Remote I/O Com Unit

Firmware Update

Brief Instructions

Your automation, our passion.
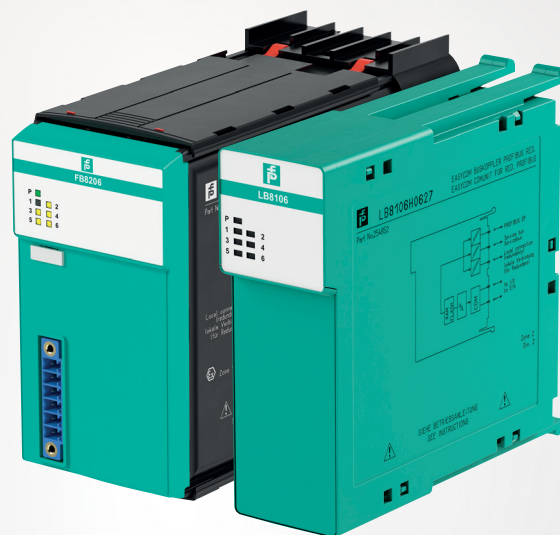
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The General Terms of Delivery for Products and Services of the Electrical Industry, published by the Central Association of the Electrical Industry (Zentralverband Elektrotechnik und Elektroindustrie (ZVEI) e.V.) in its most recent version as well as the supplementary clause: "Expanded reservation of proprietorship"

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1 Introduction

1.1 Manufacturer

Pepperl+Fuchs Group Lilienthalstraße 200, 68307 Mannheim, Germany
Internet: www.pepperl-fuchs.com

1.2 Contents of the Document

This document describes the steps required to adapt the firmware of an LB/FB com unit to the corresponding application. An adaptation of the firmware is possible starting with com unit version 8X05.

An adaptation to a higher firmware is possible, also an adaptation to a lower firmware. In the following, the term update is used in a simplified way, regardless of whether the existing firmware is replaced by a higher or a lower firmware.

The firmware version number contains of 2 parts. Part 1 contains the main version. Part 2 contains the sub-version. Example: firmware version 09.08 contains the main version 09 and the sub-version 08.

LB/FB com units differ by the supported bus systems and in case of PROFIBUS by the communication strategy. We recommend changing the com unit firmware only within the sub-version (compatible firmware version).

A change of the major version is accompanied by a change of the com unit type. If necessary, the PROFIBUS ID must also be adapted.

Caution!

Disturbance of the device function

A change of the firmware version changes the function of the device.

- If the hardware of the com units is different, a change of the com unit type via a firmware change is not permitted.
- Only make changes to the com unit type in cooperation with Pepperl+Fuchs Global Technical Support.
- Before updating the firmware version, make sure that there is no danger to the plant as a result of this change.

Note

Pepperl+Fuchs accepts no responsibility for any damage caused to the device itself, other devices or the plant as a result of changing the firmware version.

The following steps are described:

- Connecting the communication
- Adapting the firmware
- Adapting the device parameters

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1.3 Symbols used

This document contains information that you must observe to prevent interference.

Warnings

Caution!

This symbol indicates a possible fault.

Non-observance could interrupt the device and any connected systems and plants, or result in their complete failure.

Information messages

Note

This symbol brings important information to your attention.

Action

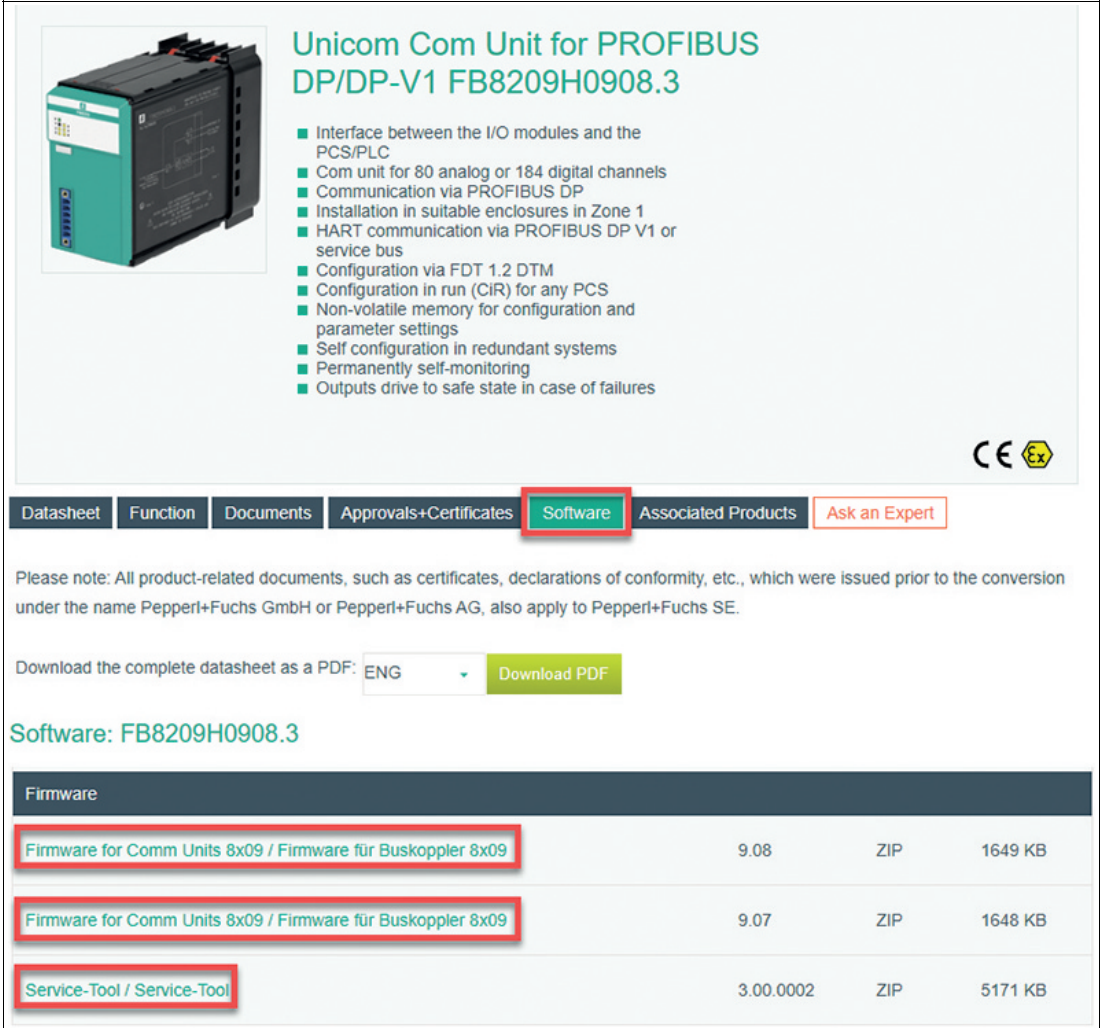This symbol indicates a paragraph with instructions. You are prompted to perform an action or a sequence of actions.

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2   Necessary Software

To perform updates for the LB/FB com units, the following components are required:

- LB/FB Remote I/O service tool
- Firmware updates

You can download the service tool and the firmware versions possible for the com unit type from the product detail page of the corresponding com unit type.

Figure 2.1   Example: download from product detail page

- Install the desired firmware version. The firmware is copied to the correct directory and necessary registry entries are created.
- Only pre-installed firmware versions can be updated with the service tool.

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Service Tool

Software	Version	Operating system
LB/FB Remote I/O service tool Valid com unit versions: 8X05, 8X06, 8X07, 8X08, 8X09, 8X11	3.0.0.91	Windows XP, 7/8/10

Table 2.1

Com Unit and Firmware Versions

Cum unit	Fieldbus	Firmware version	PROFIBUS-ID
LB8105, FB8205	PROFIBUS	6.xy	0x1710
LB8106, FB8206	PROFIBUS (EasyCom)	6.xy	0x1711
LB8107, FB8207	MODBUS RTU	7.xy	–
LB8108, FB8208	PROFIBUS (Timestamp)	8.xy	0x1711
LB8109, FB8209	PROFIBUS (Unicom)	9.xy	0x1710
LB8110, FB8210	FOUNDATION Fieldbus	not supported	
LB8111, FB8211	MODBUS TCP	7.5y	–

Table 2.2

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3 Installation

3.1 Connecting the Communication

To establish communication between the LB/FB com unit and the PC, perform the following steps:

Connecting communication

1. Plug the com unit into a suitable backplane.

2. Connect the backplane to the PC by using the service bus connector.

3. Use a suitable interface converter for the connection. See the following table.

Operating system	Interface converter
Windows 95	W&T RS232-RS485
Windows 98 and higher	USB-RS485-CONVERTER I-7561
Windows 10	USB-RS485-CONVERTER I-7561 (new version)

Table 3.1

Note

For further information refer to the LB/FB Remote I/O hardware manuals.

3.2 Principle Procedure of the Update Process

To change the firmware version, perform the following steps:

Changing the Firmware Version

1. Establish a connection between PC and com unit.

2. Select the desired firmware version.

   ↳ Only firmware versions compatible to the firmware of the com unit type are offered.

3. If the com unit type is to be changed, deselect the **only matching updates** check box.

   ↳ All firmware versions available on the PC are displayed.

4. Confirm the selected firmware version.

   ↳ The update process is started.

Update Process

- The com unit is restarted and held in the start program.
  The green LED on the com unit flashes quickly.
- The firmware version is loaded into the com unit automatically.
- The firmware version update is finalized by restarting the com unit.

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3.3 Selection of the Com Unit

Selecting the Com Unit

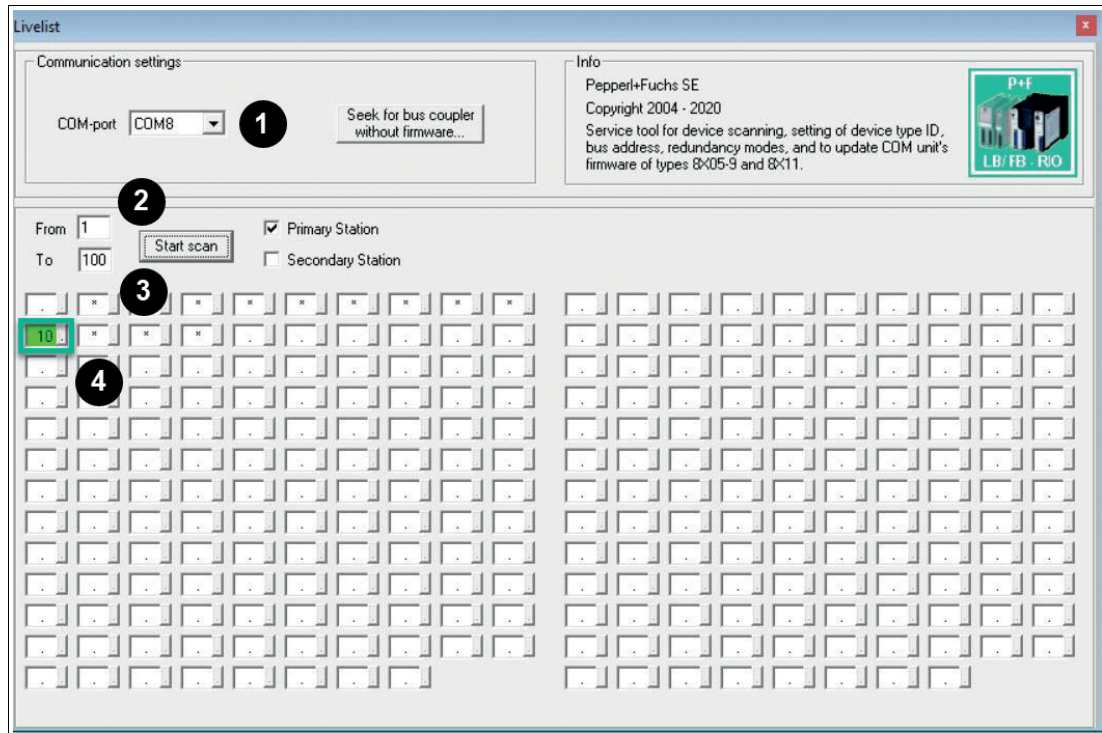1. Start the LB/FB Remote I/O service tool.

Figure 3.1   Com unit selection

↳ The **Livelist** window is indicated.

2. Select the COM-port (1).

3. Select the beginning (2) and the end (3) of the address range to be scanned.

↳ The address range is scanned and the com units found are displayed. In the example a com unit at the service bus address 10.

4. Select the desired com unit by using the button next to the address entry (4).

↳ The **device administration** window of the selected com unit is opened.

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3.4 Indication of the Firmware Version

Indicating the Firmware Version

1. Choose the desired com unit from the **Livelist**. See chapter 3.3.

   ↳ The **device administration** window of the chosen com unit is opened.

2. In the **device administration** window the current firmware version of the com unit is indicated.
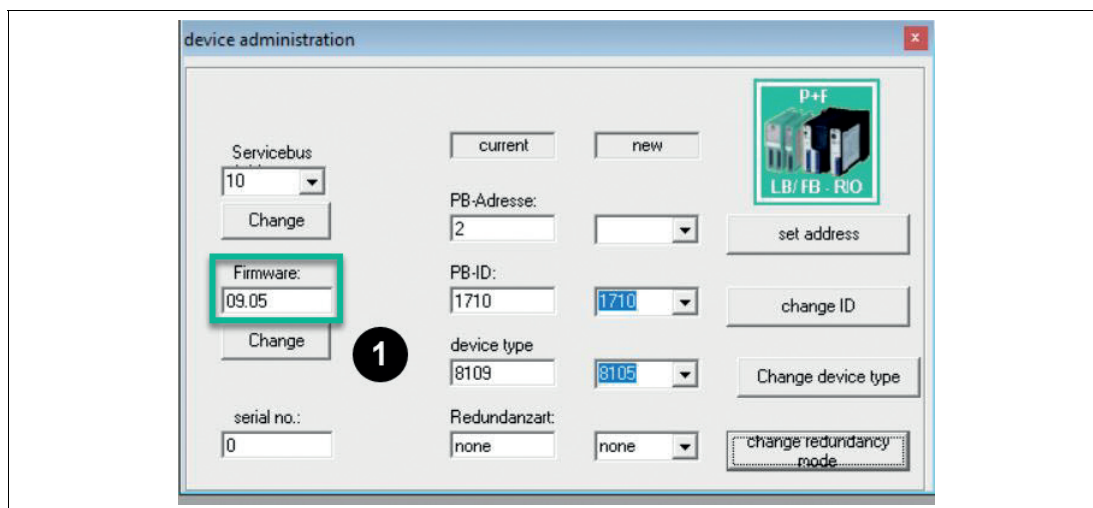

Figure 3.2   Firmware version indication of the chosen com unit

3. You can start the firmware version update in this window.

⚠ **Caution!**

Disturbance of the device function

A change of the firmware version changes the function of the device.

Before updating the firmware version, make sure that there is no danger to the plant as a result of this change.

4. If you don't want to change the firmware version, close the **device administration** window by using the **X** button.

   ↳ The **Livelist** window is indicated.

5. If you want to indicate the firmware version of another com unit, repeat the steps 1 to 4.

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3.5 Update of the Firmware Version

Updating the Firmware

1. Choose the desired com unit from the **Livelist**. See chapter 3.3.

   ↳ The **device administration** window of the chosen com unit is opened.

2. In the **device administration** window the current firmware version of the com unit is indicated.
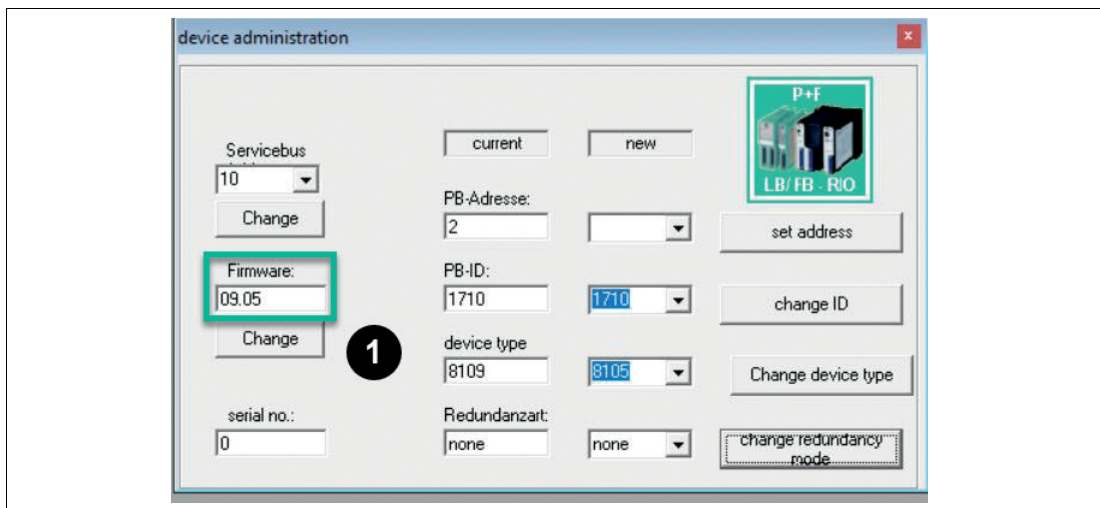

Figure 3.3　　　Firmware version indication of the chosen com unit

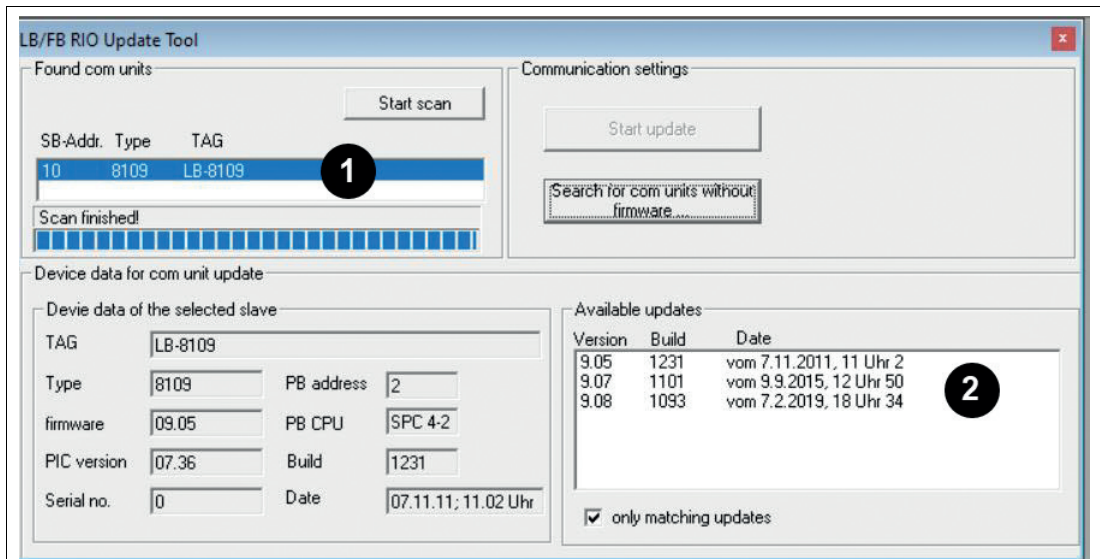3. Start the update tool by using the **Change** button (1).

Figure 3.4　　　Update tool – firmware parameter overview

   ↳ The **LB/FB RIO Update Tool** window is indicated.
   Information about the current firmware version of the com unit is indicated in the left area.
   A list of matching firmware versions is indicated (2).

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4. Mark the new firmware version in the selection list.
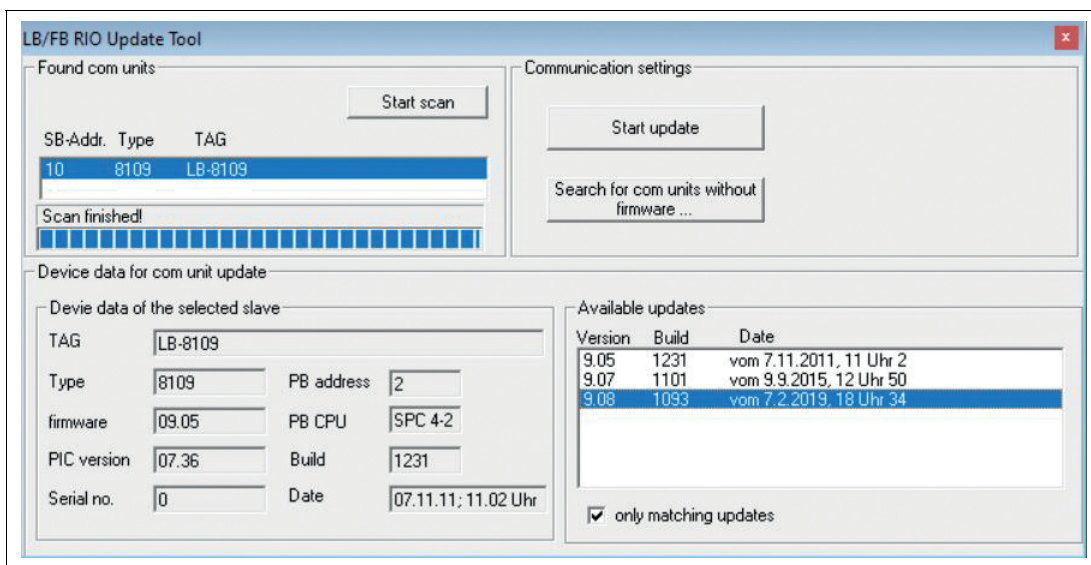

Figure 3.5   Update tool – selection of the appropriate firmware versions

5. Start the firmware version update tool by using the **Start update** button (1).

↳ The **Updating...** window is indicated.

6. Confirm the firmware version change by using the **Start** button.
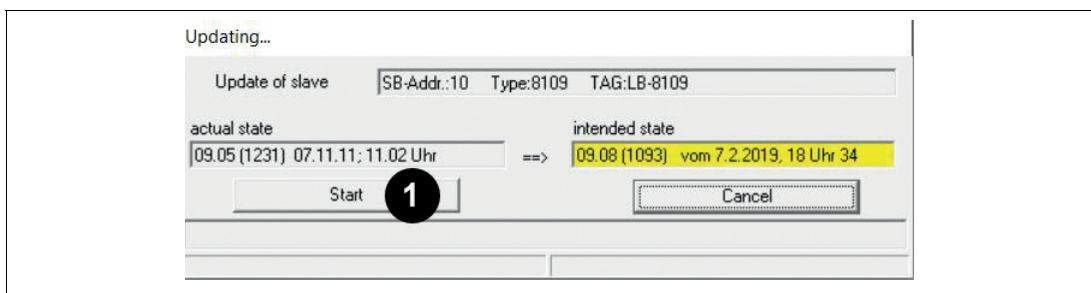

Figure 3.6   Update tool – starting update

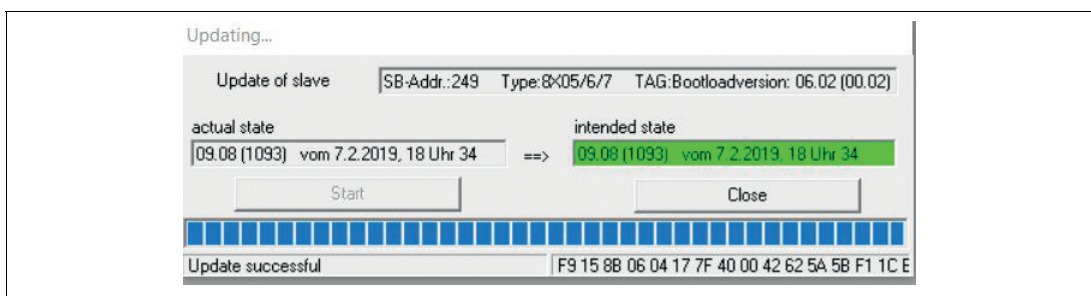**7.** After a successful update, the new firmware version is indicated highlighted in green.

Figure 3.7   Update tool – update finished

↳ The new firmware version is installed.

8. Complete the update by using the **Close** button.

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4 Troubleshooting

4.1 Com Unit is not found in the Selection List

Check the following points:

1. Is the com unit found with another tool that is used for service bus communication (e. g. DTM)?
2. Are all mechanical connections tightly connected?
3. Is the COM port for the communication settings correct?

4.2 Update Fails

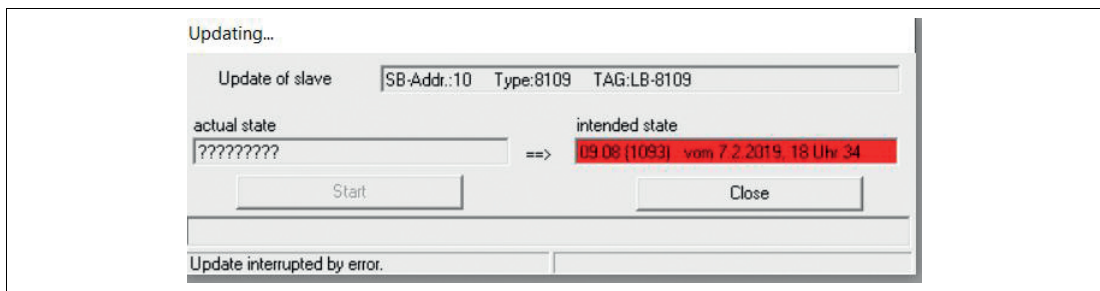After a failed update, the firmware version is indicated highlighted in red.

Figure 4.1

Cause may be: The communication between com unit and update tool has been briefly disturbed and the update process was aborted.

The green LED on the Com Unit lights up.

If the update process has been interrupted before the memory was cleared, the green LED of the com unit lights up.

Restarting the Com Unit's Firmware Update Process

1. Restart the update process, see chapter 3.5.

2. After a successful update, the new firmware version is indicated highlighted in green.

   ↪ The new firmware version is installed.

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The green LED on the Com Unit flashes quickly.

If the update process has been interrupted after the memory has been cleared, the green LED flashes quickly and the com unit is ready to load a new firmware version.

Restarting the Com Unit's Firmware Update Process

1. Restart the LB/FB Remote I/O service tool.

   ↳ The **Livelist** window is indicated.

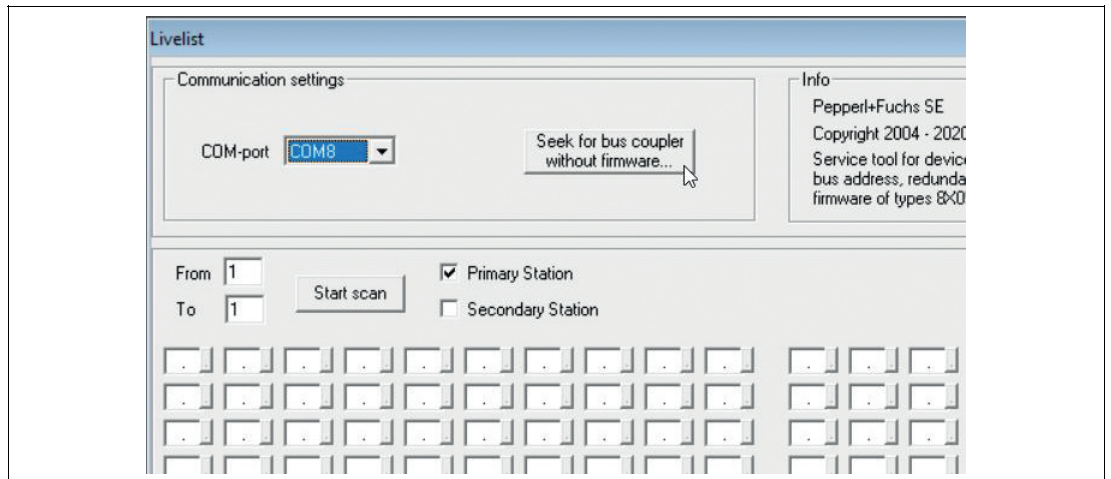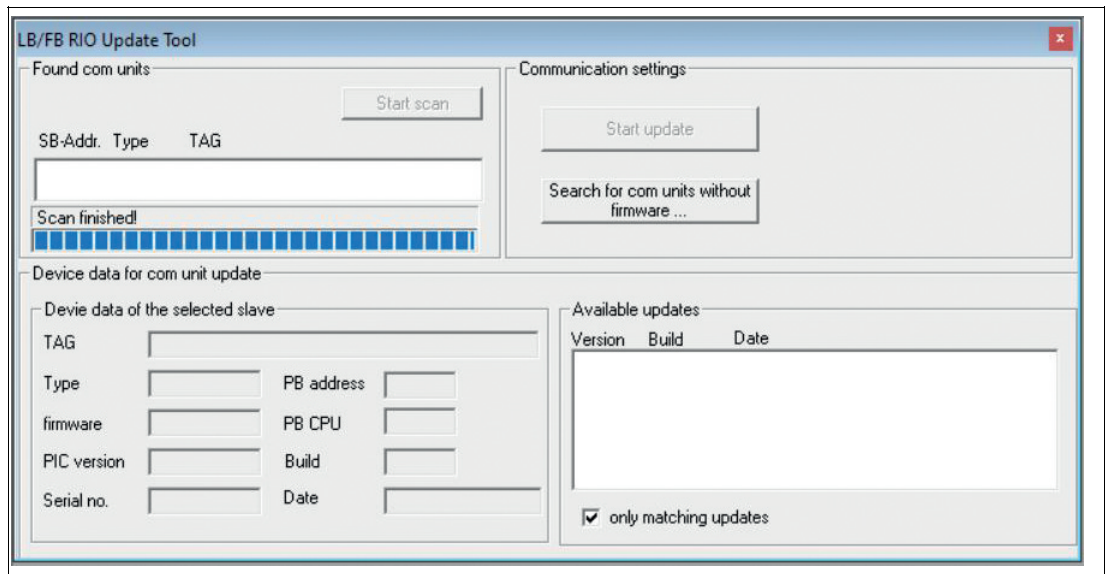2. Click the **Seek for bus coupler without firmware** button.

Figure 4.2

Figure 4.3

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3. Choose the com unit with the address 249 or 250. Com units without firmware always have one of these two addresses by default.
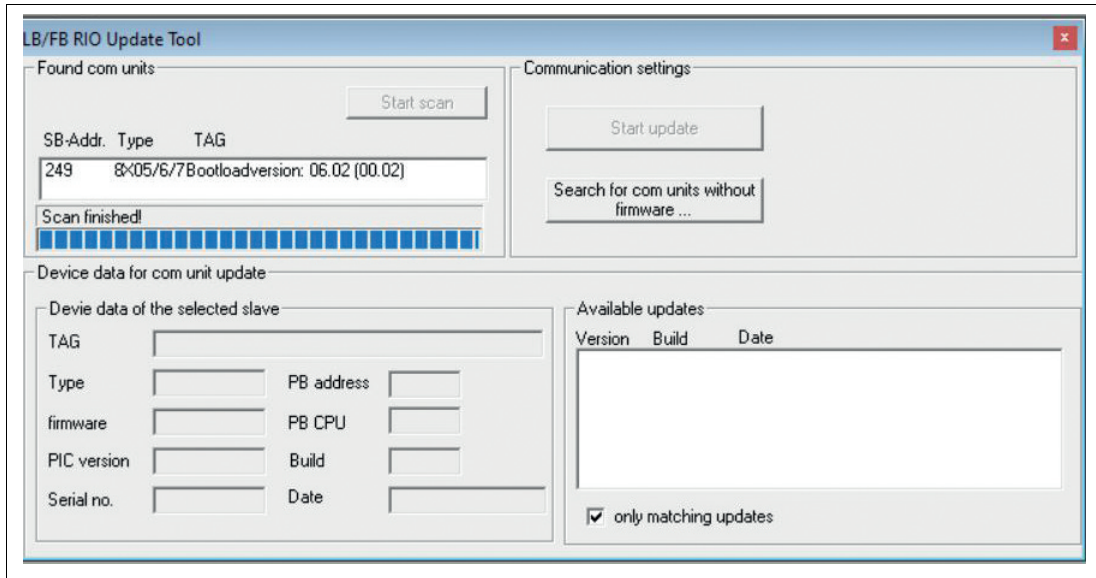

Figure 4.4

4. Restart the update process, see chapter 3.5.

5. Mark the desired firmware version in the selection list.
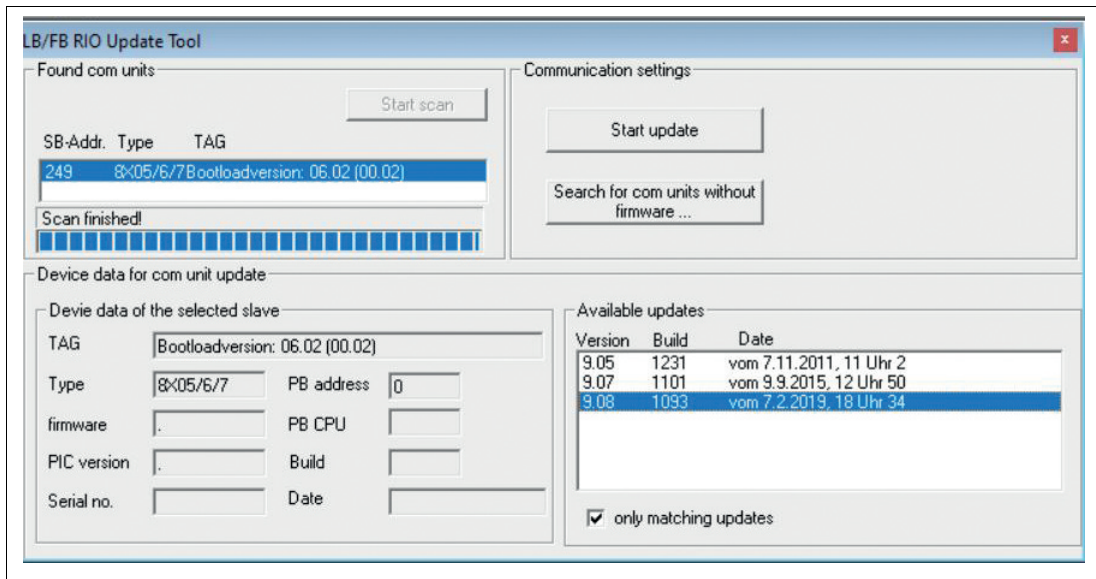Since no firmware is assigned to the com unit, no suitable firmware version can be offered.

Figure 4.5

6. Start the update process by using the **Start update** button.

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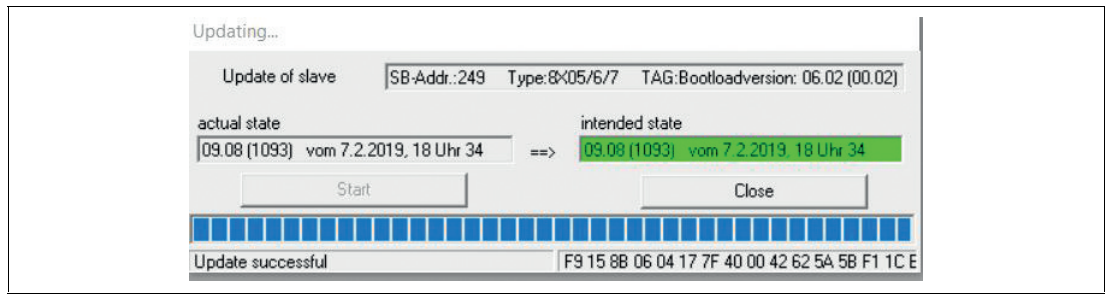**7.** After a successful update, the new firmware version is indicated highlighted in green.

Figure 4.6   Update tool – update finished

↳ The new firmware version is installed.

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