

SIEMENS

Firmware Download Tool

User Guide

Supplementary information

Purpose of the user guide

The user guide provides detailed descriptions of the program's functions.

Target group of the user guide

The user guide is designed for people who have attended an ETS course and want to update the firmware of various KNX devices with the "Firmware Download Tool" program.

Product documentation and support

Product documentation

The installation program for the Firmware Download Tool as well as a list of interfaces that can be used, and additional information are available on the following website:

<http://www.siemens.de/gamma-fdt>

Documents related to the KNX devices, such as operating and installation instructions, technical product information, application description, product database, additional software and CE declarations can be downloaded from the following website:

<http://www.siemens.com/gamma-td>



Frequently asked questions

For frequently asked questions regarding the product and their solutions, see:

<https://support.industry.siemens.com/cs/ww/en/ps/faq>



Support

Contact details for additional questions relating to the product:

Tel.: +49 911 895-7222

Fax: +49 911 895-7223

Email: support.automation@siemens.com

<http://www.siemens.com/supportrequest>



Contents

1	Function description.....	5
2	Overview of the Firmware Download Tool user interface	6
3	Overview of the Siemens Software Update Check interface.....	9
4	Installation	10
5	Use.....	11
5.1	Selecting a KNX interface	11
5.2	Adding and removing devices from the device list	11
5.3	Updating the firmware.....	12
5.4	Calling up device properties	14
5.5	Displaying the list of available firmware updates.....	14
5.6	Finding and installing software updates for the Firmware Download Tool ...	14
6	Help in case of errors and problems.....	15
6.1	Frequently asked questions	15
6.2	Possible errors.....	15
6.3	Switching on compatibility mode	16
6.4	Retrieving information for Support.....	16
6.5	Importing firmware files received from Support.....	16
Index	17

1 Function description

Firmware Download Tool (FDT)

The Firmware Download Tool (FDT) can be used to update the firmware of KNX and KNX IP system devices. For KNX devices without an Ethernet connection, the new firmware is downloaded to the device via the KNX network and the interface installed there (IP or USB interface), and for devices with an Ethernet connection, it is downloaded directly from the computer to the device.

The firmware of several devices of different lines can be updated at the same time if multiple instances of the Firmware Download Tool are started on the PC. To this end, every line must be connected to the FDT via its own IP or USB interface.

Software Update Check

The “Software Update Check” program can be used to look for a new version of the Firmware Download Tool.

2 Overview of the Firmware Download Tool user interface

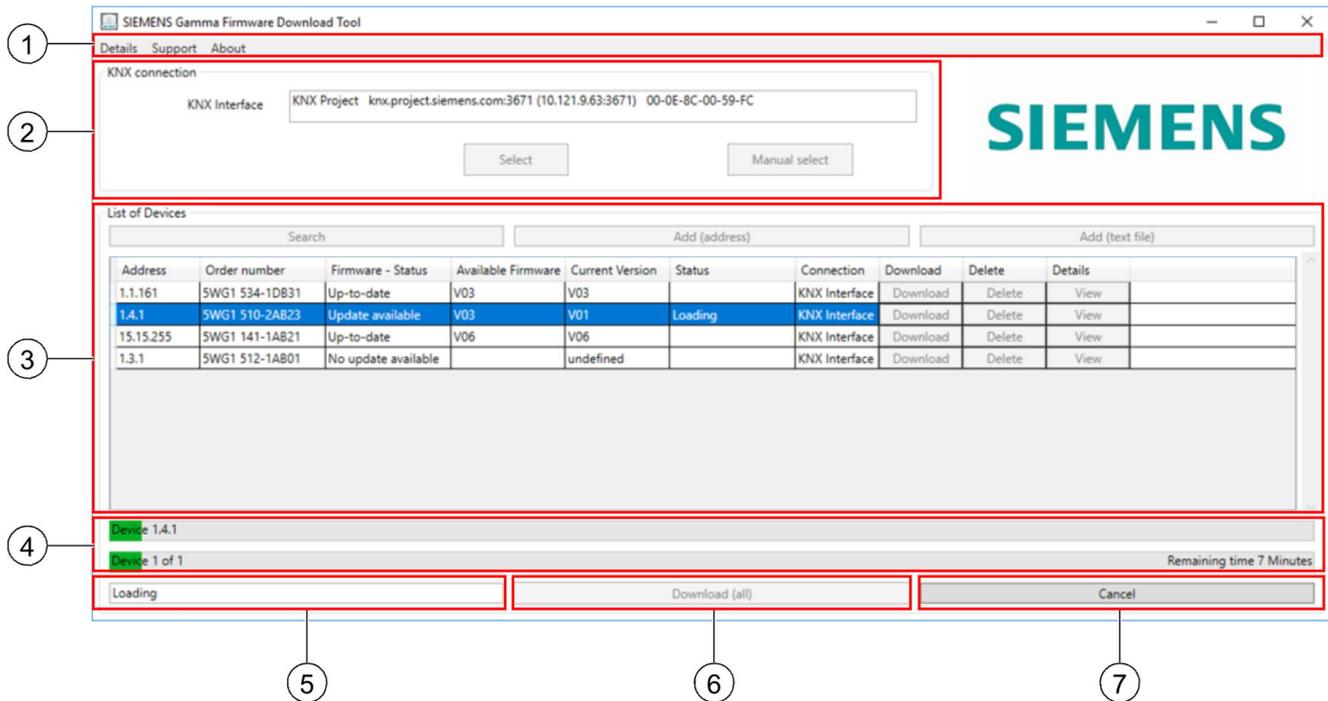


Figure 1: Overview of the Firmware Download Tool

1 Menu bar [→ 7]

2 KNX connection

Displays the KNX interface currently in use

Selecting a KNX interface [→ 11]

3 List of Devices

List of devices found

Device list [→ 7]

4 Progress bar of the update operation

The upper bar indicates the update progress of the device that is currently being updated.

If several devices are updated, the lower bar indicates the overall progress.

5 Status display

Shows the status of the current update step

6 'Download (all)' button

All devices found with the firmware status "Update available" are updated sequentially.

7 'Cancel' button

All current operations are canceled.

Menu bar

The menu bar shows the following menu items:

Details	Support	About
<ul style="list-style-type: none"> • Available Firmware Updates Displaying the list of available firmware updates [→ 14] • Device Properties Calling up device properties [→ 14] 	<ul style="list-style-type: none"> • Support info Retrieving information for Support [→ 16] • Identify all devices Retrieving information for Support [→ 16] • Open external images directory Importing firmware files received from Support [→ 16] • Compatibility mode (use short messages) Switching on compatibility mode [→ 15] 	Information on the version, documentation and license of the Firmware Download Tool.

Device list

The device list shows the following columns:

Column name	Description
Address	Physical address of the device (e.g. 1.1.2)
Order number	Order number of the device
Firmware - Status	Firmware status. The following statuses are possible: <ul style="list-style-type: none"> • Update available: The device can be updated. • Up-to-date: The device firmware is up-to-date. If necessary, it can be downloaded to the device once again. • No update available: No update is available for this device.
Available Firmware	Firmware version of the available firmware (e.g. V03)
Current Version	Version number of the currently installed firmware (e.g. V02)
Status	Download status of the firmware. The following statuses are possible: <ul style="list-style-type: none"> • Pending: The device is queued for download. • Loading: The firmware is being loaded to the device. • Finished: The firmware has been loaded to the device. • Canceled by user: The user has canceled the firmware download to the device. • Failure: An error occurred while downloading the firmware to the device.

Column name	Description
Connection	<p>Connection type to this device. The following connection types are possible:</p> <ul style="list-style-type: none">• KNX Interface: The device can be connected to the computer only via a KNX interface and the KNX network.• direct IP: Alternatively, the device can be connected to the computer directly via the Ethernet interface on the device. This makes it quicker to load the firmware to the device.
Download	<p>Button for starting the firmware download to the selected device. Use the 'Download (all)' button underneath the table to start the download for all devices in a row.</p>
Delete	<p>Button for deleting the selected device from the device list. (This is useful, for example, if the firmware is to be updated on all devices except for one device.)</p>
Details	<p>Button for displaying the device properties of this device.</p>

3 Overview of the Siemens Software Update Check interface

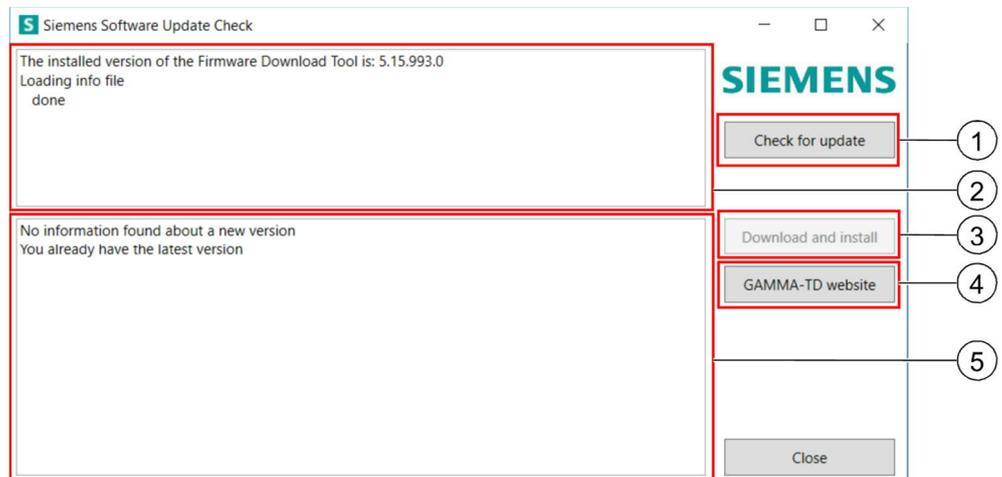


Figure 2: Overview of Siemens Software Update Check

- | | |
|---|---|
| 1 'Check for update' button
A search for Firmware Download Tool updates is performed. | 2 Displays the installed version |
| 3 'Download and install' button
If a new version of the program was found, you can use this button to download and install it. | 4 'GAMMA-TD website' button
Calls up the website https://www.siemens.de/gamma-td . |
| 5 Displays the new versions of the Firmware Download Tool | |

4 Installation

System requirements

- Windows 7 or higher
- .NET Framework 4.5

Installation

1. Double-click the installation file to execute it.
 2. Follow the prompts of the installation program. Accept the license agreement and allow the program to make changes to the device.
 - ⇒ The programs “Firmware Download Tool” and “Software Update Check” are installed.
- ⇒ Once installation is complete, the Firmware Download Tool, notes on using the Firmware Download Tool, and the “Software Update Check” program are displayed

5 Use

5.1 Selecting a KNX interface

Using IP-Secure interfaces

The Firmware Download Tool can only be used with an IP-Secure interface, if the IP-Secure interface was commissioned without KNX IP-Secure.

If KNX IP-Secure was used, deactivate the “Secure commissioning” option within the ETS for this interface. Alternatively, reset the IP-Secure interface to factory settings and re-commission it without the “Secure commissioning” option.

Interfaces that can be used

The following website lists the interfaces that can be used to update device firmware:

<http://www.siemens.de/gamma-fdt>

Searching for available interfaces

- ▷ The "Firmware Download Tool" program is open.
- ▷ An interface is connected to the computer.
 1. Click the 'Select' button.
 - ⇒ The 'Available KNX Interface' window opens.
 - ⇒ All available interfaces are found and displayed.
 2. Double-click the interface to be used or, alternatively, select it and click the 'Select' button.
 - ⇒ The interface has been selected.

Manually selecting a KNX interface

1. Click the 'Manual select' button.
 - ⇒ The 'KNX connection' window opens.
2. Enter the IP address or host name.



If the KNX interface that you want to reach is not connected directly to the laptop but connected to the computer via a network and DSL router, the host name must be specified.

3. Enter the port.
 - For KNX and KNP IP system devices, the default port is “3671.”
4. Click the 'OK' button to confirm the entries.
 - ⇒ The interface is found and selected.
 - ⇒ The 'KNX connection' window closes.

5.2 Adding and removing devices from the device list

Displaying devices with activated programming mode

- ▷ An interface has been selected (Selecting a KNX interface [→ 11]).
 - ◊ Click the 'Search' button in the 'List of Devices' section.
 - ⇒ Devices that are within the KNX network of the connected interfaces and have programming mode activated are displayed in the device list.

Adding devices to the device list by entering the physical address

- ▷ An interface has been selected (Selecting a KNX interface [→ 11]).

Adding devices to the device list by importing a text file with physical addresses

1. Click the 'Add (address)' button.
 - ⇒ The 'Add address' window is displayed.
 2. Enter the physical address of the device and click 'OK' to confirm it.
 - ⇒ The device with the physical address entered is now also displayed in the device list.
- ▷ An interface has been selected (Selecting a KNX interface [→ 11]).
1. Create the text file: To do this, list the physical addresses of the devices vertically and save the file in .txt format. Every line may only contain one physical address, e.g.:


```
1.1.32
1.1.44
```
 2. Click the 'Add (text file)' button.
 - ⇒ File Explorer is displayed.
 3. Select the text file and confirm the selection by clicking 'Open.'
 - ⇒ The devices with the physical addresses listed in the text file are now also displayed in the device list.

Removing devices from the device list



This function is useful, for example, if the firmware is to be updated on almost all devices listed.

- ▷ An interface has been selected (Selecting a KNX interface [→ 11]).
- ▷ Devices have been added to the device list (Adding and removing devices from the device list [→ 11]).
1. Select the device that is to be removed from the device list.
 2. In the row of the selected device, click the 'Delete' button.
 - ⇒ The device is removed from the list.

5.3 Updating the firmware

!	NOTICE
	<p>Material damage due to device failure!</p> <p>During the firmware update, the respective device is not functional.</p> <ul style="list-style-type: none"> • Prior to the update, make sure that the functions of the device are not required while the update is being performed and the device is set up again.

!	NOTICE
	<p>Material damage due to loss of data!</p> <p>When the firmware is updated, the data stored on the device is deleted. That is, the application program must be reloaded to the device after the update.</p> <ul style="list-style-type: none"> • Only update the firmware of the device if the parameterization of the device has been backed up and the current ETS project is available. • Only update the firmware of the device if the ETS software is available to reload the application program to the device.



The physical address of the device is retained.

!	NOTICE
	<p>High bus load due to programming with ETS while the firmware is being updated! A high bus load in the KNX network slows down the firmware update.</p> <ul style="list-style-type: none"> • During the firmware update of a device, do not parameterize or connect this device using the ETS.



Depending on the bus load, the interface and the device, the firmware update via the KNX network can take between approx. 3 minutes and approx. 25 minutes. For example, updating the firmware for the router when there is a direct connection from the computer to the device's Ethernet connection takes approx. 1 minute.

Updating the firmware

- ▷ The functions of the device are not needed at the moment.
- ▷ An interface has been selected (Selecting a KNX interface [→ 11]).
- ▷ Devices have been added to the device list (Adding and removing devices from the device list [→ 11]).
- 1. Ensure that the device is connected to the computer for the entire time the firmware is being updated.
- 2. Select the device whose firmware is to be updated.
- 3. In the row of the selected device, click the 'Download' button.
 - ⇒ The firmware of the individual device is updated.
 - ⇒ The remaining time is displayed.
- 4. Alternatively, to update the firmware of all devices that are displayed, click the 'Download (all)' button.
 - ⇒ The firmware of all devices is updated sequentially.
 - ⇒ The remaining time is displayed.
- 5. Reload the parameterization of the device to the device via ETS.
 - ⇒ The device is functional once again.

Updating the firmware of several devices at the same time

!	NOTICE
	<p>High bus load due to updating several devices in a topographical line! A high bus load in the KNX network slows down the firmware update.</p> <ul style="list-style-type: none"> • Do not update the firmware of devices in a topographical line at the same time. • Select a different interface in each program window (Selecting a KNX interface [→ 11]). • For each interface, only select devices for updating that are not topographically directly in the line of the interface (without line coupler).

- ◆ Open the 'Firmware Download Tool' program several times.
- ⇒ Each program window can be operated separately and independently of the other open windows.

5.4 Calling up device properties

- ▷ The "Firmware Download Tool" program is open.
 - ▷ An interface has been selected (Selecting a KNX interface [→ 11]).
 - ▷ Devices have been added to the device list (Adding and removing devices from the device list [→ 11]).
1. Select a device in the 'List of Devices' area.
 2. Call up the menu item 'Details' → 'Device Properties.'
- ⇒ The device properties of the selected device are displayed.
 - ◆ Alternatively, click the 'View' button in the row of the selected device.
 - ⇒ The device properties of the selected device are displayed.

5.5 Displaying the list of available firmware updates

The list of available firmware updates displays all Siemens KNX devices for which a firmware update is available.

- ◆ Call up the menu item 'Details' → 'Available Firmware Updates.'
- ⇒ A list of device names with their firmware versions and the firmware version to which an update is possible are displayed.

5.6 Finding and installing software updates for the Firmware Download Tool

1. Open the 'Software Update Check' program.
2. Click the 'Find update' button.
 - ⇒ Information on the new software version and, if available, the currently installed software is displayed.
3. To install the new software version, click the 'Load and install' button.
 - ⇒ The new software version is downloaded and installed.

6 Help in case of errors and problems

6.1 Frequently asked questions

Frequently asked questions

For frequently asked questions regarding the product and their solutions, see:
<https://support.industry.siemens.com/cs/ww/en/ps/faq>



6.2 Possible errors

Error	Solution
An error occurs while downloading the firmware to the device.	<ol style="list-style-type: none"> 1. Try downloading the firmware to the device again. 2. If the error persists: Switching on compatibility mode [→ 15]. 3. Try downloading the firmware to the device again. 4. If the error persists: Contact Support (Support [→ 2]).
The firmware download is terminated.	<ol style="list-style-type: none"> 1. Check if devices are used that are unable to process LONG FRAMES. 2. If devices are used that are unable to process LONG FRAMES: Switching on compatibility mode [→ 15]. 3. If the error persists: Contact Support (Support [→ 2]).
Devices do not appear in the device list. Device properties cannot be called up. Possible cause: Several devices have the same physical address.	Ensure that each device has a unique physical address.
The interface is not found. Possible cause: The interface in use is not compatible.	Ensure that you are using an interface that can be used to update the firmware of the device (Selecting a KNX interface [→ 11]).

6.3 Switching on compatibility mode

If problems occur when retrieving device information or downloading the firmware to a device, compatibility mode can be activated.

In compatibility mode, telegrams are limited to the standard length (no LONG FRAMES). This can help in case of download problems in the KNX network, but the download time increases about two-fold.

- ◆ Call up the menu item 'Support' → 'Compatibility mode (use short messages).'
- ⇒ Compatibility mode is active.
- ⇒ The download time doubles.
- ⇒ A checkmark is displayed in front of the 'Compatibility mode (use short messages)' menu item.

6.4 Retrieving information for Support

In case of problems with the program or downloading firmware to devices, Support needs additional information.

Retrieving general information

- ◆ Call up the menu item 'Support' → 'Support info.'
- ⇒ The system ID, version of the Firmware Download Tool, the directory of the info files and the directory of the log files are displayed.

Exporting device information

- ▷ An interface has been selected (Selecting a KNX interface [→ 11]).
- ▷ Devices have been added to the device list (Adding and removing devices from the device list [→ 11]).
- 1. Select the device from the device list.
- 2. Call up the menu item 'Support' → 'Identify all devices.'
- ⇒ The properties of the device are exported. The exported data is stored in the directory ...\MyDocuments\Siemens\FirmwareDownloadTool in a file called 'yyyy-mm-dd--hh-mm-ss PropertyExport.xml.'

6.5 Importing firmware files received from Support

In case of errors or problems, Support might provide a firmware file in a different way. This file can also be imported.

- ▷ A firmware file has been received from Support.
- 1. Call up the menu item 'Support' → 'Open external images directory.'
- ⇒ The folder ...
 \Documents\Siemens\FirmwareDownloadTool\Images is opened.
- 2. Store the received firmware file in this folder.
- 3. Close the Firmware Download Tool window.
- 4. Reopen the Firmware Download Tool.
- 5. Update the firmware (Updating the firmware [→ 12]).
- ⇒ The firmware for the respective device is detected in the above-mentioned folder and loaded to the device.



Index

B	
Bus load	13
C	
Compatibility mode	16
Customer service	2
D	
Delete	12
Device failure	12
Device list	7
Adding devices by entering the physical address	11
Adding several devices by means of a text file with physical addresses	12
Displaying devices with activated programming mode	11
Removing a device	12
Device properties	14
Duration	13
F	
FAQ	2, 15
Firmware	
update	13
Updating several devices at the same time	13
Firmware Download Tool	6
Function description	5
Firmware file	16
Firmware update	14
Frequently asked questions	2, 15
Function description	
Firmware Download Tool	5
Software Update Check	5
H	
Help	2, 15
I	
Info file	16
Installation	10
Interface	
Interfaces that can be used	11
search	11
Select manually	11
IP-Secure interface	11
L	
Log file	16
Loss of data	12
M	
Menu bar	7
O	
Overview	
Firmware Download Tool	6, 9
P	
Physical address	11
Possible errors	15
Problem solving	15
S	
Service	2
Short telegrams	16
Software update	14
Software Update Check	14
Function description	5
Overview	9
Support	2, 16
System requirements	10
T	
Text file	12
Troubleshooting	15

