

Function Description S7-1200 App

SIMATIC S7-1200

FAQ • July 2013



Service & Support

Answers for industry.

SIEMENS

This entry originates from the Siemens Industry Online Support. The conditions of use specified there apply (www.siemens.com/nutzungsbedingungen).

Go to the following link to download this document.

<http://support.automation.siemens.com/WW/view/de/74819592>

Caution

The functions and solutions described in this article confine themselves predominantly to the realization of the automation task. Furthermore, please take into account that corresponding protective measures have to be taken in the context of Industrial Security when connecting your equipment to other parts of the plant, the enterprise network or the internet. Further information can be found in Entry ID: !50203404!.

<http://support.automation.siemens.com/WW/view/de/50203404>

Question

What is the range of functions of the S7-1200 App?

Answer

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

Contents

1	General.....	4
1.1	Preface.....	4
1.2	Compatibility.....	4
1.3	Requirements.....	4
2	Commissioning	5
2.1	Configuring the Ethernet Interface.....	5
2.2	Activating the Web Server	5
3	Operation	7
3.1	Calling the SIMATIC S7-1200 App.....	7
3.2	Adding Controllers.....	8
3.3	Editing Controllers	11
3.4	Deleting Controllers	12
3.5	Logging In	13
3.6	Settings	14
3.6.1	Language Selection.....	15
3.6.2	Refresh Frequency	15
3.6.3	"Set Tag" Confirmations.....	16
3.6.4	Change Password	16
3.6.5	Reset Password	17
3.6.6	Help	17
3.6.7	About.....	18
3.6.8	Corporate Information.....	18
3.6.9	License.....	19
3.6.10	Open Source Licenses.....	19
3.7	Reading Out the System Information	20
3.7.1	Letting the Controller Flash.....	21
3.7.2	Changing the Operating Mode.....	22
3.7.3	Reading Out the Diagnostic Buffer.....	23
3.8	Tag List	24
3.8.1	Adding Tags	25
3.8.2	Editing Tags	27
3.8.3	Deleting Tags	29
4	Internet Link Specifications	30

1 General

1.1 Preface

The S7-1200 App enables you to control your SIMATIC S7-1200 with an Apple iPhone, Apple iPod or Apple iPad.

1.2 Compatibility

The S7-1200 App V1.1 runs on the following devices:

- iPhone 3GS
- iPhone 4
- iPhone 4S
- iPhone 5
- iPod touch (3rd generation)
- iPod touch (4th generation)
- iPod touch (5th generation)
- iPad (operating system iOS 5.0 onwards)

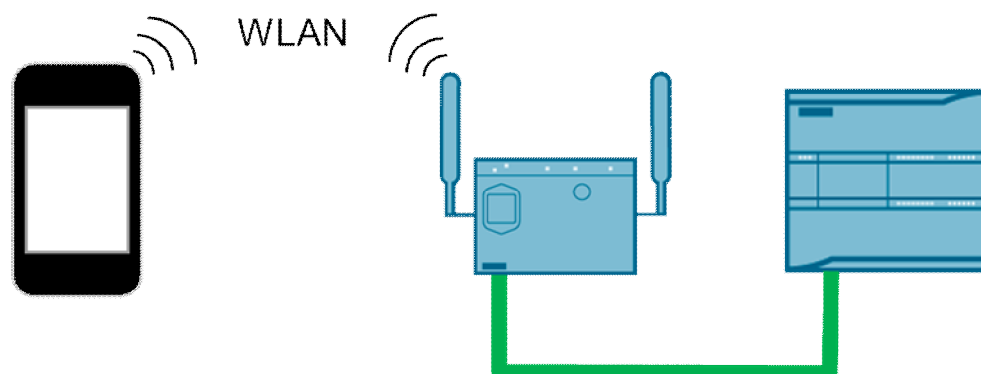
The S7-1200 App V1.1 has been optimized for operation with an iPhone 5.

1.3 Requirements

You can use the S7-1200 App to address SIMATIC S7-1200 controllers with firmware V3 and higher.

The requirements for operating the S7-1200 App are that the web server for the S7-1200 is enabled, the controller is connected to a WLAN access point and that your Apple iPhone, iPod or iPad has a WLAN connection to the access point.

Figure 1-1

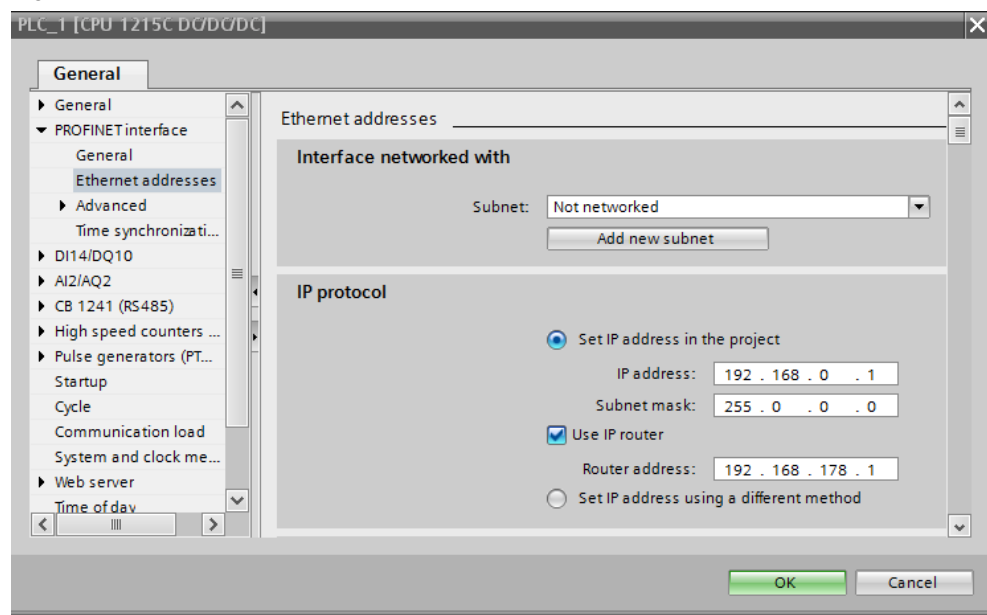


2 Commissioning

2.1 Configuring the Ethernet Interface

Open your project with STEP 7 V11 (or higher), mark your configured S7-1200 controller (firmware V3.0), right-click and open the menu item "Properties...".

Figure 2-1

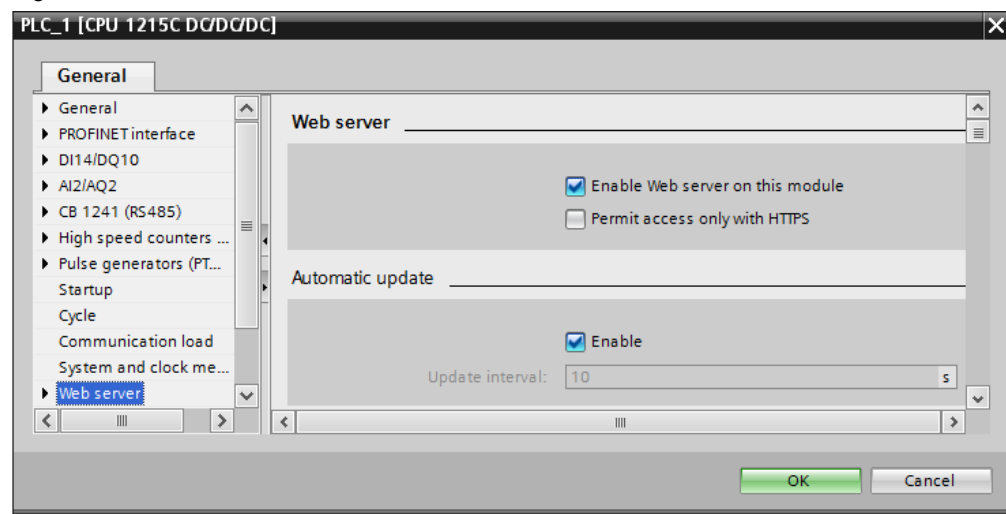


In the "Ethernet addresses" submenu you set the IP address and subnet mask for you controller.

Check the "Use IP router" option and enter the IP address of your WLAN access point as the router address.

2.2 Activating the Web Server

Figure 2-2



In the "Web server" submenu you enable the web server on this module.

Then download the changed hardware configuration to your controller and put the controller in "RUN" mode.

Please refer to the operating instructions concerned for configuring your WLAN access points.

Likewise refer to the corresponding operating instructions for how to connect your Apple iPhone, iPod or iPad to the access point over the WLAN.

3 Operation

The requirement for use is the correct installation of the S7-1200 App V1.1.

3.1 Calling the SIMATIC S7-1200 App

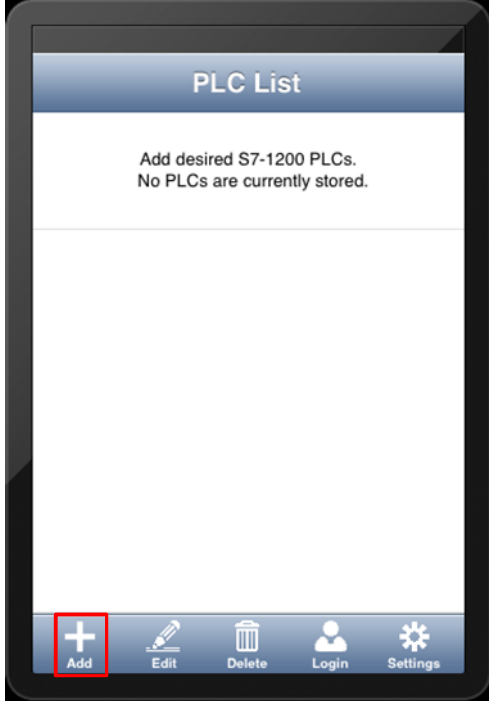

Use the relevant icon to open the S7-1200 App.

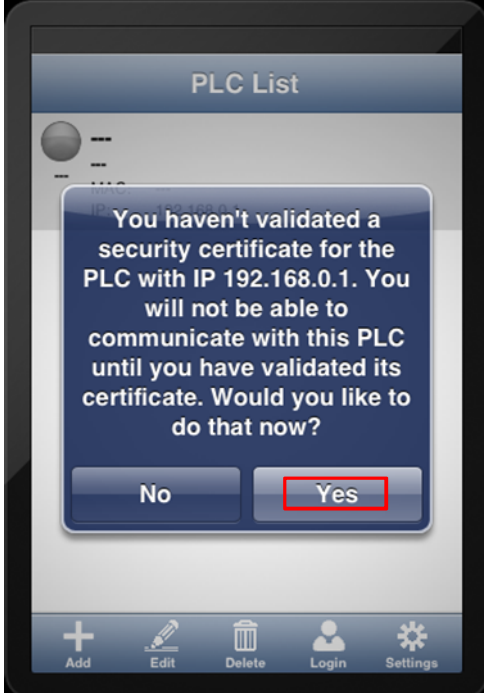
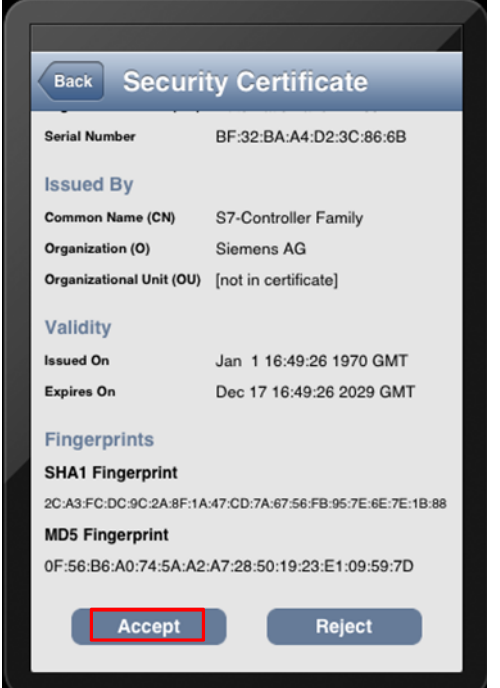
Figure 3-1







3.2 Adding Controllers

Table 3-1


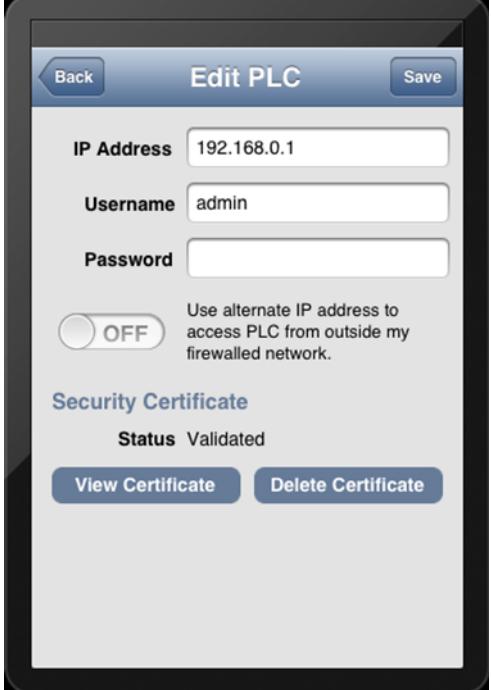
No.	Instructions	Figure
1.	<ul style="list-style-type: none"> The first time you call the S7-1200 App there are not yet any controllers in the PLC list. You can have up to 50 controllers in the PLC list. Tap the "Add" button. 	
2.	<ul style="list-style-type: none"> Specify the IP address of your controller. If you have protected the access to your computer, you must also specify the password. If you use an alternative IP address to access the controller from outside the firewall-protected network, you can also specify that IP address and the port used after sliding the relevant switch to "ON". Then tap the "Add" button. When you have added all the controllers you wish to access, you tap the "Back" button. 	

No.	Instructions	Figure
3.	<ul style="list-style-type: none"> In order to be able to communicate with a newly added controller you must validate the security certificate of that controller. Confirm the validation with "Yes". 	
4.	<ul style="list-style-type: none"> The security certificate is displayed. Scroll down and tap the "Accept" button. 	

No.	Instructions	Figure
5.	<ul style="list-style-type: none"> The controller is displayed in the PLC list. Green indicates the "RUN" operating mode. <div data-bbox="365 398 432 495" style="text-align: center;">  </div> Yellow indicates the "STOP" operating mode. <div data-bbox="365 591 432 687" style="text-align: center;">  </div> Grey indicates that the controller is not accessible. <div data-bbox="365 784 432 880" style="text-align: center;">  </div> 	<div data-bbox="847 304 1342 1003" style="border: 1px solid black; padding: 5px;">  </div>



3.3 Editing Controllers

Table 3-2

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> Select the controller you want to edit in the PLC list. Tap the "Edit" button. 	
2.	<ul style="list-style-type: none"> Here you can change the interface settings and access data of your CPU as required. You save the changes made by tapping the "Save" button. You can also view or delete the security certificate. Use the "Back" button to return to the PLC list. 	


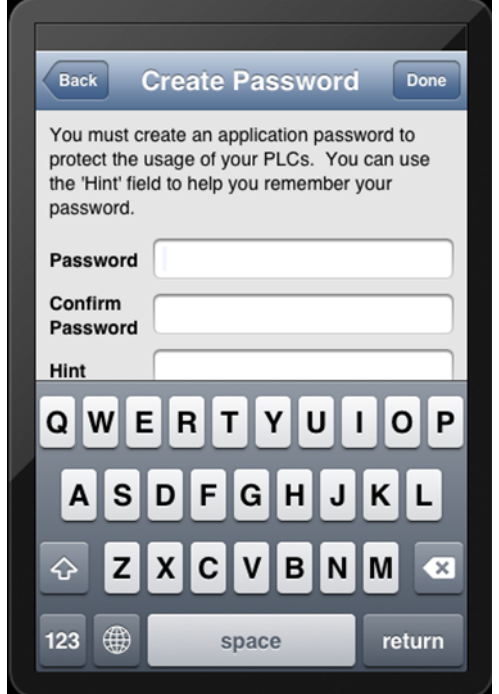
3.4 Deleting Controllers

Table 3-3

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> Select the controller you want to delete from the PLC list. Tap the "Delete" button. 	 <p>The screenshot shows the 'PLC List' interface for 'SIMATIC 1200 station_1'. The PLC is in 'RUN' mode. Details include 'PLC_1', MAC: 00-1C-06-10-F8-76, and IP: 192.168.0.1. The bottom navigation bar contains icons for Add, Edit, Delete (highlighted with a red box), Login, and Settings.</p>
2.	<ul style="list-style-type: none"> Confirm deletion of the controller selected from the PLC list by tapping "OK". 	 <p>The screenshot shows the same 'PLC List' interface as above, but with a confirmation dialog box overlaid. The dialog box asks 'Remove PLC from list?' and has two buttons: 'Cancel' and 'OK' (highlighted with a red box). The bottom navigation bar remains visible at the bottom.</p>


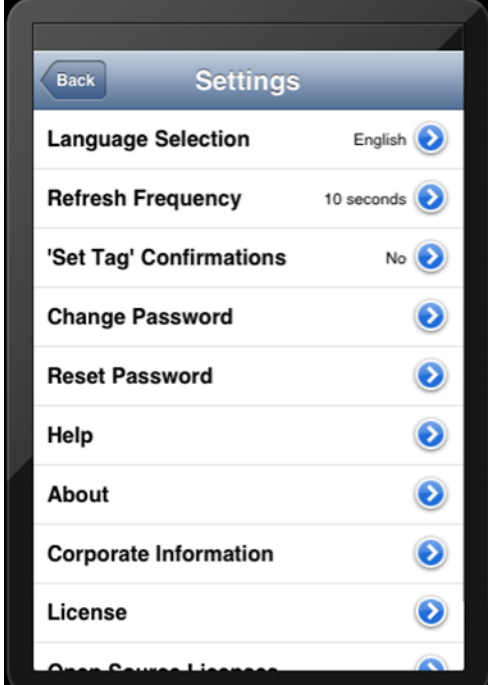
3.5 Logging In

Table 3-4

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> You need to assign a password to have write access to your controller. This protects your controller against unauthorized access using the S7-1200 App. The password is assigned for the S7-1200 App and is not the same the password to protect read/write access in the Properties of the controller in the TIA portal. Tap the "Login" button. 	
2.	<ul style="list-style-type: none"> Assign a password and confirm it. You can use the "Hint" field as a reminder for your password. Tap the "Done" button to save the password. 	

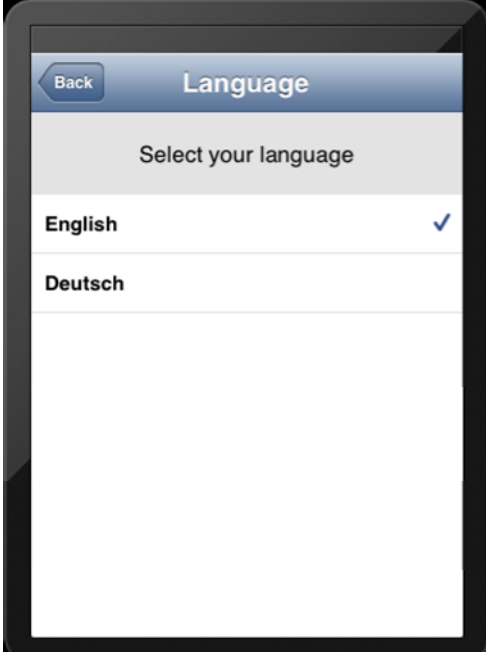
3.6 Settings

Table 3-5

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> Tap the "Settings" button. 	
2.	<ul style="list-style-type: none"> You make the settings for the S7-1200 App in the following submenus: <ul style="list-style-type: none"> - Language Selection - Refresh Frequency - "Set Tag" Confirmations - Change Password - Reset Password - Help - About - Corporate Information - License - Open Source Licenses 	

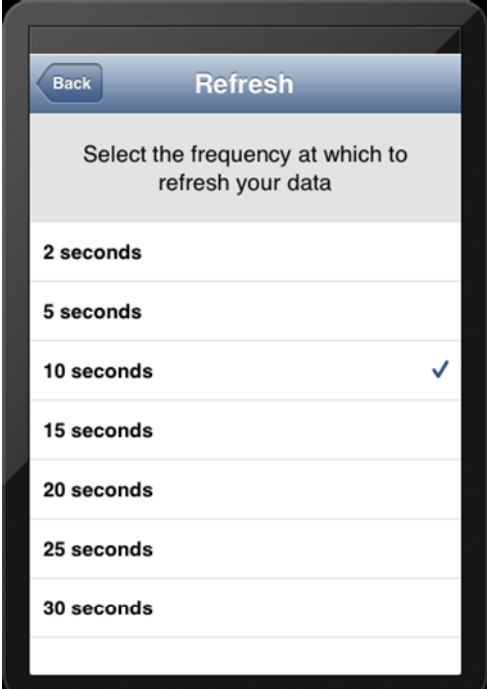
3.6.1 Language Selection

Table 3-6

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> Here you can choose between German and English for the menu language. 	


3.6.2 Refresh Frequency

Table 3-7

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> Here you set the frequency at which the data is updated. 	

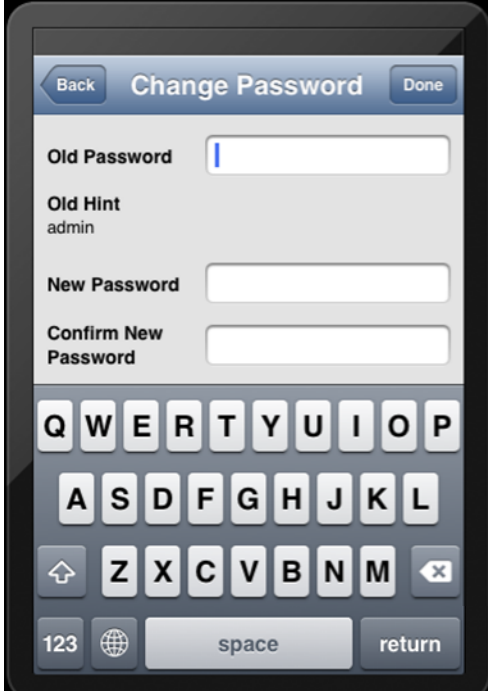
3.6.3 "Set Tag" Confirmations

Table 3-8

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> Here you define whether or not to tap "OK" as confirmation before setting the value of a tag. 	

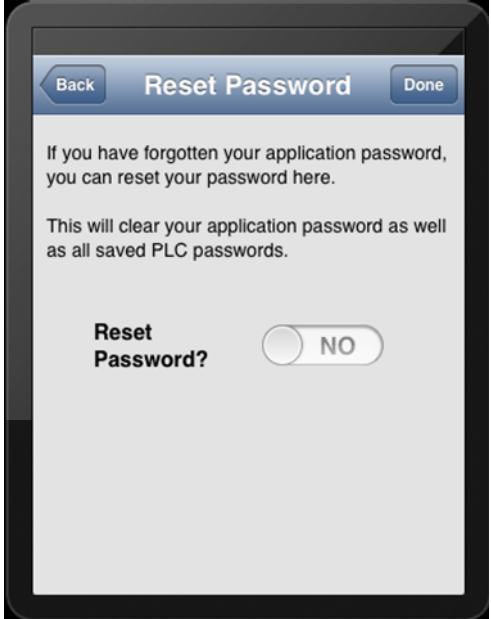
3.6.4 Change Password

Table 3-9

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> Here you can change the password for write access (including hint). 	

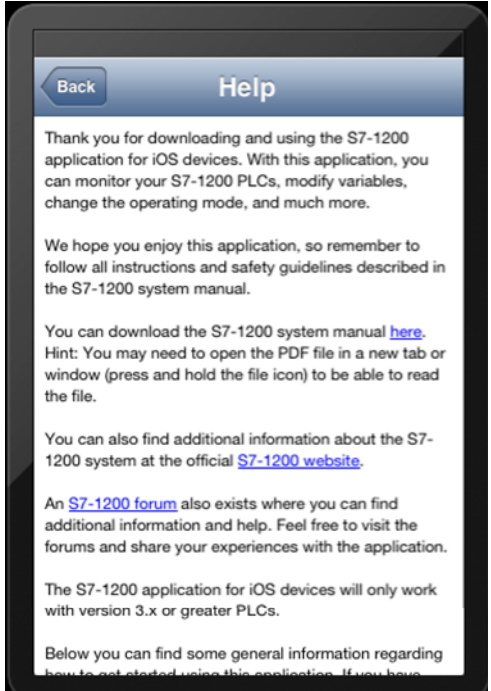
3.6.5 Reset Password

Table 3-10

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> Here you can reset your application password if you forget it. 	

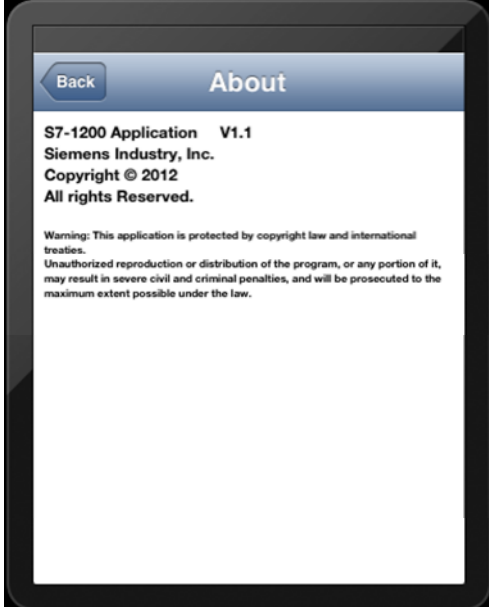
3.6.6 Help

Table 3-11

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> The Help submenu gives a brief description of the S7-1200 App. 	

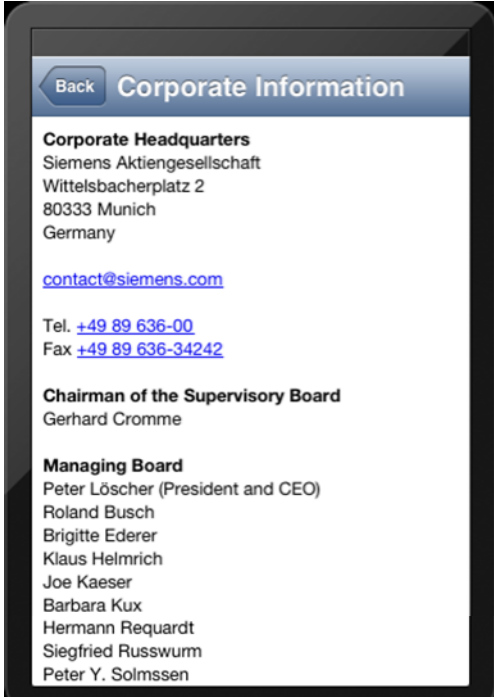
3.6.7 About

Table 3-12

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> Here you find information about the version of the S7-1200 App. 	

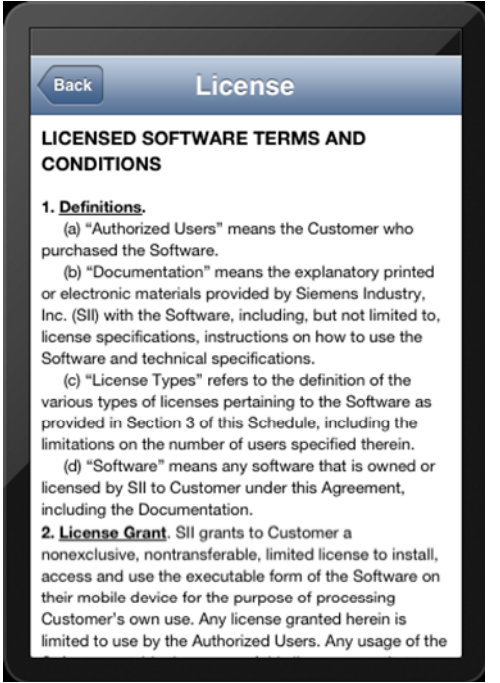
3.6.8 Corporate Information

Table 3-13

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> This gives you information about Siemens AG. 	


3.6.9 License

Table 3-14

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> Here you can view the terms and conditions of the licensed software (SIMATIC S7-1200 App). 	 <p>1. Definitions.</p> <p>(a) "Authorized Users" means the Customer who purchased the Software.</p> <p>(b) "Documentation" means the explanatory printed or electronic materials provided by Siemens Industry, Inc. (SII) with the Software, including, but not limited to, license specifications, instructions on how to use the Software and technical specifications.</p> <p>(c) "License Types" refers to the definition of the various types of licenses pertaining to the Software as provided in Section 3 of this Schedule, including the limitations on the number of users specified therein.</p> <p>(d) "Software" means any software that is owned or licensed by SII to Customer under this Agreement, including the Documentation.</p> <p>2. License Grant. SII grants to Customer a nonexclusive, nontransferable, limited license to install, access and use the executable form of the Software on their mobile device for the purpose of processing Customer's own use. Any license granted herein is limited to use by the Authorized Users. Any usage of the</p>




3.6.10 Open Source Licenses

Table 3-15

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> Here you can view the license conditions for the open source software used: <ul style="list-style-type: none"> - JSONKit – 1.4 - SQLCipher – 3.7.9 	 <p>Siemens AG S7-1200</p> <p>S7-1200 iOS Application: Open Source Software (OSS) License Conditions for: JSONKit – 1.4, and SQLCipher – 3.7.9</p> <p>For Resellers: In order to avoid infringements of the license conditions by the reseller or the buyer these instructions and license conditions and accompanying CD – if applicable – have to be forwarded to the buyers.</p> <p>1) Siemens License Conditions</p> <p>General License Conditions for Software Products for Automation and Drives (2011-08-01)</p> <p>1. Supply of Software to Licensee and Granting of Rights to use the Software</p> <p>1.1 These General License Conditions shall exclusively apply to the delivery of Software for Automation and Drives to the Licensee. General terms and conditions of the Licensee shall apply only where expressly accepted in writing by us. The scope of delivery of the Software</p>


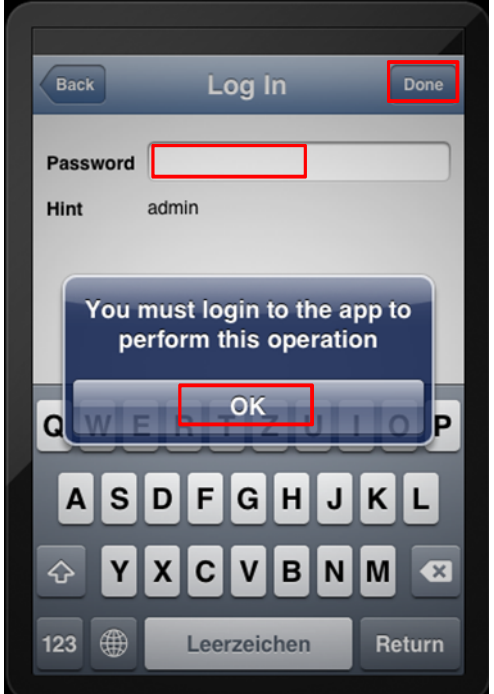
3.7 Reading Out the System Information

Table 3-16

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> Tap the "i" button to read out the system information. 	 <p>The screenshot shows the 'PLC List' interface. At the top, it says 'PLC List'. Below that, there is a green circle icon and the text 'SIMATIC 1200 station_1'. Underneath, it says 'RUN' and 'PLC_1'. Further down, it lists 'MAC: 00-1C-06-10-F8-76' and 'IP: 192.168.0.1'. A red box highlights an information icon (a lowercase 'i' inside a circle) in the top right corner. At the bottom, there is a navigation bar with icons for 'Add', 'Edit', 'Delete', 'Login', and 'Settings'.</p>
2.	<ul style="list-style-type: none"> The system information lists all the configured modules that support diagnostics: <ul style="list-style-type: none"> - Controller - Expansion modules - Communications modules with the following information: <ul style="list-style-type: none"> - Name - Order number - Serial number - Firmware version - Hardware version Modules with errors are display with an exclamation mark:  . You can <ul style="list-style-type: none"> - use the slide switch to select the "RUN" or "STOP" operating mode - read out the diagnostic buffer of the controller - let the selected controller flash 	 <p>The screenshot shows the 'System Info' interface. At the top, it says 'System Info' with a 'Back' button. Below that, it says 'SIMATIC 1200 station_1'. There is a green 'RUN' button with a slide switch next to it, and two red buttons labeled 'Diag Buffer' and 'Flash'. Below this, there is a list of modules: <ul style="list-style-type: none"> PLC_1 (with a green checkmark icon): CPU 1215C DC/DC/DC, 6ES7 215-1AG31-0XB0, Serial # SZVCDYH3003255, FW V.3.0.2, HW V1. SIWAREX WP231 (with a red exclamation mark icon): 7MH4960-2AA01, Serial # VPC9515621, FW V.1.0.1, HW V1. CM 1241 (RS485) (with a green checkmark icon): CM 1241 RS485, 6ES7 241-1CH30-0XB0, Serial # SZVA3YXU004735, FW V.1.0.0, HW V1. </p>

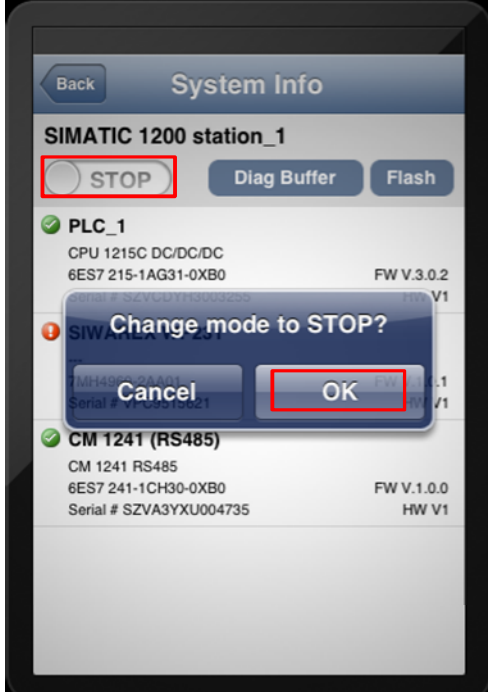
3.7.1 Letting the Controller Flash

Table 3-17

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> • Tap the "Flash" button. • This lets the status LEDs of the selected controller flash. • This permits you to see at a glance whether you are addressing the correct controller. • Since this is about write access to the controller, you must be logged in for execution (see section 3.5). 	 <p>The screenshot shows the 'System Info' screen for 'SIMATIC 1200 station_1'. At the top, there is a 'Back' button and a 'Flash' button, both highlighted with red boxes. Below the title, there is a 'RUN' toggle switch and a 'Diag Buffer' button. The screen lists three components: 'PLC_1' (CPU 1215C DC/DC/DC), 'SIWAREX WP231', and 'CM 1241 (RS485)', each with its respective hardware and software versions.</p>
2.	<ul style="list-style-type: none"> • Since this is about write access to the controller, you must log in with the password created in section 3.5. <ul style="list-style-type: none"> - Confirm the message with "OK". - Enter the password. - Tap the "Done" button to confirm the input. • Then, when logged in, tap the action to be executed again. 	 <p>The screenshot shows the 'Log In' screen. There is a 'Password' input field and a 'Hint' field containing 'admin'. A 'Done' button is highlighted with a red box. A dialog box is displayed in the center with the text 'You must login to the app to perform this operation' and an 'OK' button, which is also highlighted with a red box. A virtual keyboard is visible at the bottom of the screen.</p>

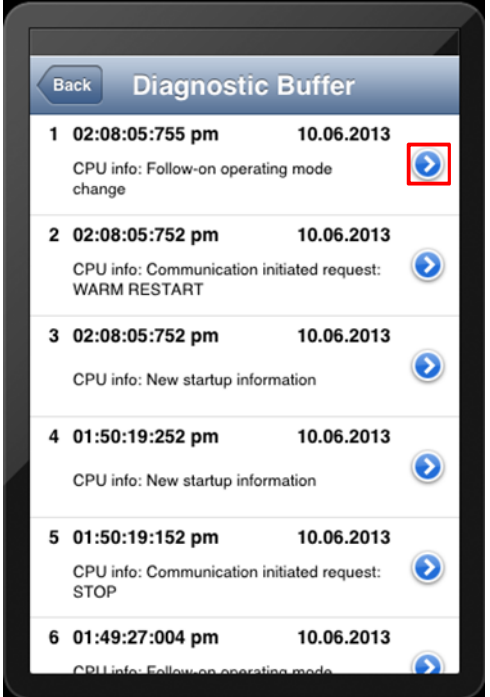

3.7.2 Changing the Operating Mode

Table 3-18

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> • Tap the switch to change the operating mode of the controller. • Confirm the change of operating mode with "OK". • Since this is about write access to the controller, you must be logged in to do this (see section 3.5). • If this is not the case, figure 2 from Table 3-17 is displayed and you proceed as follows: <ul style="list-style-type: none"> - Confirm the message with "OK". - Enter the password. - Tap the "Done" button to confirm the input. • Then, when logged in, tap the action to be executed again. 	 <p>The screenshot shows the 'System Info' screen for 'SIMATIC 1200 station_1'. At the top, there is a 'Back' button and the title 'System Info'. Below the title, there is a 'STOP' button with a red box around it, and two other buttons: 'Diag Buffer' and 'Flash'. The screen displays information for 'PLC_1' (CPU 1215C DC/DC/DC, 6ES7 215-1AG31-0XB0, FW V.3.0.2) and 'CM 1241 (RS485)' (CM 1241 RS485, 6ES7 241-1CH30-0XB0, FW V.1.0.0). A dialog box titled 'Change mode to STOP?' is overlaid on the screen, with 'Cancel' and 'OK' buttons. The 'OK' button is highlighted with a red box.</p>


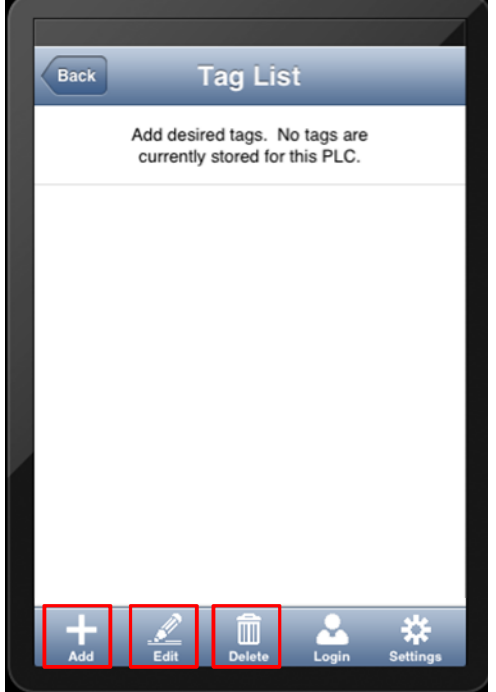
3.7.3 Reading Out the Diagnostic Buffer

Table 3-19

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> • Tap the relevant "Diagnostic Buffer" button to view the diagnostic buffer of the controller. • This is a ring buffer. • The last 50 controller events are listed. • The information about the event is in English. • Tap the arrow icon to obtain the event details (also in English). 	 <p>The screenshot shows a mobile application interface titled "Diagnostic Buffer". At the top left is a "Back" button. Below the title, there is a list of six events. Each event entry includes a number, a timestamp, and a date. The first event is: "1 02:08:05:755 pm 10.06.2013" with the description "CPU info: Follow-on operating mode change". A red square highlights a blue arrow icon to the right of this event. The other events are: "2 02:08:05:752 pm 10.06.2013" (CPU info: Communication initiated request: WARM RESTART), "3 02:08:05:752 pm 10.06.2013" (CPU info: New startup information), "4 01:50:19:252 pm 10.06.2013" (CPU info: New startup information), "5 01:50:19:152 pm 10.06.2013" (CPU info: Communication initiated request: STOP), and "6 01:49:27:004 pm 10.06.2013" (CPU info: Follow-on operating mode).</p>
2.	<ul style="list-style-type: none"> • Use the "Back" button to return to the "Diagnostic Buffer" and then the "System Info". 	 <p>The screenshot shows a mobile application interface titled "Detail". At the top left is a "Back" button, which is highlighted with a red square. Below the title, the screen displays details for "Log 1" at "02:08:05:755 pm" on "10.06.2013". The "Event ID" is "16# 02:400C". The description includes: "CPU info: Follow-on operating mode change", "Power-on mode set: WARM RESTART to RUN (if CPU was in RUN before power off)", "Pending startup inhibit(s): - No startup inhibit set", "CPU changes from STARTUP to RUN mode", "HW_ID= 00052 - Operating mode control", and "Incoming event".</p>

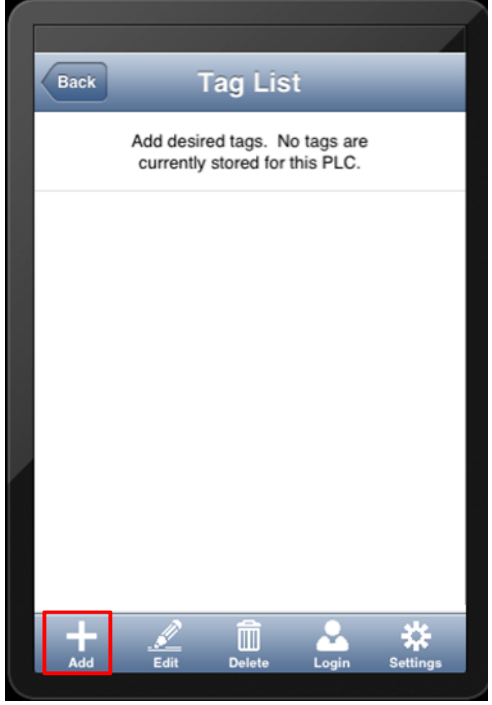
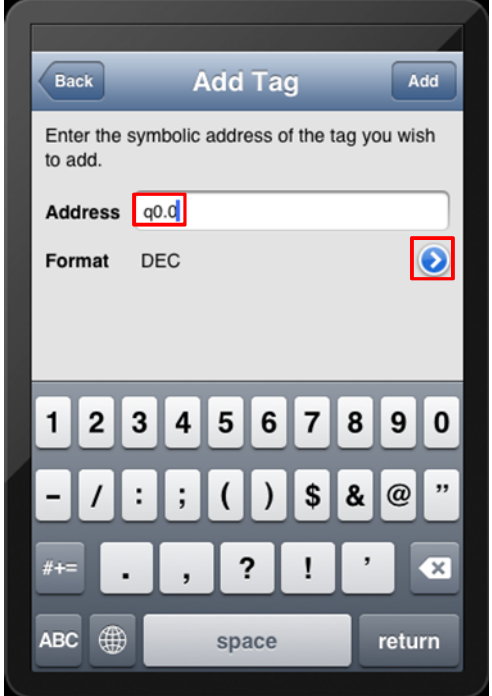
3.8 Tag List

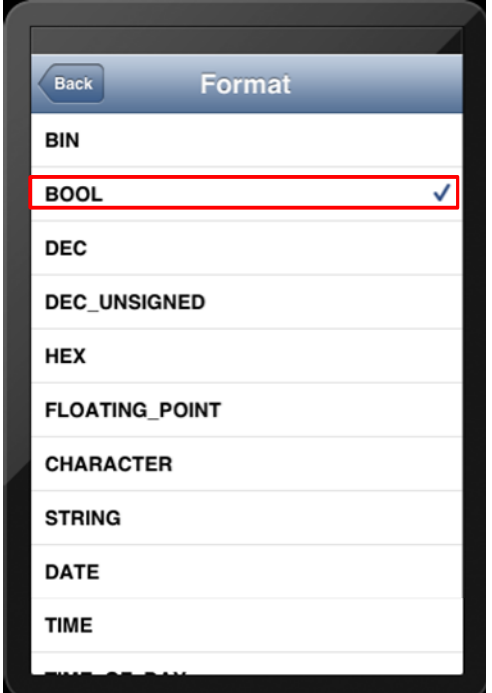

Table 3-20

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> Tap the marked icon to view the Tag List. 	 <p>The screenshot shows the 'PLC List' interface. At the top, it displays 'SIMATIC 1200 station_1' with a green status indicator and 'RUN' text. Below this, it lists 'PLC_1' with its MAC address (00-1C-06-10-F8-76) and IP address (192.168.0.1). A red box highlights an information icon (i) in the top right corner. At the bottom, there is a navigation bar with icons for Add, Edit, Delete, Login, and Settings.</p>
2.	<ul style="list-style-type: none"> Using the marked buttons you can do the following to tags: <ul style="list-style-type: none"> - Add - Edit - Delete 	 <p>The screenshot shows the 'Tag List' interface. At the top, there is a 'Back' button and the title 'Tag List'. The main content area displays the message: 'Add desired tags. No tags are currently stored for this PLC.' At the bottom, there is a navigation bar with icons for Add, Edit, Delete, Login, and Settings. Red boxes highlight the Add, Edit, and Delete buttons.</p>

3.8.1 Adding Tags


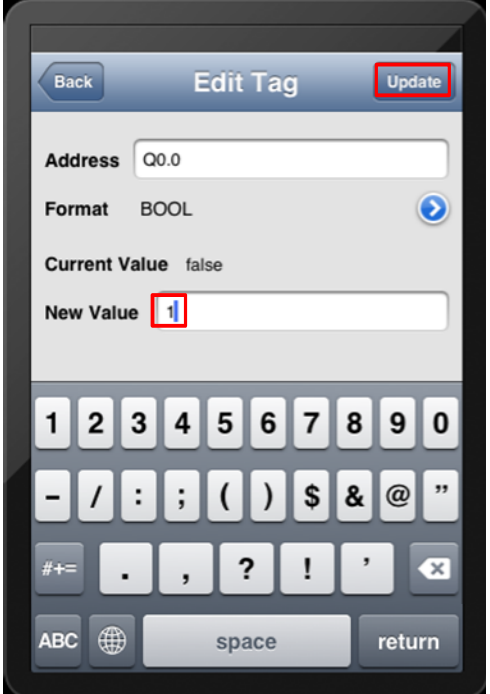
Table 3-21

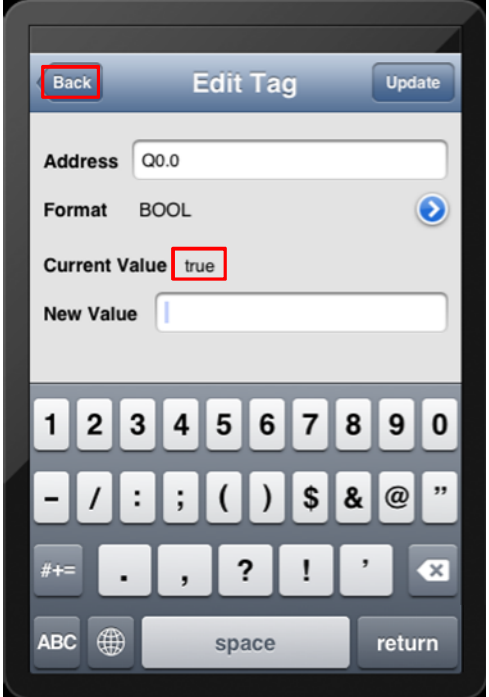
No.	Instructions	Figure
1.	<ul style="list-style-type: none"> The first time you call the tag list there are not yet any tags in the list. You can have up to 50 tags in the Tag List. Tap the "Add" button. 	
2.	<ul style="list-style-type: none"> Specify the symbolic or absolute address of the tag you wish to add. The requirement here is that the tag must also be created in your project. Valid address areas for tags: <ul style="list-style-type: none"> Inputs Outputs Markers Data blocks If you specify an absolute address in a data block, that block must not have the "Optimized block access" attribute in the TIA Portal project. Tap the arrow button to select the display format of the tag. 	

No.	Instructions	Figure
3.	<ul style="list-style-type: none"> Select the format in which the tag is to be displayed. 	
4.	<ul style="list-style-type: none"> Tap the "Add" button to add the tag to the list in the selected format. You can then add more tags each in the same way. If you do not wish to add more tags, return to the Tag List view with the "Back" button. 	

3.8.2 Editing Tags


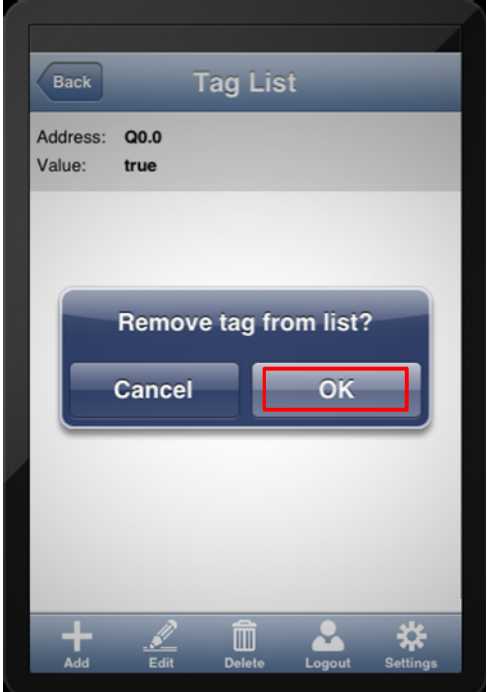
Table 3-22

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> The added variable is displayed in the Tag List and the current value of the tag can be read. Select the tag you want to edit from the Tag List. Tap the "Edit" button to edit the tag. 	
2.	<ul style="list-style-type: none"> Specify the new value for the tag. Tap the "Update" button to apply the change of value. Since this is about write access to the controller, you must be logged in with the password created in section 3.5. If this is not the case, figure 2 from Table 3-17 is displayed and you proceed as follows: <ul style="list-style-type: none"> Confirm the message with "OK". Enter the password. Tap the "Done" button to confirm the input. Then, when logged in, tap the action to be executed again. 	

No.	Instructions	Figure
3.	<ul style="list-style-type: none"> The tag is written with the new value. Use the "Back" button to return to the Tag List. 	

3.8.3 Deleting Tags

Table 3-23

No.	Instructions	Figure
1.	<ul style="list-style-type: none"> Select the tag you want to delete from the Tag List. Tap the "Delete" button. 	 <p>The screenshot shows the 'Tag List' interface. At the top, there is a 'Back' button and the title 'Tag List'. Below the title, the 'Address' is 'Q0.0' and the 'Value' is 'true'. The main area is empty. At the bottom, there is a navigation bar with five icons: Add (+), Edit (pencil), Delete (trash can), Login (person), and Settings (gear). The 'Delete' icon is highlighted with a red box.</p>
2.	<ul style="list-style-type: none"> Confirm deletion of the tag selected from the Tag List by tapping "OK". 	 <p>The screenshot shows the 'Tag List' interface with a confirmation dialog box. The dialog box has the title 'Remove tag from list?' and two buttons: 'Cancel' and 'OK'. The 'OK' button is highlighted with a red box. The background shows the same 'Tag List' interface as in the previous screenshot, but the 'Delete' button is no longer highlighted.</p>

4 Internet Link Specifications

This list is not complete and only represents a selection of relevant information.

Table 4-1

	Subject	Title
\1\	Reference to SIMATIC S7-1200 App	https://itunes.apple.com/us/app/simatic-s7-1200/id547218432
\2\	Siemens SIMATIC S7-1200	http://www.automation.siemens.com/mcms/programmable-logic-controller/en/simatic-s7-controller/s7-1200/Pages/Default.aspx
\3\		