



Visualisation; Diagnostics

Easy to Configure

Programming IEC 61131-3

Rapid Installation

## PSS 4000 Diag Control (classic)

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SD means Secure Digital

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# 1 Introduction

OPC (Openness, Productivity and Collaboration) is a standardised software interface, through which PC-based software from a range of manufacturers can exchange data. The OPC Foundation is responsible for maintaining and propagating the standard. Around one hundred companies are currently members, including Pilz.

The OPC standard is now called "OPC Classic" and is specified for the Windows operating systems, depending on the platform. It is based on Windows technologies such as OLE (Object Linking and Embedding), COM (Component Object Model) and DCOM (Distributed COM).

The term PSS 4000 Diag Control is used generically for PSS 4000 Diag Control (classic) and PSS 4000 Diag Control UA. If a description refers exclusively to one of the two standards, the term PSS 4000 Diag Control (classic) or PSS 4000 Diag Control UA is used.

The installer "PSS\_4000\_Win32\_Diag\_Control\_Installer" is available for installing the PSS 4000 Diag Control on a PC. Both the PSS 4000 Diag Control (classic) and PSS 4000 Diag Control UA are installed during installation.

## 1.1 Validity of documentation

This operating manual describes how diagnostic data is displayed in a visualisation software package or ActiveX-enabled browser (e.g. MS Internet Explorer), using PSS 4000 Diag Control (classic).

This operating manual is valid for:

- ▶ PSS 4000 Diag Control (classic) from Version 1.18.0

It is valid until new documentation is published.

## 1.2 Using the documentation

This document is intended for instruction. Only install and commission the product if you have read and understood this document. The document should be retained for future reference.

## 1.3 Supported hardware and software

See Readme file of PSS 4000 Diag Control. The Readme file is supplied together with the PSS 4000 Diag Control.

## 2 Function of PSS 4000 Diag Control (classic)

ActiveX is a software component model from Microsoft for active content such as macros or applets; it is based on the Component Object Model (COM). PSS 4000 Diag Control can be used in ActiveX-enabled environments, e.g. in the browser MS Internet Explorer, in a graphics software package or in common programming environments (e.g. Microsoft Visual Studio).

PSS 4000 Diag Control (classic) receives the diagnostic data from a PSS 4000 OPC Server (classic) and displays it in a graphical user interface.

## 3 Install PSS 4000 Diag Control

### 3.1 Installation on a PC

The installer "PSS\_4000\_Win32\_Diag\_Control\_Installer" is available for installing the PSS 4000 Diag Control on a PC. Both the PSS 4000 Diag Control (classic) and PSS 4000 Diag Control UA are installed during installation.

To use PSS 4000 Diag Control in the visualisation software package it must be installed on your PC.

System requirement:

See readme file for PSS 4000 Diag Control

Procedure:

- ▶ Start your PC.
- ▶ Start the installation file (PSS\_4000\_Diag\_Control\_<Version number>.exe).
- ▶ Follow the on-screen installation instructions.  
The package is installed in the directory  
\\Programs (x86)\\Pilz\\PSS4000\_Diag\_Control <Version number>.

For various display resolutions, the following HTML files with default settings are stored in the directory %ALLUSERPROFILE%\\Pilz\\PSS4000\_Diag\_Control\\:

- ▶ PSS4000\_Diag\_Control\_Settings\_All.html
- ▶ PSS4000\_Diag\_Control\_Settings\_Basic.html.

## 3.2 Installation on a PMI

The installer "PSS\_4000\_PMI\_5\_Diag\_Control\_Installer" is available for installing the PSS 4000 Diag Control on a PMI 5. Both the PSS 4000 Diag Control (classic) and PSS 4000 Diag Control UA are installed during installation.

For installation to take place, the installation file must be downloaded via FTP/Ethernet connection, SD card or USB mass storage device.

### Procedure

2 alternative procedures are available.

#### Use installation package:

1. Switch on your PMI.
2. Open Windows Explorer on the PMI.
3. Copy the file "PSS\_4000\_Diag\_Control\_<Version number>.CAB" into the directory \Flash on the PMI.
4. Start the CAB file. The installation process will start. The CAB file in the PMI directory \Flash will be deleted after the installation.

#### Use the PMI Assistant:

The PSS 4000 Diag Control is installed on a PMI with the aid of the PMI Assistant. The PMI Assistant and all the necessary installation files are located on the removable data medium of a PMI.

1. Start the PMI Assistant.
2. Follow the on-screen instructions to complete the installation.

Installation via the installer triggers the following:

- ▶ The visualisation software PSS 4000 Diag Control (classic) is installed in the directory \Flash\PSS4000\_Diag\_Control
- ▶ The following HTML files with default settings are stored in the directory \Flash\PSS4000\_Diag\_Control for the various display resolutions:
  - PSS4000\_Diag\_Control\_Settings\_QVGA.html
  - PSS4000\_Diag\_Control\_Settings\_VGA.html
  - PSS4000\_Diag\_Control\_Settings\_WVGA.html
  - PSS4000\_Diag\_Control\_Settings\_SVGA.html
  - PSS4000\_Diag\_Control\_Settings\_XGA.html
  - PSS4000\_Diag\_Control\_Settings\_All.html
  - PSS4000\_Diag\_Control\_Settings\_Basic.html
- ▶ The PSS 4000 Diag Control UA is installed.  
Please refer to the operating manual PSS 4000 Diag Control UA.

### Special features when installing the PSS 4000 firmware on a PMI

An "all-in-one" installer is used when installing the PSS 4000 firmware (see System Description PSS 4000), i.e. there are no selection options.

Installation of the PSS 4000 firmware causes the following:

- ▶ The PSS 4000 OPC Server (classic) is installed in the directory *\Flash\PSS4000*
- ▶ The visualisation software PSS 4000 Diag Control (classic) is installed in the directory *\Flash\PSS4000\_Diag\_Control*
- ▶ The following HTML files with default settings are stored in the directory *\Flash\PSS4000\_Diag\_Control* for the various display resolutions:
  - *PSS4000\_Diag\_Control\_Settings\_QVGA.html*
  - *PSS4000\_Diag\_Control\_Settings\_VGA.html*
  - *PSS4000\_Diag\_Control\_Settings\_WVGA.html*
  - *PSS4000\_Diag\_Control\_Settings\_SVGA.html*
  - *PSS4000\_Diag\_Control\_Settings\_XGA.html*
  - *PSS4000\_Diag\_Control\_Settings\_All.html*
  - *PSS4000\_Diag\_Control\_Settings\_Basic.html*
- ▶ The DCOM settings are configured to enable OPC Classic Clients to access the PSS 4000 OPC Classic Server
- ▶ The batch file *PMIStart.cmd* is adapted  
Existing entries in any available batch file are maintained. The entries made in the batch file during installation will allow the following software to be launched when a PMI is started:
  - OPCEnum
  - PSS 4000 Firmware
- ▶ The PSS 4000 OPC Server UA and PSS 4000 Diag Control UA is installed.  
Please refer to the operating manual PSS 4000 Diag Control UA.



## 4 Configure PSS 4000 Diag Control (classic)

### 4.1 Configuration in a graphics software package

The section below describes how to configure PSS 4000 Diag Control (classic) in a visualisation software package.

Prerequisite:

- ▶ PSS 4000 Diag Control must be installed on your computer (see section entitled "[Installation on the PC \[6\]](#)").
- ▶ PSS 4000 Diag Control (classic) must be incorporated into your visualisation software.

Details of how to use PSS 4000 Diag Control (classic) in your visualisation software are provided in the description or in the visualisation software's online help.

Most of the settings made in the tabs can be checked via the preview. The preview will partly be filled with dummy data.

### 4.1.1 "General" tab

General | Split Window (1/2) | Split Window (2/2) | Diagnostic Log

Basic settings

OPC server address (IP or hostname): localhost

Language: German - de

Display: Single window

Optimize for QVGA  
NOTE: Only valid with "Single window" display.

Use keyboard

Font

Font type: Arial

Font size [pt]: 10

Ticker

Enable ticker

Fig.: **General** tab

On the **General** tab you can make the following settings:

▶ **OPC server address**

Enter the IP address or the logical name of the PSS 4000 OPC Server.

Default: "localhost"

"localhost" is the valid logical name when the PSS 4000 OPC Server and the visualisation software are on the same computer.

▶ **Language**

Select the language in which the diagnostic texts and the interface of the PSS 4000 Diag Control are to be displayed. You will have defined the languages available for the diagnostic texts when you created the diagnostic configuration. The interface can be displayed in the following languages:

- German
- English

▶ **Display**

Select:

– **Single window**

Diagnostic messages and remedies appear in separate windows.

– **Split window**

Diagnostic messages and remedies appear in a split window, one above the other.

▶ **Optimize for QVGA**

Select this option to optimise the screen output for QVGA format. QVGA is a standard for small screens with 320 x 240 pixels ("Quarter VGA"). This option should only be selected when **Single Window** has been selected under **Display**.

▶ **Use keyboard**

Select this option to enable keyboard operation.

▶ **Font type**

Select the font type.

▶ **Font size**

Select the font size.

▶ **Enable ticker**

Select this option to activate the ticker for diagnostic messages, remedies and entries in the diagnostic log. This option should only be selected when **Single Window** has been selected under **Display**.

### 4.1.2 "Split Window 1/2" tab

The screenshot shows a configuration window with four tabs: 'General', 'Split Window (1/2)', 'Split Window (2/2)', and 'Diagnostic Log'. The 'Split Window (1/2)' tab is active. It contains two main sections: 'Pane height' and 'Table row'. The 'Pane height' section has two spinners: 'List pane [%]' with a value of 50 and 'Remedy pane [%]' with a value of 50. The 'Table row' section has a dropdown menu for 'Text lines per table row' with a value of 3.

Fig.: **Split Window 1/2** tab

On the **Split Window 1/2** tab you can define the size of the window areas in the split window. These settings will apply if you selected **Split Window** under **Display**:

- ▶ **Pane height**  
Adjust the height of the window areas as a percentage of the overall window height.
- ▶ **Table row**  
Adjust the height of the table row in multiples of the text height.

### 4.1.3 "Split Window 2/2" tab

The screenshot shows the 'Split Window 2/2' tab with the following configuration:

**Columns for diagnostic messages**

Pos.	Column	Width [px]
1	Timestamp	80
2	Priority no. (seve...	20
3	DID	80
4	Scope	85
5	Description	255
6	Device name	95
7	Equipment ID	80
8	Address	80
9	Location descrip...	80

Deactivated columns: Priority, Parameter list

**Columns for remedy**

Pos.	Column	Width [px]
1	Responsibility	120
2	Description	280
3	Device name	80
4	Equipment ID	80
5	Address	80
6	Location descrip...	135

Deactivated columns: Scope

Fig.: *Split Window 2/2* tab

On the *Split Window 2/2* tab you can select the fields that are to be displayed. These settings will apply if you selected *Split Window* under *Display*:

▶ **Columns for diagnostic messages**

Select the fields that will be displayed in the diagnostic messages window, plus their position and width within the table.

▶ **Columns for remedy**

Select the fields that will be displayed in the remedies window, plus their position and width within the table.

#### 4.1.4 "Diagnostic Log" tab

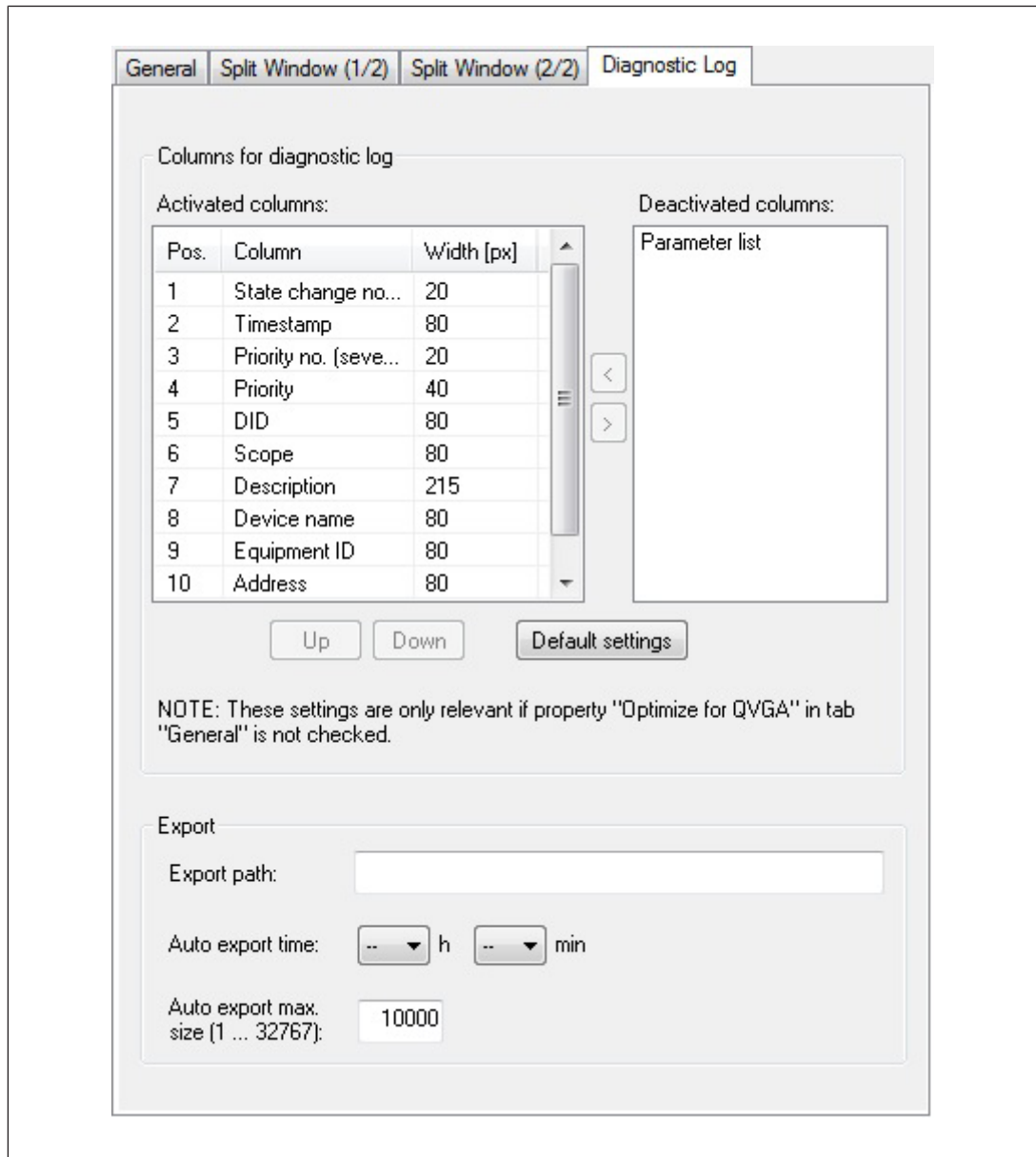


Fig.: *Diagnostic Log* tab

The *Diagnostic Log* tab contains the following options:

▶ **Columns for diagnostic log**

Here you can define the format of the diagnostic log.

Select the fields that are to be displayed in the diagnostic log window, plus their position and width within the table.

These settings will only apply if

- The **Split Window** setting is selected under **Display**  
or
- Under **Display**, **Optimize for QVGA** has been deactivated for the **Single Window** setting.

▶ **Export path**

You can export the diagnostic log as a csv file. Your entry defines the export path for the diagnostic log. The defined export path will be used for both the automatic and manual export.

- The absolute path must be stated for the storage location; i.e. remote storage locations are also permitted.
- Windows conventions apply when entering the path for the storage location.
- The default path will be used under the following conditions:
  - No path is stated.
  - The entry defined a relative path.
  - The defined path does not comply with Windows conventions.
  - An error occurs when creating the csv file.
- Default path on a PC:  
%ALLUSERPROFILE%\ProgramData\Pilz\PSS4000\_Diag\_Control\Export
- Default path on a PMI 5:  
\\Flash\PSS4000\_Diag\_Control\Export
- If the stated storage location or default storage location does not exist, it is created automatically.
- The file name is assigned automatically during export.  
File name with automatic export:  
autoLogExport\_<ProjectName>.csv  
The file is overwritten with each export, if the project name is identical.  
File name with manual export:  
manLogExport\_<ProjectName>\_<YYYYMMDD\_hhmm>.csv
  - YYYY: Year
  - MM: Month
  - DD: Day
  - hhmm: Time of day in 24 hour format
 A new file is created with each export because the file name contains a time stamp.
- The diagnostic log is exported in the diagnostic language that is currently selected.

▶ **Auto export time**

State the time at which the diagnostic log is to be exported daily (24 hour format).

If no time is stated (setting [- -] h; [- -] min), automatic export is deactivated (default setting). Automatic export is activated as soon as you enter a time of day.

▶ **Auto export max. size**

Define the number of log entries that are to be exported automatically. The newest entries in the diagnostic log are always exported.

- Value range: 1 ... 32767

### 4.1.5 Settings overview


(Name)	IDC_PILZPSS4000DIAGCOM
BackColor	<input type="color" value="240; 240; 240"/> 240; 240; 240
Disabled	False
Display	SingleWindow
EnableTicker	1
FontSize	10
FontType	Arial
ForeColor	<input type="color" value="Black"/> Black
Group	False
Help	True
ID	IDC_PILZPSS4000DIAGCOM
Language	1031
ListCol1	Timestamp
ListCol10	DEACTIVATED
ListCol11	DEACTIVATED
ListCol2	PriorityNo
ListCol3	Did
ListCol4	Scope
ListCol5	Description
ListCol6	Location.Device
ListCol7	Location.EquipmentId
ListCol8	Location.Address
ListCol9	Location.Description
ListColWidth1	80
ListColWidth10	80
ListColWidth11	80
ListColWidth2	20
ListColWidth3	80
ListColWidth4	85
ListColWidth5	255
ListColWidth6	95
ListColWidth7	80
ListColWidth8	80
ListColWidth9	80

Fig.: Settings overview table

The settings overview is not displayed in every visualisation software package.



**INFORMATION**

A description of the properties that can be configured in the settings overview can be found in the section entitled "[Configuration in a browser](#) [ 18]". In the settings overview, all values are stated without inverted commas.

## 4.2 Configuration in a browser

The section below describes how to configure PSS 4000 Diag Control (classic) in an ActiveX-enabled browser. Configuration requires some knowledge of the HTML markup language.

The Appendix contains examples that you can use to create your own HTML file.

General browser display settings:

- ▶ `<body scroll=no>`  
Switches off Internet Explorer's vertical scroll bar.
- ▶ `WIDTH=a; HEIGHT=b` Size of the window in which the PSS 4000 Diag Control is displayed, in pixels.
- ▶ `CLASSID="CLSID:CE42D3A2-5C9C-4A77-B7DF-08A27AAC7BC5"` Class-ID used to reference the PSS 4000 Diag Control.

## 4.2.1 General properties

General properties of PSS 4000 Diag Control (classic):

▶ **OPCServer**

The IP address or logical name of the PSS 4000 OPC Server. "localhost" is the valid logical name when the PSS 4000 OPC Server and PSS 4000 Diag Control are on the same computer.

▶ **Language**

To display the diagnostic texts in the required language, enter the LCID for the relevant language.

Values:

- English: "1033"
- German: "1031"

▶ **Display**

Window format

Values:

- **SingleWindow**
- **SplitWindow**

▶ **QVGA**

Screen output optimised for QVGA format

Values:

- "0" = not activated
- "1" = activated (only when **Single Window** is selected)

▶ **UseKeyboard**

Keyboard operationValues:

- "0" = not activated
- "1" = activated

▶ **FontSize**

Font size in points

▶ **FontType**

Name of font

(not the font's file name, i.e. Arial Unicode MS, not ARIALUNI.TTF, for example)

▶ **EnableTicker**

Activate ticker

Values:

- "0" = not activated
- "1" = activated (only when **Single Window** is selected)

## 4.2.2 Properties for split window display ("Split Window (1/2)" tab)

Properties for dividing the split window and the height of the table rows:

- ▶ ListPaneHeight
  - Height of event window as a percentage
- ▶ RemedyPaneHeight
  - Height of remedy window as a percentage
- ▶ TextLinesPerTableRow
  - Number of text lines per table row, e.g. "3"

### 4.2.3 Properties for split window display ("Split Window (2/2)" tab)

#### Display of diagnostic messages

Properties for show/hide, plus column layout, e.g. <PARAM NAME="ListCol1" VALUE="Timestamp">:

- ▶ ListColN (N columns from 1 to 11)  
Values:
  - "Timestamp"
  - "PriorityNo"
  - "DID"
  - "Scope"
  - "Description"
  - "Location.Device"
  - "Location.EquipmentID"
  - "Location.Description"
  - "Location.Address"
  - "Priority"
  - "ParameterList"
  - "Deactivated" = Invisible column

Properties for assigning column widths, e.g. <PARAM NAME="ListColWidth1" VALUE="80">

- ▶ ListColWidthN (N columns from 1 to 11)  
Values:
  - Column width in pixels



#### INFORMATION

Please note the following with properties:

- Always state a value in all the columns under "ListColN" or in none of them.
- Each column should be assigned a unique value.
- If you don't wish to use every value, the remaining columns should be assigned the value "Deactivated" (see example).
- If the "ListColN" properties are stated, then all the "ListColWidthN" properties must also be stated.

#### Display of remedy messages

Properties for show/hide, plus column layout, e.g. <PARAM NAME="RmdCol1" VALUE="Responsibility">:

- ▶ RmdColN (N columns from 1 to 7)  
Values:
  - "Responsibility"

- "Scope"
- "Description"
- "Location.Device"
- "Location.EquipmentID"
- "Location.Address"
- "Location.Description"
- "Deactivated" = Invisible column

Properties for assigning column widths, e.g. <PARAM NAME="RmdColWidth1" VALUE="120">

- ▶ RmdColWidthN (N columns from 1 to 7)  
Values:
  - Column width in pixels



#### INFORMATION

Please note the following with properties:

- Always state a value in all the columns under "RmdColN" or in none of them.
- Each column should be assigned a unique value.
- If you don't wish to use every value, the remaining columns should be assigned the value "Deactivated" (see example).
- If the "RmdColN" properties are stated, then all the "RmdColWidthN" properties must also be stated.

#### Example

The last two columns should not be used.

- ▶ Correct configuration:
  - "RmdCol1" VALUE="Responsibility"
  - "RmdCol2" VALUE="Description"
  - "RmdCol3" VALUE="Location.Device"
  - "RmdCol4" VALUE="Location.EquipmentID"
  - "RmdCol5" VALUE="Location.Address"
  - "RmdCol6" VALUE="Deactivated"
  - "RmdCol7" VALUE="Deactivated"
- ▶ Incorrect configuration:
  - "RmdCol1" VALUE="Responsibility"
  - "RmdCol2" VALUE="Description"
  - "RmdCol3" VALUE="Deactivated"
  - "RmdCol4" VALUE="Deactivated"

- "RmdCol5" VALUE="Location.Device"
- "RmdCol6" VALUE="Location.EquipmentID"
- "RmdCol7" VALUE="Location.Address"

#### 4.2.4 Properties for displaying the diagnostic log

Properties for show/hide, plus column layout, e.g. <PARAM NAME="LogCol1" VALUE="StateChangeNo">:

▶ LogColN (N columns from 1 to 12)

Values:

- "StateChangeNo"
- "Timestamp"
- "PriorityNo"
- "Priority"
- "DID"
- "Scope"
- "Description"
- "Location.Device"
- "Location.EquipmentID"
- "Location.Address"
- "Location.Description"
- "ParameterList"
- "Deactivated" = Invisible column

Properties for assigning column widths, e.g. <PARAM NAME="LogColWidth1" VALUE="20">

▶ LogColWidth1N (N columns from 1 to 12)

Values:

- Column width in pixels



#### INFORMATION

Please note the following with properties:

- Always state a value in all the columns under "LogColN" or in none of them.
- Each column should be assigned a unique value.
- If you don't wish to use every value, the remaining columns should be assigned the value "Deactivated" (see example).
- If the "LogColN" properties are stated, then all the "LogColWidthN" properties must also be stated.

#### Example

The last two columns should not be used:

▶ Correct configuration:

- "LogCol1" VALUE="StateChangeNo"
- "LogCol2" VALUE="Timestamp"
- "LogCol3" VALUE="PriorityNo"



- "LogCol4" VALUE="Priority"
  - "LogCol5" VALUE="DID"
  - "LogCol6" VALUE="Scope"
  - "LogCol7" VALUE="Description"
  - "LogCol8" VALUE="Location.Device"
  - "LogCol9" VALUE="Location.EquipmentID"
  - "LogCol10" VALUE="Location.Address"
  - "LogCol11" VALUE="Deactivated"
  - "LogCol12" VALUE="Deactivated"
- ▶ Incorrect configuration:
- "LogCol1" VALUE="StateChangeNo"
  - "LogCol2" VALUE="Timestamp"
  - "LogCol3" VALUE="PriorityNo"
  - "LogCol4" VALUE="Priority"
  - "LogCol5" VALUE="DID"
  - "LogCol6" VALUE="Deactivated"
  - "LogCol7" VALUE="Deactivated"
  - "LogCol8" VALUE="Scope"
  - "LogCol9" VALUE="Description"
  - "LogCol10" VALUE="Location.Device"
  - "LogCol11" VALUE="Location.EquipmentID"
  - "LogCol12" VALUE="Location.Address"

## 4.2.5 Properties for exporting the diagnostic log

### ▶ "LogExportPath" VALUE="*<Path>*"

You can export the diagnostic log as a csv file. Your entry defines the export path for the diagnostic log. The defined export path will be used for both the automatic and manual export.

- The absolute path must be stated for the storage location; i.e. remote storage locations are also permitted.
- Windows conventions apply when entering the path for the storage location.
- The default path will be used under the following conditions:
  - No path is stated.
  - The entry defined a relative path.
  - The defined path does not comply with Windows conventions.
  - An error occurs when creating the csv file.

- Default path on a PC:

%ALLUSERPROFILE%\ProgramData\Pilz\PSS4000\_Diag\_Control\Export

- Default path on a PMI 5:

\Flash\PSS4000\_Diag\_Control\Export

- If the stated storage location or default storage location does not exist, it is created automatically.
- The file name is assigned automatically during export.

File name with automatic export:

autoLogExport\_<ProjectName>.csv

The file is overwritten with each export, if the project name is identical.

File name with manual export:

manLogExport\_<ProjectName>\_<YYYYMMDD\_hhmm>.csv

- YYYY: Year

- MM: Month

- DD: Day

- hhmm: Time of day in 24 hour format

A new file is created with each export because the file name contains a time stamp.

- The diagnostic log is exported in the diagnostic language that is currently selected.

Examples:

<PARAM NAME="LogExportPath" VALUE="\Flash\Logs">

<PARAM NAME="LogExportPath" VALUE="\PC-Plant1\Logs">

### ▶ "LogAutoExportTime" VALUE="*<hh:mm>*"

State the time at which the diagnostic log is to be exported daily (24 hour format).

- hh: 00 ... 23

- mm: 00 ... 59

If no time is stated (setting ""), automatic export is deactivated. Automatic export is activated when you enter a time of day.

Example:

<PARAM NAME="LogAutoExportTime" VALUE="17:35">

▶ "LogAutoExportMaxSize" VALUE="<1 ... 32767>"

Define the number of log entries that are to be exported automatically. The newest entries in the diagnostic log are always exported.

– Value range: 1 ... 32767

Example:

```
<PARAM NAME="LogAutoExportMaxSize" VALUE="100">
```

## 5 Run PSS 4000 Diag Control (classic)

### 5.1 Run in a graphics software package or browser

#### 5.1.1 Run in a graphics software package

Prerequisite:

- ▶ PSS 4000 Diag Control must be installed on the PC or PMI (see chapter entitled "[Install PSS 4000 Diag Control \[6\]](#)").
- ▶ PSS 4000 Diag Control must be configured in the graphics software (see chapter entitled "[Configuration in a graphics software package \[9\]](#)").

Procedure:

- ▶ Details of how to incorporate PSS 4000 Diag Control into your graphics software are provided in the description or in the graphics software's online help.

#### 5.1.2 Run in a browser

##### 5.1.2.1 Run PSS 4000 Diag Control in a browser on a PC

Prerequisite:

- ▶ PSS 4000 Diag Control must be installed on the PC (see chapter entitled "[Install PSS 4000 Diag Control \[6\]](#)").
- ▶ The HTML file must be configured (see chapter entitled "[Configuration in a browser \[18\]](#)").
- ▶ An ActiveX-enabled browser must be installed on the PC.

Procedure:

- ▶ Start the configured HTML file in an ActiveX-enabled browser.

##### 5.1.2.2 Run PSS 4000 Diag Control in a browser on a PMI

Prerequisite:

- ▶ PSS 4000 Diag Control must be installed on the PMI (see chapter entitled "[Install PSS 4000 Diag Control \[6\]](#)").
- ▶ The HTML file must be configured (see chapter entitled "[Configuration in a browser \[18\]](#)").
- ▶ An ActiveX-enabled browser must be installed on the PMI.

Procedure:

- ▶ Download the configured HTML file to your PMI and start this file.

The HTML file can also be started automatically once the PMI has booted. The following additional lines are required in the "PMIStart.cmd" file in order to do this:

```
start \windows\iexplore.exe \Flash\<Name of HTML file>
```

Replace the *<Name of HTML file>* marker with the name of the HTML file on your PMI.

To start Internet Explorer in full screen mode you will need to create the following entry in the Windows registry:

- ▶ Select **Run...** in the Windows Start menu
- ▶ Enter "regedit" and click **OK** to open the registry.
- ▶ Go to "HKEY\_CURRENT\_USER\Software\Microsoft\Internet Explorer\Main"
- ▶ Click on **Main** and select "Value -> New DWORD" in the menu bar.
- ▶ Create the DWORD "StartUpInFullScreen" and assign the value "1" to the DWORD.
- ▶ Save and then close the Windows registry.

## 6 Operate PSS 4000 Diag Control

### 6.1 Split window

While diagnostics are being run, you can see the diagnostic list in the top half of the window. If you highlight an event, that row will turn blue and the bottom half of the window will show the remedy for this event. If you highlight a remedy, the row showing the event will turn grey and the row showing the remedy will turn blue.

**Project: dsv\_stpc**  
**Diagnostic list (12 / 24)**

Time stamp	DID	Scope	Description	Device
19.09.2016 16:31:18	P -0100 -0006	Plant	Safety device has been triggered.	E-STOP pushbutton
19.09.2016 16:31:17	P -0100 -0006	Plant	Safety device has been triggered.	E-STOP pushbutton
19.09.2016 16:31:30	C -0008 -0022	Plant	Coolant level pre-alert.	Level sensor
19.09.2016 16:31:42	C -0020 -0106	Plant	Filtration unit almost full.	Pressure sensor

Responsibility	Remedy for selected message	Device	Ec
Operator	Release the E-STOP pushbutton and reset if necessary.	E-STOP pushbutton	=C S1
Electrical maintenance engineer	Ensure that the E-STOP pushbutton is wired in accordance with the configuration and circuit	E-STOP pushbutton	=C S1
Electrical maintenance engineer	Ensure that the contacts on the safety device operate correctly.	E-STOP pushbutton	=C S1
Electrical maintenance engineer	Ensure that the status of the LEDs on the inputs changes when the safety device is operated.	E-STOP pushbutton	=C S1
Electrical maintenance engineer	Please contact Pilz.	E-STOP pushbutton	=C S1

Fig.: Split window with horizontal split

You can switch from this view to **Diagnostic log** and back again during operation, via the information window.

	Focus is...	
	...on the diagnostic list	...on the remedy list
Cursor up	To previous diagnostic message	To previous remedy
Cursor down	To next diagnostic message	To next remedy
Enter	Show remedy for selected diagnostic message	No function
ESC	Remedy for diagnostic message is deleted	Focus is placed on the diagnostic list and remedy for diagnostic message is deleted
F1	No function	No function
F2	Switch to information window	Switch to information window
F3	Previous 10 diagnostic messages	No function
F4	Next 10 diagnostic messages	

Assignment of keyboard and buttons



#### INFORMATION

The **Split window** setting is unsuitable for devices with a low screen resolution.

## 6.2 Single window

If you have selected **Single window** under **Display** in the basic configuration, the diagnostic list and remedies will be displayed in separate windows.



### INFORMATION

If **EnableTicker** is selected, the following diagnostic data - **time stamp**, **DID**, **scope**, **device**, **Equip-ID**, **location description** and **address** - will be shown in ticker format in the current diagnostic message (in VGA resolution, this is the diagnostic message highlighted in blue), if there is insufficient space to display the data.

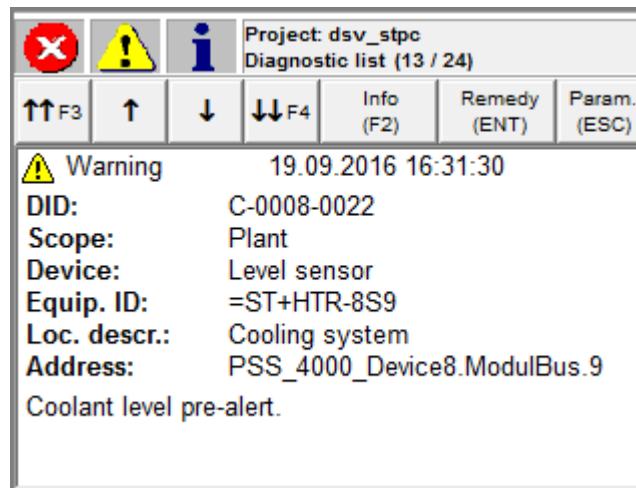


Fig.: Separate window with diagnostic list in QVGA resolution



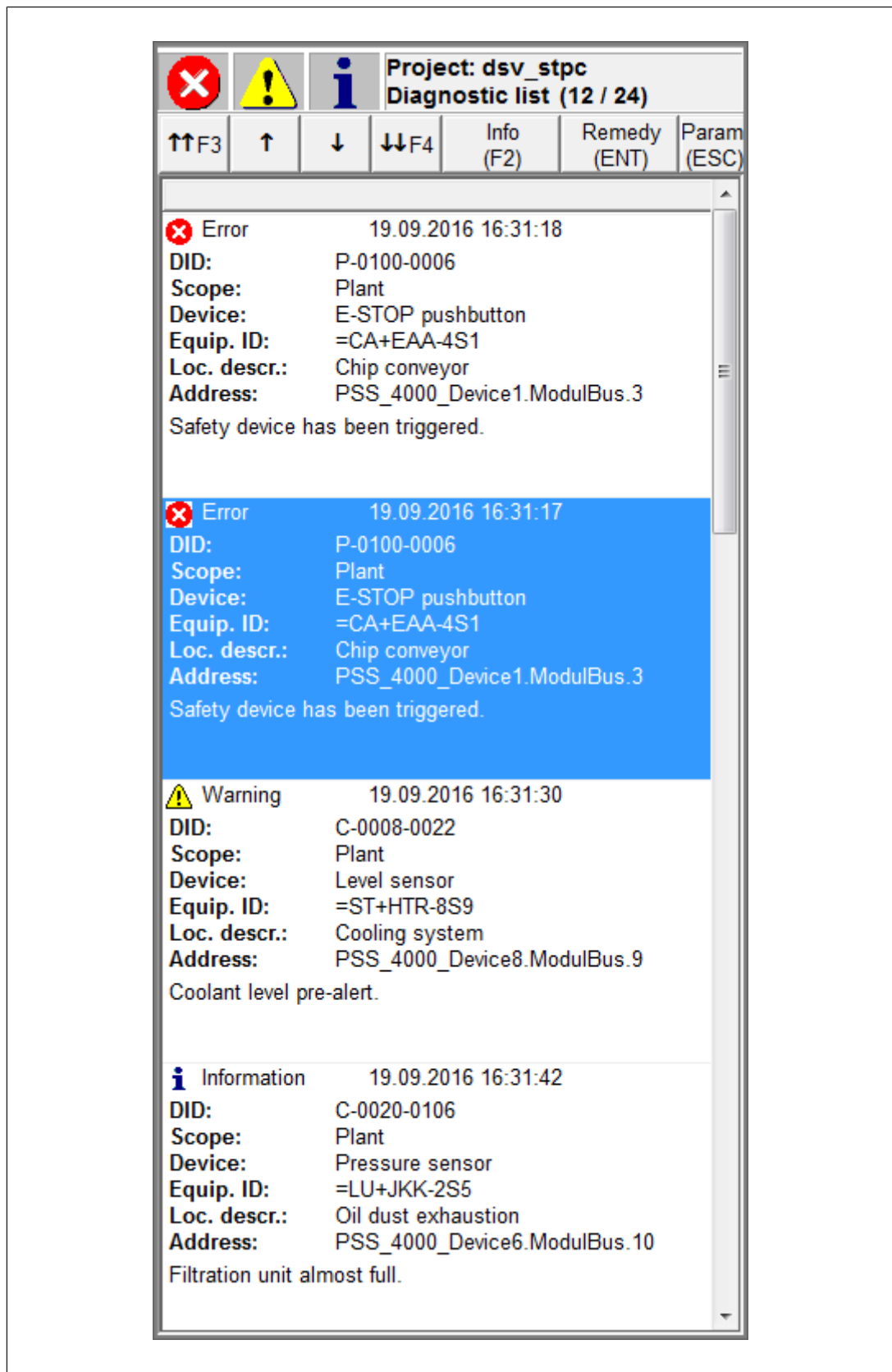


Fig.: Separate window with diagnostic list in VGA resolution

While the diagnostics are running, call up the remedy for an event by clicking **Remedy**.

**INFORMATION**

If **EnableTicker** is selected, the following data - **responsibility, device, Equip-ID, address** and **location** - will be shown in ticker format in the current action (in VGA resolution, this is the action highlighted in blue), if there is insufficient space to display the data.

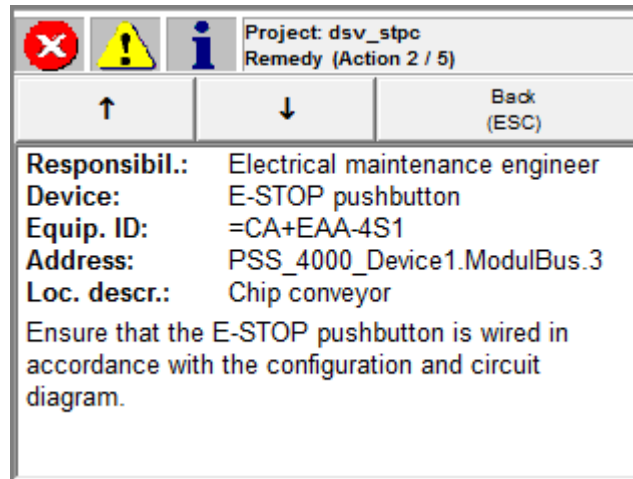


Fig.: Separate window with remedies in QVGA resolution

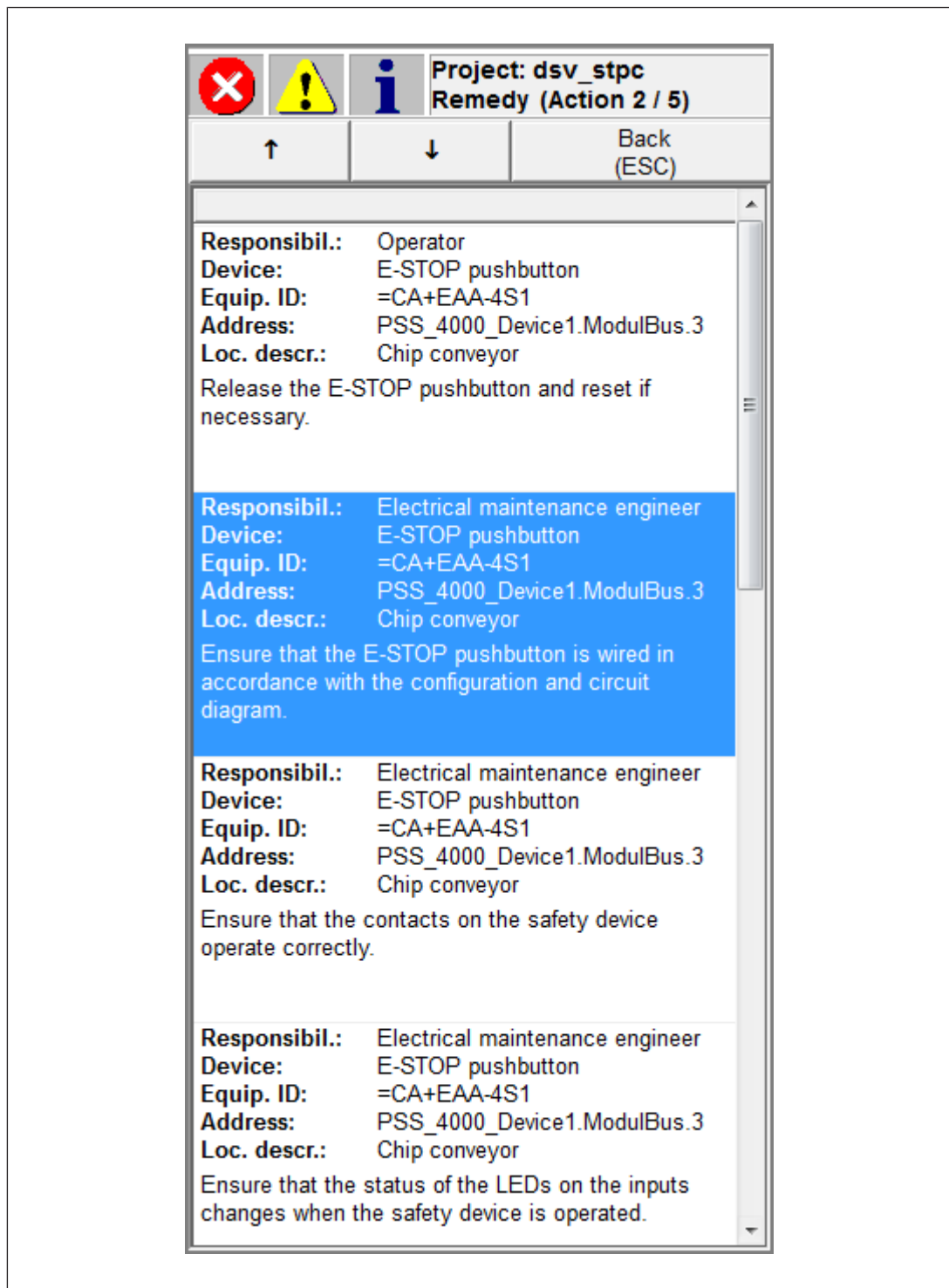


Fig.: Separate window with remedies in VGA resolution

While the diagnostics are running, call up the parameter list by clicking **ESC**. It contains all the information required by technical support to evaluate a diagnostic message. This is the diagnostic identifier and all parameters.

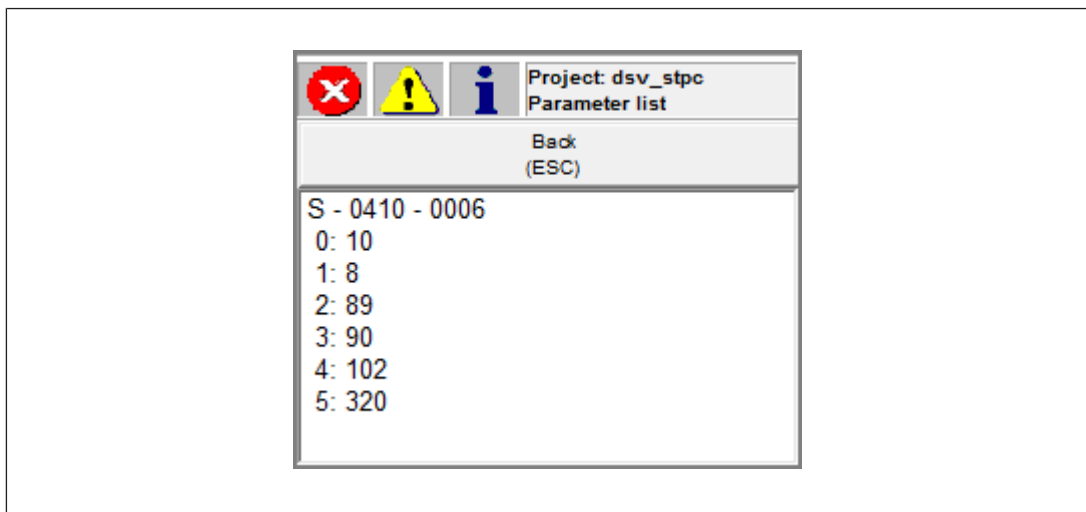


Fig.: Parameter list

	Focus is...	
	...a diagnostic message	...a remedy
Cursor up	To previous diagnostic message	To previous remedy
Cursor down	To next diagnostic message	To next remedy
Enter	Show remedy for selected diagnostic message	No function
ESC	Show parameter list, exit parameter list	Switch to diagnostic message
F1	No function	No function
F2	Switch to information window	
F3	Previous 10 diagnostic messages	
F4	Next 10 diagnostic messages	

## Keyboard and button assignment

## Examples:

F4 is used to jump to the next block of 10 diagnostic messages.

- ▶ Diagnostic message 7 of 15 diagnostic messages is displayed:
  - With F4, the display jumps to the start of the next block of 10, i.e. to position 11.

F3 is used to jump to the previous block of 10 diagnostic messages.

- ▶ Diagnostic message 13 of 15 diagnostic messages is displayed:
  - With F3, the display jumps to the start of the previous block of 10, i.e. to position 1.

## 6.3 Diagnostic log

Diagnostic messages in the diagnostic log are displayed in the form of a list, which can contain a maximum of 1000 entries. A maximum of 10 entries can be displayed per page. The most recent entries are displayed at the start of the list.

Time stamp	Priority	DID	Scope	Description
21.03.2017 13:06:20	Information	C-0020-0106	Plant	Filtration unit almost full.
21.03.2017 13:06:18	Warning	C-0008-0022	Plant	Coolant level pre-alert.
21.03.2017 13:06:17	Error	P-0100-0006	Plant	Safety device has been triggered.
21.03.2017 13:06:16	Error	P-0100-0006	Plant	Safety device has been triggered.
21.03.2017 13:06:15	Error	P-0100-0006	Plant	Safety device has been triggered.
21.03.2017 13:06:14	Error	P-0100-0006	Plant	Safety device has been triggered.
21.03.2017 13:06:13	Error	P-0100-0006	Plant	Safety device has been triggered.
21.03.2017 13:06:12	Error	P-0100-0006	Plant	Safety device has been triggered.
21.03.2017 13:06:11	Information	C-0020-0106	Plant	Filtration unit almost full.
21.03.2017 13:06:10	Warning	C-0008-0022	Plant	Coolant level pre-alert.

Fig.: Diagnostic log in VGA resolution

If **Optimize for QVGA** is selected, only one log entry will be displayed at a time.

**INFORMATION**

If **Optimize for QVGA** and **EnableTicker** are selected, the following data - **time stamp, DID, scope, device, Equip-ID, location description** and **Address** - will be shown in ticker format in the current diagnostic log entry, if there is insufficient space to display the data.

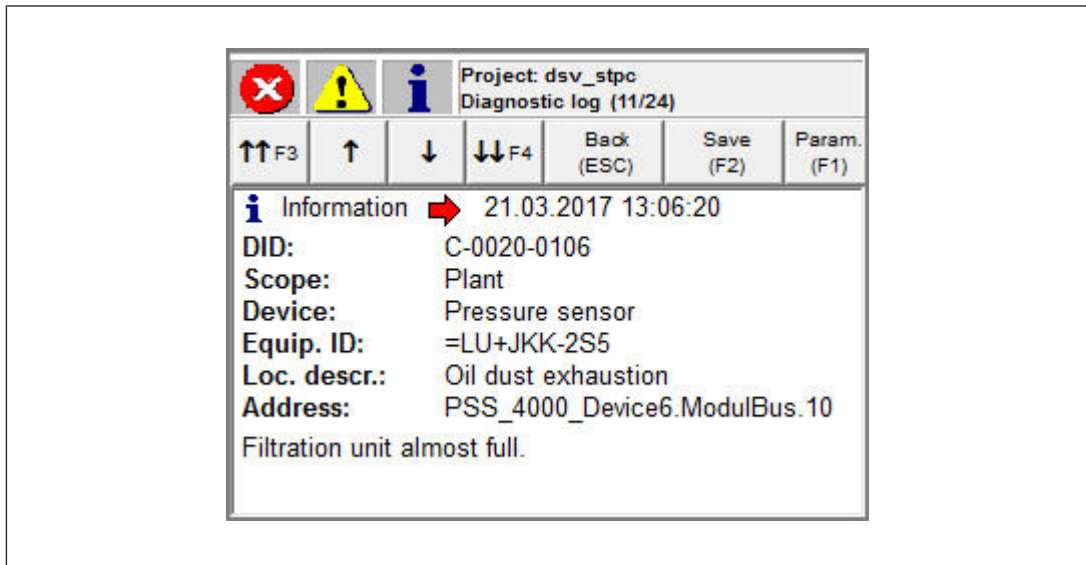


Fig.: Diagnostic log in QVGA resolution

Cursor up	To previous entry
	Automatic navigation when key operated > 1 s*
Cursor down	To next entry
	Automatic navigation when key operated > 1 s*
ESC	Switch to information window or exit parameter list*
F1	Show parameter list*
F2	<p>Export diagnostic log manually as csv file</p> <ul style="list-style-type: none"> <li>▶ Storage location depends on the configuration: <ul style="list-style-type: none"> <li>– Tab <b>Diagnostic Log -&gt; Export path</b></li> <li>– HTML parameter "LogExportPath"</li> </ul> </li> <li>▶ File name: <ul style="list-style-type: none"> <li>manLogExport_&lt;ProjectName&gt;_&lt;YYYYMMDD_hhmm&gt;.csv</li> <li>– YYYY: Year</li> <li>– MM: Month</li> <li>– DD: Day</li> <li>– hhmm: Time of day in 24 hour format</li> </ul> </li> <li>▶ A new file is always created.</li> </ul>

F3	Previous 10 diagnostic messages
	Automatic navigation when key operated > 1 s
F4	Next 10 diagnostic messages
	Automatic navigation when key operated > 1 s

Assignment of keyboard and buttons

\* Only in QVGA mode

## 6.4 Information window

The following is displayed in the information window under the *Integrity* tab:

- ▶ Check sums
  - Online check sum "FS project"
  - Online check sum "Application parameters of the FS project"
  - Online check sum "FS project without application parameters"
- ▶ Difference to universal time UTC

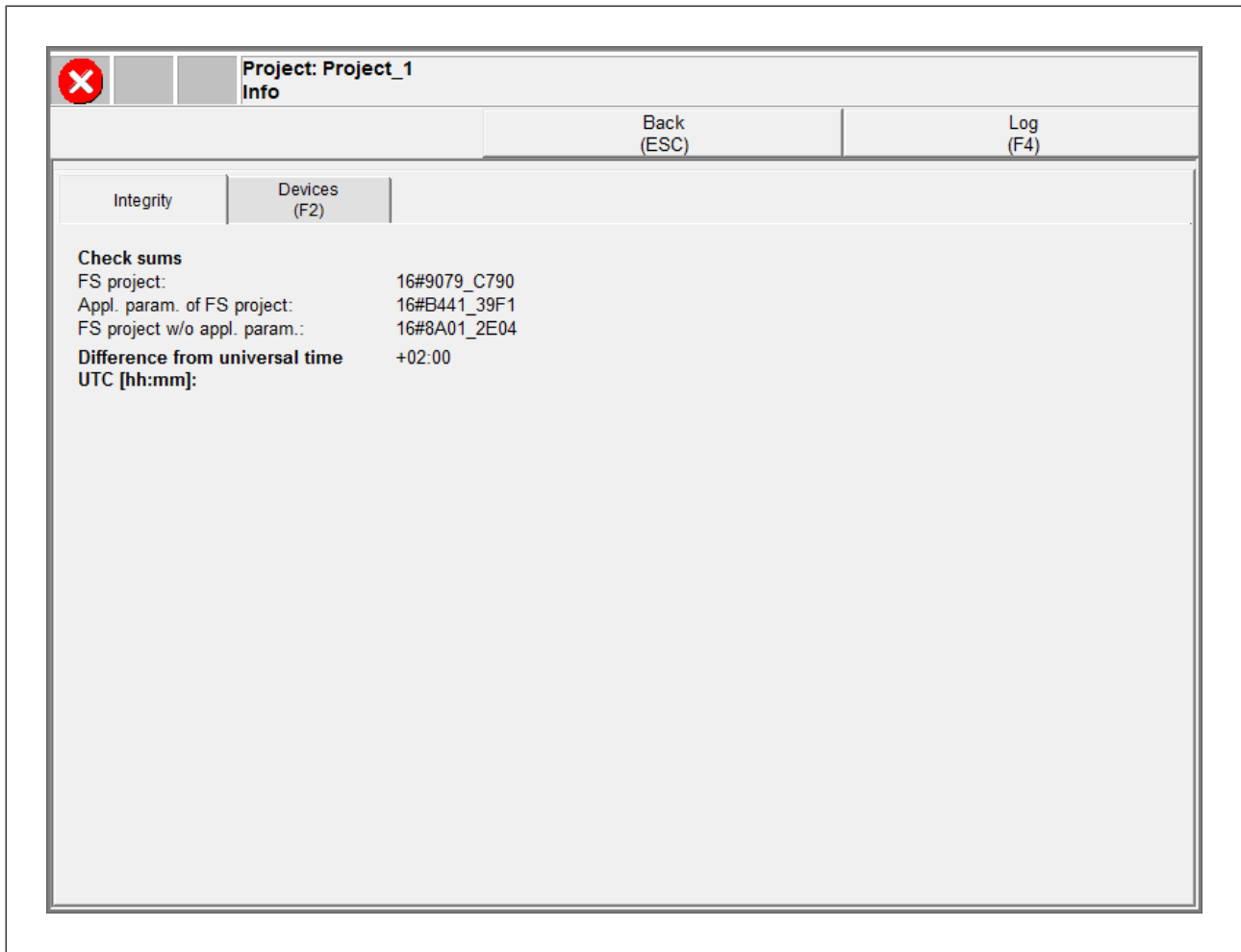


Fig.: "Integrity" tab on the information window in VGA resolution



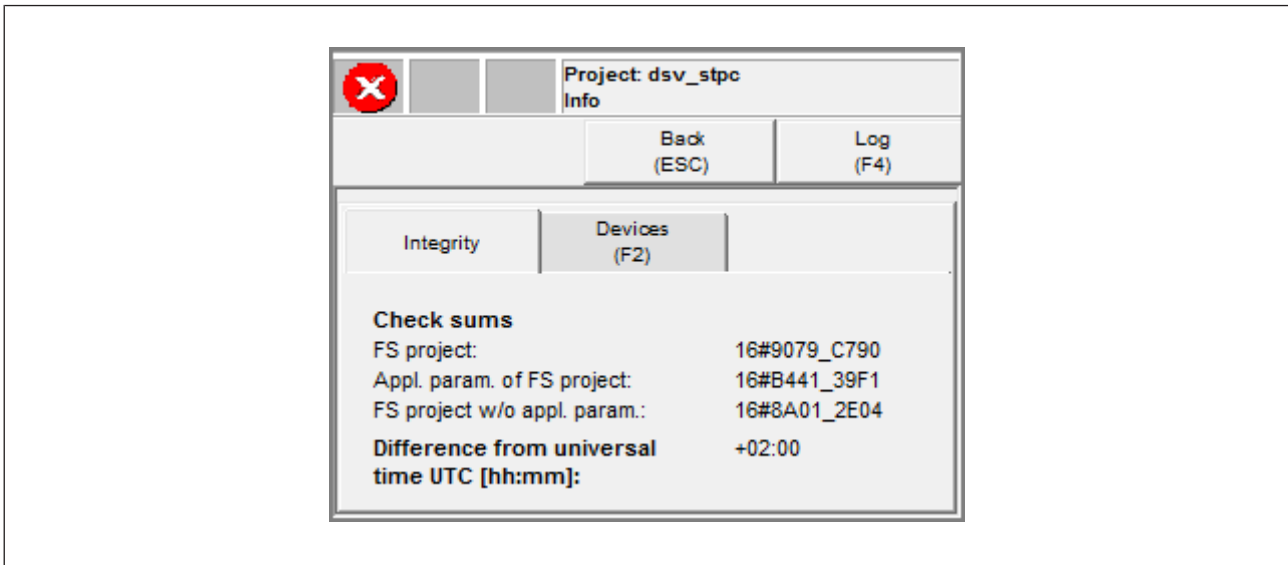


Fig.: "Integrity" tab on the information window in QVGA resolution

The following information is displayed for each device in the project under the **Devices** tab:

- ▶ Device name
- ▶ Product type
- ▶ Firmware version
- ▶ Hardware version
- ▶ Serial number

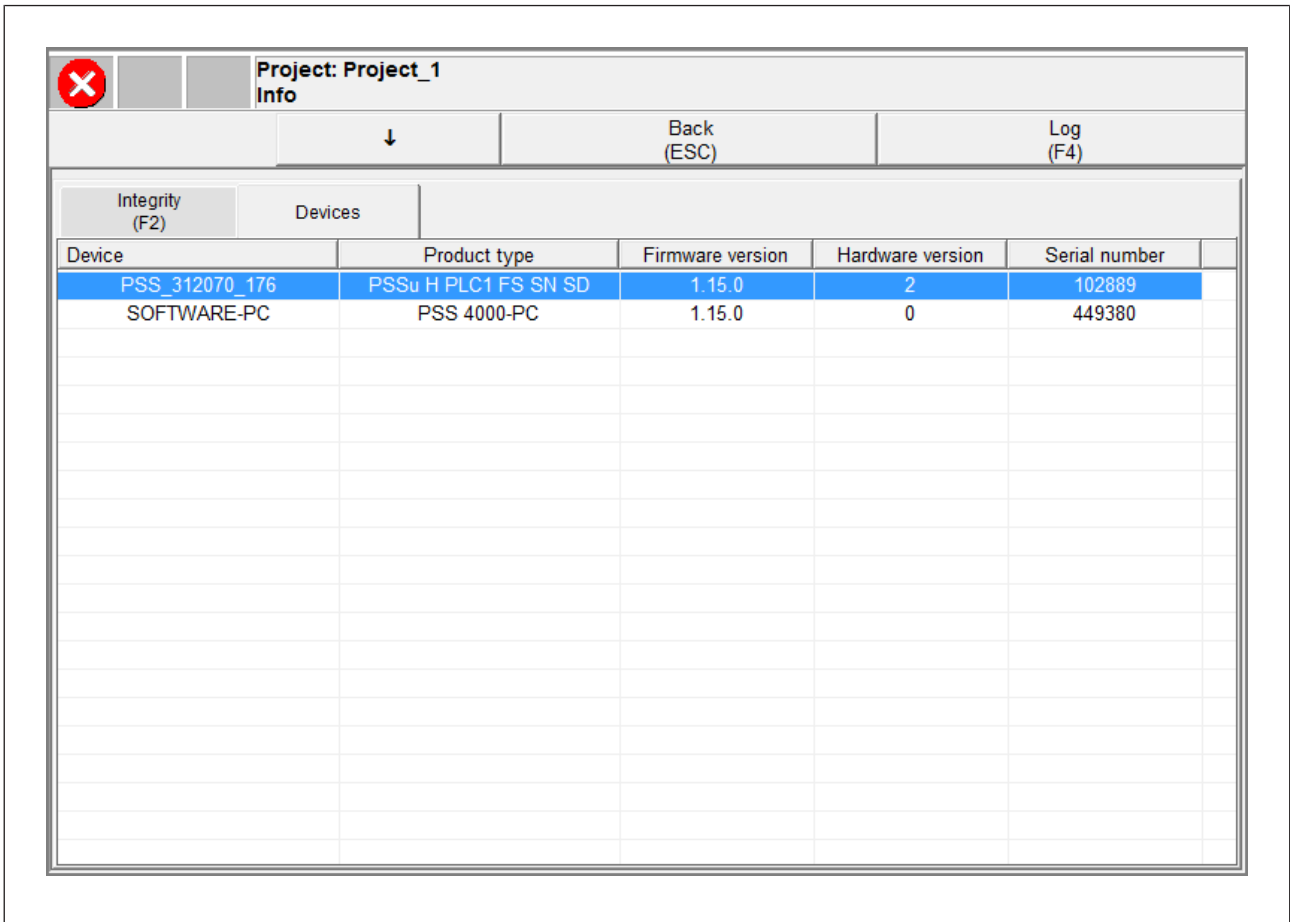


Fig.: "Devices" tab on the information window in VGA resolution

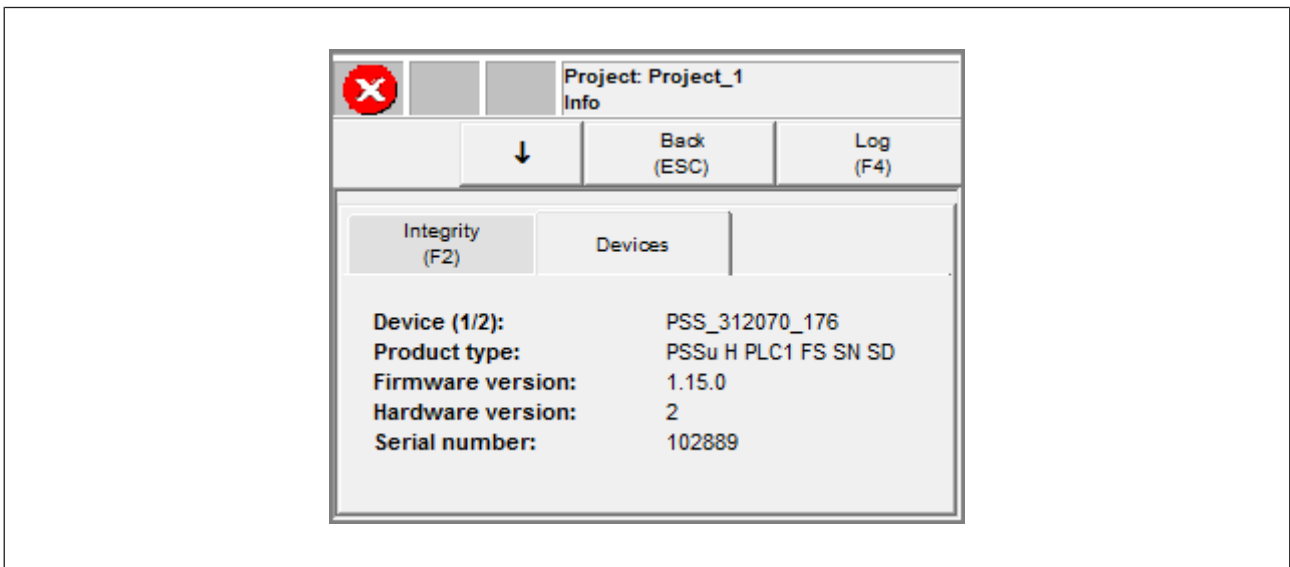





Fig.: "Devices" tab on the information window in QVGA resolution

Cursor up	To previous entry
Cursor down	To next entry
ESC	Back to event list
F1	No function
F2	Switch tab
F3	No function
F4	Open diagnostic log

Assignment of keyboard and buttons

## 6.5 Icons

The symbols in the window's top left-hand corner indicate the type of event:


Symbol	Meaning
	Status information
	Warning
	Error

Symbols in the *Diagnostics* window

## 7 Appendix

### 7.1 Examples of HTML code for calling up PSS 4000 Diag Control

#### 7.1.1 Simplified example of HTML code

Example of simplified HTML code. A detailed description of the properties can be found in the section entitled "[Configuration in a browser](#) [ 18]".



#### NOTICE

You can copy the following example code via clipboard into your application.

**Please note** in this procedure that special characters are interpreted depending on the PDF Reader used. Look out for the following characters in particular:

- Dashes
- Hyphens (e.g for path names that have more than one line)
- Minus sign

```
<html>
<head>
</head>
<body leftmargin="0" topmargin="0" scroll="no">
<OBJECT ID="PilzDiag" WIDTH="800" HEIGHT="600"
CLASSID="CLSID:CE42D3A2-5C9C-4a77-B7DF-08A27AAC7BC5">
<PARAM NAME="OPCServer" VALUE="localhost">
<PARAM NAME="Language" VALUE="1031">
<PARAM NAME="Display" VALUE="SingleWindow">
<PARAM NAME="QVGA" VALUE="0">
<PARAM NAME="UseKeyboard" VALUE="1">
<PARAM NAME="FontType" VALUE="Arial">
<PARAM NAME="FontSize" VALUE="10">
<PARAM NAME="EnableTicker" VALUE="1">
<PARAM NAME="ListPaneHeight" VALUE="50">
<PARAM NAME="RemedyPaneHeight" VALUE="50">
<PARAM NAME="TextLinesPerTableRow" VALUE="3">
<PARAM NAME="LogExportPath" VALUE="">
<PARAM NAME="LogAutoExportTime" VALUE="">
<PARAM NAME="LogAutoExportMaxSize" VALUE="10000">
</OBJECT>
</body>
</html>
```

## 7.1.2 Advanced example of HTML code

Example of advanced HTML code. A detailed description of the properties can be found in the section entitled "[Configuration in a browser \[📖 18\]](#)".



### NOTICE

You can copy the following example code via clipboard into your application.

**Please note** in this procedure that special characters are interpreted depending on the PDF Reader used. Look out for the following characters in particular:

- Dashes
- Hyphens (e.g for path names that have more than one line)
- Minus sign

```
<html>
<head>
</head>
<body leftmargin="0" topmargin="0" scroll="no">
<OBJECT ID="PilzDiag" WIDTH="800" HEIGHT="600"
CLASSID="CLSID:CE42D3A2-5C9C-4a77-B7DF-08A27AAC7BC5">
<PARAM NAME="OPCServer" VALUE="localhost">
<PARAM NAME="Language" VALUE="1031">
<PARAM NAME="Display" VALUE="SplitWindow">
<PARAM NAME="QVGA" VALUE="0">
<PARAM NAME="UseKeyboard" VALUE="1">
<PARAM NAME="FontType" VALUE="Arial">
<PARAM NAME="FontSize" VALUE="10">
<PARAM NAME="EnableTicker" VALUE="1">
<PARAM NAME="ListPaneHeight" VALUE="50">
<PARAM NAME="RemedyPaneHeight" VALUE="50">
<PARAM NAME="TextLinesPerTableRow" VALUE="3">
<PARAM NAME="ListCol1" VALUE="Timestamp">
<PARAM NAME="ListCol2" VALUE="PriorityNo">
<PARAM NAME="ListCol3" VALUE="DID">
<PARAM NAME="ListCol4" VALUE="Scope">
<PARAM NAME="ListCol5" VALUE="Description">
<PARAM NAME="ListCol6" VALUE="Location.Device">
<PARAM NAME="ListCol7" VALUE="Location.EquipmentID">
<PARAM NAME="ListCol8" VALUE="Location.Address">
<PARAM NAME="ListCol9" VALUE="Location.Description">
<PARAM NAME="ListCol10" VALUE="Deactivated">
<PARAM NAME="ListCol11" VALUE="Deactivated">
<PARAM NAME="ListColWidth1" VALUE="80">
<PARAM NAME="ListColWidth2" VALUE="20">
<PARAM NAME="ListColWidth3" VALUE="80">
<PARAM NAME="ListColWidth4" VALUE="85">
<PARAM NAME="ListColWidth5" VALUE="255">
```

```
<PARAM NAME="ListColWidth6" VALUE="95">
<PARAM NAME="ListColWidth7" VALUE="80">
<PARAM NAME="ListColWidth8" VALUE="80">
<PARAM NAME="ListColWidth9" VALUE="80">
<PARAM NAME="ListColWidth10" VALUE="80">
<PARAM NAME="ListColWidth11" VALUE="80">
<PARAM NAME="RmdCol1" VALUE="Responsibility">
<PARAM NAME="RmdCol2" VALUE="Description">
<PARAM NAME="RmdCol3" VALUE="Location.Device">
<PARAM NAME="RmdCol4" VALUE="Location.EquipmentID">
<PARAM NAME="RmdCol5" VALUE="Location.Address">
<PARAM NAME="RmdCol6" VALUE="Location.Description">
<PARAM NAME="RmdCol7" VALUE="Deactivated">
<PARAM NAME="RmdColWidth1" VALUE="120">
<PARAM NAME="RmdColWidth2" VALUE="280">
<PARAM NAME="RmdColWidth3" VALUE="80">
<PARAM NAME="RmdColWidth4" VALUE="80">
<PARAM NAME="RmdColWidth5" VALUE="80">
<PARAM NAME="RmdColWidth6" VALUE="135">
<PARAM NAME="RmdColWidth7" VALUE="80">
<PARAM NAME="LogCol1" VALUE="StateChangeNo">
<PARAM NAME="LogCol2" VALUE="Timestamp">
<PARAM NAME="LogCol3" VALUE="PriorityNo">
<PARAM NAME="LogCol4" VALUE="Priority">
<PARAM NAME="LogCol5" VALUE="DID">
<PARAM NAME="LogCol6" VALUE="Scope">
<PARAM NAME="LogCol7" VALUE="Description">
<PARAM NAME="LogCol8" VALUE="Location.Device">
<PARAM NAME="LogCol9" VALUE="Location.EquipmentID">
<PARAM NAME="LogCol10" VALUE="Location.Address">
<PARAM NAME="LogCol11" VALUE="Location.Description">
<PARAM NAME="LogCol12" VALUE="Deactivated">
<PARAM NAME="LogColWidth1" VALUE="20">
<PARAM NAME="LogColWidth2" VALUE="80">
<PARAM NAME="LogColWidth3" VALUE="20">
<PARAM NAME="LogColWidth4" VALUE="40">
<PARAM NAME="LogColWidth5" VALUE="80">
<PARAM NAME="LogColWidth6" VALUE="80">
<PARAM NAME="LogColWidth7" VALUE="215">
<PARAM NAME="LogColWidth8" VALUE="80">
<PARAM NAME="LogColWidth9" VALUE="80">
<PARAM NAME="LogColWidth10" VALUE="80">
<PARAM NAME="LogColWidth11" VALUE="80">
<PARAM NAME="LogColWidth12" VALUE="80">
<PARAM NAME="LogExportPath" VALUE="">
<PARAM NAME="LogAutoExportTime" VALUE="">
<PARAM NAME="LogAutoExportMaxSize" VALUE="10000">
</OBJECT>
</body>
</html>
```

## 7.2 Overview of the languages supported and their LCID

One of the languages listed below can be used for diagnostic texts and for the user interface on the PSS 4000 Diag Control. For **Language**, the LCID code must always be entered as a decimal value, e.g. "1031" for German.

Language	Code	LCID (dec)
English	en	1033
German	de	1031



# ► Support

Technical support is available from Pilz round the clock.

## Americas

### Brazil

+55 11 97569-2804

### Canada

+1 888-315-PILZ (315-7459)

### Mexico

+52 55 5572 1300

### USA (toll-free)

+1 877-PILZUSA (745-9872)

## Asia

### China

+86 21 60880878-216

### Japan

+81 45 471-2281

### South Korea

+82 31 450 0680

## Australia

+61 3 95600621

## Europe

### Austria

+43 1 7986263-0

### Belgium, Luxembourg

+32 9 3217575

### France

+33 3 88104000

### Germany

+49 711 3409-444

### Ireland

+353 21 4804983

### Italy, Malta

+39 0362 1826711

## Scandinavia

+45 74436332

## Spain

+34 938497433

## Switzerland

+41 62 88979-30

## The Netherlands

+31 347 320477

## Turkey

+90 216 5775552

## United Kingdom

+44 1536 462203

## You can reach our international hotline on:

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*Energy saving by Pilz*



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