

TXT Controller Firmware Update: Training Factory Industry 4.0 9V

This document describes the steps to upgrade the firmware of the TXT controller in the fischertechnik model **Training Factory Industry 4.0 9V**. Starting October 1, 2021, the new TXT firmware 4.7.0 will be required for communication with www.fischertechnik-cloud.com.

The whole process for the training model takes about 60 minutes. Please follow the instructions step by step. If you have any questions, please contact: fischertechnik-technik@fischer.de

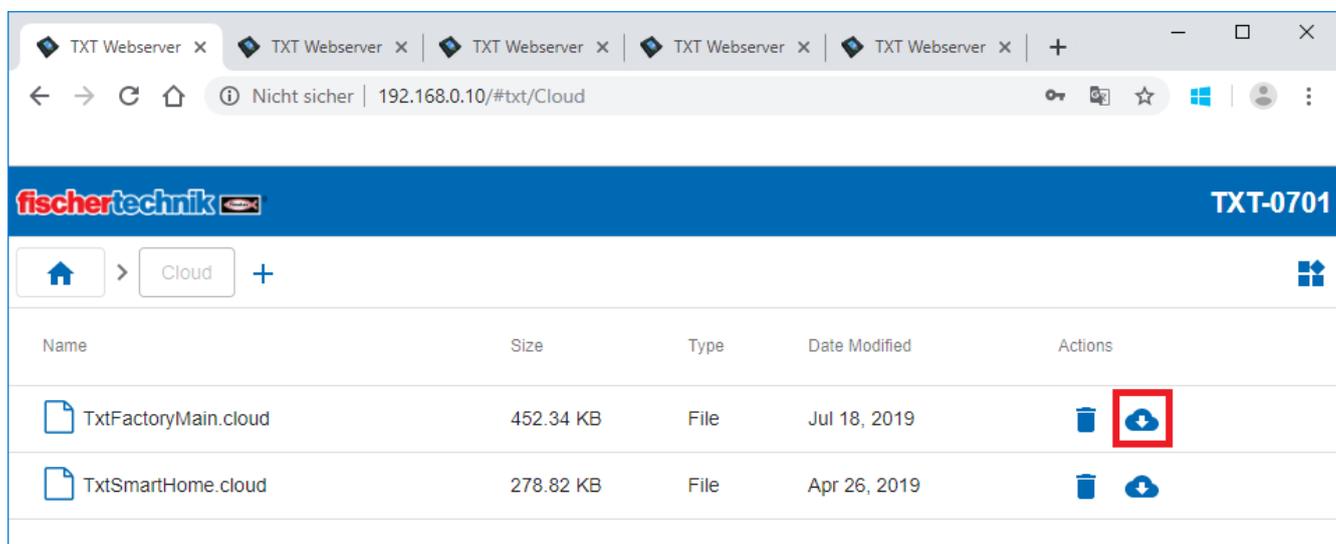
The version of the TXT firmware can be found on the TXT controller in the menu: **Settings -> info**.

You need at least TXT firmware version 4.6.6. Otherwise you have to update to 4.6.6 first before.

1. Backup Programm TxtFactoryMain.cloud

If the program **TxtFactoryMain.cloud** is already on the supplied USB stick, the program can be used later in step 4 from the USB stick. This step can then be skipped.

If there is no USB stick with the supplied programs for the Training Factory Industry 4.0 9V, the **TxtFactoryMain.cloud** program must first be saved on a computer before the main TXT controller is updated. If a firmware update is performed on the TXT controller, all data on the controller is deleted and the controller is reset to default settings. The integrated TXT WEB server can be used to copy the program. Connect the TXT controller to a computer as described in step 4 and save the **TxtFactoryMain.cloud** program from the Cloud folder locally e.g. under Downloads on a computer by clicking on the icon with the cloud (see screenshot).



2. Update TXT Firmware 4.6.6 -> 4.7.0

Install ROBO Pro software 4.7.0 on a computer with Windows 10. You can download the installation setup file from fischertechnik.de site:

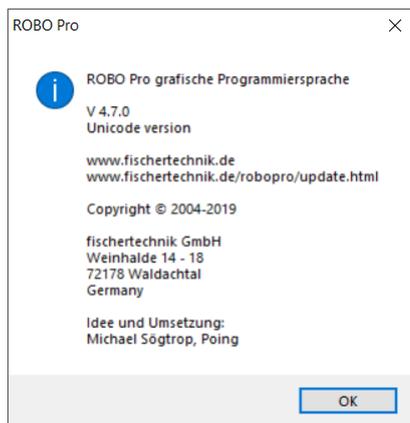
www.fischertechnik.de -> **Service** -> **Downloads** -> **ROBOTICS** -> **ROBOPro** -> **Update ROBOPro 4.7.0**

or use the direct download link:

<https://www.fischertechnik.de/-/media/fischertechnik/fite/service/downloads/robotics/robo-pro/documents/update-robo470.ashx>

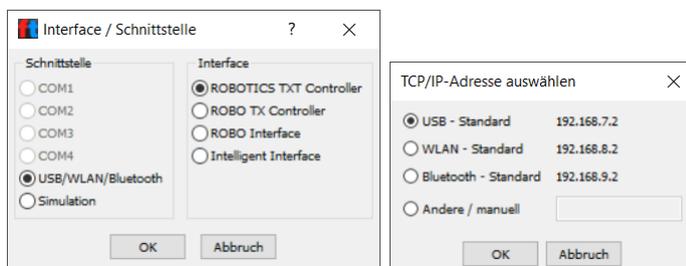
The version of the ROBO Pro software can be found in the menu:

Help -> **About...**

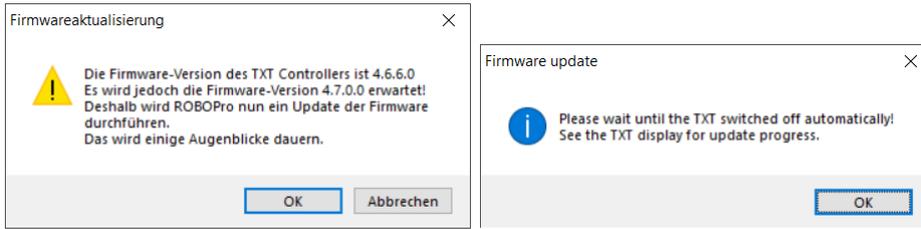


Upgrade the TXT controller firmware of the TXT controller via ROBO Pro software:

- Connect the TXT controller with the computer via USB cable
- Start ROBO Pro, select TXT controller and USB interface 



- Open the interface test window 

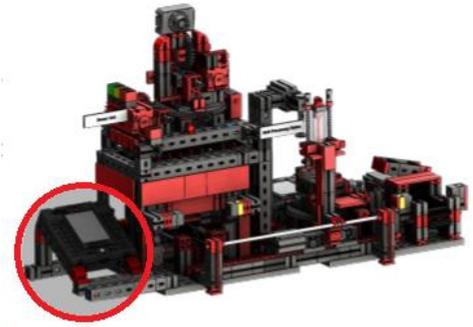


Then the update message will be displayed. Be patient, updating the TXT firmware takes about 5-10 minutes per TXT controller. You should see update messages on the TXT controller display. When the update is complete, the TXT controller will power off. Turn on the TXT controller by pressing the ON/OFF key for >3 seconds at the end of the update.

ATTENTION!: DO NOT interrupt the power supply during the update process, because otherwise the TXT controller is defective and needs to be repaired. All the files on the TXT controller will be overwritten after the firmware update.

3. Change TXT Default Settings

Change the default TXT settings on the main TXT controller display in the menu **Settings** (see picture).

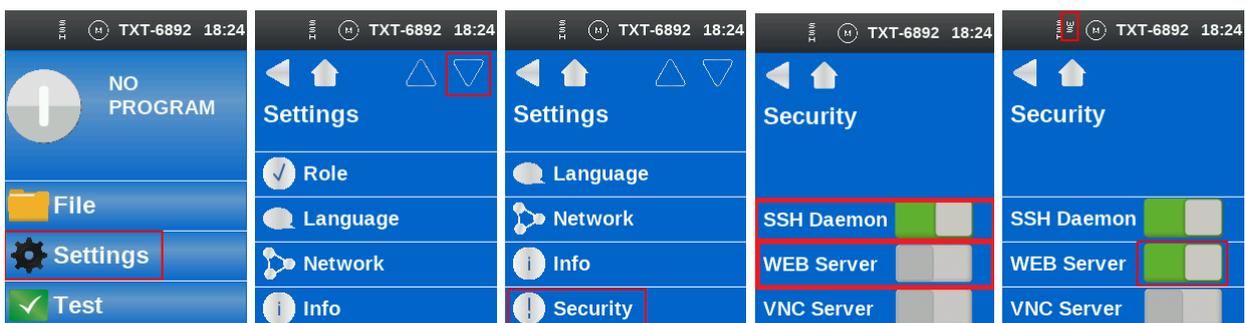


3.1 Role: **Role**

Change role of the TXT controller from **Master** to **Cloud Client**

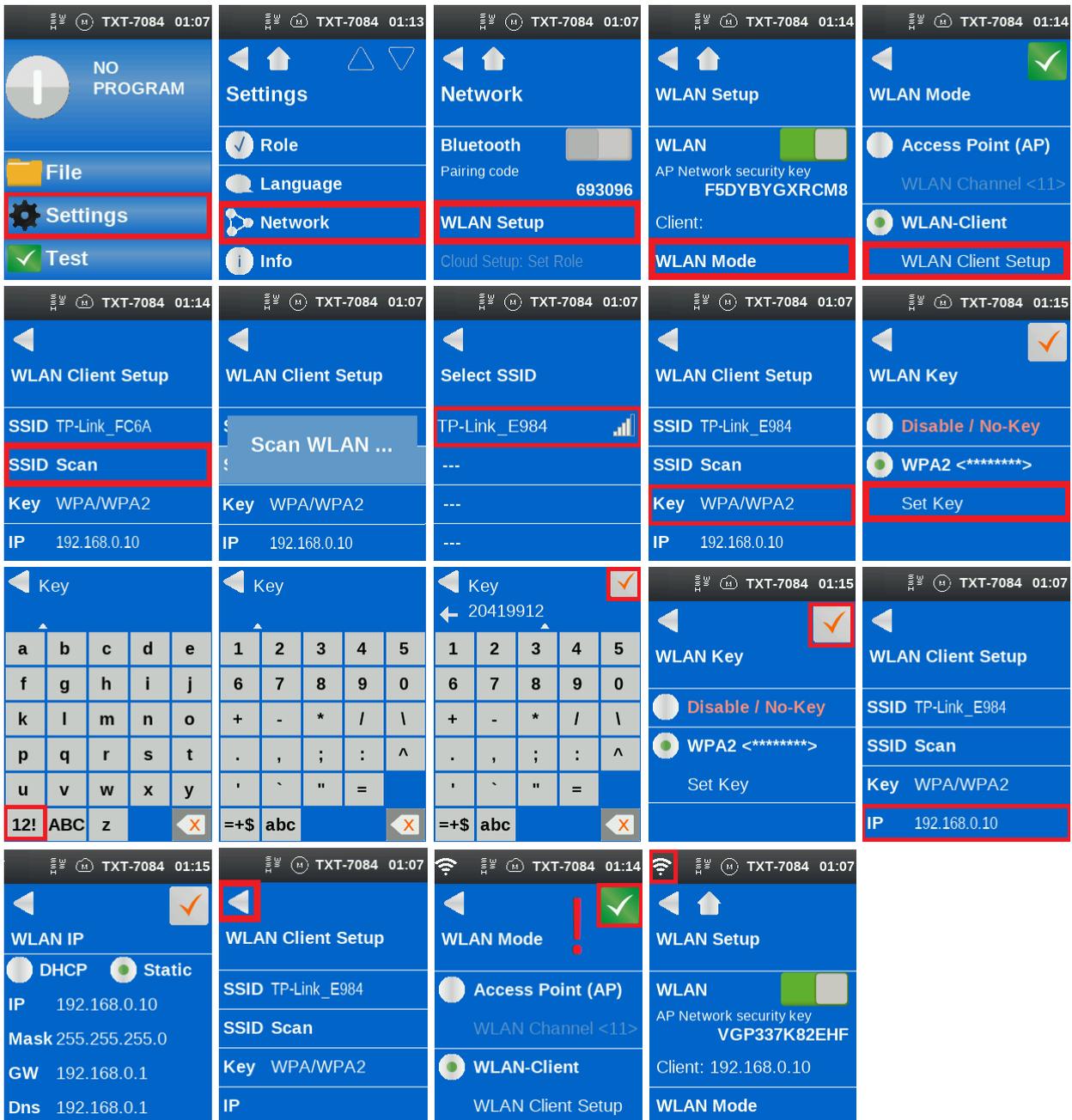
3.2 Security settings: **Settings -> (down arrow) -> Security**

Enable WEB Server and SSH Daemon. When the WEB server is switched on, a "ws" symbol is displayed in the upper TXT status bar. When SSH Daemon is switched on, a "SSH" symbol is displayed in the upper TXT status bar.



3.3 Network settings: Settings -> Network

Disable Bluetooth, activate WLAN Client, setup network WLAN settings for the corresponding TXT. The following screenshots show how to change the wireless settings:

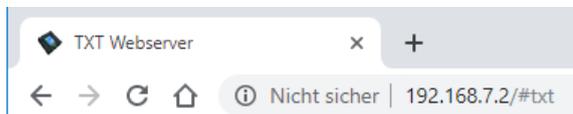


4. Upload TXT Program

The TXT controller firmware version contains an integrated WEB server that can be used to upload and download programs and files to the TXT controller. In this way, e.g. C programs are copied from the computer to the TXT controller and then started via the user interface of the TXT controller. If the WEB server is not yet switched on, it must first be activated in the TXT menu (see above).

The WEB page of the TXT controller can be accessed when the IP address is entered in the WEB browser (*Chrome, Edge or Firefox* are recommended). Depending on the interface, a different IP address must be entered.

- **USB:** 192.168.7.2



The page of the TXT controller is password protected.

- **User:** TXT
- **Password:** 4-digit number of the TXT controller displayed in the upper status bar on the TXT display (e.g. 6892 if "TXT-6892" is displayed)

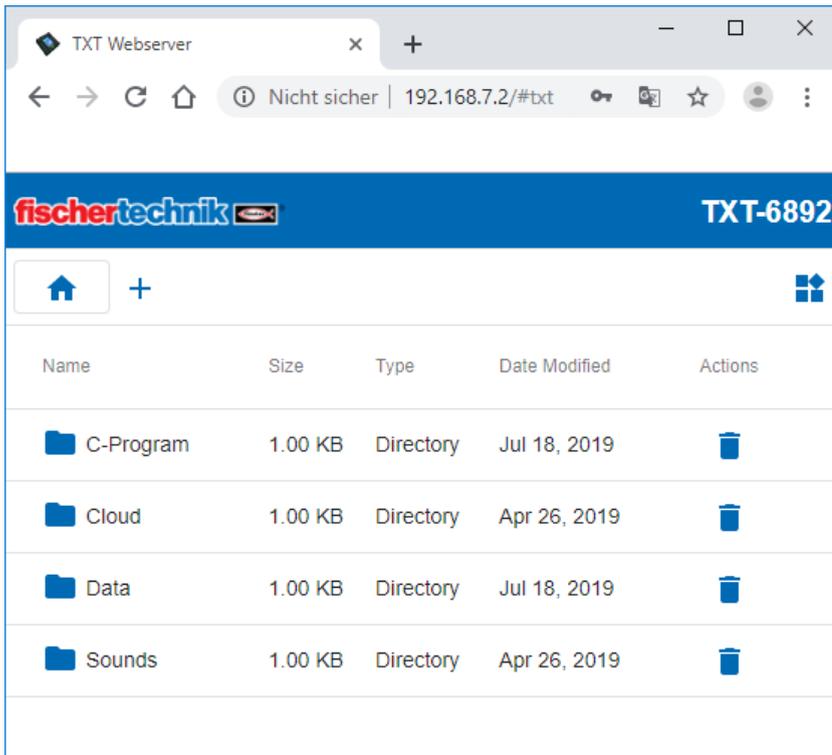
The following query of the password is displayed in the WEB browser:

Sign in
http://192.168.7.2
Your connection to this site is not private

Username

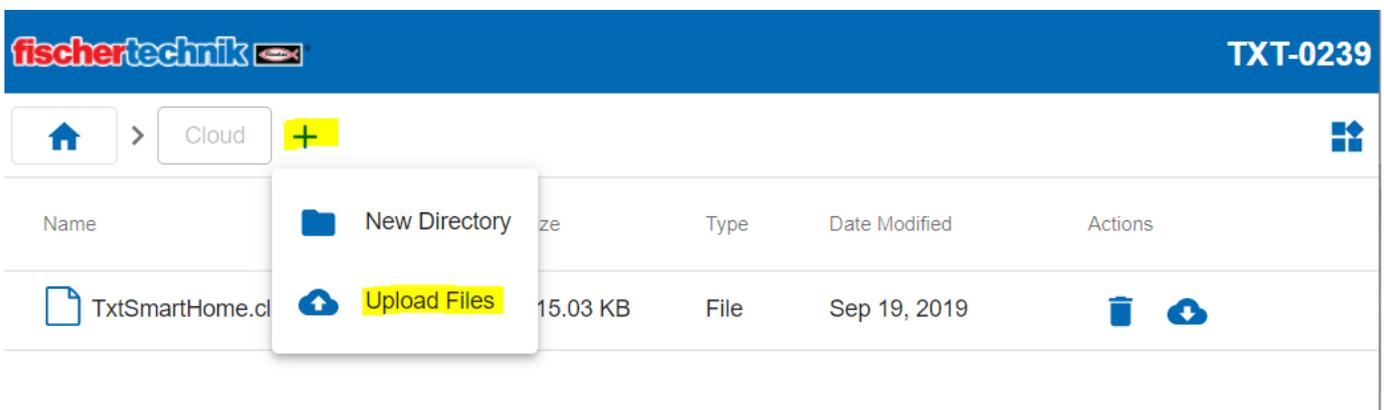
Password

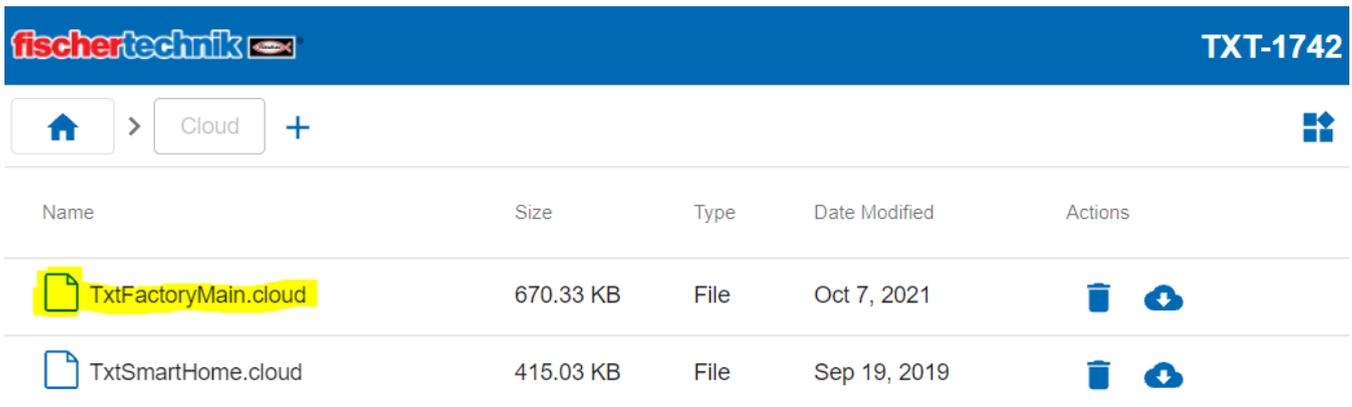
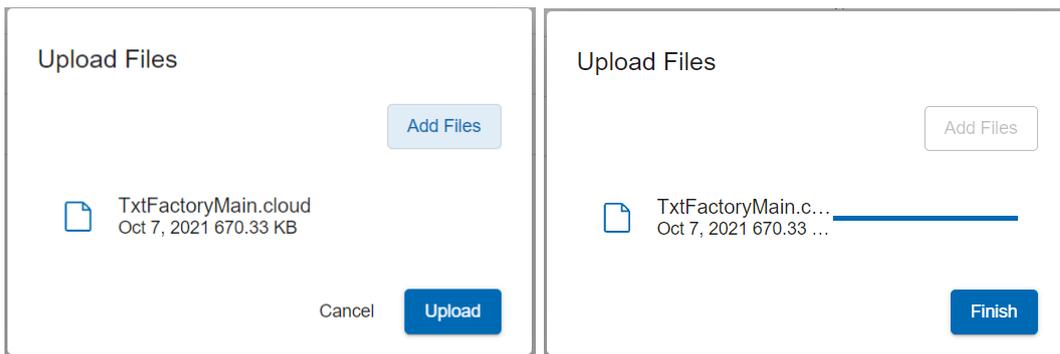
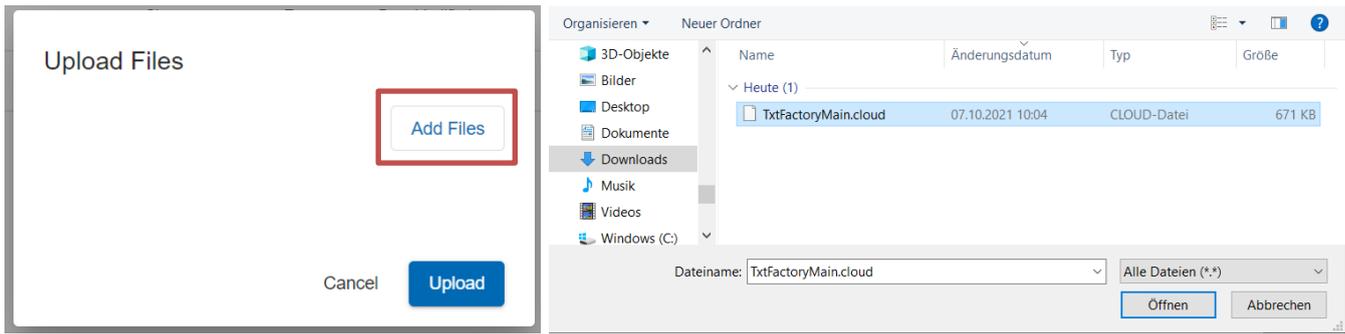
After entering the password, the page of the TXT controller should now be visible.



To copy C programs to the TXT controller, change to the directory "Cloud" by clicking on it with the mouse. In this directory fischertechnik cloud C programs are stored on the TXT controller. Files can be deleted using the Recycle Bin icon or added via the + icon. If you click on +, a dialog box opens in which you can select files on the computer with "Upload files" and add them with "Add Files". If one or more files have been selected, they are uploaded to the TXT controller with "Finish".

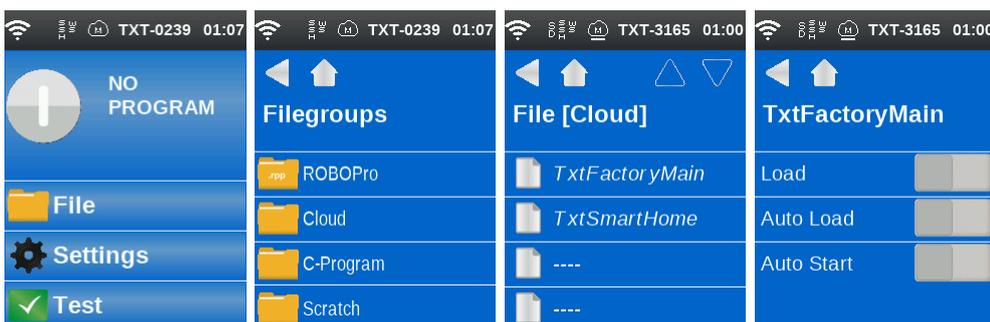
At this point, the `TxtFactoryMain.cloud` program previously saved from step 4 or from the supplied USB stick is required. The `TxtFactoryMain.cloud` program must be copied to the "Cloud" folder on the TXT controller as shown in the following screenshots.





Connect the TXT controller with the fischertechnik Cloud as described in the didactic material (<https://www.fischertechnik.de/en/service/elearning/teaching/lernfabrik-4>). Only if the pairing is successful the program in the folder Cloud can be selected on the TXT controller.

The program is automatically loaded at power up when "Auto Load" is enabled. The program is loaded with "Load" as usual with the TXT controller and can then be started via the green button (see screenshots).





5. Power Off and On TXT Controller

Switch off and on the TXT controller in the training model.



6. Restart TXT Controller

Start the factory as described in the didactic material.