm)

Information on device integration:

[support.industry.siemens.com/cs/ww/en/ps/16983/pm](http://support.industry.siemens.com/cs/ww/en/ps/16983/pm)

Current information on all aspects of the SIMATIC PCS 7 process control system:

[www.siemens.com/simatic-pcs7](http://www.siemens.com/simatic-pcs7)

Totally Integrated Automation:

[www.siemens.com/totally-integrated-automation](http://www.siemens.com/totally-integrated-automation)

SIMATIC Manual Overview:

[www.siemens.com/simatic-docu](http://www.siemens.com/simatic-docu)

Information material available for downloading:

[www.siemens.com/simatic/printmaterial](http://www.siemens.com/simatic/printmaterial)

Service & Support:

[support.industry.siemens.com](http://support.industry.siemens.com)

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[www.siemens.com/automation/partner](http://www.siemens.com/automation/partner)

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