Contents

1 General Notes 1

1.1 Communication 3

1.2 ProSave service tool 4

1.3 ProAgent 5

1.4 Migration 6

2 Text-based display units 7

3 Graphics display units 9

4 General notes on Windows-based systems 11

4.1 Communication 14

4.2 General notes on Windows CE devices 15

1 General Notes

Growing size of the configuration file

Multiple modification and saving increases the size of your configuration file (*.pdb). This is a characteristic of the Windows operating system.

Remedy

Reduce the project file by an occasional call of the Save as menu command. This will reorganize the file structure.

Compiling a project for graphic displays and text-based displays

When a project created in ProTool 6.0 for a graphic display or a text-based display is compiled, the path name must not be longer than 128 characters. The path name consists of the file name concerned and all the directory names contained by the path.

If a project contains paths longer than 128 characters, compilation is aborted. The following error message is issued:

- Text-based displays: "Cannot open project name.... ."
- Graphic displays: "Cannot open project name.USO.
  Cannot open project name.US1.
  Cannot open project name.US2.
  Cannot open project name.US3."

Remedy

Copy the files to a path having a shorter directory name, or rename the directories.

Saving large graphic objects

If a large number of graphic elements are used in a configuration (for example, as a background image or in graphics lists), there may be storage problems in the following cases. as a result of insufficient memory space.

- You reach the limits of the working memory while you are configuring. The following message pops up: "The server application program, the source file or the element could not be found...."
- You reach the limit of the main memory during compilation. The following message pops up: "Out of memory."
- You attempt to open a large configuration file on a computer that has insufficient working memory. The following message appears: "Failed to open document."

Remedy

Check and, if required, modify the size of virtual memory. Increase the size of physical main memory (RAM).

OPC configuration with ProTool CS

To configure an OPC client, the ProTool CS must also be configured as an OPC client. Note that consequently not all generally approved operating systems for ProTool CS can be used on account of the operating system required for OPC but just the following:

- Windows NT 4.0 Workstation

  Note that OPC configuration in connection with Microsoft Internet Explorer 6.0 has not been approved for Windows NT 4.0 Workstation.
  Use the Microsoft Internet Explorer V6.0 Service Pack 1, instead.

- Windows 2000 Professional
- Windows XP Professional

You will find more information about approved operating systems and the precise versions in the chapter called "Technical specifications and system limits" in the ProTool Information System.

Windows XP

Information and constraints mentioned in the ProTool documentation in a Windows 2000 context generally also apply to Windows XP.

1.1 Communication

Accessing tags by means of OPC, OLE or simulator

If tags are accessed by means of OPC, Visual Basic (OLE Automation) or the simulator, which can also be used in functions as parameters or in scripts, it might occur in isolated cases that changes of screen no longer work or some screen elements can no longer be displayed.

Remedy

Set the tags concerned to "Read continuously" or configure an additional tag with the same address.

Communication with CPUs for distributed systems

Deselect the option "Cyclic operation" for the following CPUs of distributed systems in the PLC dialog box:

- IM151 (ET200 S CPU)
- BM147 (ET200 X CPU)

This will avoid any communication problems.

Communication with GE-Fanuc SNP

The correct description of the communications log used in online help and manuals, "GE-Fanuc SNP/SNP-X" is "GE-Fanuc SNP".

1.2 ProSave service tool

Compatibility with integrated operation ProSave in ProTool CS

The following applies to integrated operation of ProSave in ProTool CS:

- ProSave 6.0 can only be integrated and operated in ProTool CS 6.0
- ProSave 6.0 Service Pack 2 can only be integrated and operated in ProTool CS 6.0 Service Pack 2.

ProSave and TD 17

For the TD 17, only the firmware and configuration can be backed up/restored with ProSave.

Restoring recipes for text-based operating units

In the case of text-based displays, the system checks whether the configured recipe structure is identical to the data records saved on the device.

If a discrepancy is determined, an error message "Checksums error recipe No. X" and the operating unit performs a restart, which might be continuous.

It is therefore absolutely essential to note that only recipes should be transferred with "Restore" to an operating unit that are identical to the recipe structure configured on it.

1.3 ProAgent

Approved operating systems for ProAgent CS

Due to particularities in memory management with Windows 98 and Windows ME, it is recommended to use ProAgent CS only in combination with Windows NT 4.0 Workstation, Windows 2000 and Windows XP.

Otherwise, problems may occur during compilation, especially with larger projects.

Enlargening the main memory does not necessarily remedy the problem under Windows 98 and Windows ME.

1.4 Migration

S5 Time for Line and Graphic Panels

The transfer of S5 time values (Data Type Timer) into PLC is implemented using different time bases in the operating panels.

Line / Graphic Panels: S5 Time has a time base of **seconds.**

Windows-based Panels: S5 Time has a time base of **milliseconds**

During conversion (starting with ProTool V6) of a line / graphics panel to a Windows-based panel with integrated timer values, the time bases of timer variables change from 1s in a line / graphics panel to 10 ms in a Windows-based panel. The input of 1s in a graphics panel corresponds to 10 ms in a Windows-based panel.

In order to equally create a time base of 1s in a Windows-based panel, one must establish a conversion with a factor of 100 for all timer variables.

"Bit Set with Keyboard Button" Function

For keyboard panels the function may be converted directly (1:1).

For Windows-based touch panels, this function is not available. If this function is imperative for implementation of an existing project, a keyboard panel must be used.

"Audible Signal" Function

If in a TP27 10" configuration the function "Audible Signal" is used for a tag xy (upon value change), this configuration cannot be converted directly (1:1) to a TP270 project since the function "Audible Signal" at tag xy is missing.

A message is displayed in the generating window.

2 Text-based display units

Tags (OP 7, OP 17)

Limit values for tag functions such as "TAG.: Set Value" or "TAG.: Value Minus/Plus Cursor" are not checked.

SIMATIC S7 I/O (OP 5, OP 7, OP 15, OP 17)

You cannot access bytes having an odd number (e.g. byte 3) for the Peripheral Input Byte (PIB) and Peripheral Output Byte (PQB).

Using soft key to "Set bit in tag"

For text-based OPs you can assign keys several tags whose address refers to a data word or data byte. If you enter the same tag name (e.g. VAR_1) for every one of these keys, there is a risk of the bit remaining set if the keys are pressed quickly even though the key is not being pressed any more.

Remedy

Use boolean tags if these are supported by PLC.

For OP3 you should use the function "Bit_Set“ and "Bit_Reset“ if PLC does not support an boolean tags.

In case no boolean tags are supported, enter a different tag name for each additional key but keep the same address (e.g. key F1 -> VAR_1, DB50, DW10 / key F2 -> VAR_2, DB50, DW10).

Data records are overwritten

When a new configuration is downloaded to the OP, the project memory is deleted, including all the data records created on the OP.

Functions with tags used in recipes

Functions assigned to recipe tags are not executed in recipes.

3 Graphics display units

Soft key with the function "Set Bit when Key is Pressed"

You have configured a soft key using the function "Set Bit when Key is Pressed". If the "Set Bit when Key is Pressed" key is pressed and a change of screen is performed simultaneously, such as by means of a configured key or the "Select Screen" PLC job, the bit cannot be reset when the key is released, as the key assignment might possibly change after a screen change.

Remedy

Specify the "Exit screen" condition for the "Reset Bit" function of the corresponding screen. The bit is then reset when you exit the screen.

Bit processing on the SIMATIC S7

You should preferably use the bit-processing functions that have a bit tag as a parameter - for example, "Set Bit" or "Reset Bit".

If possible, do not use bit-processing functions that have a word tag as a parameter, such as "Set Bit when Key is Pressed" and "Set Bit in Word".

If you have to use a bit-processing function with a word tag as a parameter because, say, the PLC does not support bit tags, the word tag must not be read simultaneously. This can be prevented as follows:

- The same tag must not be displayed on the same screen, come what may.
- The tag must not have the attribute "Read continuously".

Calling functions indirectly

If a tag value is modified by means of a function (e.g. the function "Set Bit" on a key), functions configured for the change of value of that tag might not be executed properly.

Remedy

Use two tags that both access the same address on the PLC.

Do not configure any functions for the first tag.

Configure the second tag with the option "Read Continuously" and assign the functions you require to the tag for the "value change" event.

Sequence:

- The first tag, for example, is modified by the "Set Bit" function and the modified value is written to the PLC.
- The second tag reads the modified value from the PLC, detects the change of value and executes the functions configure for the "value change" event.

Recipes

DOS conventions apply to the names of data records saved to floppy disk. This means, for example, that empty spaces are not allowed in data record names.

Size of the user memory for TP 27

The size of the available user memory for the TP 27<symbol name="En Dash">10" is 1 MB.

Screen number area with special screens

The screen type is not set correctly in the "Screen Number" area pointer when displaying special screens until you go to the corresponding special screen using the Change Window key (see figure below).



Restoring configuration from flash card

If you want to download backed up firmware or a configuration from the flash card to the device, the backup must have been created from the internal memory of the device.

If this is not taken into account, it might be possible to restore them successfully.

Area pointer "Screen number" for TP 27/TP 37

In area pointer "Screen number" the "Current input field number" entry is not supported on TP 27 and TP 37.

If the fault message buffer or fault message window is opened on the operating panel, the "current screen type" entry will not be set at the valid screen type "5" or "6" for special screens in the area pointer "screen number".

4 General notes on Windows-based systems

Response of function keys upon "Change of Screen"

By means of a change of screens configured for a key, all functions are executed immediately upon the event "Release key", even when the key is still pressed.

This is why the following applies. When the function "Set Bit when Key is Pressed" is configured for a function key, the bit is reset immediately after the change of screen has been reset.

This behavior is necessary, since the key assignment changes after each change of screen.

Slider and analog display

Slider:

In the following cases, the value displayed on the slider may differ from the actual value of the associated tag:

- The range of values configured for the slider (minimum and maximum values) does not correspond with the configured limit values for the slider tag.
- An invalid password is entered for a password-protected slider.

Cyclic reading of large arrays

If you have configured large arrays (such as more than 50 word elements) that are read cyclically, trend plots and tag archives are influenced unfavorably.

Area pointers with OPC servers

In V5.2 + SP2, the area pointer types have been changed. If you have any problems with area pointers for OPC servers, proceed as follows:

- Delete the area pointers in your configuration
- Reconfigure the deleted area pointers
- If necessary, adapt the data types to the new area pointers in the OPC server configuration

Beware

The tags associated with the area pointers in the OPC server must be of the type ARRAY OF INT (INT: signed 16 bit).

"Coordination" area pointer

As of version 5.2 + SP3 you can configure more than one "Coordination" area pointer.

Multiple key operation on PCs and Panel PCs

Do not operate several function keys/soft keys or buttons simultaneously. Unintended actions might otherwise be initiated.

WinAddOns on MP 270, MP 270B, and MP 370

When you import a WinAddOn to a Multi Panel, you must save this WinAddOn before the MP is powered down. To do this, choose "Control Panel" > "OP" > "Persistent Storage" > "Save Files".

If you do not save WinAddOns after they have been installed, they are not available the next time you start up and have to be installed again.

Memory location for data records in recipes

- Periodic write access to internal FLASH memory is not permitted, since this reduces the useful life of FLASH memory and thus of the device. Use a Memory Card instead.

Interruption of scripts upon change of screen

Ensure that

- scripts which start for the configured "value change" event of a tag are not interrupted upon screen change, or
- the "Read Continuously" option is selected for the triggering tag.

This applies typically to scripts with longer execution times and which contain, for example, WHILE or FOR loops.

Functionality of DP direct keys

The functionality of the DP direct keys has been modeled on that of the hard-wired hardware keys.

Particular attention was paid to the fast response time.

With Windows CE based key operated devices you have to bear in mind that key operation is evaluated irrespective of the screen that happens to be shown, such as when the screen saver is active.

Windows-based touch-operated devices

- With touch-operated devices you have to remember further that the direct key is triggered only by touch control and not by clicking the mouse.
- Password protection is not supported for buttons having the "Direct Key" function. The DP Direct Key function is triggered when the button is operated, irrespective of the password level configured on the button. Do not use password protection for buttons having the "Direct Key" function.

Behavior of direct keys in Offline mode

If the "Change_Mode" function is triggered with the "Offline" parameter on the operating unit, the connection to the configured PLC(s) is cleared.

Beware

The DP direct keys remain active in this case, however. If you operate a button with the "Direct Key" function or a corresponding key on a key-operated unit in Offline mode, the corresponding bit will be set on the PLC.

WinAC on Multi Panels

If you are operating a Multi Panel with WinAC, you cannot use the MPI download for this device.

Disable MPI download on this device, since you will not otherwise be able to use serial download in Remote mode either.

Signing Off at Operating Panel

There will be no automatic user sign-off if you configure a value of "0" for logout time under "Target System" > "Settings".

Archive Setup for Messages

Under "Configuration of Windows-based Systems> Configuration Techniques> Create Archives > Examples > Archive Setup for Messages" you will find explanations for each archive field.

The field "StateAfter" contains the status of a message event and has the following exact meaning:

0 = Came in/Went out
1 = Came in
2 = Came in/Acknowledged/Went out
3 = Came in/Acknowledged
4 = Not pending (e.g. after Update)
6 = Came in/Went out/Acknowledged

Status 4 has the following meaning:
This represents a message where the operating panel, following a temporary connection break, has determined that the message is no longer there. For example, after reestablishing the connection, PLC is used to read the message acknowledgement memory for Alarm-S messages and to adjust the message status at the operating panel accordingly. If it is determined that a message pending or to be acknowledged at the operating panel no longer has an entry at PLC, this message must have gone out or have been acknowledged at some unknown time. This is recorded in the message buffer and in the archive with a Status 4 entry.

4.1 Communication

Access to a Windows CE device over the Ethernet

If a CE device is connected to an Ethernet network, the device can be accessed with the set IP address.

If you want to access by means of the computer name, you must make an entry in the "lmhosts" file on your PC system. This file is located directly in the Windows directory (Windows 98 SE/ME) or in the Windows directory at "system32\drivers\etc\".

More detailed information will be found in the documentation for your operating system.

4.2 General notes on Windows CE devices

Use of Images Supplied

Windows-based Panels:

The supplied images must be used. The images may be loaded onto the panel by using ProSave.

Note

An operating system transfer deletes all available data on the target panel, including existing licenses. Please read the section "Operating System Transfer" in the ProSave documentation.

Export password list

Do not export a password list immediately after you have changed the list. After you have edited the list, exit the "password list" screen object and wait until the changes have been written to internal FLASH memory before you perform an export.

Change between input fields (TP 170A, TP 170B, TP 270 6")

If you change from one input field to another within a screen as a result of an operation, thus resulting in the on-screen keyboard being displayed, the "Exit field" event for the previous field is not triggered immediately but only after the on-screen keyboard has been closed.

Close open Control Panel dialogs

If you can no longer close dialogs on the OP, perform the following steps:

1. Open another dialog box from the Control Panel.
2. Using the key combination ALT + TAB, change to another open dialog.
3. Close this dialog with ESC or ENTER.
4. Repeat steps 2 and 3, as required, until all dialogs are closed.

Position of the on-screen keyboard on the screen

In order to save the size and position of the on-screen keyboard correctly and in fail-safe form, the alphanumeric display must be selected before saving.

Screen saver

Press any key to re-enable the backlighting of the OP when a screen saver is active. This does not trigger any functions that may be allocated to the key you have pressed.

Attention

With reduced backlighting, you can still view the screen. If you return the backlighting to its original brightness by means of a key operation, the function assigned to that key will be triggered.

Printing

Non-West European special characters

When non-Western-European messages are printed, some characters are not reproduced properly. The print result also depends on the printer used.

Printing with network printer

Direct message logging via network printer is not possible on Windows CE OPs. All other print functions (print screen, work shift report) are possible without restrictions via network.

Margins

In the Control Panel of the OPs, you can set values for the margins in the printer settings under Margins. These settings are not evaluated.

Operating system MP 270

The MP 270 is still shipped with the operating system of ProTool 5.2 SP3. The operating system must be upgraded for use with ProTool 6.0 Service Pack 2.

The steps you have to perform to do this are described in the documentation of the ProSave service tool.

General notes on internal Flash memory

Periodic write access to internal FLASH memory is not permitted, since this reduces the useful life of FLASH memory and of the OP.

In the interest of the useful life of the device and on account of improved performance for the storage of data records and for archives, use external memory cards whenever possible.

Switch off the OP power supply

As a general rule, exit the runtime software before you switch off the power supply. Execute with the control element that is linked to the "Exit_Runtime" function in your configuration. Wait until the OP displays the Start menu before you switch off the unit.

Memory Card

Switching off the device with inserted Memory Card

As a general rule, exit the runtime software before you switch off the power supply. Execute with the control element that is linked to the "Exit_Runtime" function in your configuration. Wait until the OP displays the Start menu before you switch off the unit. If power is unintentionally interrupted during normal operation, the OP checks the memory card on Power On and repairs any defective areas.

Removing the Memory Card

Before you remove the memory card, either operate the control element linked to the "Close_archive" function in your configuration or exit the runtime software. Execute with the control element that is linked to the "Exit_Runtime" function in your configuration. Depending on the size and number of archives created, it may take several minutes before the archives are closed.

Interface assignment for Mobile Panel 170

The Mobile Panel 170 is connected through the IF1 interface to PLCs. It is located in what is known as the terminal box in the form of a 12-pin terminal strip.

The assignment of the terminal strip is described in the table below:

Pin	RS 232 IF1 A (9-pin, male)	RS 232 IF1 A (15-pin, female)	RS 422 IF1 B (9-pin, female)	RS 485 IF1 B (9-pin, female)
1	CTS (8)	CTS (5)	-	-
2	RTS (7)	RTS (10)	-	-
3	TxD (3)	TxD (4)	-	-
4	RxD (2)	RxD (3)	-	-
5	M (5)	M (15)	M (5)	M (5)
6	-	-	TxD+ (3)	Bus + (B) (3)
7	-	-	TxD- (8)	Bus - (A) (8)
8	-	-	RxD+ (4)	-
9	-	-	RxD- (9)	-
10	PE	PE	PE	PE
11	-	-	-	-
12	-	-	-	-

The values in brackets in the table correspond to the pin numbers of the standard cables described in online Help for the different connections.

Uninterruptible power supply option (UPS)

In ProTool 6.0 Service Pack 2, the "UPS" option (uninterruptible power supply) has been renamed as "Uninterruptible Power Supply (UPS)".

It is most important that you perform the following steps when installing the option:

5. Uninstall any earlier version of "UPS"
6. Install the new version of "Uninterruptible Power Supply (UPS)"

You will find more information on installing and uninstalling options in the documentation for the ProSave service tool.

Communication with GE Fanuc by means of RS422 for Mobile Panel 170

The resistors contained in multipoint cable diagram 1 are required for problem-free communication of Mobile Panel 170 with the GE Fanuc by means of RS422.

Since the signals +5V and GND necessary for this are not available on Mobile Panel 170, the use of an adapter as shown in multipoint cable diagram 2 is recommended.

VBScript

Note on VBScript

Runtime errors in scripts are to be avoided because they lead to incorrect memory assignment. Stable operation of the panel cannot be guaranteed if scripts with runtime errors are frequently run. Using the VBScript suppression command "On Error Resume" does not prevent memory loss.

Runtime errors are caused by e.g.:

- Deleting non-existent files …
- Copying non-existent files ...

Index

A

Allen-Bradley 3
Analog 11
Area 11
Array 11
  cyclic reading of large arrays 11

B

Bit 9
  processing on SIMATIC S7 9

C

Communication 3, 14
  communication with CPUs of distributed systems 3
Configuration 1
  large configuration 1
Conversion 1
  text fields 1
Convert 15
  project 15

D

Data 7
Data record 7
  overwritten data records 7
Distributed systems 3
  communication with CPUs of distributed systems 3

E

Exporting a password list 15

F

Flash 9, 15
Function 7, 9, 11
  calling indirectly 9
  functions in recipes 7
  Set Bit when Key is Pressed 9
Function key 11
  Change Screens 11
Functionality of DP direct keys 11

G

Graphic 9
Graphic display
  flash card 9
  restore configuration from flash card 9
Graphics 1
  large graphics 1
Graphics display
  compiling a project 1
  exporting text 1
  importing text 1

I

Input 15
Input field 15
  changing between input fields 15
Interface 15

K

Key 11
Key operation 11
  multiple key operation 11

M

Memory 15
Migration 6
Mobile Panel 170 15
  communication with GE Fanuc by means of RS422 15
  interface assignment 15
MP 270 ..... 11, 15
MP 270B 11
MP 370 11
Multi Panel 11
  WinAC 11

O

OLE 3
OP 15 7
OP 17 7
OP 27 9
OP 3 7
  serial download in Windows 2000 7

OP 5 7
OP 7 7
OPC 1, 3, 11
  access to tags 3
  configuration in ProTool CS 1
  Data Access 3
OPC server 11
  area pointers 11

P

ProAgent 5
  authorized operating systems 5
Project 1, 15
  compiling 1
  Conversion 1
  exporting and importing text 1
Project file 1
  size 1
ProSave 4
  compatibility 4
  integrated operation in ProTool CS 4
  restoring recipes for text-based displays 4
ProSave and TD 17 4

R

Recipe 7, 9
  functions for tags 7
Recipes 4
  restoring for text-based displays 4

S

Screen 9
Screen number area 9
  special screens 9
Scripts 11
  interrupt on change of screens 11
SIMATIC S7 3
  area pointer 3
SIMOTION 3
  area pointer 3
Simulation 1
Simulator 3
  access to tags 3
Slider 11
Soft 9
Soft key 7, 9
  Set Bit In Tag 7
  Set Bit when Key is Pressed 9
Supply 15

T

Tag 3, 7
  access by means of OPC/OLE/simulator . 3
Tags
  functions in recipes 7
  limit values for OP 7/OP17 7
Telemecanique 9
Telemecanique TSX 3
Text-based 1
Text-based display 1
  compiling a project 1
Text-based display unit 7
TP 170A 15
TP 170B 15
TP 27 9
TP 270 15
TP 37 9

V

VBScript 18

W

WinAddOn 11
Windows CE device 11, 14, 15
  access over Ethernet 14
  functionality of DP direct keys 11
  UPS option 15
Windows-based system 11