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Transferring Data with SIMATIC HMI Panels

WinCC V13 SP1



<https://support.industry.siemens.com/cs/ww/en/view/106226404>

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1.1 Solution

1 Chat Function between Operator Panels

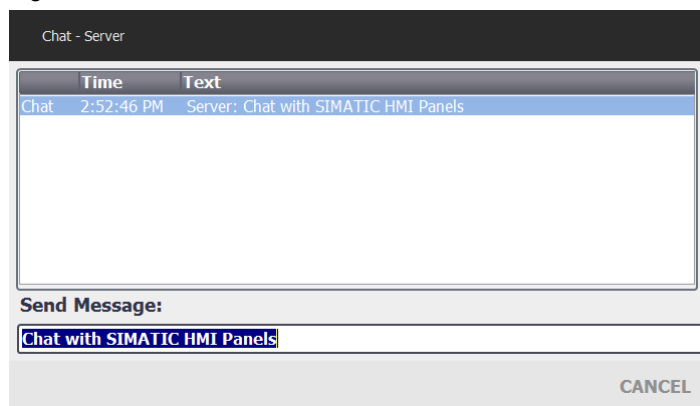
1.1 Solution

1.1.1 Description

You are on an HMI operator panel and want to exchange information with the operator of a remote HMI operator panel in real time.

The “SIMATIC HMI HTTP” communication driver allows you to exchange data between SIMATIC HMI operator panels. In order to display the last messages, alarms are generated and displayed in an alarm view.

Figure 1-1



1.1.2 Hardware and software components

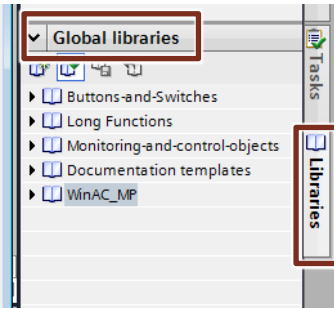
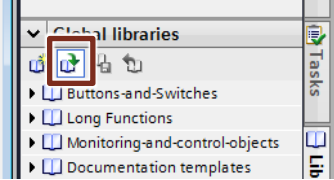
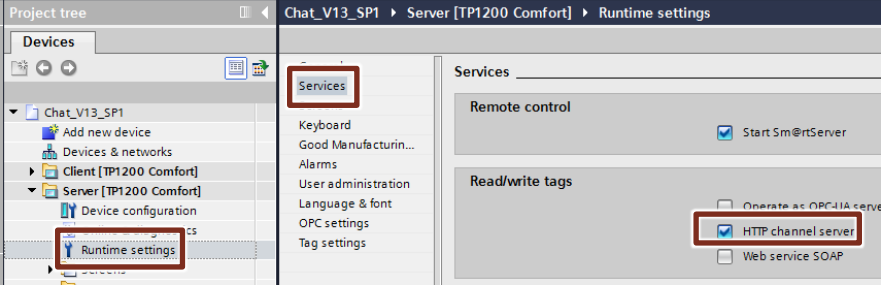
The application example is valid for

- WinCC (TIA Portal) V13 SP1 or higher
- Comfort Panels, 2nd-generation Mobile Panels, WinCC Runtime Advanced

The application example was created with WinCC V13 SP1. Two TP900 Comfort Panels were used as operator panels.

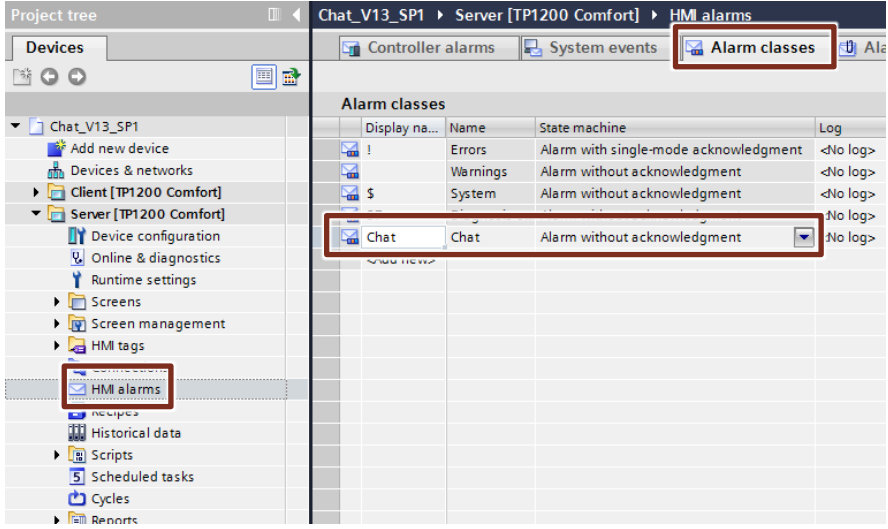
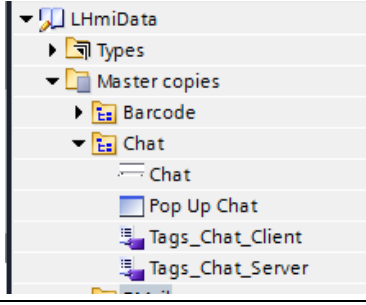
1.2 Configuration

Table 1-1

| No. | Action |
|-----|---|
| 1. | Download the "LHmiData.zip" library and unzip the file. |
| 2. | Open your WinCC (TIA Portal) configuration. In the "Libraries" task card, open the "Global libraries" palette.  |
| 3. | Click the second icon from the left to open a global library.  |
| 4. | Select the "LHmiData.al13" file and use the "Open" button to open the library. |
| 5. | Open the Runtime settings of the operator panel that you want to use as the server. |
| 6. | In "Services", check the "HTTP channel server" service.  |

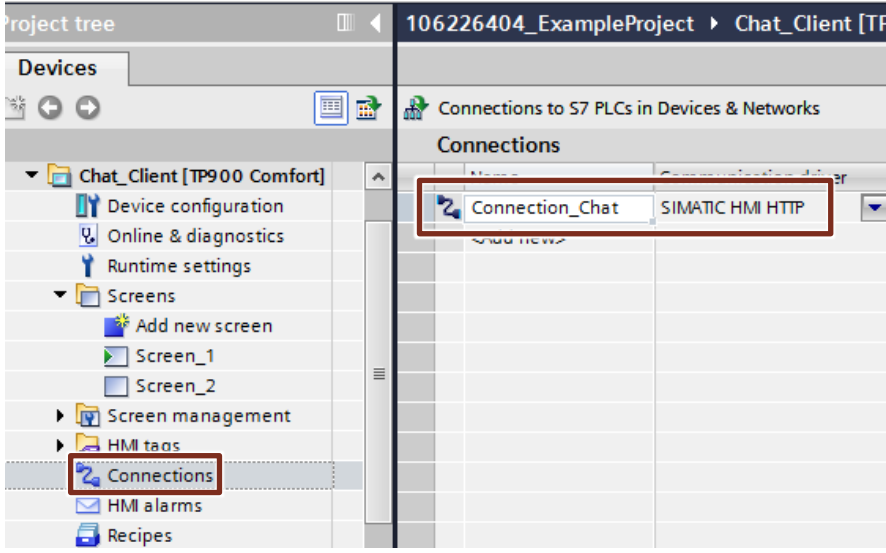
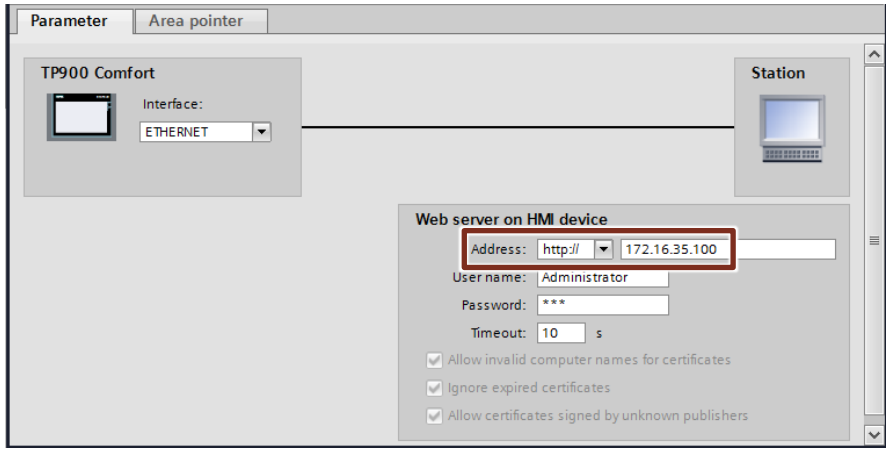
1 Chat Function between Operator Panels

1.2 Configuration

| No. | Action |
|-----|--|
| 7. | <p>In the “HMI alarms” editor, open the “Alarm classes” tab. Create a new “Chat” alarm class with the “Alarms without acknowledgment” setting.</p>  <p>The screenshot shows the 'HMI alarms' editor interface. On the left, the 'Project tree' shows the hierarchy: Chat_V13_SP1 > Server [TP1200 Comfort] > HMI alarms. The 'HMI alarms' folder is highlighted. On the right, the 'Alarm classes' tab is active, showing a table with columns: Display na..., Name, State machine, and Log. The table contains several entries, with the 'Chat' entry highlighted. The 'Chat' entry has a display name of 'Chat', a name of 'Chat', and a state machine of 'Alarm without acknowledgment'. The 'Log' column for this entry is set to '<No log>'. Red boxes highlight the 'Alarm classes' tab, the 'HMI alarms' folder, and the 'Chat' entry in the table.</p> |
| 8. | <p>Open the “Master copies > Chat” folder of the “LHmiData” library. Use drag and drop to move the “Tags_Chat_Server” tag table and the “Pop Up Chat” pop-up window to the operator panel.</p>  <p>The screenshot shows the 'LHmiData' library structure. The 'Master copies' folder is expanded to show the 'Chat' folder. The 'Chat' folder contains several items: a 'Chat' folder, a 'Pop Up Chat' window, and two tag tables: 'Tags_Chat_Client' and 'Tags_Chat_Server'. Red boxes highlight the 'Chat' folder and the 'Tags_Chat_Server' tag table.</p> |
| 9. | Repeat Step 7 for the operator panel that you want to use as the client. |

1 Chat Function between Operator Panels

1.2 Configuration

| No. | Action |
|-----|---|
| 10. | <p>Open the “Connections” editor of the client operator panel. Create a new connection, “Connection_Chat”, with the “SIMATIC HMI HTTP” communication driver.</p>  |
| 11. | <p>Enter the address of the server operator panel.</p>  |
| 12. | <p>Use drag and drop to move the “Tags_Chat_Client” tag table from the “LHmiData” library to the “HMI tags” folder.</p> |
| 13. | <p>Create a new screen and use drag and drop to move the “Chat” group from the library to this screen.</p> |

Note

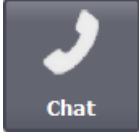
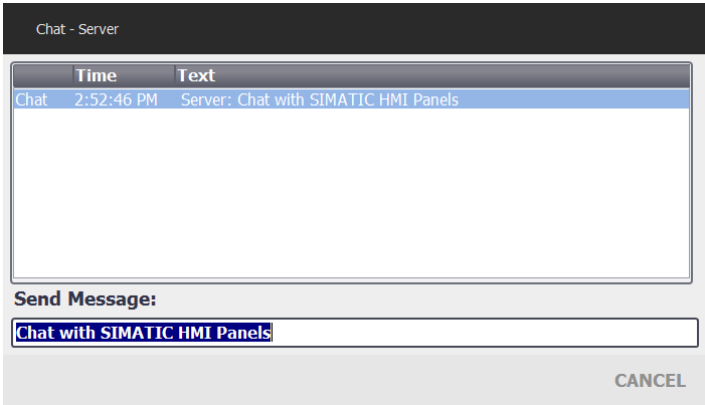
In the operating system of the (server) SIMATIC HMI panel, “WinCC Internet Settings > Web Server” allows you to specify whether you want to use a password for access. If you want to use a password, check “Authentication required” in “Tag authenticate”.

In “User Administration”, create a user with the “RTCommunication” permission.

In the connection settings of the client operator panel, enter the user name and password of the user.

1.3 Operation

Table 1-2

| No. | Action |
|-----|---|
| 1. | Open the "106226404_ExampleProject" that you can download from the download page of this entry. https://support.industry.siemens.com/cs/ww/en/view/106226404 |
| 2. | Load the configuration to your operator panels. |
| 3. | On the "TP900" operator panel, open the right-hand slide-in window and click the "Transfer Data" button. Select the appropriate icon to open the Chat window.  |
| 4. | The chat opens as a pop-up window.  In the "Input" field, you can enter new messages. The old messages are displayed in the window above this field. |
| 5. | The "Cancel" button allows you to close the pop-up window. |

On the "Chat_Client" operator panel, the Chat window is included in the start screen.

2 Barcode

2.1 Solution

2.1.1 Description

To display a barcode using a SIMATIC HMI Panel or print this barcode, install an appropriate font on your PC.

You will find numerous providers of these fonts on the Internet.

A pop-up screen with multiple input fields is used to enter data for a delivery note. For illustration purposes, it displays the barcode of the previously entered texts. The entered data can be output on a printer as a “log printout”.

Figure 2-1

The screenshot shows a 'Barcode' dialog box with the following elements:

- Title bar: Barcode
- Input field 1: Delivery note no.: 123456
- Barcode 1: A standard 1D barcode representing the delivery note number.
- Input field 2: Article: TP900 Comfort
- Barcode 2: A standard 1D barcode representing the article number.
- Bottom left: A printer icon.
- Bottom right: A CANCEL button.

The barcode is created by direct input using a “TrueType font”. Depending on the barcode type, a start and stop character is expected, for example “*” for Code39 used in the example.

For detailed information on the design of the different barcode fonts, please refer to the appropriate font documentation.

2.1.2 Hardware and software components

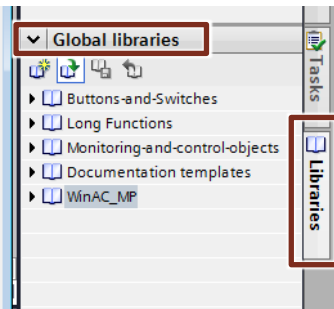
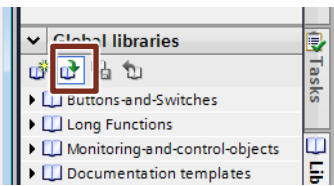
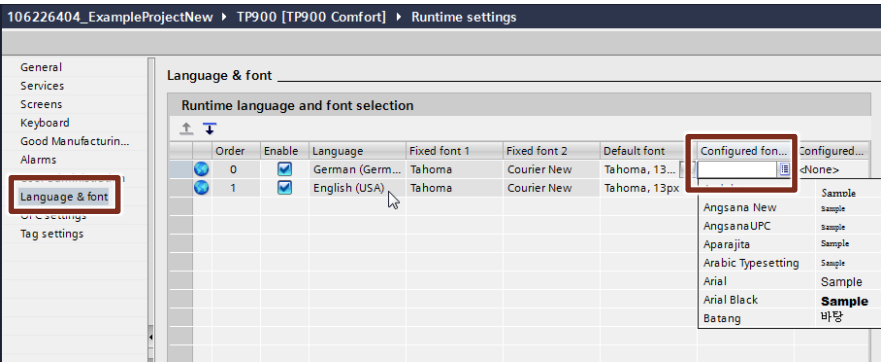
The application example is valid for

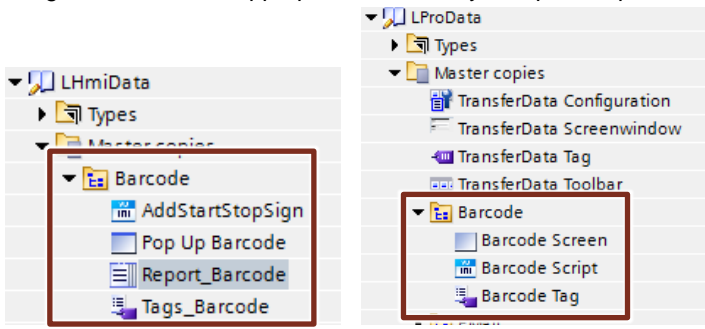
- WinCC (TIA Portal) V13 SP1 or higher
- Basic Panels, Comfort Panels, 2nd-generation Mobile Panels, WinCC Runtime Advanced
- WinCC Runtime Professional

The application example was created with WinCC V13 SP1. A TP900 Comfort Panel was used as an operator panel.

2.2 Configuration

Table 2-1

| No. | Action |
|-----|--|
| 1. | Install the barcode font on your configuration PC. |
| 2. | Download the "LHmiData.zip" library (panels / WinCC Runtime Advanced) or the "LProData.zip" library (WinCC Runtime Professional) and unzip the file. |
| 3. | Open your WinCC (TIA Portal) configuration. In the "Libraries" task card, open the "Global libraries" palette.  |
| 4. | Click the second icon from the left to open a global library.  |
| 5. | Select the "LHmiData.al13" or "LProData.al13" file and use the "Open" button to open the library. |
| 6. | Open the Runtime settings of your operator panel. |
| 7. | Click "Language & font" and in "Configured font", select the barcode font for each language.  |

| No. | Action |
|-----|---|
| 8. | <p>In the “LHmiData” or “LProData” library, open the “Master copies > Barcode” folder. Drag the items to the appropriate folders of your operator panel.</p>  <p>The screenshot shows two library views. On the left, the 'LHmiData' library is expanded to show 'Types' and 'Master copies', with the 'Barcode' folder highlighted. On the right, the 'LProData' library is expanded to show 'Types', 'Master copies', and 'Barcode', with the 'Barcode' folder highlighted. Both 'Barcode' folders contain items like 'AddStartStopSign', 'Pop Up Barcode', 'Report_Barcode', and 'Tags_Barcode'.</p> |
| 9. | <p>Open the “Pop Up Barcode” pop-up screen or the “Barcode” screen. Make sure that the barcode font is set in the two code output fields in “Text format”.</p> |
| 10. | <p>Panels / WinCC Runtime Advanced Open the log and make sure that the font of the output fields is set correctly.</p> |
| 11. | <p>SIMATIC Panels / WinCC Runtime Advanced Drag the “Pop Up Barcode” pop-up screen to one of your screens. TIA Portal creates a button that allows you to open the screen during runtime. WinCC Runtime Professional Drag “TransferData_Screenwindow”, “TransferData_Toolbar”, “TransferData_Configuration” and “TransferData_Tag” from the library to your project. Alternatively, configure a separate screen window where you open the “Barcode” screen. Please note that this may require more steps (e.g., customizing the screen window name in scripts).</p> |

Note

If you are using an operator panel that does not support scripts, you have to manually add “*” when entering the start and stop characters.

Add the “SetTag” event to the “Value change” event of the tag to be encoded. In “Tag”, select the tag to be used to display the barcode; in “Value”, select the tag to be encoded.

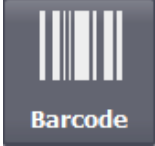
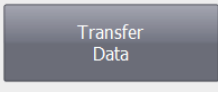
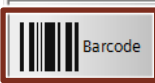


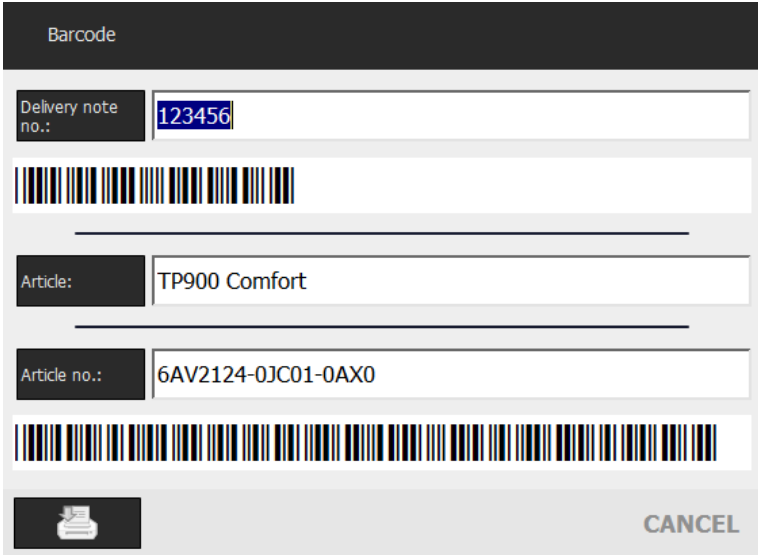
2.3 Operation

Table 2-2

| No. | Action |
|-----|--|
| 1. | <p>Open the “106226404_ExampleProject” or “106226404_ExampleProject_Professional” that you can download from the download page of this entry. https://support.industry.siemens.com/cs/ww/en/view/106226404</p> |
| 2. | <p>In the Runtime settings of the operator panel, “Language & font > Configured font 1”, select your barcode font.</p> |
| 3. | <p>Download the “TP900” or “Toolbox” configuration to your operator panel.</p> |

2 Barcode

2.3 Operation

| No. | Action |
|-----|---|
| 4. | <p>SIMATIC Panels / WinCC Runtime Advanced On the operator panel, open the right-hand slide-in window and click the “Transfer Data” button. Select the appropriate icon to open the Barcode window.</p>  <p>WinCC Runtime Professional Click the “Transfer Data” button. Use the “Barcode” button to open the screen.</p>     |
| 5. | <p>In the input fields, enter the delivery note number, the article and the article number. The delivery note number and the article number are automatically displayed as a barcode. The “Print” button allows you to print the delivery note with the appropriate data.</p>  <p>The screenshot shows a window titled "Barcode" with the following fields and elements:</p> <ul style="list-style-type: none">Delivery note no.: 123456 (with a barcode below it)Article: TP900 Comfort (with a barcode below it)Article no.: 6AV2124-0JC01-0AX0 (with a barcode below it)A "Print" button (represented by a printer icon) and a "CANCEL" button at the bottom. |

3 QR Codes

3.1 Solution

3.1.1 Description

It is often useful to transfer information from operator panels or controllers to a cell phone or tablet PC.

The solution is to use an option without integrating the cell phone or tablet PC into the automation network.

The Comfort Panel generates a QR code from the information to be transferred. The QR code can be read and interpreted by the cell phone or tablet PC.

Figure 3-1



3.1.2 Hardware and software components

The application example is valid for


- WinCC (TIA Portal) V13 SP1 or higher
- Comfort Panels, 2nd-generation Mobile Panels, WinCC Runtime Advanced
- WinCC Runtime Professional

The application example was created with WinCC V13 SP1. A TP900 Comfort Panel was used as an operator panel.

3.2 Basics

Structure of the QR code used

Table 3-1

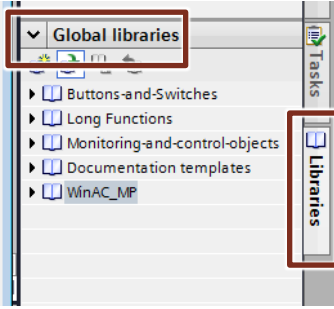
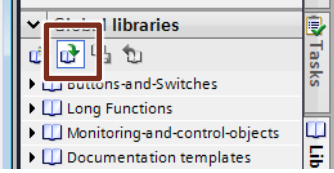
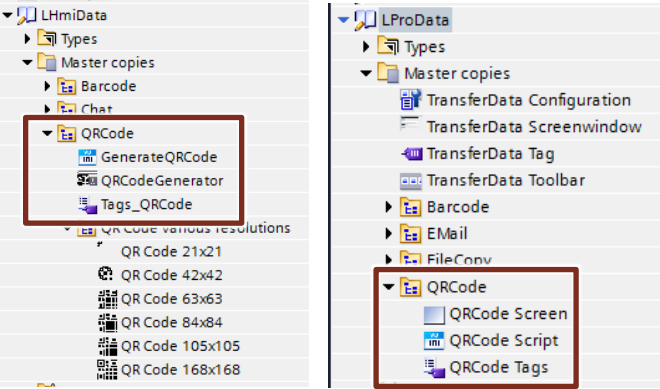
| QR code (marked with color) | Meaning |
|--|---|
|  | <p>Encoding type</p> <p>This QR code uses eight bits per character. This makes it possible to represent most ASCII characters. The encoding type is “0100” in binary format. The property cannot be changed.</p> |
| | <p>Length</p> <p>Specifies the number of characters used in the QR code. This code always contains 17 characters. (If fewer characters are used, the script will add the missing characters.)</p> |
| | <p>Data blocks</p> <p>The data blocks contain the encoded information. Based on the ASCII table, each character is converted to a byte and encoded in these blocks.</p> |
| | <p>Error blocks</p> <p>The error blocks contain the error number of the “Reed-Solomon” algorithm [5].</p> |
| | <p>Formatting</p> <p>The formatting blocks contain information on the QR code structure. This application uses a simple structure.</p> <p>(Error level: L Mask pattern: $i\%2 = 0$ Meaning: The black blocks change the value depending whether the number is even or odd.)</p> |

Basic functionality of the script

Depending on the defaults or the settings you have made, described in greater detail in Chapter [3.3 Configuration](#), the script calculates the binary code of the tag to be represented. In addition, other pieces of information are converted such as the one used for error correction according to the “Reed-Solomon” algorithm [\[5\]](#). The result of the script is displayed using the “visibility” property of the individual elements (squares) of the QR code.

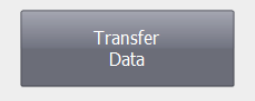
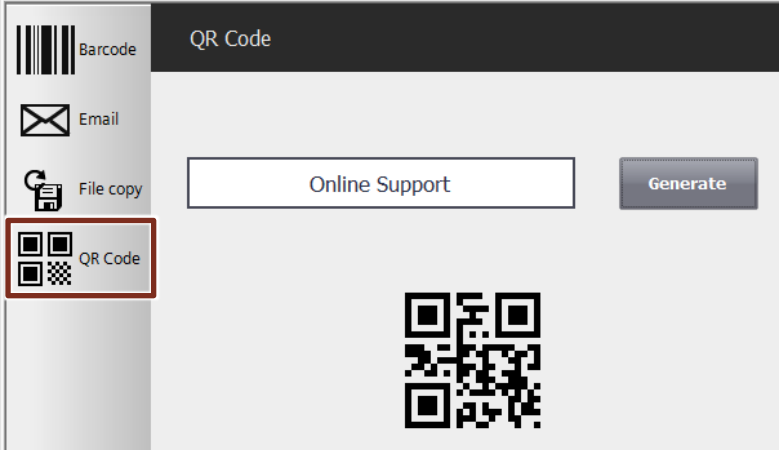

3.3 Configuration

Table 3-2

| No. | Action |
|-----|---|
| 1. | Download the "LHmiData.zip" library (panels and WinCC Runtime Advanced) or the "LProData.zip" library (WinCC Runtime Professional) and unzip the file. |
| 2. | <p>Open your WinCC (TIA Portal) configuration. In the "Libraries" task card, open the "Global libraries" palette.</p>  |
| 3. | <p>Click the second icon from the left to open a global library.</p>  |
| 4. | <p>Select the "LHmiData.al13" or "LProData.al13" file and use the "Open" button to open the library.</p> |
| 5. | <p>Open the "Master copies > QRCode" folder. Drag the items to the appropriate operator panel folders. In the "QRCode_variousResolutions" folder, you will find different QR code resolutions.</p>  <p>Please note that only one QR code can be used per screen.</p> |
| 6. | <p>Open the "L_1_QR_Code" script: In line 34 of the script, check the name of the screen in which you have used the QR code and, if necessary, change the name accordingly. (in the example: "Topic_002.0")</p> <pre data-bbox="475 1854 842 1888">34 SCREEN_NAME = "Topic_002.0"</pre> <p>In line 54 of the script, check the name of the tag you want to convert to QR code and, if necessary, change the tag accordingly (in the example: "textoutput").</p> <pre data-bbox="475 1966 986 1995">54 ENCODE_STRING = SmartTags("textoutput")</pre> |

3.4 Operation

Table 3-3

| No. | Action |
|-----|--|
| 1. | Open the "106226404_ExampleProject" or "106226404_ExampleProject_Professional" that you can download from the download page of this entry. https://support.industry.siemens.com/cs/ww/en/view/106226404 |
| 2. | Download the "TP900" or "Toolbox" configuration to your operator panel. |
| 3. | <p>SIMATIC Panels / WinCC Runtime Advanced On the operator panel, open the right-hand slide-in window and click the "Transfer Data" button.</p> <p>WinCC Runtime Professional Click the "Transfer Data" button. Use the "QR Code" button to open the QR Code screen.</p>   |
| 4. | <p>In the I/O field, enter any text. The text can have a maximum of 17 characters. Click the "QR Code" button to convert the text to QR code.</p>  |

4 Sending Emails

4.1 Solution

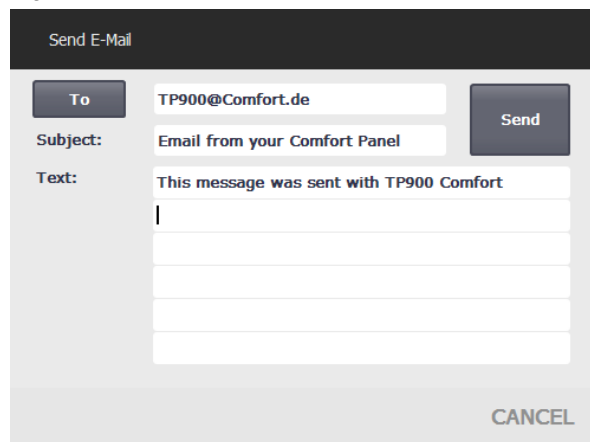
4.1.1 Description

As not all machines of a plant are permanently monitored by staff, it is often not possible to promptly react to non-reset alarms on the operator panel.

This problem is to be solved by email notification.

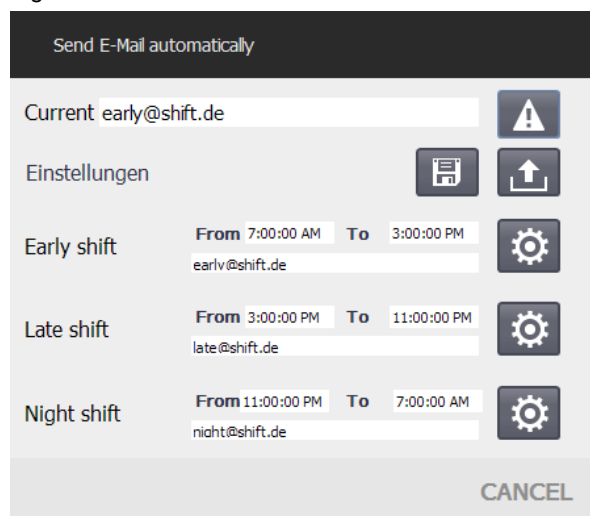
This application example allows you to send emails automatically when certain alarms occur and manually from the Comfort Panel.

Figure 4-1



For automatic email sending, a three-shift system is additionally provided so that the responsible employee is automatically notified.

Figure 4-2



Known email addresses are reliably backed up using recipe management in the Comfort Panel so that they are still available after a restart.

4.1.2 Hardware and software components

This application example is valid for

- WinCC (TIA Portal) V13 SP1 or higher
- Comfort Panels
- WinCC Runtime Professional

The application example was created with WinCC V13 SP1. A TP900 Comfort Panel was used as an operator panel.

4.2 Basics

4.2.1 Settings in WinCC (TIA Portal) – Comfort Panels only

Connection to the SMTP server

The SMTP server (Simple Mail Transfer Protocol), or email server, is a server that sends emails. POP3 servers or IMAP servers are used for receiving emails.

The appropriate settings can be found in the project tree, “Runtime settings”, “Services”.

Figure 4-3

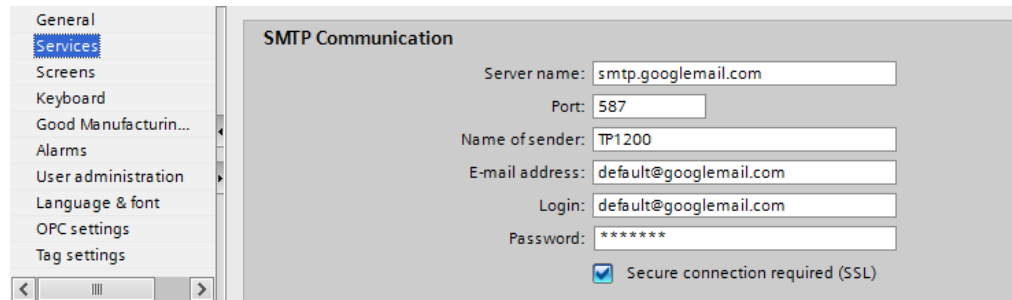


Table 4-1

| Field | Explanation |
|----------------------------------|--|
| Server name | SMTP server of the email service provider or your own email server. Please note: When using a Comfort Panel, the SMTP server can only be specified as a computer name or FQDN (fully qualified domain name); it cannot be entered as an IP address. |
| Port | SMTP server port used for sending email. |
| Name of sender | This clear-text name is entered as the sender of the email and can be defined as required; for example, “Hall1”, “Panel123”, etc. |
| E-mail address | Email sender address of your emails |
| Login | Use the login data you defined when you created the email account. |
| Password | Use the password you defined when you created the email account. |
| Secure connection required (SSL) | Use of the SSL protocol (see below) |

The information relates to the email sender. You can use any provider for the recipient address(es).

4.2.2 Enabling encrypted message transmission using SSL – Comfort Panels only

Unencrypted messages are not considered as secure as they can be read by third parties. For this reason, most SMTP servers accept requests for sending emails only if these requests are processed using the encrypted SSL protocol (“Secure Sockets Layer”).

To enable SSL, proceed as follows:

1. In the dialog of [Figure 4-3](#), check “Secure connection required (SSL)”.
2. Change the value for “Port” to the port reserved for SMTP by your provider.

Most SSL servers use port 587 for SSL transmission. If sending emails with this port fails, consult your email service provider for the correct settings.

Verifying the correct port for sending email

If you are not sure whether your provider supports SSL or communicates via port 587, perform the following steps on a PC connected to the Internet via the same subnet as your operator panel:

1. Open the Windows Command Prompt.
2. Enter this command line: “telnet [SMTP server name] 587”. (Replace “[SMTP server name]” with the actual server name.)
3. If a message appears that a connection cannot be established, port 587 of your server is blocked.

In this case, change the port to the value specified by your email service provider or use a different email service provider.

Note

- If your provider does not yet support SSL, port 25 is the default port for sending email. If this is the case, set “Port” to the value “25” as shown in [Figure 4-3](#) and uncheck “Secure connection required (SSL)”.
Please note: In this case, your email transmission will be unencrypted!
- The “Telnet” tool is not enabled by default on all Windows installations. If the command is not known to your Command Prompt, use “Control Panel > Programs and Features > Turn Windows features on or off” to enable Telnet in Windows 7. On other Windows versions, the path may differ slightly.

4.2.3 Settings on the operator panel – Comfort Panels only

The operator panel must be configured for connection to the Internet.

For the correct setting of the parameters, follow the device manual instructions (for Comfort Panels, see [4](#)).

In addition, make sure that the panel's network access is not restricted by domain policies or firewalls. (If necessary, contact your domain administrator.)

4.2.4 Option: Forwarding emails as SMS text messages

General

Various mobile network operators offer a service that assigns an email address to a cell phone number of their network. Emails sent to this address are then converted to SMS text messages and forwarded to the mobile device in this format. This allows you to receive emails on a cell phone or smartphone without having an email client installed.

Note The maximum length of an SMS text message is the standard maximum length of 160 characters. Longer emails are normally truncated by the provider.

Enabling and disabling notification by SMS text message

For an email to be converted to an SMS text message, the appropriate service must be signed up for with the mobile network operator. Using the example of T-Mobile, the following sections describe how to do this.

- Enabling reception of email with a provider:
Send an SMS text message, text: "**OPEN**", from your cell phone to the T-Mobile speed dial number **8000**. This opens your T-Mobile number for email reception.
And the email address assigned to your cell phone is
T-Mobile phone number (incl. area code)@t-mobile-sms.de
e.g., 01710000000@t-mobile-sms.de.
- Disabling reception of email:
If you no longer want to receive emails, send an SMS text message, text: "**CLOSE**", from your cell phone to the T-Mobile speed dial number **8000**.

The above steps may be different for other mobile network operators.

Changes on the HMI operator panel are not necessary.

Other mobile network operators

The following table lists a selection of providers offering SMS notification services. The list does not claim to be complete.

For each provider, [Table 4-2](#) lists:

- The keywords for the activation/deactivation message of the notification service,
- the speed dial number to which the activation/deactivation message has to be sent,
- the email address from which the received messages are forwarded as SMS text messages (replace the "[No]" with the appropriate cell phone number),
- the individual providers' websites

Table 4-2

| | Vodafone | E-Plus | O ₂ |
|----------------------|---|---|---|
| Start/end of service | OPEN / CLOSE | START / STOP | +START / STOP |
| Speed dial | 3400 | 7676245 | 6245 |
| Email address | [No]@vodafone-sms.de | [No]@smsmail.eplus.de | [No]@o2online.de |
| Website | http://www.vodafone.de | http://www.eplus.de | http://www.o2online.de |

For detailed information, please consult your provider and obtain information on the 'Enable cell phone for receiving email from the Internet' function.

4.2.5 How the project works

Automatic assignment of email recipient

An email is automatically sent when a specific message is received. The recipient address is determined using a shift schedule.

Using the scheduler, the active email is changed daily at the set times.

Alternatively to the single alarm, you can define an alarm class for email sending. If an alarm of this alarm class occurs, an alarm is sent to the appropriate recipient. In this case, you do not have to maintain the "SendEmail" function multiple times.

Description of the "StartUp" script

When the start screen is opened for the first time, this script will be run once. It is used for saving and reading the email addresses for the shift schedule and the start times of the shifts. For this purpose, the "ShiftAddressesTimes.txt" file is created when the script is called for the very first time.

Likewise, start times for the shift times and addresses are created:

Description of the "WriteCurrentValues" script

This script is used to save the complete setting of the shift schedule. The script writes the current value of all email addresses and shift schedule time tags to the "ShiftAddressesTimes.txt" file.

Description of the "ReadSavedValues" script

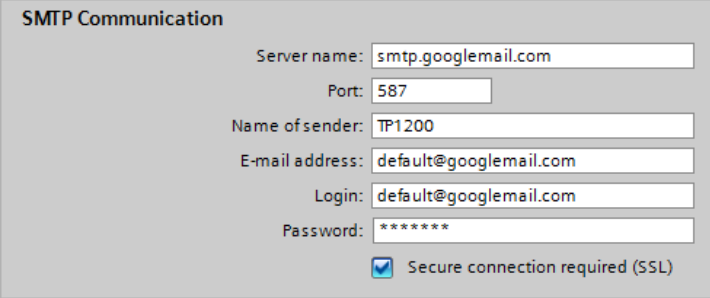
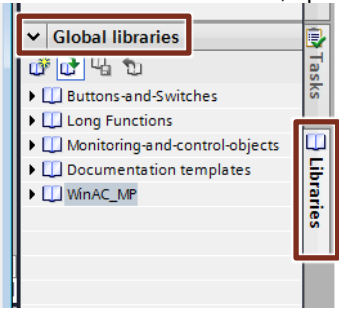
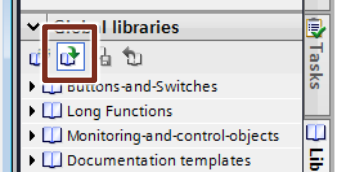
This script is used to restore the last saved settings of the shift schedule. The script reads all values of the "ShiftAddressesTimes.txt" file and writes them to the associated tags.

Note

If you convert the project to WinCC (TIA Portal) PC Runtime, you have to customize the scripts manually as the VBS commands differ between the platforms, in particular in the handling of files.

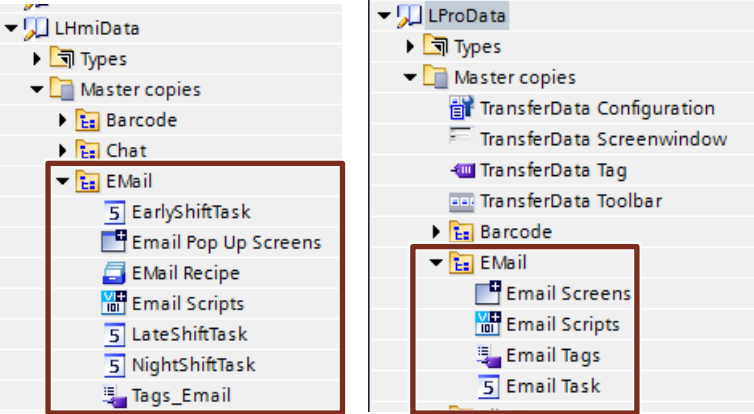
4.3 Configuration

Table 4-3

| No. | Action |
|-----|--|
| 1. | <p>SIMATIC Panels / WinCC Runtime Advanced Open the Runtime settings of your operator panel. In “Services”, enter your SMTP communication data (see Chapter 4.2 Basics)</p>  <p>Alternatively, you can make the SMTP settings in the operator panel’s control panel.</p> <p>WinCC Runtime Professional During runtime, use the “SMTP_Settings” faceplate for the SMTP settings.</p> |
| 2. | <p>Download the “LHmiData.zip” library (panels and WinCC Runtime Advanced) or the “LProData.zip” library (WinCC Runtime Professional) and unzip the file.</p> |
| 3. | <p>Open your WinCC (TIA Portal) configuration. In the “Libraries” task card, open the “Global libraries” palette.</p>  |
| 4. | <p>Click the second icon from the left to open a global library.</p>  |
| 5. | <p>Select the “LHmiData.al13” or “LProData.al13” file and use the “Open” button to open the library.</p> |

4 Sending Emails

4.4 Operation

| No. | Action |
|-----|---|
| 6. | <p>Open the “Master copies > EMail” folder of the library. Drag the items to the appropriate folders of your operator panel.</p>  <p>Open the start screen. In the “Loaded” event of the start screen, insert the “StartUp” script.</p> |
| 7. | <p>SIMATIC Panels / WinCC Runtime Advanced Drag the “Pop Up Email Selection” pop-up screen to one of your screens. TIA Portal creates a button that allows you to open the screen during runtime.</p> <p>WinCC Runtime Professional Drag “TransferData Screenwindow”, “TransferData Toolbar”, “TransferData Configuration” and “TransferData Tag” from the library to your project. Alternatively, configure a separate screen window where you open the “Email” screen. Please note that this may require more steps (e.g., customizing the screen window name in scripts).</p> |


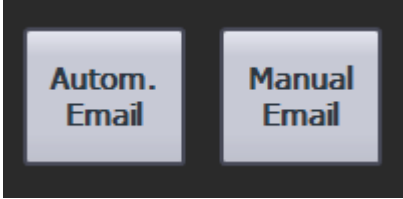
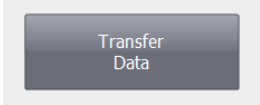
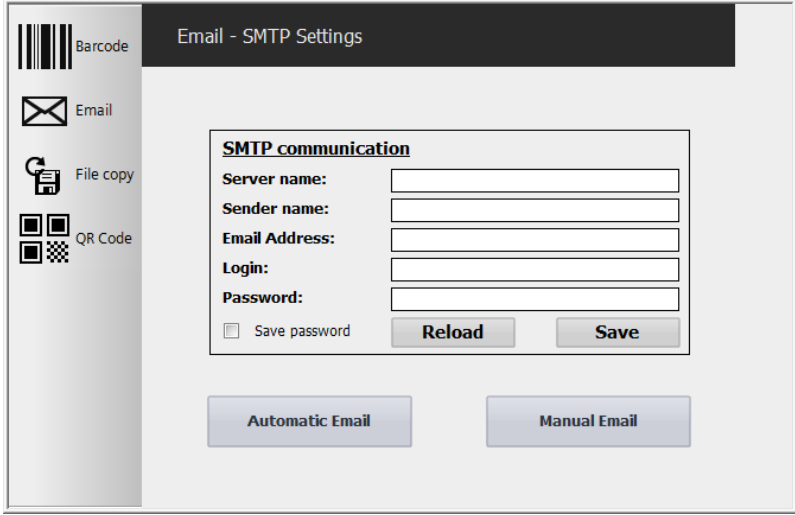
4.4 Operation

Table 4-4

| No. | Action |
|-----|--|
| 1. | <p>Open the “106226404_ExampleProject” or “106226404_ExampleProject_Professional” that you can download from the download page of this entry. https://support.industry.siemens.com/cs/ww/en/view/106226404</p> |
| 2. | <p>Download the “TP900” or “Toolbox” configuration to your operator panel.</p> |

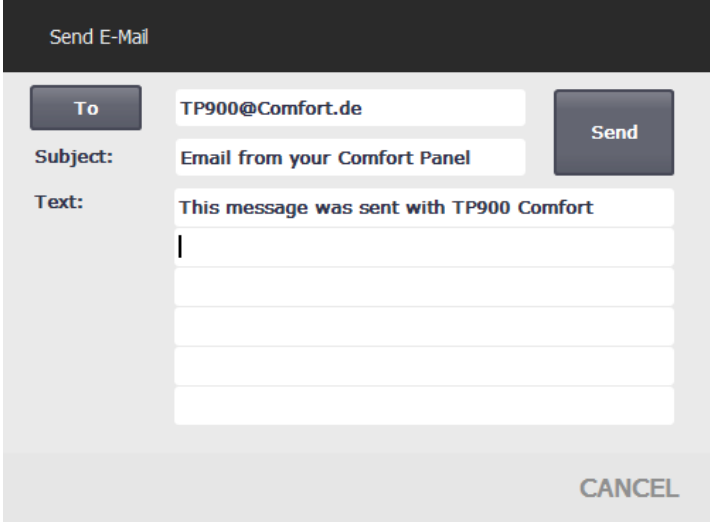
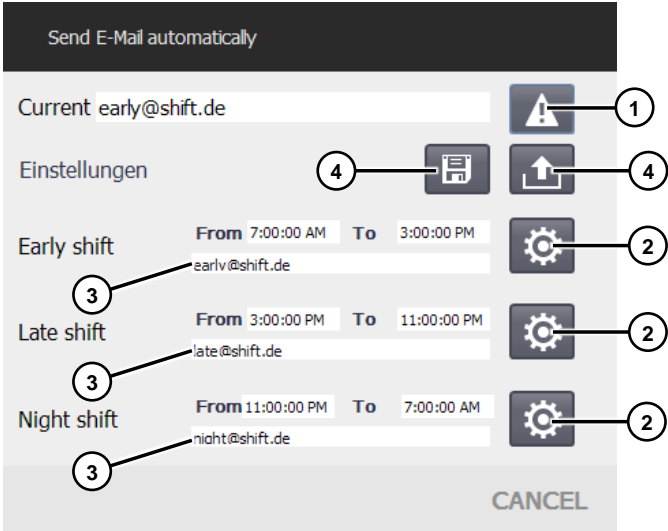
4 Sending Emails

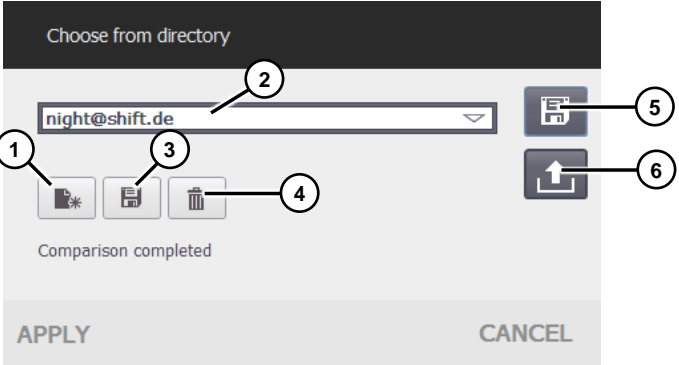
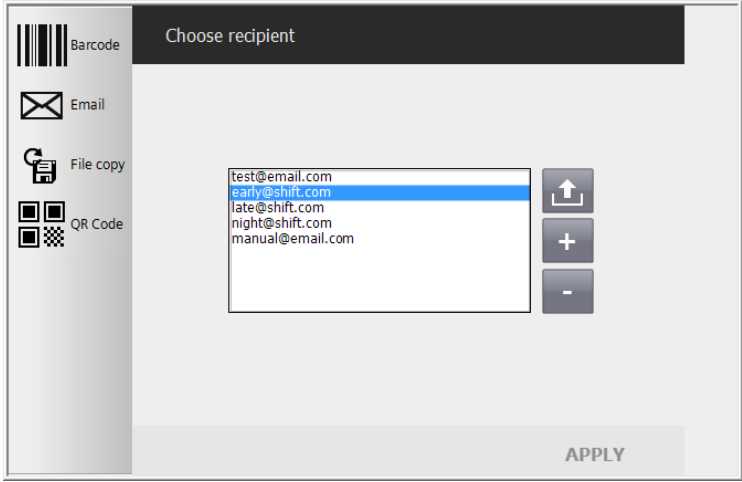
4.4 Operation

| No. | Action |
|-----|--|
| 3. | <p data-bbox="496 309 1007 338">SIMATIC Panels / WinCC Runtime Advanced</p> <p data-bbox="496 342 1267 400">Open the right-hand slide-in screen and click the “Transfer Data” button. Click the “Email” button.</p> <div data-bbox="496 405 636 539">A square button with a white envelope icon and the text "Email" below it.</div> <p data-bbox="496 544 1313 602">Select whether you want to send the email automatically (by a message to a shift-dependent address) or manually.</p> <div data-bbox="496 607 900 804">Two side-by-side buttons. The left one is labeled "Autom. Email" and the right one is labeled "Manual Email".</div> <p data-bbox="496 842 831 871">WinCC Runtime Professional</p> <p data-bbox="496 875 1313 965">Click the “Transfer Data” button. Use the “Email” button to open the screen. Enter the SMTP settings of your email service provider and select automatic email (by a message) or manual email.</p> <div data-bbox="496 969 756 1072">A rectangular button with the text "Transfer Data" centered.</div> <div data-bbox="496 1115 1294 1628">A screenshot of the "Email - SMTP Settings" screen. It features a sidebar with icons for Barcode, Email, File copy, and QR Code. The main area is titled "Email - SMTP Settings" and contains an "SMTP communication" section with fields for Server name, Sender name, Email Address, Login, and Password. There is a "Save password" checkbox and "Reload" and "Save" buttons. At the bottom, there are "Automatic Email" and "Manual Email" buttons.</div> |

4 Sending Emails

4.4 Operation

| No. | Action |
|-----|---|
| 4. | <p>Sending email manually</p> <p>Enter the recipient address, subject and text in the appropriate fields. Click “To” to open the address book (see Step 7). The “Send” button allows you to send the email.</p>  |
| 5. | <p>Sending email automatically</p> <p>Click button 1 to trigger the alarm that sends the automatic email. I/O fields 3 allow you to enter other email addresses for the respective shift. Buttons 2 allow you to select addresses from the address book (see Step 7). Use the “To” and “From” I/O fields to define the times of the respective shift. Use buttons 4 to save or load the settings regarding shift times and addresses.</p>  |

| No. | Action |
|-----|---|
| 6. | <p>Address book maintenance</p> <p>SIMATIC Panels / WinCC Runtime Advanced</p> <p>Address book management is implemented as a recipe. To add a new email address, click button 1 and then enter the address in field 2.</p> <p>To change an existing email address, select it in field 2 and enter the new address.</p> <p>Click button 3 to save the data record.</p> <p>Button 4 allows you to delete an email address.</p> <p>Use buttons 5 and 6 to export or import the recipe. This allows you to use the address books on multiple operator panels.</p> <p>When you have selected the desired email address, click the “Apply” button.</p>  <p>WinCC Runtime Professional</p> <p>Address book management is implemented using a faceplate. To add a new email address, click the “+” button.</p> <p>Select an email address and use the “-” button to delete an email address.</p> <p>The addresses are automatically saved in the file system. Click the “Load” button to load the addresses.</p> <p>When you have selected the desired email address, click the “Apply” button.</p>  |

5 Automatic Backup of Files

5.1 Solution

5.1.1 Description

With the aid of automatic backup, your files (e.g., archives) are backed up to any location (e.g., a USB flash drive, network folder) at configurable intervals.

Figure 5-1

The screenshot shows a configuration window titled "Automatic backup". It features a dark header bar with a close button. The main area contains several input fields and buttons:

- Last backup:** A text box containing "7/12/2016 11:30:00 AM".
- Next backup:** A text box containing "7/12/2016 12:30:00 PM", with a "Configure" button to its right.
- Of:** A text box containing "3" followed by the word "Files", with an "Edit" button to its right.
- To:** A text box containing "\\SharedFolder", with an "Edit" button to its right.

A "CANCEL" button is located at the bottom right of the dialog.

5.1.2 Hardware and software components

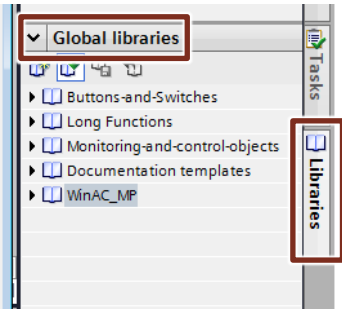
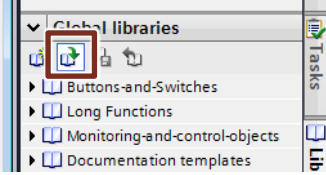
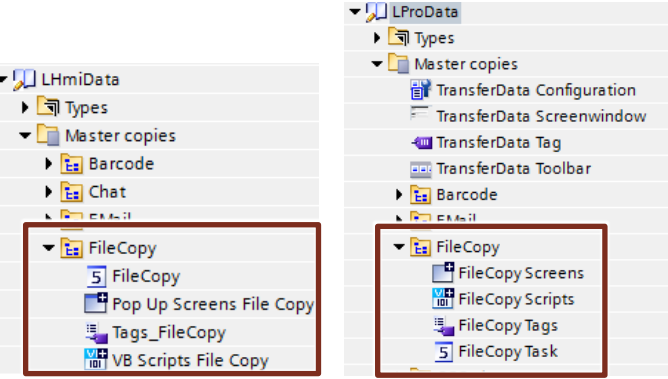
This application example is valid for

- WinCC (TIA Portal) V13 SP1 or higher
- Comfort Panels, 2nd-generation Mobile Panels, WinCC Runtime Advanced
- WinCC Runtime Professional

The application example was created with WinCC V13 SP1. A TP900 Comfort Panel was used as an operator panel.

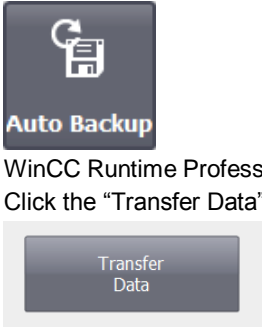
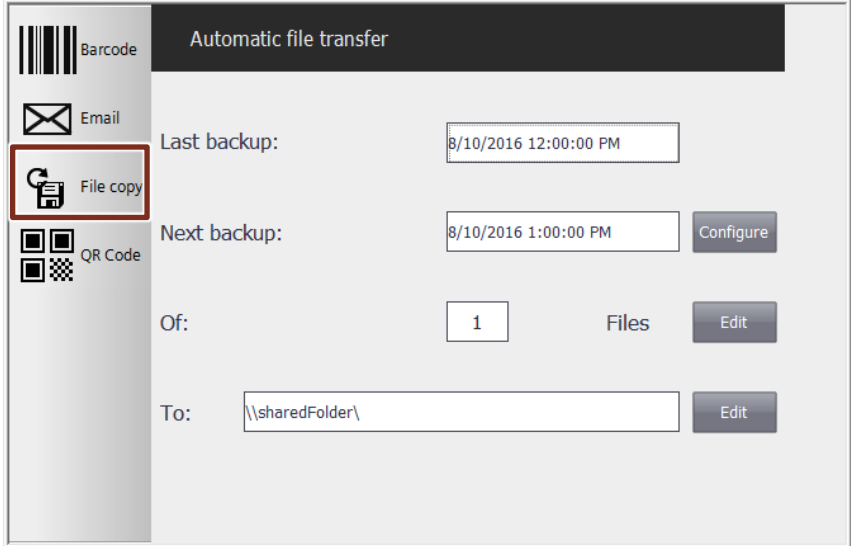
5.2 Configuration

Table 5-1

| No. | Action |
|-----|---|
| 1. | Download the “LHmiData.zip” library (panels and WinCC Runtime Advanced) or the “LProData.zip” library (WinCC Runtime Professional) and unzip the file. |
| 2. | <p>Open your WinCC (TIA Portal) configuration. In the “Libraries” task card, open the “Global libraries” palette.</p>  |
| 3. | <p>Click the second icon from the left to open a global library.</p>  |
| 4. | <p>Select the “LHmi_Data.al13” or “LProData.al13” file and use the “Open” button to open the library.</p> |
| 5. | <p>Open the “Master copies > FileCopy” folder. Copy the items to your operator panel.</p>  |
| 6. | <p>SIMATIC Panels / WinCC Runtime Advanced Drag the “Pop Up FileCopy” pop-up screen to one of your screens. TIA Portal creates a button that allows you to open the screen during runtime.</p> <p>WinCC Runtime Professional Drag “TransferData Screenwindow”, “TransferData Toolbar”, “TransferData Configuration” and “TransferData Tag” from the library to your project. Alternatively, configure a separate screen window where you open the “File Copy” screen. Please note that this may require more steps (e.g., customizing the screen window name in scripts).</p> |

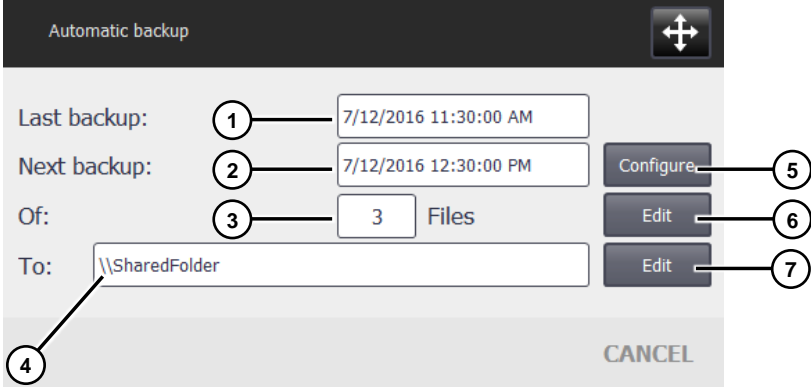
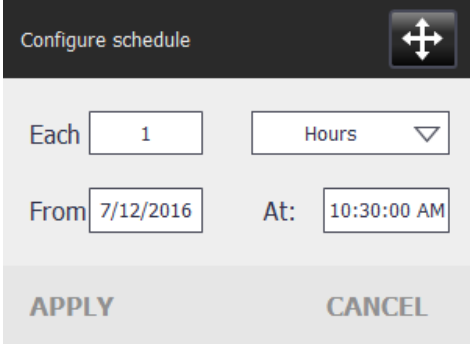
5.3 Operation

Table 5-2

| No. | Action |
|-----|---|
| 1. | Open the "106226404_ExampleProject" or "106226404_ExampleProject_Professional" that you can download from the download page of this entry. https://support.industry.siemens.com/cs/ww/en/view/106226404 |
| 2. | Download the "TP900" or "Toolbox" configuration to your operator panel. |
| 3. | <p>SIMATIC Panels / WinCC Runtime Advanced</p> <p>Open the right-hand slide-in screen and click the "Transfer Data" button. Click the "Auto Backup" button.</p>  <p>WinCC Runtime Professional</p> <p>Click the "Transfer Data" button. Use the "..." button to open the screen.</p>  |

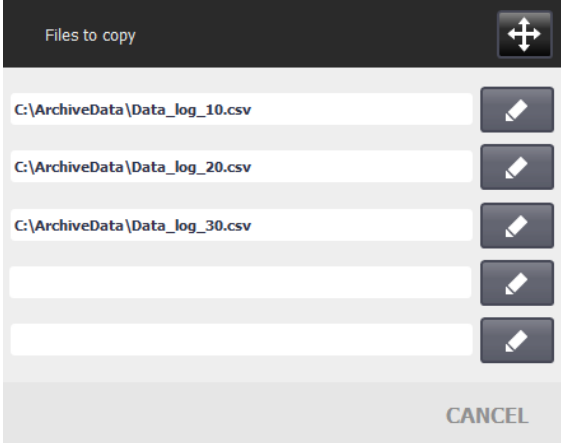
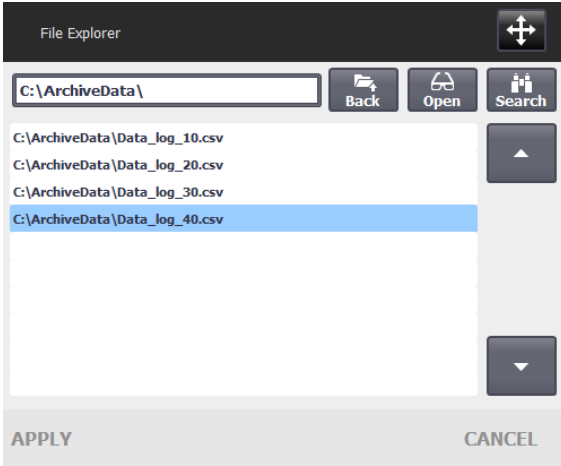
5 Automatic Backup of Files

5.3 Operation

| No. | Action |
|-----|---|
| 4. | <p>The “Automatic backup” screen opens. I/O field (1) displays the time of the last successful backup. I/O field (2) displays the time of the next scheduled backup. I/O field (3) displays the number of selected files. I/O field (2) displays the path where the files are saved.</p>  |
| 5. | <p>Click the “Configure” button (5) to set the interval at which the files will be saved.</p>  |

5 Automatic Backup of Files

5.3 Operation

| No. | Action |
|-----|---|
| 6. | <p>Click the “Edit” button (6) to select the files to be saved.</p>  <p>Click the pencil icon button and in File Explorer, select the file. Select “Apply” to confirm your selection or click “Cancel” to close the pop-up screen.</p>  <p>For a detailed description of File Explorer, please refer to the “Increasing Clarity” documentation of this application example.</p> <p>To remove a selected file from the list, enable the I/O field and delete the entry.</p> |
| 7. | <p>Click the “Edit” button (7) to select the path where you want to save the files. You can also enter the path directly in the I/O field.</p> |
| 8. | <p>At the set time, the files will be copied to the specified folder. And the original file name is prefixed with the current date and time.</p> |

6 Links & Literature

Table 6-1

| | Topic | Title |
|-----|--|---|
| \1\ | Siemens Industry Online Support | http://support.automation.siemens.com |
| \2\ | Download page of the entry | https://support.industry.siemens.com/cs/ww/en/view/106226404 |
| \3\ | WinCC Advanced V13.0 SP1 Manual | http://support.automation.siemens.com/WW/view/en/109091876 |
| \4\ | “SIMATIC HMI HMI Devices Comfort Panels” Manual, “Changing Internet settings” section | https://support.industry.siemens.com/cs/ww/en/view/49313233/25685981963 |
| \5\ | Reed-Solomon (Wikipedia) | http://en.wikipedia.org/wiki/Reed%E2%80%93Solomon_error_correction |
| \6\ | What are the functional differences between the different SIMATIC panels? | http://support.automation.siemens.com/WW/view/en/40227286 |
| \7\ | “WinCC Advanced V13.0 SP1” Manual, Visualize processes > Working with system functions and Runtime scripting > Reference > VB scripts > System functions > SendEMail | https://support.industry.siemens.com/cs/ww/en/view/109091876/69071010571 |

7 History

Table 7-1

| Version | Date | Modifications |
|---------|---------|---|
| V1.0 | 02/2016 | First version |
| V1.1 | 10/2016 | New: Automatic Backup Tools for Runtime Professional added |