SIEMENS

SIMATIC

Industrial PC
SIMATIC IPC DiagBase V2.1.7

Operating Manual

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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.

Proper use of Siemens products

Note the following:

> ⚠ **WARNING**
>
> 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.

Table of contents

Introduction

1

Even in their basic versions, SIMATIC Industry PCs come with optional monitoring functions. When used in combination with the appropriate software, the following functions for displaying, monitoring and controlling are available:

- Temperature monitoring (over-temperature, under-temperature or cable break at a temperature sensor)
- Fan monitoring (fan speed too low, fan failure, or a break in a tachometer line)
- Monitoring of voltages (buffer battery, redundant voltage supply)
- Monitoring of hard disks with SMART functionality even in RAID systems
- Watchdog (hardware or software reset of the computer)
- Operating hours meter (information on the cumulative run time)
- BIOS Management
  - Saving and restoring BIOS Setup settings.
  - Performing a BIOS update or changing the device inventory number in BIOS.

You can use these functions for local monitoring with the SIMATIC IPC DiagBase software. You can use the DiagBase Management Explorer application for general monitoring or DiagBase Alarm Manager for notification of individual alarms.

With the exception of BIOS management, you can also monitor the above functions remotely. For this you need the SIMATIC IPC DiagMonitor software.

This documentation describes the functionality of SIMATIC IPC DiagBase software.

SIMATIC IPC DiagBase software components

2

The following components are included in the scope of delivery:

Software components	Explanations
DMDataEngine	This service provides status information on the monitored device components to SIMATIC IPC DiagBase.
DMMsgService	This service is responsible for notification of alarms.
DMAlarmManagerService	This service is responsible for advanced processing of alarms.
IPCUniDrv	Driver for hardware access
MiniWeb	This service makes the monitoring data available in such a way that it can be displayed via a Web browser.
Alarm Manager	Assigns the relevant alarms to executable programs.
Alarm Display	Lists the individual alarms for acknowledgment.
Management Explorer	Lists the monitored device components and their status in an overview.

During installation, these components are copied to the system drive and are available for startup in the system.

Quick-Start Guide

3

The following steps are required to use SIMATIC IPC DiagBase monitoring:

1. Ensure that all the hardware and software requirements are met for the operation of SIMATIC IPC DiagBase. See section Hardware and software requirements (Page 8).
2. Perform the SIMATIC IPC DiagBase installation on the SIMATIC IPC. See section Installation (Page 11).
3. Now start the DiagBase Alarm Manager to obtain information on any malfunctions of the monitored device components.

Hardware and software requirements

4

4.1 Hardware requirements

Only the following SIEMENS products are supported:

- SIMATIC IPC227D
- SIMATIC IPC277D
- SIMATIC IPC427D
- SIMATIC IPC477D
- SIMATIC IPC627D
- SIMATIC IPC647D
- SIMATIC IPC677D
- SIMATIC IPC827D
- SIMATIC IPC847D
- SIMATIC IPC127E
- SIMATIC IPC227E
- SIMATIC IPC277E
- SIMATIC IPC427E
- SIMATIC IPC477E
- SIMATIC IPC547E
- SIMATIC IPC227G
- SIMATIC IPC277G
- SIMATIC IPC547G
- SIMATIC IPC547J
- SIMATIC IPC627E
- SIMATIC IPC677E
- SIMATIC IPC647E
- SIMATIC IPC847E
- SIMATIC IPC BX-39A
- SIMATIC IPC PX-39A
- SIMATIC IPC PX-39A PRO
- CPU 1515SP PC
- CPU 1515SP PC2

4.2 Software Requirements

Operating systems

The SIMATIC IPC DiagBase software can be used with the following operating systems: See Software requirements

- Microsoft Windows Server 2008 R2, 64-bit
- Microsoft Windows Embedded Standard 7, 32-bit (SIMATIC IPC configuration)
- Microsoft Windows Embedded Standard 7, 64-bit (SIMATIC IPC configuration)
- Microsoft Windows 7 Ultimate, 32-bit
- Microsoft Windows 7 Ultimate, 64-bit
- Microsoft Windows Server 2012 R2, 64-bit
- Microsoft Windows 10 Enterprise 2015 LTSB, 64-bit
- Microsoft Windows 10 Enterprise 2016 LTSB, 64-bit
- Microsoft Windows 10 Enterprise 2019 LTSC, 64-bit
- Microsoft Windows Server 2016
- Microsoft Windows Server 2019

4.3 Industrial Security

Industrial Security

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 constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place.

For additional information on industrial security measures that may be implemented, please visit (https://www.siemens.com/industrialsecurity).

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. 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 (https://support.industry.siemens.com).

Disclaimer for third-party software updates

This product includes third-party software. Siemens AG only provides a warranty for updates/patches of the third-party software, if these have been distributed as part of a

Siemens software update service contract or officially released by Siemens AG. Otherwise, updates/patches are undertaken at your own risk. You can find more information about our Software Update Service offer on the Internet at Software Update Service (https://support.industry.siemens.com/cs/ww/en/view/109759444).

Notes on protecting administrator accounts

A user with administrator privileges has extensive access and manipulation options in the system.

Therefore, ensure there are adequate safeguards for protecting the administrator accounts to prevent unauthorized changes. To do this, use secure passwords and a standard user account for normal operation. Other measures, such as the use of security policies, should be applied as needed.

Installing and removing the software

5

5.1 Installation

> **NOTE**
>
> **Administrator rights are required for installation**
>
> As entries are made in the Windows registry and the system directory during installation, it can only be performed by someone with administrator rights.

1. Start **Start.exe**.
2. Select the setup language to be used during the installation.
3. Follow the instructions displayed on the screen.

5.2 Removal

> **NOTE**
>
> **Administrator rights are required for removal**
>
> Please note that you need administrator rights to remove an application.

As usual in Windows, you uninstall an application via the Control Panel. The following name is entered for SIMATIC IPC DiagBase in the software installation list:

SIMATIC IPC DiagBase

The removal routine removes all components from your system. Your configuration settings are maintained.

Displaying operating states in the Management Explorer

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6

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6.1 Starting Management Explorer

The DiagBase Management Explorer can be configured in such a way that the application is started automatically when the system starts up. You can enable this feature as follows:

1. Select the menu command "Options > Settings...".
2. Select the "Start with Windows session" field.
3. Click "OK" to confirm the selection.
   The DiagBase Management Explorer starts automatically from the next time the system starts up. The application autonomously prevents multiple starts.

Program window

The setting and size of the program window are retained during runtime.

6.2 The Management Explorer

The DiagBase Management Explorer provides a two-pane view. In the left-hand pane, all the function groups to be monitored are listed in a tree structure below the name of the station. The right-hand pane of the window shows the individual devices of a function group. These can be displayed in various views (see Selecting the view (Page 13)).

A toolbar is displayed in the program window by default. It can be hidden using the "View" menu command.

- Alarms can be acknowledged with the green check mark.
- Using the arrow left and arrow right buttons, you can move backwards and forwards through the various function groups in much the same way as in an Internet browser.

6.3 Displaying the properties of a station

To display the properties of a station, follow these steps:

1. Right-click on the station in the tree view.
2. Select the menu command "Properties" from the shortcut menu.
3. The "Station properties..." window opens and displays information on the station.

6.4   Displaying the properties of a group

To display the properties of a group, follow these steps:

1. Right-click on the group in the tree view.
2. Select the menu command "Properties" from the shortcut menu.
3. The "Group properties..." window opens and displays the number of elements contained.

6.5   Displaying the properties of an element

To display the properties of an element, follow these steps:

1. Right-click on the element in the list view.
2. Select the menu command "Properties" from the shortcut menu.
3. The "Element properties..." window opens and displays the main properties of the element.

6.6   Selecting the view

In the right-hand pane of the program window of the DiagBase Management Explorer, you can choose between three different representations. You can select these via the menu item "View".

The following views are available:

- Tiles: The elements of the sensors, for example fans or temperatures are shown in the list view graphically in the form of a scale. The values to the left of the scale show the permitted high and low limits. The value below the scale is the current value. To the right of the scale, there are two pointers. These indicate the maximum or minimum value measured up to now. To reset the max/min pointers to the current value, right-click on the required element in the list view. Select "Reset interval values"

- Icons: This view displays large icons and brief status information about the monitored devices.

- Details: This view displays small icons and detailed status information about the monitored devices.
  Example of a fan: In the detailed view, apart from the type and current value, you can also see the low and high limit of the fan speed.

6.7 Reading status information in the Management Explorer

The station is in one of the following statuses:

- No alarm:
  No maintenance whatsoever is necessary. The station is represented by a computer icon in the overview. All monitored device components are working normally.

- Alarm (red):
  Maintenance work on the respective SIMATIC IPC is required. The color of the station icon has changed to red. The function groups that have an alarm are also displayed in red. Click on one of these groups to display detailed information in the right-hand pane of the program window.
  Example: The CPU temperature of the station is too high --> alarm. Click on the "Temperatures" group. In the right-hand pane of the window, you will see an overview of all the temperatures of this station.

- Outgoing alarm (yellow):
  Maintenance work on the respective SIMATIC IPC is required. An alarm was reported earlier for a function group, but it is now working normally. The icon color of the device has changed from red to yellow. If there is no other device with an alarm, the color of the station icon changes to yellow. To display detailed information, click on the relevant group.
  Example: The CPU temperature of the station is too high --> alarm. By eliminating the cause of the problem or if the CPU temperature returns to normal on its own --> Outgoing Alarm. Click on the "Temperatures" group. In the right-hand pane of the window, you will see an overview of all the temperatures of this station.

- Acknowledged alarm (red icon with green check mark):
  Maintenance work on the respective SIMATIC IPC is required. The alarm from a function group was acknowledged, the problem, however, remains. A green check mark is added to the red icon in the right-hand pain of the window. To display detailed information, click on the relevant group.

6.7.1 "Temperatures" Group

The "Temperatures" group indicates the status of the existing temperature sensors (device-dependent).
The temperature will be displayed in a thermometer symbol, depending on the view.

- The unit is °C (Celsius) for metric settings
- The unit is °F (Fahrenheit) for Anglo-American settings

Proceed as follows to change this setting:

1. Start the country setting in the Control Panel.
2. You select the measuring system in the "Numbers" tab under "Measuring system."
3. Re-start Management Explorer.

The last temperature measurement is displayed below the thermometer symbol. To the left of the temperature scale are the minimum and maximum allowed values. Violation of these limits will trigger an alarm. To the right of the temperature scale are the minimum and maximum measured values.

Alarms

If the temperature exceeds or falls below the specified maximum or minimum value, this is displayed in the status of the sensor (see Display of Alarms (Page 20)).

6.7.2 "Fan" Group

The "fan" group indicates the status of the existing fans (device-dependent).

The fan speed is represented in a fan symbol, depending on the selected view; all speeds are indicated in revolutions per minute. The last speed measurement is displayed below the fan symbol. To the left of the speed scale are the minimum and maximum allowed values. Violation of these limits will trigger an alarm. To the right of the speed scale are the minimum and maximum measured values.

Alarms

If the speed falls below the indicated minimum value, such a reaction will be displayed in the sensor status (see Display of Alarms (Page 20)).

6.7.3 "Voltages" Group

The "Voltages" group indicates the status of the existing voltage sensors (device-dependent).

The voltage of a backup battery (CMOS), a redundant power supply (device-dependent) or an uninterruptible power supply (device-dependent) can be monitored.

The backup battery voltage is monitored to establish whether it is ok, critical or faulty.

NOTE

Backup battery (CMOS)

Replace the backup battery immediately if the sensor indicates a critical or faulty status.

Redundant power supply monitoring checks that both power inputs are enabled and the power supply unit fan is operating.

With an uninterruptible power supply, monitoring checks whether the current input is active.

NOTE

Alarms

If the voltage falls below the indicated minimum value, the sensor status will indicate this. See Display of Alarms (Page 20)

6.7.4 "Hard disk" Group

The "Hard Disk" group indicates the status of the existing hard disks (device-dependent). The following hard disks are supported:

- SATA hard disks
- CompactFlash cards
- CFast cards
- SAS hard disks
- USB hard disks or USB sticks
- Hard disks for an INTEL RAID adapter or Adaptec RAID adapter

The properties for each drive indicate if the drive is S.M.A.R.T. capable and/or a RAID drive. If this is the case, then the drive symbol is displayed actively with a symbolic LED. The type, serial number, and firmware version of the drive is displayed in the respective text box.

Alarms

If a drive reports a SMART or RAID error, the status of the drive changes (see Display of Alarms (Page 20)).

SMART (Self-Monitoring, Analysis and Reporting Technology):

All hard disks of the Industrial PC support SMART technology.

SIMATIC IPC DiagBase requests a status report of the hard disk with special routines. The SMART hard disk keeps a list of errors that occurred during reading or writing of sectors. If the number of errors exceeds a certain threshold, this fact often indicates that the drive will become faulty soon.

This is the time when you should create a backup of the drive and replace the hard disk.

An example for this type of problem may be small particles in the disk housing that do not immediately result in a "Headcrash," but initially cause only scratches in the surface of the magnetic disk. This process results in more free particles. The number of errors increases and results in a "Headcrash".

SMART would register the increasing number of errors and trigger an alarm in this case.

SMART does, however, not detect problems that are caused by the electronics and result in an instant failure of the hard disk.

6.7.5 "LEDs" group

The "Displays" group indicates the status of the existing displays (device-dependent). The following displays are supported:

- LED
- Port 80 display

The latest value of the display is always shown. It is possible to display a specific value in case of an alarm (see Mapping an alarm to a display (Page 21)).

6.7.6 "Monitoring" Group

The following monitoring functions are available in the "Monitoring" group:

- Watchdog
  You can register the applications of a station with the Watchdog. If an application then fails to report back to the Watchdog within the set time interval, the Watchdog will be triggered with the parameters set for the application in question.
  You can find addition information on this under: Configuring the watchdog (Page 22).
  If no applications have been registered, you can use the monitoring function Watchdog to check whether diagnostics management is still operational.

- Applications
  You can use the "Applications" monitoring function to display the properties of an application. You can find addition information on this under: Reading the properties of a registered application (Page 23).

- Tasks
  You can use the "Tasks" monitoring function to monitor tasks from Windows Task Scheduler.

6.7.7 "Operating Hours" Group

The "Operating hours" group displays the elapsed operating hours of the device since the installation of the monitoring software. This value is not lost when you reinstall the monitoring software.

6.7.8 "BIOS" Group

The group "BIOS" contains the subgroup SMBIOS (Page 17).

6.7.8.1 SMBIOS

SMBIOS (System Management BIOS) specifies data structures, as well as their arrangement in the firmware of the computer.

All configuration data on the motherboard of the SIMATIC IPC device, such as the serial number, order number, versions of the hardware or firmware, device names, processor information or system information, can be displayed in the "SMBIOS" group.

Only the group elements are shown in a tree under the "SMBIOS" group in the left section of the Management Explorer. Both group elements and single elements are shown in the right section of the window.

See also

"BIOS" Group (Page 17)

6.7.9 Firmware settings

You can save the firmware settings of a device to a file. This step saves the basic settings of a device so that you can restore the basic status of the firmware settings after inadvertent or incorrect changes.

You can also transfer firmware settings from one computer to another if the hardware platform and the firmware version match. This will give you the option to save the firmware settings of a computer as a template.

NOTE

The following functions vary according to the device and are not available on all SIMATIC IPC models.

Saving current firmware settings

1. Start the Management Explorer.
2. In the menu bar, select "Tools > Local BIOS...".
3. Select the "Settings" tab.
4. Click the "Save" button.
5. Select the storage location and enter a suitable file name.
6. Confirm the selection.

Loading firmware settings

1. Start the Management Explorer.
2. In the menu bar, select "Tools > Local BIOS...".
3. Select the "Settings" tab.
4. Click the "Load" button.
5. Select the file you want to upload.
6. Confirm the selection.
7. Activate the newly loaded firmware settings by restarting the PC.

Displaying current firmware settings

1. Start the Management Explorer.
2. In the menu bar, select "Tools > Local BIOS...".
   The current firmware settings are shown in the "Settings" tab.See Memory image

6.7.10 Firmware version

NOTE

The following functions will not be available on all SIMATIC IPC models.

Assigning and changing inventory numbers

You can assign inventory numbers to your devices or change assigned inventory numbers for internal administrative purposes.

1. Start the Management Explorer.
2. In the menu bar, select "Tools > Local BIOS...".
3. Select the "Update" tab.
4. Click the "Change" button in the "Inventory number" field.
5. Assign a new inventory number or change an existing inventory number and confirm your entry.
6. Restart the device.

Result

The inventory number is now permanently saved in the device SMBIOS.

The inventory number is located in SMBIOS under "System Enclosure" as entry "Asset Tag Number".

CPU 1515SP PC / CPU 1515SP PC2

Requirement for a firmware update with CPU 1515SP PC / CPU 1515SP PC2:

- The S7-1500 software controller must be in STOP mode.
- The CPU must be booted in Windows mode.

Performing a firmware update

NOTE

Irreparable damage to the firmware

An incorrectly executed firmware update can irreparably damage the firmware. You may only start a firmware update if it is absolutely necessary. The following applies:

- Never interrupt the power supply while an update is taking place.
- The update process must be complete before you shut down the device.

Requirement

- You have downloaded the current firmware version for your SIMATIC IPC from the Internet, unpacked it and stored it on your device, see Industry Automation and Drive Technologies - Homepage (http://www.siemens.com/automation/service&support).

Procedure

1. Start the Management Explorer.
2. In the menu bar, select "Tools > Local BIOS...".
3. Select the "Update" tab.
4. Click the "Load" button in the "BIOS Image" field.
5. Navigate to the folder in which you previously stored the current firmware version.

6. Open the "BIOS" folder.
7. Observe the information in the warning message and start the update.
8. After the update is complete, restart your device.

6.7.11 Display of Alarms

Alarms are represented by the status for each element, each group and each station. The possible alarm states of a status are described in the following:

- Ok
  No error has occurred. The objects with this status are displayed in the Management Explorer in the colors gray and blue.
  This status cannot be acknowledged.

- Alarm
  An error has occurred which is still present at this time, e.g. fan standstill. The objects with this status are displayed in the Management Explorer in the color red.
  If this status is acknowledged, the status will change to "Acknowledged Alarm".

- Acknowledged Alarm
  An error has occurred that is still present, such as a fan standstill, but that has been acknowledged in the meantime. The objects with this status are displayed in the Management Explorer in the color red.
  This status cannot be acknowledged again. If the reason for the alarm has been removed, the status will automatically change to "Ok".

- Outgoing alarm
  If an error has occurred that is not present currently, such as a fan that came to a standstill but is running now. The objects with this status are displayed in the Management Explorer in the color yellow.
  If this status is acknowledged, the status will change to "Ok".

6.8 Acknowledging alarms in the Management Explorer

If an alarm occurs, the status of the function group or the station changes back to "No alarm" only after the problem has been cleared and the alarm has been acknowledged.

To acknowledge an alarm on a specific function group in the Management Explorer, switch to the relevant function group. Now, right-click on the function group involved in the right pane of the window You can acknowledge an alarm using the displayed shortcut menu. To acknowledge several alarms within a function group or the entire station, you can use the same procedure in the tree view.

Example: Alarms are displayed for a fan and the CPU temperature. You want to acknowledge both at the same time. Right-click on the name of the station. Then select "Acknowledge alarm" in the shortcut menu.

Configuring monitoring and alarms

7

7.1 The "Properties..." Window

This window displays the main properties of a selected station, group or element.
Special features of groups:

- Sensors: For fans or temperatures, the current value and the low and high limit value are displayed.
- Displays: For LEDs and optional 7-segment displays, you can link an alarm with an element in the "Alarm mapping" tab. See Mapping an alarm to a display (Page 21).
- Watchdog: You can set a timeout value and options for watchdog operation. See Configuring the watchdog (Page 22).
- Station: A station description can be stored.
- Hard disks: Limits can be defined for the free space of the partitions.

7.2 Mapping an alarm to a display

The DiagBase Management Explorer allows you to map occurring alarms to an LED or the optional 7-segment display. The mapping can be done for the station or an individual function group. If, for example, the fan generates an alarm, this can be recognized by an LED lighting up.

NOTE

The interrupt assignment is possible only for devices with a 7-segment display or LEDs.

To map an alarm, follow these steps:

1. Select the "LEDs" group in the tree view of the Management Explorer.
2. In the right pane of the window, select the required output target by double-clicking on it.

3. Now select the " Alarm mapping" tab. Under "Existing mappings" in the upper part of this pane, you can see links that have already been created.
4. To add a new mapping, select the required group from "Group" in the lower part of the window.
5. In the next step, depending on the device components, enter a hexadecimal value (00 to FF) in the "Value" box for the 7-segment display or select the color of the LED display. Select the "Flashing" box if you want the LED display to flash.
6. Now confirm the mappings with the "Add" button.
7. Exit the window with "OK".

To cancel an alarm mapping, follow these steps:

1. Change to the "Alarm mapping" tab as described above.
2. Select the mapping you want to cancel from "Existing mappings".
3. Click the "Remove" button.
4. Exit the window with "OK".

7.3 Configuring the watchdog

The monitoring function "Watchdog" (device-specific) allows you to check whether a station is still operational.

The watchdog can be enabled or disabled ("Enable watchdog" option). If the watchdog is enabled, it will be called up repeatedly at the times set under "Interval." The "Reset on" option indicates whether a hardware reset will be performed when the watchdog is run (for example, if the operating system crashes or the PC cannot be operated).

NOTE

Alarms

An alarm is triggered if the watchdog cannot be triggered within the specified interval. See: Display of Alarms (Page 20).

SIMATIC IPC127E

If the "Watchdog" monitoring function of the SIMATIC IPC127E is to be controlled by the Management Explorer from DiagMonitor (or DiagBase) and not by the operating system, proceed as follows:

1. Set the "Watchdog Support" firmware setting on your device to "Disabled".
2. Uninstall the monitoring software "SIMATIC IPC DiagMonitor" or "SIMATIC IPC DiagBase" and then reinstall the software.

Configuring the watchdog

1. Select the "Monitoring" group in the tree view of the Management Explorer.
2. In the list view in the right-hand pane of the window, select the watchdog by double clicking on it.
3. In the "Timeout value" box, you can set the time after which the activated watchdog is restarted.

4. In the field "Software delay", a time delay for running the reset type (e.g. restart) can be set.
5. Select the "Operation: on" box to enable the watchdog.
6. Select the type of reset. The following options are available for your selection:
    –   "Reset on" if you want a hardware reset to be performed if the watchdog times out.
    –   "Reset off" results in no action when the watchdog times out.
    –   "Restart" results in rebooting the operating system action when the watchdog times out.
    –   "Shutdown" results in shutting down the operating system action when the watchdog times out.

    NOTE

    The "Reset type" property depends on the device and its setting options are limited.

7.4 Configuration of hard disk space monitoring

The DiagBase Management Explorer offers the option of defining limits for disk space utilization for the partitions of a hard disk. As soon as the defined limit has been exceeded, this is displayed in the Management Explorer.

Proceed as follows to define a limit for the disk space utilization:

1. Select the "Hard disk" group in the tree view of the Management Explorer.
2. In the list view, in the right pane of the window, select the required hard disk by double-clicking on it.
3. Select the required partition, e.g. "C".
4. Set the required limit as a percentage value and click on "Apply".

7.5 Reading the properties of a registered application

You can display the properties of a registered application.

Requirement

The application whose properties you wish to display must have been registered beforehand with the Watchdog. Only applications created with the DMAPI library can be registered. You will find the DMAPI library in the corresponding directory after the installation of SIMATIC IPC DiagBase.

Procedure

1. Select the "Monitoring" group in the tree view of the Management Explorer.
2. Select the "Applications" group in the list view in the right-hand pane of the window.
3. A list of the applications registered for this station will appear.
4. Double-click on the application whose properties you wish to display.
   The properties of the application are displayed.

7.6 Changing the settings of the Management Explorer

To change general settings of the DiagBase Management Explorer, select the "Tools" menu and then "Settings...". Here, you can then make the following settings:

- Confirm program exit: If this box is selected, an additional confirmation window appears when you close the Management Explorer.
- Start with Windows: Specifies whether or not the Management Explorer opens automatically when you start Windows.
- Start delay: The Management Explorer requires several services to start. If the program is started with Windows, it may be possible that not all of these services are available yet. Here you can enter a start delay in seconds to ensure that all required services will have been started.
- Minimize to...: The program window can be minimized to the taskbar or to the system tray.

7.7 Starting the Alarm Manager from the Management Explorer

The Alarm Manager can be called directly from the Management Explorer either to restart it or to change the settings. To open the Alarm Manager, select "Tools > Alarm Manager" in the Management Explorer menu.

7.8 Displaying events with the Event Viewer

Events such as the occurrence and acknowledgment of an alarm can be logged. To be able to use this function, "Event logging" must be enabled in the settings of the Alarm Manager (see Changing settings of the Alarm Manager (Page 27)).

1. Right-click in the tree view (left pane of the DiagBase Management Explorer program window).
2. Now select "Event Viewer...". The Event Viewer program window opens.
3. In the tree view in the left-hand pane, select the "Application" entry in the "Event Viewer". The list view in the right-hand pane then shows all the entries logged by Windows. SIMATIC IPC DiagBase software entries have the name "SIMATIC Diagnostic Management" in the "Source" column.
4. If you double-click on an entry, you will see further information displayed.

7.9 The Alarm Display

The DiagBase alarm display lists all current local alarms that have occurred so that they can be acknowledged. The date and time at which the alarm occurred are also displayed. The lower part of the window displays a general message text. Here, for example, you might find information on what to do next and the phone number of a service technician.

7.10 Acknowledging alarms with the Alarm Display

First, start the Alarm Display. You can do this by right-clicking on the Alarm Manager icon in the system tray. Select "Acknowledge all alarms" there.

7.11 Changing the message text of the Alarm Display

You can make settings in the DiagBase Alarm Manager so that the Alarm Display starts whenever an alarm occurs. The Alarm display window lists all alarms that have occurred so that they can be acknowledged. A general message text is also displayed in the lower part of the window. To change this text, select the "Tools" menu in the Management Explorer. If you then select "Alarm display...", an input box opens in which you can edit the message.

7.12 The Alarm Manager

The DiagBase Alarm Manager is used to assign alarms to applications when they occur. If, for example, a fault develops in a RAID hard disk array, the Intel® Rapid Storage Technology (RST) program can be assigned to this fault (assuming it is installed). If a hard disk fault occurs, the Intel® Rapid Storage Technology (RST) software opens.

7.13 Start Alarm Manager

After installation, the Alarm Manager is configured so that the application is started automatically when the system starts up. You disable this feature as follows:

1. You can do this by right-clicking on the Alarm Manager icon in the system tray.
2. Select the menu command "Settings..." from the shortcut menu.
3. Select the functions under "Autostart" in the "Options" tab.
4. The Alarm Manager can continue to be started manually via the Management Explorer under "Options > AlarmManager...".

The application prevents itself from being started more than once.

7.14 The Alarm Manager in the system tray

If the Alarm Manager has been started, an icon appears in the system tray. There are three different representations depending on the status:

- Connection established, no alarm : The Alarm Manager is working correctly, a connection was established to the monitored devices. There are currently no problems to report.
- Connection established, alarm : The Alarm Manager is working correctly, a problem has been detected. When the alarm is cleared, the icon changes back to the DiagBase icon .
- Could not establish connection to station .

7.15 The "Alarm Manager - Settings" Window

The "Settings" window of the Alarm Manager has two tabs:

- Applications: Manages the applications, see Adding a new application in the Alarm Manager (Page 26) , Changing an application in the Alarm Manager (Page 26) , Removing an application in the Alarm Manager (Page 27).
- Options: Makes it possible to change general settings, see Changing settings of the Alarm Manager (Page 27).

7.16 Adding a new application in the Alarm Manager

In the Alarm Manager, you can assign function groups to any application. To add a new application, follow these steps:

1. You can do this by right-clicking on the Alarm Manager icon in the system tray > "Settings...". Open the "Applications" tab.
2. Select a group from the "Possible groups" selection box. An alarm from this group will start the application.
3. Using the ">" or "<" buttons, you can add or remove a group in "Selected groups". With ">>" or "<<", you can add or remove all groups.
4. Now enter a title below this for the new application.
5. Select the storage location of the application with the "Browse..." button.
6. You can start the new application by right-clicking on the Alarm Manager icon in the system tray. This is only possible if you have selected the "Enter in shortcut menu" check box.
7. You save the new application with the "Add" button.

7.17 Changing an application in the Alarm Manager

To change the details of an application, follow these steps:

1. Select the required application.
2. Make these changes: See Adding a new application in the Alarm Manager (Page 26), items 2 to 6.
3. You can save the changes with the "Change" button.

7.18 Removing an application in the Alarm Manager

If you want to remove an application, follow these steps:

1. Select the required application.
2. Click the "Remove" button.
3. Confirm the "Delete entry?" prompt in the dialog with "Yes".

7.19 Acknowledging alarms with the Alarm Manager

The Alarm Manager offers the option of acknowledging alarms just like the Management Explorer. The Alarm Manager, however, acknowledges all alarms at the same time. It is not possible to acknowledge a specific alarm:

1. You can do this by right-clicking on the Alarm Manager icon in the system tray.
2. Select "Acknowledge all alarms".

7.20 Changing settings of the Alarm Manager

Proceed as follows to make general settings of the Alarm Manager:

1. You can do this by right-clicking on the Alarm Manager icon in the system tray.
2. Select "Settings..."
3. Change to the "Options" tab. Here, you can then make the following settings:
   – Acoustic alarm signal:
     An acoustic alarm can be output via the sound card.
   – Event logging:
     Events can be logged. Activate this function to save events in the event view.
     Refer to Displaying events with the Event Viewer (Page 24).
   – Autostart:
     Specifies whether or not the Alarm Manager opens automatically when you start Windows.

Displaying operating states via web browser 8

8.1 MiniWeb Server

The MiniWeb server provides information on the system via HTTP/HTTPS.

Make sure that the ports used have been enabled in the firewall of your operating system. For additional information on changes, see Changing the MiniWeb Network Port (Page 28).

Following installation, you can start and stop the MiniWeb server via Management Explorer. For additional details, see Starting and stopping the MiniWeb server (Page 28).

8.2 Starting and stopping the MiniWeb server

1. Start the Management Explorer.
2. Select "Web server" from the "Options" menu.

8.3 Changing the MiniWeb Network Port

The default values for the network ports are 5009 for HTTP and 5449 for HTTPS. To change this setting, proceed as follows:

1. Start the link "Start > Programs > Siemens Automation > DiagBase > WebServer > Configuration".
2. Search for the line <PORTNUMBER VALUE="5009"/>.
3. Change the value of the respective http port.
4. Search for the line <SSLPORTNUMBER VALUE="5449"/>.
5. Change the value of the respective HTTPS port.
6. Save and close the file.
7. Restart the MiniWeb service (see Starting and stopping the MiniWeb server (Page 28)).

8.4 Opening the MiniWeb Site

If the MiniWeb service has been started (see Starting and stopping the MiniWeb server (Page 28)), you can open the website using a browser. If you want to open the website of the local computer, enter the following address in the address line of the browser:
http://localhost:5009 or **https://localhost:5449**. If you want to open the website of another computer: **http://Computer name:Port** or **http://IP address of the computer:Port**. Make sure that the firewall of your operating system has been configured so that you can access the respective port.

8.5 Changing the Links on the MiniWeb Site

The MiniWeb site displays different Internet links to Siemens support sites in the menu item "Links". If you want to change or add links at a later time, follow these steps:

1. Start the link "Start > Programs > Siemens Automation > DiagBase > WebServer > Links".
2. If you want to add a new link, open the links as an administrator (right-click), copy one of the lines and change it as necessary.
    "NAME =" is the displayed name, "TARGET=" the link to the target address.
3. Save and close the file.

Index