Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

**DANGER**
indicates that death or severe personal injury will result if proper precautions are not taken.

**WARNING**
indicates that death or severe personal injury may result if proper precautions are not taken.

**CAUTION**
indicates that minor personal injury can result if proper precautions are not taken.

**NOTICE**
indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by personnel qualified for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

**WARNING**
Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

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Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.
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1.1 Function overview

The application allows the user to connect a smart device to a SIMATIC S7-1500, S7-1200, ET200SP or Open Controller (PN/IO) via WLAN.

Functions of your S7 app

- Connection to different controllers in the network (SIMATIC S7-1500, S7-1200, Open Controller and ET 200SP)
- Configuration of a control page for operator control and monitoring of tags with configurable controls: Gauge, switch, bar graph output field and slider. The controls can be obtained by an in-app purchase. The maximum total number of controls is limited to 50.
  NOTE: An Internet connection must be established in order to add controls to the control page. It is possible to use the controls without an Internet connection.
- Changing the operating mode of the controller (RUN/STOP)
- Reading the diagnostics buffer and forwarding by email.
- Monitoring and changing tags (max. 20)
- Display of up to eight tags in the Trend view
- Languages: German and English

Note

The local operation of the plant, for example, through the display of your controller or a SIMATIC Panel, is not affected by the S7 app and can be performed simultaneously.
Compatibility

The application is compatible with SIMATIC S7-1500 and ET 200SP with firmware version 1.8 or higher and SIMATIC S7-1200 with firmware version 3.0 or higher. The SIMATIC S7 app does not work on rooted devices. This version does not support devices with an Android version <4.0.

High security

- Protected communication
- Password protection for the app
- Protected profile data

Additional information on SIMATIC to go

- You can find a brief introduction to the SIMATIC topic on YouTube: YouTube (https://youtu.be/vXfRpnwZZu4)
- The SIMATIC site offers an overview of the other SIMATIC apps: SIMATIC to go (http://www.siemens.com/simatic2go-qr2)

1.2 Download of S7 app

Installation of the app in iOS

You need at least iOS version 7.0 to use the S7 app.

Open the following link or scan the QR code:

![QR code]

Download of S7 iOS app (https://itunes.apple.com/de/app/simatic-s7/id547218432?mt=8)
**Installation of the app in android**

You need at least Android version 4.0 to use the S7 app.

Open the following link or scan the QR code:

![QR Code]


### 1.3 S7 app icons

**Overview - Icons in the S7 app**

Refer to the following table to find out which functions the icons used in the S7 app have:

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="edit-icon.png" alt="Icon" /></td>
<td>Edit</td>
<td>Edit existing objects (e.g. tags).</td>
</tr>
<tr>
<td><img src="copy-icon.png" alt="Icon" /></td>
<td>Copy and paste</td>
<td>Create a copy of the selected object.</td>
</tr>
<tr>
<td><img src="wrench-icon.png" alt="Icon" /></td>
<td>Wrench</td>
<td>Change the configuration of the app or a controller.</td>
</tr>
<tr>
<td><img src="plus-icon.png" alt="Icon" /></td>
<td>Plus</td>
<td>Add objects</td>
</tr>
<tr>
<td><img src="cross-icon.png" alt="Icon" /></td>
<td>Cross</td>
<td>Delete objects</td>
</tr>
<tr>
<td>Icon</td>
<td>Name</td>
<td>Function</td>
</tr>
<tr>
<td>------</td>
<td>-----------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>![Move Icon]</td>
<td>Move</td>
<td>Change the sorting of objects (such as tags) by holding the icon pressed and moving it to the desired location.</td>
</tr>
<tr>
<td>![Floppy Disk Icon]</td>
<td>Floppy disk</td>
<td>Save new or edited objects.</td>
</tr>
<tr>
<td>![Back Icon]</td>
<td>Back</td>
<td>Navigate to the most recently opened dialog in the app.</td>
</tr>
<tr>
<td>![Share Icon]</td>
<td>Share</td>
<td>Send data from the app.</td>
</tr>
<tr>
<td>![Trend View Icon]</td>
<td>Trend view</td>
<td>Open Trend view. This view displays process values over time.</td>
</tr>
<tr>
<td>![End Full Screen Trend View Icon]</td>
<td>End full screen trend view</td>
<td>Ends the full screen view in the trend view.</td>
</tr>
<tr>
<td>![Trend View Standard Zoom Icon]</td>
<td>Trend view standard zoom</td>
<td>Reset the zoom within the Trend view to the standard setting.</td>
</tr>
<tr>
<td>![Full Screen Trend View Icon]</td>
<td>Full screen trend view</td>
<td>Starts the full screen view in the trend view.</td>
</tr>
<tr>
<td>![Information Icon]</td>
<td>Information</td>
<td>Display information about the app.</td>
</tr>
</tbody>
</table>
Making basic settings and connection to the S7

2.1 Enabling access the app on the controller in the TIA Portal

Introduction

Before using the access via the S7 app, you need to grant access permission in the respective controller. These settings are made in the hardware configuration in the TIA Portal.

Procedure

1. Open the device configuration of your CPU in the TIA Portal.

2. In the properties of the CPU under General > Web server > General, select the Activate Web server on this module option. App access always takes place via HTTPS, regardless of whether you have activated the Permit access only with HTTPS option in the following dialog.
3. Create a new user under **Web server > User management**:
   - It is recommended to assign the following rights to use the app: Query diagnostics, Read/write tags, Change operating mode, Flash LED. If the appropriate permissions are not granted, the respective function cannot be used in the app.
   - Set a new password for the user
4. In the properties of the CPU under PROFINET interface > Web server access, select the Enable Web server using this interface option.

5. Load the settings to the CPU.

2.2 Setting the start of the app and password

Introduction

The first time the app is started, you can set a password to use the app. The password is only used to log into the S7 app. You can define the access to the respective controller in the device overview of TIA Portal.
Procedure

The first time the S7 app is used, the following mask appears in which you can specify a password for the app.

1. Assign a password and confirm Save.

![Change Password](image)

2. If you do not want to assign a password for the app, enter nothing and simply click Save.

Result

The password is required each time you open the app. The password can be subsequently set, changed or deleted in the settings of the app.

See also: Changing your password (Page 32)

2.3 Setting up a connection to the S7 control

Requirement

To access an S7 controller, you need to enable access to the Web server in the TIA Portal.

The S7 controller must also be the same network as your phone or tablet or VPN access must already be set.
Creating a connection

1. Click on the **plus icon** on the start page. The "Create connection" dialog.

2. You can use the **CPU icon** to either add a logo from the icon library of the app or save a picture of your controller or plant from your camera. You can use the default CPU icon by using the "Standard CPU" function.

3. In the "Name" field, enter a name under which the connection is displayed in the app. The name can be freely assigned and does not have to be identical to your S7 controller.

4. Under "IP address / Host name", enter the IP address of your CPU or ET200SP.

5. Enter the access information under the Web server user name and Web server password that you have set for the Web server in the TIA Portal.

6. Click on the **floppy icon** to save the connection data.
Result

The controller is displayed in the device overview. Click on the controller to establish the connection.
3.1 Station overview

Introduction

The station overview contains all functions and data for a specific PLC. Here, you can read the data from the PLC and access tags of the controller.

The station overview contains the following functions:

- Operating mode switching (STOP/RUN)
- Run LED flash test (Flash LED)
- Tag access
- Diagnostic buffer
- Module information and access to the Service&Support website
### 3.2 Switching the operating mode

**Operating mode selector (RUN/STOP)**

You can switch the CPU to RUN or STOP using the mode selector.

See also

Displaying and changing tags in the controller (Page 18)
The function can be used only if the access to the operating mode is not disabled:

- In the hardware configuration, authorization has been granted to change the operating mode in the user management of the Web server.
- Online access to the CPU has not been disabled on the display. You can block access to a password-protected CPU on the display of an S7-1500 CPU (local block). If the disable is set, you cannot access online.

### 3.3 Performing an LED flash test

**LED flashing test (Flash LED)**

Click on the "Flash LED" button, a LED of the CPU then flashes. This function is useful, for example, if you are not sure which device in the hardware configuration corresponds to the controller currently selected in the app. The LEDs RUN/STOP, ERROR and MAINT flash simultaneously with an S7-1200 and 1500 CPU.

The function can be used only if the corresponding authorization has been granted in the user management of the Web server.

### 3.4 Reading out a diagnostics buffer

**Diagnostic buffer**

You use this function to access the diagnostic buffer of the CPU.

The system and user-defined diagnostics events are entered in the diagnostics buffer in the order of their occurrence. The first entry contains the latest event. The number of entries in the diagnostic buffer depends on the given module.

The function can be used only if the authorization to query the diagnostics data has been granted in the user management of the Web server.

**Switching the language diagnostic buffer entries**

The language selection of the displayed diagnostic buffer texts depends on the project language selected in the TIA Portal. To change the language, select the Project languages command in the Tools menu of the TIA Portal, switch the language and load the project in the CPU.

**Sending diagnostic buffer entries per e-mail**

Click on the splitting icon in the diagnostics buffer view at the upper right and select to send via e-mail.

You need an Internet connection to send entries.
3.5 Tags

3.5.1 Displaying and changing tags in the controller

Introduction

In the tag list, you specify which PLC tags you want to access via the app. A maximum of 50 tags per controller can be added.
Creating a new tag

1. Click on the **plus icon** to create a new tag.
2. In the "Add tag" dialog, enter the symbolic name of the PLC tag under the address. Absolute addressing (for example, in the form of %I0.0) is not permitted with a S7-1500. You see the name in the PLC tag table in the TIA Portal. You address tags within data blocks by the name of the data block and the tag name, separated by a dot. (Example: "MyDB.TagXY"). You can also use absolute addressing with an S7-1200.
3. Enter a name for the tag under "Name". The name is used only for display in the S7 app and does not need to match the name of the PLC tag.
4. Under "Format", enter the data type of the PLC tag.

![Edit Tag](image)

5. Click on the floppy icon at the upper right to save the tag.
Result

The tag appears in the tag list of the CPU.

3.5.2 Edit tag list

Edit tag list

Click on the pencil icon in the tag list to edit the existing tag list.
Edit tag

1. Click on the **wrench icon** to change the properties of the tag (address, name, data type).
2. To save the change, click on the **floppy icon** at the upper right.

Deleting tags

1. Select the tags you want to delete using the check boxes to the left.
2. Click on the **cross icon** at the upper right to delete the tag.

Change the order of tags

1. Hold down the **Move icon**.
2. Move the tag entries up or down.

3.5.3 Reading and writing tags?

Introduction

The current value of the tag is displayed in the tag list.

Changing the value on the CPU

1. Click on the tag with the value you want to change.
2. The current value of the tag is displayed in the dialog.
3. Enter the new value that you want to write to the tag.
   *Note that the value must match the data type of the tag (for example, BOOL only TRUE or FALSE).*
4. Click on the **Write to CPU button**.

Result

The new value is transferred to the controller.

3.5.4 Export tags status via the Trend view

Introduction

Using the "Trend view" you can display the value changes of the tag over time.

A maximum of 8 tags can be displayed in the Trend view at the same time. The supported data types are BIN, DEC +/-, DEC_UNSIGNED and HEX.
Open the Trend view

1. Click on the Trend view icon in the tag list below in the dialog.

2. Use the check boxes to select the tags that you want to output via the Trend view. Trend view starts as soon as you select the option for the tag.

3. Click on the arrow icon at the upper right to start the Trend view in full screen mode.

Result

The value changes of your selected tags over time are displayed.

- By moving the blue slider to the left or right, you can display the tag values read.
- The exact values for the position of the slider are displayed below the coordinate system.
- You can use gestures to zoom in and out and use the standard zoom symbol to restore the original view.

How frequently a new value is written depends on the refresh frequency. You can adjust this in the app settings.
3.5 Tags
3.6 Details view

Module overview and diagnostics status

Details provides you with information about the installed modules of the PLC (CPU, DI, DO, etc.):

- Name and type of the CPU, ET200SP and modules
- Serial number and firmware version
- Diagnostic status of installed modules:
  - Green: No fault / online
  - Yellow: CPU in STOP
  - Red: Error
  - Gray: Not available / no connection

Online access to the Service&Support

The Support button provides you direct access to information about a module in the Online Support App. You require an Internet connection to use the function.

The "Industry Online Support" app must already be installed on your device:

- If this is not the case, you are automatically redirected to install the app.
- If the app is installed, you are redirected to the Service&Support thread for the module. Here, you can find all information about the product (manuals, FAQs, technical specifications, etc.).
  You can also find your Siemens contact in your country and send requests to Technical Support.
Creating controls

4.1 Control overview

How controls work

Controls are graphical control elements for reading and writing PLC tags. You can configure up to 50 controls in your LOGO! app.

Controls are always linked to a tag whose value is to be changed or output via controls.

The list of controls can include multiple controllers and their tags.

Enabling controls

For testing purposes, you can use a given control of any type once free of charge. Thereafter, activation of the control type is subject to charge.

Once you have activated a control element, you can use this type in your app as often as you like.

The activation of the control type is stored in your app store under your account. When you change the device, you can continue to use the control type at no additional cost.

Requirement

To use a control, you must have previously created a tag for LOGO!.

See also: Displaying and changing tags in the controller (Page 18)

Control types

There are five different controls that you can use:

- **Button**: For switching between two values of a tag
- **Slider**: For changing analog values
- **Bars**: Output of analog values
- **Output field**: Output of analog values
- **Gauge**: Output of analog values with indication of critical value ranges
4.2 Adding a control button

Example: Control button

One use for the control button is an on/off switch for a motor.

Adding controls

1. Click on the plus symbol on the control page.
2. Select the control button.
3. Enter the following information under "Edit button":
   - Edit control name: Name under which the control is shown in the app. The name of the control is independent of the tag name.
   - Name left / right: Label in the app for the left and right button of the control
   - Select PLC: Selection of the CPU that contains the tag for the control.
   - Target Tag: Tag to be displayed and controlled via the control.
   - Value left / right: Value to be written by the left or right button.
   - Shows indicator field (optional): The indicator field outputs the value of a tag.
   - Current tag: Tag in the controller whose value is to be output.
   - Text in indicator field: Text to be displayed for a given tag value (for example, "Motor off" for tag value "0").
   - Value for text: Tag value.
4. Click on the floppy icon at the upper right to save the control.

Result

The control is displayed on the control page. You can use the icon to the right of the control to edit, delete or duplicate the control.
4.3 Adding a control slider

Example: Control slider

One use for the control slider is changing a fill level or speed (change of analog values).

Adding controls

1. Click on the plus symbol on the control page.
2. Select the "Slider" control.
3. Enter the following data under "Edit slider":
   - **Edit control name**: Name under which the control is shown in the app. The name of the control is independent of the tag name.
   - **Min./Max. Value**: Value range that can be written using the slider. If the process value violates the value range, an arrow is shown to the right or left of the slider.
   - **Select PLC**: Selection of the CPU that contains the tag for the control.
   - **Target Tag**: Tag to be displayed and controlled via the control.
   - **Select Auto scaling / Number of segments**: Specify whether the slider is to be divided into a fixed number of segments or if the app should set the number of segments automatically.
   - **Show current value**: The current value is displayed next to the slider. The tag for the current value does not correspond to the target tag in this case.
4. Click on the floppy icon at the upper right to save the control.

Result

The control is displayed on the control page. You can use the icon to the right of the control to edit, delete or duplicate the control.
4.4 Adding control bars

Example: Control bars
One use for the control bar is displaying a fill level or speed (display of analog values).

Adding controls
1. Click on the plus symbol on the control page.
2. Select the “Bar” control.
3. Enter the following data under “Add bar”:
   – Add control name: Name under which the control is shown in the app. The name of the control is independent of the tag name.
   – Min./Max. Value: Value range that can be written using the slider. If the process value violates the value range, an arrow is shown to the right or left of the bar.
   – Select PLC: Selection of the CPU that contains the tag for the control.
   – Target Tag: Tag to be displayed and controlled via the control.
4. Click on the floppy icon at the upper right to save the control.

Result
The control is displayed on the control page. You can use the icon to the right of the control to edit, delete or duplicate the control.

4.5 Adding a control output field

Example: Control output field
Any type of value can be displayed via the output field. One use for the output field control is to output a status value of an instruction.
Adding controls

1. Click on the plus symbol on the control page.
2. Select the control in the output field.
3. Enter the following information under "Edit button":
   - **Edit control name**: Name under which the control is shown in the app. The name of the control is independent of the tag name.
   - **Select PLC**: Selection of the CPU that contains the tag for the control.
   - **Target Tag**: Tag to be displayed and controlled via the control.
4. Click on the floppy icon at the upper right to save the control.

Result

The control is displayed on the control page. You can use the icon to the right of the control to edit, delete or duplicate the control.

4.6 Adding a gauge control

Example: Gauge control

One use for the gauge control is to display the speed for a motor.

![Gauge control example](image)

Adding controls

1. Click on the plus symbol on the control page.
2. Select the control in the output field.
Creating controls

4.6 Adding a gauge control

3. Enter the following information under "Edit button":

   - **Edit control name**: Name under which the control is shown in the app. The name of the control is independent of the tag name.
   
   - **Title**: Text that is displayed in the control itself (for example: "Speed" or "km/h").
   
   - **Min./Max. Value**: low and high values of the displayed scale. If the process value violates the value range, an arrow is shown to the right or left of the pointer instrument.
   
   - **Start value warning / start value danger**: Value as of which the scale is highlighted in yellow or red.
   
   - **Select PLC**: Selection of the CPU that contains the tag for the control.
   
   - **Target Tag**: Tag to be displayed and controlled via the control.

4. Click on the floppy icon at the upper right to save the control.

Result

The control is displayed on the control page. You can use the icon to the right of the control to edit, delete or duplicate the control.
Changing the S7 app

5.1 Change language

Language selection

1. Open settings of the app on the start screen by clicking on the wrench icon at the bottom left.
2. Click Language selection.
3. Select your language (English or German).
4. Click on the floppy icon at the upper right to save the settings.

Result

The language of the app has been switched.
Note that the language switch only affects the app. Project texts from TIA such as diagnostic buffer entries are displayed in the configured project language of the controller.

5.2 Refresh frequency

Refresh frequency

You use the refresh frequency to determine how often a process value is to be read from the controller.

Set the refresh frequency

1. Click Refresh frequency on the "Settings" page.
2. Select the refresh frequency between 0.5 and 30 seconds.
3. Save the refresh frequency with floppy icon at the upper right.

Result

The display of the values in the tag list, the trend view or in the controls are updated according to the selected setting.
5.3 Changing your password

Password protection of the S7 app

The S7 app itself can be protected by a password. The password protection prevents unauthorized access to the controller via the app.

When you first start the app, you can optionally assign a password:

- If you skipped this step, you can use the "Change Password" dialog at any time to assign a password.
- If you have already assigned a password, you can change or delete your password via the dialog.

Setting a password

1. Leave the "Old password" empty.
2. Enter your desired password for the app under "New password".
3. Enter and confirm the new password and click **Save**.

Changing your password

1. Enter your password in the "Old password" field.
2. Enter your desired password for the app under "New password".
3. Enter and confirm the new password and click **Save**.

Delete password

1. Enter your password in the "Old password" field.
2. Leave the other two fields empty and click **Save**.