SIEMENS

SIMATIC

Process Control System PCS 7 Maintenance Station

Function Manual

Valid for PCS 7 V9.0 or higher (MS Basic/MS Standard)
Valid for SIMATIC PDM MS V2.0 or higher

05/2017
A5E41291135-AA

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠ DANGER

indicates that death or severe personal injury **will** result if proper precautions are not taken.

⚠ WARNING

indicates that death or severe personal injury **may** result if proper precautions are not taken.

⚠ CAUTION

indicates that minor personal injury can result if proper precautions are not taken.

NOTICE

indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

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Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

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We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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Security information

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Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines, and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions only form one element of such a concept.

Customer is responsible to prevent unauthorized access to its plants, systems, machines and networks. Systems, machines and components should only be connected to the enterprise network or the internet if and to the extent necessary and with appropriate security measures (e.g. use of firewalls and network segmentation) in place.

Additionally, Siemens' guidance on appropriate security measures should be taken into account. For more information about industrial security, please visit:

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Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends to apply product updates as soon as available and to always use the latest product versions. Use of product versions that are no longer supported, and failure to apply latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under

http://www.siemens.com/industrialsecurity.

Preface

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Purpose of this documentation

This documentation informs you about the software components, areas of application, configuration options and commissioning of Maintenance Station for SIMATIC PCS 7.

It answers the following key questions:

- What is the Maintenance Station?
- What software components belong to the Maintenance Station?
- What hardware and software requirements apply and which licenses are required for installation?
- What are the intended areas of application for the Maintenance Station?
- How are diagnostics performed with the Maintenance Station?
- What are the intended areas of application for the Maintenance Station for the various versions?

Options for accessing PCS 7 documentation

The documentation required for PCS 7 includes the following types:

- **PCS 7 Readme**
  The readme file is available in two versions:
  - **PCS 7 Readme (offline)**
    This version is installed by PCS 7 Setup. The file only contains general information and links to documents on the Internet.
  - **PCS 7 Readme (online)**
    This is the version which contains all information on the installation and use of PCS 7 in the format you are already familiar with. The file is only available on the Internet so that we can keep it up to date.

    Note

    The information provided in the *PCS 7 Readme* (online) on the Internet takes precedence over **all** other PCS 7 documentation.

    Please read this *PCS 7 Readme* carefully; it contains important information and amendments on PCS 7.

- **PCS 7 System Documentation**
  System documentation includes documents that cover several products, such as configuration manuals and Getting Started manuals. This documentation serves as a guideline for the overall system and explains the interaction between the individual hardware and software components.
  Read the information on "PCS 7 Documentation Portal Setup" in the product overview *Process Control System PCS 7; PCS 7 Documentation*; section "Options for accessing the documentation".
- **PCS 7 Product Documentation**
  Product documentation contains information about specific hardware and software components. The individual documents provide detailed information on the specific component.

Full versions of the documentation are available from the "Technical Documentation SIMATIC PCS 7" website:
www.siemens.com/pcs7-documentation (http://www.siemens.com/pcs7-documentation)

You can find additional information in the product overview *Process Control System PCS 7; PCS 7 Documentation*; section "Options for accessing the documentation".

Required basic knowledge

This documentation is aimed at anyone who is involved in configuring, commissioning and operating automated systems based on SIMATIC PCS 7.

A certain amount of basic knowledge is assumed and readers are expected to know how to use a PC/PG and the Windows operating system in general. You should be familiar with the SIMATIC PCS 7 functions and configurations.

This manual assumes that users are familiar with the following knowledge from the specified manuals:

- *Process Control System PCS 7; Engineering System*
- *Process Control System PCS 7; Operator Station*
- *Process Control System PCS 7; OS Process Control*

Conventions

In this documentation, the names of elements in the software interface are specified in the language of this documentation. If you have installed a multi-language package for the operating system, some of the designations will be displayed in the base language of the operating system after a language switch and will, therefore, differ from the designations used in the documentation.

Using the Maintenance Station 3

3.1 Application, version and configuration

Application

Maintenance Station focuses on "Plant Asset Management" and enables preventive and predictive diagnostics and maintenance of the plant.

In parallel with process control, the Maintenance Station makes available consistent maintenance information and functions for the system components (assets).

While the plant operator receives all process-relevant information and can intervene selectively in the process via the operator system (OS), the maintenance engineer inspects the automation system hardware and processes the associated diagnostic messages and maintenance demands via the Maintenance Station.

The basis for a Maintenance Station is always an OS that provides this maintenance functionality.

The OS that has maintenance functionality and the mode in which the Maintenance Station that is operated is determined in the plant hierarchy of the SIMATIC Manager.

You can find basic information on engineering, configuration and process control in the following documentation:

- *Process Control System PCS 7; Engineering System*
- *Process Control System PCS 7; Operator Station*
- *Online help for WinCC*

Versions

The Maintenance Station can be used in the following versions:

- Maintenance Station Basic (integrated in the PCS 7 project)
  - Is referred to as MS Basic in the document
- Maintenance Station Standard (integrated in the PCS 7 project)
  - Is referred to as MS Standard in the document
- SIMATIC PDM Maintenance Station (stand-alone project)
  - Referred to as SIMATIC PDM MS in the document

Note

If you are running a Maintenance Station in the plant, the sign-of-life monitoring with "Lifebeat Monitoring" must be disabled.

Differences between the versions

The following table shows differences.

	MS Basic	MS Standard	SIMATIC PDM MS
Information displayed	• Overview screen • Area overview screen – AS/system – Network objects – PC stations • Status information of the individual components	• Overview screen • Area overview screen – AS/system – Field devices – Network objects – PC stations – User objects • Status information of the individual components • Detailed information on individual components • Hierarchical picture structure • Global functions • Component-specific functions	• Overview screen • Area overview screen – Field devices – Network objects (optional) – PC stations (optional) • Status information of the individual components • Detailed information on individual components • Hierarchical picture structure • Global functions • Component-specific functions
Generation of the diagnostics structure	Automatic generation from the SIMATIC PCS 7 hardware project		Automatic generation from the SIMATIC PDM stand-alone project (network view)
Setup of the diagnostics structure	• Area overview screen – AS/system – Network objects – PC stations • Symbolic representation of the components with diagnostic status • No hierarchical picture structure • No calling of faceplates	• Area overview screen – User objects – AS/system – Field devices – Network objects – PC stations • Symbolic representation of the components with diagnostic status • Hierarchical screen structure for AS/system components • Hierarchical screen structure for field components • Hierarchical picture structure for user components • Calling of faceplates	• Area overview screen – Field devices – Network objects (optional) – PC stations (optional) • Symbolic representation of the components with diagnostic status • Hierarchical picture structure for field bus components with connected field components • Calling of faceplates
Message assignment	Area by area	Component by component	
Diagnostics update	• Cyclically by the system • Event-driven	• Cyclically by the system • Event-driven • Manual • Cyclic polling	• Manual • Cyclic polling

	MS Basic	MS Standard	SIMATIC PDM MS
Detailed information (1)	Not available	• Electronic rating plate (identification data) • Component-related messages • Detailed information in accordance with SNMP profile • Component status in accordance with EDD information (3) • Detailed information in accordance with EDD information • User notes • Redundancy status • CPU utilization/ cycle utilization • Calling device-specific condition monitoring functions (e.g. Diagnostics Monitor)	• Electronic rating plate (identification data) • Component-related messages • Detailed information in accordance with SNMP profile (optional) • Component status in accordance with EDD information • Detailed information in accordance with EDD information • User notes • Calling device-specific condition monitoring functions e.g. Diagnostics Monitor (optional)
Components with diagnostics capability	You can find additional information about this in the section "Components with diagnostics capability (Page 18)".		
Global functions	Not available	• Complete export of electronic rating plate including maintenance status of all components • Filter functions in relation to the component state or component selection • Filter functions in relation to contents of the electronic rating plate • Manual/cyclic parameter data export • Use of standard functions of the PCS 7 Operator Station, e.g. report generation in process control • Parameter synchronization for field devices • Export of parameters and status data of selected components for further processing in the higher-level EAM systems.	
Component -specific functions (2)	Not available	Calling HW Config online	Not available
		Call • Component-specific Web portals • Web portals configured in Engineering • SIMATIC PDM for EDD-based components • Diagnostics Monitor for IPC objects	
Licenses	Not required	Quantity and function-dependent	

(1) Dependent on component used

(2) Dependent on component type used and use of an MS Client in the multiple-station system.

(3) Electronic Device Description

In the rest of the documentation, any differences are pointed out.

Configuration

The MS Basic and MS Standard versions of the Maintenance Station can be configured as MS single-station system or as MS multiple-station system.

You can find more information on this in the sections "MS single station system (Page 25)" and "MS multiple station system (Page 26)".

SIMATIC PDM MS can only be configured as an MS single-station system.

You can find additional information about this in the section "SIMATIC PDM MS (Page 30)".

Operating and monitoring on a PCS 7 Web client

You can use a PCS 7 Web client to operate and monitor an MS single-station system and MS multiple-station system. Any existing limitations are described in the respective sections of the manual.

Note

This function is not available for SIMATIC PDM MS.

3.2 Components with diagnostics capability

Which components can be monitored?

The components with diagnostics capability are displayed in the process control in the areas subordinate to the diagnostics area.

The area-specific tables show examples of which components can be monitored with which version of the Maintenance Station:

- "PC stations" area (Page 19)
- "Network objects" area (Page 20)
- "AS/System" area (Page 20)
- "Field devices" area (Page 22)
- "User objects" area (Page 24)

Where is the information displayed?

You can find information on the states of individual PCS 7 components with diagnostic capability in the Maintenance Station diagnostics screens.

The diagnostics screens only display data made available by the component or the project.

You can find information on the diagnostics screens in the section "Operator control and monitoring (Page 105)".

3.3 "PC stations" area

Which components are monitored?

Diagnostics for ...	MS Basic	MS Standard	SIMATIC PDM MS
• Siemens industrial PC, for example – Operator stations – BATCH stations – Route Control stations – Process Historian – SIMATIC PCS 7 BOX • Premium Server for SIMATIC PCS 7 / PCs from third-party suppliers		X	-

What is monitored?

Monitored components	Constraints and displayed information
Siemens Industrial PC (IPC) with Diagnostics Monitor diagnostics program configured for the IPC (ES, server, client, other computers) and available via SNMP	• Monitoring for failure • Fan speed with limit values • Hard disk utilization with CCPerfmon limit values • Redundant power supply • Temperature, CPU, Board, etc. • Failure of a hard disk using RAID1 • Failure of a connection • OS deactivated • Terminal adapter failure • Watchdog • Revision alarm
Premium Server for SIMATIC PCS 7 via SNMP PC from third-party supplier via SNMP	• Identification data according to the SNMP profile MIB-II • Monitoring for failure
PC from third-party supplier without SNMP	• Identification data via WMI monitoring for failure

3.4 "Network objects" area

Which components are monitored?

Diagnostics for ...	MS Basic	MS Standard	SIMATIC PDM MS
• Switches, e.g. SCALANCE • OSM • ESM • Other components that support SNMP services e.g. printers, bridges, routers		X	-

What is monitored?

Monitored components	Constraints and displayed information
• Scalance Produkte der Familien X200, X200 RNA, XB200, XC200, XF200, XP200, X300, X400, XM400, X500, W700; W700 ab Firmware 6.1 • OSM/ESM	• Group fault for monitoring the power supply error (red. supply) • Port error • Ring redundancy error The monitoring functions must be enabled in the components.
Other components that support SNMP services e.g. printers, bridges, routers	Monitoring for failure, with support of the SNMP profile MIB-II

3.5 "AS/System" area

Which components are monitored?

Diagnostics for ...	MS Basic	MS Standard	SIMATIC PDM MS
• SIMATIC S7-4xx series CPU • CP in central section • WinLC RTX of a SIMATIC PCS 7 BOX • SIMATIC PCS 7 central processing units • Interface module (IM) of the ET 200 series (ET 200M, ET 200S, ET 200SP, ET 200iSP, ET 200pro, ET 200SP HA) • Link modules (DP/PA-Link, Y-Link, FF Link, Compact FF Link)		X	-

What is monitored?

Monitored components	Constraints and displayed information
SIMATIC S7-4xx series CPU	• Diagnostics information on CPU utilization • Utilization OB3x, OB8x and OB1 • Reduction ratio of the OB3x in cases of overload • Display of the electronic rating plate based on the PNO specification If data cannot be read from the components, the data (if existing) from the project is displayed. • Detailed error messages • Detailed maintenance status • Diagnostic buffer • LED display The information is dependent on the firmware version of the CPU.
CP in central section	• Display of the electronic rating plate based on the PNO specification If data cannot be read from the components, the data (if any) from the project is displayed. • Detailed error messages • Detailed maintenance status • Diagnostic buffer
WinLC RTX of a SIMATIC PCS 7 BOX	• Display of the electronic rating plate based on the PNO specification If data cannot be read from the components, the data (if any) from the project is displayed. • Detailed error messages • Detailed maintenance status • Diagnostic buffer • LED display
SIMATIC PCS 7 central processing units/ Interface module (IM) of the ET200 series/ Link modules	• Display of the electronic rating plate based on the PNO specification If data cannot be read from the components, the data (if existing) from the project is displayed. • Detailed error messages • Detailed maintenance status

3.6 "Field devices" area

Which components are monitored?

Diagnostics for ...	MS Basic	MS Standard	SIMATIC PDM MS
• Interface module (IM) of the ET 200 series • Input and output modules of the ET 200 series • Link modules • PROFIBUS devices • PROFINET devices • Field devices (HART, PROFIBUS PA, ...) • Diagnostics-capable coupler • Compact Field Unit (CFU)	-	X	X(1)
• Fail-safe modules • Diagnostic repeaters • EDD objects that can be detected by SIMATIC PDM			-

(1) Diagnostics described by the EDD

What is monitored with the "MS Standard" version?

Monitored components	Constraints and displayed information
SIMATIC PCS 7 standard I/O	• Display of the electronic rating plate based on the PNO specification If data cannot be read from the components, the data (if any) from the project is displayed. • Detailed error messages • Detailed maintenance status
PROFIBUS DP/PA field devices (integrated via EDD)	• Detailed device-specific/EDD-based diagnostics • Display of the electronic rating plate based on the PNO specification If data cannot be read from the components, the data (if existing) from the project is displayed. • Detailed error messages • Detailed maintenance status

Monitored components	Constraints and displayed information
FF field devices (integrated via EDD)	• Process access via APL channel blocks • Detailed device-specific/EDD-based diagnostics • Display of the electronic rating plate (I&M data) • Detailed error messages • Detailed maintenance status
PROFIBUS DP/PA standard slaves (field devices integrated via GSD)	• Failure monitoring • Display of the electronic rating plate based on the PNO specification If data cannot be read from the components, the data (if existing) from the project is displayed. • Maintenance status "Good" and "Maintenance alarm"
PROFINET standard slaves (field devices integrated using GSDML)	• Failure monitoring • Display of the electronic rating plate based on the PNO specification If data cannot be read from the components, the data (if existing) from the project is displayed. • Maintenance status "Good" and "Maintenance alarm"
HART field devices (integrated via EDD into SIMATIC PCS 7 standard I/Os)	• Detailed device-specific/EDD-based diagnostics • Display of electronic rating plate (based on specification of HART Communication Fundation - HCF) • Detailed error messages • Detailed maintenance status

Monitored components	Constraints and displayed information
SIMATIC TIA objects	• Failure monitoring • Display of the electronic rating plate based on the PNO specification If data cannot be read from the components, the data (if existing) from the project is displayed. • Maintenance status "Good" and "Maintenance alarm"
SIMATIC PCS 7 add-on objects (field devices integrated via EDD)	• Detailed device-specific/EDD-based diagnostics • Display of the electronic rating plate based on the PNO specification If data cannot be read from the components, the data (if existing) from the project is displayed. • Detailed error messages • Detailed maintenance status

What is monitored with the "SIMATIC PDM MS" version?

Monitored components	Constraints and displayed information
Field devices	• PROFIBUS DP/PA field devices (integrated via EDD) • PROFIBUS DP/PA Remote I/Os (integrated via EDD) • Ethernet field devices (integrated via EDD) • HART field devices (integrated via EDD) • Wireless HART field devices (integrated via EDD) • Modbus field devices (integrated via EDD)

3.7 "User objects" area

Which components are monitored?

Diagnostics for ...	MS Basic	MS Standard	SIMATIC PDM MS
User objects for which diagnostics can be generated by an application	-	X	-

What is monitored?

Monitored components	Constraints and displayed information
User objects	• Not communicative accessible components • Indirect diagnosed objects • Results of state monitoring functions • Components from the process device network view that are not configured in HW Config, e.g., wireless HART field devices

3.8 MS single station system

MS single-station system in the OS single-station system

The maintenance station is operated on the engineering station.

Plant configuration

The MS single-station system has the following functionalities:

- Operator station (OS)
- Engineering station (ES)
- Maintenance Station (MS)
- SIMATIC PDM

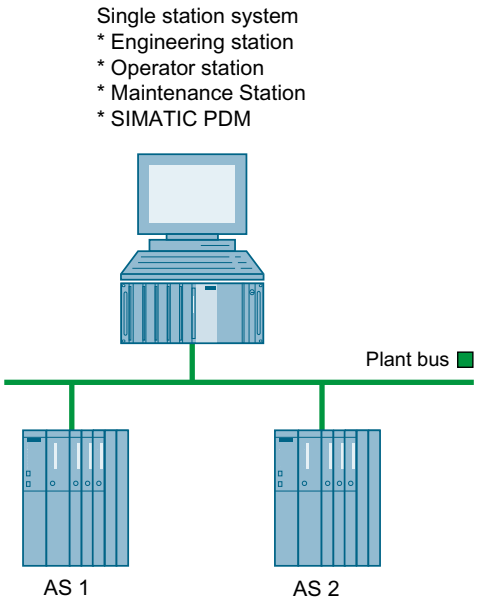
The complete operator control and monitoring functionality for a PCS 7 project (plant/unit) is located in one station. The OS areas and the "Diagnostics" area of the MS are displayed in the overview area of the process control.

The "Diagnostics" area visualizes the diagnostics state via diagnostics screens, providing the required operator control and monitoring functions.

The MS single-station system on the plant bus can be used in parallel with additional single-station or multiple-station systems.

Plant configuration

The figure below shows an example plant configuration.



Rule

The maintenance station is disabled during configuration.

Software and licensing

If monitoring of intelligent field devices is required, install the SIMATIC Process Device Manager product with the SIMATIC PDM Server and SIMATIC PDM Logon options on the engineering station.

You can find more information on software in the manual *Process Control System PCS 7; PCS 7 PC Configuration*.

For information on the current graduated licenses available for the various components of the process control system and the correspondingly plant sizes that can be realized, refer to the installation manual *Process Control System PCS 7; Licenses and Quantity Structures*.

3.9 MS multiple station system

MS multiple-station system in the OS multiple-station system

In distributed systems, the maintenance station is integrated into a client/server architecture.

Plant configuration

The MS server

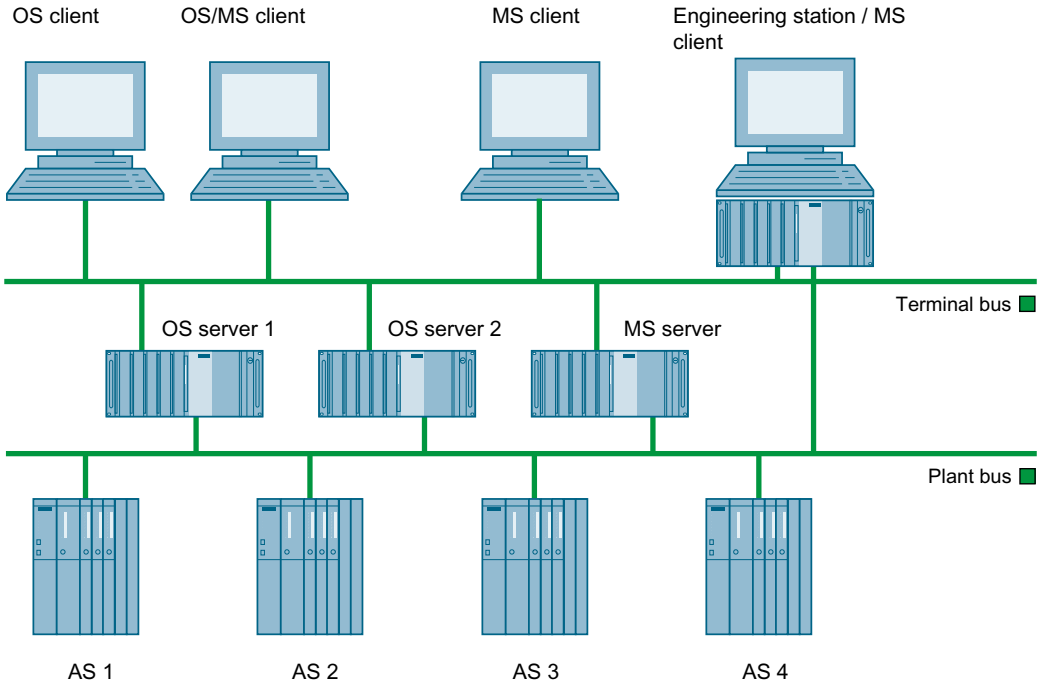
- Either configured on a separate PC station or on a PC station together with the OS server
- Can be configured redundantly
- Processes the process control messages which are visualized on the OS/MS client and/or MS client
- Can monitor network components via the OPC server at the plant bus if there is a connection to the plant bus

The MS client can be configured as follows:

- MS client on a PC station
  The MS client visualizes the diagnostic status in the diagnostic area using diagnostic screens and provides the required operator control and monitoring functions.
- MS client and OS client on a PC station (OS/MS client)
  The OS/MS client has the same functionality as an MS client on a PC station and the same functionality as an OS client.
  In addition to the diagnostic area, the overview visualizes the technological areas for process control.
- MS client on the engineering station
  The MS client on the engineering station has the same functionality as an MS client on a PC station.
  In addition, the online view of the hardware configuration editor can be opened.
  The MS client that is operated on the engineering station is disabled during configuration.

Plant configuration

The figure below shows an example plant configuration.



Required server data

- On the MS or OS/MS client
  You can find information on this in the section "Assigning the server data and downloading of a client (Page 96)".
- On the MS server
  The server data of all OS servers in the multiproject/project are automatically downloaded to the MS server when the diagnostics structure is generated.

Software and licensing

If intelligent field devices have to be monitored, install the SIMATIC Process Device Manager (SIMATIC PDM) on the engineering station.

You can find more information on the software in the manual *Process Control System PCS 7; PCS 7 PC Configuration*.

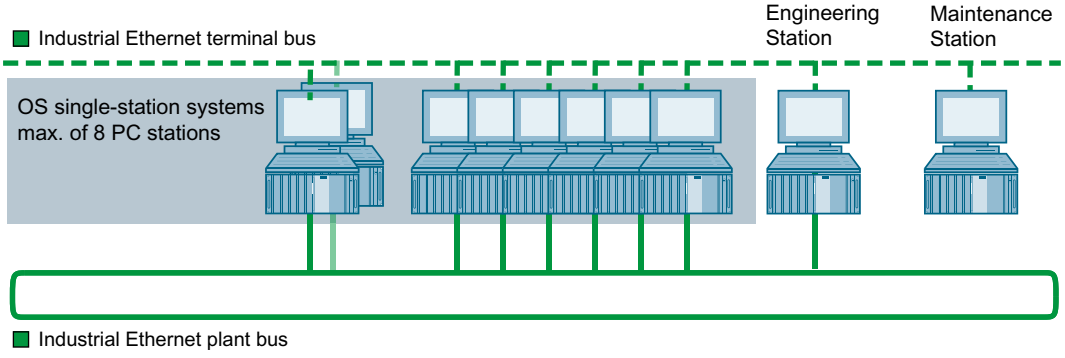
For information on the current graduated licenses available for the various components of the process control system and the correspondingly plant sizes that can be realized, refer to the installation manual *Process Control System PCS 7; Licenses and Quantity Structures*.

3.10 MS in plant configuration with multiple OS single-station systems

Plant configuration with multiple OS single-station systems

Configurations with OS single-station systems are possible in SIMATIC PCS 7.

The figure below shows an example of the configuration:



Configuration:

- 1 redundant OS single-station system (single-station system + single-station system standby)
- Optional: Up to 6 non-redundant OS single-station systems (as reference OS from the OS single-station system)
- MS as separate PC station

The MS server obtains the data from the AS over the redundant OS single-station system.

If the redundant OS single-station system is disabled, the AS data is no longer displayed.

Note

Messages generated locally on a reference OS are not displayed in the diagnostics pictures. Affected are e.g. messages for self diagnostics.

If the reference OS is unavailable via the terminal bus, it is visualized on the MS server, however.

For the diagnostic information to be displayed on the OS single-station systems, a Web server must be configured on the MS server.

The OS single-station system can be accessed with Web browser control.

You have two options for accessing the MS server from the OS single-station system:

- Option 1
  Create a user picture on the OS single-station system in the "Graphics Designer".
  Insert a "WinCC WebBrowser Control" in the user picture.
  In the process control, you can access the MS via the "WinCC WebBrowser Control" in the user picture.
- Option 2
  Launch the Web Client function via Internet Explorer.

Additional information

Process Control System PCS 7; PC Configuration manual

3.11 SIMATIC PDM MS

Plant configuration

SIMATIC PDM MS is a single-station system pre-configured as an IPC Microbox 427x. It is designed for stand-alone use and is independent of the automation solution used.

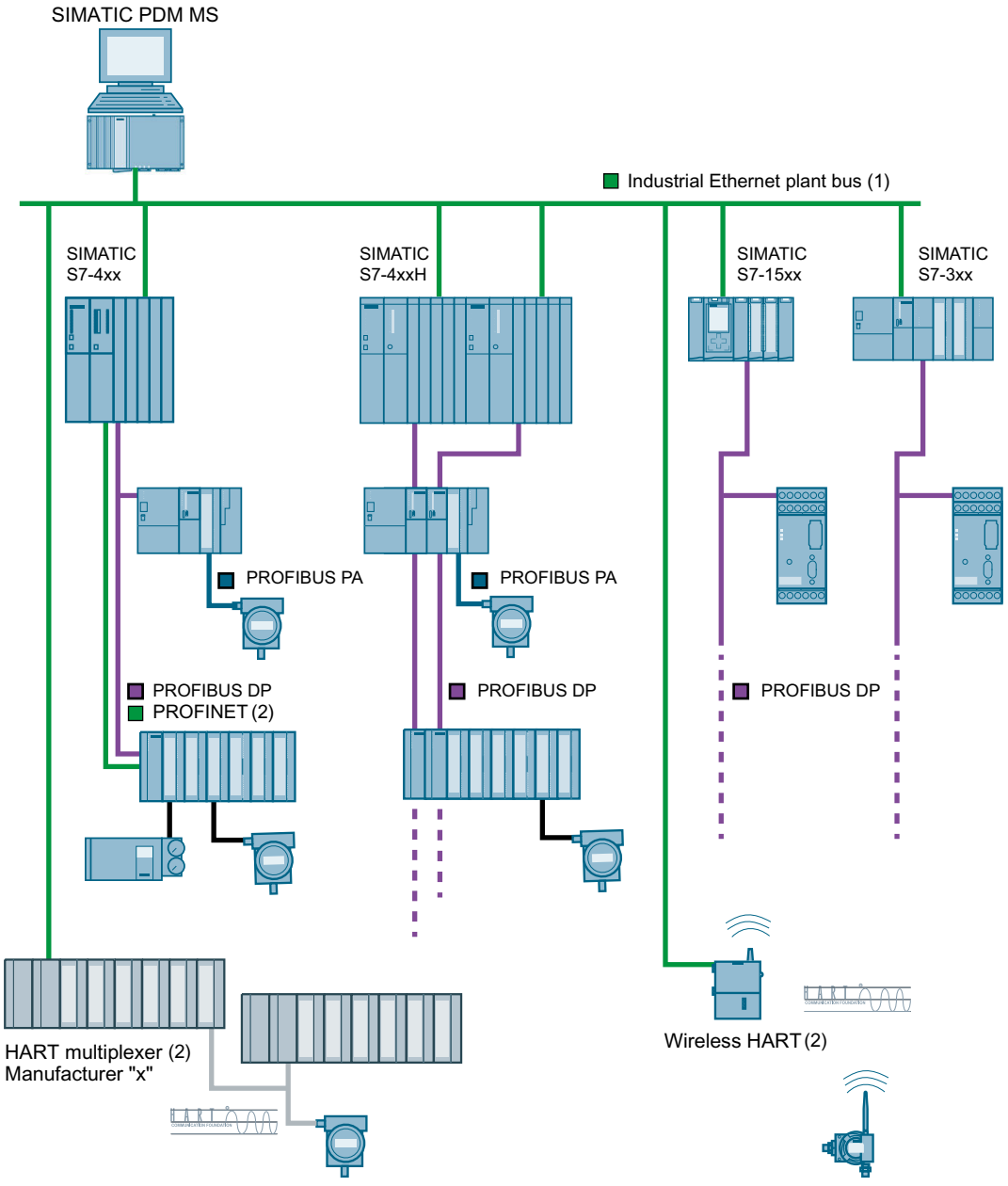
The display type and functionality of SIMATIC PDM MS are similar to that of a SIMATIC PCS 7 maintenance station. All operator control and monitoring functions are executed locally on this PC station.

SIMATIC PDM MS uses diagnostic screens to visualize the diagnostic status in the diagnostic area and provide the required operator control and monitoring functions.

The diagnostic states of field devices are determined by SIMATIC PDM. Assigned messages are generated in the integrated AS RTX. Both items of information are visualized on the SIMATIC PDM MS.

Plant configuration

The figure below shows an example plant configuration.



(1) When connected to high-availability automation systems, the IP protocol must be additionally enabled or else the ISOon TCP protocol is used

(2) As of SIMATIC PDM MS V3.0

Rule

SIMATIC PDM MS is disabled during creation or change of the project structure.

Software and licensing

- Provided restore software, no installation via media package
- Update and upgrade packages are provided separately for the PDM MS.
  We recommend you enter into a Software Update Service (SUS) contract.

The configuration limit of the SIMATIC PDM MS is designed for a maximum of 500 field devices. A license is required for each field device and each gateway component. Licensing takes is performed with PDM TAG licenses.

Information on the individual products is available in the documents accompanying the product release in the Industry Online Support:

Internet link (http://support.industry.siemens.com/cs/ww/en)

Additional documentation

4

Additional documentation

The following table lists documentation in which you can find additional information. All content of the electronic manuals (PDF) can also be found in the online help (CHM).

Documentation	Purpose
Online help: Help on PCS 7, Configuration - Engineering System **Manual:** Process Control System PCS 7 Engineering System	The documentation supports you during configuration with the SIMATIC Process Control System PCS 7 on an engineering station.
Online help: Help on PCS 7, Configuration - Operator Station **Manual:** Process Control System PCS 7 Operator Station	The documentation supports you during configuration with the SIMATIC PCS 7 Process Control System on an operator station.
Manual: SIMATIC Logon, SIMATIC Electronic Signature	This documentation supports you when setting up central access authorization administration with SIMATIC Logon.
Online help and manual: Process Control System PCS 7 PCS 7 Basic Library	This documentation describes the functions and block I/Os of diagnostic blocks.
Online help and manual: Process Control System PCS 7 PCS 7 Advanced Process Library	This documentation describes the functions, block I/Os, and input/output fields of the associated faceplates.
Online help: WinCC Information System	The documentation supports you in configuring the operator stations and in operating the operator stations in the process control.
Manual: Process Control System PCS 7 SIMATIC PDM	This documentation offers support during installation, commissioning of the software, configuration of networks and field devices, commissioning and using runtime functions.
Manual: SIMATIC NET S7 CPs for Industrial Ethernet (part BL1)	This documentation describes the configuration, installation and commissioning of an IE/PB Link PN IO.
Manual Process Control System PCS 7 Licenses and Quantity Structures	The document offers information on the latest grading of licenses for the different components of the process control system and the plant size you can achieve with them. Section "Calculating the asset tags (hardware components) for the maintenance station" of the document offers information on which diagnostics-capable components within a PCS 7 project are counted as asset tags.

Documentation	Purpose
Manual Process Control System PCS 7 PC Configuration	The document provides information about hardware and software requirements and about the configuration options of a PC station.
Manual Process Control System PCS 7 Software update with utilization of new functions	The "Maintenance Station" section of the documents provides information on migrating a Maintenance Station.
Manual Process Control System PCS 7 Software update without utilization of new functions	

Configuring the maintenance stations

5

5.1 MS single station system overview

The following table lists the topics that include information and configuration instructions. The sequence in the table corresponds to the recommended configuration sequence.

What?	MS Basic	MS Standard
General settings in the multiproject/project (Page 38)	X	X
Configuring the PC station for MS single station system (Page 39)		
Configuring the monitoring of industrial PCs and network objects (Page 54)		
Creation of the diagnostics structure (Page 60)		
Advanced diagnostics settings (Page 65)	-	
Configuring the user diagnostics (Page 82)		
Setting up SIMATIC PDM (Page 89)	X	
Overview of complete export (Page 89)		
Overview of individual export (Page 90)		
Engineering for maintenance (Page 91)	-	
Creating/updating the diagnostic screens (Page 93)	X	
Compilation and downloading of the Maintenance Station (Page 95)		
Integration by the Alarm Control Center (Page 251)	-	

5.2 MS multiple station system overview

5.2.1 MS Server overview

The following table lists the topics that include information and configuration instructions. The sequence in the table corresponds to the recommended configuration sequence.

What?	MS Basic	MS Standard
General settings in the multiproject/project (Page 38)	X	X
How to configure a PC station for an engineering station (Page 40)		
How to configure a PC station for an MS server (Page 41)		
Configuring the monitoring of industrial PCs and network objects (Page 54)		
Creation of the diagnostics structure (Page 60)		
Advanced diagnostics settings (Page 65)	-	
Configuring the user diagnostics (Page 82)		
Setting up SIMATIC PDM (Page 89)	X	
Overview of complete export (Page 89)		
Overview of individual export (Page 90)		
Engineering for maintenance (Page 91)	-	
Creating/updating the diagnostic screens (Page 93)	X	
Compilation and downloading of the Maintenance Station (Page 95)		
Integration by the Alarm Control Center (Page 251)	-	

5.2.2 Redundant MS server overview

The following table lists the topics that include information and configuration instructions. The sequence in the table corresponds to the recommended configuration sequence.

What?	MS Basic	MS Standard
General settings in the multiproject/project (Page 38)	X	X
How to configure a PC station for an engineering station (Page 40)		
How to configure a PC station for an MS server (Page 41)		
How to configure a PC station for the redundant partner (Page 43)		
Configuring the monitoring of industrial PCs and network objects (Page 54)		
Creation of the diagnostics structure (Page 60)		
Advanced diagnostics settings (Page 65)	-	
Configuring the user diagnostics (Page 82)		
Setting up SIMATIC PDM (Page 89)	X	
Overview of complete export (Page 89)		
Overview of individual export (Page 90)		X
Engineering for maintenance (Page 91)	-	
Creating/updating the diagnostic screens (Page 93)	X	
Compilation and downloading of the Maintenance Station (Page 95)		
Integration by the Alarm Control Center (Page 251)	-	

5.2.3 MS client or OS/MS client overview

The following table lists the topics that include information and configuration instructions. The order in the table corresponds to the recommended configuration sequence.

What?	MS Basic	MS Standard
How to configure a PC station for an MS or OS/MS Client (Page 44)	X	X
Assigning the server data and downloading of a client (Page 96)		

5.3 Overview of SIMATIC PDM MS

Information and configuration instructions

The following table lists the topics that include information and configuration instructions. The order in the table corresponds to the recommended configuration sequence.

A sample project "PDM_MS20" is provided for the PDM MS. Retrieve the sample project. Use the project as a basis for further configuration.

What?	Configuration SIMATIC PDM MS
General settings in the multiproject/project (Page 38)	X
Sample project as a project basis (Page 45)	
How to create a project without using the sample project (Page 48)	

What?	Configuration SIMATIC PDM MS
Configuring an IE/PB Link PN IO (Page 52)	Optional
Creation of the diagnostics structure (Page 60)	X
Setting up SIMATIC PDM (Page 89)	X
Overview of complete export (Page 89)	
Overview of individual export (Page 90)	
Creating/updating the diagnostic screens (Page 93)	
Compiling and downloading SIMATIC PDM MS (Page 95)	
Integration by the Alarm Control Center (Page 251)	Optional

Additional information

Information on creating a project for SIMATIC PDM MS is available in the section "Creating a project for SIMATIC PDM MS (Page 45)".

5.4 General settings in the multiproject/project

MS single-station/multiple-station system overview

To monitor components with the maintenance station, check the settings specified in the following table and adapt if necessary.

Setting	Location	Comment
Regional language and language for display devices	SIMATIC Manager	Set a language in which the WinCC project is to be operated in process control.
AS station name (1)	SIMATIC Manager	• <=14 characters • No spaces
Designation of components (1)	HW Config	
S7 program (1)	SIMATIC Manager	• Message number range must be the same for all S7 programs in the multiproject/project • The name of an S7 program may not be assigned twice
Diagnostic blocks (1)		The diagnostic blocks must be at least version V6.1. Use a corresponding library, if necessary.
OS compilation mode		Area-oriented
Plant hierarchy setting (1)		The settings of the plant hierarchy must be the same in all projects of the multiproject/project.
WinCC project type single-station project (2)	WinCC Explorer	The single-station project type must be selected in project properties.
Group display hierarchy (1)		When user diagnostics is used, the group display hierarchy must be automatically created.

(1) Only applies to MS Basic and MS Standard

(2) Only applies to SIMATIC PDM MS

Note

There is only one MS server within a multiproject/project.

Additional information

For more information about this, refer to the *Process Control System PCS 7 Engineering System* manual and the *Process Control System PCS 7; Operator Station* manual.

5.5 Configuring the PC station for MS single station system

Introduction

If you are already using an existing ES/OS single station system in the multiproject/project you do not need to execute the following steps.

Requirement

The multiproject/project has been created.

Procedure

1. In the component view of the SIMATIC Manager, select the project into which you want to insert the MS single station system.
2. Select the menu command **Insert > Station > SIMATIC PC station**.
   A new SIMATIC PC station is inserted in the selected project.
3. Select the SIMATIC PC station, and then select **Edit > Object Properties**.
4. In the "Name:" input field, enter the name for the PC station.
5. Enter the Windows computer name in the "Computer name" input box.
6. Click "OK".
7. Select the SIMATIC PC station in the component view of the SIMATIC Manager.
8. In the detailed view, open HW Config by double-clicking the "Configuration" object.
   The hardware configuration of the SIMATIC PC station opens.
9. If the hardware catalog is not visible, select the menu command **View > Catalog**.
   The hardware catalog opens.
10. Under "SIMATIC PC Station > HMI" in the hardware catalog, select the WinCC application and drag it into the configuration table.

11. If you want to monitor PC stations and/or network objects, under "SIMATIC PC Station > User application > OPC server" in the hardware catalog select the OPC server and drag it into the configuration table.
12. If you want to use SIMATIC PDM, under "SIMATIC PC Station > PDM" in the hardware catalog, select the PDM application and drag it into the configuration table.
13. Insert any additional components, for example, network cards.
    For Ethernet connections, it is recommended to use the IE General interface.
14. If you want to monitor the CP 1623 / CP 1613 communications processor as a network object, use the "Properties..." button to activate "IP protocol is used" in the object properties of the CP in the "Interface" area of the "General" tab.
15. Select the menu command **Save and Compile Station** and close HW Config.
16. In the component view of the SIMATIC Manager, select the "[OS(*)]" object below the SIMATIC PC station in the "WinCC Appl." hierarchy folder.
    * is a number assigned by the system.
17. Select the menu command Edit > Object Properties.
    The "Properties – OS: [Name of the OS]" dialog box opens.
18. In the "Name:" input field, enter a name for the WinCC project of the MS single station system.
19. Select the "Target OS and Standby OS" tab.
    - Enter the path to the target OS computer in the "Path to target OS computer" input box.
    - Enter a symbolic computer name in the "Symbolic computer name" input box.
    - Select ">none>" from the drop-down list box in the "Standby OS" area.
20. Click "OK".

5.6 Configuring of PC stations for MS multiple station system

5.6.1 How to configure a PC station for an engineering station

Introduction

If you have already configured an Engineering Station (ES) in the multiproject/project and are using SIMATIC PDM, you only have to execute the steps as of step 12.

Requirement

The multiproject/project has been created.

Procedure

1. In the component view of the SIMATIC Manager, select the multiproject/project into which you want to insert the ES.
2. Select the menu command **Insert > Station > SIMATIC PC station**.
   A new SIMATIC PC station is inserted in the selected multiproject/project.
3. Select the SIMATIC PC station, and then select **Edit > Object Properties**.
4. In the "Name:" input field, enter the name for the PC station.
5. Enter the Windows name of the ES in the "Computer Name" input box.
6. Click "OK".
7. Select the SIMATIC PC station in the component view of the SIMATIC Manager.
8. In the detailed view, open HW Config by double-clicking the "Configuration" object.
   The hardware configuration of the SIMATIC PC station opens.
9. If the hardware catalog is not visible, select the menu command **View > Catalog**.
   The hardware catalog opens.
10. Under "SIMATIC PC Station > HMI" in the hardware catalog, select the WinCC application and drag it into the configuration table.
11. Insert any additional components, for example, network cards.
    For Ethernet connections, it is recommended to use the IE General interface.
12. If you want to monitor the CP 1623 / CP 1613 communications processor as a network object, use the "Properties..." button to activate "IP protocol is used" in the object properties of the CP in the "Interface" area of the "General" tab.
13. If you are using SIMATIC PDM, under "SIMATIC PC Station > PDM" in the hardware catalog, select the PDM application and drag it into the configuration table.
14. Select the menu command **Save and Compile Station** and close HW Config.
15. Download the component configurator.

5.6.2 How to configure a PC station for an MS server

Introduction

If you are already using an existing OS server as MS server in the multiproject/project, you do not need to execute the following steps.

Requirement

The multiproject/project has been created.

Procedure

1. In the component view of the SIMATIC Manager, select the multiproject/project into which you want to insert the MS server.
2. Select the menu command **Insert > Station > SIMATIC PC station**.
   A new SIMATIC PC station is inserted in the selected multiproject/project.
3. Select the SIMATIC PC station, and then select **Edit > Object Properties**.
4. In the "Name:" input field, enter the name for the PC station.
5. Enter the Windows name of the computer in the "Computer Name" input box.
6. Click "OK".
7. Select the SIMATIC PC station in the component view of the SIMATIC Manager.
8. In the detailed view, open HW Config by double-clicking the "Configuration" object.
   The hardware configuration of the SIMATIC PC station opens.
9. If the hardware catalog is not visible, select the menu command **View > Catalog**.
   The hardware catalog opens.
10. Under "SIMATIC PC Station > HMI" in the hardware catalog, select the WinCC application and drag it into the configuration table.
11. If you want to monitor PC stations and/or network objects, under "SIMATIC PC Station > User application > OPC server" in the hardware catalog select the OPC server and drag it into the configuration table.
12. Insert any additional components, for example, network cards.
    For Ethernet connections, it is recommended to use the IE General interface.
13. If you want to monitor the CP 1623 / CP 1613 communications processor as a network object, use the "Properties..." button to activate "IP protocol is used" in the object properties of the CP in the "Interface" area of the "General" tab.
14. Select the menu command **Save and Compile Station** and close HW Config.
15. In the component view of the SIMATIC Manager, select the "[OS(*)]" object below the SIMATIC PC station in the "WinCC Appl." hierarchy folder of the MS server.
    * is a number assigned by the system.
16. Select the menu command **Edit > Object Properties**.
    The "Properties – OS [name of OS]" dialog box opens.
17. In the "Name:" input field, enter a name for the WinCC project of the MS server.
18. Select the "Target OS and Standby OS" tab.
    - Enter the path to the target OS computer in the "Path to target OS computer" input box.
    - Enter a symbolic computer name in the "Symbolic computer name" input box.
    - Select the following from the drop-down list box in the "Standby OS" area:
      If you not configure the MS server redundantly, select ">none>".
      If you configure the MS server redundantly, select the redundant partner. You can only select the partner if it has been configured.
19. Click "OK".

5.6.3 How to configure a PC station for the redundant partner

Introduction

If you are already using the redundant partner of an OS server in the multiproject/project, you do not need to execute the following steps.

Requirement

The multiproject/project has been created.

Procedure

1. In the component view of the SIMATIC Manager, select the multiproject/project into which you want to insert the redundant partner.
2. Select the menu command **Insert > Station > SIMATIC PC station**.
   A new SIMATIC PC station is inserted in the selected multiproject/project.
3. Select the SIMATIC PC station, and then select **Edit > Object Properties**.
4. In the "Name:" input field, enter the name for the PC station.
5. Enter the Windows name of the computer in the "Computer Name" input box.
6. Click "OK".
7. Select the SIMATIC PC station in the component view of the SIMATIC Manager.
8. In the detailed view, open HW Config by double-clicking the "Configuration" object.
   The hardware configuration of the SIMATIC PC station opens.
9. If the hardware catalog is not visible, select the menu command **View > Catalog**.
   The hardware catalog opens.
10. Under "SIMATIC PC Station > HMI" in the hardware catalog, select the WinCC application (stby) and drag it into the configuration table:
11. Insert any additional components, for example, network cards.
    For Ethernet connections, it is recommended to use the IE General interface.
12. If you want to monitor the CP 1623 / CP 1613 communications processor as a network object, use the "Properties..." button to activate "IP protocol is used" in the object properties of the CP in the "Interface" area of the "General" tab.
13. Select the menu command **Save and Compile Station** and close HW Config.
14. In the component view of the SIMATIC Manager, select the "[OS(*)_StBy]" object below the SIMATIC PC station in the "WinCC Appl." hierarchy folder (Stby.).
    * is a number assigned by the system.
15. Select the menu command **Edit > Object Properties**.
    The "Properties – Standby OS: [Name of the OS]" dialog box opens.
16. Select the "Target OS and Master OS" tab and enter the path to the target OS computer.
17. Click "OK".

5.6.4 How to configure a PC station for an MS or OS/MS Client

Introduction

You can operate the MS Client or OS/MS Client on the Engineering Station or a separate PC.

Requirement

The multiproject/project has been created.

Procedure

1. In the component view of the SIMATIC Manager, select the multiproject/project into which you want to insert the MS client.
2. Select the menu command **Insert > Station > SIMATIC PC station**.
   A new SIMATIC PC station is inserted in the selected multiproject/project.
3. Select the SIMATIC PC station, and then select **Edit > Object Properties**.
4. In the "Name:" input field, enter the name for the PC station.
5. Enter the name in the "Computer name" input field.
   - If you are running the MS client on a separate PC station, enter the Windows computer name of the target computer.
   - If you are operating the MS client as MS client on the engineering station, enter the Windows computer name of the engineering station.
6. Click "OK".
7. Select the SIMATIC PC station in the component view of the SIMATIC Manager.
8. In the detailed view, open HW Config by double-clicking the "Configuration" object.
   The hardware configuration of the SIMATIC PC station opens.
9. If the hardware catalog is not visible, select the menu command **View > Catalog**.
   The hardware catalog opens.
10. Under "SIMATIC PC Station > HMI" in the hardware catalog, select the WinCC application client and drag it into the configuration table.
11. Insert other components.
12. Select the menu command **Save and Compile Station** and close HW Config.
13. In the component view of the SIMATIC Manager, select the "[OSC]" object underneath the MS client's SIMATIC PC station.
14. Select the menu command **Edit > Object Properties**.
    The "Properties – Client OS: [Name of the OS]" dialog box opens.
15. In the "Name:" input field, enter a name for the WinCC project of the MS client.
16. Click "OK".

5.7 Creating a project for SIMATIC PDM MS

5.7.1 Sample project as a project basis

Introduction

The SIMATIC PDM MS is connected directly to the plant bus through which the automation stations communicate.

Multiple SIMATIC PDM MS stations can be used in an automation plant. Each station can process selected field devices of the project based on the task.

The easiest way to integrate the SIMATIC PDM MS into an existing automation system is to create a project using the supplied sample project with the name "PDM_MS".

The station import function can be used to directly transfer communication and device information from the SIMATIC PCS 7 project to the project of SIMATIC PDM MS.

Additional information

You can find information on using the sample project in the section "How to use the sample project".

5.7.2 How to use the sample project

Requirements

- The image is imported into the Microbox.
- The licenses, including the required PDM TAG licenses that have to be purchased separately, have been transferred.
- The SIMATIC PDM device description library has been imported (if it was not already included in the image).
- The Ethernet interface used for the plant bus is configured with an available address within the address range on the plant bus of the SIMATIC PCS 7 project.
- The Ethernet interface for the terminal bus (if desired) is either configured for a different address range or the IP settings are set to "Obtain an IP address automatically".
- The SIMATIC PDM MS station is connected to the plant bus.
- The intended user accounts have been created under <Control Panel > User Accounts > User Accounts > Manage.
- The project administrator is a member of the local user group "Logon_Administrator" under <Computer Management > System > Local Users and Groups > Groups/ Logon_Administrator>.

- All intended users are members of the local user group "Siemens TIA Engineer" listed under <Computer Management > System > Local Users and Groups > Groups/Siemens TIA Engineer>.
- You have access (local disk or network) to the automation project via the Windows Explorer of PDM MS.
- The IP protocol or ISO on TCP protocol is enabled in the AS stations (H-machines) of the SIMATIC PCS 7 project.

Procedure

1. Open SIMATIC Manager.
2. Select the menu command **File > Open... .**
   - Select the Sample project tab.
   - Select the sample project.
   - Click "OK".
3. Select the menu command **File > Save as... .**
   Assign the name and storage location for the project.
4. Select the menu command **Options > SIMATIC PDM > Settings...** .
   - Select the "General" tab.
     Enter the path for "Asset export files".
   - Select the "Communication" tab.
     If HART auxiliary variables are cyclically transmitted in at least one remote I/O station, do **not** enable SHC mode.
   - Select the "Download" tab.
     When this function is managed by the automation system, or the "Synchronization field device parameters" function is used on a SIMATIC PCS 7 Maintenance Station, do **not** enable the "Configuration Flag Reset" function.
   - Select the "Maintenance Station" tab.
     Assign the current project.
     Select the "Transfer maintenance alarm to MS station" check box.
   - Select the "Change log" tab.
     If you want to save the changes, enable the function.
5. Select the menu command **Options > SIMATIC PDM > Roles management**... .
   Administer the function rights.
   You can find information on roles management in the "Roles management" section.
6. Select the PC station
7. Select the menu command **Edit > Open Object**.
   - Configure the selected IP address for the connection to the plant bus in IE General.
   - Compile and download the station
8. Select the menu command **View > Process Device Network View**.
9. Select the "ETHERNET network" communication network

10. Select the menu command **Edit > Object properties... .**
    - Select the "Communication" tab.
    - Enter the subnet ID of the plant bus.
      You can find the subnet ID in HW Config in the properties of the interface for the plant bus of each AS station or directly in the properties of the plant bus in NetPro.
11. Select the "ETHERNET network" communication network.
12. Select the menu command **Edit > SIMATIC PDM > Import from HWC station**.
    - Select the user project.
    - Select the AS stations.
      The AS stations can be selected individually.
    - To import the field devices from the SIMATIC PCS 7 project, click on the "Import" button.
13. Adapt the project according to the task at hand.
    Add field devices or remove field devices.

    Note

    When the same station is imported again, the station is not overwritten in the process device network view. Instead, it is added to the existing stations.

14. Select the menu command **View > Plant view**.
15. Select the menu command **Options > Plant hierarchy > Advanced diagnostics settings... .**
    Configure the advanced diagnostic settings if you wish.
16. Select the **Options > Plant hierarchy > Create/update diagnostics screens** menu command.
17. Select the menu command **View > Component view**.
18. Select the project node.
19. Select the menu command **PLC > Compile and Download Objects .**
    Run the "Compile and Download Objects" function with the following settings:
    - Compile and download charts
    - Compile OS
20. Start OS process control.

Result

SIMATIC PDM MS is ready for operation.

Additional information

You can find the description of how to operate the process control in the section "Operator control and monitoring (Page 105)".

5.7.3 How to create a project without using the sample project

Requirements

- The image is imported into the Microbox.
- The licenses including the required PDM TAG licenses have been transferred.
- The SIMATIC PDM device description library has been imported (if it was not already included in the image).
- The Ethernet interface used for the plant bus is configured with an available address within the address range on the plant bus of the SIMATIC PCS 7 project.
- The Ethernet interface for the terminal bus (if desired) is either configured for a different address range or the IP settings are set to "Obtain an IP address automatically".
- The SIMATIC PDM MS station is connected to the plant bus.
- The intended user accounts have been created under <Control Panel> User Accounts and Family Safety > Manage User Accounts > Manage Accounts>.
- The project administrator is a member of the local user group "Logon_Administrator" under <Computer Management > System > Local Users and Groups > Groups/ Logon_Administrator>.
- All intended users are members of the local user group "Siemens TIA Engineer" under <Computer Management > System > Local Users and Groups > Groups/Siemens TIA Engineer>
- You have access (local disk or network) to the automation project via the Windows Explorer of PDM MS.
- The IP protocol or ISO on TCP protocol is enabled in the AS stations (H-machines) of the SIMATIC PCS 7 project.

Procedure

1. Open SIMATIC Manager.
2. Select the menu command **File > New...**
   - Assign the name and storage location for the project.
   - Use "Project" as the project type to create an individual project.
3. Select the project node and select the menu command **Insert > Station > 4 SIMATIC PC station**.
4. Select the SIMATIC PC station and select the menu command **Edit > Object Properties... .**
   - Enter the name for the PC station in the "Name" text box.
   - Enter the Windows computer name in the "Computer name" text box.
   - Click "OK".
5. Select the SIMATIC PC station
6. Select the menu command **Edit > Open Object**.

7. Select the desired "WinLC-RTX" in the hardware catalog under "SIMATIC PC station > Controller > WinLC RTX" and drag it into the configuration table.

   Note

   Only **one** WinLC RTX can be added.

   If the hardware catalog is not visible, select the menu command **View > Catalog**.

8. Select the "WinCC application" in the hardware catalog under "SIMATIC PC station > HMI" and drag it into the configuration table:
9. Select the "PDM application" in the hardware catalog under "SIMATIC PC station > PDM" and drag it into the configuration table:
10. Select the network card "IE General" in the hardware catalog under "SIMATIC PC station > CP Industrial Ethernet".
    Configure the selected IP address for the connection to the plant bus in IE General.
11. Select the menu command **Station > Save and compile** and **Station > Close**.
12. In the SIMATIC Manager, select the menu command **Options > SIMATIC PDM > Settings... .**
    - Select the "General" tab.
      Enter the path for "Asset export files".
    - Select the "Communication" tab.
      If HART auxiliary variables are cyclically transmitted in at least one remote I/O station, do **not** enable SHC mode.
    - Select the "Download" tab.
      When this function is managed by the automation system, or the "Synchronization field device parameters" function is used on a SIMATIC PCS 7 Maintenance Station, do **not** enable the "Configuration Flag Reset" function.
    - Select the "Maintenance Station" tab.
      Assign the current project.
    - Select the "Change log" tab.
      If you want to save the changes, enable the function.
13. Select the menu command **Options > SIMATIC PDM > Roles management**... .
    Administer the function rights.
    You can find information on roles management in the "Roles management" section.
14. Select the menu command **View > Process Device Network View**.
15. Select the menu command **Insert > SIMATIC PDM > 2 networks**.
16. Select the "Networks" node
17. Select the menu command **Insert > SIMATIC PDM > 4 Communication networks**.
    Assign the device type "ETHERNET network" and close the dialog by clicking "OK".
18. Select the "ETHERNET network" communication network
19. Select the menu command **Edit > Object properties... .**
    - Select the "Communication" tab.
    - Enter the subnet ID of the plant bus.
      You can find the subnet ID in HW Config in the properties of the interface for the plant bus of each AS station or directly in the properties of the plant bus in NetPro.

20. Select the "ETHERNET network" communication network
21. Select the menu command **Edit > SIMATIC PDM > Import from HWC station**.
    - Select the user project.
    - Select the AS stations.
      The AS stations can be selected individually.
    - To import the field devices from the SIMATIC PCS 7 project, click on the "Import" button.
22. Adapt the project according to the task at hand.
    Add field devices or remove field devices.

    Note

    When the same station is imported again, the station is not overwritten in the process device network view. Instead, it is added to the existing stations.

23. Select the menu command **View > Plant view**.
24. Select the menu command **Options > Plant Hierarchy > Advanced Diagnostics Settings**
    Configure the advanced diagnostic settings if you wish.
25. Select the **Options > Plant hierarchy > Create/update diagnostics screens** menu command.
26. Select the menu command **View > Component view**.
27. Select the project node.
28. Select the menu command **PLC > Compile and Download Objects... .**
    Run the "Compile and Download Objects" function with the following settings:
    - Compile and download charts
    - Compile OS
29. Start OS process control.

Additional information

You can find the description of operating in process control in the section "Operator control and monitoring (Page 105)".

5.7.4 SIMATIC Logon Role Management

Introduction

Access protection via "SIMATIC Logon Role Management" controls access to device management, parameter assignment and field device diagnostics.

The following roles have been created for SIMATIC PDM in SIMATIC Logon Role Management by the system:

- PDM command interface
- Service technician

The roles created by the system can be assigned Windows user groups/users of the local computer or the domain.

You can add new roles. Assign "Groups and users" and "Function rights" to the roles you have added.

The function rights are specified by the system. They cannot be deleted, edited or amended.

Function rights and roles

The table below shows the assignment of function rights to the roles created by the system.

Function rights	"PDM command interface" role	Service technician
Access to PDM command interface	X	-
Operation of "Parameter view" menu command	-	X
Operation of "Device" menu command	-	X
Operation of "View" menu command	-	X
Operation of "Diagnostics" menu command	-	X
Operation of "Service" menu command	-	X
Operation of "Write to device" menu command	-	X
Operation of "Read from device" menu command	-	X
Online access to the device	-	X
Operation of "Import" menu command	-	X
Operation of "Save" menu command	-	X

Additional information

You can find information about SIMATIC Logon Role Management in the manual *SIMATIC, SIMATIC Logon*.

You can find information about configuring a role in the section below "How to configure a 'role'".

5.7.5 How to configure a "role"

Requirements

- Groups and users are created in Windows
- Groups and users are members of the "TIA Engineer" group
- At least one user account has administrator rights

Procedure

1. In the SIMATIC Manager, select the menu command **Options > SIMATIC PDM > Roles management**... .
2. Select the "Roles" folder.
3. Select the "New role" menu command.
4. Enter a name in the "Role name:" text box.
5. Click "OK".
6. Open the folder with the newly created role.
7. Select the "Groups and users" folders associated with the role.
8. Select the "Edit" menu command.
9. Assign "Groups and users" to the role.
10. Click "OK".
11. Select the "Function rights" folders associated with the role.
12. Select the "Edit" menu command.
13. Assign "Function rights" to the role.
14. Click "OK".

Result

An additional role has been created.

5.8 Configuring an IE/PB Link PN IO

Introduction

If it is not possible to communicate with the field devices via a SIMATIC AS station, the IE/PB Link is used.

The IE/PB Link PN IO link module connects the two network types, Industrial Ethernet and PROFIBUS.

Requirement

The project has been created.

Step 1 - Create a SIMATIC 300 station

1. Select the project into which you want to insert the SIMATIC 300 station in the component view of the SIMATIC Manager.
2. Select the menu command **Insert > Station > SIMATIC 300 station**.
   A new SIMATIC 300 station is inserted into the selected project.

3. Select the SIMATIC PC station, and then select **Edit > Object Properties**.
4. Enter the name for the SIMATIC 300 station in the "Name" text box.
5. Click "OK".

Step 2 - Configure IE/PB Link PN IO link module in the SIMATIC 300 station

1. Select the SIMATIC 300 station in the component view of the SIMATIC Manager.
2. In the detailed view, open HW Config by double-clicking the "Hardware" object.
   The hardware configuration of the SIMATIC 300 station opens.
3. If the hardware catalog is not visible, select the menu command **View > Catalog**.
4. Select the device type Gateway – IE/PB Link PN IO in the hardware catalog under "SIMATIC 300".

   Note

   The IE/PB Link PN IO link module is a special configuration component.

   No other components, such as profile rails or modules, can be placed in the S7-300 station apart from this component.

5. Create an Ethernet network.
6. Assign parameters for the Ethernet network using the following data:
   - IP address
   - S7 subnet ID
7. Create a PROFIBUS network.
8. Assign parameters for the PROFIBUS network using the following data:
   - Address
   - "No DP" mode
9. Select the "Activate data record gateway" check box for the IE/PB Link PN IO link module.
10. Transfer the parameters to the IE/PB Link PN IO link module.
11. Note down the following information:
    - The S7 subnet ID and the IP address of the Ethernet network
    - The DP master address for the PROFIBUS network
12. Repeat the procedure for any other IE/PB Link PN IO link modules.

    Note

    Use the same S7 subnet ID for the Ethernet network for any further IE/PB Link PN IO link modules.

Step 3 - Configure IE/PB Link PN IO link module in the process device network view

1. Configure an Ethernet network in the process device network view.
2. Assign parameters for the Ethernet network with the S7 subnet ID.
3. Configure the IE/PB Link PN IO Link module in this Ethernet network.
4. Assign parameters for the IE/PB Link PN IO link module using the following data:
   - With the S7 subnet ID
   - With the corresponding IP address
   - With the corresponding DP master address
5. Repeat the procedure for any other IE/PB Link PN IO link modules.

Additional information

For additional information on this topic, refer to the *SIMATIC NET; S7-CPs for Industrial Ethernet* and *PCS 7 Process Control System; SIMATIC PDM* manuals.

5.9 Configuring the monitoring of industrial PCs and network objects

5.9.1 Requirements

Introduction

Note

You can monitor the industrial PCs and network objects for the following maintenance station versions:

- MS Basic
- MS Standard

The programs or services listed in the following table must be available and configured to monitor industrial PCs and network objects.

Application/service	MS single-station system	MS multiple station system	SIMATIC PDM MS
OPC Server	MS single-station system	• MS server • Redundant partner of the MS server	Not supported
NDIS adapter			
SNMP service		On each industrial PC to be monitored	
Diagnostics Monitor			

Programs and services

- **OPC Server**
  - OPC (OLE for Process Control) is an interface for data exchange in automation engineering.
  - It is set up in HW Config.
    You can find information about this in the following sections.
- **NDIS adapter**
  - For monitoring of components on the plant bus, if access to the plant bus is provided via a communication processor (CP 1623 / CP 1613).
  - The NDIS adapter must be configured.
    You can find more information about this in the manual *Process Control System PCS 7; PCS 7 PC Configuration*.
- **SNMP service**
  - SNMP is the Simple Network Management Protocol that is used to manage networks.
  - The SNMP service must be configured.
    You can find more information about this in the manual *Process Control System PCS 7; PCS 7 PC Configuration*.

  A network connection must be available to the components with SNMP functionality to be included in the diagnostics.
- **Diagnostics Monitor**
  - Diagnostics Monitor is a diagnostics tool that provides the diagnostic data required from SIEMENS industrial PCs.
  - Diagnostics Monitor is called in the header of the faceplate in process control.
  - Diagnostics Monitor must be installed and configured.
    You can find more information about this in the manual *Process Control System PCS 7; PCS 7 PC Configuration*.
  - Additional settings
    Start the Web server
    Start the Management Explorer.
    Select Options > Web server.
    Authorize Diagnostics Monitor Web server in the Windows firewall
    Open the firewall.
    Create a new exception/rule for the "MiniWebService.exe" program.
    This file is accessed via the Windows Start menu, submenu ...\Siemens\Automation \DiagnosticManagement\WebServer_DM\Bin.

5.9.2 Device profiles and community

Introduction

If an SNMP-compatible component is configured in the OPC server, a device profile and a community must be assigned to this SNMP-compatible component.

Overview

The following table shows the assignment of the community to the device profile.

Components	Device profile	Community
SCALANCE series X200	Profile_SCALANCE_X200_Vxy.txt	public
SCALANCE series X200 RNA	Profile_SCALANCE_X200RNA_Vxy.txt	
SCALANCE series XB200	Profil_SCALANCE_XB200_Vxy.txt	
SCALANCE series XC200	Profil_SCALANCE_XB200_Vxy.txt	
SCALANCE series XF200	Profil_SCALANCE_XB200_Vxy.txt	
SCALANCE series XP200	Profil_SCALANCE_XB200_Vxy.txt	
SCALANCE series X300 SCALANCE series X400	Profil_SCALANCE_X300X400_Vxy.txt	
SCALANCE series XM400	Profil_SCALANCE_XM400_Vxy.txt	
SCALANCE series X500	Profil_SCALANCE_X500_Vxy.txt	
SCALANCE series W700	Profil_SCALANCE_W700_Vxy.txt (xy =13)	
SCALANCE series W700, firmware 6.1 or higher	Profil_SCALANCE_W700_Vxy.txt (xy >= 61)	
ESM/OSM	Profil_OSM_Vxy.txt	
Siemens IPC (Industrial PC)	Profil_IPC_Vxy.txt	SOL
Other devices, for example, third-party PCs, premium servers for SIMATIC PCS 7, network adapters, switches	MIB-II_V10.txt	Determine the community configured in the device.
All devices that were integrated by means of import, but are not to be displayed	No SNMP	-

Note

"No SNMP" as device profile has the following effects on the diagnostic screens:

- No asset object is created for the network component.
- The asset object of a PC station is created for an industrial PC.

5.9.3 How to assign components with SNMP functionality to the OPC server

Naming rules

Aspects to be taken into account when naming components with SNMP functionality:

- Do not use spaces or special characters in module names.
- For IPCs, assign module names that correspond to the computer name of the IPC in the SIMATIC Manager.

- For all other modules, assign module names that are different from the existing computer names of PC stations in the project.
- If you use two separate Ethernet networks in your configuration, make sure that both the names and the IP addresses of the modules are unique across the network.

Requirements

- The HW configuration for the PC objects and network objects is completed.
- The OPC server has been inserted.
  You will find more information on this subject in the following sections:
  - Configuring the PC station for MS single station system (Page 39)
  - How to configure a PC station for an MS server (Page 41)

Procedure

1. Select the OPC server in HW Config, and then select the menu command **Edit > Object Properties...**.
   The "Properties – OPC server" dialog box opens.
2. Open the "SNMP" tab.
3. Enter at least 1000 ms in the "Cycle time" input box.
   You can obtain additional information with the "Help" button.
4. Click "Edit plant configuration".
   The "Edit plant configuration" dialog box opens.
5. Click "Import".
   All objects configured in your project with an IP address are imported.

   Note

   When you import a CP 1623 / CP 1613, the IP address of the HW Config is imported. If necessary, replace this TCP/IP address with an NDIS IP address.

6. Double-click the node.
   The "Edit node" dialog box opens.

7. Enter the following data for the imported devices.
   - Name:
     Enter a name.
   - IP address:
     If necessary, change the IP address.
   - Device profile and community:
     You can find additional information about this in the section "Device profiles and community (Page 55)".

     Note

     Note that these community name entries are case sensitive.

     The community name in the "Edit Node" and "Add Node" dialog boxes must match the community name stored in the respective device.

   - Timeout:
     Enter a value of 9000 ms or higher, depending on the number of components to be monitored.
     You can obtain additional information with the "Help" button.
   - SNMP optimization
     Activate the check box.
   - Comment:
     You can enter a comment in this field. This comment is visualized in the faceplate of the process control system.
8. Click "OK".
   The "Edit nodes" dialog box closes and you return to the "Edit plant configuration" dialog box.
9. Click the "Add" button if you want to insert IPCs or other components with SNMP functionality.
   The "Add node" dialog box opens.
10. Enter all required data.
    Proceed as described in item 7.
11. Click "OK".
    The "Add node" dialog box closes and you return to the "Edit plant configuration" dialog box.
12. Insert additional nodes as required.
13. Click "OK".
    The configuration is complete.
14. Compile and download the hardware configuration.
    Additional information on this is available in the *Process Control System PCS 7; Engineering System* manual.

5.9.4 How to insert the OPC server into the redundant partner

Requirement

The OPC server is configured in the MS server.

You can find additional information on this topic in the section "How to assign components with SNMP functionality to the OPC server (Page 56)".

Procedure

1. In SIMATIC Manager, open the component view.
2. Select the SIMATIC PC station of the MS server.
3. In the detailed view, open HW Config by double-clicking the "Configuration" object. The hardware configuration of the SIMATIC PC station opens.
4. Select the OPC server.
5. Select **Edit > Copy** from the menu.
6. Select the SIMATIC PC station of the redundant partner.
7. In the detailed view, open HW Config by double-clicking the "Configuration" object. The hardware configuration of the SIMATIC PC station opens.
8. Select the position for the OPC server.
9. Select the **Edit > Paste** command.
10. Select the **Station > Save and Compile** command.

5.9.5 How to transfer the OPC configuration to the WinCC project

Introduction

Data tags, alarm tags and alarm texts for all components with SNMP functionality are generated in the WinCC project with tag export.

Requirements

- The diagnostic structure has been created.
- The maintenance station has been compiled.

Procedure

1. Select the OPC server in HW Config, and then select **Edit > Object Properties...** . The "Properties – OPC server" dialog box opens.
2. Open the "SNMP" tab.

3. In the "Tag export" group, select the check box
   – "Export complete plant configuration" upon initial tag export
   – "Export changes only" upon all subsequent tag exports
4. Click "Export Tags for WinCC".
5. Click "OK".
   The dialog box closes.

5.10 Creation of the diagnostics structure

5.10.1 Information on diagnostics structure and plant hierarchy

Diagnostics structure in the plant hierarchy

The diagnostics structure is a folder structure in the plant hierarchy and is automatically created by the system. The number of hierarchy levels is limited to 8.

The diagnostics hierarchy folder is the top hierarchy folder; it maps the area-forming level for the OS (area selection button in overview of process control). Depending on the set level OS area in the plant hierarchy, a maximum of three folders is created with the name "Diagnostics".

The hierarchy folders with the names AS objects, field devices, network objects, and PC stations are created on the same hierarchy level below the diagnostics hierarchy folder that maps the OS area. The version of the maintenance station and the existing objects determine which hierarchy folders are created.

Note

The "Field devices" area is only created if you use the PCS 7 Basic Library >=V8.1 in the AS.

If you use the PCS 7 Basic Library <=V8.1 in the AS, all field devices are assigned to the "AS system" area.

The names of the automatically generated hierarchy folders cannot be changed.

Settings in the plant hierarchy

The following settings are made for the maintenance station in the "Plant hierarchy - Settings" dialog box:

- Number of hierarchy levels (1)
- Area-forming level for the OS (1)
- Creation of the diagnostics structure
- Version of the Maintenance Station

- Setting for deriving names in the PH
- Selection of the maintenance station

(1) Note: Applies to all multiprojects/projects

Information on configuration of settings in the plant hierarchy is available in the following section.

Additional information

You can find additional information about this in the "Relationship between the diagnostic structure and version (Page 63)" section.

5.10.2 How to make the settings in the plant hierarchy

Requirements for MS single-station system and MS multiple-station system

- The multiproject/project has been created.
- The hardware configuration is completed.
- The network configuration is completed.
- The basic parameter assignment for all components is available offline.

Requirements for SIMATIC PDM MS

- The project was not created as multiproject.
- The hardware configuration is completed
- The plant configuration is completed.
- The configuration of PC stations and network components (optional) is completed.
- The naming of components regarding LID and TAG is completed.
- All components in the process device network view are configured.
- The used IE/PB Links PN IO are configured.

Procedure

1. Open the plant view in the SIMATIC Manager.
2. Select the object in the tree view:
   - If you are using a multiproject, select the object "[name of the project] MP".
   - If you are using a single project, select the object "[name of the project]".
3. Select the menu command **Options > Plant Hierarchy > Settings...** .

4. If you have selected a multiproject, the "Plant Hierarchy - Settings" dialog box opens. Select the project whose settings you wish to use as a template for the plant hierarchy.
   - Click "OK".
     The "Customize Plant Hierarchy" dialog box opens.
   - Proceed to step 6.
5. If you have selected an individual project or a project within a multiproject, the "Plant Hierarchy - Settings" dialog box opens.
6. Define the settings for the relevant levels.
   Remember that the settings of the plant hierarchy within the multiproject/project are to be uniform.
7. Activate the "Derive picture hierarchy from the plant hierarchy" check box.
   If you do not wish to derive the diagnostic screens from the plant hierarchy for your plant areas, deactivate the "Picture Tree" check box in the dialog for compiling the OS. Configure the plant hierarchy for the diagnostic screens in the WinCC project in the Picture Tree editor.
8. Enable the "Derive diagnostic screens from the plant hierarchy" check box.
9. Specify the version.
   Enable the appropriate option button:
   - "Maintenance Station Standard (license required)" option button
   - "Maintenance Station Basic (overview screens only)" option button
   - "Maintenance Station PDM (no AS diagnostics)" option button
10. When creating/updating the diagnostic screens, specify whether the names of the created hierarchy folders should be derived from the name or the commentary for the hardware components. Enable the appropriate option button:
    - "Derive PH names from the names of the hardware components" option button
    - "Derive PH names from the comments of the hardware components" option button
      Since there are no restrictions on the characters that can be used for the comment texts, you can use any type of name.
11. Click "OK".
    The "Define Maintenance Station" dialog box opens and all OSs available in the multiproject/ project are shown.
12. Select the OS you want to define as Maintenance Station.
13. Click "OK".

Result

In a multiproject, the "Diagnostics" hierarchy folder is inserted in all the projects within the multiproject.

- The standard diagnostic structure with the hierarchy folders "AS Objects", "Field Devices", "Network Objects", and "PC Stations" is automatically created in the project with the MS server. The structure for the user diagnostics must be created manually.
- In the other projects of the multiproject, only the "AS Objects" and "Field Devices" hierarchy folders are created automatically within the diagnostics structure.

Note

The "Field devices" area is only created if you use the PCS 7 Basic Library >=V8.1 in the AS.

If you use the PCS 7 Basic Library <=V8.1 in the AS, all field devices are assigned to the "AS system" area.

The diagnostics structure depends on the selected type.

If the second or third level is activated for the OS area, a structure of two or three "Diagnostics" folders is created in the plant hierarchy.

5.10.3 Relationship between the diagnostic structure and version

Introduction

The diagnostic structure is created differently depending on the version of the Maintenance Station.

Diagnostic structure MS Basic version

The table shows an example of the diagnostic structure.

Areas and levels							
1	2	3	4	5	6	7	8
Diagnostics	AS/system	-					
	Network objects						
	PC stations						

Diagnostic structure – MS Standard version

The table shows an example of the diagnostic structure.

<table>
<tr><th colspan="8">Areas and levels</th></tr>
<tr><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th></tr>
<tr><td rowspan="11">Diagnostics</td><td rowspan="3">AS/system</td><td rowspan="3">AS objects</td><td>AS detail view</td><td colspan="4">-</td></tr>
<tr><td>DP master system</td><td>DP nodes</td><td colspan="3">-</td></tr>
<tr><td>PROFINET IO system</td><td>PN nodes</td><td colspan="3">-</td></tr>
<tr><td rowspan="5">Field devices</td><td rowspan="5">AS objects without their own group display</td><td rowspan="2">DP master system</td><td rowspan="2">DP nodes</td><td>Modules</td><td>HART field devices</td><td>-</td></tr>
<tr><td>PA field devices</td><td colspan="2">-</td></tr>
<tr><td rowspan="3">PROFINET IO system</td><td rowspan="3">PN nodes</td><td>Modules</td><td>HART field devices</td><td>-</td></tr>
<tr><td>PA field devices</td><td colspan="2">-</td></tr>
<tr><td>DP nodes</td></tr>
<tr><td>Network objects</td><td colspan="6">-</td></tr>
<tr><td>PC stations</td></tr>
<tr><td>User objects</td><td colspan="6">Depending on the configuration in the plant hierarchy</td></tr>
</table>

Diagnostic structure – SIMATIC MS PDM version

The table shows an example of the diagnostic structure.

<table>
<tr><th colspan="8">Areas and levels</th></tr>
<tr><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th></tr>
<tr><td rowspan="3">Diagnostics</td><td>Field devices</td><td colspan="6">Depending on the configuration in SIMATIC PDM</td></tr>
<tr><td>Network objects</td><td colspan="6">-</td></tr>
<tr><td>PC stations</td></tr>
</table>

5.11 Advanced diagnostics settings

5.11.1 "Maintenance functions" tab

5.11.1.1 Configuring maintenance links

Introduction

In process control, links to freely configurable web pages can be called in the overview screen and the header area of the faceplates; these web pages are used to support the diagnostic measures.

10 link objects are automatically created by the system.

Automatically created link objects are:

Maintenance link1 to Maintenance link10.

The properties are managed in one language.

A link object has the properties "Name:" and "URL:".

The name of the target address is entered in the "Name:" entry field.

The target address is entered in the "URL:" entry field.

You can change the properties of link objects.

You can restore the diagnostic settings for all lists in the tab using the "Set Default Settings" button.

Note

This function is available if you configured the Maintenance Station in the MS Standard version.

Rule

- Maintenance links are always valid for the entire multiproject/project.
- The number of link objects is limited to 10.
  Display of the link objects, if this is configured:
  - In the overview screen, link object 1 to 10
  - In the header of the faceplate link, object 1 to 3
- The automatically generated link objects can be renamed.
- The name of the link object contains a maximum of 24 characters.

- The web address consists of up to 256 characters.
- The name and the web address to the web page are configured in the object properties of the link object.

Note

Ensure that the target address is accessible during process control.

Requirement

The Maintenance Station has been created.

Procedure

1. Open the plant view in the SIMATIC Manager.
2. Select the object in the tree view:
   - If you are using a multiproject, select the object "[name of the project] MP".
   - If you are using a single project, select the object "[name of the project]".
3. Select the menu command **Options > Plant Hierarchy > Advanced Diagnostics Settings...** .
   The "Advanced Diagnostics Settings" dialog box opens.
4. Select the "Functions for maintenance" tab
5. In the "Maintenance links" area, select the maintenance link whose existing properties you want to change.
6. Click "Properties...".
   The "Properties maintenance link" dialog box opens.
7. Enter the desired name for the link object in the "Name:" entry field.
8. Enter the target address in the "URL:" entry field.
9. Click "OK".
   The "Properties maintenance link" dialog box closes.
10. Click "OK".
    The "Advanced Diagnostics Settings" dialog box closes.

Result

After OS compilation and subsequent download, the modified text is displayed in the process control.

Additional information

You can find additional information on the overview screen in the section "Calling web pages via maintenance links (Page 113).

You can find additional information on the faceplate in the section "Screen window title and header (Page 179).

5.11.1.2 Configuring maintenance targets for individual export

Introduction

Maintenance targets can be selected for storage of individual export files in the process control. The selection is made in the "Maintenance" view of the faceplate.

A target object is created automatically by the system.

Automatically created target object:

The name is Default target. The path is project directory ...\wincproj\<os-name>.

A target object has the properties "Name:" and "Path:".

The name of the target path is entered in the "Name:" entry field.

The target path for the individual export file is entered in the "Path:" entry field.

You can add, change and/or delete target objects.

You can restore the diagnostic settings for all lists in the tab using the "Set Default Settings" button.

Note

This function is available if you configured the Maintenance Station in the MS Standard version.

Target directory

The target directory can be configured as a local or network directory.

Target directory	Example of a target directory	Storage location
Local target directory	D:\folder	On the MS server which is the master at the time export is initiated, in the configured path
Network target directory	\\computer name\shared drive\folder	On the specified computer in the configured path

Note

We recommend that you configure the target directory as a network target directory for a plant configuration with an MS server and a standby MS server. This will ensure that the export file is always stored in the same "location", regardless of which MS server is the master at the time the export is initiated.

Rules

- Maintenance targets are always valid for the entire multiproject/project.
- The name of the target object has a length of not more than 24 characters.
- The name of the target object is managed in one language.
- The maximum length of the target directory is 256 characters.

Requirement

The Maintenance Station has been created.

Procedure

The following section describes how to configure, change and delete a target object.

To open the "Advanced Diagnostics Settings" dialog, follow the steps below.

1. Open the plant view in the SIMATIC Manager.
2. Select the object in the tree view:
   - If you are using a multiproject, select the object "[name of the project] MP".
   - If you are using a single project, select the object "[name of the project]".
3. Select the menu command **Options > Plant Hierarchy > Advanced Diagnostics Settings...** .
   The "Advanced Diagnostics Settings" dialog box opens.
4. Select the "Functions for maintenance" tab

Configuring the maintenance target

1. Click "Add..." in the "Maintenance targets" area.
   The "Add maintenance target" dialog box opens.
2. Enter the name for the target object in the "Name" entry field.
3. Click "Browse".
4. Select the required target directory.
   The target directory is entered in the "Path:" entry field.
5. Click "OK".
   The "Add maintenance targets" dialog box closes.
6. Click "OK".
   The "Advanced Diagnostics Settings" dialog box closes.

Changing maintenance target properties

1. In the "Maintenance targets" area, select the target object whose properties you want to change.
2. Click "Properties...".
   The "Properties maintenance target" dialog box opens.
3. Make the desired changes.
4. Click "OK".
   The "Properties maintenance target" dialog box closes.
5. Click "OK".
   The "Advanced Diagnostics Settings" dialog box closes.

Deleting maintenance targets

1. In the "Maintenance targets" area, select the maintenance target you want to delete.
2. Click "Delete".
   The target object is deleted.
3. Click "OK".
   The "Advanced Diagnostics Settings" dialog box closes.

Result

After OS compilation and subsequent download, the modified text is displayed in the process control.

Additional information

You can find additional information on selecting maintenance targets in the section ""Maintenance" view (Page 196)".

5.11.1.3 Configuring maintenance actions

Introduction

An action to be performed can be assigned to a requested maintenance action in the process control. The assignment is made in the "Maintenance" view of the faceplate.

Seven action objects are created automatically by the system.

Automatically created action objects are:

- Disassembly
- Device swap
- Calibration
- Zero adjustment
- Cleaning
- Service
- Other

Texts for the automatically created maintenance actions are available in multiple languages. You can find information on this in the *Process Control System PCS 7; Operator Station* configuration manual, section "Setting languages".

An action object has the properties "Name:" and "Name for user:".

The name of the maintenance action is entered in the "Name:" entry field.

The name that a maintenance engineer can select from the drop-down list is entered in the "Name for user:" entry field.

You can add, change and/or delete action objects.

The number of action objects is not limited.

You can restore the diagnostic settings for all lists in the tab using the "Set Default Settings" button.

Note

This function is available if you configured the Maintenance Station in the MS Standard version.

Rules

- Maintenance actions are always valid for the entire multiproject/project.
- The name of an action object contains a maximum of 24 characters.
- The name of the action object is managed in one language.
- The text in the "Name for user:" field is managed in multiple languages.
  You can find information on this in the section "Configuring multilingual texts (Page 74)".

Requirements

The Maintenance Station has been created.

Procedure

The following section describes how to configure, change and delete an action object.

To open the "Advanced Diagnostics Settings" dialog, follow the steps below.

1. Open the plant view in the SIMATIC Manager.
2. Select the object in the tree view:
   - If you are using a multiproject, select the object "[name of the project] MP".
   - If you are using a single project, select the object "[name of the project]".
3. Select the menu command **Options > Plant Hierarchy > Advanced Diagnostics Settings...** .
   The "Advanced Diagnostics Settings" dialog box opens.
4. Select the "Functions for maintenance" tab

Add maintenance action

1. Click "Add..." in the "Maintenance actions" group.
   The "Add maintenance action" dialog box opens.
2. Enter the name for the action object in the "Name:" entry field.
3. Click inside the "Name for user:" entry field.
   The text is applied in the "Name for user:" entry field.
4. If you want to change the text in the "Name for user:" entry field, enter the desired text.
5. Click "OK".
   The "Add maintenance actions" dialog box closes.
6. Click "OK".
   The "Advanced Diagnostics Settings" dialog box closes.

Changing maintenance action properties

1. In the "Maintenance actions" group, select the action object whose properties you want to change.
2. Click "Properties...".
   The "Properties maintenance action" dialog box opens.
   The previous entries are displayed in the input dialog.
3. If you want to change the text in the "Name:" entry field, enter the desired text.
   Proceed to step 5.
4. If you want to change the text in the "Name for user:" entry field, enter the desired text.
   Click "OK".
   The "Advanced Diagnostics Settings" dialog box opens.
   - If the change does not affect the other languages, click "No".
   - If the change affects the other languages, click "Yes".

   The "Advanced Diagnostics Settings" dialog box closes.
5. Click "OK".
   The "Maintenance action properties" dialog box closes.
6. Click "OK".
   The "Advanced Diagnostics Settings" dialog box closes.

Deleting a maintenance action

1. In the "Maintenance actions" group, select the action object you want to delete.
2. Click "Delete".
   The action object is deleted.
3. Click "OK".
   The "Advanced Diagnostics Settings" dialog box closes.

Result

After OS compilation and subsequent download, the modified text is displayed in the process control.

Additional information

You can find additional information on multilingual configuration of maintenance actions in the section "Configuring multilingual texts (Page 74)".

You can find additional information on languages in the *Process Control System PCS 7; Operator Station* configuration manual, section "Setting languages".

You can find additional information on assigning a maintenance action in the section ""Maintenance" view (Page 196)".

5.11.1.4 Configuring maintenance information

Introduction

In PCS 7 V8.2 and higher, user-specific maintenance information texts can be configured in the process control for displaying detailed diagnostic information in the faceplate.

Sixteen information objects are created automatically by the system.

Automatically created information objects are:

- External service request, no additional information
- Service interval reached
- Different operating state
- Different performance parameters
- Auxiliary energy problem
- Auxiliary material problem
- Mechanical problem
- Electrical problem
- Pneumatic problem
- Calibration request
- Measuring circuit check
- Process-related event
- Cleaning request
- Emptying request
- Wear reserve undershot
- Degree of pollution high

Texts for the automatically created maintenance information are available in multiple languages.
You can find information on this in the *Process Control System PCS 7; Operator Station* configuration manual, section "Setting languages"

An information object has the properties "Name:" and "Name for user:".

The name of the maintenance information is entered in the "Name:" entry field.

The name that is displayed in the faceplate is entered in the "Name for user:" entry field.

You can change the properties of information objects.

You can restore the diagnostic settings for all lists in the tab using the "Set Default Settings" button.

Note

This function is available if you configured the Maintenance Station in the MS Standard version.

Rule

- Maintenance information is always valid for the entire multiproject/project.
- The number of maintenance information objects is limited to 16.
- The name of the information object is managed in one language and cannot be changed.
- Maintenance information created by the system can be adapted on a user-specific basis.
- The text in the "Name for user:" field is managed in multiple languages.
  You can find information on this in the section "Configuring multilingual texts (Page 74)".
- The following applies to a project created in PCS 7 versions before V8.2.
  The maintenance information in the faceplate pre-assigned by the system is only displayed if the "Advanced Diagnostics Settings" dialog has been opened and confirmed with "OK".

Requirement

The Maintenance Station has been created.

Procedure

1. Open the plant view in the SIMATIC Manager.
2. Select the object in the tree view:
   - If you are using a multiproject, select the object "[name of the project] MP".
   - If you are using a single project, select the object "[name of the project]".
3. Select the menu command **Options > Plant hierarchy > Advanced diagnostics settings...** .
   The "Advanced Diagnostics Settings" dialog box opens.
4. Select the "Functions for maintenance" tab
5. In the "Maintenance information" group, select the information object whose properties you want to change.
6. Click "Properties...".
   The "Properties maintenance information" dialog box opens.
   The previous entries are displayed in the input dialog.
7. Enter the desired text.
8. Click "OK".
   The "Advanced Diagnostics Settings" dialog box opens.
   - If the change does not affect the other languages, click "No".
   - If the change affects the other languages, click "Yes".

   The "Advanced Diagnostics Settings" dialog box closes.
9. Click "OK".
   The "Properties maintenance information" dialog box closes.
10. Click "OK".
    The "Advanced Diagnostics Settings" dialog box closes.

Result

After OS compilation and subsequent download, the modified text is displayed in the process control.

Additional information

You can find additional information on multilingual configuration of maintenance information in the section "Configuring multilingual texts (Page 74)".

You can find additional information on languages in the *Process Control System PCS 7; Operator Station* configuration manual, section "Setting languages".

You can find additional information on configuring in the section "Configuring the display of maintenance information (Page 81)".

You can find additional information on displaying maintenance information in the section ""External diagnostics" view (Page 226)".

5.11.1.5 Configuring multilingual texts

Introduction

Default texts for maintenance actions and maintenance information are available for the languages installed in the project.

Languages that might typically be installed in the project are:

- German (Germany)
- English (United States)
- French (France)
- Italian (Italy)
- Spanish (Spain, International Sort)
- Chinese (Simplified, PRC)
- Japanese (Japan)

You can display the languages installed in the project.

Select the menu command **Options > Language for Display Devices...** in SIMATIC Manager.

Requirements

The Maintenance Station has been created.

The desired languages have been installed in each project.

Procedure

1. Select the menu command **Options > Language for display devices**.
2. Select the desired language as the default language.

3. Click "OK".
4. Select the menu command **Options > Plant Hierarchy > Advanced Diagnostics Settings...**.
5. Select the appropriate text.
6. Click "Properties".
7. Enter the desired text in the "Name for user:" field.
8. Click "OK".
9. To change the text in the selected language only, click "No".
10. Click "OK".
11. Repeat steps 5 to 10 for all texts you want to change in the selected language.
12. Click "OK".
13. Repeat steps 1 to 12 for all texts and languages you want to change.

Result

After OS compilation and subsequent download, the modified text is displayed in the process control.

Additional information

You can find additional information on languages in the *Process Control System PCS 7; Operator Station* configuration manual, section "Setting languages".

5.11.2 "Other settings" tab

5.11.2.1 Automatic positioning of block icons in the areas

Introduction

You specify the scope for creating/updating diagnostics screens in the "Automatic positioning of the block icons in the areas" area of the "Other settings" dialog.

Automatic positioning can be selected for one of the following diagnostic areas.

- AS/system
- Field devices
- User objects
- Network objects
- PC stations

The selection applies to the selected diagnostic area including all subordinate levels.

The system offers the following options:

- Check box cleared
  This is the default setting.
  When you create/update a screen, all PCS 7 block icons are arranged automatically, starting in the top left corner.
  Screens in which a rack structure (for example, ET 200 central rack) is displayed are exceptions to this. In this case, the block icons for objects are arranged in the order of their slots.
  After you update/create the diagnostics screens, move the block icons to meet your requirements. Block icons that have been moved remain in their position after the screen is updated. New block icons are added in the top left corner of the screen.
  Note that adding new block icons may cause icons to overlap.
  Block icons to be deleted are removed from the screen. Their position in the screen remains unoccupied.
- Check box selected
  The block icons for the selected diagnostic area are repositioned automatically.
  All block icons are repositioned.

Note

This function is available if you configured the Maintenance Station in the MS Standard version.

Requirement

The Maintenance Station has been created.

Procedure

1. Open the plant view in the SIMATIC Manager.
2. Select the object in the tree view:
   - If you are using a multiproject, select the object "[name of the project] MP".
   - If you are using a single project, select the object "[name of the project]".
3. Select the menu command **Options > Plant Hierarchy > Advanced Diagnostics Settings...**.
   The "Advanced Diagnostics Settings" dialog box opens.
4. Select the "Other settings" tab.
5. Select the desired diagnostic area.
6. Click "OK".
   These settings are saved retentively.

Result

When the "Create/update diagnostic screens" function is executed, the block icons for the selected diagnostic area are repositioned automatically.

After OS compilation and subsequent download, the changes are applied in the process control.

Additional information

You can find additional information in the section "Creating/updating the diagnostic screens (Page 93)"

5.11.2.2 Storage location for the files of the (filtered) total export

Introduction

In the "Storage location for the files of the (filtered) total export" area of the "Other settings" dialog, you specify the user-specific storage location for the files of the (filtered) total export.

The user-specific target directory can be configured as an absolute or relative path.

Path	Example of a storage path	Storage location
Absolute path	D:\folder	On the MS server(s) in the configured path
Relative path	\\computer name\shared drive \folder	On the specified computer in the configured path

In a redundant system, the total export file is saved on the MS server and on the redundant partner when using an absolute path.

Requirement

The Maintenance Station has been created.

Procedure

1. Open the plant view in the SIMATIC Manager.
2. Select the object in the tree view:
   - If you are using a multiproject, select the object "[name of the project] MP".
   - If you are using a single project, select the object "[name of the project]".
3. Select the menu command **Options > Plant Hierarchy > Advanced Diagnostics Settings...**.
   The "Advanced Diagnostics Settings" dialog box opens.
4. Select the "Other settings" tab.
5. Specify the storage location for the files of the (filtered) total export.
6. Click "OK".
   These settings are saved retentively.

Result

After OS compilation and subsequent download, the setting is applied in the process control and saved in the "@ExportPath" tag.

Files of the (filtered) total export are additionally stored at the specified storage location.

5.11.2.3 Navigation information in the screen

Introduction

In the "Navigation information in the screen" area of the "Other settings" dialog, you specify whether and at which location the path will be displayed within the plant hierarchy in the diagnostic screen in the process control.

The path can be displayed at the following positions in the diagnostic screen:

- Top left
- Top center
- Top right
- Bottom left
- Bottom center
- Bottom right

The overview screen of the diagnostic screens is not affected by these settings.

Note

This function is available if you configured the Maintenance Station in the MS Standard version.

Requirement

The Maintenance Station has been created.

Procedure

1. Open the plant view in the SIMATIC Manager.
2. Select the object in the tree view:
   - If you are using a multiproject, select the object "[name of the project] MP".
   - If you are using a single project, select the object "[name of the project]".
3. Select the menu command **Options > Plant Hierarchy > Advanced Diagnostics Settings...**. The "Advanced Diagnostics Settings" dialog box opens.
4. Select the "Other settings" tab.
5. Select the "Display" check box.
6. Select the position for the display of the path in the diagnostics screen.

7. If you want to have the block icons repositioned, select the "Re-position block icons" check box.
8. Click "OK".
   These settings are saved retentively.

Result

When the "Create/update diagnostic screens" function is run, the associated path will be displayed in the diagnostic screens at the selected position.

After OS compilation and subsequent download, the changes are applied in the process control.

Note

If block icons and path information overlap in the diagnostic screens, use the "Re-position block icons" option.

5.11.3 "Edit for Picture Structure" tab

Introduction

The hierarchy and components of the PC Station and Network objects areas are displayed in the tab.

You can make structural and block icon changes for custom process control visualization.

The tab has a similar structure to the Explorer with a tree and list view.

The tree view shows the folder structure. This is the basis for the hierarchy of the diagnostic screens.

The individual components are displayed in the list view. This is the basis for the block icons for the diagnostic screens.

Operator input

Tree view area (hierarchy)

Create subfolders in the tree view to create a hierarchy. You can drag-and-drop individual components to the subfolders. You can select multiple components.

A combination of PC stations and network objects is possible.

You can add, delete and rename subfolders.

- Assign a unique name or change the name when you add a subfolder.
  This name is then used when you create diagnostic screens.
- If you delete a folder, you delete all the subfolders that it contains.
  All components assigned to these folders are assigned to the higher-level folder when the original folder is deleted.
  The overview folder for PC stations and network objects cannot be deleted or renamed.
- You can also create empty subfolder.
  Empty subfolders are taken into consideration under the following conditions when creating the diagnostic screens:
  - At least one lower-level component has been assigned to the empty hierarchy folder.
  - The empty subfolder is not created as the lowest hierarchy folder.
- "Create diagnostic screens" creates a group display in the higher-level screen for each available subfolder.

List view area (components)

The following information is displayed in the individual columns of the list view:

- Name of component
  - Derived from the PC station name and OPC server configuration
  - Cannot be modified in the editor
- Block icon
  - Type of block icon to be used when creating the diagnostic screen
  - Cannot be modified in the editor
- Variant block icon
  - Version of block icon to be used when creating the diagnostic screen
  - Can be modified in the editor by entering the version
- Picture file
  - Picture file to be used for the block icon
  - The user can save their own created picture files in different formats in the WinCC project directory "GraCS".
    Formats can be, for example, *.emf, *.bmp and *.ipg.
  - You can assign this picture file to the component using a browser dialog in the editor.

Result

Closing the editor with the "OK" button saves all configuration changes in the background.

There is no direct derivation of the plant hierarchy.

The following actions are then performed during the creation/update of diagnostic screens:

- The structure and diagnostic screens in the plant hierarchy are created or deleted.
- The block icons required for OR operations for group display information in the diagnostic hierarchy are added automatically.

5.12 Configuring the display of maintenance information

Introduction

This section describes the configuration steps for displaying the maintenance information in the process control.

Requirements

- The maintenance information has been created.
  You can find information on this in the section "Configuring maintenance information (Page 72)".
- Channel blocks of the Advanced Process Library are applied (in PCS 7 V8.2 or higher).

Procedure

1. Activate "Feature bit 10" on the channel block.
2. Interconnect the "MS_Ext" input on the channel block with the signals of the external maintenance state of the user program.
   You can use the "MSTOu" converter block for this.
3. Interconnect the "Text_Ref" input on the channel block with the signals you use for displaying the external diagnostic information.
   You can use the "BO_W" converter block for this.
   The individual bits of the "Text_Ref" input activate the state display in the faceplate in the "External diagnostics" view in process mode.

Note

Maintenance demanded and maintenance required

Only the external maintenance states "Maintenance demanded" (corresponds to significance 6) and "Maintenance required" (corresponds to significance 5) are taken into account in the diagnostics block.

These maintenance statuses trigger the messages "Maintenance demanded (external)" and "Maintenance required (external)" in the process control.

Note

Multiple channel blocks for HART modules

When HART modules and auxiliary variables are used, you use multiple channel blocks for the same channel of the module.

The above-mentioned procedure must be performed for each channel block.

Result

After AS and OS compilation and subsequent download, the maintenance information is displayed in the process control.

Additional information

You can find additional information on displaying maintenance information in the section ""External diagnostics" view (Page 226)".

5.13 Configuring the user diagnostics

5.13.1 Overview

Introduction

Passive or indirect components without self-diagnostics (for example, pumps, motors, control loops) can be monitored with the help of the user diagnostics. A "user" area is created within the diagnostic structure for this purpose.

You can perform the following tasks in the "user" area:

- Creating individual diagnostic structures
- Creating project-specific diagnostics rules
- Configuring condition monitoring functions

Note

You can use the user diagnostics in the MS Standard version only.

User diagnostic structure

In the plant hierarchy, you can create **one** other hierarchy folder under the "Diagnostics" hierarchy folder and additional hierarchy subfolders under this hierarchy folder to build a user diagnostic structure based on technological aspects.

In the user diagnostic structure, you can insert **one** self-created diagnostic screen and CFC charts for each hierarchy folder.

You can incorporate buttons into the diagnostic screens for switching between the user-created and automatically created diagnostic screens.

The diagnostics functions are performed with different blocks, for example AssetM, which are integrated in the CFC charts.

Diagnostic function with the AssetM block

The "AssetM" block has the function of a substitute object and is used for monitoring components without self-diagnostics.

You can use the "AssetM" block to monitor three analog values.

Each analog value can be monitored for limits.

The maintenance status is defined on the basis this limit, demanded or alarm defined (implementation of traffic light function in accordance with NE 107 of NAMUR).

The following functions are also available to you here:

- 7 inputs for reporting a corresponding maintenance status
- 16 inputs for displaying detailed diagnostics information
- 1 input for the maintenance status
- 1 input for the signal status

Cascading the signal status of process values

By using the "MuxST" multiplex block, you can interconnect the signal status of different process values weighted to the "AssetM" block. The signal status with the highest priority is shown in the faceplate in process mode.

The signal status must correspond to the PA profile 3.x.

Cascading the maintenance status

By using the "MuxMST" multiplex block, you can interconnect the maintenance status of different "AssetM" blocks to a higher level "AssetM" block. The maintenance status with the highest priority is shown in the faceplate in process mode.

5.13.2 How to create the user diagnostic structure

Introduction

You create the user diagnostic structure in the project with the AS and the project with the Maintenance Station. If the AS and the Maintenance Station are in different projects of a multiproject, configure the CFCs in the project with the AS for the user diagnostic area and, in the project with the Maintenance Station, configure the OS pictures for the user diagnostic area. The user diagnostic area must be created in both projects.

Requirement

The diagnostic structure has been created.

Procedure

1. Open the plant view in the SIMATIC Manager.
2. In the plant hierarchy, select a project for which you wish to create a user diagnostic structure.
3. In the tree view, select the diagnostic hierarchy folder directly below which the "AS objects" hierarchy folder is located.
4. Select the menu command **Insert > Technological Objects > Hierarchy Folder**.

   Note

   There may only be one hierarchy folder created for the user diagnostic structure under the "Diagnostics" hierarchy folder.

5. Select the hierarchy folder in the detail view.
6. Select the menu command **Edit > Rename**.
7. Enter a short, unique name and confirm with the Enter key.
   The name is applied.
   You can create additional hierarchy subfolders below this hierarchy folder.

   Note

   128 characters are available for the length of variable names.

   You can find additional information about this in the manual *Process Control System PCS 7; Operator Station*.

8. If you have not created the user diagnostic structure in the project of the MS server, you must update the plant hierarchy.
   You can find additional information about this in the section "How to update the user diagnostic structure (Page 87)".

5.13.3 How to create a CFC chart and insert an AssetM block

Introduction

The "AssetM" block is used to monitor user-specific sections of the plant. This block is integrated into a CFC. Multiple blocks can be integrated into a CFC.

Note

The procedure detailed here also applies to the AS system and field devices areas.

Requirement

The user diagnostic structure has been created.

Procedure

1. In the tree view, select the hierarchy folder in which you are creating a CFC.
2. Select the menu command **Insert > Technological Objects > CFC**.
   A new CFC is created.
3. Select the CFC in the detail view.
4. Select the menu command **Edit > Rename**.
   Enter a short, unique name and confirm with the Enter key. The name is applied.

   Note

   128 characters are available for the length of variable names.

   You can find additional information about this in the manual *Process Control System PCS 7; Operator Station*.
5. Mark the CFC in the detail view and select the menu command **Edit > Open Object**.
6. Select the "AssetM" block from the PCS 7 Advanced Process Library.
7. Drag-and-drop the block into the CFC.
8. Interconnect the signals, which are to be displayed via the PCS 7 Maintenance Station, using the "AssetM" block.
   You will find additional information on the "AssetM" block in the Online Help for the block.
9. Execute steps 1 to 7 if you want to create additional CFCs.

Additional information

Additional information on this is available in the *Process Control System PCS 7; Engineering System* manual.

5.13.4 Assigning parameters for the AssetM block

Overview

After the AssetM block has been placed in the CFC, interconnect the parameters that are to be used.

In order to display information in the faceplate from SIMATIC PDM for the monitored component during process control, a SIMATIC PDM object must be created for each AssetM block in the process device plant view.

This SIMATIC PDM object saves the rating plate (identification data) and the diagnostic texts. The "AssetMon" device is assigned to the SIMATIC PDM object.

The PLT ID is a connection parameter between a SIMATIC PDM object (parameter data EDD) and the faceplates in the Maintenance Station.

The PLT-ID is linked to the SIMATIC PDM object.

Procedure

The PDM object is created in SIMATIC Manager as follows:

1. Select **View > Process Device Plant View** in SIMATIC Manager.
2. Select a project in SIMATIC PDM in which you want to insert the SIMATIC PDM object.
3. Select **File > New object**.
4. Select the inserted object with the right mouse button.
5. Select **Device selection (Reassign)...** in the shortcut menu.
6. In the tree structure, select **Devices > DATA_OBJECTS > CFC > Siemens AG > AssetMon**.
7. Click **OK**.
8. Select the object with the right mouse button.
9. Select **Open object** in the shortcut menu.
10. Enter all required data in the parameter assignment mask.
11. Select **File > Save** and close the parameter assignment mask.
12. Enter the generated PLT ID for the associated "PLT ID" block parameter.

Note

The PLT ID cannot be changed or deleted.

Additional information

You can find additional information on the AssetM block in the manual *Process Control System PCS 7; Advanced Process Library*.

5.13.5 How to update the user diagnostic structure

Introduction

The following steps are only required if you have created a user diagnostic structure in a location other than the MS server project.

You have to update the plant hierarchy in the multiproject.

Procedure

1. In the "plant hierarchy", select the project for which you have created a user diagnostic structure.
2. In the shortcut menu, select the menu command **Plant Hierarchy > Update in Multiproject**.
   The "Plant Hierarchy - Update in Multiproject" dialog box opens.
3. Click "OK".
   The "Plant Hierarchy - Update in Multiproject (target projects)" dialog box opens.
4. Enable the check box for the MS server's current project.
5. Click "OK".
6. Perform steps 1 to 6 for all the projects in a multiproject for which you have created a user diagnostic structure.

Result

The user diagnostic hierarchy of the other projects is added to the plant hierarchy in the project of the MS server.

5.13.6 How to Create User Diagnostic Screens

Introduction

You create the user diagnostic screens in the hierarchy folders of the user-specific diagnostic structure in the project. In an MS single station system, this is the MS project. In an MS multiple station system, it is the MS server project.

You can create one user diagnostic screen per hierarchy folder.

Requirements

- The user diagnostic structure has been created.
- The CFCs for the user diagnostic structure have been created.
- A multiproject update is performed for multiprojects.

Procedure

1. Open the plant view in the SIMATIC Manager.
2. In the tree view, select the hierarchy folder for which you want to create the user diagnostic screen.
3. Select the menu command **Insert > Technological Objects > Picture**.
4. Enter a short, unique name and confirm with the Enter key.
   The name is applied.
5. Click "OK".
6. Select the picture in the detail view.
7. Select the menu command **Edit > Object properties...** .
8. Select the "Block icons" tab.
9. Select the "Derive the block icons from the plant hierarchy" check box.
10. Repeat steps 2 through 9 for all hierarchy folders into which you wish to insert user diagnostic screens.

5.13.7 How to create the group display hierarchy for the user diagnostics

Introduction

You will need to refer to the information in this section if you have added a user-specific diagnostic structure to the diagnostic structure.

Requirement

The WinCC project is opened:

- In an MS single station system, this is the WinCC project of the MS.
- In an MS multiple station system, it is the WinCC project of the MS server.

Procedure

1. In the WinCC Explorer tree view select the "Project Editor".
2. Open the shortcut menu and select the menu command **Open**.
   The "OS Project Editor" dialog box opens.
3. Select the "Message display" tab.
4. Enable the "Create/Update Group Displays" check box in the "Group display hierarchy" group.
5. Click "OK".
   The group displays for the hierarchy calculation are automatically inserted into the screens when the hierarchy is saved, the OS is compiled or the OS is downloaded.

5.14 Setting up SIMATIC PDM

Overview

If you have configured devices with SIMATIC PDM, the following requirements must be met on the engineering station for visualization in the process control.

- Installation
  The SIMATIC Process Device Manager (SIMATIC PDM) add-on package (requires a license) is installed.
- In the Windows Control Panel
  - The Microsoft Internet Information Server (IIS) with ASP.NET support is installed.
  - The rule in the firewall is enabled.
  - The SIMATIC PDM users are added to the Logon_Administrator Windows group.
- In the Windows Start menu
  - The SIMATIC PDM Web server is configured.
- In SIMATIC Manager:
  - A PDM application is inserted in the PC station of the engineering station.
  - In the SIMATIC PDM "Settings..."
    The path to the maintenance project is entered on the "Maintenance Station" tab.
    For multi-user engineering with several engineering stations, the path must be entered for each engineering station.
  - In the SIMATIC PDM "Role management..."
    All Windows users who use SIMATIC PDM Web are assigned the "Service user" role.

Additional information

You can find information about this in the following documents:

- Online Help for *SIMATIC PDM*
- Manual *Process Control System PCS 7; Help for SIMATIC PDM*

5.15 Overview of complete export

Overview

Note

You use this function in process control if you are using the MS Standard or SIMATIC PDM MS version of the maintenance station.

Identification data from all diagnostics-capable components (such as field devices, PCs, AS components, network components) can be exported.

With complete export, the data from all the components with diagnostics functionality is exported to the export file "@XML_Export.sml".

The complete export file is stored in the default target directory on the MS in the "AssetExport" folder of the OS project directory.

The complete export file is stored on both partners in a redundant system.

The complete export file can also be stored in a configured target directory (e.g., for reuse of the data in external systems).

You can find information on this in the section "Storage location for the files of the (filtered) total export (Page 77)".

In the process control, the system allows you to display the data of the last complete export in filtered form and to export this data.

Additional information

You can find additional information about displaying and exporting the data in process control in the section "Functions in the overview screen (Page 113)".

5.16 Overview of individual export

Overview

Note

You use this function if you are using the MS Standard or SIMATIC PDM MS version of the maintenance station.

Data of a diagnostics-capable component (such as field devices, PCs, AS components, network components) can be exported.

During an individual export, the data of a diagnostics-capable component is written to an export file.

The file name is automatically generated by the system.

The individual export file is stored in the default target directory on the MS in the "AssetExport \Out" folder in the OS project directory.

The individual export file is stored in the standard target directory on the connected OS server (current preferred server) in a redundant system.

The individual export file can also be stored in a configured target directory (e.g. for reuse of the data in external systems).

You can find information on this in the section "Configuring maintenance targets for individual export (Page 67)".

Structure of the file name

The name of the export file is structured as follows:

"<Tagname>_<AssetID>_YYYY_MM_DD_HH_MM_SS_SSS.XML"

Structure of the file name	Description
<Tagname>	Configured name of the component (see rating plate)
<AssetID>	Unique, system-assigned identification number of the component
YYYY_MM_DD_HH_MM_SS_SSS	Date and time of the export
xml	File type

Additional information

You can find additional information about displaying and exporting the data in the process control in the section ""Maintenance" view (Page 196)".

5.17 Engineering for maintenance

5.17.1 Engineering for release request

Introduction

You must make interconnections on the blocks in the CFC for the release request.

We recommend that the configuration steps be taken into consideration when the typicals are created.

Requirements

- The CFC typicals have been created.
- The PCS 7 Advanced Process Library V8.2 or higher is used.

Procedure

1. Open the CFC typical.
2. Interconnect the output parameter MS_Req of the channel block with a free input parameter ExtMsg of the technological block.
3. Change the message class of the utilized external message on the technological block to the message class not requiring acknowledgment "Request for operator input - General".
4. Adapt the event text as desired.

You can connect the release request signals of multiple channel blocks to the technological block with an OR operation.

Result

The release request "Sequence for maintenance (Page 244)" can be used.

After AS and OS compilation and subsequent download, the changes are applied in the process control.

Compile and download the OS in which the technological block will be displayed.

Additional information

You can find additional information on maintenance in the section "Overview of maintenance (Page 243)" and in the manual *Process Control System PCS 7; Advanced Process Library*.

5.17.2 Engineering for maintenance release

Introduction

You must make interconnections on the blocks in the CFC chart for the maintenance release.

We recommend that the configuration steps be taken into consideration when the typicals are created.

Requirement

- The CFC typicals have been created.
- The PCS 7 Advanced Process Library is used.

Procedure

1. Open the CFC typical.
2. Interconnect the output parameter MS_Release of the technological block with the input parameter MS_Release of the channel block.
   You can interconnect the maintenance release of a technological block to multiple channel blocks.
3. Interconnect the output parameter OosAct of the channel block with the input parameter OosLi of the technological block.
   You can connect the "In maintenance" information (OosAct) of multiple channel blocks to the technological block with an OR operation.
4. Use the feature bit "Reaction to the out of service mode" to define the desired behavior of the technological block.

Result

The maintenance release "Sequence for maintenance (Page 244)" can be used.

After AS and OS compilation and subsequent download, the changes are applied in the process control.

Compile and download the OS in which the technological block will be displayed.

Additional information

You can find additional information on maintenance in the section "Overview of maintenance (Page 243)" and in the manual *Process Control System PCS 7; Advanced Process Library*.

5.18 Creating/updating the diagnostic screens

Introduction

The diagnostic screens in the diagnostics area with their block icons are created or updated with this function.

The "@@maintenancetypicals.pdl" file contains all the templates for block icons which are used to display the diagnostic information.

If you execute the "Create/update diagnostic screens", PCS 7 automatically uses block icons from this file. This file is installed as standard during the installation of PCS 7.

You can customize block icons to your specific requirements.

Note

If you want to customize the standard block icons included in the @@maintenancetypicals.pdl file, do not change this file. All changes in this file are overwritten by an update.

Always create a new file. The name of the file starts with the fixed name component "@maintenancetypicals". You can specify the rest of the file name yourself. Insert the required block icons there and customize them.

The process is exactly the same as for adapting the standard block icons.

You can find additional information about this in the section "Example: Creating object templates" in the *WinCC Information System* online help.

You can find additional information on positioning block icons in the section "Automatic positioning of block icons in the areas (Page 75)".

Requirements

The configuration must have the following status:

- The settings relating to the diagnostic structure have been made.
  You can find information on this in the section "How to make the settings in the plant hierarchy (Page 61)".
- The "Language for display devices" is set as the default language in the SIMATIC Manager. Texts displayed during process control are generated in this language.
- When you use SIMATIC PDM, the maintenance project is configured in the settings for the SIMATIC PDM project.

Procedure

1. Open the SIMATIC Manager and activate the plant view.
2. Select the required hierarchy folder in the tree view.
   - If you want to create diagnostics screens for the multiproject/project, select the multiproject/project.
   - If you wish to create diagnostic screens for certain hierarchy folders, select the required hierarchy folder in the maintenance station.
3. Select the **Options > Plant Hierarchy > Create/Update Diagnostics Screens** menu command.
4. If you have already compiled the AS charts, no other dialog box is opened, and the diagnostic screens are created/updated directly.
   Proceed to step 6.
5. If you haven't compiled the AS charts yet, the "Create module drivers" dialog box is opened one after another for every CPU for which this function has not been executed yet.
   Click "OK" in all dialog boxes to create the required diagnostic blocks.

   Note

   If you click "Cancel" in this dialog box, no module drivers are created for this CPU, and the diagnostic screens are not updated!

6. The "Create/update diagnostic screens" dialog box opens after the completion of the generation process.
   Click "Yes".
   The function log is displayed in the "WordPad" editor. If error messages appear, rectify the errors and run the function again.
7. Close the "WordPad" editor.

Result

The diagnostic screens are created or updated.

After OS compilation and subsequent download, the diagnostic screens are displayed in the process control.

Displaying a log of the diagnostic screens

In the SIMATIC Manager select **Options > Plant Hierarchy > Diagnostics Screen Log**.

The diagnostic screen log contains information about the creation of the diagnostic screens.

5.19 Compiling and downloading

5.19.1 Compilation and downloading of the Maintenance Station

Compiling and downloading an MS single station system or multiple station system

- Compile
  The diagnostic screens you generated or updated must be compiled and downloaded to the maintenance station.
  Before you compile the maintenance station, the diagnostic screens have to be created at least once or updated after configuration changes.
  "Area-oriented" must be set as OS compilation mode.
  In an MS single station system, compile the MS.
  In an MS multiple station system, compile the MS server.

  Note

  Clear the "Picture Tree" check box in the dialog for OS compilation if you do not want to derive the hierarchy from the plant areas.

  The hierarchy for the diagnostic area is created even if the check box is cleared.

- Downloading
  Perform the download after the compilation.
  If you are using an MS multiple station system, load the MS server.
  If you are using a redundant MS multiple station system, download the MS server and the redundant partner.
  You must not download an MS single station system.

5.19.2 Compiling and downloading SIMATIC PDM MS

Requirements

- Configuration in the process device network view has been completed.
- The parameter view for all field devices has been opened once.
- The "Create/update diagnostics screens" function has been executed.
- The project is open in SIMATIC Manager.

Procedure

Compiling and downloading charts

1. Select the "Charts" hierarchy folder in the component view of SIMATIC Manager.
2. Select the **Edit > Compile** menu command.
3. Select the following check boxes:
   - Entire program
   - Generate module drivers

Download WinLC RTX

1. Select the PC station in the component view of the SIMATIC Manager.
2. Select the menu command **PLC > Download**.

Compiling OS

1. Select the OS hierarchy folder in the component view of SIMATIC Manager.
2. Select the **Edit > Compile** menu command.
3. Select the following check boxes:
   - Entire OS
   - With memory reset

Download OS

The OS for SIMATIC PDM MS does not have to be downloaded.

5.20 Assigning the server data and downloading of a client

Server data

Before an MS or OS/MS client is downloaded, it must be assigned the relevant OS server. This loads the server data to the MS or MS/OS client project.

Client	Server data (server package)		
	MS server	OS servers whose automation systems are being monitored	OS server whose OS area is displayed
MS client on an engineering station	X	X	-
MS client on a separate PC station			
OS/MS client	X	X	X

Downloading

The MS client or OS/MS client is downloaded in exactly the same way as an OS client. The MS client in the engineering station does not have to be downloaded.

Additional information

Additional information is available in the manual *Process Control System PCS 7; Operator Station* in the sections "Downloading the server data" and "How to compile and download several operator stations".

5.21 Changes in the project

You can find information about the following changes in the sections below:

- Changes in the version (Page 97)
- Changes in HW Config (Page 98)
- Adding an AS subproject (Page 98)
- Adding an OS server (Page 99)
- Subsequently defining OS server as MS server (Page 99)
- Assigning another OS as MS station (Page 99)
- Changes in the software (Page 101)
- Changing the storage location of a subproject (Page 101)

5.21.1 Change in the version

You change the version in the SIMATIC Manager in the plant hierarchy settings. You can find additional information about this in the section "How to make the settings in the plant hierarchy (Page 61)"

If you change the version of the maintenance station, you must observe the following:

- MS Standard to MS Basic
  - The diagnostic structure below the AS objects, the diagnostic structure of the field devices and the user diagnostic structure including the contained pictures are deleted.
- MS Basic to MS Standard
  - The diagnostic structure of the AS objects is regenerated.
  - The diagnostic structure of the field devices is created.
- MS Standard to SIMATIC PDM MS
  - The diagnostic structure of the AS objects including the contained pictures is deleted.
  - The diagnostic structure of the field devices is regenerated.

- SIMATIC PDM MS to MS Standard
  - The diagnostic structure of the field devices including the contained screens is regenerated.
  - The diagnostic structure of the AS objects is generated.
- MS Basic to SIMATIC PDM MS
  - The diagnostic structure of the AS objects including the contained pictures is deleted.
  - The diagnostic structure of the field devices is created.
- SIMATIC PDM MS to MS Basic
  - The diagnostic structure of the field devices and the user diagnostic structure including the accompanying screens are deleted.
  - The diagnostic structure of the AS objects is generated.

After changes, you may have to perform the following tasks:

- Creating/updating the diagnostic screens (Page 93)
- Compilation and downloading of the Maintenance Station (Page 95)
- Assigning the server data and downloading of a client (Page 96)

5.21.2 Changes in HW Config

Changes in the hardware configuration of the engineering system affect the displays in the diagnostic screens.

After changes, perform the following tasks:

- Creating/updating the diagnostic screens (Page 93)
- Compilation and downloading of the Maintenance Station (Page 95)

5.21.3 Adding an AS subproject

Perform the following tasks if a subproject with an AS is added after creating the diagnostic structure:

- Enable diagnostics derivation in the plant hierarchy settings of the newly added subproject.
  Confirm the following information.
  Exit the dialog with "OK".
- Creating/updating the diagnostic screens (Page 93)
- Compilation and downloading of the Maintenance Station (Page 95)

5.21.4 Add OS server

Perform the following tasks if an OS server is added after creating the diagnostic structure in the multiproject/project:

- Assign server data of the OS server to the MS server
  You can find more information on this topic in the *Process Control System PCS 7; Operator Station* manual in the section "How to load server data".
- Load MS server
  You can find additional information about this in the section "Compilation and downloading of the Maintenance Station (Page 95)".

5.21.5 Subsequently defining OS server as MS server

If an OS server is defined at a later point in time as MS server in a plant in operation, you need to perform not only the configuration tasks described for the MS server but also a download for the OS client, which assumes the role of the OS/MS client.

For additional information on downloading, refer to the section "Assigning the server data and downloading of a client (Page 96)".

5.21.6 Assigning another OS as MS station

Perform the steps in the table if you subsequently use another OS as MS server in an operating plant.

This assigns MS functionality to another OS.

The steps in the table apply to the example configuration. The example configuration consists of a redundant OS server (original MS) and a redundant MS server (new MS).

Step		Project	Action	Comment
1		OS server	If required: Back up the existing diagnostic screens.	Only required for screens in which project-specific adjustments have been made so that these adjustments can later be reapplied.
2	2.1	OS server master	HW Config\OPC server\SNMP: Delete all SNMP devices.	The SNMP configuration is prepared for transfer.
	2.2		Export the entire SNMP plant configuration using "Export variables for WinCC".	All SNMP variables and associated messages are deleted from the OS server.
	2.3		Delete the OPC server.	The OPC server of the OS server standby is later copied to the MS server master and MS server standby.
	2.4		Save and compile HW Config.	The changes in the HW Config of the OS server master are now complete.

Step		Project	Action	Comment
3		Plant hierarchy	Disable the "Derive diagnostic screens from the plant hierarchy" function. **Note**: This does not delete any server packages in the OS server. Remove the server packages that are not required from the assignment.	The following applications are removed from the startup list: • IMServerX.exe (Found on all OS servers when the "Derive diagnostic screens from the plant hierarchy" function is enabled) • OsStateMashineX.exe • AsOsHeartBeatX.exe • OSLTMHandlerX.exe
4		Plant hierarchy	Enable the "Derive diagnostic screens from the plant hierarchy" function. Specify the assignment to the new MS server.	• Changes can now no longer be downloaded to the MS server. • The applications listed in step 3 are added to the MS server startup list. • The IMServerX.exe application is added to the startup list of the other OS servers.
5		OS server standby	Copy the OPC server from the OS server standby in HW Config to the MS server master and MS server standby.	The OPC server has now been added to the configuration of the new MS server.
6		OS server standby	Delete the OPC server from the OS server standby. Save and compile the HW Config of the OS server master and standby.	There is now no OPC server in the OS server (original MS server).
7		OS server master	Compile the OS server using the options "Entire OS" and "Memory reset".	The OS server is compiled.
8		Plant hierarchy	Run the "Create/Update diagnostic screens" function.	The diagnostic screens are created.
9		MS server	If required: Replace the diagnostic screens generated in the MS server with the screens you backed up in step 1.	Perform this action at the Windows Explorer level. Ensure that the screen names are the same.
10		Plant hierarchy	Run the "Create/Update diagnostic screens" function. **Note** This step is necessary if you have carried out step 9.	The variable interconnections in the screens are corrected (for example, server prefix).
11	11.1	MS server master	Compile the MS server using the options "Entire MS" and "Memory reset".	The MS server is compiled.
	11.2		HW Config\OPC server\SNMP: Export the entire SNMP plant configuration using "Export variables for WinCC".	The variable and messages for SNMP devices are created on the MS server.
12	12.1	MS server master	Configure and download the PC stations (station configuration editor).	The modified configurations are transferred to the station configuration editor of the target system.
	12.2	MS server standby		
	12.3	OS server master		
	12.4	OS server standby		

Step		Project	Action	Comment
13	13.1	MS server master	Load the servers.	The OS projects are transferred to the target systems.
	13.2	MS server stand-by		
	13.3	OS server master		
	13.4	OS server standby		
14		OS clients	Load all OS clients that are to be displayed the diagnostics area.	The OS projects with modified database entries are transferred to the target systems.

5.21.7 Changes in the software

- Change the standard message server for the "Alarms" component
  If the assigned standard message server for the "Alarms" component is changed in a plant configuration in a multiple-station system with an OS client, the MS server then has to be compiled and downloaded.
  You can find additional information about this in the manual *Process Control System PCS 7; Operator Station* in the section "How to assign the standard server".
- Change the screen resolution
  If the screen resolution is changed in the "Available Layouts:" group on the "Layout" tab of the OS project editor, the next time "Create/Update Diagnostic Screens" is called, the available overview screen is renamed and a new overview screen that corresponds to the new screen resolution is created. A respective message is included in the log of the function "Create/Update Diagnostics Screens". This also provides the new name of the former overview screen.
  If you have manually changed the overview screen, you can manually carry out the changes in the current overview picture by copying from the former overview screen.
  All other existing diagnostic screens retain their screen resolution. If the images are created in a new screen resolution, you must manually delete the screens. User-specific changes will be lost.

5.21.8 Changing the storage location of a subproject

If you change the storage location of a subproject with the "Save As" function, you must stop the SIMATIC PDM Asset Service before performing the "Save As" operation.

When the "Save As" operation is finished, you must restart SIMATIC PDM Asset Service.

5.22 Deleting the diagnostics area

Introduction

During deletion of the diagnostic structure, the following is deleted:

- Diagnostics hierarchy folder with all subfolders
- Target objects
- Action objects
- Link objects

Requirement

- The diagnostic structure and/or user diagnostic structure has been created.

Note

If you have manually changed diagnostic screens, make sure that you make a backup copy before deleting, because all changes will be lost after deleting and recreating the diagnostic structure.

Procedure

1. Open the plant view in the SIMATIC Manager.
2. Select the object in the tree view:
   - If you are using a multiproject, select the object "[name of the project] MP".
   - If you are using a single project, select the object "[name of the project]".
3. Select the menu command **Options > Plant Hierarchy > Settings...** .
   The "Plant Hierarchy - Settings" dialog box opens.
4. Proceed as follows if you have selected a multiproject:
   - Click "OK".
     The "Plant Hierarchy - Settings" dialog box opens.
   - Proceed to step 6.
5. If you have selected an individual project or a project within a multiproject, the "Plant Hierarchy - Settings" dialog box opens.
6. Disable the "Derive diagnostic screens from the plant hierarchy" check box.
7. Click "OK".

Note

The complete diagnostic structure and all the diagnostic screens are deleted, including the user diagnostic structure.

The charts with the diagnostic blocks and the charts of the user diagnostics are not deleted during this process; they remain in the chart folders for the S7 programs.

8. Compile the OS.
9. In an OS multiple station system, download the OS server.

Operator control and monitoring 6

6.1 Starting the process control

MS Standard and MS Basic

The start of the process control of a Maintenance Station is the same as the start of the process control of an Operator Station.

When an MS multiple station system and SIMATIC PDM are used, the engineering station must be switched on and the SIMATIC PDM Asset Service started for the SIMATIC PDM device data to be provided.

SIMATIC PDM MS

Before activating process control, check the setting for the WinCC project type in WinCC Explorer. A single station project must be set as the project type.

Activate process control in WinCC Explorer using the "Activate" button.

User administration

Creation of users and assignment of user rights for operator control and monitoring in pictures, faceplates, alarm lists and for operation of the system functions is the same as in PCS 7 OS. You can find additional information on this topic in the *Process Control System PCS 7; Operator Station* manual and the *WinCC Information System* online help.

OS simulation

You can **only** use the OS simulation function in the MS Standard or MS Basic version.

OS simulation for a PCS7 Maintenance Station in MS Standard and MS Basic is possible only to a limited extent (for example, no identification or diagnostics data).

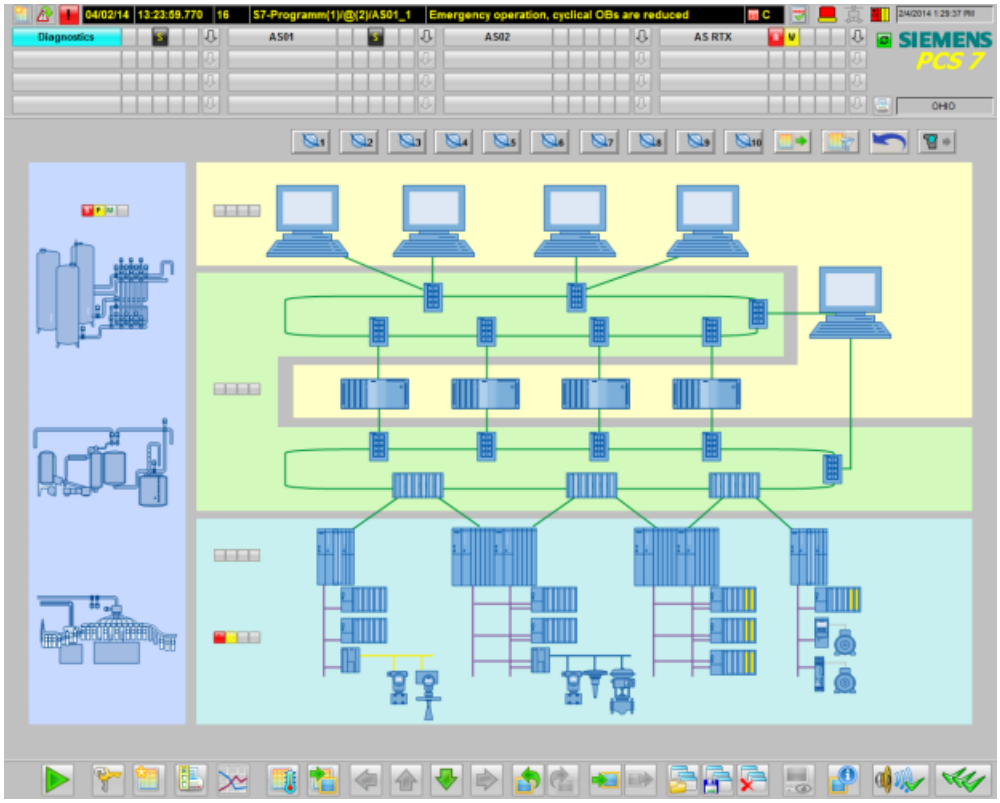
6.2 Layout of the user interface

User interface in the process control

The user interface is structured in the same way as the Operator System interface. It is divided into 3 areas:

- Overview area (Page 107)
  The overview area is displayed permanently. Its group displays for the various plant areas and the message line provide an overview of the entire plant.
  Display and operator control in the overview area is the same as display and operator control in an OS.
  If deviations exist, the document points this out.
- Working area (Page 110)
  In the working area, the overview screen, the area overview screens and the diagnostic screens of the individual components are displayed for the diagnostics area.
- Button area (Page 110)
  The button area is displayed permanently. It comprises several button sets between which the maintenance engineer (operator of the "Diagnostics" area) can switch.
  The keys in the button sets are operated in the same way as the keys in an OS.
  If deviations exist, the document points this out.

The following figure shows an example of the user interface:



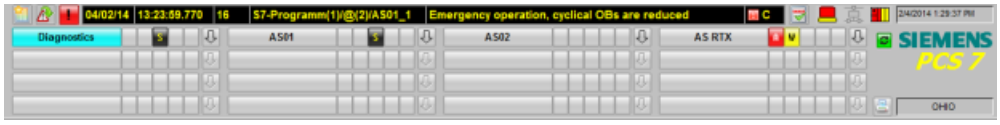
Additional information

You can find additional information on this in the manual *Process Control System PCS 7, OS Process Control*.

6.2.1 Overview area

Display in the overview area

The following figure shows an example of the overview area:



This section only describes the displays and buttons that are specific to the Maintenance Station.

"Highest priority messages" list button

If at least one message with Priority 16 is active (came in or came in acknowledged state), the button is displayed. This priority is predefined by the system for emergency operation of an AS.

To display the "Highest priority messages" list, click the button.

Button	Function	Permission
	"Highest priority messag-es" list is called	Enable for the diagnostics area

In addition to the display, an AS process control message without area information is generated. The message is triggered as soon as at least one highest priority message in the "Diagnostics" area is pending.

As soon as all highest priority messages in the "Diagnostics" area have gone out, the message without area information is assigned the status "outgoing".

For more information on configuration of the message priority see the manual *Process Control System PCS 7; Operator Station*.

Sum status of the plant

The plant operator obtains an overview of the statuses of the individual areas from the "Diagnostics" area.

The displays are shown on each operator station regardless of whether the "Diagnostics" area is assigned to this operator station.

The following cases are exceptions to this:

- OS single-station projects
- All operator stations of a project if the Maintenance Station is an OS single-station project.

The following table shows an example of the assignment of the displays to their area and describes the possible states that each display can have.

Display	Area	State
	PC stations	• Gray: There is no problem in the area. • Yellow: There is at least one maintenance demand in the area. • Red: There is at least one maintenance alarm in the area. • Yellow/red: There is at least one maintenance demand and one maintenance alarm in the area. • Blue: There is no connection to the MS server.
	Network objects	
	AS/system	

Note

If no maintenance group display is created for an area in the overview screen of the "Diagnostics" area, the corresponding display is also not shown.

Messages without area information regarding maintenance state

The system generates AS process control messages without area information regarding the maintenance state of components.

These messages are displayed on every OS station:

- In the single message line of the overview area
- In the message lists

It does not matter whether the "Diagnostics" area is shown on the operator station or not.

If at least one component has the state "maintenance alarm/demand" in one of the diagnostics areas (PC stations, network objects, AS/system), a message without area information of the same message type is also generated for this area.

When no more components have the state "maintenance alarm/demand", the message without area information is assigned the status "outgoing".

The following table shows the messages without area information:

Message type	Priority	Message text
Fault	0	• Maintenance alarm in the PC stations area of MS • Maintenance alarm in the network components area of MS • Maintenance alarm in the AS system area of MS
Error	0	• Maintenance demanded in the PC stations area of MS • Maintenance demanded in the network components area of MS • Maintenance demanded in the AS system area of MS

Area key for the diagnostics area

The following figure shows an example of the area key for the diagnostics area:

The area key is used to open the overview screen for the diagnostics area.

Navigation through the picture hierarchy is similar to navigation through the picture hierarchy of the OS areas.

Group display for the diagnostics area

In addition to the area key, the current message state is displayed on the third button of the group display of the entire diagnostics area.

The lower-level area overview screen is called via the group display.

The following table shows default system settings for the possible states:

Display	Message type/state	Priority	Message state
	Message is locked (1)	1	-
	AS process control fault	2	• "S" display • Flashing Incoming message • Static Message acknowledged
	AS process control error	3	"F" display • Flashing Incoming message • Static Message acknowledged

Display	Message type/state	Priority	Message state
	Maintenance demanded	4	"M" display • Flashing Incoming message • Static Message acknowledged
	No message is pending	5	-

The number in the priority column indicates the priority of the display. The lowest number has the highest priority.

Note that unacknowledged messages have a higher priority than acknowledged messages.

(1) At least one message is locked. Messages can only be locked for components from the AS/system, user objects, and field devices areas.

6.2.2 Button area

Representation of the button area

The figure below shows an example of a button set from the button area.

This section only describes the buttons that are specific to the Maintenance Station.

Locking/unlocking messages

If a screen is open within an AS in the **AS/System and Field devices area**, messages can be locked or unlocked for the components shown in this screen and their subordinate components.

If a screen is open below the overview screen in the **User objects area**, messages can be locked or unlocked for the components shown in this screen and their subordinate components.

This function is not available in the **PC stations** and **Network objects** areas.

You can find additional information on enabling/disabling messages in the section: "How to lock and unlock messages (Page 186)".

6.2.3 Working area

Display in the working area

The diagnostic screens are displayed hierarchically in the working area.

You usually get from the overview to the detail via the hierarchy.

You can also change the screen via the hierarchy buttons in the button set.

The overview screen is the highest hierarchy level. You get to the respective area overview screen via the maintenance group displays of an area.

The components are displayed as block icons in the area overview screen.

The working area also displays faceplates, operator control windows, message lists and dialog windows.

Navigation information can be displayed in the diagnostic screens. You can find information on configuring in the section "Navigation information in the screen (Page 78)".

Additional information

You can find additional information in the following sections:

- Overview screen (Page 111)
- Area overview screens (Page 163)
- Block icon (Page 165)
- Faceplate (Page 178)

6.3 Overview screen

Introduction

The maintenance engineer gets an overview of the plant status of the entire plant in the overview screen.

You can use the buttons to launch various functions. The functions are described in the following sections.

A maintenance group display is shown in each area if there is at least one lower-level picture for this area. The areas are shown in color as shown below:

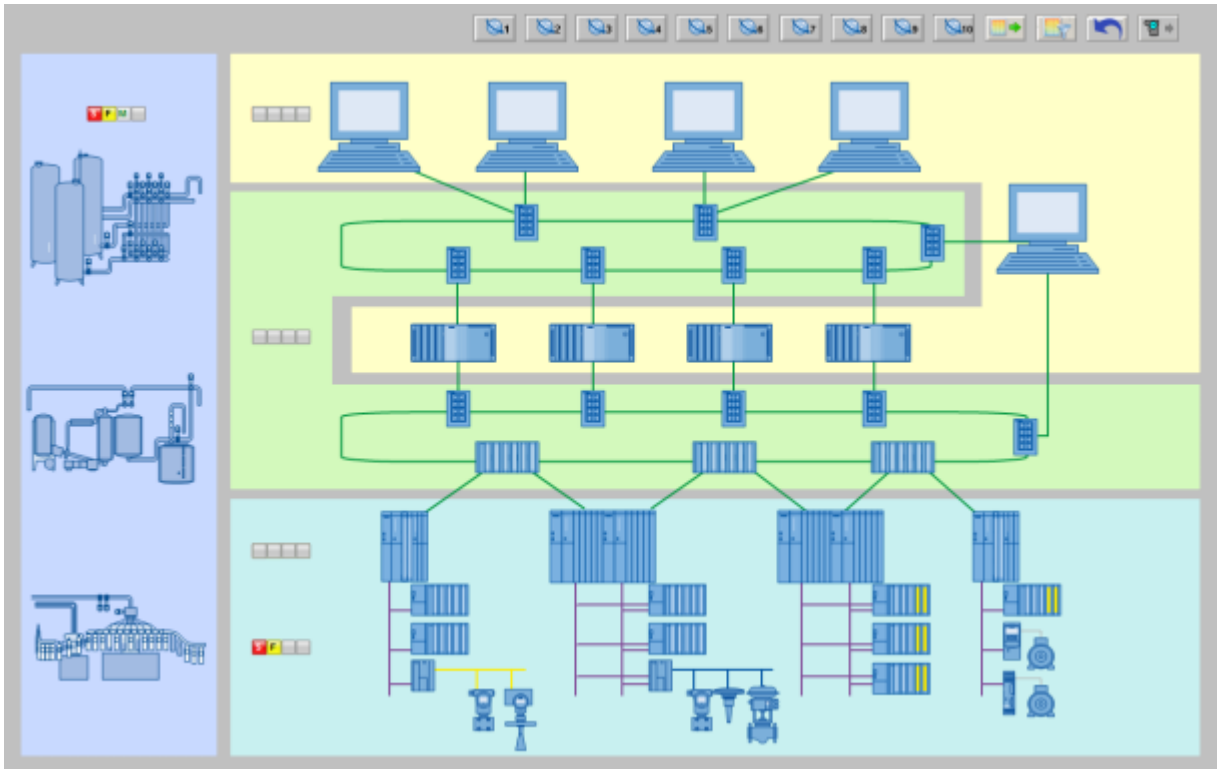
- PC stations (on a yellow background)
- Network objects (on a green background)
- AS/system (cyan background)
- Field devices (cyan background)
- User objects (on a light blue background)

Note

The "Field devices" area is only created if you use the PCS 7 Basic Library >=V8.1 in the AS.

If you use the PCS 7 Basic Library <=V8.1 in the AS, all field devices are assigned to the "AS system" area.

The following figure shows an example of the overview screen for the diagnostics area:



Calling the overview screen

You call the overview screen as follows:

- Area button
- Group display in the overview
- Picture Tree Navigator
- Navigation buttons in the button set

Maintenance group display in the overview screen

The maintenance group display gives maintenance engineers an overview of the plant status of the individual area.

You can change to the area screen from the maintenance group display.

The following table shows the possible states:

Display	Message class/status	Message state
	Message is locked (1)	-
	AS process control fault/ maintenance alarm	"S" display • Flashing Incoming message • Static Message acknowledged

Display	Message class/status	Message state
	AS process control error/ maintenance demanded	"F" display • Flashing Incoming message • Static Message acknowledged
	Preventive maintenance/ maintenance required	"M" display • Flashing Incoming message • Static Message acknowledged
	No message is pending	-

(1) At least one message is locked. Messages can only be locked for components of the areas AS/system, user objects and field devices.

6.4 Functions in the overview screen

6.4.1 Overview

Functions in the overview screen

The following functions can be executed in the overview screen:

- Calling web pages via maintenance links (Page 113)
- Complete export (Page 114)
- Accessing the "Manually filtered complete export" function (Page 115)
- Cyclically filtered complete export (Page 125)
- Overview of system functions (Page 132)
- Filtered manual parameter data export (Page 136)
- Filtered cyclic parameter data export (Page 156)

6.4.2 Calling web pages via maintenance links

Note

This function is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

Introduction

Up to 10 Web pages that are used to provide support for diagnostics measures can be called. The buttons are displayed when the calls are configured.

The first 3 buttons are also displayed in the header of the faceplate.

Requirements

- The maintenance target (web address) has been configured.
- The maintenance target can be accessed via the network.

Button on the user interface

Button	Function	Permissions
 to 	Display of the Web page Tooltip text: Name of the maintenance link	"Higher process controlling" for diagnostics area

Procedure

1. Click the button.

Result

The web page is displayed in a screen window.

Additional information

You can find information on configuring in the section "Configuring maintenance links (Page 65)".

6.4.3 Complete export

Introduction

The complete export is used to export the electronic rating plate and component status of all the objects with diagnostics functionality (for example, field devices, PCs, and network components).

This file forms the basis for the filtered complete export.

Button on the user interface

Button	Function	Permissions
	Trigger complete export	"Process controlling" for the diagnostics area

Procedure

1. Click the button.

Result

The complete export is executed.

The information is saved to the file "@XML_Export.sml".

Additional information

You can find information on configuring in the section "Overview of complete export (Page 89)".

6.4.4 Manually filtered complete export

6.4.4.1 Accessing the "Manually filtered complete export" function

Note

This function is available only for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

Note

Avoid parallel access to the filtered manual complete export.

Introduction

The system allows you to display the data of the last complete export filtered and to export this data.

A complete export is performed automatically when this function is used.

Various filter criteria are available for filtering data.

Button on the user interface

Button	Function	Permissions
	Filter device status • Call filter view • Filter data	"Process controlling" for the diagnostics area

Procedure

1. Click the button.

Result

The view of the faceplate for the manually filtered complete export is displayed.

Additional information

You can find additional information on filtering in the section "How to filter and save the data of the complete export" below.

6.4.4.2 Filter settings for the manually filtered complete export

Note

The function is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS version.

Introduction

A range of filter criteria are available in the faceplate for the manually filtered complete export.

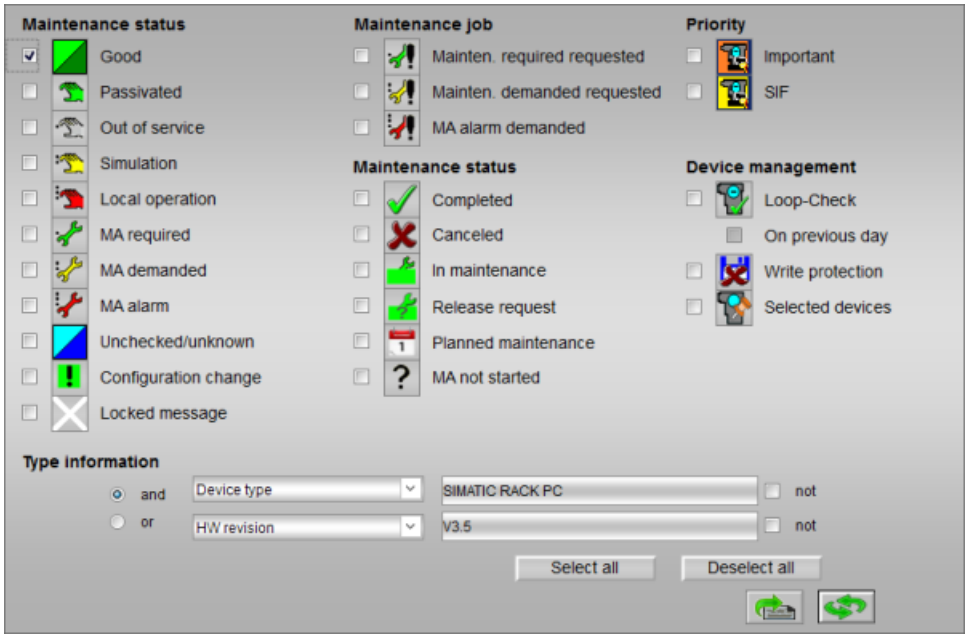
The manually filtered complete export can be launched.

When you open the faceplate, you see an overview of the last manually filtered complete export job executed or active.

If a manually filtered complete export job is active, you cannot change any filter settings.

Display

The following figure shows an example of the faceplate for the manually filtered complete export.



Operator control

Display	Explanation	Operator permission
☐	The option is selected by clicking on the check box. • Maintenance status, Maintenance job, Maintenance status, Priority and Device management areas The filter criteria are selected. • Type information area Option for negation of the logical operator for type information	None
○	Option for the logical operator for type information	None
HW revision	Part of the identification data, for example, the device type for which the search text is used	None
V3.5	Input of search text	None
Select all	Clicking the button sets all filter criteria.	None
Deselect all	Clicking the button resets all filter criteria.	None

Display	Explanation	Operator permission
	Clicking the "Log" button opens the result of the last manually filtered complete export from the default export directory on the maintenance server.	None
	Clicking the button shows the operator panel for starting the update. An active manually filtered complete export must be completed before you can start a new one.	None

Operator panel for updating/canceling

The following figure shows an example of the operator panel:

- Operator control

Button	Explanation	Operator permission
OK	Clicking the button starts the manually filtered complete export with the selected filter settings.	None
Cancel	Clicking the button cancels the operation.	None

6.4.4.3 Manually filtered complete export

Note

The manually filtered complete export is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

The manually filtered complete export can be controlled by operator input in the faceplate or remotely via OPC access on the MS.

Note

The manually filtered complete export and remote access via OPC use the same variable structure.

This is why they are not independent of each other and can influence each other.

Export file

One export file is created for every manually filtered complete export.

The export file is saved to the MS server project.

An additional storage location can be specified in the ""Other settings" tab (Page 75)" tab under "Advanced diagnostic settings".

The name of the export file is structured as follows: "LogFilteredExportManually_YYYY-MM-DD_HH-MM-SS-SSS.XML".

The most recent export file is also stored with the following name for display in the faceplate: "CurrentFilteredExportManually.XML".

The export file contains the following information:

- Overall status of the manually filtered complete export
- Start time, end time and duration of execution
- Information on manually filtered complete exports with errors or that were not performed

The storage location contains the three most recent export files. Older export files are deleted from the system.

If an export file cannot be deleted due to access conflicts, an error message is generated in the process control. The system attempts to delete the export file during the next export.

If an export file cannot be written with the defined name due to access conflicts, an error message is generated in the process control. The file name is suffixed with "(<x>)", where x is a natural number beginning with "1".

Reaction of the manually filtered complete export when the SIMATIC PDM ASSET service is stopped

- The SIMATIC PDM ASSET service is stopped due to archiving
  The project states are regularly archived on the engineering station in many plants.
  The SIMATIC PDM ASSET service must be stopped and locked to prevent it restarting for the duration of archiving.
  No jobs can be accepted during this time. The Maintenance Station call is rejected.
  In this case, a manually filtered complete export that is to be started or is already running is paused for the duration of archiving.
  The system checks every 10 minutes whether it is possible to resume the manually filtered complete export. The check is repeated 20x.
  Each check is entered in the log with a time specification.
  In this phase, the status in the "...State" variable remains 0xFFFF.
  If the start is successful, the manually filtered complete export continues.
  If the start fails after the maximum number of retries, the filtered manual complete export is canceled with a message in the message system.
- The SIMATIC PDM ASSET service is not running for other reasons
  In this case, the Maintenance Station attempts to start the SIMATIC PDM ASSET service.
  If the start is successful, the manually filtered complete export starts or continues.
  If the start fails, the manually filtered complete export is canceled with a message in the message system.

Additional information

For additional information, please refer to the following sections.

6.4.4.4 How to filter and save the data of the manually filtered complete export

Note

This function is available only for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

Requirement

- The faceplate for the manually filtered complete export is open. The view for the manually filtered complete export is displayed.
- The manually filtered complete export is not running at this time.
- The cyclically filtered complete export can be enabled.
- Processing of the cyclically filtered complete export is not running at this time.

Procedure

1. Select the filter criteria you require.
   - Select the desired filter criteria check boxes in the following groups:
     - Maintenance status
     - Maintenance job
     - Priority
     - Maintenance status
     - Device management

     If multiple filter criteria are selected, they are ORed.
     Exception: An exception to this is the "Loop check: On previous day" check box, which is only taken into consideration when the "Loop check" check box is selected.
   - You can enable all filter criteria with the "Select all" button.
     Click "Deselect all" to clear all filter criteria selected.
   - In the "Type information" group, you can select an area from the drop-down lists and enter the text you are looking for in the input boxes.
     You can use the characters "*" and "?" as wildcards.
     Link the fields.
2. Click the "Refresh" button.
   The view expands to include the operator panel.
3. Click "OK".
   A picture window with the result will appear.
4. Click "Save" if you want to save the result in an export file.
   An operator message is triggered.

Additional information

You can find additional information on the name and storage location in the section "Overview of complete export (Page 89)".

6.4.5 Manually filtered complete export via OPC

6.4.5.1 Variables for OPC access

Introduction

The manually filtered complete export can also be run via OPC access.

The information for the manually filtered complete export is stored in a structure variable.

This variable structure can be directly accessed by another computer via the OPC DA interface.

You can find information on establishing an OPC connection in the *WinCC Information System* online help.

Variables for OPC access

The required information is stored in the following variables:

Name of the variable	Data type	Synchronization	Initial value	Explanation	Access via OPC(1)
@AssetInfoExportControl.MSFilter	DWord	X	0	Filter for devices	Read/write
@AssetInfoExportControl.TypInfo	String	X		Type information	Read/write
@AssetInfoExportControl.Start	Byte	-	0	"Start" command	Read/write
@AssetInfoExportControl.State	DWord	X	0	Status or group error entry	Read/write
@AssetInfoExportControl.DateStarted	Date& Time	X	0	Start time of the export	Read
@AssetInfoExportControl.DateFinished	Date& Time	X	0	End time of the export	Read

(1)The "Access via OPC" column explains how the variables are to be used.

@AssetInfoExportControl.MSFilter

The following tables show the permitted values for bits **0 to 31**.

If multiple bits are set, the states are ORed.

Exception: An exception to this is bit 24 "Loop check: On previous day", which is only taken into consideration when bit 21 "Loop check" is set.

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Maintenance state																
Good	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Passivated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Out of service	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Simulation	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Local operator control	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Maintenance required	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Maintenance demanded	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Maintenance alarm	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Device status unknown	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Configuration change	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Maintenance job																
Maintenance required requested	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Maintenance demand requested	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Maintenance alarm requested	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Maintenance status																
Completed	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Canceled	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
In maintenance	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
...																

Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
...																
Maintenance not started	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Planned maintenance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Release request	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Priority																
Important object	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Safety-related object	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Device management																
Loop check	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Loop check: On previous day	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Write protection	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Selected devices	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-

@AssetInfoExportControl.TypInfo

The table shows the permitted values.

Value	Explanation
	Initial value
"<Text filter key=""Type"" Filter=""SIMATIC RACK PC"" /> <TextFilterCombination>AND</TextFilterCombination> <Text filter key=""HwVersion"" Filter=""V3.5"" />"	You can specify any text filter using keywords. The basic structure is shown in the "Value" column. The following keywords are available: • TagFunktion • TagLocation • Address • Descreiption • Message • Type • Manufacturer • OrderNumber • SerialNumber • InstallationDate • HwVersion • SwVersion • HWComment

@AssetInfoExportControl.Start

The table shows the permitted values.

Value	Explanation
0	Initial value
1	"Start" command via faceplate The command is reset after execution of the manually filtered complete export.
2	"Start" command via OPC The command is reset after execution of the manually filtered complete export.

@AssetInfoExportControl.State

The table shows the permitted values.

Value	Explanation
0x0	Initial value
0xFFFF	Manually filtered complete export underway
0x01	Manually filtered complete export complete All information data has been determined.
0x02	Manually filtered complete export complete The manually filtered complete export has been canceled by the operator.

Value	Explanation
0x03	Manually filtered complete export complete No information data has been determined.
0x04	Processing complete No device status corresponded to the filter criteria.
0x05	Processing complete Cyclically filtered complete exports running in parallel prevented start.

@AssetInfoExportControl.DateStarted

The table shows the permitted values.

Value	Explanation
Date& Time	Start time of the export for the export file

@AssetInfoExportControl.DateFinished

The table shows the permitted values.

Value	Explanation
Date& Time	End time of the export for the export file

6.4.5.2 How to launch the manually filtered complete export (OPC)

Note

The function is available for the Maintenance Station in the MS Standard version.

Note

The filtered manual complete export and remote access via OPC use the same variable structure.

This is why they are not independent of each other and can influence each other.

Procedure

1. Write the @AssetInfoExportControl.MSFilter and/or @AssetInfoExportControl.TypeInfo variable in accordance with the required filter criteria.
2. Write a value of "2" to the start variable @AssetInfoExportControl.Start.

Result

An export file with the result is created.

Note

If, at the start of a manually filtered complete export, the system detects that another cyclically filtered complete export is already running, the manually filtered complete export to be launched is canceled.

Corresponding information is entered in the export file.

6.4.6 Cyclically filtered complete export

6.4.6.1 Calling the "Cyclically filtered complete export" function

Note

This function is available for the Maintenance Station in the MS Standard version.

Note

Avoid parallel access to the manually filtered complete export.

Introduction

The system allows you to export the data of the last complete export cyclically filtered.

You open the faceplate for filtered complete export using the button in the overview screen.

You can use the cyclically filtered complete export irrespective of the manually filtered complete export.

Three independent cyclically filtered complete exports are available.

Button in the overview screen

Button	Function	Permissions
	Device status filter • Access filter view • Filter data	"Process controls" for the diagnostics area

Procedure

1. Click the button.
2. In the faceplate, select one of the views for the cyclically filtered complete export.

Result

The view of the faceplate for the selected cyclically filtered complete export is displayed.

Additional information

For additional information, please refer to the following sections.

The function description in the following sections applies to each of the three cyclically filtered complete exports.

6.4.6.2 Filter settings for the cyclically filtered complete export

Note

The filter settings are available for the Maintenance Station in the MS Standard version.

Introduction

A range of filter criteria are available in the faceplate for the cyclically filtered complete export.

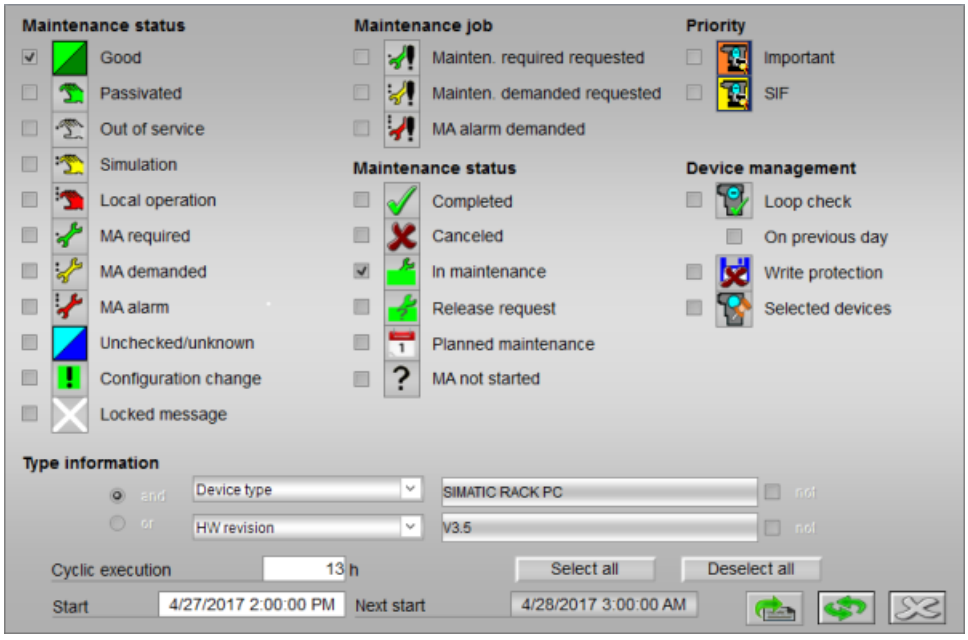
The cyclically filtered complete export can be started, or an active export operation can be canceled.

When you open the faceplate, you see an overview of the last cyclically filtered complete export job executed or active.

If a cyclically filtered complete export job is active, you cannot change any filter settings. You can only cancel the cyclically filtered complete export job.

Overview

The following figure shows an example of the faceplate for the cyclically filtered complete export:



Display

- Next start
  Date and time of the next cyclically filtered complete export start

Operator control

Display	Explanation	Operator permission
☐	The option is selected by clicking on the check box. • Maintenance status, Maintenance job, Maintenance status, Priority and Device management areas The filter criteria are selected. • Type information area Option for negation of the logical operator for type information	None
○	Option for the logical operator for type information	None
HW revision	Part of the identification data, for example the device type for which the search text is used	None
V3.5	Input of search text	
Select all	Clicking the button sets all filter criteria.	None
Deselect all	Clicking the button resets all filter criteria.	None

Display	Explanation	Operator permission
13	Cyclic execution: Enter the cycle in hours for repeating the cyclically filtered complete export.	
4/27/2017 2:00:00 PM	Start: Enter the date and time for the first start of the cyclically filtered complete export.	None
	Clicking the "Log" button opens the result of the last cyclically filtered complete export from the default export directory on the maintenance server.	None
	Clicking the button shows the operator panel for starting the update. An active cyclically filtered complete export must be completed before you can start a new one.	None
	Clicking the button displays the operator panel for canceling the active cyclically filtered complete export.	None

Operator panel for updating/canceling

The following figure shows an example of the operator panel for cycle 1:

- Operator control

Button	Explanation	Operator permission
OK	Clicking the button starts the cyclically filtered complete export with the selected export and filter settings.	None
Cancel	Clicking the button cancels the operation.	None

6.4.6.3 Cyclically filtered complete export

Note

This function is available for the Maintenance Station in the MS Standard version.

Export file

One export file is created for every cyclically filtered complete export.

The export file is saved to the MS server project.

An additional storage location is specified in the "Other settings" tab under "Advanced diagnostic settings".

The name of the export file is structured as follows: "LogFilteredExportCyclic <n>_YYYY-MM-DD_HH-MM-SS-SSS.XML" (n=1 to 3).

The most recent export file is also stored with the following name for display in the faceplate: "CurrentFilteredExportCyclic<n>.XML".

The export file contains the following information:

- Overall status of the cyclically filtered complete export
- Start time, end time and duration of execution
- Information on cyclically filtered complete exports with errors or exports that were not performed

The storage location contains the three most recent export files. Older export files are deleted from the system.

If an export file cannot be deleted due to access conflicts, an error message is generated in the process control. The system attempts to delete the export file during the next export.

If an export file cannot be written with the defined name due to access conflicts, an error message is generated in the process control. The file name is suffixed with "(<x>)", where x is a natural number beginning with "1".

Reaction of the cyclically filtered complete export when the SIMATIC PDM ASSET service is stopped

- The SIMATIC PDM ASSET service is stopped due to archiving
  The project states are regularly archived on the engineering station in many plants.
  The SIMATIC PDM ASSET service must be stopped and locked to prevent it restarting for the duration of archiving.
  No jobs are accepted during this time. The call to the Maintenance Station is rejected.
  In this case, a cyclically filtered complete export that is to be started or is already running is paused for the duration of archiving.
  The system checks every 10 minutes whether it is possible to resume the cyclically filtered complete export. The check is repeated 20x.
  Each check is entered in the log with a time specification.
  In this phase, the status in the "...State" variable remains 0xFFFF.
  If the start is successful, the cyclically filtered complete export continues.
  If the start fails after the maximum number of retries, the cyclically filtered complete export is canceled with a message in the message system.
- The SIMATIC PDM ASSET service is not running for other reasons
  In this case, the Maintenance Station attempts to start the SIMATIC PDM ASSET service.
  If the start is successful, the cyclically filtered complete export is started or continues.
  If the start fails, the cyclically filtered complete export is canceled with a message in the message system.

Calculation of the next start time

Once the cyclically filtered complete export has started, the next start time is calculated according to the following rules:

- The start time specified in the "Start" text box of the faceplate is in the future
  The specified start time is used as the next start time in the "Next start" display box.
- The start time specified in the "Start" text box of the faceplate is in the past
  The specified cycle time is added up for the specified start time until a start time in the future is reached.
  This start time is applied as the next start time in the "Next start" display box.
  If the (entered) start time dates back to more than one year in the past, the next start time is automatically scheduled to the next full hour.

Once the next start time is reached, the subsequent start time is recalculated by adding up the cycle time and is displayed.

Additional information

For additional information, please refer to the following sections.

6.4.6.4 How to launch the cyclically filtered complete export

Note

This function is available for the Maintenance Station in the MS Standard version.

Requirements

- The faceplate for the filtered complete export is open.
- The cyclically filtered complete export to be selected is not enabled.

Procedure

1. Select the required cycle in the header of the faceplate with the "Cycle" button.
2. Select the filter criteria you require.
   - Select the required filter criteria check boxes in the following groups:
     - Maintenance status
     - Maintenance job
     - Priority
     - Maintenance status
     - Device management

     If multiple filter criteria are selected, they are ORed.
     Exception: An exception to this is the "Loop check: On previous day" check box, which is only taken into consideration when the "Loop check" check box is selected.
   - You can enable all filter criteria with the "Select all" button.
     Click "Deselect all" to clear all filter criteria selected.
   - In the "Type information" group, you can select an area from the drop-down lists and enter the text you are looking for in the input boxes.
     You can use the characters "*" and "?" as wildcards.
     Link the fields.
3. Enter the cycle in hours in the "Cyclic execution" text box.
4. Enter the date and time for the first start of cyclic processing in the "Start" text box.
5. Click the "Refresh" button.
   The view expands to include the operator panel.
6. Click "OK".

Result

The next start time is calculated from the specified start and cycle time.

An operator message is triggered.

An export file is created after each cycle.

The status display in the header of the faceplate shows the current status.

Note

If, at the start of a cyclically filtered complete export, the system detects that another filtered complete export is already running, the cyclically filtered complete export to be launched is canceled.

Corresponding information is entered in the export file.

6.4.6.5 How to cancel the cyclically filtered complete export

Note

This function is available for the Maintenance Station in the MS Standard version.

Requirement

The faceplate for the filtered complete export is open.

Procedure

1. Select the desired active cycle in the header of the faceplate with the "Cycle" button.
2. Click the "Cancel" button.
   The view expands to include the operator panel.
3. Click "OK".

Result

The cyclically filtered complete export for the selected cycle is canceled.

An operator message is triggered.

6.4.7 Overview of system functions

6.4.7.1 System functions

A range of functions are available in a faceplate as global system functions.

The system offers the following system functions:

- Message correction for components with SNMP functionality (Page 133)
- PC station reset (Page 133)
- AS system reset (Page 134)
- Field device reset (Page 135)
- User area reset (Page 136)

6.4.7.2 Message correction for components with SNMP functionality

Introduction

The "Message correction" function deletes messages of SNMP-compatible components in the configuration data of the Maintenance Station (server data) for which the relationship with the project has been deleted, for example, if you have removed PC hardware from the system.

The "Message correction" function is available if your plant is not operated via a PCS 7 Web client.

Button on the user interface

Button	Function	Permissions
	Execute message correction	"Authorization for area" and "Process controlling" for the diagnostics area

Procedure

1. Click the button.

Result

Relevant messages are deleted.

An operator message is triggered.

6.4.7.3 PC station reset

Introduction

The "PC station reset" function resets the saved error states in the following views:

- "Diagnostics" for PC objects
- "Connection display" for client components
- "Connection display" for server components

All saved error states of the components in the "PC stations" area are reset.

Button on the user interface

Button	Function	Permissions
	PC station reset	"Authorization for area" and "Process controlling" for the diagnostics area

Procedure

1. Click the button.

Result

Error states are reset.

An operator message is triggered.

Additional information

You can find information on the individual views at:

- "Diagnostics" view for PC objects (Page 202)
- "Connection display" view for client components (Page 204)
- "Connection display" view for server components (Page 206)

6.4.7.4 AS system reset

Introduction

The "AS system reset" function resets the saved error states in the following views:

- "Performance" for AS objects
- "OBX..." for AS objects
- "Connection load display" for CPU connections

All saved error states of the components in the "AS system" area are reset.

Button on the user interface

Button	Function	Permissions
	AS system reset	"Authorization for area" and "Process controlling" for the diagnostics area

Procedure

1. Click the button.

Result

Error states are reset.

An operator message is triggered.

Additional information

You can find information on the individual views at:

- "Performance" view for AS objects (Page 211)
- "OBx..." view for AS objects (Page 213)
- "Parameters" view for AS objects (Page 215)

6.4.7.5 Field device reset

Introduction

The "Field device reset" function resets the saved error states in the following view:

- "Diagnostics" for AS objects

All saved error states of the components in the "Field devices" area are reset.

Button on the user interface

Button	Function	Permissions
	Field device reset	"Authorization for area" and "Process controlling" for the diagnostics area

Procedure

1. Click the button.

Result

Error states are reset.

An operator message is triggered.

Additional information

Information on the view is available at:

- "Diagnostics" view for AS objects (Page 208).

6.4.7.6 User area reset

Introduction

The "User area reset" function resets the saved error states in the following views:

- "Diagnostics" for user objects
- "Monitoring" for user objects

All saved error states of the components in the "User objects" area are reset.

Button on the user interface

Button	Function	Permissions
	User area reset	"Authorization for area" and "Process controlling" for the diagnostics area

Procedure

1. Click the button.

Result

Error states are reset.

An operator message is triggered.

Additional information

You can find information on the individual views at:

- "Diagnostics" view for user objects (Page 228)
- "Monitoring" view for user objects (Page 229)

6.4.8 Filtered manual parameter data export

6.4.8.1 Calling the function "Filtered manual parameter data export"

Note

The function is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS version.

Note

Avoid parallel access to filtered manual parameter data export.

Introduction

The filtered manual parameter data export enable a manual parameter data export from field devices via SIMATIC PDM.

You open the faceplate for parameter data export using the button in the overview screen. The view for the filtered manual parameter data export is displayed.

Requirement

SIMATIC PCS 7 MS Standard with utilization of SIMATIC PDM >= V8.2 or SIMATIC PDM MS

Button in the overview screen

Button	Function	Permissions
	Calls the faceplate	"Higher process controlling" for diagnostics area

Procedure

1. Click the button.

Result

The view of the faceplate for the filtered manual parameter data export is opened.

Additional information

For additional information, refer to the following sections:

6.4.8.2 Filter settings for the filtered manual parameter data export

Note

The function is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS version.

Introduction

The faceplate includes various filter criteria and export settings for exporting parameter data.

The export can be started, or an active export operation can be canceled.

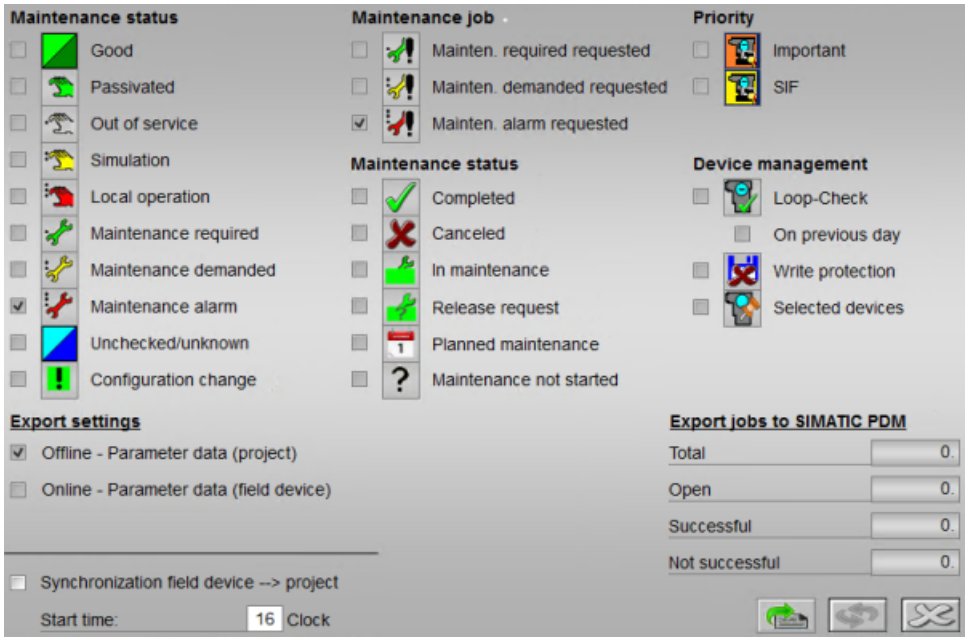
When you open the faceplate, you will see an overview of the last executed or active export job.

If an export job is active, you cannot change any filter settings. You can only cancel the export job.

Time-controlled synchronization can be enabled or disabled irrespective of the other export jobs.

Display

The following figure shows an example of the faceplate for the parameter data export:



- In the Maintenance status, Maintenance job, Priority, Maintenance status and Device management areas
  Selected filter criteria
- In the Export settings area
  Selected type of export
- In the "Export jobs to SIMATIC PDM" area
  Result of the last executed export job or current data of the active export job:
  - Total
    Number of parameter data records to be exported
  - Open
    Number of parameter data records still to be exported
  - Successful
    Number of parameter data records already exported
  - Not successful
    Number of parameter data records that were not exported

Operator control

Display	Explanation	Operator permission
	The option is selected by clicking on the check box. • Maintenance status, Maintenance job, Maintenance status, Priority and Device management areas The filter criteria are selected. • Export settings area – Offline - Parameter data (project) The parameter data is read from the project during the export. – Online - Parameter data (field device) The parameter data in the project is updated and then exported. – Time-controlled synchronization between parameter data in the field device and in the project Time-controlled synchronization is started when the specified time is reached. The parameter data in the project is automatically updated and then exported. The activated filter criteria are ignored during the update. Time-controlled synchronization is executed for field devices for which a change in the configuration was detected.	None
	Enter the time in hours of the daily start for time-controlled synchronization. Use the 24-hour format.	None
	Clicking the "Log" button opens the log file of the last filtered manual parameter data export from the default export directory on the maintenance server. The log file is in English only.	None
	Applies to the following export settings: • Offline - Parameter data (project) • Online - Parameter data (field device) Clicking the button shows the operator panel for starting the update. Observe the following when exporting online and offline parameter data: An active export job must be completed before you can start a new export job.	None
	Applies to the following export settings: • Offline - Parameter data (project) • Online - Parameter data (field device) By clicking the button, the operator panel for canceling the active export job is shown.	None

Operator panel for updating/canceling

The following figure shows an example of the operator panel:

- Operator control

Button	Explanation	Operator permission
OK	Clicking the button starts the export job with the selected export and filter settings.	None
Cancel	Clicking the button cancels the operation.	None

- Display
  Preview value:
  The preview value specifies how many devices match the currently set filter.
  While the preview value is being determined or if it could not be determined, for example, because the ASSET service is currently unavailable, "***" is displayed as preview value.

6.4.8.3 Filtered manual parameter data export of EDD-based devices

Note

The parameter data export is available for the Maintenance Station in the MS Standard version.

Export of parameter data

Parameter data of devices that are integrated in SIMATIC PDM via EDDs can be exported:

- Export of the "offline parameter data (project)"
  The parameter data stored in the project is exported to the specified destination.
  The selected filter criteria are taken into consideration for the device selection.
- Export of the "online parameter data (field device)"
  The complete parameter data is first read from the devices and saved in the project. This parameter data is then exported to the specified destination.
  The selected filter criteria are taken into consideration for the device selection.
- Time-controlled synchronization (field device --> project)
  A check is made at the specified time as to whether there is a difference in the parameter data between the device and project or if a device has independently signaled a configuration change. For these devices, all the parameter data is first read from the devices and saved in the project.
  The parameter data saved in the project is then exported to the specified destination.
  The selected filter criteria are not taken into consideration for the device selection.

The export of parameter data can be controlled by operator input in the faceplate or remotely via the OPC interface of the MS.

Note

The filtered manual parameter data export and remote access via OPC to use the same variable structure.

This is why they are not independent of one another and can influence one another.

Note

When exporting online parameter data, the device parameter assignment may not be open elsewhere. Otherwise, only an export of online parameter data is performed.

This is relevant for the following export types:

- Export of the "online parameter data (field device)"
- Time-controlled synchronization (field device --> project)
- Online parameter data export for a selected device

Refer to the export file to find out whether online or offline parameter data was exported.

Reaction of the parameter data export when SIMATIC PDM ASSET service is stopped

- SIMATIC PDM ASSET Service is stopped due to archiving
  The project states are regularly archived on the engineering station in many plants.
  The SIMATIC PDM ASSET service must be stopped and locked against restarting for the duration of archiving.
  No export jobs can be accepted during this time. The call to the Maintenance Station is rejected.
  In this case, a parameter data export that is to be started or is already running is paused for the duration of archiving.
  There is a check every 10 minutes to determine whether it is possible to resume the parameter data export. The check is repeated 20x.
  Each check is entered in the log with a time specification.
  In this phase, the status in the "...State" variable remains 0xFFFF.
  If the start is successful, the parameter data export continues.
  If the start fails after the maximum retries, the parameter data export is canceled with a message in the message system.
- SIMATIC PDM ASSET Service is not running for other reasons
  In this case, the Maintenance Station attempts to start the SIMATIC PDM ASSET service.
  If the start is successful, the parameter data export is started or continued.
  If the start fails, the parameter data export is canceled with a message in the message system.

Export file

The parameter data is stored in an individual export file for each created device.

The export format and the content of these export files conform to the export format of SIMATIC PDM.

To specify the storage location, select the menu command **Options > SIMATIC PDM > Settings...** in SIMATIC Manager and then go to the "General" tab, "Path for 'Asset export' files".

The name of the export file is structured as follows: "<Devicename>_ $YYYYMMDD_HHMMSS.XML".

When name conflicts occur during the export, the file name is extended by "_1".

Log file

For each export job, a log file is created in which the successful or unsuccessful export of the parameter data of the devices is documented.

The storage location of the log file is specified using the WinCC variable @AssetControl.ExportPath. The log file is also saved in the project of the MS server.

The name of the log file has the following structure: "LogPDMExportManually_YYYY-MM-DD_HH-MM-SS-SSS.XML".

In addition, the most recent log file is stored with the following name for display in the faceplate: "CurrentPDMExportManually.XML".

The log file contains the following information:

- Overall status of the parameter data export
- Start time, end time and duration of the execution
- Information on parameter data exports with errors or that were not performed

The storage location contains the three most recent log files. Older log files are deleted from the system.

When a log file cannot be deleted due to access conflicts, an error message is generated in the process control. There is an attempt to delete the log file with the next parameter data export.

When a log file cannot be written with the defined name due to access conflicts, an error message is generated in the process control. The file name is suffixed with "(<x>)", where x is a natural number beginning with "1".

Additional information

For additional information, refer to the following sections:

6.4.8.4 How to start the filtered manual parameter data export

Note

The function is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS version.

Requirements

- The faceplate for the parameter data export is open. The view for the filtered manual parameter data export is displayed.
- The filtered manual cyclic parameter data export is not running at this time.
- The filtered cyclic parameter data export can be active.
- The execution of the filtered cyclic parameter data export is not running at this time.

Procedure

1. Select which parameter data will be exported.
   - If you want to export parameter data stored in the project, select the "Offline parameter data (project)" check box.
   - If you want to export parameter data stored in the field device, select the "Online parameter data (field device)" check box.
2. Select the filter criteria you require.
   When several check boxes are selected, the filter criteria are linked with "Or".
   Exception: An exception to this is the "Loop check: On previous day" check box, which is only taken into consideration when the "Loop check" check box is selected.
3. Click the "Refresh" button.
   The view is expanded to include the operator panel.
4. Click "OK".

Result

An export file is created for each individual device.

An operator message is triggered.

The values displayed in the "Export jobs for SIMATIC PDM" area are updated.

The status display in the header of the faceplate shows the current status.

A log file is created for the export job.

Note

If it is detected at the start of a parameter data export that another parameter data export is already running, the parameter data export to be launched is canceled.

Corresponding information is entered in the log file.

6.4.8.5 How to cancel the filtered manual parameter data export

Note

The function is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS version.

Requirements

- The faceplate for the parameter data export is open.
- The view for the filtered manual parameter data export is displayed.

Procedure

1. Click the "Cancel" button.
   The view is expanded to include the operator panel.
2. Click "OK".

Result

The parameter data export is canceled.

An operator message is triggered.

The values displayed in the "Export jobs for SIMATIC PDM" area are updated.

6.4.8.6 How to start time-controlled synchronization

Note

This function is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

Requirements

- The faceplate for the parameter data export is open.
- The view for the filtered manual parameter data export is displayed.
- The "Time-controlled synchronization field device --> project" check box is selected.

Procedure

1. Enter the time of the start.
2. Select the "Time-controlled synchronization field device --> project" check box.

Result

An operator message is triggered.

The synchronization is performed at the specified time.

A check is made at the specified time as to whether there is a difference in the parameter data between the device and project or if a device has independently signaled a configuration change. For these devices, all the parameter data is first read from the devices and saved in the project.

The parameter data saved in the project is then exported to the specified destination.

The selected filter criteria are not taken into consideration for the device selection.

The values displayed in the "Export jobs to SIMATIC PDM" area are not updated.

A log file is not created on the Maintenance Station.

6.4.8.7 How to stop time-controlled synchronization

Note

This function is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

Requirements

- The faceplate for the parameter data export is open.
- The view for the filtered manual parameter data export is displayed.

Procedure

1. Clear the "Time-controlled synchronization field device --> project" check box.

Result

Time-controlled synchronization was terminated.

An operator message is triggered.

6.4.9 Filtered manual parameter data export via OPC access

6.4.9.1 Tags for OPC access

Introduction

The filtered manual parameter data export can also be performed with OPC access.

The information for the parameter data export is stored in a structure variable.

This variable structure can be directly accessed by another computer via the OPC DA interface.

You can find information on establishing an OPC connection in the *WinCC Information System* online help.

Variables for OPC access

The required information is stored in the following variables:

Name of the variable	Data type	Synchronization	Initial value	Explanation	Access via OPC(1)
@AssetControl.ActionType	Byte	X	0	Required action	Read/write
@AssetControl.MSFilter	DWord	X	0	Filter for the SIMATIC PDM devices	Read/write
@AssetControl.Start	Byte	-	0	"Start" command	Read/write
@AssetControl.MSFilterPreview	DWord	X	0	Filter for devices for preview value	Read
@AssetControl.StartPreview	Byte	-	0	Start identifier for preview value	Read/write
@AssetControl.ExportStarted	Date&Time	X	0	Start time of the export	Read
@AssetControl.ExportFinished	Date&Time	X	0	End time of the export	Read
@AssetControl.CyclicTrigger	Byte	-	0	Time-controlled synchronization enabled	Read/write
@AssetControl.CyclicTriggerRun	Byte	X	0	Tracked CyclicTrigger	Read/write
@AssetControl.CyclicTriggerStartTime	Byte	X	0	Time for the daily start of time-controlled synchronization	Read/write
@AssetControl.CyclicTriggerStart	Byte	-	0	Start identifier for time-controlled synchronization	Read
@AssetControl.State	DWord	X	0	Status or group error entry	Read
@AssetControl.Cancel	Byte	X	0	"Cancel" command	Read/write
@AssetControl.DeviceCount	DWord	X	0	Total number of export jobs according to the filter criteria	Read
@AssetControl.DeviceCountPreview	DWord	-	0	Number of devices in accordance with the filter for preview	Read
@AssetControl.DeviceCountOK	DWord	X	0	Number of successful export jobs	Read

Name of the variable	Data type	Synchronization	Initial value	Explanation	Access via OPC(1)
@AssetControl.DeviceCountFailed	DWord	X	0	Number of unsuccessful export jobs	Read
@AssetControl.TagExportStart	Byte	-	0	Start for export via tag name (one device)	Read/write
@AssetControl.TagExportState	DWord	X	0	State of tag export	Read
@AssetControl.TagExportName	256 bytes	X	" "	Tag name of the device to be exported	Read/write
@AssetControl.ExportPath	256 bytes	X	" "	Path to the export destination in SIMATIC PDM	Read/write

(1)The "Access via OPC" column explains how the variables are to be used.

@AssetControl.ActionType

The table shows the permitted values.

Value	Explanation
0x01	Export of the offline parameter data (project)
0x02	Export of the online parameter data (field device)

@AssetControl.MSFilter

The following tables show the permitted values for bits **0 to 31**.

If multiple bits are set, the statuses are ORed

Exception: An exception to this is bit 24 "Loop check: On previous day", which is only taken into consideration when bit 21 "Loop check" is set.

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Maintenance state																
Good	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Passivated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Out of service	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Simulation	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Local operator control	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Maintenance required	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Maintenance demanded	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Maintenance alarm	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Device status unknown	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Configuration change	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Maintenance job																
Mainten. required requested	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Maintenance demand requested	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Maintenance alarm requested	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Maintenance status																
Completed	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Canceled	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
In maintenance	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
...																

Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
...																
Maintenance not started	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Planned maintenance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Release request	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Priority																
Important object	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Safety-related object	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Device management																
Loop check	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Loop check: On previous day	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Write protection	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Selected devices	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-

@AssetControl.Start

The table shows the permitted values.

Value	Explanation
0	Initial value
1	"Start" command The command is reset after completion of the offline/online export job (ActionType).

@AssetControl.MSFilterPreview

The structure of the @AssetControl.MSFilterPreview variable corresponds to that of the @AssetControl.MSFilter variable.

@AssetControl.StartPreview

The table shows the permitted values.

Value	Explanation
0	Initial value
1	"StartPreview" command The preview value is determined.

@AssetControl.ExportStarted

The table shows the permitted values.

Value	Explanation
Date& Time	Start time of the export for the log file

@AssetControl.ExportFinished

The table shows the permitted values.

Value	Explanation
Date& Time	End time of the export for the log file

@AssetControl.CyclicTrigger

The table shows the permitted values.

Value	Explanation
0	"Time-controlled synchronization field device --> project" not enabled
1	"Time-controlled synchronization field device --> project" enabled Command for enabling the time-controlled synchronization for field device -> project

@AssetControl.CyclicTriggerRun

The table shows the permitted values.

Value	Explanation
0	"Time-controlled synchronization field device --> project" not enabled Command for disabling the time-controlled synchronization for field device -> project
1	"Time-controlled synchronization field device --> project" enabled

@AssetControl.CyclicTriggerStartTime

The table shows the permitted values.

Value	Explanation
0 to 23	Start time of the time-controlled synchronization

@AssetControl.CyclicTriggerStart

The table shows the permitted values.

Value	Explanation
0	Initial value
1	Start of the execution of the devices in the "Configuration change" state

@AssetControl.State

The table shows the permitted values.

Value	Explanation
0x0	Initial value
0xFFFF	Offline/online export job is running
0x01	Export completed All offline/online export jobs have been completed.
0x02	Export completed The offline/online export job was canceled by the operator.
0x03	Export completed Not all offline/online export jobs have been completed.
0x04	Processing completed No device status corresponded to the filter criteria.
0x05	Processing completed Exports running in parallel prevented the start

Refer to the log file for your export job to find out which export jobs were completed successfully and which were not completed successfully.

@AssetControl.Cancel

The following table shows the permitted values.

Value	Explanation
0	Initial value
1	"Cancel" command

@AssetControl.DeviceCount

The following table shows the permitted values.

Value	Explanation
0	Initial value
0 ...	Total number of offline/online export jobs according to filter criteria

@AssetControl.DeviceCountPreview

The following table shows the permitted values.

Value	Explanation
0	Initial value
0 ...	Total number of offline/online export jobs according to filter criteria for the preview value

@AssetControl.DeviceCountOK

The following table shows the permitted values.

Value	Explanation
0	Initial value
0 ...	Number of successful offline/online export jobs

@AssetControl.DeviceCountFailed

The following table shows the permitted values.

Value	Explanation
0	Initial value
0 ...	Number of unsuccessful offline/online export jobs

@AssetControl.TagExportStart

The following table shows the permitted values.

Value	Explanation
0x0	Initial value
0x01	"Start online export job" command (field device) The command is reset after executing the export job (TagExportName).
0x02	"Start offline export job" command (project) The command is reset after executing the export job (TagExportName).

@AssetControl.TagExportState

The following table shows the permitted values.

Value	Explanation
0x0	Initial value
0xFFFF	Export job is running
0x01	Export has ended. Export job has been completed.
0x03	Export has ended. Export job has not been completed.
0x04	Processing has ended. No match found for TagExportName.

@AssetControl.TagExportName

The variable is "empty" in the initial state.

Specify the tag name of the device to be exported. You can find this name in the Component List Editor.

@AssetControl.ExportPath

The variable is "empty" in the initial state. The log file for your export job is only stored in the "AssetExport" directory in the OS project of the MS server.

Specify the path for AssetExport files that you have specified in the settings for SIMATIC PDM. The log file for your export job is stored in the specified path and in the "AssetExport" directory in the OS project of the MS server.

6.4.9.2 How to start the filtered manual parameter data export (OPC)

Note

The function is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS version.

Note

The filtered manual parameter data export and remote access via OPC to use the same variable structure.

This is why they are not independent of one another and can influence one another.

Procedure

1. Select which parameter data will be exported.
   - If you are exporting offline parameter data, write the @AssetControl.ActionType variable with the value 0x01.
   - If you are exporting online parameter data, write the @AssetControl.ActionType variable with the value 0x02.
2. Write the @AssetControl.MSFilter variable according to the desired filter criteria.
3. Write the @AssetControl.ExportPath variable.
4. Set the start variable @AssetControl.Start.

Result

An export file is created for each individual device.

The values of the @AssetControl.DeviceCount, @AssetControl.DeviceCountOK, and @AssetControl.DeviceCountFailed variables contain the current execution status.

The values displayed in the "Export jobs for SIMATIC PDM" area are updated.

A log file is created for each export job.

Note

If it is detected at the start of a parameter data export that another parameter data export is already running, the parameter data export to be launched is canceled.

Corresponding information is entered in the log file.

6.4.9.3 How to cancel the filtered manual parameter data export (OPC)

Note

The function is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS version.

Procedure

1. Set the @AssetControl.AdditionalTrigger variable.

Result

The parameter data export is canceled.

The @AssetControl.Start variable is automatically set to "0".

The values of the @AssetControl.DeviceCount, @AssetControl.DeviceCountOK, and @AssetControl.DeviceCountFailed variables are updated.

Note

It is not necessary to end the offline/online parameter data export.

The @AssetControl.Start variable is automatically set to "0" after completion of the export job.

6.4.9.4 How to start time-controlled synchronization (OPC)

Note

This function is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

Requirement

Time-controlled synchronization is disabled.

Procedure

1. Enter the time of the start in the @AssetControl.CyclicTriggerStartTime variable.
2. Set the @AssetControl.CyclicTrigger variable to "1".

Note

When the value of the @AssetControl.CyclicTrigger variable changes from "0" to "1", a modified start time takes effect.

Result

The synchronization is performed at the specified time.

A check is made at the specified time as to whether there is a difference in the parameter data between the device and project or if a device has independently signaled a configuration change. For these devices, all the parameter data is first read from the devices and saved in the project.

The parameter data saved in the project is then exported to the specified destination.

The selected filter criteria are not taken into consideration for the device selection.

Time-controlled synchronization has no effect on the variables @AssetControl.DeviceCount, @AssetControl.DeviceCountOK or @AssetControl.DeviceCountFailed.

A log file is not created on the Maintenance Station.

6.4.9.5 How to stop time-controlled synchronization (OPC)

Note

This function is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

Procedure

1. Set the @AssetControl.CyclicTriggerRun variable to "0".

Result

Time-controlled synchronization was terminated.

6.4.9.6 How to start the parameter data export for a selected device (OPC)

Procedure

1. Write the @AssetControl.TagExportName variable with the variable name of the device to be exported.
2. Write the @AssetControl.ExportPath variable.
3. Select which parameter data will be exported.
   - If you are exporting online parameter data, write the @AssetControl.ActionType variable with the value 0x01.
   - If you are exporting offline parameter data, write the @AssetControl.ActionType variable with the value 0x02.

Result

An export file is created for the device to be exported.

If the online parameter data export cannot be executed, the offline parameter data are automatically exported.

The export via variable name has no effects on the @AssetControl.DeviceCount, @AssetControl.DeviceCountOK and @AssetControl.DeviceCountFailed variables.

The values of the @AssetControl.DeviceCount, @AssetControl.DeviceCountOK, and @AssetControl.DeviceCountFailed variables contain the current execution status.

A log file is not created.

The @AssetControl.Start variable is automatically set to "0x0" after completion of the export job.

Note

It is not possible to end or cancel the offline/online parameter data export.

6.4.10 Filtered cyclic parameter data export

6.4.10.1 Calling the function "Filtered cyclic parameter data export"

Note

This function is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

Note

Avoid parallel access to filtered manual parameter data export.

Introduction

The filtered cyclic parameter data export enables cyclic parameter data export from field devices via SIMATIC PDM.

You open the faceplate for parameter data export using the button in the overview screen.

You can use the filtered cyclic parameter data export independent of the filtered manual parameter data export.

Three independent filtered cyclic parameter data exports are available.

Requirement

Using SIMATIC PDM

Button in the overview screen

Button	Function	Permissions
	Calls the faceplate	"Higher process controlling" for diagnostics area

Procedure

1. Click the button.
2. In the faceplate, select one of the views for the filtered cyclic parameter data export.

Result

The view of the faceplate for the selected filtered cyclic parameter data export is displayed.

Additional information

For additional information, refer to the following sections:

The function description in the following sections applies to each of the three filtered cyclic parameter data exports.

6.4.10.2 Filter settings for the filtered cyclic parameter data export

Note

The filter settings are available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

Introduction

The faceplate includes various filter criteria and export settings for exporting parameter data.

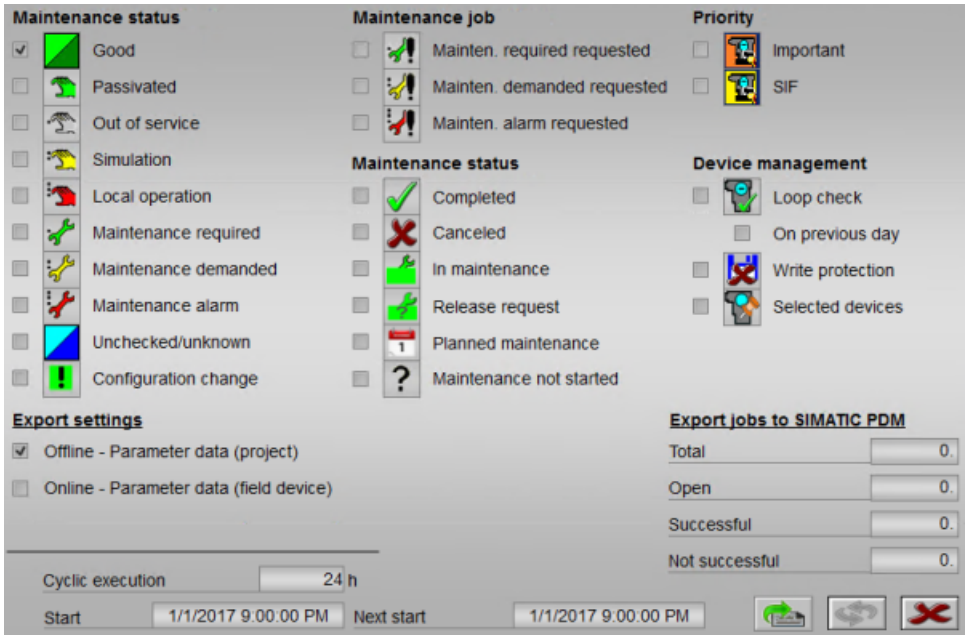
The export can be started, or an active export operation can be canceled.

When you open the faceplate, you will see an overview of the last executed or active export job.

If an export job is active, you cannot change any filter settings. You can only cancel the export job.

Display

The following figure shows an example of the faceplate for the cyclic parameter data export.



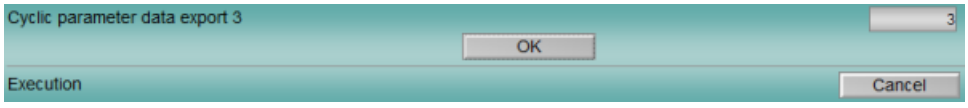
- In the Maintenance status, Maintenance job, Priority, Maintenance status and Device management areas
  Selected filter criteria
- In the Export settings area
  Selected type of export
- In the "Export jobs to SIMATIC PDM" area
  Result of the last executed export job or current data of the active export job:
  - Total
    Number of parameter data records to be exported
  - Open
    Number of parameter data records still to be exported
  - Successful
    Number of parameter data records already exported
  - Not successful
    Number of parameter data records that were not exported
- Cyclic execution
  Selected cycle in hours
- Start
  Date and time of the first cyclic start
- Next start
  Date and time of the next cyclic start

Operator control

Display	Explanation	Operator permission
	The option is selected by clicking on the check box. • Maintenance status, Maintenance job, Maintenance status, Priority and Device management areas The filter criteria are selected. • Export settings area – Offline - Parameter data (project) The parameter data is read from the project during the export. – Online - Parameter data (field device) The parameter data in the project is updated and then exported.	None
24	Cyclic execution: Here, you enter the cycle in hours for repeating the export.	
01.01.2017 21:00:00	Start: Here, you enter the date and time for the first start of the cyclic execution.	None
	Clicking the "Log" button opens the log file of the last filtered cyclic export from the default export directory on the maintenance server. The log file is in English only.	None
	Clicking the button shows the operator panel for starting the update. Note that an active export job must be completed before you can start a new export job.	None
	Clicking the button displays the operator panel for canceling the active export job.	None

Operator panel for updating/canceling

The following figure shows an example of the operator panel for cycle 3:



- Operator control

Button	Explanation	Operator permission
OK	Clicking the button starts the export job with the selected export and filter settings.	None
Cancel	Clicking the button cancels the export job with the selected export and filter settings.	None

- Display
  Preview value:
  Specifies how many devices match the currently set filter

6.4.10.3 Filtered cyclic parameter data export of EDD-based devices

Note

This function is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

Export of parameter data

Parameter data of devices that are integrated in SIMATIC PDM via EDDs can be exported:

- Export of the "offline parameter data (project)"
  The parameter data stored in the project is exported to the specified destination.
  The selected filter criteria are taken into consideration for the device selection.
- Export of the "online parameter data (field device)"
  The complete parameter data is first read from the devices and saved in the project. This parameter data is then exported to the specified destination.
  The selected filter criteria are taken into consideration for the device selection.

Note

When exporting the "Online parameter data (field device)", the device parameter assignment may not be open elsewhere. Otherwise, only an export of offline parameter data is performed.

Refer to the export file to find out whether online or offline parameter data was exported.

Calculation of the next start time

After starting the filtered cyclic parameter data export, the next start time is calculated according to the following rules:

- The start time specified in the "Start" text box of the faceplate is in the future
  The specified start time is used as the next start time in the "Next start" display box.
- The start time specified in the "Start" text box of the faceplate is in the past
  The specified cycle time is added up for the specified start time until a start time in the future is reached.
  This start time is applied as the next start time in the "Next start" display box.
  If the (entered) start time dates back to more than one year in the past, the next start time is automatically scheduled to the next full hour.

After reaching the next start time, the start time that follows is recalculated and displayed by adding up the cycle time.

Export file

The parameter data is stored in an individual export file for each created device.

The export format and the content of these export files conform to the export format of SIMATIC PDM.

To specify the storage location, select the menu command **Options > SIMATIC PDM > Settings...** in SIMATIC Manager and then go to the "General" tab, "Path for 'Asset export' files".

Depending on the selected cycle, an additional "Cycle<n>" subdirectory is automatically created as the storage location, where <n> represents the number of the selected cycle.

The name of the export file is formed as follows: "<Device name>_ $YYYYMMDD_HHMMSS.XML".

When name conflicts occur during the export, the file name is extended by "_1".

Log file

For each export job, a log file is created in which the successful or unsuccessful export of the parameter data of the devices is documented.

The storage location of the log file is specified using the WinCC variable @AssetControlCyclic.ExportPath. The log file is also saved in the project of the MS server.

Depending on the selected cycle, an additional "Cycle<n>" subdirectory is automatically created as the storage location, where <n> represents the number of the selected cycle.

The name of the log file has the following structure: "LogPDMExportCyclic<n>_YYYY-MM-DD_HH-MM-SS-SSS.XML".

In addition, the most recent log file is stored with the following name for display in the faceplate: "CurrentPDMExportCyclic<n>.XML".

The log file contains the following information:

- Overall status of the parameter data export
- Start time, end time and duration of the execution
- Information on parameter data exports with errors or that were not performed

The storage location contains the three most recent log files. Older log files are deleted from the system.

When a log file cannot be deleted due to access conflicts, an error message is generated in the process control.

When a log file cannot be written with the defined name due to access conflicts, an error message is generated in the process control. The file name is suffixed with "(<x>)", where x is a natural number beginning with "1".

Additional information

For additional information, refer to the following sections:

6.4.10.4 How to start filtered cyclic parameter data export

Note

This function is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

Requirements

- The faceplate for the parameter data export is open.
- The filtered cyclic parameter data export to be selected is not enabled.

Procedure

1. Select the desired cycle in the header of the faceplate with the "Cycle" button.
2. Select which parameter data will be exported.
   - If you want to export parameter data stored in the project, select the "Offline parameter data (project)" check box.
   - If you want to export parameter data stored in the field device, select the "Online parameter data (field device)" check box.
3. Select the filter criteria you require.
   When several check boxes are selected, the filter criteria are linked with "Or".
   Exception: An exception to this is the "Loop check: On previous day" check box, which is only taken into consideration when the "Loop check" check box is selected.
4. Enter the cycle in hours in the "Cyclic execution" text box.
5. Enter the date and time for the first start of cyclic processing in the "Start" text box.
6. Click the "Refresh" button.
   The view is expanded to include the operator panel.
7. Click "OK".

Result

The next start time is calculated from the specified start and cycle time.

An operator message is triggered.

An export file is created for each individual device.

If the filtered cyclic parameter data export is running, the display values are updated in the "Export jobs to SIMATIC PDM" area.

The status display in the header of the faceplate shows the current status.

If the filtered cyclic parameter data export is running, a log file is created.

Note

If it is detected at the start of a parameter data export that another parameter data export is already running, the parameter data export to be launched is canceled.

Corresponding information is entered in the log file.

6.4.10.5 How to cancel the filtered cyclic parameter data export

Note

This function is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

Requirement

The faceplate for the parameter data export is open.

Procedure

1. Select the desired active cycle in the header of the faceplate with the "Cycle" button.
2. Click the "Cancel" button.
   The view is expanded to include the operator panel.
3. Click "OK".

Result

The parameter data export for the selected cycle is canceled.

An operator message is triggered.

The values displayed in the "Export jobs for SIMATIC PDM" area are updated.

6.5 Area overview screens

Possible area overview screens

The following area overview screens can be subordinate to the overview screen of the diagnostics area:

- PC stations
  - IPC stations created as PC stations in the SIMATIC Manager and to which the profile IPC_V** or MIB-II_V1.0 is assigned in the SNMP configuration of the OPC server are shown here
  - PC stations created as PC stations in the SIMATIC Manager
  - No subordinate structures
- Network objects
  - All network objects created in the OPC/SNMP server configuration
  - All PCs that are configured in the SNMP configuration of the OPC server but have not been created as PC stations in the SIMATIC Manager
  - No subordinate structures

- AS/system
  - Hierarchically structured display of all configured objects of the automation system level, including the interface modules (IMs) of the ET 200 families (ET 200M, ET 200S, ET 200 SP, ET 200iSP, ET 200pro) and the link modules (DP/PA-Link, DP/FF-Link, Y-Link)
- Field devices
  - Hierarchically structured display of all configured field devices and remote I/O stations
- User objects
  - User-created hierarchically structured representation of user objects

The selected area overview screen is displayed in the working area. The individual components are displayed as block icons in the area overview screen.

Note

The "Field devices" area is only created if you use the PCS 7 Basic Library >=V8.1 in the AS.

If you use the PCS 7 Basic Library <=V8.1 in the AS, all field devices are assigned to the "AS system" area.

Calling an area overview screen

You call the area screen as follows:

- Maintenance group display
- Hierarchy buttons in the button set

Function in area overview screen

The diagnostic screens of individual components from the area are called via the block icons in the area overview screen.

6.6 Representation of the components

Introduction

The components to be monitored are displayed in the diagnostics screens as block icons in the process control.

To get more information about a component, you can call the corresponding faceplate with a mouse click.

Block icon

The block icons supported by the system which can be displayed in the diagnostic screens are contained in the file "@@maintenancetypicals.pdl".

The file is located in the project directory under " ... \wincproj\<os-name>\GraCS".

You can find a description of block icons in the section "Block icon (Page 165)" and in the section "Block icon for redundant components (Page 168)".

Faceplate

Faceplates display all information on a component with diagnostics capability in process mode. This includes information that can be obtained by the component itself or from the project data. When information is unavailable, the corresponding field is empty.

The faceplate is made up of the title of the screen window, the header and the different views. You can change the view.

The number of views in the faceplates depends on the type of component. The three views "Ident", "Messages" and "Maintenance" are always available for selection in the faceplates. Intelligent components, e.g., components described by an EDD (Electronic Device Description) and integrated in SIMATIC PDM, have additional views depending on the component.

Note

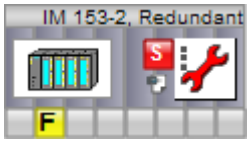
The faceplate is displayed if the maintenance station MS Standard or SIMATIC PDM MS version is being used.

You can find additional information about this in the section "Faceplate display (Page 178)" and in the section "Display of faceplate for redundant components (Page 235)".

6.7 Block icon

Block icon display

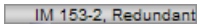
The following figure shows an example of a block icon for a compact device:



Elements and functions in the block icon

The following elements are displayed in the block icon:

- **Label of the block icon**
  - The following figure shows an example of a label:

    The label matches the local ID (LID) from the identification data of the device.
    You can find information about the LID in the section "Origin of the identification data (Page 236)".
  - The following figure shows an example of the label of a device classified as important:

    The setting is made in the SIMATIC PDM object properties of the device.
  - The following figure shows an example of the label of a device in a safety-related application:

    The setting is made in the SIMATIC PDM object properties of the device.
- **Bitmap**
  The figure below shows an ET200:

  A bit map displaying the device icon is entered automatically in the "DeviceIcon" property, provided the bit map is available in HW Config.
- **Maintenance group display of the custom component**
  The following figure shows the maintenance group display as AS process control fault.

  You open the associated faceplate with the maintenance group display.
  The following states are displayed depending on the maintenance state of the component.
  You can find information on the display in the section "Maintenance status and maintenance group display (Page 169)".
- **Maintenance state of the custom component**
  The following figure shows the diagnostic icon with the maintenance state "Maintenance alarm".

  You can use the diagnostic icon to open the associated faceplate.
  You can find information about the display in the section "Maintenance status and maintenance group display (Page 169)".
  The redundancy state is displayed for redundant components.
  You can find information on this in the section "Maintenance status of redundant components (Page 173)".

- **Active memo**
  The following figure shows the display if a note is active.

  You can find information on this in the section ""Note" view (Page 200)".

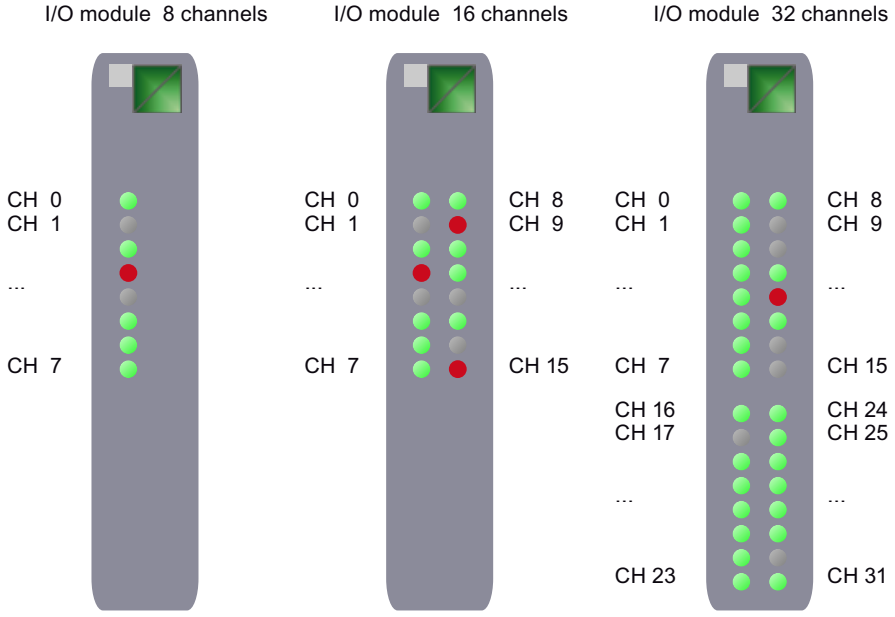
- **Maintenance group display of the lower-level hierarchy**
  The following figure shows the display of the maintenance group display as AS process control fault.

  Various statuses are displayed in the maintenance group display, depending on the maintenance group displays of the components of the lower-level hierarchy.
  You can find information on this in the section "Maintenance status and maintenance group display (Page 169)".
  If you click on the maintenance group display in the process control, the lower-level process picture in the hierarchy is displayed.

Display of input/output modules

The following figure shows a section from a block icon for an I/O module:



The signal state of the individual channels is shown as follows:

Display	Explanation
No display	Channel not interconnected/deactivated
●	No diagnostics can be acquired for the channel
●	"Good" channel state
●	"Bad" channel state

Display of channel and module information:

If you hover the mouse over a channel in the process control, the symbolic name from the symbol table is shown as a tooltip. Requirement: Use of the PCS 7 Basis Library >=V9.0.

If you hover the mouse over the module in the process control, the module comment from the hardware configuration is shown as a tooltip.

6.8 Block icon for redundant components

Introduction

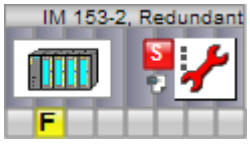
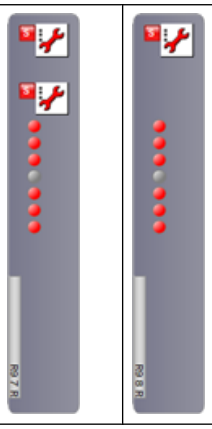
Information for a redundant component is displayed in different ways:

- In one block icon
- In several block icons

You can use the block icon to open the associated faceplate.

Block icons

The following table shows the possible types of display:

Redundant component	Display	Explanation
IM 153-2		The redundancy state is displayed for the component and its partner in a diagnostic icon.
I/O module		The maintenance state of each component is indicated in the assigned diagnostic icon (top diagnostic icon). A redundancy object is also displayed for the component with the lower address. The redundancy state is displayed in the diagnostic icon of the redundancy object.

Redundant component	Display	Explanation
PC objects		The role of master is indicated by an orange square.
		The maintenance state of its partner is indicated in the diagnostic icon.
		The redundancy state is indicated in the diagnostic icon in the redundancy object.

Additional information

You can find additional information in the sections "Block icon (Page 165)" and "Maintenance status of redundant components (Page 173)".

6.9 Maintenance status and maintenance group display

Introduction

The diagnostic icon represents the maintenance state of the component.

The maintenance group display represents the message state of the component and the lower-level components.

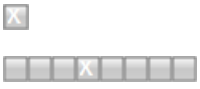
Note

If the maintenance state is "Unchecked/unknown" in the faceplate, all other dynamic displays are irrelevant.

Correlation maintenance state and maintenance group display

The following table provides an overview:

Maintenance state				Maintenance group display		
Display	**Remark**	**Value**	**Priority**	**Display**	**Message class/status**	**Message state**
	Unknown/untested	8	1		No message is pending	-
	Maintenance alarm	7	2		AS process control fault	"S" display • Flashing Message not acknowledged • Not flashing Message acknowledged
	Maintenance demanded	6	3		AS process control error	"F" display • Flashing Message not acknowledged • Not flashing Message acknowledged
	Maintenance required	5	4		Preventive maintenance	"M" display • Flashing Message not acknowledged • Not flashing Message acknowledged
	Local operator control	4	5		Status AS	• No display in the group display • Message does not require acknowledgement and does not have the state "outgoing" • Message is only entered in the history list
	At least one process value is being simulated	3	6			
	Out of service	2	7		AS process control fault	"S" display • Flashing Incoming message • Static Message acknowledged

Maintenance state				Maintenance group display		
Display	**Remark**	**Value**	**Priority**	**Display**	**Message class/status**	**Message state**
	Device passivated	1	8		Status AS	• No display in the group display • Message does not require acknowledgement and does not have the state "outgoing" • Message is only entered in the history list
	Configuration change detected	9	9			
	Good	0	10		No message	-
Applies to all displays					Message is locked	"X" display At least one message is locked; applies only to objects from the areas AS, user and field devices

The number in the priority column indicates the priority of the display. The lowest number has the highest priority.

Note that unacknowledged messages have a higher priority than acknowledged messages.

Correlation maintenance state and maintenance job

The following table provides an overview:

Meaning	Maintenance job	Maintenance job state
Maintenance required has been requested, maintenance engineer has not yet created a maintenance job		
Maintenance demanded has been requested, maintenance engineer has not yet created a maintenance job		
Maintenance alarm has been requested, maintenance engineer has not yet created a maintenance job		
Maintenance required requested, The maintenance job was changed to the "Planned maintenance" state		
Maintenance demanded requested, The maintenance job was changed to the "Planned maintenance" state		

Meaning	Maintenance job	Maintenance job state
Maintenance alarm requested, The maintenance job was changed to the "Planned maintenance" state		
Maintenance required requested, maintenance job was changed to the "Release request" state		
Maintenance demanded requested, maintenance job was changed to the "Release request" state		
Maintenance alarm requested, maintenance job was changed to the "Release request" state		
Maintenance required requested, maintenance job was set to the "In maintenance" state		
Maintenance demanded requested, maintenance job was set to the "In maintenance" state		
Maintenance alarm requested, Maintenance job was set to the "In maintenance" state		
Maintenance job canceled Maintenance engineer has canceled the maintenance job	Maintenance status, see table above	
Maintenance job completed	Maintenance status, see table above	

Structure of the variable for the maintenance status

The value of the variable *.MS or *.MaintenanceState represents the maintenance state.

The variable is a DWORD type.

The table shows the basic structure of the variable.

Bit	Explanation
0 to 7	Display of the maintenance state
8 to 15	Display of the maintenance state of the redundant partner
16	"1"= Redundant partner available
17	"0" = Primary partner is master "1" = Redundant partner is master
18	SIMATIC PDM maintenance state worse than device status
19 to 20	Coding of cycle time for the cyclic update Bit 19=0, Bit 20=0: 1 day Bit 19=1, Bit 20=0: 12 hours Bit 19=0, Bit 20=1: 1 hour Bit 19=1, Bit 20=1: 10 minutes
21	"1" = Device is selected as "Selection for exports" in the maintenance view
22	SIMATIC PDM has detected a state change
23	Block takes part in the cyclical updating of SIMATIC PDM

Bit	Explanation
24 to 27	OS operation
28 to 31	SIMATIC PDM maintenance state

6.10 Maintenance status of redundant components

Introduction

In the faceplate header and in the block icon, the maintenance status of both components is displayed in **one** diagnostic icon for the redundant pair.

The maintenance status for this diagnostic icon is formed from the maintenance states of both components.

Forming the maintenance status with redundant components

The table below lists the maintenance states that are formed because of this rule.

Maintenance status			
Redundant component		Component A	Component B
	Good	Good	Good
	Good	Unknown/untested	Good
	Good	Component passivated	Good
	Maintenance demanded	Out of service	Good
	Good	At least one process value is being simulated	Good
	Local operation	Local operation	Good
	Maintenance required	Maintenance required	Good
	Maintenance demanded	Maintenance demanded	Good
	Maintenance demanded	Maintenance alarm	Good
	Configuration change	Configuration change	Good
	Good	Good	Component passivated
	Component passivated	Unknown/untested	Component passivated
	Component passivated	Component passivated	Component passivated

Maintenance status			
Redundant component		**Component A**	**Component B**
	Out of service	Out of service	Component passivated
	At least one process value is being simulated	At least one process value is being simulated	Component passivated
	Local operation	Local operation	Component passivated
	Maintenance required	Maintenance required	Component passivated
	Maintenance demanded	Maintenance demanded	Component passivated
	Maintenance alarm	Maintenance alarm	Component passivated
	Component passivated	Configuration change	Component passivated
	Maintenance demanded	Good	Out of service
	Out of service	Unknown/untested	Out of service
	Out of service	Component passivated	Out of service
	Out of service	Out of service	Out of service
	At least one process value is being simulated	At least one process value is being simulated	Out of service
	Local operation	Local operation	Out of service
	Maintenance required	Maintenance required	Out of service
	Maintenance demanded	Maintenance demanded	Out of service
	Maintenance alarm	Maintenance alarm	Out of service
	Out of service	Configuration change	Out of service
	Good	Good	At least one process value is being simulated.
	At least one process value is being simulated	Unknown/untested	At least one process value is being simulated.
	At least one process value is being simulated	Component passivated	At least one process value is being simulated.
	At least one process value is being simulated	Out of service	At least one process value is being simulated.
	At least one process value is being simulated	At least one process value is being simulated	At least one process value is being simulated.
	Local operation	Local operation	At least one process value is being simulated.

Maintenance status			
Redundant component		**Component A**	**Component B**
	Maintenance required	Maintenance required	At least one process value is being simulated.
	Maintenance demanded	Maintenance demanded	At least one process value is being simulated.
	Maintenance alarm	Maintenance alarm	At least one process value is being simulated.
	At least one process value is being simulated.	Configuration change	At least one process value is being simulated.
	Local operation	Good	Local operation
	Local operation	Unknown/untested	Local operation
	Local operation	Component passivated	Local operation
	Local operation	Out of service	Local operation
	Local operation	At least one process value is being simulated	Local operation
	Local operation	Local operation	Local operation
	Maintenance required	Maintenance required	Local operation
	Maintenance demanded	Maintenance demanded	Local operation
	Maintenance alarm	Maintenance alarm	Local operation
	Local operation	Configuration change	Local operation
	Maintenance required	Good	Maintenance required
	Maintenance required	Unknown/untested	Maintenance required
	Maintenance required	Component passivated	Maintenance required
	Maintenance required	Out of service	Maintenance required
	Maintenance required	At least one process value is being simulated	Maintenance required
	Maintenance required	Local operation	Maintenance required
	Maintenance required	Maintenance required	Maintenance required
	Maintenance demanded	Maintenance demanded	Maintenance required
	Maintenance alarm	Maintenance alarm	Maintenance required

Maintenance status			
Redundant component		**Component A**	**Component B**
	Maintenance required	Configuration change	Maintenance required
	Maintenance demanded	Good	Maintenance demanded
	Maintenance demanded	Unknown/untested	Maintenance demanded
	Maintenance demanded	Component passivated	Maintenance demanded
	Maintenance demanded	Out of service	Maintenance demanded
	Maintenance demanded	At least one process value is being simulated	Maintenance demanded
	Maintenance demanded	Local operation	Maintenance demanded
	Maintenance demanded	Maintenance required	Maintenance demanded
	Maintenance demanded	Maintenance demanded	Maintenance demanded
	Maintenance alarm	Maintenance alarm	Maintenance demanded
	Maintenance demanded	Configuration change	Maintenance demanded
	Maintenance demanded	Good	Maintenance alarm
	Maintenance alarm	Unknown/untested	Maintenance alarm
	Maintenance alarm	Component passivated	Maintenance alarm
	Maintenance alarm	Out of service	Maintenance alarm
	Maintenance alarm	At least one process value is being simulated	Maintenance alarm
	Maintenance alarm	Local operation	Maintenance alarm
	Maintenance alarm	Maintenance required	Maintenance alarm
	Maintenance alarm	Maintenance demanded	Maintenance alarm
	Maintenance alarm	Maintenance alarm	Maintenance alarm
	Maintenance alarm	Configuration change	Maintenance alarm
	Good	Good	Unknown/untested
	Unknown/untested	Unknown/untested	Unknown/untested

Maintenance status			
Redundant component		**Component A**	**Component B**
	Component passivated	Component passivated	Unknown/untested
	Out of service	Out of service	Unknown/untested
	At least one process value is being simulated	At least one process value is being simulated	Unknown/untested
	Local operation	Local operation	Unknown/untested
	Maintenance required	Maintenance required	Unknown/untested
	Maintenance demanded	Maintenance demanded	Unknown/untested
	Maintenance alarm	Maintenance alarm	Unknown/untested
	Unknown/untested	Configuration change	Unknown/untested
	Configuration change	Good	Configuration change
	Unknown/untested	Unknown/untested	Configuration change
	Component passivated	Component passivated	Configuration change
	Out of service	Out of service	Configuration change
	At least one process value is being simulated	At least one process value is being simulated	Configuration change
	Local operation	Local operation	Configuration change
	Maintenance required	Maintenance required	Configuration change
	Maintenance demanded	Maintenance demanded	Configuration change
	Maintenance alarm	Maintenance alarm	Configuration change
	Configuration change	Configuration change	Configuration change

6.11 Faceplate

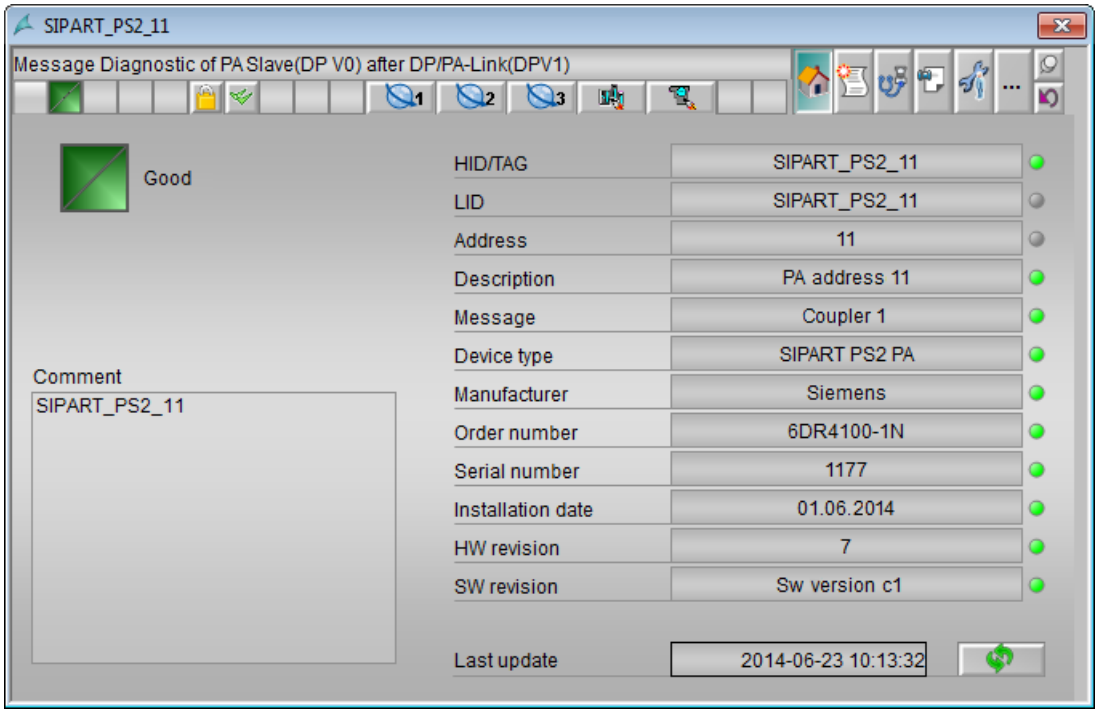
6.11.1 Faceplate display

Introduction

Starting from a block icon in a diagnostics screen, the maintenance engineer can open the corresponding faceplate while the process is in operation; this faceplate provides him with access to more detailed information and facilitates operator control of the block.

Displaying the faceplate view "Ident"

The figure below shows an example of a faceplate:



You can find information about this in the following sections.

6.11.2 Screen window title and header

6.11.2.1 Displays and operator controls

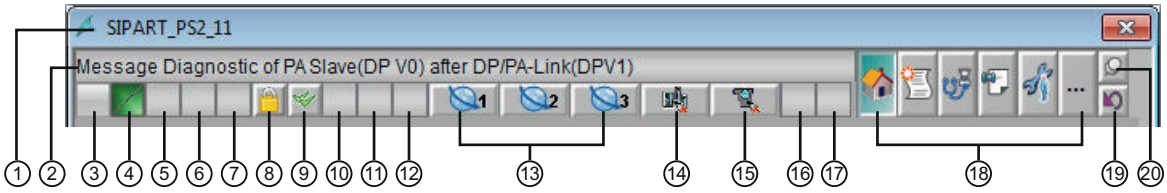
Introduction

The control bar always has the same structure. The appropriate displays and buttons are shown based on the component type and configuration.

Note

These display elements and operator controls are available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

The following figure shows an example of the display:



Display

The following table provides an overview:

Position	Display	Name	Display for components from the area	Function/remark
(1)	SIPART_PS2_11	Screen window title	• PC stations • Network objects • AS/system • Field devices • User objects	Display of the local ID You can find additional information about the local ID in the section "Origin of the identification data (Page 236)".
(2)	Message Diagnostic	Block comment	• AS/system • Field devices • User objects	Display of the block comment The local ID is displayed in the tooltip.
(3)	S	Maintenance group display (custom component)	• PC stations • Network objects • AS/system • Field devices • User objects	Displayed if a message relating to the component is pending You can find additional information about the maintenance group display in the section "Maintenance status and maintenance group display (Page 169)".

Position	Display	Name	Display for components from the area	Function/remark
(4)		Maintenance status / maintenance job (custom component)	• PC stations • Network objects • AS/system • Field devices • User objects	Current maintenance status/maintenance job is displayed You can find more information on this in the sections "Maintenance status and maintenance group display (Page 169)" and "Maintenance status of redundant components (Page 173)".
(5)		Maintenance job state	• PC stations • Network objects • AS/system • Field devices • User objects	Current state of the maintenance job For additional information about the state of the maintenance job, see the section "Maintenance status and maintenance group display (Page 169)".
(6)		Flutter suppression	• AS/System: Input/output modules • Field devices	Displayed when flutter suppression is activated
(7)		Archive synchronization incomplete	• PC stations: Redundant OS servers	Displayed until the archive synchronization is complete
(8)		Lock messages, unlock messages	• AS/system • Field devices • User objects	Locks or unlocks all messages for the block You can find additional information about this in the section "How to lock and unlock messages (Page 186)".
(9)		Acknowledge messages	• PC stations • Network objects • AS/system • Field devices • User objects	Acknowledges a message for the block
(10)		Depassivation	• Field devices: Redundant I/O modules	Displayed if a module or a channel is passivated You can find additional information about this in the section "How to depassivate modules or channels (Page 188)".
(13)		Link object 1 to link object 3	• PC stations • Network objects • AS/system • Field devices • User objects	Calls a Web page Displayed if the call for a Web page is configured You can find more information on this in the sections "Configuring maintenance links (Page 65)" and "How to open websites via maintenance links (Page 188)".
(14)		Diagnostics monitor	• PC stations: SIEMENS IPCs	Calls the Diagnostics monitor diagnostics tool You can find additional information about this in the section "How to call the Diagnostics Monitor diagnostic tool (Page 192)".
(15)		Call hardware project	• AS/system • Field devices	Calls HW Config You can find additional information about this in the section "How to open the online view of HW Config (Page 189)".

Position	Display	Name	Display for components from the area	Function/remark
(15)		Call SIMATIC PDM	• Field devices • User objects	Calls the configuration interface for the configured component You can find additional information about this in the section "How to open the configuration interface of SIMATIC PDM (Page 190)".
(15)		Call configuration data	• Network objects	Calls the SCALANCE Web server You can find additional information about this in the section "How to call up the Web interface of a network component (Page 191)".
(17)		Active memo	• PC stations • Network objects • AS/system • Field devices • User objects	Displayed when a message is activated You can find additional information about this in the section ""Note" view (Page 200)".
(18)		View "Ident"	• PC stations • Network objects • AS/system • Field devices • User objects	Calls the corresponding view • When you left-click, the view appears in the same window • When you right-click, the view opens in a new window.
(18)		View "Message"	• PC stations • Network objects • AS/system • Field devices • User objects	Calls the corresponding view • When you left-click, the view appears in the same window • When you right-click, the view opens in a new window.
(18)		View "Performance"	• AS/System: CPU	Calls the corresponding view • When you left-click, the view appears in the same window • When you right-click, the view opens in a new window.
(18)		View "Memo"	• PC stations • Network objects • AS/system • Field devices • User objects	Calls the corresponding view • When you left-click, the view appears in the same window • When you right-click, the view opens in a new window.
(18)		View "Diagnostics"	• Field devices: SIMATIC PDM devices, Switch and drive, Compact field unit (CFU) • PC stations: SIEMENS IPC • AS/System: Devices with SIMATIC PDM configuration	Calls the corresponding view • When you left-click, the view appears in the same window • When you right-click, the view opens in a new window.

Position	Display	Name	Display for components from the area	Function/remark
(18)		View "External diagnostics"	• Field devices	Calls the corresponding view • When you left-click, the view appears in the same window • When you right-click, the view opens in a new window.
(18)		View "Maintenance"	• PC stations • Network objects • AS/system • Field devices • User objects	Calls the corresponding view • When you left-click, the view appears in the same window • When you right-click, the view opens in a new window.
(18)		View "LED display"	• AS/System: CPU	Calls the corresponding view • When you left-click, the view appears in the same window • When you right-click, the view opens in a new window.
(18)		View "Diagnostics buffer"	• AS/System: CPU or CP in the central rack and expansion rack	Calls the corresponding view • When you left-click, the view appears in the same window • When you right-click, the view opens in a new window.
(18)		View "Connections"	• PC stations: MS client, OS/MS client and OS client	Calls the corresponding view • When you left-click, the view appears in the same window • When you right-click, the view opens in a new window.
(18)		View "Client connections"	• PC stations: MS server, OS server	Calls the corresponding view • When you left-click, the view appears in the same window • When you right-click, the view opens in a new window.
(18)		View "Connection load display" for CPU connections	• AS/System: CPU	Calls the corresponding view • When you left-click, the view appears in the same window • When you right-click, the view opens in a new window.
(18)		View "Monitoring"	• User objects	Calls the corresponding view • When you left-click, the view appears in the same window • When you right-click, the view opens in a new window.

Position	Display	Name	Display for components from the area	Function/remark
(18)		View "Parameter"	• AS/System: CPU • Field devices: SIMATIC PDM devices	Calls the corresponding view • When you left-click, the view appears in the same window • When you right-click, the view opens in a new window.
(18)		"OB3x" view	• AS/System: CPU	Calls the corresponding view • When you left-click, the view appears in the same window • When you right-click, the view opens in a new window.
(18)		View "OB8xOB1"	• AS/system, applies to CPU	Calls the corresponding view • When you left-click, the view appears in the same window • When you right-click, the view opens in a new window.
(18)		Calling additional views	• PC stations • Network objects • AS/system • Field devices • User objects	Calls additional view selection keys Can only be operated if additional views can be called
(19)		Return	• PC stations • Network objects • AS/system • Field devices • User objects	Calls the process picture After a picture change, you see the process picture in which the faceplate was called and pinned.
(20)		Pin faceplate	• PC stations • Network objects • AS/system • Field devices • User objects	Pins the faceplate on the user interface This allows you to change to another picture or area without closing the faceplate.

Additional information

You can find additional information in the section "Display elements and operator controls for the parameter data export".

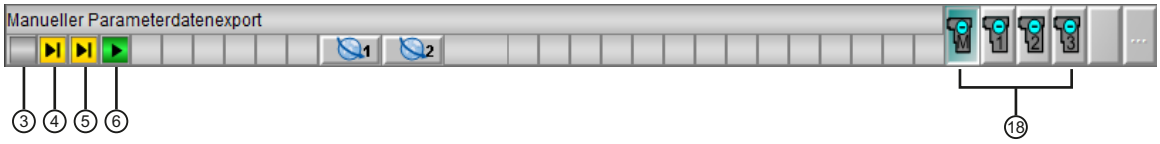
6.11.2.2 Display elements and operator controls for the parameter data export and the filtered complete export

Introduction

Note

These display elements and operator controls are available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

The following figure shows an example of the display elements and operator controls:



Display

Position	Display	Name	Function/remark
(3)		• Status of the filtered manual or filtered cyclic parameter data export • Status of the manual filtered or cyclically filtered complete export	The possible status displays can be found in the table below. You can find additional information on the filtered parameter data export in the following sections: • Filtered manual parameter data export (Page 136) • Filtered manual parameter data export via OPC access (Page 146) You can find additional information on the filtered complete export in the following sections: • Manually filtered complete export (Page 115) • Manually filtered complete export via OPC (Page 121)
(4)		• Status of the first filtered cyclic parameter data export • Status of the first cyclically filtered complete export	You can find additional information on the filtered parameter data export in the following sections: • Filtered cyclic parameter data export (Page 156) • Cyclically filtered complete export (Page 125)
(5)		• Status of the second filtered cyclic parameter data export • Status of the first cyclically filtered complete export	
(6)		• Status of the second filtered cyclic parameter data export • Status of the second cyclically filtered complete export	
(18)		"Manual parameter data export" view	You can find additional information in the following sections: • Filtered manual parameter data export (Page 136) • Filtered manual parameter data export via OPC access (Page 146)
(18)		"Cyclic parameter data export 1" view	Additional information is available in the following section: • Filtered cyclic parameter data export (Page 156)
(18)		"Cyclic parameter data export 2" view	
(18)		"Cyclic parameter data export 3" view	

Position	Display	Name	Function/remark
(18)		"Manual complete export" view	You can find additional information in the following sections: • Manually filtered complete export (Page 115) • Manually filtered complete export via OPC (Page 121)
(18)		"Cyclic complete export 1" view	Additional information is available in the following section: • Cyclically filtered complete export (Page 125)
(18)		"Cyclic complete export 2" view	
(18)		"Cyclic complete export 3" view	

Status displays

Status display	Remark
	The filtered manual or filtered cyclic parameter data export is enabled and running. The manual filtered or cyclically filtered complete export is enabled and running.
	The filtered manual or cyclic parameter data export is enabled and waiting for the next start time. The manual filtered or cyclically filtered complete export is enabled and waiting for the next start time.
	The filtered manual or filtered cyclic parameter data export is not enabled. The manual filtered or cyclically filtered complete export is not enabled.

Additional information

You can find information on other display elements and operator controls in the header in the section "Displays and operator controls (Page 179)".

6.11.2.3 How to lock and unlock messages

Introduction

Messages are locked or unlocked for components from the areas AS/system, field devices and user objects.

Messages can be locked or unlocked in the button set or in the faceplate.

Locked messages are indicated by an X:

- In the group display in the overview area
  You can find additional information about this in the section "Overview area (Page 107)".
- In the maintenance group displays in the overview screen, area overview screen, block icon, and faceplate
  You can find additional information about this in the section "Maintenance status and maintenance group display (Page 169)".

Button on the user interface

Button	Function	Explanation	Permission
	Lock messages	• Faceplate Messages for component are locked • Button set Messages of all displayed components are locked	Process controlling (1)
	Unlock messages	• Faceplate Messages for component are unlocked • Button set Messages of all displayed components are unlocked	

(1) The operator authorization level can be adjusted.

The operator authorization level is saved in the internal variable @LockMessageAuthLevel in WinCC variable management. This variable is created by the OS project editor.

The operator authorization level depends on the number saved as the initial value in the variable properties. The initial value is pre-assigned the value 5 by the system.

The number for the required authorization is provided in the User Administrator.

Note

Any change in the operator authorization level must be implemented in the project of each operator station in an MS multiple-station system.

Procedure for locking messages

1. Click the desired button.
2. Enter a text in the input box as a comment.
3. Click OK/Lock messages.

Procedure for releasing messages

1. Click the desired button.

Additional information

For more information on this, refer to the *Process Control System PCS 7; Operator Station* manual.

6.11.2.4 How to depassivate modules or channels

Introduction

The passivation button is displayed in the faceplate in order to ensure that the discrepancy of a redundant module or its failed channels can be detected by the maintenance engineer.

As long as the discrepancy time is active, maintenance required and a message are displayed in the message system in the faceplate of the module.

If, moreover, a long-term discrepancy is detected, the module/channel is passivated. This results in a loss of redundancy. The module or the channel is indicated as "Faulty" in the block icon. The maintenance demanded, the button for depassivation and a message in the message system are displayed in the faceplate.

If the cause of the discrepancy has been corrected, the depassivation can be carried out with the button in the faceplate.

Button on the user interface

Button	Function	Explanation	Permission
	Depassivation	The module or channels are passivated.	"Higher process controlling" for diagnostics area

Procedure

1. Click the "Depassivation" button.
2. Click the "Execute" button.

Result

The depassivation is executed. The button is hidden.

6.11.2.5 How to open websites via maintenance links

Introduction

Up to 3 Web pages which are used to provide support for diagnostics measures can be called. The buttons are displayed when the calls are configured.

Requirements

- The Maintenance Station is available in the MS Standard version.
- The maintenance target (web address) has been configured.
- The maintenance target can be accessed via the network.

Button on the user interface

Button	Function	Explanation	Permission
	Open maintenance link 1	Open of the configured web address	"Higher process controlling" for diagnostics area
	Open maintenance link 2		
	Open maintenance link 3		

Procedure

1. Click the button.

Result

The web page is displayed in a screen window.

6.11.2.6 How to open the online view of HW Config

Introduction

The "Call Hardware Project" button is used to call the online view of the hardware configuration (HW Config).

Note

This function is available for the Maintenance Station in the MS Standard version.

The hardware project can be called if the MS client is operated on the ES.

Button on the user interface

Button	Function	Explanation	Permission
	Call hardware project	Calls the online view of the hardware configuration (HW Config)	"Higher process controlling" for diagnostics area

Display of the "Call Hardware Project" button

The button is displayed in the header in the faceplate for field devices (EDD) and AS objects.

Requirement

The component is part of the hardware configuration.

Procedure

1. Click the "Call Hardware Project" button.

Note

Do not proceed until the online view of the hardware configuration (HW Config) is completely open, because HW Config online may otherwise be put in the background and can no longer be reached if key combinations are locked. In this case, press the button once again.

Result

The online view of the hardware configuration (HW Config) opens.

6.11.2.7 How to open the configuration interface of SIMATIC PDM

Introduction

You use the "Call SIMATIC PDM" button to open the configuration interface for the device shown in the faceplate.

Button on the user interface

Button	Function	Explanation	Permission
	Call SIMATIC PDM	Calls the parameter assignment interface for the device	"Higher process controlling" for diagnostics area

Display of the "Call SIMATIC PDM" button

The button is displayed in all views in the faceplate for field devices and user objects that are integrated using a device description (EDD).

Requirements

- SIMATIC PDM >= V8.2 is installed.
- The SIMATIC PDM Server is installed and set up.
- The component can be programmed with SIMATIC PDM.

Procedure

1. Click the "Call SIMATIC PDM" button.
2. Enter your logon data in the input boxes of the logon dialog box.

Result

The configuration interface for the component displayed in the faceplate is opened.

Additional information

You can find information about the opened display in the manual *Process Control System PCS 7; Help on SIMATIC PDM*.

6.11.2.8 How to call up the Web interface of a network component

Introduction

Use the "Call configuration data" button to open the Web interface for the component.

First, an attempt is made to establish a secure connection (HTTPS) to the device. If the secure connection is successfully established, the "Call configuration data" button is displayed for operator selection.

If the secure connection cannot be established, an attempt is made to establish a non-secure connection (HTTP). If the non-secure connection is successfully established, the "Call configuration data" button is displayed for operator selection.

If no connection can be established, the "Call configuration data" button is not available for selection.

Note

This function is not available for SIMATIC PDM MS.

Requirements

- The network objects must be accessible via the network.
- The "Trusted sites" security setting is in effect.
  For additional information on this topic, refer to the *SIMATIC NET; "Industrial Ethernet OSM/ESM Network Management"* Manual.
- The network component device profile corresponds to the OSM or SCALANCE device profile.

Button on the user interface

Button	Function	Explanation	Permission
	Call configuration data	Call of the Web Interface of the component	"Higher process controlling" for diagnostics area

Display of the "Call configuration data" button

The button is displayed in the faceplate in all views for network components.

The button is also displayed when the network component is not accessible.

Procedure

1. Click the "Call configuration data" button.

Result

The Web Interface of the component opens.

6.11.2.9 How to call the Diagnostics Monitor diagnostic tool

Introduction

You can open the "Diagnostics monitor" Web interface of the component with the "Diagnostics monitor" button.

First, an attempt is made to establish a secure connection (HTTPS) to the device. If the secure connection is successfully established, the "Diagnostics monitor" button is displayed for selection.

If the secure connection cannot be established, an attempt is made to establish a non-secure connection (HTTP). If the non-secure connection is successfully established, the "Diagnostics monitor" button is displayed for selection.

If no connection can be established, the "Diagnostics monitor" button is not available for selection.

Requirements

- The Diagnostics Monitor diagnostic tool is installed and configured.
- The web server is started and enabled in the Windows firewall.
- The PC stations can be accessed via the network.

Button on the user interface

Button	Function	Explanation	Permission
	Call Diagnostics Monitor	"Diagnostics monitor" Web interface call	"Higher process controlling" for diagnostics area

Display of the "Call configuration data" button

The button is displayed in the faceplate for IPCs.

Procedure

1. Click the "Diagnostics monitor" button.

Result

The diagnostic tool is called.

6.11.3 Views

6.11.3.1 "Ident" view

Available

This view is displayed for all components.

This view is not available in the faceplate for the redundant server pair.

Note

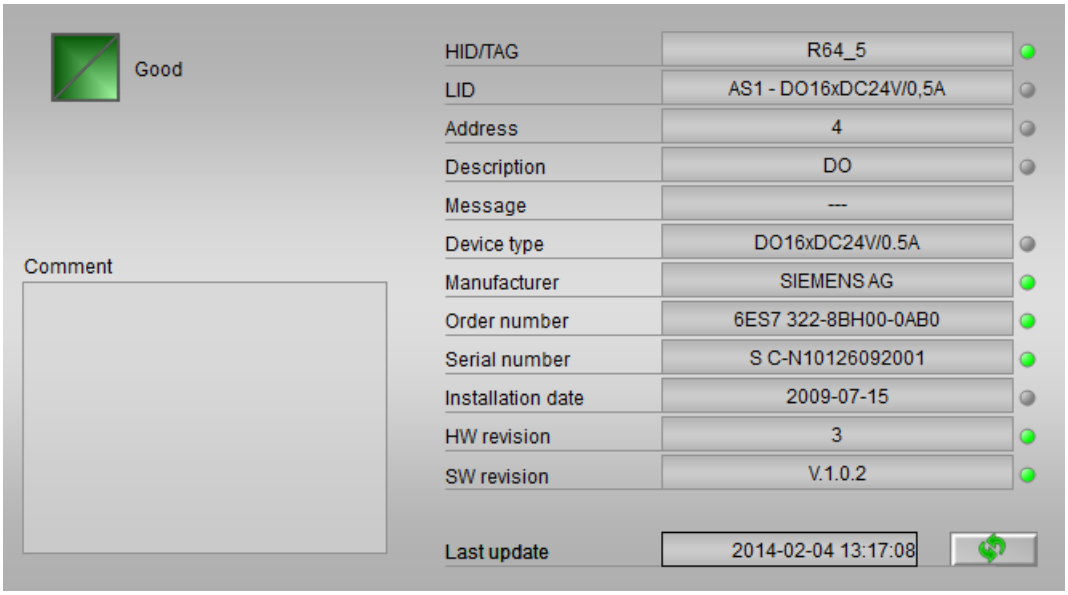
This view is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

Overview

This view displays the configuration data or device data in the information box. The composition of the identification data depends on the component selected.

The structure of the view is identical for all faceplates; only the origin of the identification data is different.

The following figure shows an example of the view:



Display

- Maintenance state
  You can find more information on the maintenance status in the sections "Maintenance status and maintenance group display (Page 169)" and "Maintenance status of redundant components (Page 173)".
- Identification data
  The identification data represents the electronic rating plate of a device. The identification data is refreshed manually in the faceplate using the operator control.
  There is an automatic update following the change in status from "Maintenance alarm" to another maintenance status. The exception to this is the status "unknown/unchecked".
  You can find information about the sources of the identification data in the section "Origin of the identification data (Page 236)".

  Note

  Not every asset provides all identification data.

  If certain identification fields in the "Ident" view are empty even though the time stamp in the "Last update" field has been updated, these data are not provided by the component. The causes may be as follows:

  - There is no data stored in the component.
  - The component does not recognize the data.

  If, however, no time stamp is displayed in the "Last update" field, then either the identification data have not been updated or there are no online data available for these components.

- Comment
  The comment is read from HW Config.

- Last update
  The timestamp of the last update of the identification data is displayed.
- State
  The following table shows the icon representation for the origin of the data:

Display	Meaning
	Device data The data source is the device.
	Project data The data source is the project. No data were read from the device.
No icon	No information on the data source

Operator control

Button	Explanation	Permission
	Clicking the button updates the display of identification data.	"Process controlling" for the diagnostics area

Additional information

You can find information on displaying redundant components in the faceplate in the section "Display of faceplate for redundant components (Page 235)".

6.11.3.2 "Messages" view

Available

This view is displayed for all components.

Note

This view is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

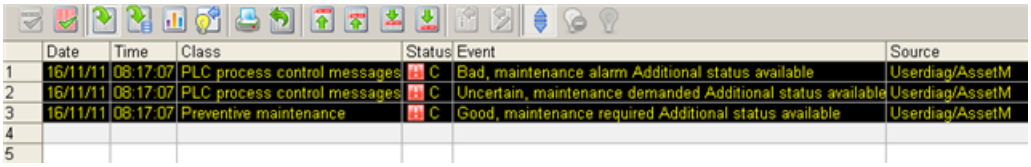
Overview

This view contains all messages that are present for a component.

The following messages are displayed:

- Diagnostic/error messages
- Operating messages after selection of the long-term archive list in the toolbar

The following figure shows an example of the view:



	Date	Time	Class	Status	Event	Source
1	16/11/11	08:17:07	PLC process control messages	C	Bad, maintenance alarm Additional status available	Userdiag/AssetM
2	16/11/11	08:17:07	PLC process control messages	C	Uncertain, maintenance demanded Additional status available	Userdiag/AssetM
3	16/11/11	08:17:07	Preventive maintenance	C	Good, maintenance required Additional status available	Userdiag/AssetM
4						
5						

Display

Messages

- Currently pending messages, independent of acknowledgment status
- Unacknowledged messages went out
- In addition to the filter for the "Origin", only messages that belong to the "Diagnostics" area are displayed.

Operator control

Operation takes place the same way as operation on an operator station.

You can find additional information on this in the manual *Process Control System PCS 7, OS Process Control*.

The following button is also displayed for switching between the "Journal" view and the "Operator message" view if the short-term archive list is selected.

Button	Explanation	Permission
	Clicking the button calls the short-term archive list and the following button for switching between the "Journal" view and the "Operator message" view is displayed.	No access protection
	Clicking the button switches the view.	

6.11.3.3 "Maintenance" view

Available

This view is displayed for all components.

This view is not available in the faceplate for the redundant server pair.

Note

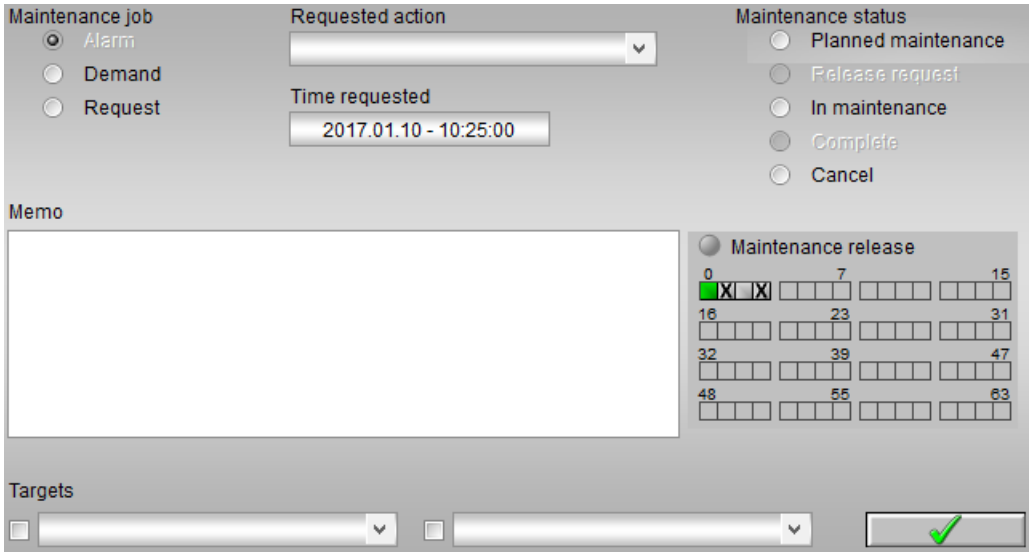
This view is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

Overview

This view allows the maintenance engineer to demand and manage a maintenance job for the specific component. The maintenance state of the demanded maintenance measure is displayed in the diagnostic screens in the maintenance group display. The maintenance state, the maintenance job and the state of the maintenance job are displayed in the header of the faceplate.

In this view you can execute a single export, consisting of identification data, the maintenance state and the maintenance information of the respective component.

The following figure shows an example of the view for an input and output module:



The following figure shows an example of the view for a PC object:

Display

- Sum status of the release for maintenance
  The display is formed from the state of the maintenance release of the lower-level components and their own components.

Display	Meaning
	Release granted for all components/channels involved
	Release not granted for at least one component/channel involved

Note

The Advanced Process Library must be used in order to display the maintenance release.

- Maintenance release for lower-level components/channels

Display	Meaning
	Not interconnected/used
	Interconnected/used and release by the operator in the plant area not granted
	Interconnected/used and release by the operator in the plant area granted

Note

The Advanced Process Library must be used in order to display the maintenance release.

Operator control

Representation/ Designation	Explanation	Operator permission
"Maintenance job" area • Alarm • Prompt • Request	A maintenance job is requested by clicking an option button.	"Process controlling" for the diagnostics area
"Requested action" area	You select an action from the drop-down box. An action, for example, can be "Disassembly". You can find information on configuring an action in the section "Configuring maintenance actions (Page 69)".	
"Time requested" area	The time of the request of the maintenance job is specified in the input box. The time is entered in the following format: YYYY.MM.DD - hh:mm.	
"Maintenance status" area • In maintenance • Release request • Planned maintenance • Completed • Cancel	By selecting an option button, the maintenance job is given a processing state.	
"Passivate" check box	Available for PC and IPC objects The PC object is passivated by clicking on the check box. You can find information on passivation in the section "Passivating PC objects (Page 248)".	
"Memo" area	The maintenance engineer can enter a note for the service job in the memo field or change a saved note. The text is applied to the individual export file. In order for the note text to be saved as a comment for the operator message and permanently displayed in the memo field, one of the following operator actions is required in addition to entering the note text: • Change the type of maintenance job in the maintenance job area • Switch between the service types "In maintenance" and "Planned maintenance" (bilateral) in the Maintenance status area The note text is deleted when you complete or cancel the maintenance job.	
"Targets" area	• Check boxes By selecting this check box, the single export file is stored in the selected target. • Drop-down box	

Representation/ Designation	Explanation	Operator permission
	Select the storage path for the single export file from the drop-down box. A maximum of two targets can be selected at the same time. You can find information on configuration of a target in the section "Configuring maintenance targets for individual export (Page 67)".	
	Clicking the button creates a maintenance job as a single export file or displays it as a print job. The Print function is available if your plant is not operated via a PCS 7 Web client.	

Additional information

You can find information on single export in the section "Overview of individual export (Page 90)".

6.11.3.4 "Note" view

Available

This view is displayed for all components.

This view is not available in the faceplate for the redundant server pair.

Note

This view is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

Overview

You can leave temporary messages for other maintenance engineers in this view.

The following figure shows an example of the "Notes" view.

Operator control

Display	Explanation	Permission
Free area	Text box for the note	"Process controlling" for the diagnostics area
☐	The note is enabled or disabled by selecting the check box. • Enabling The note is enabled when the check box is selected. The next time the faceplate is opened or there is a process picture change, you can see in the status bar of the block icon and the faceplate that there is a new message for you. • Disabling The display in the status bar of the faceplate and in the block icon is hidden. The message is not deleted automatically.	

Note

A full compilation of the MS (that is the MS for single-station systems and the MS server for multiple-station systems) and subsequent download of the MS server deletes the contents of the memo view.

6.11.3.5 "Diagnostics" view for PC objects

Available

The view is displayed for the IPC component from the PC objects area.

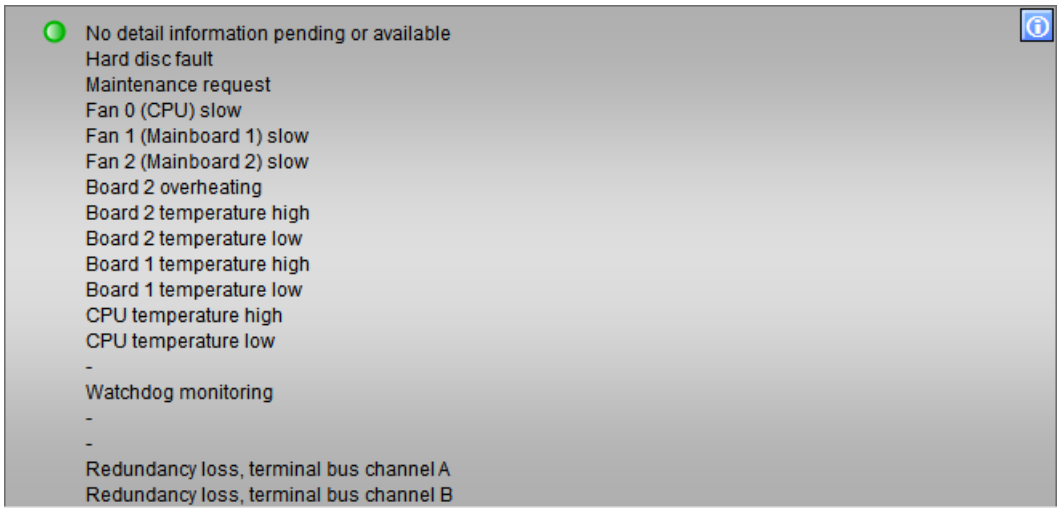
Note

This view is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

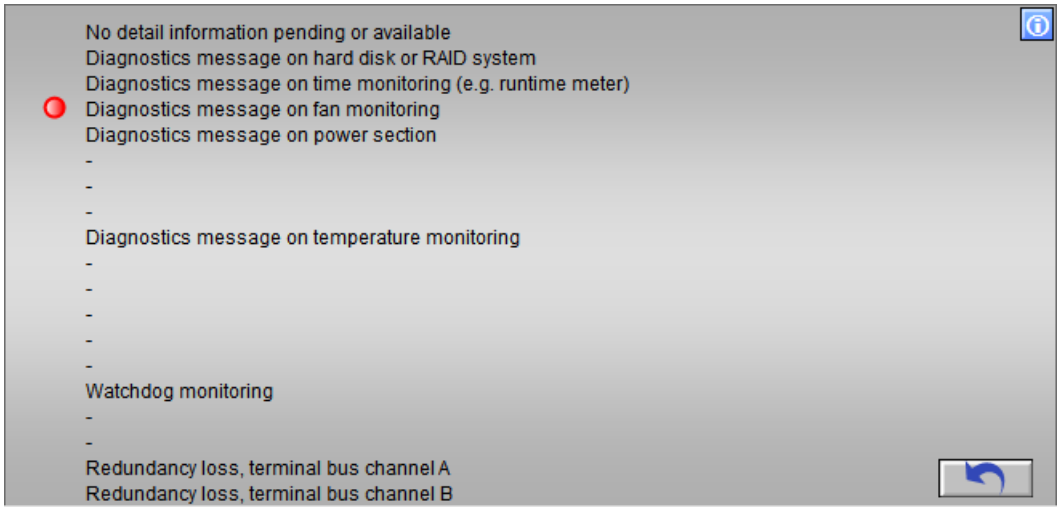
Overview

Up to 18 binary states of an IPC are displayed in this view.

- The following figure shows an example of the view for a component IPC with the profile V1.3:



- The following figure shows an example of the view for a component IPC with the profile V1.4 or higher:



The redundancy loss of channel A/B is only indicated in the case of a redundant connection to the terminal bus with Softnet IE/RNA in combination with the IPC Profile 1.5.
As soon as one of the two terminal bus cables is removed, this is visualized with a "red" state display.

Display

- Status of the component
  The following table shows the icon representation of the statuses:

Display	Meaning
	No detail information pending or available
	Pending fault
	There was a fault for a time
No icon	No state

Operator control

Button	Explanation	Permission
	Clicking the button opens the legend. The legend shows the icons designating the possible statuses and their meaning.	No access protection
	With Profile V1.4 and higher, the stored states are reset when you click the button.	"Process controlling" for the diagnostics area

6.11.3.6 "Connection display" view for client components

Available

The view is displayed for all OS clients, MS clients and OS/MS clients from the area of the PC objects.

Note

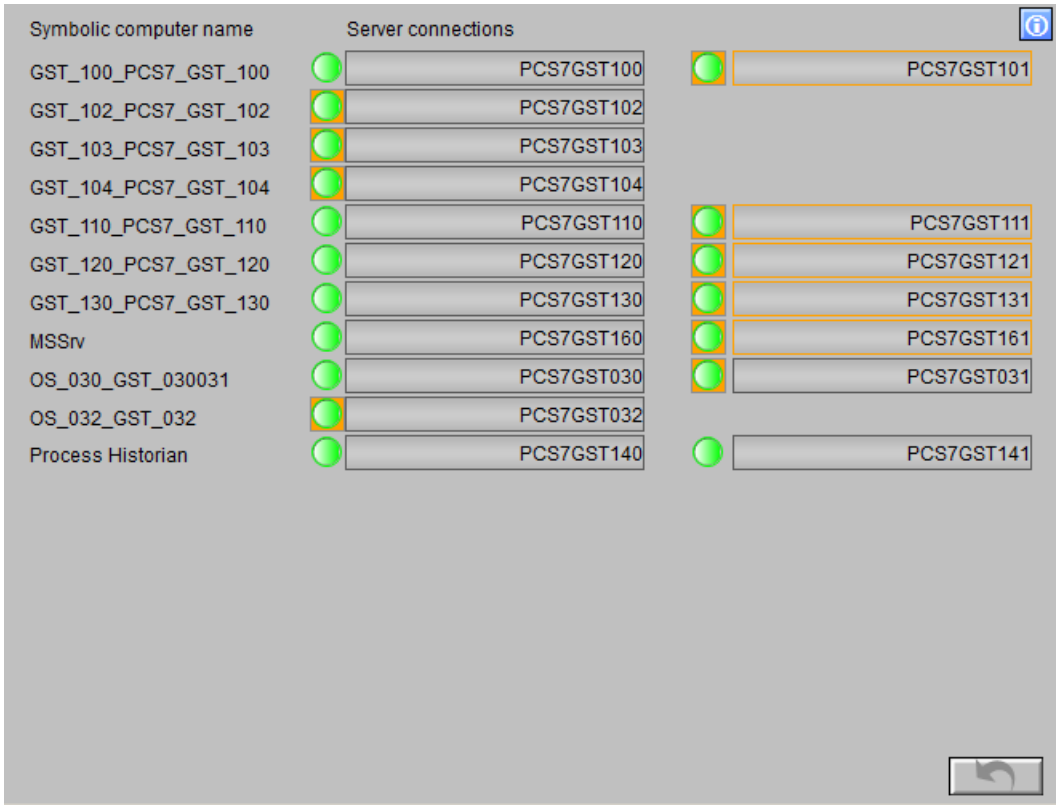
This view is available for the Maintenance Station in the MS Standard version.

Overview

This view shows all servers, the server data of which are downloaded to the client.

Servers are OS servers, MS servers and OS/MS servers.

The following figure shows an example of the view:



Display

- The symbolic computer name of all servers
- The computer name of all servers
- The computer name of the redundant partner
- Configured and currently connected preferred servers

- Current connection
- State
  The following table shows the icon representation of the statuses:

Display	Meaning
PCS7GST111	Configured preferred servers
	Currently connected server is preferred server and connection is available
	Connection available
	Connection not available
	Connection has failed in the meantime
	Currently connected server is preferred server and connection has failed in the meantime
	The server does not assume the "Error" state and waits until its partner can take over again. Only then does the server assume the "Fault" state.
	The currently connected server is the preferred server. The server does not assume the "Error" state and waits until its partner can take over again. Only then does the server assume the "Fault" state.

Operator control

Button	Explanation	Permission
	Clicking the button opens the legend. The legend shows the icons designating the possible statuses and their meaning.	No access protection
	Clicking the button resets the selection for server connections that have failed in the meantime.	"Process controlling" for the diagnostics area

6.11.3.7 "Connection display" view for server components

Available

The view is displayed for all OS servers, MS servers and OS/MS servers from the area of the PC objects.

Note

This view is available for the Maintenance Station in the MS Standard version.

Overview

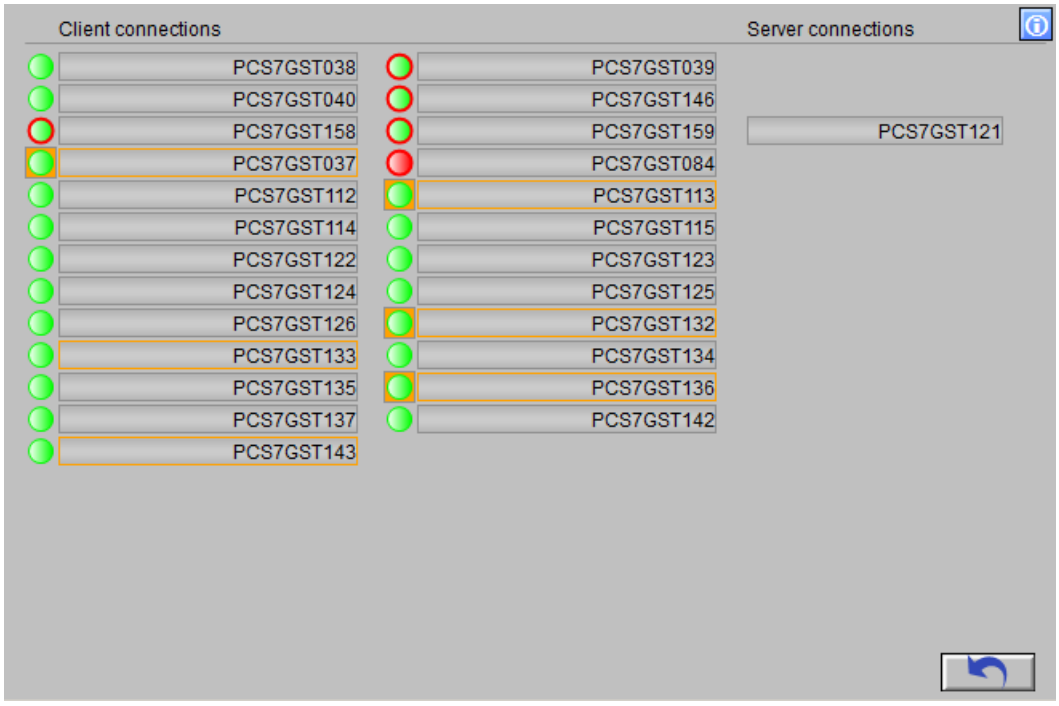
This view displays all clients connected to the server.

Clients are OS clients, MS clients and OS/MS clients.

The server data of the server must be assigned to the clients.

The partner is displayed for a redundant server.

The following figure shows an example of the view:



Display

- The computer name of all clients assigned to the server
- The computer name of the redundant partner
- Configured and currently connected preferred servers
- Current connection
- State
  The following table shows the icon representation of the statuses:

Display	Meaning
PCS7GST113	Configured preferred servers
	Currently connected server is preferred server and connection is available
	Connection available
	Connection not available
	Connection has failed in the meantime
	Currently connected server is preferred server and connection has failed in the meantime

Operator control

Button	Explanation	Permission
	Clicking the button opens the legend. The legend shows the icons designating the possible statuses and their meaning.	No access protection
	Clicking the button resets the selection for client connections that have failed in the meantime.	"Process controlling" for the diagnostics area

6.11.3.8 "Diagnostics" view for AS objects

Available

The following views are shown for devices of the type Switch, Drive and EnergyMeter from the field devices area.

Note

This view is available for the Maintenance Station in the MS Standard version.

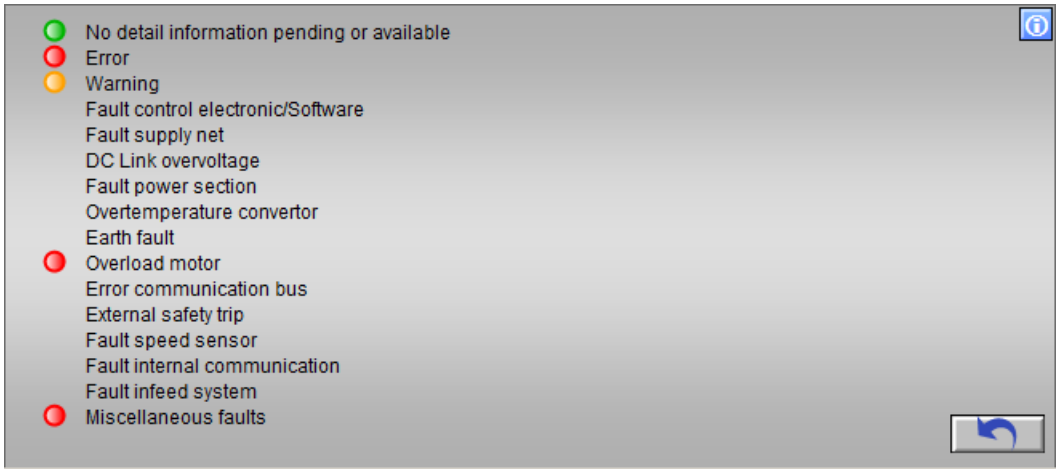
Overview

Information on Switch, Drive and EnergyMeter type devices is displayed in these views.

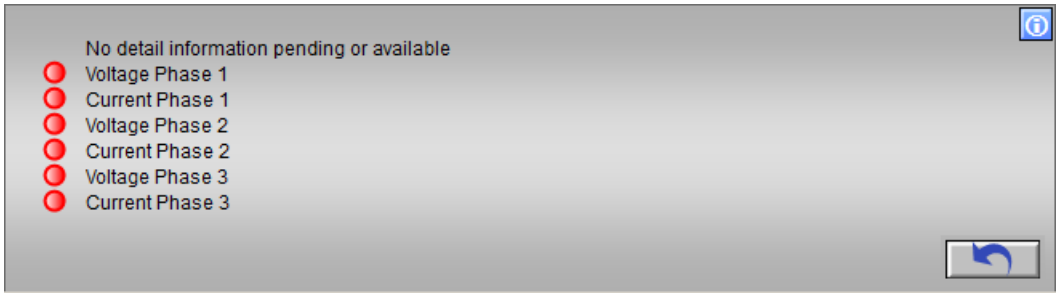
- The following figure shows an example of the view for Switch:

- The following figure shows an example of the view for Drive:

- The following figure shows an example of the view for Drive in accordance with the NAMUR standard:



- The following figure shows an example of the view for EnergyMeter:



Display

- Statuses for the device
  The following table shows the icon representation of the statuses:

Display	Meaning
	No detail information pending or available
	Problem exists
	There was a fault for a time
	There is a warning
	There was a warning for a time
No icon	No state

Operator control

Button	Explanation	Permission
	Clicking the button opens the legend. The legend shows the icons designating the possible statuses and their meaning.	No access protection
	Clicking the button resets the saved states.	"Process controlling" for the diagnostics area

6.11.3.9 "Performance" view for AS objects

Available

This view is displayed for the AS station in the AS/system area for CPU types that support the SFC78 and have the following firmware versions:

- Standard CPU 41x >= firmware version V5.0
- H-CPU 4xx >= firmware version V4.5

Note

This view is available for the Maintenance Station in the MS Standard version.

Overview

This view graphically displays the overall situation of the CPU utilization. All values in the bar chart are given as percentages. The reference value is the assigned maximum cycle monitoring time of the CPU.

All of the displays of the overall situation are mean values. because displaying actual values of the most recent cycle in each instance would result in a widely fluctuating reduction ratio display in the screen refreshing cycle.

The following figure shows an example of the view:

Display

- Total runtime
  The values in the bar diagram are specified in %, relative to the set maximum cycle monitoring time.
  Its numeric magnitude is displayed under the bar.
  - Mean value
    Mean value of the actual value in % (TOTALPER block parameter)
  - Actual value
    Mean value of all net run times in % OB3x/OB8x + OB1 (TOTALCUR block parameter)
  - Max. value
    Formed from the net run times in % of all the OB3x/OB8x + OB1 net run times from the most recent cycle (TOTALMAX block parameter)
  - Min. value
    Formed from the net run times in % of all the OB3x/OB8x + OB1 net run times from the most recent cycle (TOTALMIN block parameter)
- Horizontal bar diagrams for OB3x
  The values refer to the respective OB cycle time.
  The graphic display of the OB3x times is expanded by an indicator that signals buffered and lost start events.
  - Net value
  - Gross value
  - Start event lost
- Horizontal bar diagrams for OB8x and OB1
  The values refer to the configured maximum cycle monitoring time.
  - Net value
- Scan rate:
  Display of the scan rate for all cyclical OBs of the user program

Operator control

Button	Explanation	Permission
	Clicking the button opens the legend. The legend shows the icons designating the possible statuses and their meaning.	No access protection
	Clicking the button resets the values.	"Process controlling" for the diagnostics area

Avoiding a CPU stop

Functions have been integrated into the CPU to ensure that the user programs can continue running even when the CPU becomes overloaded and to prevent the CPU from switching to "STOP" mode. The "Emergency mode" parameters are assigned in the "CPU function block" faceplate, "Parameters view".

NOTICE
Utilization limit When the CPU gets close to full capacity, the user programs will become sluggish. If this starts to affect process mode, the user program will need to be reconfigured.

You can find additional information about this in the section ""Parameters" view for AS objects (Page 215)".

6.11.3.10 "OBx..." view for AS objects

Available

This view is displayed for the AS station in the AS/system area for CPU types that support the SFC78 and have the following firmware versions:

- Standard CPU 41x >= firmware version V5.0
- H-CPU 4xx >= firmware version V4.5

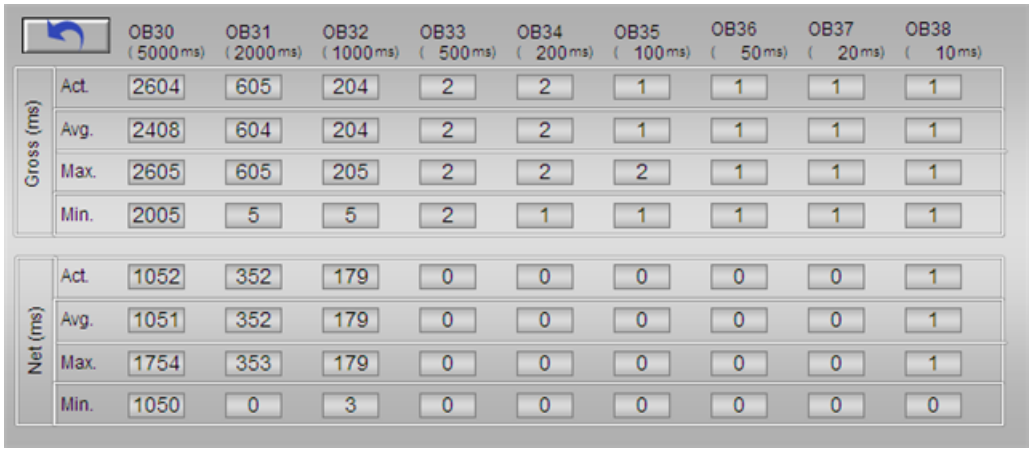
Note

This view is available for the Maintenance Station in the MS Standard version.

Overview

This view displays the utilization of the OBs in a CPU with diagnostics functionality.

The following figure shows an example of the "OB3x" view .



		OB30 (5000 ms)	OB31 (2000 ms)	OB32 (1000 ms)	OB33 (500 ms)	OB34 (200 ms)	OB35 (100 ms)	OB36 (50 ms)	OB37 (20 ms)	OB38 (10 ms)
Gross (ms)	Act.	2604	605	204	2	2	1	1	1	1
	Avg.	2408	604	204	2	2	1	1	1	1
	Max.	2605	605	205	2	2	2	1	1	1
	Min.	2005	5	5	2	1	1	1	1	1
Net (ms)	Act.	1052	352	179	0	0	0	0	0	1
	Avg.	1051	352	179	0	0	0	0	0	1
	Max.	1754	353	179	0	0	0	0	0	1
	Min.	1050	0	3	0	0	0	0	0	0

The figure shows an example of the "OB8x/OB1" view.

		OB81	OB82	OB83	OB84	OB85	OB86	OB87	OB88	OB1
Net (ms)	Act.	0	0	0	0	0	0	0	0	1
	Avg.	0	0	0	0	0	0	0	0	1
	Max.	0	3	7	0	9	0	0	0	1
	Min.									0

Display

- The utilization of the OB3x organization blocks is shown in the "OB3x" view:
  - The absolute gross and net value, and the average value over a number of cycles of the OB 3x, related to the configured maximum cycle monitoring time of the OB in each case.
  - The minimum and maximum values reached since the last reset of the OBs
- The utilization level of the OB8x organization blocks is shown in the "OB8x/OB1" view:
  - The absolute net value and the average value over a number of cycles of the OB8x and OB1, related to the configured maximum cycle monitoring time of the OB in each case.
  - The minimum and maximum values reached since the last reset of the OBs.

Operator control

Button	Explanation	Operator permission
	Clicking the button resets the counter states.	"Process controlling" for the diagnostics area

6.11.3.11 "Parameters" view for AS objects

Available

This view is displayed for the AS station in the AS/system area for CPU types that have the following firmware versions:

- Standard CPU 41x >= firmware version V5.0
- H-CPU 4xx >= firmware version V4.5

Note

This view is available for the maintenance station in the MS Standard version.

Overview

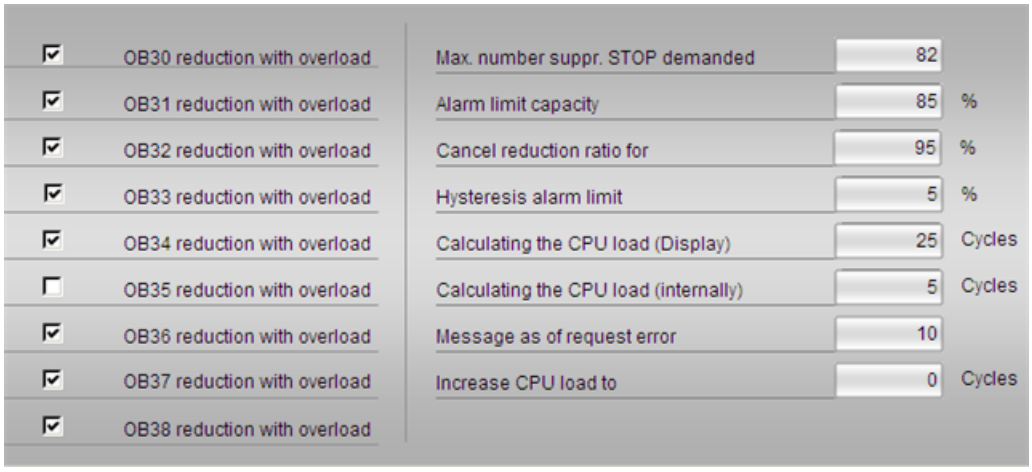
In this view, parameters can be assigned for the overload behavior.

The default cycle monitoring time for the CPU is 6 s.

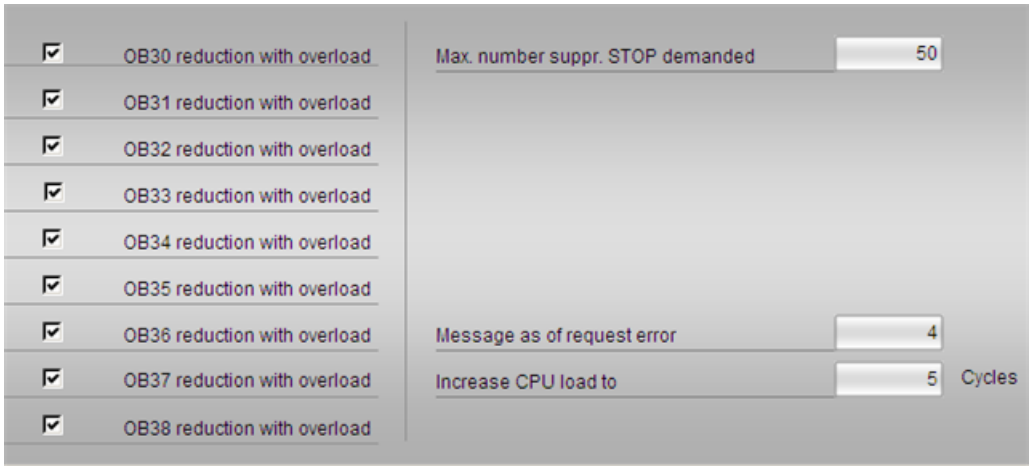
Failure to process all the OBs within this time will result in a cycle overload.

To prevent the CPU from switching to "Stop" mode, you can parameterize "Emergency mode".

- The following figure shows an example of the "Parameter" view of the CPU with SFC78.



- The following figure shows an example of the "Parameter" view of the CPU without SFC78.



Emergency mode

"Emergency mode" automatically reduces the speed of the configured cyclic tasks. The user programs then run more slowly.

"Emergency mode" should not be used on a continuous basis. The "Emergency mode" is signaled as a maintenance alarm with maximum priority setting.

Display/Operation

Identifier	Explanation	Operator permission
OB3x reduction with overload	In the event of an overload the OB is processed more slowly. Reduction is enabled or disabled by selecting the check box. In this display, reduction is enabled.	"Higher process controlling" for diagnostics area
Max. number suppr. STOP demanded	X (X is a number between 1 and 9999) The number 50 is preset at the block for X by the system. After the cycle monitoring time is exceeded for X+2 times, the CPU switches to "STOP"	
Alarm limit capacity	If the total utilization, which equates to the sum of the mean values for all the net run times (in % for OB3x, OB8x + OB1), exceeds the alarm limit capacity, then the message "Net time consumption of all OBs exceeds max. limit" is output and the maintenance status is set to "Maintenance demanded".	
Cancel reduction for	Emergency mode is terminated automatically when the maximum total utilization of the controller as configured in the "Cancel reduction for x%" or "MAX_VAL (CPU_RT)" parameter is reduced accordingly and there is no longer any long-term violation of the cycle time.	
Hysteresis alarm limit	Hysteresis prevents the message "Net time required by all OBs exceeds max. limit" from "wavering".	
Calculating the CPU load (Display)	The CPU load for the display is calculated for the specified number of cycles.	
Calculating the CPU load (internally)	The (internal) CPU load is calculated for the specified number of cycles.	
Message as of request errors	If the value is exceeded, an "OB3x request error" message is output.	
CPU load increase to	Once the slowest running OB has resumed "normal" running speed for 5 consecutive cycles, the reduction is canceled.	

6.11.3.12 "Connection load display" for CPU connections

Available

This view is displayed for the AS station in the AS/system area for the following CPU types:

- H-CPU 4xx >= firmware V6

Note

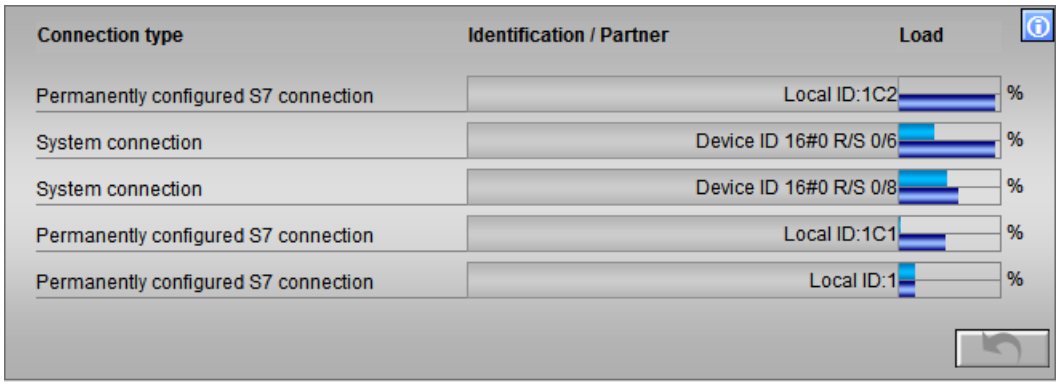
This view is available for the Maintenance Station in the MS Standard version.

Overview

This view shows the 5 most heavily loaded connections of the CPU.

The connection types are displayed according to the maximum value of the load from the top down.

The following figure shows an example of the view:



Note

The displayed actual values correspond to the values that are displayed on the "Connection statistics" tab in the "Module status" dialog of the CPU.

Display

- Connection type:
  The connection type corresponds to the configuration in NetPro.
  - Invalid connection type
  - S7 connection
  - S7 connection (fault-tolerant)
  - T connection (TCP native)
  - T connection (UDP)
  - T connection (ISO-on-TCP)
  - Routed connection
  - PG connection
  - OP connection
  - OMS connection
  - Free connection
  - Free connection (TCP)
  - System connection
  - RPC7 connection
  - Connection for basic communication
- Partner / identification
  Shows the partner ID from NetPro
- Load
  Shows the utilization of the connection as a percentage
- Actual value
- Maximum value

Operator control

Button	Explanation	Permission
	Clicking the button opens the legend. The legend shows the icons designating the possible statuses and their meaning.	No access protection
	Clicking the button resets the displayed values.	"Process controlling" for the diagnostics area

6.11.3.13 "Diagnostic buffer" view for CPU and CP

Available

The view is displayed for all CPUs and CPs in the central rack and expansion rack.

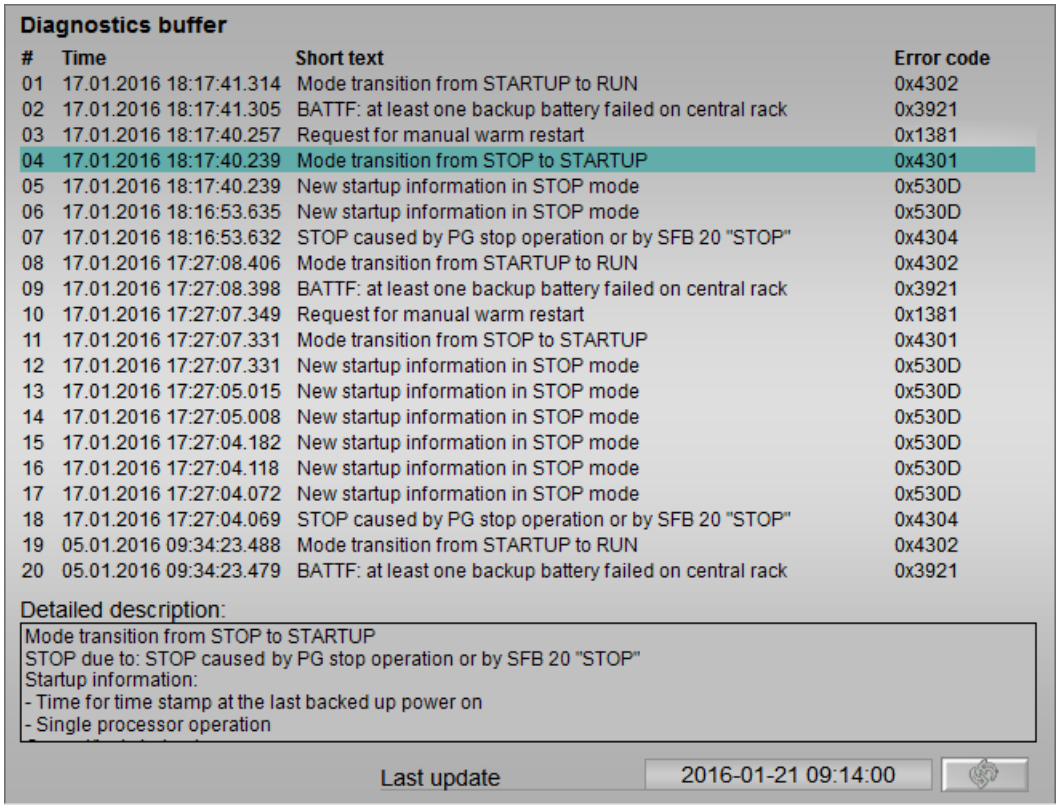
Note

This view is available for the Maintenance Station in the MS Standard version.

"Diagnostic buffer of the CPU/CP" overview

This view shows the last 20 events that occurred in the diagnostic buffer of a CPU or CP.

The following figure shows an example of the information from the diagnostic buffer of a CPU:



Note

Access from the faceplate on the Maintenance Station is not possible if the diagnostic buffer on the Engineering Station is already open.

Display

- Sequential number
- Time
  Time when the event occurred
- Short text
  Brief information about the event
- Error code
  Error code for the event
- Detailed description
  Detailed information on the event
- Last update
  Time stamp of the last update of the data

Operator control

Button	Explanation	Permission
No display	Additional information about the event is displayed in the "Detailed description:" area when you click on a line.	No permission
	When you click the button, the events are read from the diagnostic buffer again and the table is updated.	"Process controlling" for the diagnostics area

6.11.3.14 "LED display" view for CPU

Available

The view is displayed for all CPUs.

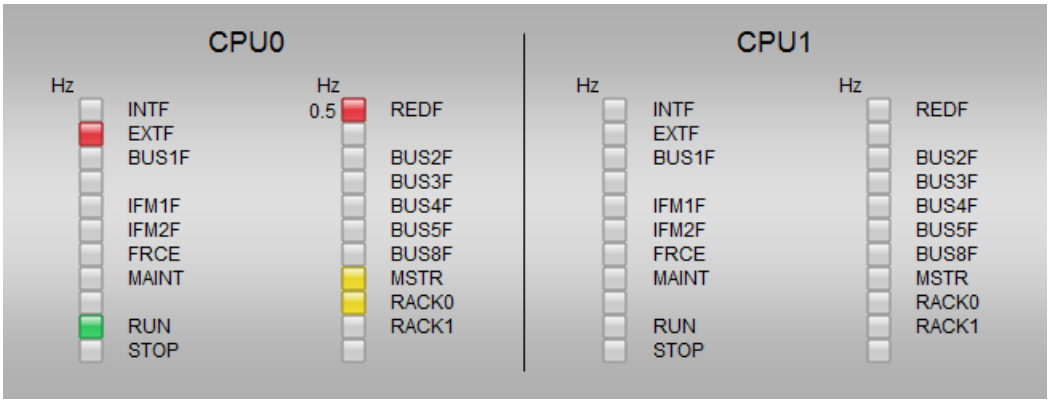
Note

This view is available for the Maintenance Station in the MS Standard version.

Overview

This view displays the LEDs of the CPU.

The following figure shows an example of the display for a redundant CPU:



Display

- Frequency
  The following table shows an example of the frequency at which the state flashes:

Display	Meaning
0.5	The LED flashes at a frequency of 0.5 Hz.

- State
  The following table shows the icon representation of the statuses:

Display	Meaning
	"Active" state
	"Active" state
	"Fault is present" state
	No state pending / not relevant for this hardware configuration

6.11.3.15 "Diagnostics" view for field devices

Available

This view is displayed for all components from the field devices area.

Note

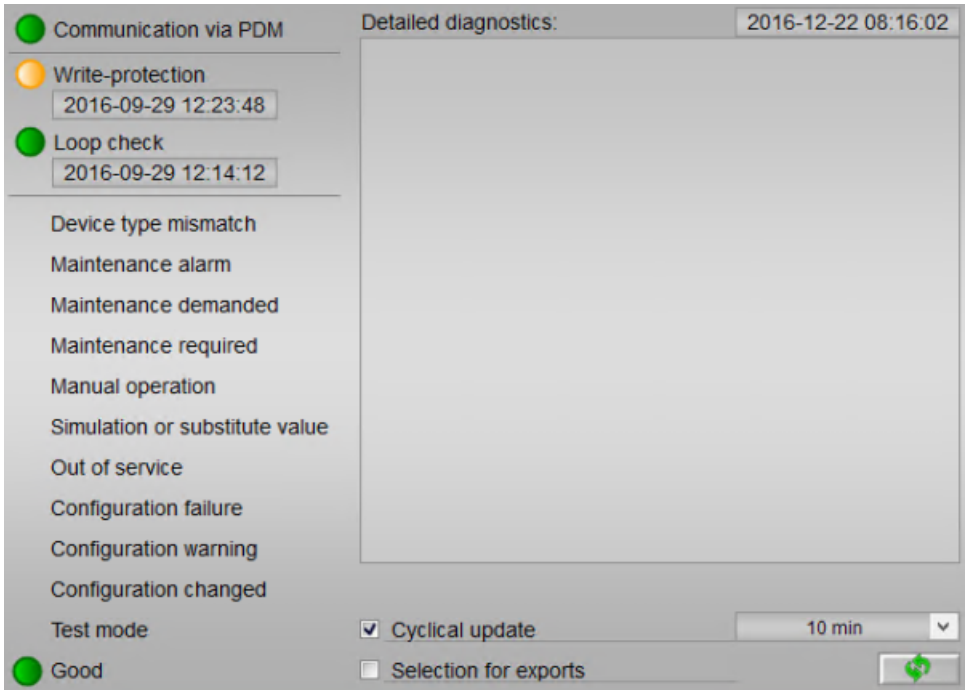
This view is available for the Maintenance Station in the MS Standard and SIMATIC PDM MS versions.

Overview

This view displays data of field devices that are integrated using a device description (EDD).

The data are read in SIMATIC PDM and transferred to the Maintenance Station.

The following figure shows an example of the view:



Display

- Communication via SIMATIC PDM
  Displays the state of the communication connection between SIMATIC PDM and the device the last time communication was established

Display	Meaning
	Communication with SIMATIC PDM established
	Communication with SIMATIC PDM not established

- Write protection
  Shows the time stamp for when the "Project-specific write protection" parameter was set in SIMATIC PDM for this device

Display	Meaning
	Write protection is set
No icon	Write protection is not set
2016-09-29 12:23:48	Time stamp for write protection

- Loop check
  Shows the time stamp for when the "Device tested" parameter was set in SIMATIC PDM for this device

Display	Meaning
	Loop check was performed
No icon	Loop check was not performed
2016-09-29 12:14:12	Time stamp of the last "Loop check".

- Device state
  Indicates the possible state of the relevant device (standard diagnostics based on the PA Profile of the "PROFIBUS & PROFINET International" organization)

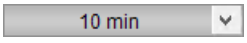
Display	Meaning
	The state "Good" is indicated by a green symbol before the corresponding text.
	The individual error states are indicated by a red symbol before the corresponding text.
No icon	No state pending

- Detailed diagnostics:
  Shows the time stamp of the last reading of the diagnostics data in SIMATIC PDM

Display	Meaning
2016-12-22 07:54:56	Time stamp of the last update of the data

The content of the text box is read and displayed for the current state from the EDD of the device supplied by the manufacturer.
The information displayed in the text field shows messages of the respective field device.
The texts are manufacturer-specific.
The texts are only displayed in the language configured in SIMATIC PDM or in the default language specified by the manufacturer.
The language change in process control has no effect.

Operator control

Display	Explanation	Permission
	• Cyclical update Cyclical update is enabled or disabled by selecting the check box. Update is disabled in this display. • Selection for parameter data export: By clicking the check box, the device can be recorded through the selection of the "Selected devices" filter for filtered complete export and filtered parameter export data.	"Process controlling" for the diagnostics area
	The device-specific update interval can be selected from the drop-down list. Four update intervals are available. The default values are: • 1 day • 12 hours • 1 hour • 10 minutes The selected update interval is displayed. The system default for the update interval is one day. If the cyclic update is disabled, the update interval can be changed. The configured time does not indicate the exact cycle of the update. It only means that after updating a device, the next update for this device will be performed after the selected time. If other devices have to be processed beforehand at this time, the update can be delayed.	
	Click the button to update the displayed information.	

Additional information

You can find information on the displayed error texts for updating the diagnostics data in the section "Error texts for field devices/user objects (Page 233)".

You can find information on the loop check function and project-specific write protection in the *SIMATIC PDM* manual.

6.11.3.16 "Parameters" view for field devices

Available

This view is displayed for all components from the field devices area.

Note

This view is available for the maintenance station in the MS Standard and SIMATIC PDM MS versions.

Overview

This view displays the device parameters saved in the project for field devices that are integrated using a device description (EDD).

The following figure shows an example of the view:

Device parameters

Parameters	Value	Unit
TAG	SIPART_PS2_11	
Descriptor	PA-Adresse 11	
Message	hinter Koppler 1	
Static Revision No.	11	
Manufacturer	Siemens	
Product designation	SIPART PS2 PA	
Ordernumber	6DR4100-1N	
Device Serial Num	1177	
Software Revision	Sw-Version c1	
Hardware Revision	7	
Installation Date	01.10.1998	
Profile Revision	3.0	
HW Write Protection	Off	
PROFIBUS Ident Number	Manufacturer specific	

Additional information

You can find information on error texts in the section "Error texts for field devices/user objects (Page 233)".

6.11.3.17 "External diagnostics" view

Available

This view is displayed for components from the field devices area.

The view is only displayed for the diagnostic block that is interconnected directly with the channel block.

If you are operating a module redundantly, the signals are transmitted to the upstream diagnostic block via the "OR block".

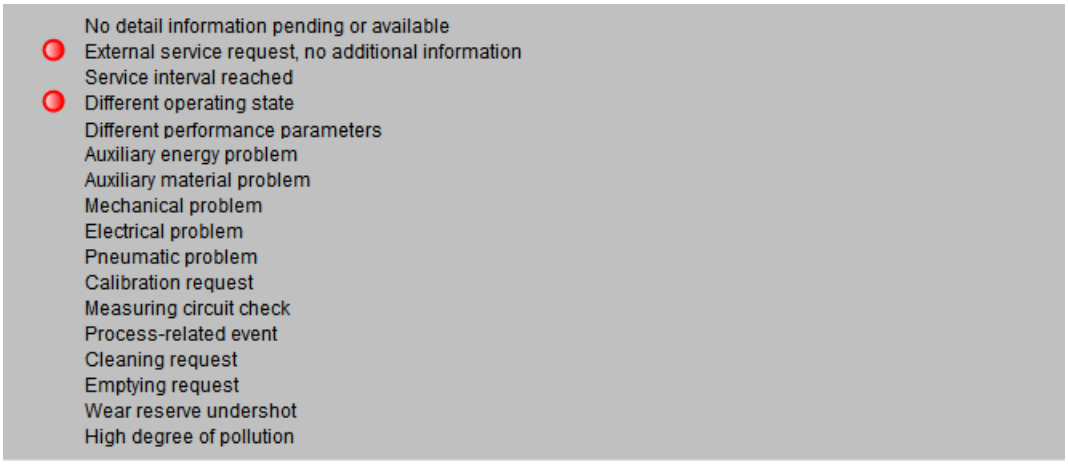
Note

This view is available for the Maintenance Station in the MS Standard version.

Overview

External diagnostic information for the component is displayed in this view.

The following figure shows an example of the view:



Display

- State
  The following table shows the icon representation of the statuses:

Display	Meaning
	No external detail information pending or available
	No external detail information pending or available
No icon	No state pending

- Display text
  You configure the texts in the "Advanced Diagnostic Settings".

Additional information

You can find information on configuring the texts in the section "Configuring maintenance information (Page 72)".

You can find information on configuring maintenance information in the section "Configuring the display of maintenance information (Page 81)".

6.11.3.18 "Diagnostics" view for user objects

Available

The following views are displayed for components from the user objects area.

Note

This view is available for the Maintenance Station in the MS Standard version.

Overview

In this view, information on the user object are displayed.

The following figure shows an example of the view:

Display

- State
  The following table shows the icon representation of the statuses:

Display	Meaning
	No external detail information pending or available
	Detail information pending
	Detail information existed for a time
No icon	No state pending

- Display text
  The texts are configured by the user in the SIMATIC PDM object of the AssetM block in the EDD.

Operator control

Button	Explanation	Permission
	Clicking the button opens the legend. The legend shows the icons designating the possible statuses and their meaning.	No access protection
	Clicking the button resets the saved states.	"Process controlling" for the diagnostics area

Additional information

You can find information on error texts in the section "Error texts for field devices/user objects (Page 233)".

6.11.3.19 "Monitoring" view for user objects

Available

This view is displayed for all components from the user objects area.

Note

This view is available for the Maintenance Station in the MS Standard version.

If a designation for at least one process value is entered in the EDD, the view can be selected.

Overview

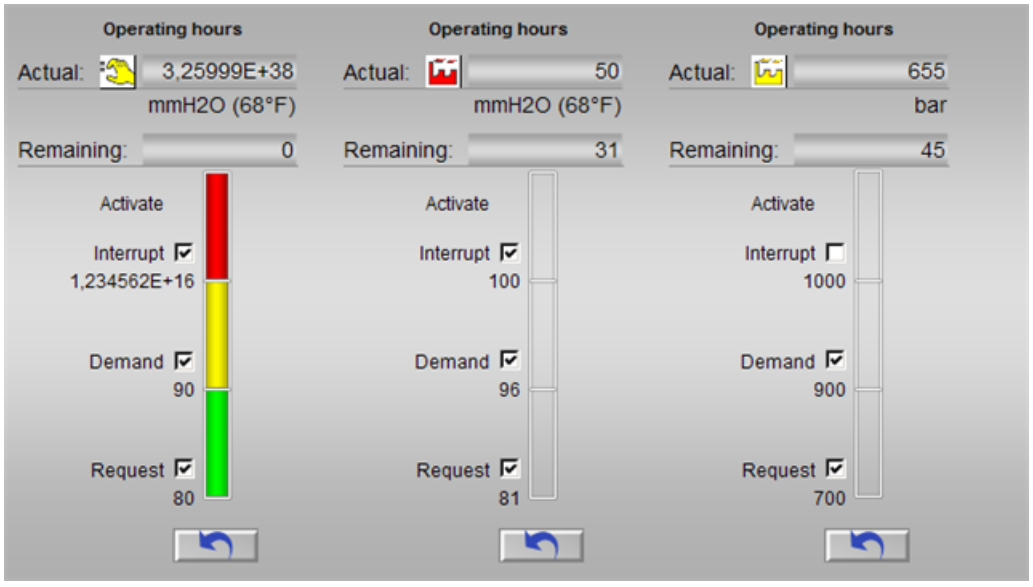
PCS 7 offers the option of setting up, in a user diagnostics structure, monitoring functions for objects that are not automatically integrated in the diagnostic screens of the Maintenance Station. These objects include, for example:

- Values defined by rules or calculations
- Objects that do not support diagnostics (e.g., field devices not recognized in PCS 7)
- Technical areas
- Groups of components

You can show the following monitoring functions in a diagnostics screen:

- Operating hours meter
- Service interval
- Calibration interval

The following figure shows an example of the view:



Display

If a designation for the process value is entered in the EDD, the corresponding area is displayed in the view.

- Label for the process value e.g. PV1
  The text is configured by the user in the SIMATIC PDM object of the AssetM block in the EDD.
- Signal status
  The number in the priority column indicates the priority of the display. The lowest number has the highest priority.

Display	Priority	Remark
	1	Bad, device-related
	2	Bad, process-related
	3	Local functional check, simulation
	4	Uncertain, device-related
	5	Uncertain, process-related
	6	Maintenance demanded
None	7	Good
None	-	Input not connected

- Actual value
  The value is read from the AssetM block.
- Remaining value
  The difference between the actual value and the next limit value is formed in the AssetM block.
- Units of measure
  The unit of measurement is configured in the AssetM block.
- Alarm limits
  The alarm limits are configured in the AssetM block.

Operator control

Button	Explanation	Permission
	The alarm limits are enabled or disabled by selecting the check box. In this display, the alarm limits are disabled.	"Process control-ling" for the diagnos-tics area
	Clicking the button outputs a pulse at the block. This pulse can be processed further, for example, to reset the counter value at the following technological block (counter).	

Additional information

You can find information on error texts in the section "Error texts for field devices/user objects (Page 233)".

6.11.3.20 "CFU diagnostics" view for the compact field unit

Available

The view is displayed for the compact field unit from the field devices area.

Note

This view is available for the Maintenance Station in the MS Standard version.

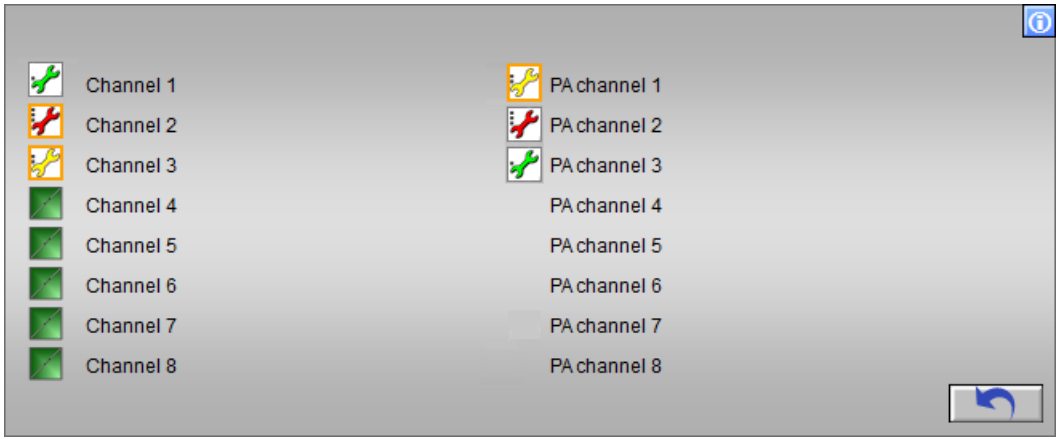
Overview

This view displays the maintenance states of the individual CFU channels.

The eight binary input/output channels are displayed on the left half of the screen.

The right half of the screen shows the eight Spurs for connecting the field devices.

The following figure shows an example of the view:



Display

Status display, channels/spurs

The following table shows the icon representation of the states:

Display of icons with black border line 1, 2 and 3

Display	Meaning
	Maintenance required pending
	Maintenance demanded pending
	Maintenance alarm pending
	"Good" state
	Maintenance status was pending and has not yet been reset
No icon	Channel not in use.

Operator control

Button	Explanation	Permission
	Clicking the button opens the legend. The legend shows the icons designating the possible states and their meaning.	No access protection
	Clicking the button resets the saved maintenance states.	"Process controls" for the diagnostics area

6.11.3.21 Error texts for field devices/user objects

The following table shows possible error texts in the views:

- "Diagnostics" view for field devices (Page 222)
- "Parameters" view for field devices (Page 226)
- "Diagnostics" view for user objects (Page 228)
- "Monitoring" view for user objects (Page 229)

Error code	Output In the faceplate	Possible measures
A0040110 80010108	Connection to SIMATIC PDM could not be established. Possible causes: - Archiving is active on the ES - Communication error - Access to the project is blocked	Check: • Whether the ES is accessible via the terminal bus • Whether an archiving job is running on the ES Wait until the end of the archiving job. • Whether the SIMATIC PDM Asset Service is stopped and the "automatic start/stop" is not activated Allow the "automatic start/stop". Start the SIMATIC PDM Asset Service.
A0040001	General error has occurred.	A general SIMATIC PDM error is indicated. Contact Technical Support.
A0040006	Internal error - Incorrect call parameter	The transferred XML string is incorrectly structured. Contact Technical Support.

Error code	Output In the faceplate	Possible measures
A0040101	Command cannot be run because PDM Asset Service is being stopped.	Check whether the SIMATIC PDM Asset Service is currently being stopped and "automatic start/stop" is not activated.
A0040102	Command cannot be run because PDM Asset Service is stopped.	Allow the "automatic start/stop" and start the SIMATIC PDM Asset Service.
A0040103	Internal error - Error when parsing the XML transfer parameters	The transferred XML string is incorrectly structured. Contact Technical Support.
A0040002	Not enough memory.	Check whether the error is still indicated after a restart of the ES.
A0040104	Maintenance path not found or empty.	• Check whether the maintenance project is entered correctly in the settings for SIMATIC PDM. • Stop and start the SIMATIC PDM Asset Service.
A0040105	Timeout for current command.	Error in the SIMATIC PDM Asset Service when executing the jobs. Check whether the error is still indicated after a restart of the ES.
A0040106	Internal error - Command could not be executed	
A0040107	Internal error - Timeout for current command	The SIMATIC PDM Asset Service should be stopped, but this is not possible because jobs are still queued or are still being processed. • Wait a little longer. • Then reboot the computer.
A0040108	PCS 7 project cannot be opened.	• Close SIMATIC Manager on the ES and open the project again. • Stop and start the SIMATIC PDM Asset Service.
A0040109	Internal error - Command could not be executed	• Stop and start the SIMATIC PDM Asset Service. • Restart the ES if necessary.
A004010A	PCS 7 project could not be opened.	• Close SIMATIC Manager on the ES and open the project again. • Stop and start the SIMATIC PDM Asset Service.
A004010B	PCS 7 project could not be opened.	
A004010C	Incorrect project PLT ID	• Re-enter the maintenance project in the settings for SIMATIC PDM. • Stop and start the SIMATIC PDM Asset Service.
A004010D	Object (PLT ID) not found	
A004010E	ASSET export path incorrect	• Check whether the export path entered in the SIMATIC PDM settings can be accessed via the terminal bus. • Re-enter the export path in the SIMATIC PDM settings.
A004010F	ASSET export could not be written - Access error	Check: • Whether the export path entered in the SIMATIC PDM settings can be accessed via the terminal bus. • The necessary access authorizations
A004000B	License error	Check the required SIMATIC PDM licensing on the ES.
A004000A	Access denied.	Check the access authorizations.
A004000D	Object locked.	Check whether the device is already open on another computer or by another application.
A0040008	Object not found.	A general SIMATIC PDM error is indicated. Contact Technical Support.
80000003 A0040201 80004001 80070057 80600009 8000FFFF 80004003	Functional error, SIMATIC PDM Server not accessible	

Error code	Output In the faceplate	Possible measures
A0040111	Command cannot be run because PDM Asset Service is stopped and not in automatic mode	Check: • Whether SIMATIC PDM Asset Service is already stopped • That the "Allow automatic start/stop" option is set
A0040112	Internal error - Object not found	Check the SIMATIC PDM Web configuration.

Note

If the suggested measures are not successful or an error code is output that is not further specified in the table, contact Technical Support.

6.11.4 Display of faceplate for redundant components

Introduction

Various displays are available for redundant components:

- The information is displayed in one faceplate.
- The information is displayed in several faceplates.

Display in several block icons/faceplates

The associated faceplate is opened by each block icon.

In all views:

The custom maintenance state is displayed in the faceplate for the component and for the partner in the relevant diagnostic icon.

The redundancy state is displayed in the faceplate for the redundancy object.

Display in a block icon/faceplate

The associated faceplate is opened by the block icon.

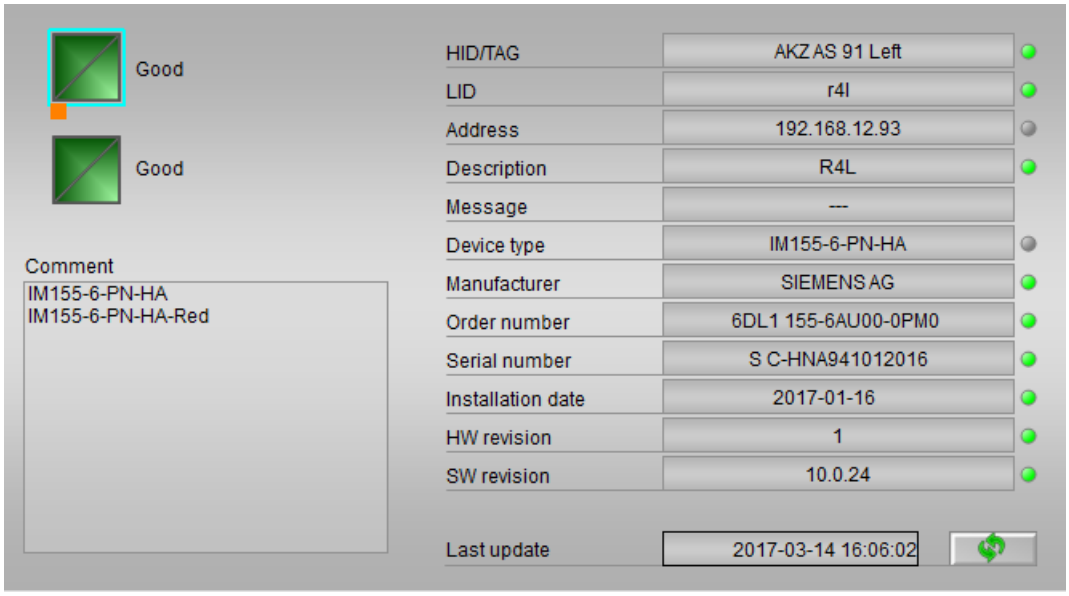
The redundancy state is displayed in the header in **one** diagnostic icon.

"Ident" view:

- In this view, if the component is redundant, one diagnostics icon is displayed for the active component and one for the passive component. The respective diagnostic icon displays the custom maintenance state.
- An orange square is displayed between a diagnostic icons. The square identifies the active component. The active component is the component with the master role.
- When the faceplate is opened, the information box always shows the data of the active component.
- By clicking on a diagnostics icon, the diagnostics icon is given a colored border and the corresponding data is displayed in the information box.

- Refreshing data with the "Refresh" button only affects the **active** component. This may have the result that only project data is displayed for the passive component.
- If the passive component was active and the data was refreshed with the "Refresh" button, device data is also displayed for the passive component.
- If the passive component is selected in the faceplate, when the "Refresh" button is clicked, the diagnostics icon of the active component is given a colored border and the data of the active component is displayed in the information box.

The following figure shows an example of the "Ident" view for a redundant component:



Additional information

You can find information on the redundancy state in the section "Maintenance status of redundant components (Page 173)".

6.12 Origin of the identification data

6.12.1 Identification data for IPCs

Where does the identification data for IPCs come from?

In the case of the faceplate for IPC objects, the identification data is read from the device via an SNMP connection.

The device must be configured in the SNMP OPC Server of the maintenance station for this.

These data are prepared for display on the maintenance station with the "Export tags for WinCC" function.

The following table shows the assignment of the identification data displayed on the MS to the origin.

Identification data	Origin	
	SNMP Profile V1.5 for IPC	PC with support of the SNMP Profile MIB-II
TAG / HID	SNMP tag ".sysName"	Not available
LID	Object properties of the PC station "Name"	
Address	HW Config/OPC server "IP address" / SNMP tag "&ipAddress()"	IP address terminal bus CCAgent
Description	Not available	
Message		
Device type	SNMP tag ".ProductName"	Not available
Manufacturer	SNMP tag ".Manufacturer"	Not available
Article number [1)]	SNMP tag ".StationMLFB"	Not available
Serial number	SNMP tag ".StationSerialNumber"	Not available
Installation date	Not available	
HW revision	SNMP tag ".HwVersion"	Not available
SW revision	SNMP tag ".SwVersion"	Not available
Last update	Time stamp of the updating of the identification data	
Comment	Object properties of the PC station "Comment"	

[1)] Article number = also order number or MLFB

6.12.2 Identification data for PCs

Where does the identification data for PCs come from?

In the case of the faceplate for PC objects, the identification data is determined directly in the PC if the PC does not support an SNMP connection.

The following table shows the assignment of the identification data displayed on the MS to the origin.

Identification data	Origin
TAG / HID	Object properties of the PC station objects "Computer name"
LID	Object properties of the PC station "Name"
Address	IP address terminal bus CCAgent
Description	Not available
Message	
Device type	IWbemService (Win32_ComputerSystem_Model)
Manufacturer	IWbemService (Win32_ComputerSystem_Manufacturer)
Article number [1)]	IWbemService (Win32_ComputerSystemproduct_IdentifyingNumber)
Serial number	IWbemService (Win32_BaseBoard_SerialNumber)
Installation date	IWbemService (Win32_OperatingSystem_InstallDate)

Identification data	Origin
HW revision	IWbemService (Win32_BaseBoard_Version)
SW revision	IWbemService (Win32_BIOS_SMBIOSVersion)
Last update	Time stamp of the updating of the identification data
Comment	Object properties of the PC station "Comment"

[1] Article number = also order number or MLFB

6.12.3 Identification data for network objects

Where does the identification data for a network object come from?

In the case of the faceplate for network objects, the identification data is read from the device via an SNMP connection.

The device must be configured in the SNMP OPC Server of the maintenance station for this.

This data is prepared for display on the maintenance station with the "Export variables for WinCC" function.

The following table shows the assignment of the identification data displayed on the MS to the origin.

Identification data	Origin	
	For example, Profil_OSM_V10.txt	Profile MIB-II
TAG / HID	WBM[1] "automationFunctionTag"	Not available
LID	HW Config/OPC server "Name"	
Address	HW Config/OPC server "IP address" / SNMP variable ".&ipAddress()"	
Description	Not available	
Message		
Device type[2]	WBM[1] "Device Type" / SNMP variable ".sysDescr"	
Manufacturer	WBM[1] "automationManufacturerId"	Not available
Article number[3]	SNMP variable ".snInfoOrderNr"	
Serial number	SNMP variable ".snInfoSerialNr"	
Installation date	Not available	
HW revision	SNMP variable ".snHWVersion"	Not available
SW revision	SNMP variable ".snSWVersion"	Not available
Last update	Time stamp of the updating of the identification data	
Comment	HW Config/OPC server "Comment"	

[1] WBM = Web based management (Web interface of the network object)

[2] If the SNMP variable ".sysDescr" contains identification information in addition to the device type, this will be displayed in the corresponding field. The "Device type" field only displays information about the device type.

[3] Article number = Also order number or MLFB

6.12.4 Identification data for AS objects

Where does the identification data for an AS object come from?

In the case of the faceplate for AS objects, the identification data is read from the properties of the module or dynamically from the CPU.

The following table shows the assignment of the identification data displayed on the MS to the origin.

Identification data	Origin
HID / TAG	
static	HW Config "Higher level designation" (HID)
dynamic	I&M data (SZL), (I&M1 Tag_Function)
LID	
static	HW Config "Designation" or "Name"
Address	HW Config "Slot/address information"
Description	
static	HW Config "additional information"
dynamic	I&M data (SZL), (I&M3 Descriptor)
Message	Not available
Device type	HW Config "type" or "short description"
Manufacturer	
static	HW Config - Not accessible [1]
dynamic	I&M data (SZL), (I&M0 Manufacturer_ID)
Article number [2]	
static	HW Config "Article number" [2]
dynamic	I&M data (SZL), (I&M0 Order_ID)
Serial number	
static	Not available
dynamic	I&M data (SZL) (I&M0 Serial_number)
Installation date	
static	HW Config "installation date"
dynamic	I&M data (SZL), (I&M2 Installation_date)
HW revision	
static	Not available
dynamic	I&M data (SZL) (I&M0 Hardware_revision)
SW revision	
static	HW Config - Not accessible*
dynamic	I&M data (SZL) (I&M0 Software_revision)
Last update	Time stamp of the updating of the identification data
Comment	HW Config "Comment"

[1] Not accessible means that the user cannot make an entry or modification here.
[2] Article number = also order number or MLFB

6.12.5 Identification data for devices that are integrated using a device description (EDD)

Where does the identification data for devices that are integrated using a device description (EDD) come from?

In the case of the faceplate for devices that are integrated using a device description (EDD), the identification data is provided via SIMATIC PDM.

The data are provided if the device description is created in conformance with the specifications of the PROFIBUS & PROFINET International organization, the Hart Communication Foundation, or the Fieldbus Foundation.

The information is largely based on the tag names used in the EDDs. These tag names can be optionally displayed in the configuration interface of PDM. The display is activated in the settings of SIMATIC PDM.

PA profile according to PNO

The data are displayed if they can be determined explicitly using the EDD of the device.

The following table shows the assignment of the identification data displayed on the MS to the origin.

Identification data	Origin
TAG / HID	Profile tag "TAG_DESC"
LID	HW Config "Designation"
Address	HW Config "Slot/address information"
Description	Profile tag "DESCRIPTOR"
Message	Profile tag "DEVICE_MESSAGE"
Device type	Profile tag "DEVICE_ID"
Manufacturer	Profile tag "DEVICE_MAN_ID"
Article number [1)]	Not available
Serial number	Profile tag "DEVICE_SER_Num"
Installation date	Profile tag "DEVICE_INSTAL_DATE"
HW revision	Profile tag "HARDWARE_REVISION"
SW revision	Profile tag "SOFTWARE_REVISION"
Last update	Time stamp of the updating of the PDM database
Comment	HW Config/Object properties "Comment"

[1)] Article number = also order number or MLFB

I&M profile according to PNO

The data are displayed if they can be read from the device.

The following table shows the assignment of the identification data displayed on the MS to the origin.

Identification data	Origin
TAG / HID	Profile tag "TAG_FUNCTION"
LID	HW Config "Designation"
Address	HW Config "Slot/address information"
Description	Profile tag "DESCRIPTOR"
Message	Not available
Device type	Profile tag "PROFILE_ID"
Manufacturer	HW Config Type or Short description
Article number [1)]	Profile tag "ORDER_ID"
Serial number	Profile tag "SERIAL_NUMBER"
Installation date	Profile tag "INSTALLATION_DATE"
HW revision	Profile tag "HARDWARE_REVISION"
SW revision	Profile tag "SOFTWARE_REVISION"
Last update	Time stamp of the updating of the PDM database
Comment	HW Config/Object properties "Comment"

[1)] Article number = also order number or MLFB

HART information according to HCF

The following table shows the assignment of the identification data displayed on the MS to the origin.

Identification data	Origin
TAG / HID	Profile tag "TAG"
LID	HW Config "Designation"
Address	HW Config "Slot/address information"
Description	Profile tag "Description"
Message	Profile tag "Notification"
Device type	Profile tag "Device Type"
Manufacturer	Profile tag "Manufacturer ID"
Article number [1)]	Not available
Serial number	Not available
Installation date	Not available
HW revision	Profile tag "HW Revision"
SW revision	Profile tag "SW Revision"
Last update	Time stamp of the updating of the PDM database
Comment	HW Config/Object properties "Comment"

[1)] Article number = also order number or MLFB

FF profile according to Fieldbus Foundation

The following table shows the assignment of the identification data displayed on the MS to the origin.

Identification data	Origin
TAG / HID	Tag "TAG_DESC"
LID	HW Config "Designation"
Address	HW Config "Slot/address information"
Description	Not available
Message	Not available
Device type	Tag "DEV_TYPE"
Manufacturer	Tag "MANUFAC_ID"
Article number [1)]	Not available
Serial number	Not available
Installation date	Not available
HW revision	Not available
SW revision	Not available
Last update	Time stamp of the updating of the PDM database
Comment	HW Config/Object properties "Comment"

[1)] Article number = also order number or MLFB

6.12.6 Identification data for objects in the user area

Where does the identification data for objects in the user area come from?

In the case of the faceplate for objects in the user area that are integrated using a device description (EDD), the identification data is provided via SIMATIC PDM.

The following table shows the assignment of the identification data displayed on the MS to the origin.

Identification data	Origin
TAG / HID	Parameter "TAG"
LID	Parameter "Installation location"
Address	Not available
Description	Parameter "Description"
Message	Parameter "Message"
Device type	Parameter "Product name"
Manufacturer	Parameter "Manufacturer"
Article number [1)]	"Article number" parameter [1)]
Serial number	Parameter "Device serial number"

Identification data	Origin
Installation date	Parameter "Installation date"
HW revision	Parameter "Hardware revision"
SW revision	Parameter "Software revision"
Last update	Time stamp of the updating of the PDM database
Comment	CFC "Block comment"

[1] Article number = also order number or MLFB

6.13 Overview of maintenance

6.13.1 Introduction and status diagram

Introduction

The operators of the Maintenance Station and the Operator Station can be different individuals and can work in physically separate locations.

As a result, the information flow between the Maintenance Station and Operator Station is not guaranteed.

Maintenance takes place in agreement with the plant operator.

Communication is supported by means of icons and messages.

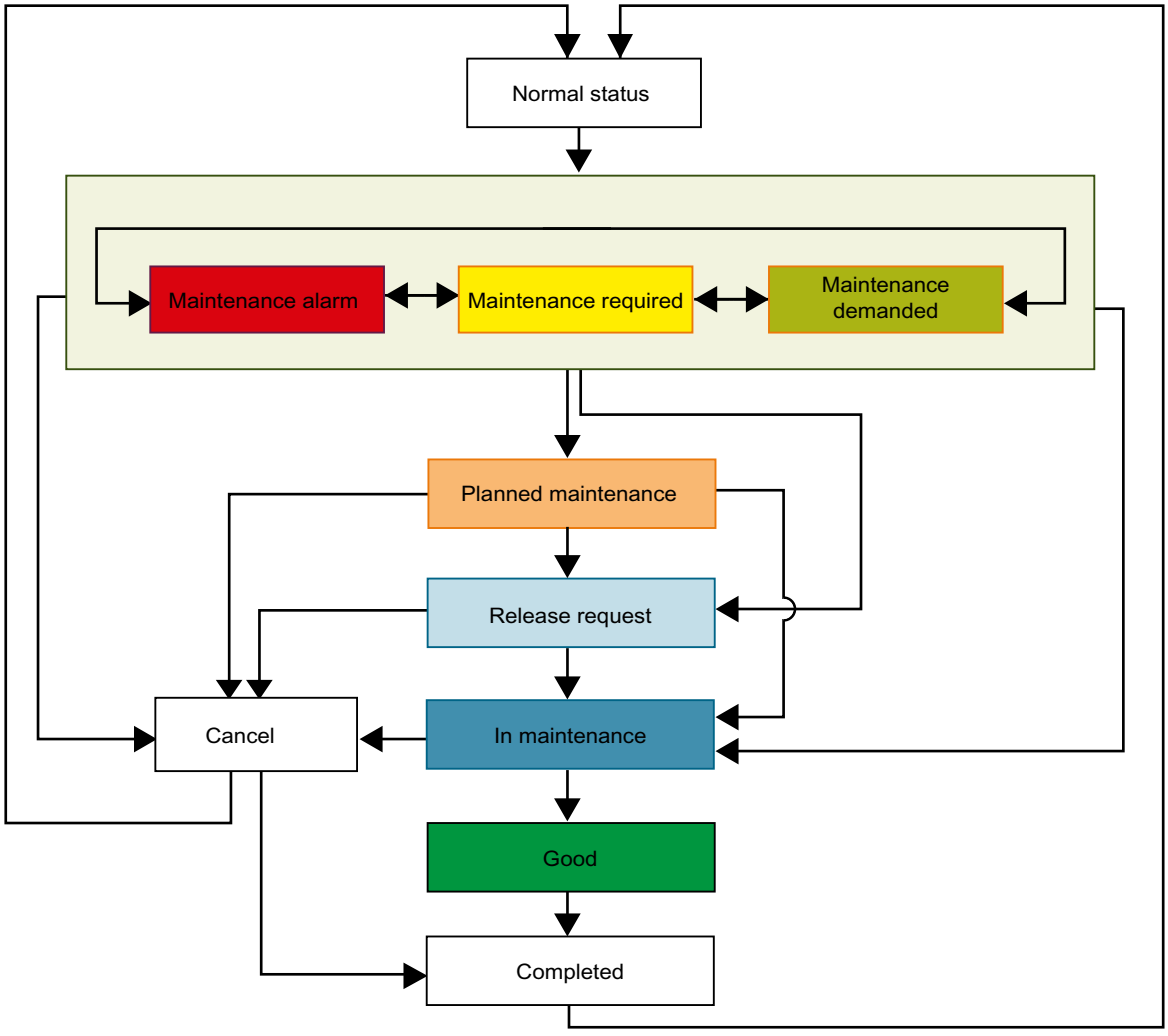
This enables a coordinated maintenance sequence.

The maintenance sequence is documented and can be tracked.

Maintenance is initiated and edited in the faceplate in the "Maintenance" view

Status diagram

The possible status transitions are explained in the diagram below.



Actions of the maintenance engineer cause status changes.

The next section provides detailed instructions for activating and deactivating a maintenance job.

Additional information

You can find additional information on the release for maintenance and on configuring the technological blocks in the online help *Process Control System PCS 7; Advanced Process Library*.

6.13.2 Sequence for maintenance

Introduction

This section provides an overview of the sequence for maintenance.

Maintenance can be initiated from the maintenance status "Good" of the component or after a message regarding the component.

Requirements

- The technological block has been interconnected in the CFC.
  You can find information on interconnecting in the section "Engineering for maintenance (Page 91)".
- "Manual" or "On" mode is active for the technological block.
- The operator has the operator authorization "system operation".

Procedure for activating

Step 1 ***Maintenance engineer* requests maintenance job**	**Result** **Maintenance job requested**
1. Open the diagnostic faceplate. 2. Select the "Maintenance" view. 3. Enter a text in the "Memo" area if required. 4. In the "Maintenance job" area, select, for example, the "Alarm" option button. 5. Click "On" in the operator panel for activating the maintenance job.	In the header of the faceplate and in the block icon, the "Maintenance alarm requested" status is displayed in the maintenance group display.  In addition, the maintenance job status "Maintenance engineer has not yet created a maintenance job" is displayed in the faceplate header.  An operator message is triggered. The text entered in the "Memo" area is displayed: • In the Memo area of the "Maintenance" view of the faceplate • As a comment for the message in the operator input list of the faceplate and message system

Step 2 ***Maintenance engineer* schedules maintenance job**	**Result** **Maintenance job scheduled**
1. Open the diagnostic faceplate. 2. Select the "Maintenance" view. 3. Enter a text in the "Memo" area if required. 4. Select the "Planned maintenance" option button in the "Maintenance status" area. 5. Click "On" in the operator panel.	In the block header, the display for the status of the maintenance job changes from "Maintenance engineer has not yet created a maintenance job" to the status "Planned maintenance".  An operator message is triggered. The text entered in the "Memo" area is displayed: • In the Memo area of the "Maintenance" view of the faceplate • As a comment for the message in the operator input list of the faceplate and message system

Step 3 ***Maintenance engineer* requests maintenance release**	**Result** **Maintenance release requested**
1. Open the diagnostic faceplate. 2. Select the "Maintenance" view. 3. Enter a text in the "Memo" area if required. 4. Select the "Release request" option button in the "Maintenance status" area. 5. Click "On" in the operator panel.	In the block header, the display for the status of the maintenance job changes from "Planned maintenance" to the status "Release request".  An operator message is triggered. The text entered in the "Memo" area is displayed: • In the Memo area of the "Maintenance" view of the faceplate • As a comment for the message in the operator input list of the faceplate and message system The following is displayed on the technological faceplate: • Display of the release request (operator prompt) • Message of "Request for operator input - General" class

Step 4 - Plant operator ***Plant operator* issues the release for maintenance**	**Result** **Release for maintenance is issued**
1. Open the technological faceplate. 2. Select the "Parameter" view. 3. Activate "Release for maintenance". 4. Click "Yes" in the operator panel.	An operator message is triggered. The release for maintenance is displayed in the diagnostic faceplate in the "Maintenance" view.

Step 5 ***Maintenance engineer* puts the component into "Maintenance status"**	**Result** **Maintenance of the component can be performed**
1. Open the diagnostic faceplate. 2. Select the "Maintenance" view. 3. Enter a text in the "Memo" area if required. 4. Select the "In maintenance" option button in the "Maintenance status" area. 5. Click "On" in the operator panel.	In the block header, the display for the status of the maintenance job changes from "Release request" to the status "In maintenance".  An operator message is triggered. The text entered in the "Memo" area is displayed: • In the Memo area of the "Maintenance" view of the faceplate • As a comment for the message in the operator input list of the faceplate and message system Depending on the configuration of the technological block, the following is displayed on the technological faceplate: • Display of the maintenance demand and release • "Out of service" mode and the "Maintenance demanded and maintenance release" icon Maintenance can be performed.

Procedure for deactivating

Step 1 ***Maintenance engineer* completes maintenance**	**Result** **Maintenance complete**
1. Open the diagnostic faceplate. 2. Select the "Maintenance" view. 3. Enter a text in the "Memo" area if required. 4. Select the "Completed" option button in the "Maintenance status" area. 5. Click "On" in the operator panel.	In the block header, the display for the status of the maintenance job changes from "In maintenance" to the status "Good". The text in the Memo area is deleted in the "Maintenance" view of the faceplate. An operator message is triggered. The entered text in the "Memo" area is displayed as a comment for the message in the operator input list of the faceplate and message system. The "Maintenance demanded and Maintenance release" icon is hidden in the technological faceplate.

Step 2 ***Plant operator* ends the release for maintenance**	**Result** **Release for maintenance is ended by the plant operator**
1. Open the technological faceplate. 2. Select the "Parameter" view. 3. Disable the "Release for maintenance". 4. Click "No" in the operator panel.	An operator message is triggered. The technological block is set to "Manual" mode.

6.14 Passivating PC objects

Introduction

With the "Passivate" function, a PC object is temporarily excluded from the monitoring during process control.

Overview

A PC object is passivated by the following operator actions:

- Operator actions in the faceplate in the "Maintenance" view
  The operator actions are stored retentively and are retained even if there is a complete download to the OS station.
  You can find additional information on this in the section ""Maintenance" view (Page 196)".
- Disabling/enabling process control
  If the process control of a monitored OS station is deactivated, its PC object is automatically set to passivated.
  As soon as this OS station is restarted, the passivation is canceled again.

Available

This function is available on all IPC/PC stations.

Display

If a PC object is passivated, "Passivated" is displayed as the maintenance state in the block icon and faceplate.

No group alarm is displayed in the maintenance group display of the PC object.

Messages

If a PC object is passivated by an operator input in the faceplate, an operator message is generated.

All messages pending for this PC object are acknowledged automatically when the PC object is passivated.

As long as the PC object is passivated, no new messages are generated for this PC object.

Any pending events are signaled when the PC object is depassivated.

Integration of options 7

7.1 Integration by the Alarm Control Center

7.1.1 Application of the "Alarm Control Center"

Alarm Control Center

The Alarm Control Center (ACC) is a SIMATIC PCS 7 add-on. With the available options, it can be customized for everything from stand-alone solutions to company-wide communication solutions.

Messages of the monitored components of the maintenance station can be forwarded to the Alarm Control Center for further processing.

The Alarm Control Center offers the following functions:

- Forwarding of messages to specific recipients
- Integrated shift and personnel management for time-dependent delivery of messages to different persons
- Extensive escalation system for reliable delivery of messages even when individual recipients cannot be reached
- Network-wide operator control and configuration through web capability

Note

You can use the Alarm Control Center only in the MS Standard and SIMATIC PDM MS versions.

Forwarding of messages to specific recipients

The following messages from an individual component can be forwarded:

- Diagnostic messages
- Messages about operations
- Messages about maintenance demanded

Recipients of messages that can be sent automatically via the ACC include, for example:

- SMS to mobile telephone
- Pager
- Voice output to a telephone
- E-mail
- LAN message to PC

Integrating data into the Alarm Control Center

You can find information about the integration of the ACC in the MS as follows:

- In the documentation of the ACC
- Using the contact information in the catalog "Add-ons for the SIMATIC Process Control System PCS 7"
- From SIMATIC PCS 7 support

Exporting data for the Alarm Control Center

The export of component data to the Alarm Control Center takes place in the "Maintenance" view of the component in process control.

Select the relevant target in the "Target" area.

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