How do you do long-term logging with WinCC flexible?

WinCC flexible 2008 SP2

FAQ · **January 2011**

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Question

How do you do long-term logging with WinCC flexible?

Answer

Follow the instructions and notes listed in this document for a detailed answer to the above question.

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1 Introduction

Aim of the entry

The aim of the entry is to

- Show a way of how to do long-term logging with WinCC flexible.
- Output in a trend view the tag logs whose names are first created at "Runtime".

Which operator panels are supported?

The instructions below apply for all operator panels that support logging and script functions.
An overview of the functions of the various operator panels is available in Entry ID 40227286.

Note that there is a difference between the VBS syntax (script commands) of an operator panel and that of a PC Runtime system.

Thus the script stored in the MP 277 Touch cannot be used in the RT simulation.

Brief description of the application

At the start of each hour an existing log is copied and given a new name.

The name in this example is composed as follows:

Name of the machine + time

Example: Press_01_14.csv (Press_01 + 14:00 hours)

You can select this log by means of a selection field and output it again by way of a trend archive.

Therefore, the logging period is **no longer** directly dependent on the system limits of the operator panel concerned.

Note You can change the composition of the name to suit your requirements.

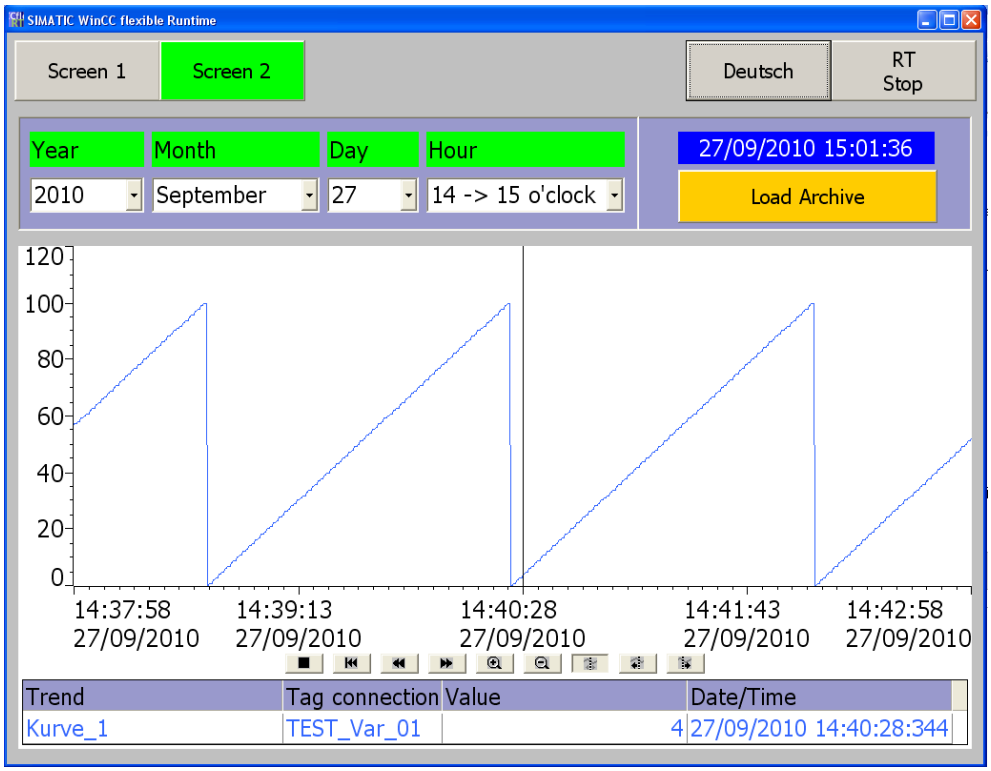
Configured Runtime screen

The figure below shows the configured "Screen 2".

You can select a log using the selection fields in "Screen 2". In this case the log was read in with the date "27.09.2010" and the time "14:00 hours".

The sections below provide detailed descriptions of the configuration and functions.

Figure 1-1



2 Automation Solution

Background information for the automation solution

The system limits for logging tag values on operator panels and PC Runtime systems permit only restricted long-term logging.
In the case of an MP 277, the limit is 10,000 entries per log (including all the log segments).

Example 1:
If you log a tag every second, then the system limit of 10,000 entries is reached after about 2.5 hours. If you were to use a "circular log", the oldest entries would be overwritten with the new values.

Furthermore, there are restrictions to the output of logged tag values by means of a trend view over a long period of time.
The period depends on the maximum number of process values that can be stored in the tag log.

Example 2:
As describe in Example 1, the oldest entries are overwritten with new values when the configured number of entries is reached. Therefore, the "old" values can no longer be output by means of the trend view.

2.1 How Does Configuration Work?

If the system of the operator panel has read and write access to a tag log, then you **cannot** edit and change this log "externally".

To prevent the system from continuing to access this tag log, you first create a follow-up log from this tag log using a system function.

Example:
Two tag logs are used in the configuration.

- "Data_Logs_Trend_View"
- "Archive_01"

The "Data_Logs_Trend_View" log is used for output of the values in the trend view. The log is parameterized as a segmented circular log.

In the Runtime configuration you create the "Data_Logs_Trend_View**1**" follow-up log from the "Data_Logs_Trend_View" log.

The result of this measure is that the system **no longer** accesses the "Data_Logs_Trend_View" log.
(The system now accesses the "Data_Logs_Trend_View**1**" follow-up log).

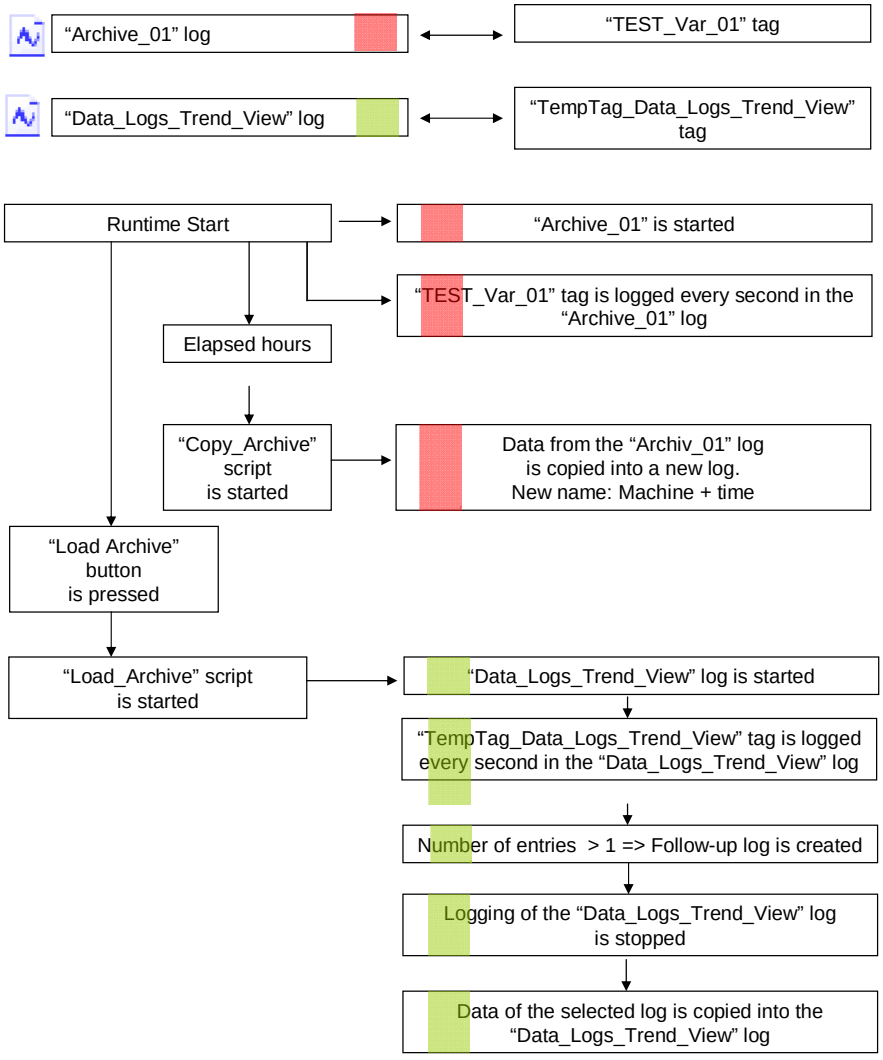
The "Data_Logs_Trend_View" log can now be edited accordingly.

In this sample application the data from "Archive_01" is copied into the "Data_Logs_Trend_View" log for the trend view and can then be output by way of the trend view.

2.2 Overview

The figure below gives an overview of the separate functional sequences.

Figure 2-1



Below is an explanation of Figure 1-1. Please refer to chapter 3 for details on configuration.

(Reduced image of the overview)

Figure 2-2

Description

"Red marking":

- The "Archive_01" is assigned to the tag "TEST_Var_01".
- The "Archive_01" is started when Runtime starts. The values of the "TEST_Var_01" tag are logged every second in this log.
- The contents of "Archive_01" are now copied into a new log every hour with the "Copy_Archive" script. The name of the new log is "Name of the machine + time".

"Green marking":

- The "Data_Logs_Trend_View" log is assigned to the "TempTag_Data_Logs_Trend_View" tag.
  (The "Data_Logs_Trend_View" log is used for output of the values in the trend view).
- The "Data_Logs_Trend_View" log is **not** started when Runtime starts.
- Click the "Load Archive" button to run the "Load_Archive" script. The script starts the copying procedure.
  (Copying procedure for copying a selected log into the "Data_Logs_Trend_View" log for the trend view).
- The "Load_Archive" script now starts the "Data_Logs_Trend_View" log.
  - The "TempTag_Data_Logs_Trend_View" **tag** is parameterized so that it is logged every second in the "Data_Logs_Trend_View" log.
    The **log** is parameterized so that when the size of the log reaches "**>1**" (number of log entries), a follow-up log is created.
    This means:
    When the log is started, the value of the tag is logged and even with just one log entry the follow-up log "Data_Logs_Trend_View**1**" is created. Then logging is stopped again.
  - With the action described above, the system **no longer** accesses the "Data_Logs_Trend_View" log.
    The log selected with "Screen 2" can now be copied into the "Data_Logs_Trend_View" log and the contents output in the trend view.

3 Configuration

This chapter describes the configuration steps to be taken to create the required

- Logs
- Tags
- Text lists
- Screens
- Scripts

Please refer to the attached project for details.

Note All the settings already described have been made in the attached configuration.

Name of the tag log

In this example the log names are assigned "**dynamically**" (the name is created only at "runtime").

Every hour a log is created with a "dynamically" generated log name.

The log name is composed of the elements below:

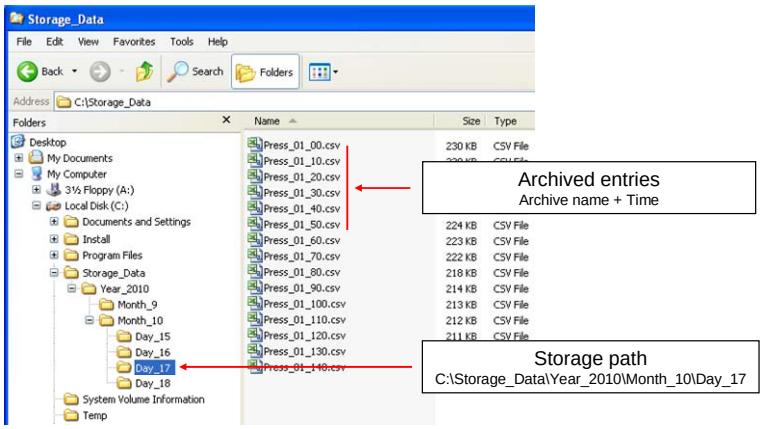
- Log name + time

For the sake of clarity the logs are not stored in a directory but in the "folder structure" shown below.

Storage location \ Year_ \ Month_ \ Day_ \ Log name + time.csv

The figure below shows an example of how the newly created logs are displayed. The values originate from the PC Runtime.

Figure 3-1



Remark:
The system always automatically adds a "**0**" (zero) to the end of the log name.
The example below shows this clearly.

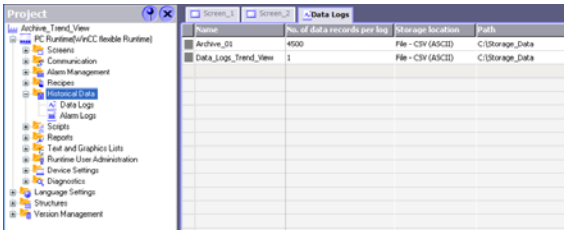
Example 01:	Press_01_7**0**.csv
	The log contains the data from **7**:00 hours
Example 02:	Press_01_12**0**.csv
	The log contains the data from **12**:00 hours

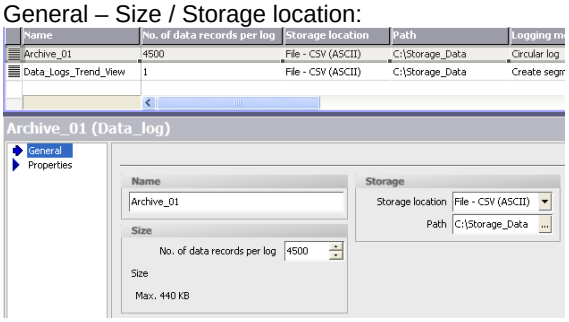
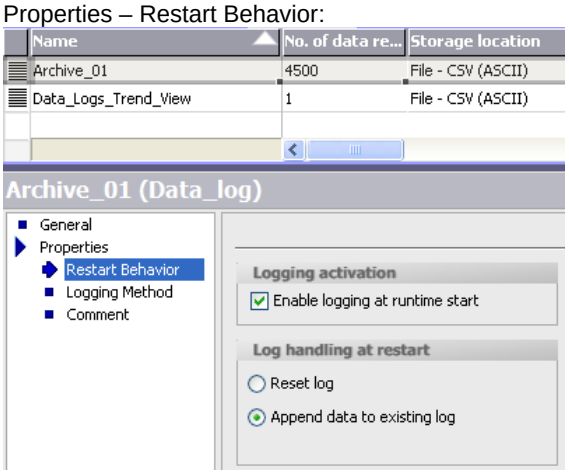
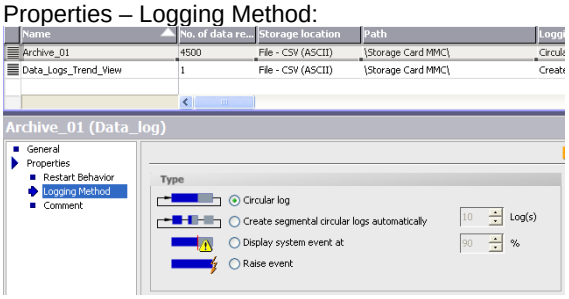
3.1 Tag Log

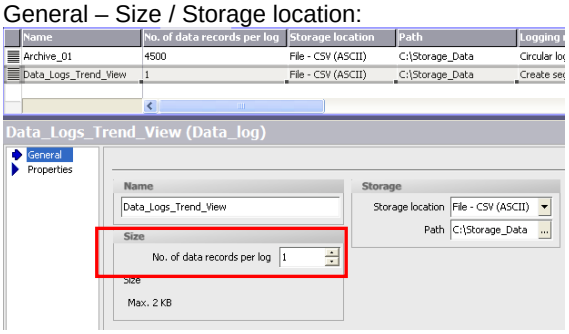
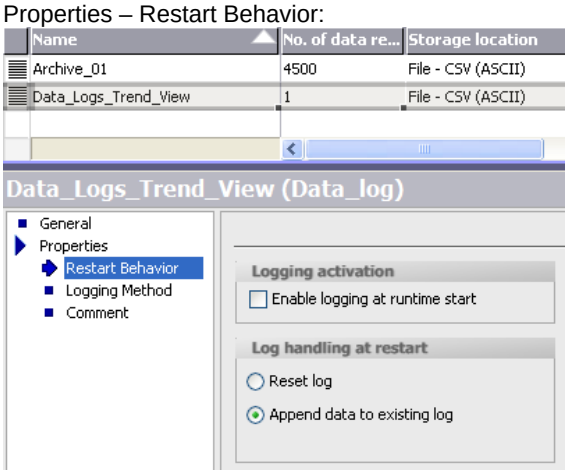
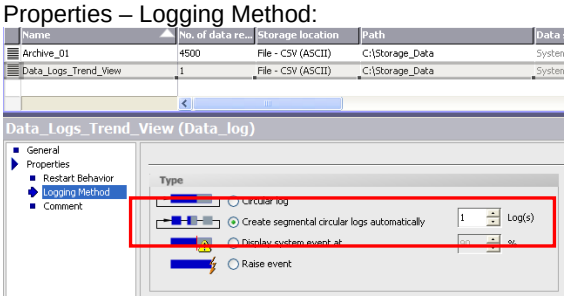
3.1.1 Create a Tag Log

Two tag logs are created below. Pay particular attention here to the properties of the "**Data_Logs_Trend_View**" tag log.

Table 3-1

No.	Description	Screens
1.	**Create a tag log** First create two new logs. - A log for logging tags. - A log for outputting the logged values in a trend view. In the project window, double-click "Tag Logs" in the "Logs" group to open the editor. **In this example:** • Archive_01 • Data_Logs_Trend_View **Note:** The name of the log is used in the scripts and elsewhere. If you change the name of the log, check afterwards where it is to be used (Link).	

No.	Description	Screens
2.	**Define the properties for the log "Archive_01":** Open the properties of the "**Archive_01**" log. • **General**: - "*Size*": In this application a value is logged every second over a period of about one hour. Enter a minimum of **4500** values. - "*Storage*": In the drop-down list box you select the storage location "**File - CSV (ASCII)**". Specify a path. In this case "**C:\Storage_Data**" or "**\Storage Card MMC**". • **Properties**: - "*Restart Behavior*" Here you select the options "Enable logging at runtime start" and "Append data to existing log". - "Logging Method" Here you select the "Circular log" option. This completes the settings for the first log. **Note:** The names of the logs are used in the scripts and elsewhere. If you change the names of the logs, check afterwards where they are to be used.	General – Size / Storage location:  ========== Properties – Restart Behavior:  ========== Properties – Logging Method: 

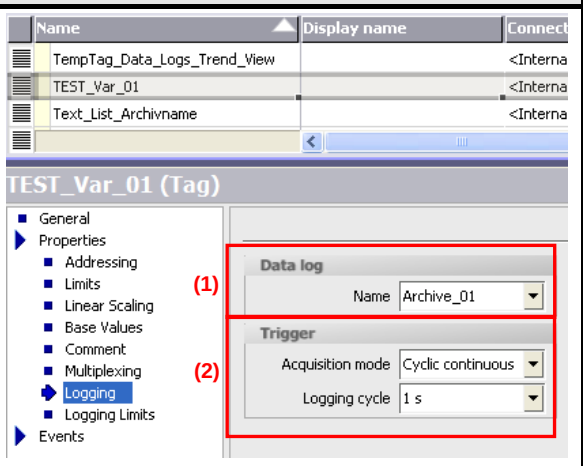
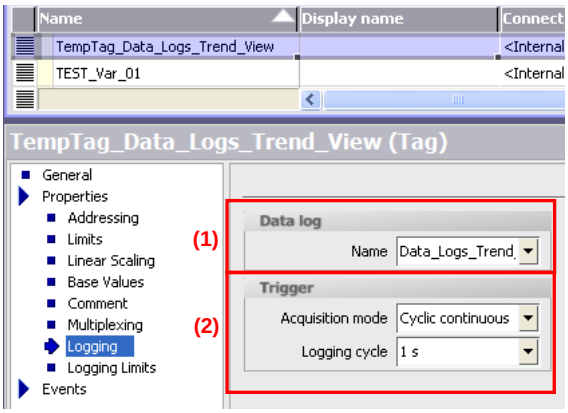
No.	Description	Screens
3.	**Define the properties for the log "Data_Logs_Trend_View":** Open the properties of the "**Data_Logs_Trend_View**" log. • **General:** - "*Size*": Specify a number of "**1**". - "Storage": In the drop-down list box you select the storage location "**File - CSV (ASCII)**". Specify a path. In this case "**C:\Storage_Data**" or "**\Storage Card MMC**". • **Properties:** - "*Restart Behavior*" Here you select the "Append data to existing log" option. - "*Logging Method*" Here you select the "Create segmental circular logs automatically" option and "**1**" for the number of logs. This completes the settings for the second log. **Note:** The names of the logs are used in the scripts and elsewhere. If you change the names of the logs, check afterwards where they are to be used.	General – Size / Storage location:  ========== Properties – Restart Behavior:  ========== Properties – Logging Method: 

3.1.2 Tag Logging

In the configuration the "TEST_Var_01" tag is logged every second in the "Archive_01" log.
The purpose of the second tag "TempTag_Data_Logs_Trend_View" is to create a follow-up log from the "Data_Logs_Trend_View" log.

Define logging properties

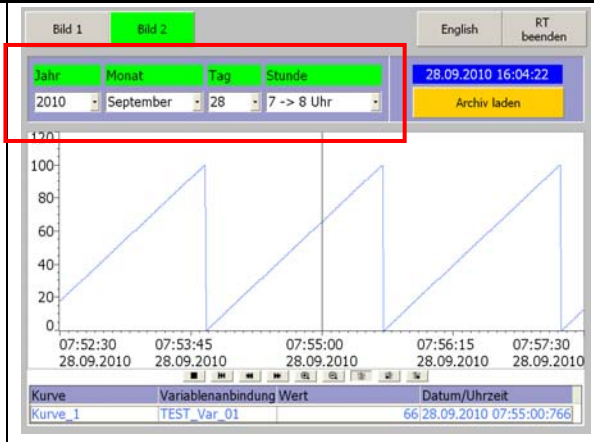
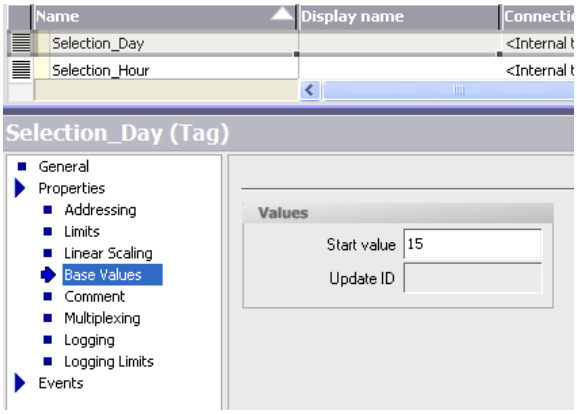
Table 3-2

No.	Description	Screens
1.	**Tag "TEST_Var_01":** Open the properties of the "TEST_Var_01" tag. • **Properties** - "*Logging*" **Tag log** (1) Select the relevant tag log from the drop-down list. In this example it is "**Archive_01**". **Trigger** (2) Here you enter the acquisition mode. In this example it is "**Cyclic continuous**" and the logging cycle is "**1s**". You do not need to make any other settings for logging.	
2.	**Tag "TempTag_Data_Logs_Trend_View":** Open the properties of the "TempTag_Data_Logs_Trend_View" tag. • **Properties** - "*Logging*" **Tag log** (1) Select the relevant tag log from the drop-down list. In this example "**Data_Logs_Trend_View**". **Trigger** (2) Here you enter the acquisition mode. In this example it is "**Cyclic continuous**" and the logging cycle is "**1s**". You do not need to make any other settings for logging.	

3.2 Tags Used

Other tags are used in the configuration in addition to the tags for logging. Below is a list of only those tags for which additional properties are configured.

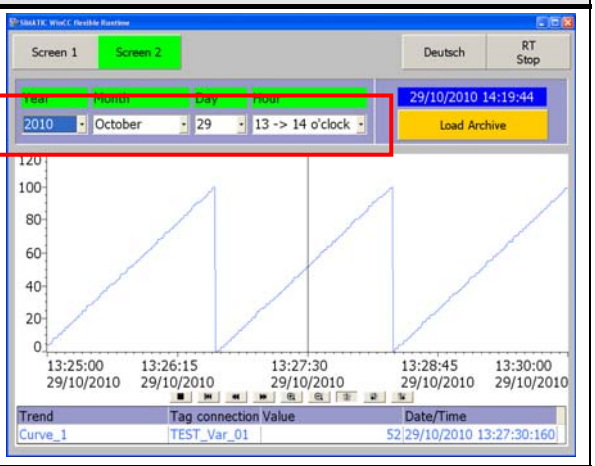
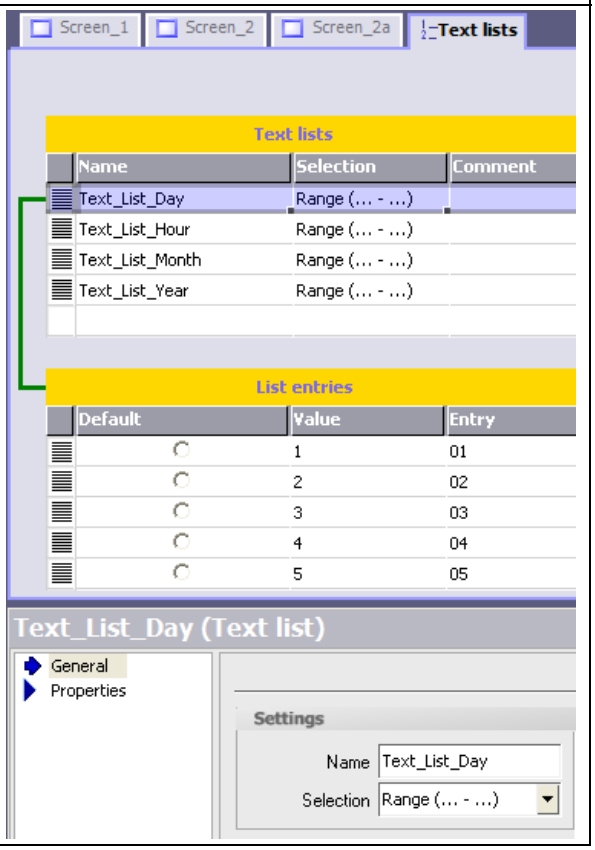
Table 3-3

No.	Description	Screens
1.	**Overview:** You can specify a date by way of text lists in "**Screen 2**". The tags listed below are preset with a start value. • Selection_Day • Selection_Hour • Selection_Month • Selection_Year The settings below are for the "Selection_Day" tag in this example. **Note:** You can change or omit the presettings as required.	
2.	**Changing the start value of the "Selection_Day" tag:** Open the properties of the "Selection_Day" tag. • **Properties** - "*Base Values*" Specify a value in the "Start value" input field. In this example "**15**". At the first "Runtime Start" the value of the tag is preset with "**15**".	

3.3 Text Lists

You can specify a date by way of text lists for calling log data. The date specified here is further processed in the scripts.

Table 3-4

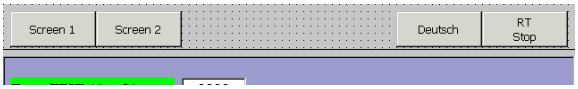
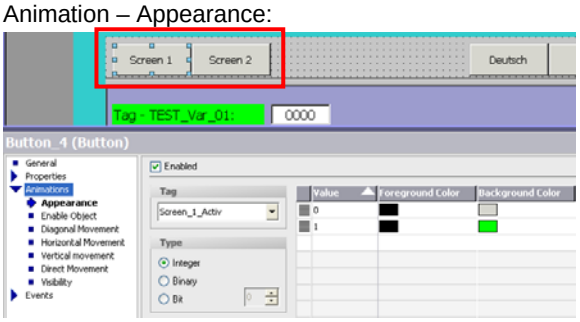
No.	Description	Screens
1.	**Overview:** Four text lists are used in the attached configuration. • Text_List_Day • Text_List_Hour • Text_List_Month • Text_List_Year The settings below are for the "Text_List_Day" text list in this example. **Note:** You can change the test lists as required.	
2.	**Creating a text list:** Open the "Text and Graphics Lists" editor. Add a new text list by double-clicking the first line in the editor. • **General** - "*Settings*": Specify a "**name**" for the text list under "Name". In this example "**Text_List_Day**". Click in the "Selection" column. Select "**Range …_....** in the drop-down list box. Now, under "List entries" you can specify the relevant values. In this example we specify "31" entries - one for each day. You parameterize the other text lists in the same way.	

3.4 Configured Screens

Three screens are configured below. The functions configured in the screens are described below.

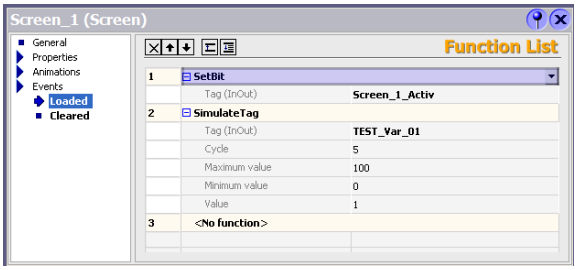
Permanent window

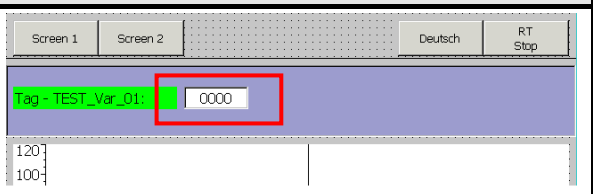
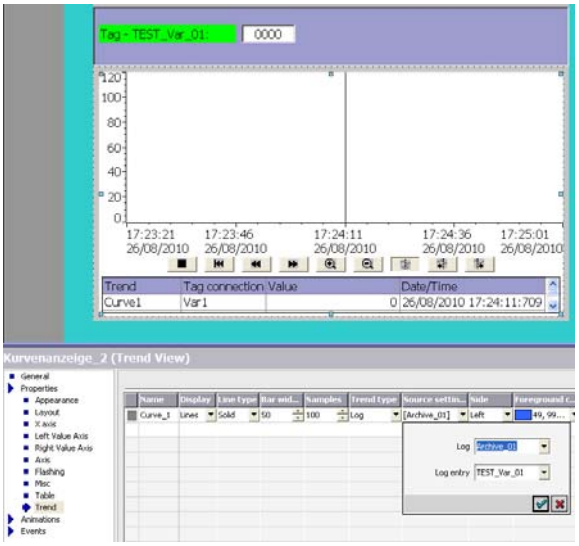
Table 3-5

No.	Description	Screens
1.	**Permanent window:** Four buttons are configured in the permanent window. These buttons are for • Calling individual screens directly. • Changing the language of the user interface (German/English). • Ending Runtime. An animation is configured for each of the buttons "Screen 1" and "Screen 2". When the corresponding screen is opened the background color of the button is "green". The tag is set when the screen opens and reset when the screen closes again (Link).	Permanent window:  ========== Animation – Appearance: 

3.4.1 Screen 1

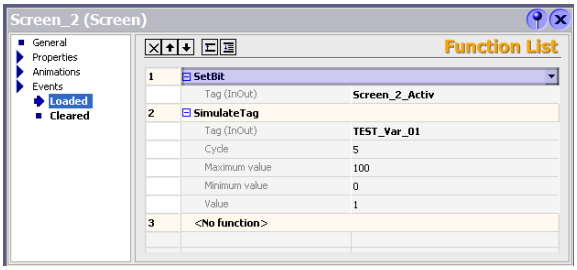
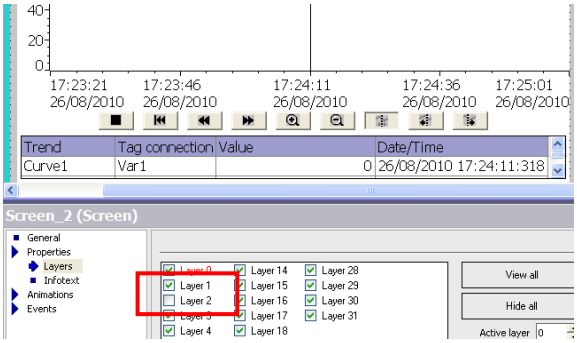
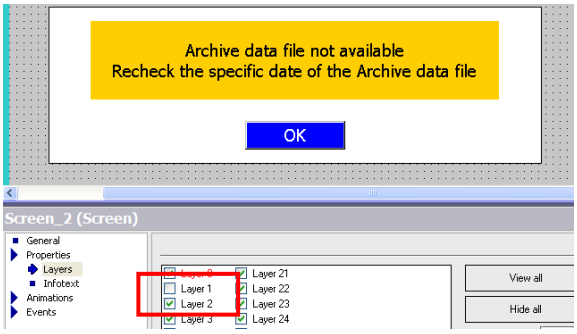
Table 3-6

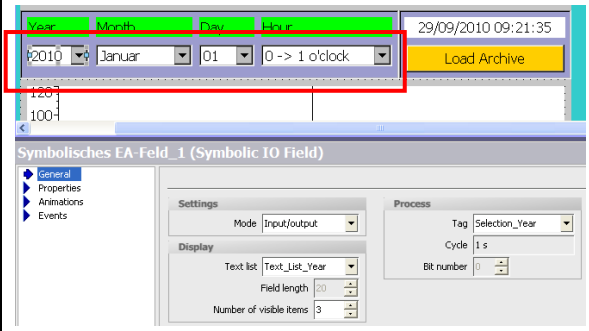
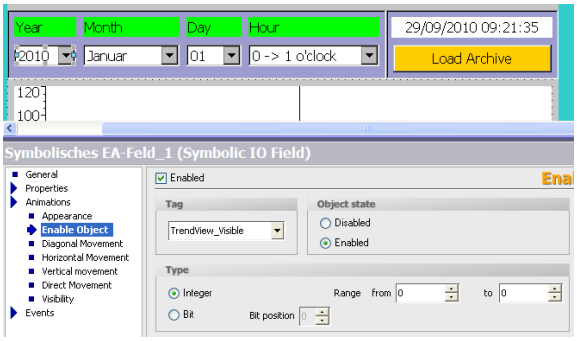
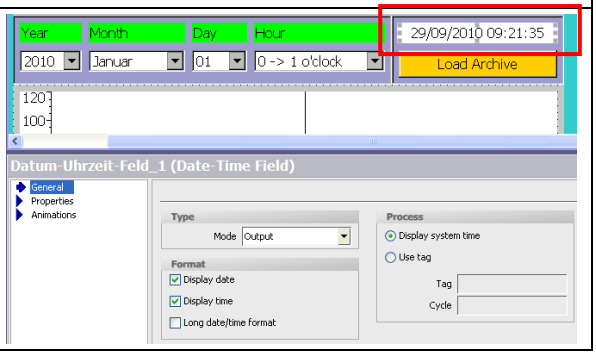
No.	Description	Screens
1.	**"Screen 1" – Screen properties:** Open the properties of "Screen 1". • **Events** - Item Loaded/Cleared "**SetBit**" The background color of the "Screen 1" button is changed by means of an animation. When the screen opens, the "bit" of the "Screen_1_Active" tag is set and reset when the screen is closed (Link). "**SimulateTag**" The values for the "TEST_Var_01" tag are generated with the "**SimulateTag**" function.	

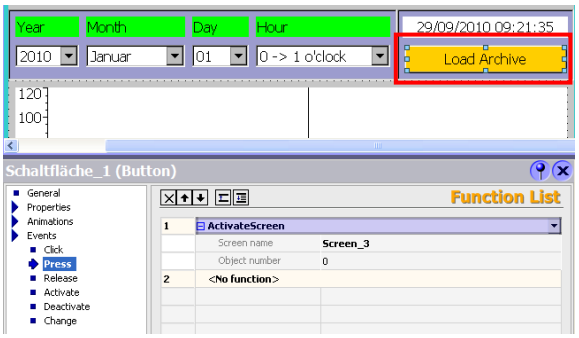
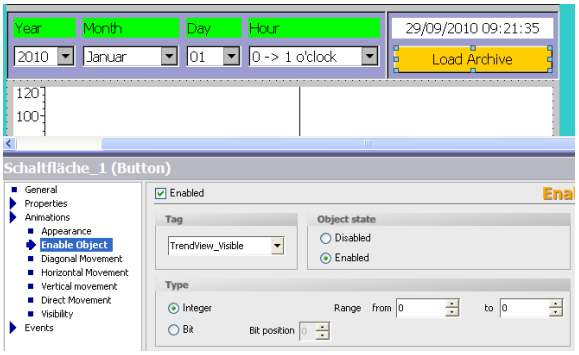
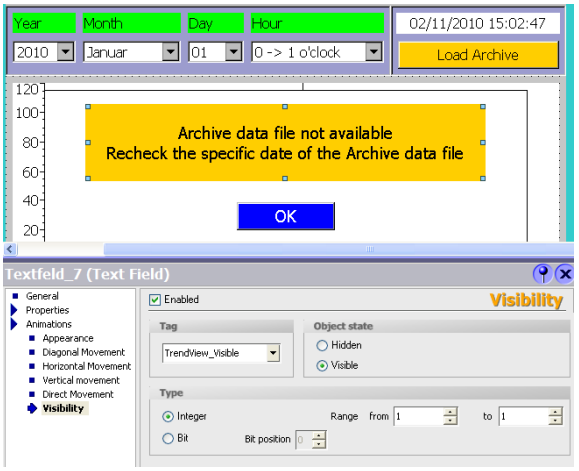
No.	Description	Screens
2.	**"Screen 1" – Tag output:** The current value of the "TEST_Var_01" tag is output in the screen by way of an IO field. The value of the tag is logged in "Archive_01" and output by means of the trend view.	
3.	**"Screen 1" – Trend view:** A trend view is configured in "Screen 1". The logged entries of the "TEST_Var_01" tag are output via the trend view. Please proceed as follows to output values from a log. Open the properties of the trend view. • **Properties** - "*Trend*". "Trend type" Here, in the drop-down list box you select "**Log**" as type. "Source settings": Under Log you select "**Archive_01**" and the tag "**TEST_Var_01**" for the Log entry. The default settings have been applied for all the other parameters.	

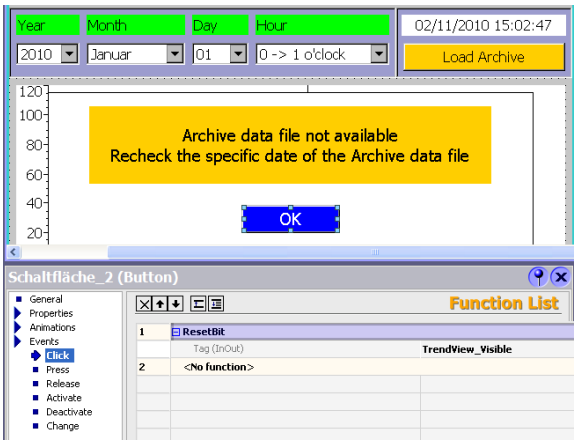
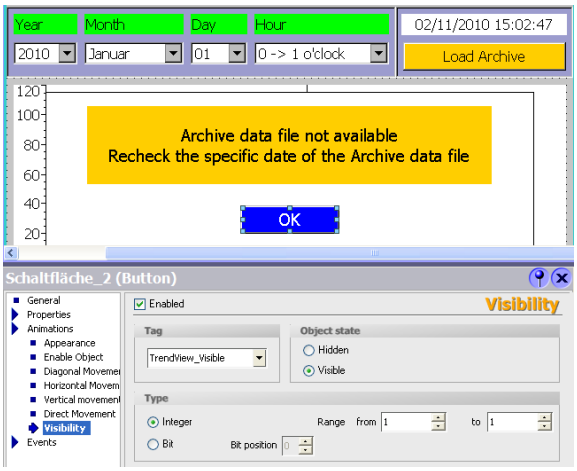
3.4.2 Screen 2

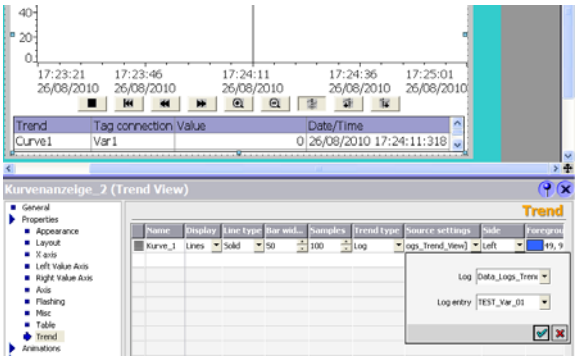
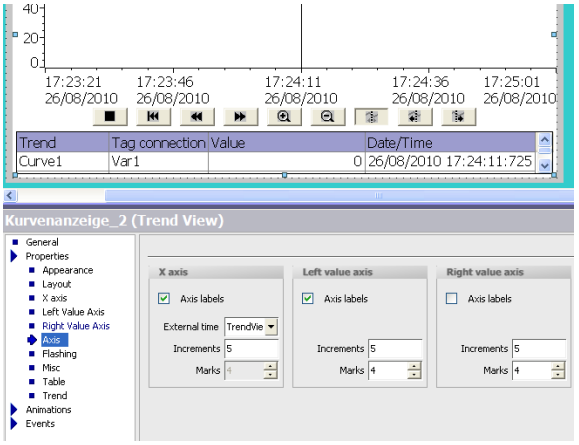
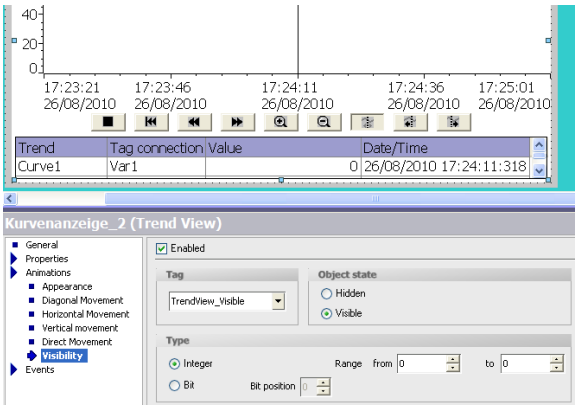
Table 3-7

No.	Description	Screens
1.	**"Screen 2" – Screen properties:** Open the properties of "Screen 2". • **Events** - Item Loaded/Cleared "**SetBit**" The background color of the "Screen 2" button is changed by means of an animation. When the screen opens, the "bit" of the "Screen_2_Active" tag is set and reset when the screen is closed (Link). "**SimulateTag**" The values for the "TEST_Var_01" tag are generated with the "**SimulateTag**" function. • **Properties** - "*Layers*" A trend view and a message are configured in "Screen 2". The two objects can be shown and hidden by way of layers "1" and "2". **Example 1, Trend view:** Layer 1 activated: Trend view visible Layer 2 deactivated: Message not visible **Example 2, Message:** Layer 1 deactivated: Trend view not visible Layer 2 activated: Message visible	Events – Loaded/Cleared:  ========== Properties (Example 1, Trend view):  ========== Properties (Example 2, Message): 

No.	Description	Screens
2.	**"Screen 2" – Symbolic IO fields:** There are four symbolic IO fields configured in Screen 2. Configuration is explained taking the example of the IO field for the year "2010". Open the Properties of the symbolic IO field. • **General** - "*Process*". Here, you select the relevant tag. In this example it is "**Selection_Year**". The tag is further processed in a script. "*Display*" Select the corresponding text list from the drop-down list box. In this example "**Text_List_Year**". • **Animations** - "*Enable Object*". The symbolic IO field can only be enabled if the manually created message is not displayed. (The message is triggered by way of a script). For this you activate the option "Enabled" and specify the required tag. In this example "**TrendView_Visible**". The default settings have been applied for all the other parameters.	General:  ========== Animation – Enable: 
3.	**"Screen 2" – Time:** There is a "Date-Time Field" in Screen 2. The system time of the operator panel is output.	

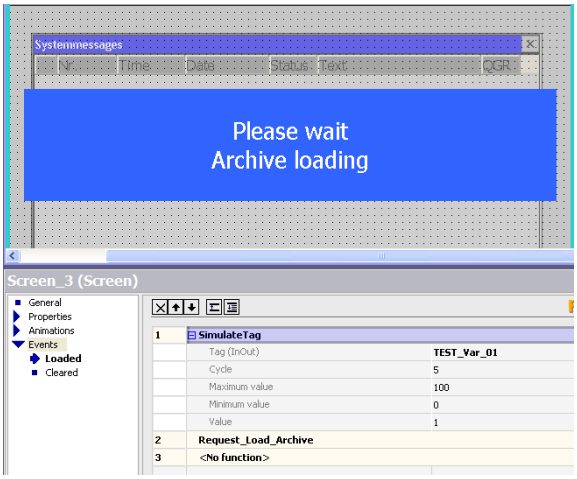
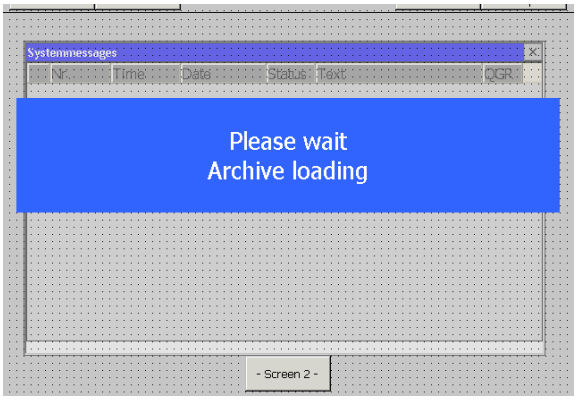
No.	Description	Screens
4.	**"Screen 2" – "Load Archive" button:** By means of the "Load Archive" button you call a screen by means of which the "**Request_Load_Archive**" script is called. The reason for this procedure is described in the course of the documentation (Link). Open the Properties of the button. • **Events** - "*Press*". You call "**Screen_3**" by way of the "ActivateScreen" function. • **Animations** - "*Enable Object*". The button can only be enabled if the manually created message is not displayed. (The message is triggered by way of a script). For this you activate the option "Enabled" and specify the required tag. In this example "**TrendView_Visible**". The default settings have been applied for all the other parameters.	Events – Press:  ========== Animation – Enable: 
5.	**"Screen 2" – Message:** A message is configured in "Screen 2". The message is triggered by way of a script. Open the Properties of the text field. • **Animations** - "*Visibility*". The text field is only displayed when the trend view is hidden. For this you activate the option "Enabled" and specify the required tag. In this example "**TrendView_Visible**".	

No.	Description	Screens
6.	**"Screen 2" – "OK" button:** A message is configured in "Screen 2". The message acknowledged by way of the "**OK**" button. Open the Properties of the text field. • **Events** - "*Press*". The "**TrendView_Visible**" tag is reset by way of the "ResetBit" function. • **Animations** - "*Visibility*". The button is only displayed when the trend view is hidden. For this you activate the option "Enabled" and specify the required tag. In this example "**TrendView_Visible**". **Note:** You can also configure a system message in the "Load_Archive" script instead of the "manually" set message (Link).	Properties – Button:  ========== Animation – Visibility: 

No.	Description	Screens
7.	**"Screen 2" – Trend view:** A trend view is configured in "Screen 2". The logged entries of the "**TEST_Var_01**" tag are output via the trend view. Unlike "Screen 1", the available logs are copied by script into the "Data_Logs_Trend_View" log and output by way of the trend view. Please proceed as follows to output the logged values via the trend view. Open the properties of the trend view. • **Properties** - "*Trend*". "Trend type": Here, in the drop-down list box you select "**Log**" as type. "Source settings": Under Log you select "**Data_Logs_Trend_View**" and the tag "**TEST_Var_01**" for the Log entry. - "*Axis*". "X axis" In this example a tag is used for the "External time". In this example "**TrendView_ExternalTime**". The "Time" for the tag is composed in a script (Link). • **Animations** - "*Visibility*". The trend view is only displayed when the manually created message is not displayed. (The message is triggered by way of a script). For this you activate the option "Enabled" and specify the required tag. In this example "**TrendView_Visible**". The default settings have been applied for all the other parameters.	Properties – Trend:  ========== Properties – Axis:  ========== Animation – Visibility: 

3.4.3 Screen 3

Table 3-8

No.	Description	Screens
1.	**"Screen 3" – Screen properties:** "Screen 3" is for calling a script and displaying a message. The reason for this procedure is described in the course of the documentation (Link). Open the properties of "Screen 3". • **Events** - Loaded "**SimulateTag**" The values for the "TEST_Var_01" tag are generated with the "**SimulateTag**" function. **Call "Script"** The "Request_Load_Archive" script is executed when the page is opened.	
2.	**"Screen 3" – Message:** Execution of the "**Request_Load_Archive**" script requires a certain amount of time. This "message" is configured to inform the operator what has happened. "Screen 2" is called again automatically at the end of script processing. **Note:** If script processing fails and "Screen 2" is not called automatically, then you have the option of calling "Screen 2" manually using the "**- Screen 2 -**" button. (This is recommended in the configuration phase or if it is not possible to call pages via the permanent window).	

3.5 Scripts

This chapter provides you with information on the scripts below.

- Copy_Archive
- Load_Archive
- Request_Load_Archive
- Create_Storage_Path

Note

The scripts for the MP 277 Touch and the PC Runtime are essentially the same in structure. Note that there is a difference between the VBS syntax of an operator panel and that of a PC Runtime system.

You **cannot** use the MP 277 Touch on a PC in the Runtime simulation.

Brief description

Copy_Archive:

The script copies the log "Archive_01" (Link) and assigns a new name to the newly created log. The name is created only at "Runtime".

The name is composed of the elements below:

- Log name + time

The storage location for the new log is transferred to the script as parameters. The storage location can be changed quickly if required.

The script is called every hour by way of the scheduler.

Notes on configuring scripts are given in the sections that follow. Please refer to the configuration for details.

Load_Archive:

The time of the log to be loaded is specified via "Screen 2".

The script evaluates this specification and copies the selected log into the log for the trend view.

The storage location for the archive files is transferred to the script as parameters.

The script is called via the "Request_Load_Archive".

Request_Load_Archive:

The "Request_Load_Archive" script is used to call the "Load_Archive" script.

The script itself is called when "Screen 3" opens.

Background:
The "Load_Archive" script loads an existing log into the trend view. If the "Load_Archive" script is executed and "Screen 2" with the trend view is active, then there might be an access error (simultaneous write and read access to the trend view).
This is why the "Request_Load_Archive" is executed by way of "Screen 3".

Create_Storage_Path:

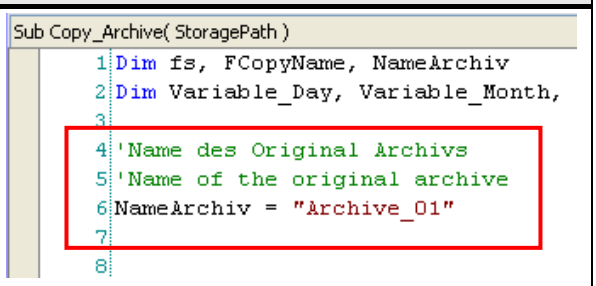
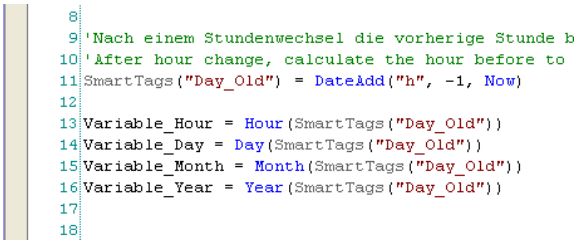
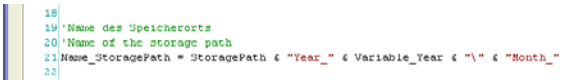
The script checks whether the specified directory is available.
If the specified directory is not available, the script creates the missing folder automatically.

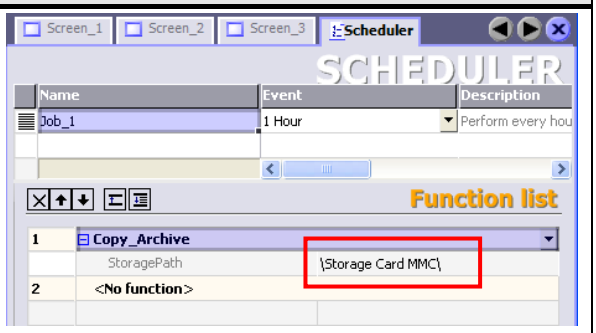
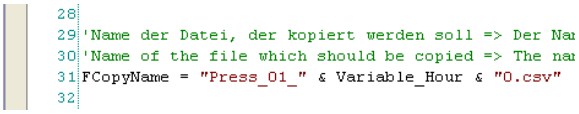
The script is called by way of the "Copy_Archive" script.

3.5.1 "Copy_Archive" script

Detailed description

Table 3-9

No.	Description	Screens
1.	**Script, Line 6:** "Line 6" specifies the name of the archive that is to be copied. In this example "**Archive_01**". **Note:** The name must match the log you are using (Link).	
2.	**Script, Lines 11 to 16:** The name of the new log is composed of the current date and time, among other elements. The copy procedure is executed always at the beginning of each hour via the scheduler. For the name of the log it is necessary to generate the hour value of the "previous" hour. This is done in "Lines 11 to 16".	
3.	**Script, Line 21:** The name of the storage path is "composed" in "Line 21". The storage path is composed of the storage location and the separate subfolders. - Storage location \ Year \ Month \ Day The values of the tags come from "Lines 13 to 16". You can change the storage location to suit your requirements.	

No.	Description	Screens
4.	"**StoragePath**" parameter: The "StoragePath" tag is used as **parameter** in "Line 21". When the script is called, this parameter is used to specify the relevant storage location. In this example: „"**\Storage Card MMC**" or "**C:\Storage_Card**". Alternatively you specify a fixed storage path in "Line 21". **Note:** Pay attention to character cases and the "characters" used, for example the "****". Otherwise there might be wrong interpretations.	
5.	**Script, Line 26:** The "Create_Storage_Path" script is called in "Line 26". If the specified storage path has multiple subfolders and these are not yet available on the operator panel, this script creates the required folders. The name of the storage path is transferred to the script as "parameters". In this example the name of the storage path is in the "Name_StoragePath" tag.	
6.	**Script, Line 31:** The new file name is "composed" in "Line 31". The name is composed of the "Log name + time". The "log name" is specified here with "Press_01". The time is evaluated at Runtime and the "Variable_Hour" tag is transferred.	

No.	Description	Screens

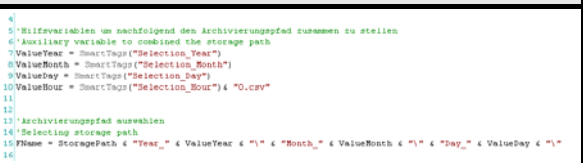
7.	**Script, Line 36:**
	
	File access is via "Line 36".
	
	Pay attention to the command syntax of the operator panel used.
		PC Runtime syntax
		`33`
		`34 'Dateizugriff`
		`35 'File access`
		`36 Set fso = CreateObject("Scripting.FileSystemObject")`
		`37`
		
		==========
		
		Operator panel syntax (MP 277 Touch)
		`33`
		`34 'Dateizugriff`
		`35 'File access`
		`36 Set fs = CreateObject("FileCtl.FileSystem")`
		`37`

8.	**Script, Line 41:**
	
	The copy function is executed in "Line 41".
	The necessary attributes are assigned to the tags beforehand so that you do not need to make any changes at this point.
	
	Pay attention to the command syntax of the operator panel used.
	
	Note:
	The storage location is specified via the "StoragePath" parameter.
		PC Runtime syntax
		`38`
		`39 'Vorhandenes Archiv kopieren`
		`40 'Copying an available archive`
		`41 fso.CopyFile StoragePath & NameArchiv & "0.csv", Name_StoragePath & FCopyName, True`
		`42`
		
		==========
		
		Operator panel syntax (MP 277 Touch)
		`38`
		`39 'Vorhandenes Archiv kopieren`
		`40 'Copying an available archive`
		`41 fs.fileCopy (StoragePath & NameArchiv & "0.csv"), (Name_StoragePath & FCopyName)`
		`42`

9.	**Script, Line 46:**
	
	The storage used is released again in "Line 46".
		`43`
		`44 'Verwendeten Speicher wieder freigeben`
		`45 'Used storage will be freed`
		`46 Set fso = Nothing`
		`47`

3.5.2 "Load_Archive" script

Table 3-10

No.	Description	Screens
1.	**Script, Lines 7 to 15:** The date of the log to be loaded is specified via "Screen 2". These values are first transferred "internally" to Lines 7 to 10. The storage path of the log is composed in "Line 15" from the specified "time period". **Note:** The storage location is specified via the "StoragePath" parameter.	 4 5 'Hilfsvariablen um nachfolgend den Archivierungspfad zusammen zu stellen 6 'Auxiliary variable to combined the storage path 7 ValueYear = SmartTags("Selection_Year") 8 ValueMonth = SmartTags("Selection_Month") 9 ValueDay = SmartTags("Selection_Day") 10 ValueHour = SmartTags("Selection_Hour")& "0.csv" 11 12 13 'Archivierungspfad auswählen 14 'Selecting storage path 15 FName = StoragePath & "Year_" & ValueYear & "\" & "Month_" & ValueMonth & "\" & "Day_" & ValueDay & "\" 16
2.	**Script, Line 20:** "Line 20" is where the name of the archive that is to be called is "composed". The name is composed of the "Log name + time". The "log name" is specified here with "**Press_01**". The "time" is specified via "Screen 2" (symbolic IO fields).	17 18 'Name der Datei, die geladen werden soll 19 'Name of the data file, which should be load 20 FileName = "Press_01_" & ValueHour 21
3.	**Script, Line 25:** File access is via "Line 25". Pay attention to the command syntax of the operator panel used.	PC Runtime syntax 22 23 'Dateizugriff 24 'File access 25 Set fso = CreateObject("Scripting.FileSystemObject") 26 ========== Operator panel syntax (MP 277 Touch) 22 23 'Dateizugriff 24 'File access 25 Set fs = CreateObject("FileCtl.FileSystem") 26
4.	**Script, Line 30** In “Line 30” will be checked, if the predefined archive exists.	27 28 'Überprüfen ob der vorgegebene Archivname vorhanden ist 29 'Check if the predifined archiv exists 30 DataFileName = FName & FileName 31

No.	Description	Screens
5.	**Script, Lines 33 to 42:** In Lines 33 to 42 is the evaluation as to whether the log selected is available. If the log selected is not available, a bit is set via "Line 40" and a manually created system message is displayed (Link). The "trend view" is hidden and the "system message" is displayed. Pay attention to the command syntax of the operator panel used.	PC Runtime syntax 32 33 If Not fso.FileExists(DataFileName) Then 34 35 'Datei nicht vorhanden -> Systemmeldung ausgek 36 'Data file not available -> show system alarm 37 38 'ShowSystemAlarm "Bitte überprüfen Sie das vo 39 'ShowSystemAlarm "Recheck the specific date o 40 SetBit SmartTags("TrendView_Visible") 'Im "I 41 42 Else 43 ========== Operator panel syntax (MP 277 Touch) 32 33 If fs.Dir(DataFileName) = "" Then 34 35 'Datei nicht vorhanden -> Systemmeldung ausgeben / 36 'Data file not available -> show system alarm / sho 37 38 'ShowSystemAlarm "Bitte überprüfen Sie das vorgegeb 39 'ShowSystemAlarm "Recheck the specific date of the 40 SetBit SmartTags("TrendView_Visible") 'Im "Bild 2 41 42 Else 43

No.	Description	Screens
6.	**Script, Lines 46 to 73:** **Line 46:** The "Data_Logs_Trend_View" log is started in Line 46. Take a look at the parameterization of this log (Link). The log is a "segmental circular log" and is **not** started when Runtime starts. If a data record number > 1, a new log is created automatically via the system. The name of the newly created log is "**Data_Logs_Trend_View**". **Lines 51 to 53:** Script processing is "halted" as long as the "Data_Logs_Trend_View1" log is not available. **Line 57:** If the "Data_Logs_Trend_View1" log is available, the contents of the log are copied into the "Temp_Data_Logs_Trend_View" log. **Lines 62 to 64:** Script processing is "halted" as long as the "Temp_Data_Logs_Trend_View" log is not available. **Line 68:** Logging of the "Data_Logs_Trend_View" log is stopped. **Line 73:** All logs are closed. The purpose of the procedure described above is to ensure that the system no longer has its "focus" on the "Data_Logs_Trend_View" log. Pay attention to the command syntax of the operator panel used.	

```
43
44      'Start des Archivs "Data_Logs_Trend_View"
45      'Start of the archive "Data_Logs_Trend_View"
46      StartLogging hmiDataLog, "Data_Logs_Trend_View"
47
48
49      'Solange das Folgearchiv "Data_Logs_Trend_View1.csv" nicht vorhanden ist -> Warten!
50      'Waiting as long as the subsequent archives "Data_Logs_Trend_View1.csv" are not available
51      While Not fso.FileExists (StoragePath & "Data_Logs_Trend_View1.csv")
52
53      Wend
54
55      'Folgearchiv "Data_Logs_Trend_View1.csv" in das Archiv "Temp_Data_Logs_Trend_View.csv" kopieren
56      'Copy the subsequent archives "Data_Logs_Trend_View1.csv" to the archive "Temp_Data_Logs_Trend_View.csv"
57      fso.CopyFile StoragePath & "Data_Logs_Trend_View1.csv", StoragePath & "Temp_Data_Logs_Trend_View.csv"
58
59
60      'Solange das Archiv "Temp_Data_Logs_Trend_View.csv" nicht vorhanden ist -> Warten!
61      'Waiting as long as the archives "Temp_Data_Logs_Trend_View.csv" are not available!
62      While Not fso.FileExists (StoragePath & "Temp_Data_Logs_Trend_View.csv")
63
64      Wend
65
66      'Archivierung des Archivs "Data_Logs_Trend_View" stoppen.
67      'Stop logging from the archive "Data_Logs_Trend_View"
68      StopLogging  hmiDataLog, "Data_Logs_Trend_View"
69
70
71      'Alle Archive schließen
72      'Close all logs
73      CloseAllLogs
74
```

No.	Description	Screens
7.	**Script, Lines 80 to 102:** **Lines 80 to 84:** The system needs a certain amount of time to execute the functions described above. A "delay time" is configured to make sure that there are no access errors in the further processing. **Lines 91 to 93:** Once all the logs have been closed, the logs created only "temporarily" can be deleted again. **Lines 98 to 102:** The system needs a certain amount of time to execute the function described above. A "delay time" is configured to make sure that there are no access errors in the further processing. **Note:** If a message regarding "access errors" is displayed during processing of the script, you must increase the values specified for the "counter".	75 76 'Für die Initialisierung der Archive wird eine gewisse Zeit be 77 'wenn das System auf das Archiv zugreifen will. -> Wartezeit 78 'A certain time is needed for the initialization of the archiv 79 'otherwise it could be come to a access error. -> Waiting time 80 Dim Counter1 81 Counter1 = 0 82 While Counter1 < 10000 83 Counter1 = Counter1 + 1 84 Wend 85 86 87 'Das Archiv "Data_Logs_Trend_View0.csv", "Data_Logs_Trend_Viet 88 'kann jetzt gelöscht werden. 89 'The archives "Data_Logs_Trend_View0.csv", "Data_Logs_Trend_V: 90 'can be delete now 91 fso.DeleteFile StoragePath & "Data_Logs_Trend_View0.csv" 92 fso.DeleteFile StoragePath & "Data_Logs_Trend_View1.csv" 93 fso.DeleteFile StoragePath & "Temp_Data_Logs_Trend_View.csv" 94 95 96 'Wartezeit 97 'Waiting time 98 Dim Counter2 99 Counter2 = 0 100 While Counter2 < 10000 101 Counter2 = Counter2 + 1 102 Wend 103
8.	**Script, Line 107:** Copying of the selected log into the log for the trend view takes place in Line 107. Pay attention to the command syntax of the operator panel used.	104 105 'Kopiert den Inhalt des angewählten Archivs in das Archiv für die Trendkurve 106 'Copy the data content from the selected archive to the archive for the trend view 107 fso.CopyFile DataFileName , StoragePath & "Data_Logs_Trend_View0.csv", True 108
9.	**Script, Lines 112 to 117:** After copying, all the logs are opened again and the "Archive_01" log is restarted. **Notes:** • During the time in which the functions "CloseAllLogs" and "StartLogging" occur, the values for "Archive_01" are stored internally by the operator panel so that they are not lost. • If you use other logs, then you must also start these using the "StartLogging" system function.	109 110 'Alle Archive wieder öffnen 111 'Open all logs 112 OpenAllLogs 113 114 115 'Starten des Archivs "Archive_01" 116 'Start logging archive "Archive_01" 117 StartLogging hmiDataLog, "Archive_01" 118

<table>
<tr><th>No.</th><th>Description</th><th>Screens</th></tr>
<tr><td>10.</td><td colspan="2">Script, Lines 122 to 126:

An "external time" is specified for the X axis in the trend view in "Screen 2" (Link). The value for this "time" is "composed" in Lines 122 to 126.

Background:
Values are output via the trend view over a period of one hour. If a relevant log is called, the time axis (X axis) of the trend view is changed at the same time in accordance with the selected time period.
There is no need to "scroll" or make a manual entry for the time axis.

<pre>
121
122 'Die Kurvenanzeige auf den gewählten Zeitraum setzen
123 'Set the "Trend view" to the selected time
124 Variable_Date = SmartTags("Selection_Day") & " " & SmartTags("Selection_Month") & " " & SmartTags("Selection_Year")
125 Variable_Time = SmartTags("Selection_Hour") & ":30:00" ' Durch die Vorgabe der "Minute" (30) wird die Mitte der Stunde
126 SmartTags("TrendView_ExternalTime") = CDate(Variable_Date & " " & Variable_Time)
127
128
</pre></td></tr>
<tr><td>11.</td><td>Script, Line 131:

The storage used is released again in "Line 131".</td><td>
<pre>
128
129 'Verwendeten Speicher wieder freigeben
130 'Used storage will be freed
131 Set fso = Nothing
132
</pre></td></tr>
</table>

3.5.3 "Request_Load_Archive" script

Table 3-11

No.	Description	Screens
1.	**Script, Lines 14 to 28:** The "Load_Archive" script is called in "Line 14". Here you must specify the storage path as parameter. In this example: „"**C:\Storage_Data**". **Lines 19 to 23:** The system needs a certain amount of time to execute the scripts called above. A "delay time" is configured to make sure that there are no access errors in the further processing. **Line 28:** After configuring the "delay time", "Screen 2" is called again with the trend view. **Note:** Refer also to the note for configuring Screen 3 (Link).	11 12 'Aufruf des Archivs "Load_Archive". Beachten Sie die ri 13 'Call from the archive "Load_Archive". Note the right s 14 Load_Archive "C:\Storage_Data\" 15 16 17 'Wartezeit um die Aktualisierung der Archive sicherzust 18 'Waiting time for update the archives 19 Dim Counter1 20 Counter1 = 0 21 While Counter1 < 10000 22 Counter1 = Counter1 + 1 23 Wend 24 25 26 'Aufruf der Seite "Bild 2" mit der Trendanzeige 27 'Activate the site "Screen 2" with the trend view 28 ActivateScreen "Screen_2", 0 29

3.5.4 "Create_Storage_Path" script

You do not have to make any changes in this script. You can call it directly in each case or in the relevant scripts.

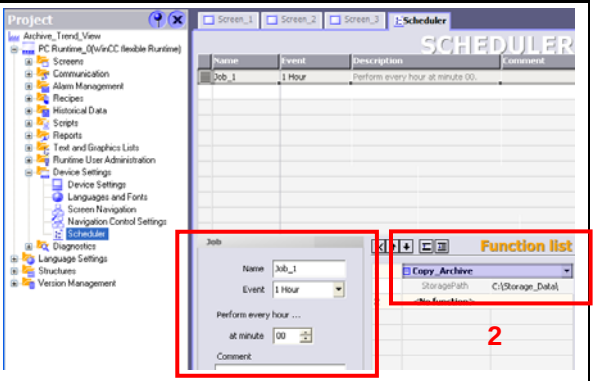
Table 3-12

No.	Description	Screen
1.	**Script, Line 14:** File access is via "Line 14". Pay attention to the command syntax of the operator panel used. **Script, Lines 19 to 41:** The specified storage location is transferred via the "StoragePath" parameter (Line 24). The script recognizes the individual folders by the separator character "\" and creates them automatically. **Line 46:** The storage used is released again in "Line 46".	9 10 Dim fso, strDir, strTemp, arr, i 11 12 'FileSystemObject erstellen 13 'Create FileSystemObject 14 Set fso = CreateObject("Scripting.FileSystemObject") 15 16 17 'Hilfsvariable 18 'Help tag 19 strTemp = "" 20 21 22 'Ablagepfad in einzelne "\" zerlegen 23 'Split the Storage path in several "\" 24 arr = Split (StoragePath, "\") 25 26 27 'Schleifenzähler 28 'Loop counter 29 i = 0 30 For Each strDir In arr 31 If i > 0 Then 32 strTemp = strTemp + "\" + strDir 33 34 If Not fso.FolderExists (strTemp) Then ' Wenn 35 fso.CreateFolder (strTemp) 36 End If 37 Else 38 strTemp = strDir 39 End If 40 i = i+1 41 Next 42 43 44 'Verwendeten Speicher wieder freigeben 45 'Used storage will be freed 46 Set fso = Nothing 47

3.6 Other Functions Used

The scheduler is used for hourly execution of the "Copy_Archive" script.

Table 3-13

No.	Description	Screen
1.	**Scheduler:** Call the scheduler in the project window. "Device Settings > Scheduler" **Creating a new job:** • Double-click in the first free line. A new "job" is created. • "*Job*" (1) Here you can make various settings. In this example: - Name: Job_1 - Event: 1 hour - At minute: 00 => The job is executed every hour at minute 0. • "*Function list*" (2) Here you can call various functions. In this example the "**Copy_Archive**" script is called. The script has one parameter. Enter the storage path here. **Note:** Make sure that the storage path is written correctly (for example, with or without "\" etc.).	

4 Using the Sample Application

This chapter describes how to use the application.

Requirements:

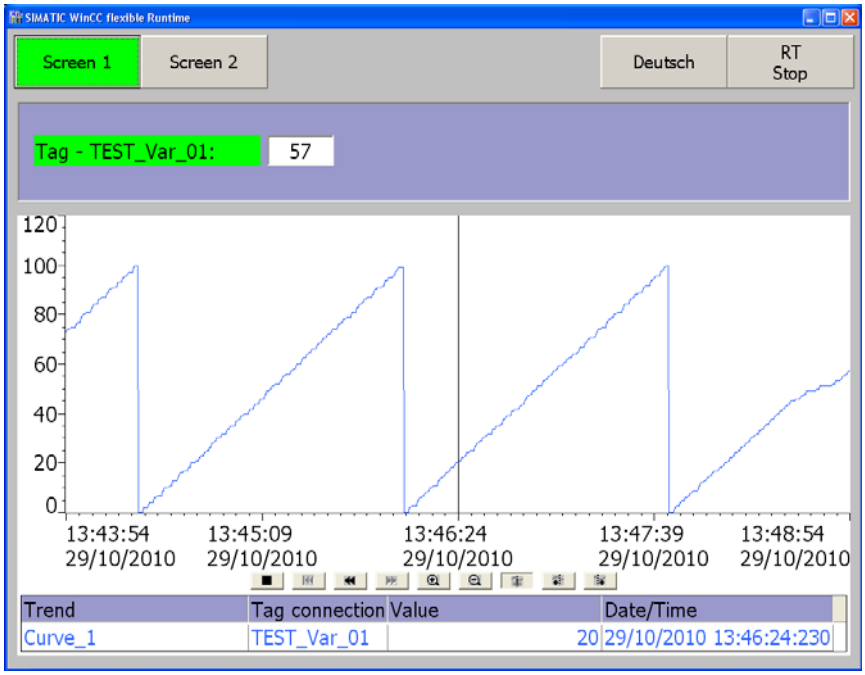
- PC station:
  Access to drive "C:\" for the logs.
- MP 277 Touch:
  MMC memory card for the logs.

Note If you need a different storage location, then can change the storage location in the configuration.

4.1 Configured Plant Screens

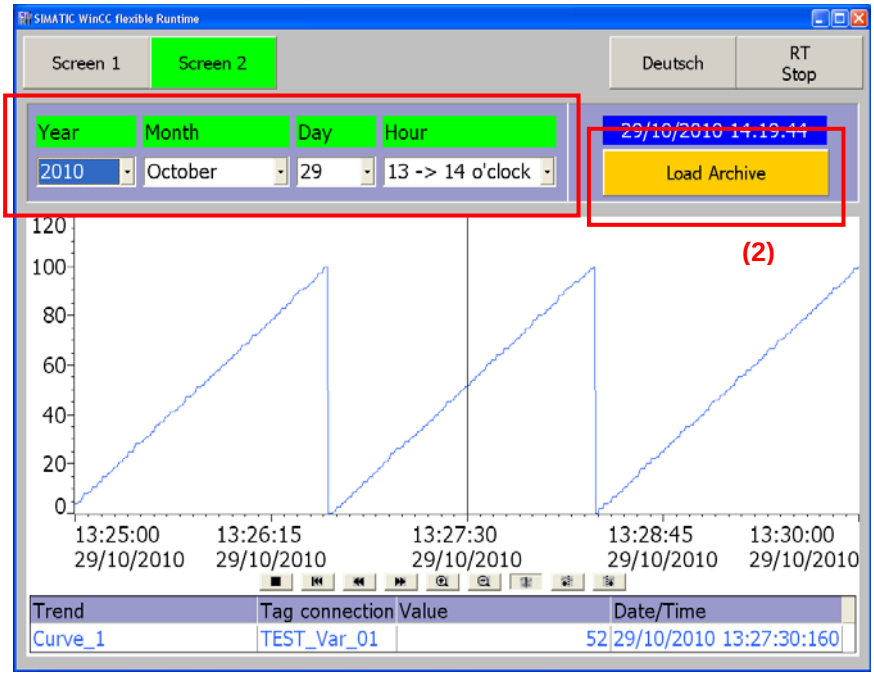
How to use the screens is described below taking the example WinCC flexible Runtime. Operation is the same for the MP 277 Touch.

Table 4-1

No.	Description	Screens
1.	**Fig. 1:**  There is no special operation with "Screen 1". The page is for displaying the values of the circular log "Archive_01". The current value of the "TEST_Var_01" tag is output by way of an IO field. You can change these "values". Using the Trend View buttons you can execute the functions shown.	

No.	Description	Screens
2.	**Fig. 2:**	

(1)



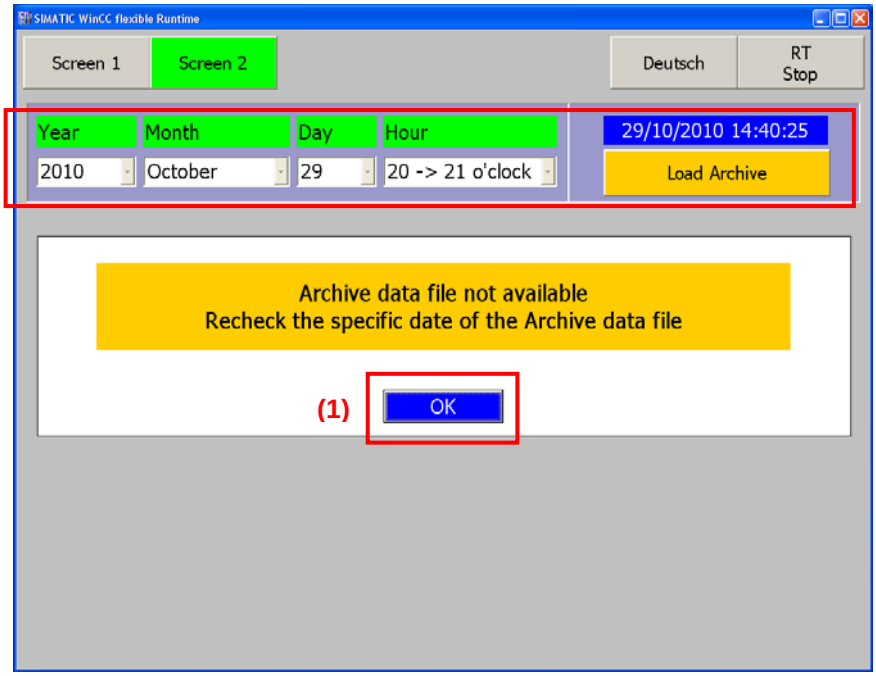
The separate logs are called by way of "Screen 2" and displayed by way of the trend view.
Specify the desired date and time via the relevant "**drop-down menu**" (1).

- Year
- Month
- Day
- Hour

In this example we have called the log dated 29.10.2010 at 13:00 hours.
(Time: the values correspond to the time period of 13:00 hours to 14:00 hours)

After selecting the desired date you press the
"**Load Archive**" button (2). The log is loaded.
Using the Trend View buttons you can execute the functions shown.

No.	Description	Screens
3.	**Fig. 2: Message:**	



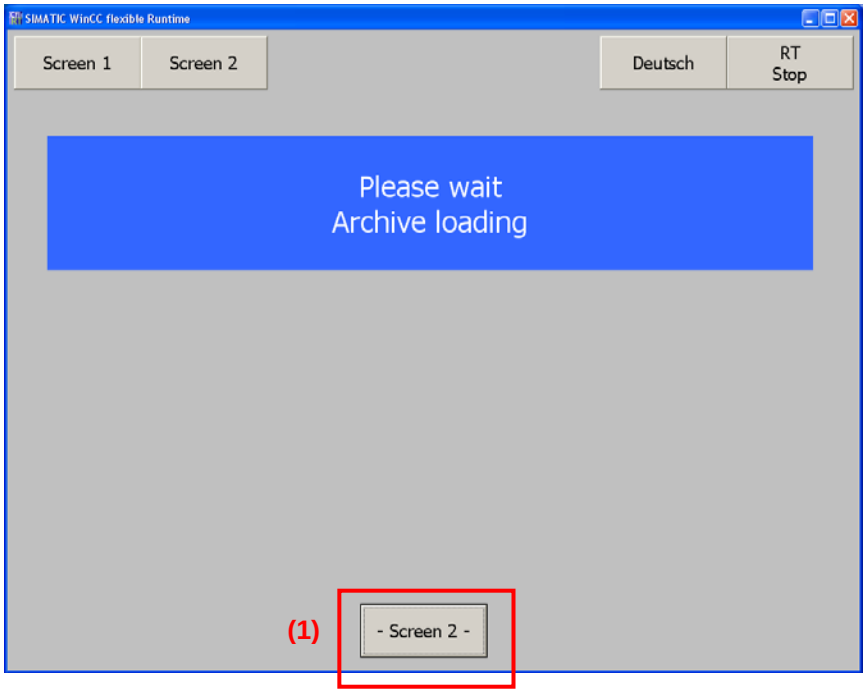
The message above is displayed if you press the "**Load Archive**" and there is no log file available for the date specified.

If you get this message, check the date specified.

Confirm the message with the "**OK**" button (1).

Note:
As long as the message is active, you cannot use the marked operating elements (1).

No.	Description	Screens
4.	**Screen 3: (cannot be called directly)**	



When you press the "**Load Archive**" button, first of all "Screen 3" is called automatically.
The "**Request_Load_Archive**" script is called by way of "Screen 3". This script calls the "**Load_Archive**" log that then loads the selected log into the trend view. "Screen 3" is displayed during this brief processing time.

Note:
If an error occurs during script processing and the previously selected page is not called again automatically, then you can jump back to the trend view using the "Screen 2" button (1).
Refer here to the note on configuring the "Request_Load_Archive" script (Link).

4.2 Troubleshooting

Below is a list of some of the things you should check if an error occurs.

No data is logged on the memory card

Check the storage location you are using on your operator panel (USB, SD card, MMC card etc.) with the one you have configured.

If you are logging the data via a network, check the network connection. Refer here to this FAQ entry (Link).

No log data can be called

Compare the name configured with the name to be called.
The names are composed via the scripts at runtime.

Here you should check the ""Copy_Archive" script No. 8, for example.
Have the names composed via the script output by means of an additionally configured system message.

Access errors when processing the scripts

"Delay times" are configured in the scripts (Link). Try to increase the values specified.

The script debugger is called during script processing

Check the commands used in the scripts.

Note that there is a difference between the VBS syntax of an operator panel and that of a PC Runtime system.

The present MP 277 Touch configuration cannot be tested in the PC Runtime.

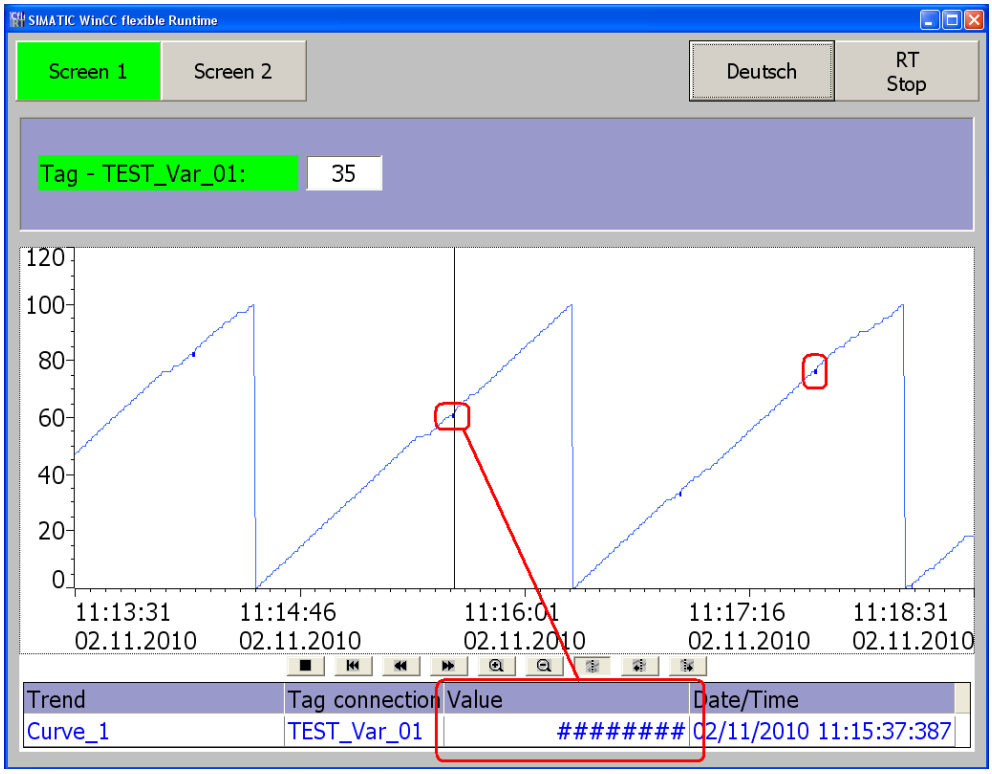
The logs configured behave differently to the description in the documentation

Make a detailed check of the log parameters. See section 3.1.1 for this.

There are areas in the trend view of "Screen 1" in which no values are output

View of "Screen 1"

Figure 4-1



The values of "Archive_01" are output by way of a trend view in "Screen 1". "Markings" can be seen in this trend view via which no values are output.

Background:
Log files can be read into a trend view by way of "Screen 2". The logs are closed briefly during this procedure and then opened again automatically.

When a log is closed, the system writes the information below to the log file **RT_DIS**.

See Figure 4-2 for this.

The RT_DIS message cannot be output by way of the trend view and is displayed as a "fat dot" as shown in Figure 4-1.

Note:
During the time when the log is closed, the values that arrive are **not** lost. The system stores these values that arrive internally for a short period. Once the log restarts, the system writes these values back to the log file.

View of the "Archive_010.csv" log file.

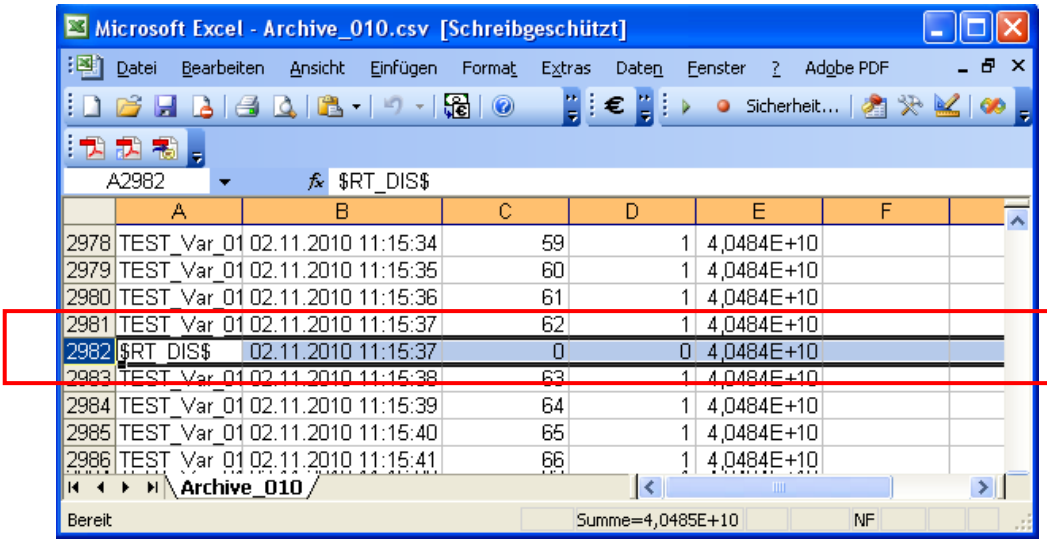



Figure 4-2