

Quick Start Guide WHA-ADP* WirelessHART-Adapter

Firmware Update Instructions



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1. Getting Started

1.1. Requirements

- PC with PACTWare 4.1 or later
- HART Communication DTM package from CodeWrights (accessible at the Pepperl+Fuchs Homepage)
- WirelessHART DTM Collection from Pepperl+Fuchs
- HART Modem, e.g. Pepperl+Fuchs HM-MT-USB
- Firmware Update Package (accessible via Pepperl+Fuchs sales contact)

1.2. Preparation

The WirelessHART Adapter should be powered by a battery of type W-BAT-B2-Li GG.

A connection to the adapter is necessary for the firmware update. Depending on the conditions at site, the connection can either be established with the help of a HART Modem or wirelessly via a WirelessHART Gateway. This manual will explain the firmware update via HART modem, but it is also possible to perform the same steps with a wirelessly connected adapter.

Connect the clamps of the HART Modem to terminals 5+6 or 7+8 of the WirelessHART Adapter. On the other side the WirelessHART Modem should be connected to your computer, e.g. via an USB port. Make sure you have installed the necessary drivers for the HART Modem as well as the DTM packages and PACTWare.

1.3. Establishing a Connection



Connection

1. Open PACTWare. If you don't have an existing project, create a new one.
2. At first, the basic project structure must be created. In order to do so, right click on Host PC and select Add device.

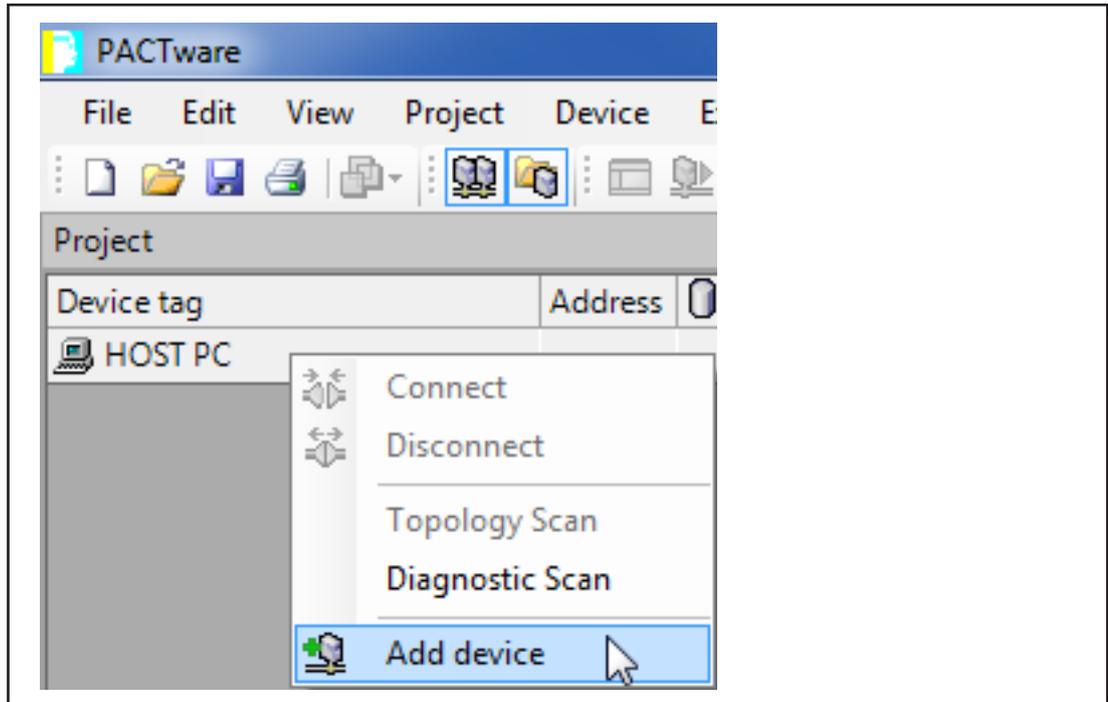


Figure 1.

3. Now the device catalog will open. Search for the device called HART Communication from CodeWrights GmbH, select it and press OK.

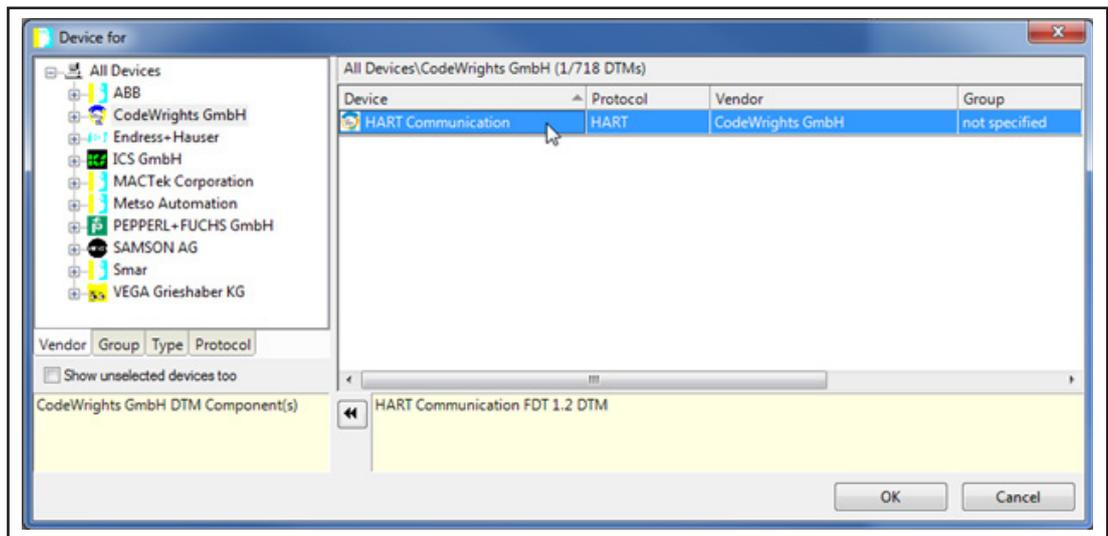


Figure 2.

4. Now the HART interface has been added to your project. Right click on the HART Com DTM in the project tree and select Add device again.

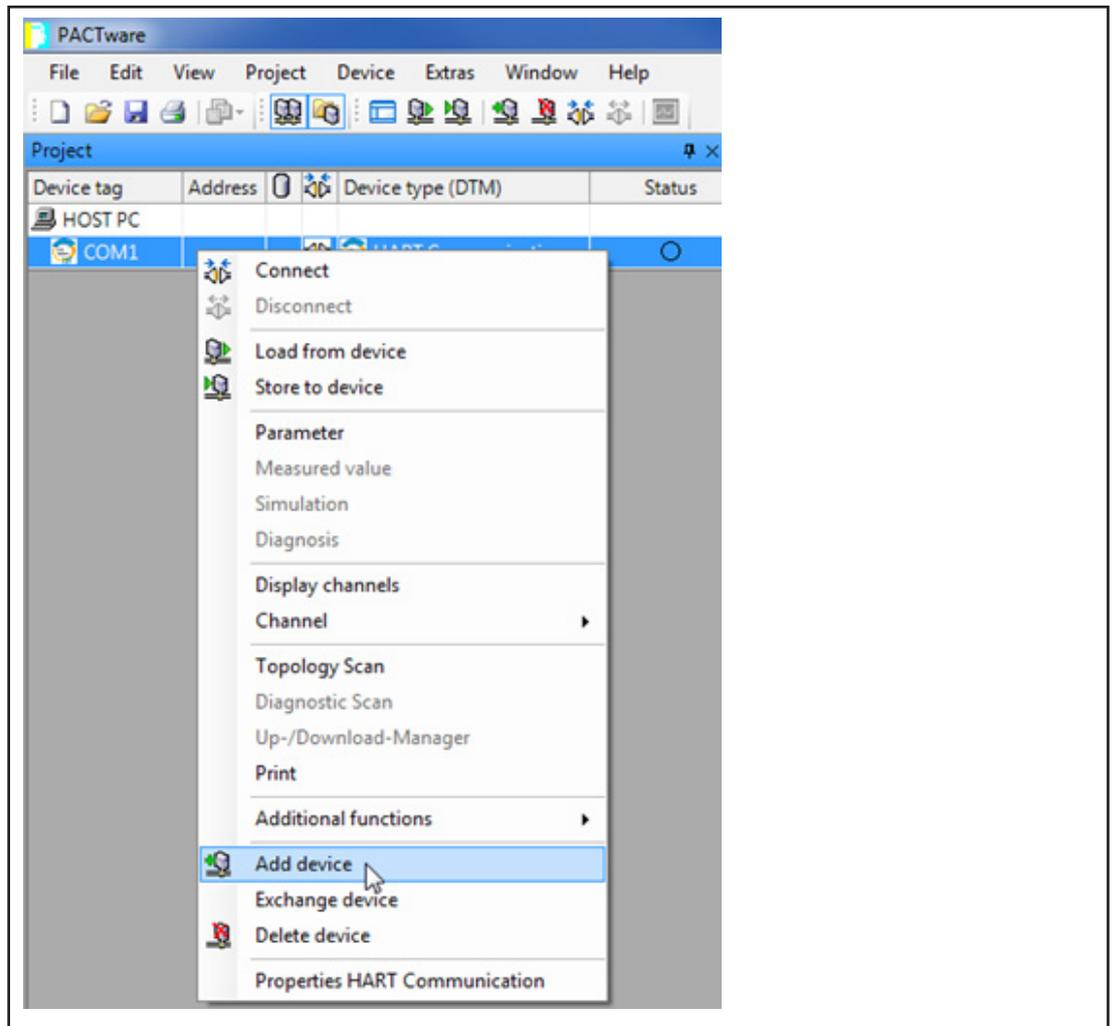


Figure 3.

5. Now the WirelessHART Adapter DTM can be added. Navigate to the WHA-ADP DTM's. Depending on the adapter revision you have available, you need to choose between WHA-ADP and WHA-ADP Rev. 2. Don't worry if you're not sure about the revision of your device. In case of doubt, select WHA-ADP Rev. 2. If your adapter is a revision 1 device, you will receive a corresponding error message later when you try to connect to the adapter. In this case simply delete the WHA-ADP Rev. 2 DTM from your project tree and add the WHA-ADP DTM.

6. Afterwards your project tree should look like this:

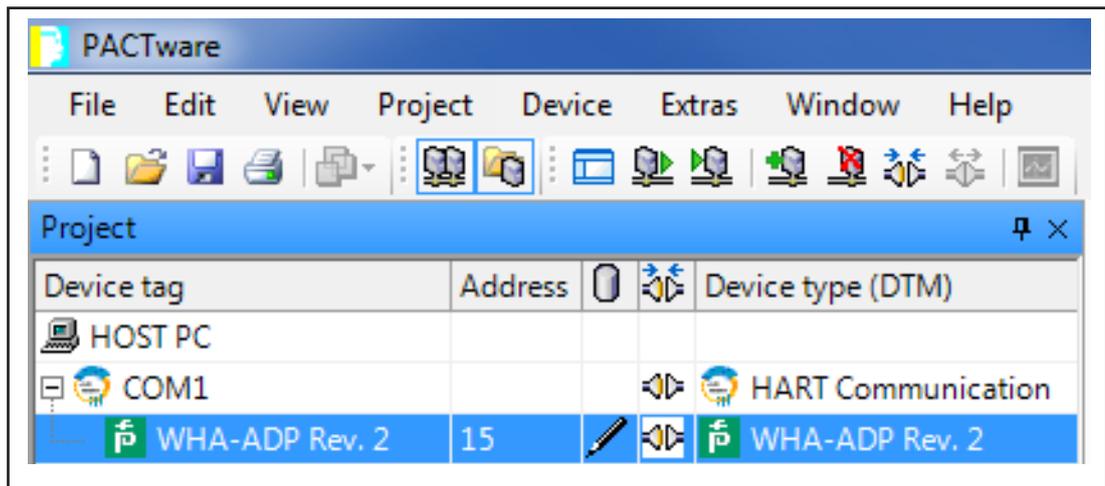


Figure 4.

7. Now the HART Com DTM needs to be configured at first. Double click at the HART Com DTM (labeled with COM1 or something similar), afterwards the DTM should open on the right side of the screen:

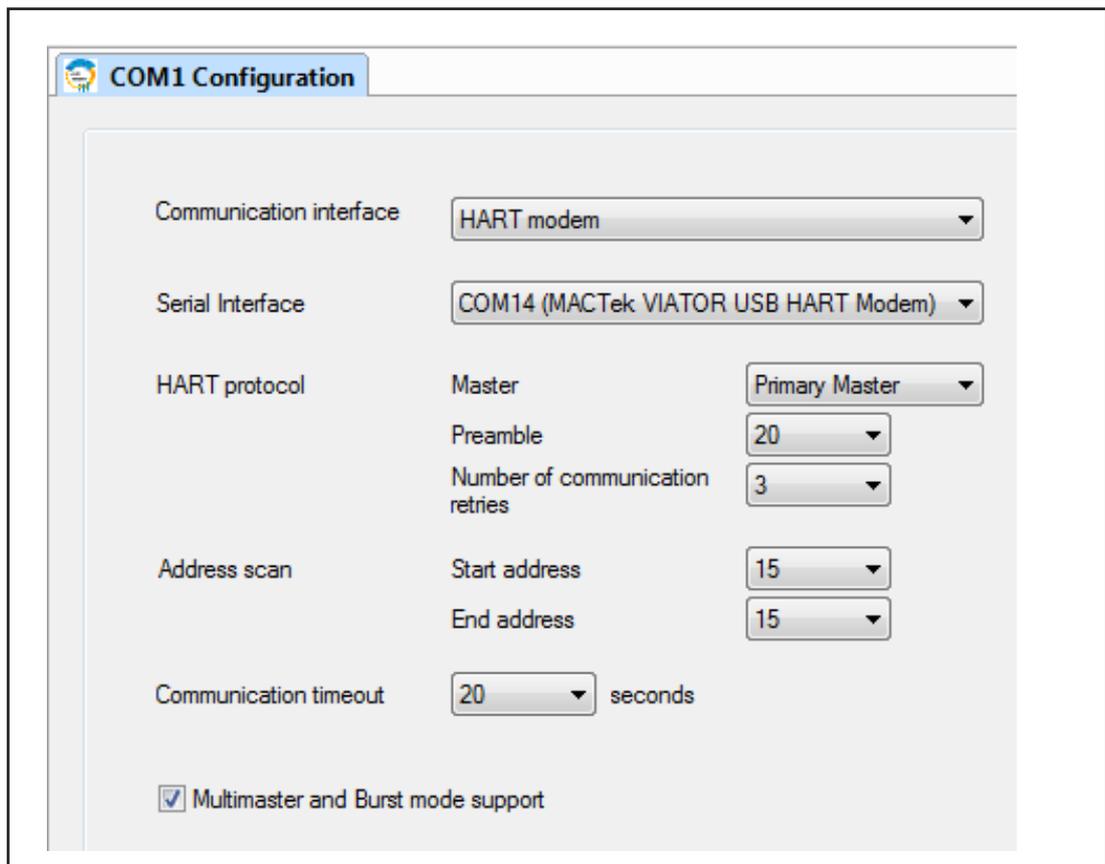


Figure 5.

8. The communication interface needs to remain at HART modem. The serial interface must be adjusted to the virtual COM port of your HART Modem. If you do not know the COM port of your HART Modem, open the Windows device manager. The HART Modem should appear in the Ports (COM & LPT) section:

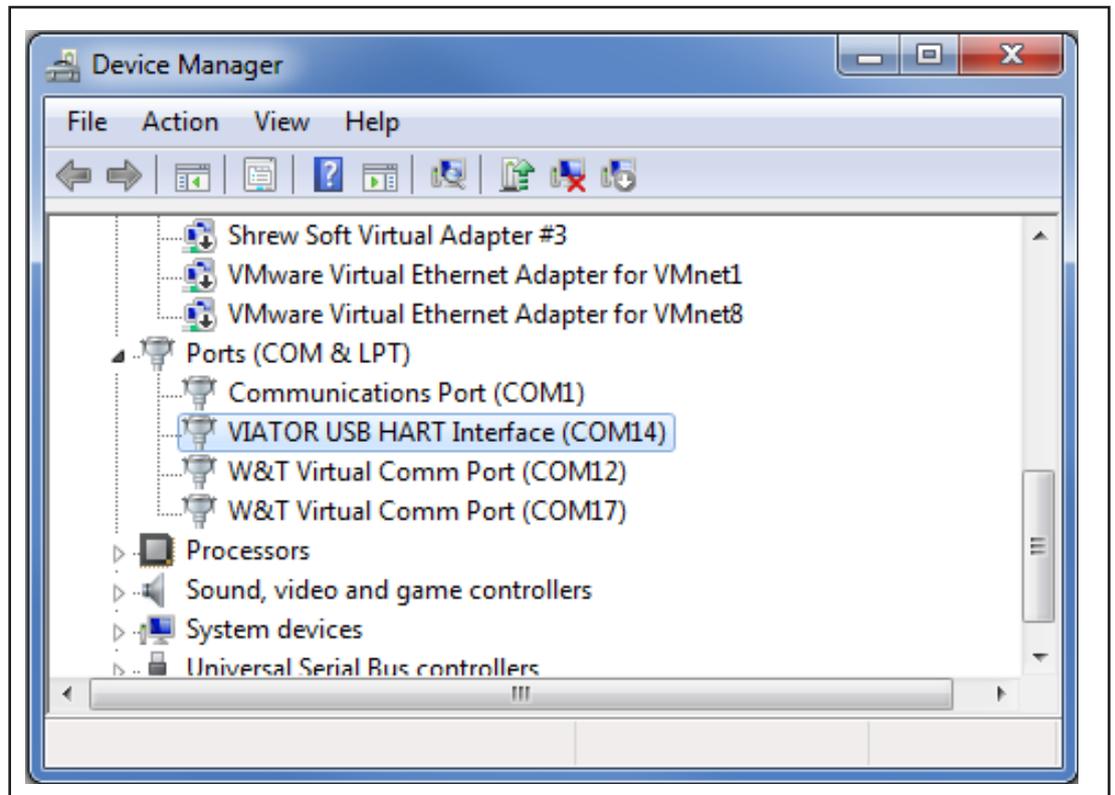


Figure 6.

9. Adjust the serial interface in the HART Com DTM accordingly. The preamble count should be set to the highest possible value, e.g. 20.
10. The number of communication retries can be left at its default value, higher values will eventually increase the time a connection needs to time out in case of an error.
11. The start address as well as the end address should be set to 15, this is the default value of every new WirelessHART Adapter.
12. The communication timeout can be increased in order to avoid communication problems when the adapter needs to be waken up from deep sleep.
13. Finally, to apply your changes to the DTM and close the current view, press the OK button at the bottom.

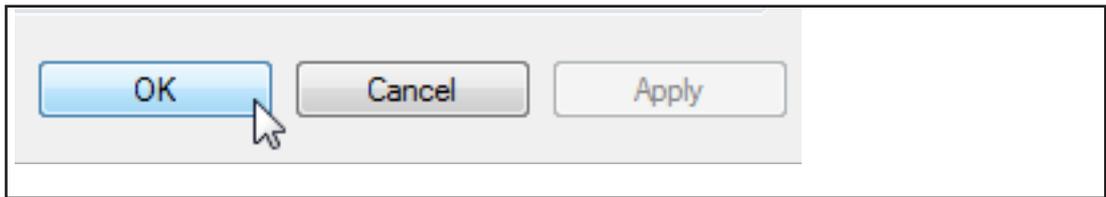


Figure 7.

14. Now a connection to the WirelessHART Adapter should be possible. Right click at the WirelessHART Adapter DTM and select Connect:

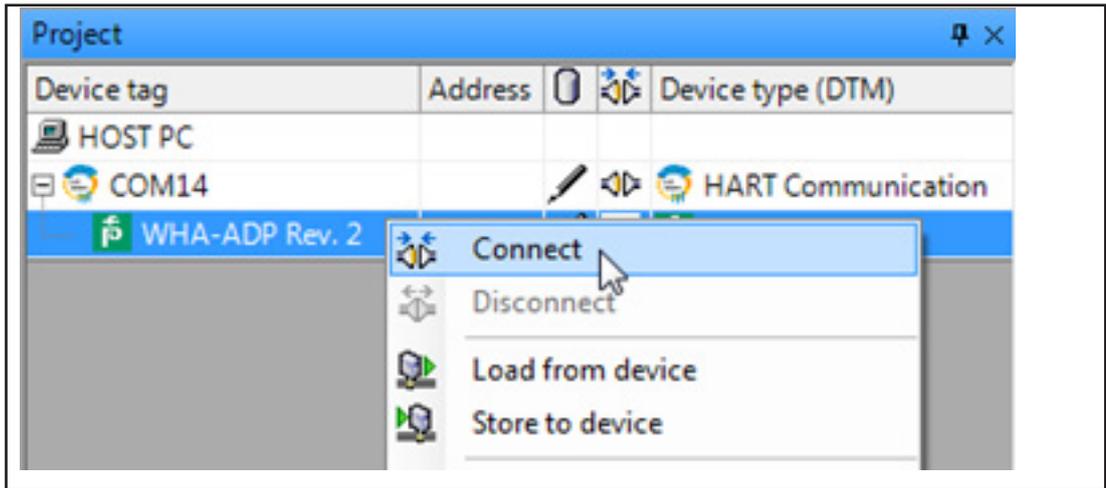


Figure 8.

15. Double click at the WirelessHART Adapter DTM in order to open the online view. It will take a moment until the adapter wakes up from sleep mode and the connection symbol in the project tree gets green.

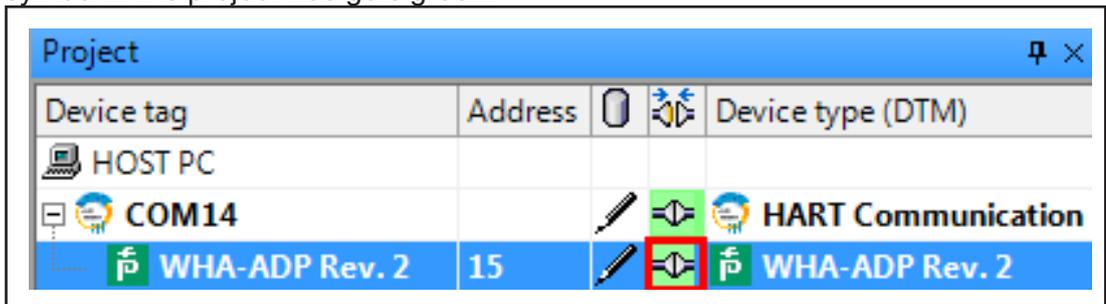


Figure 9.

16. If the connection symbol does not switch to the green state or if you're receiving a connection error, check whether all settings are applied correctly. If the error message states something like this, you chose the wrong DTM revision:

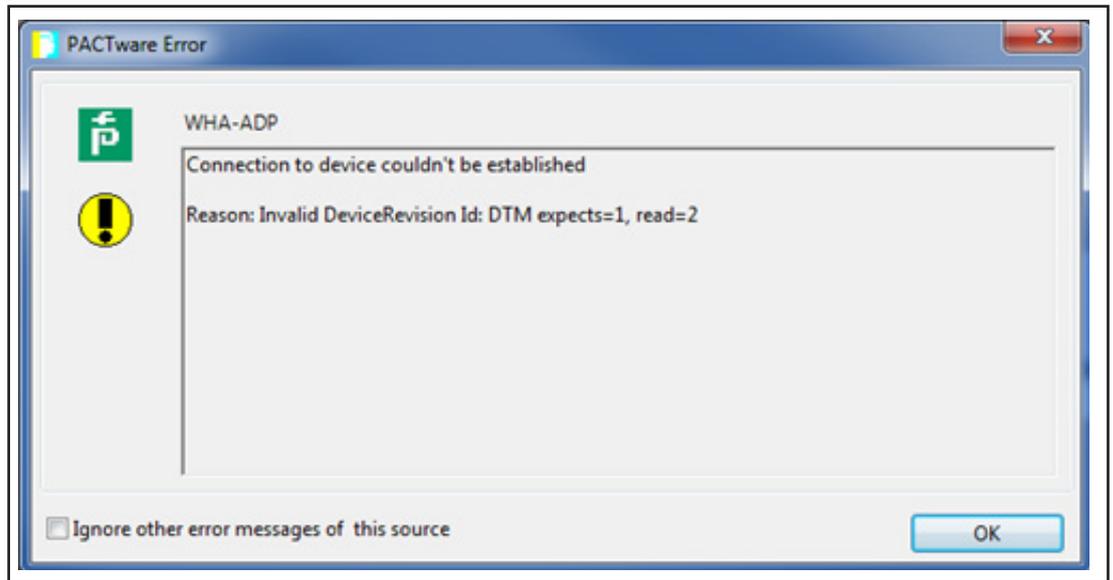


Figure 10.

1.4. Firmware Update

Now you have ensured that a connection to the WirelessHART Adapter is available. To find out which firmware version the adapter has currently installed, right click at the WirelessHART Adapter DTM in the project tree and select Additional functions -> Update firmware

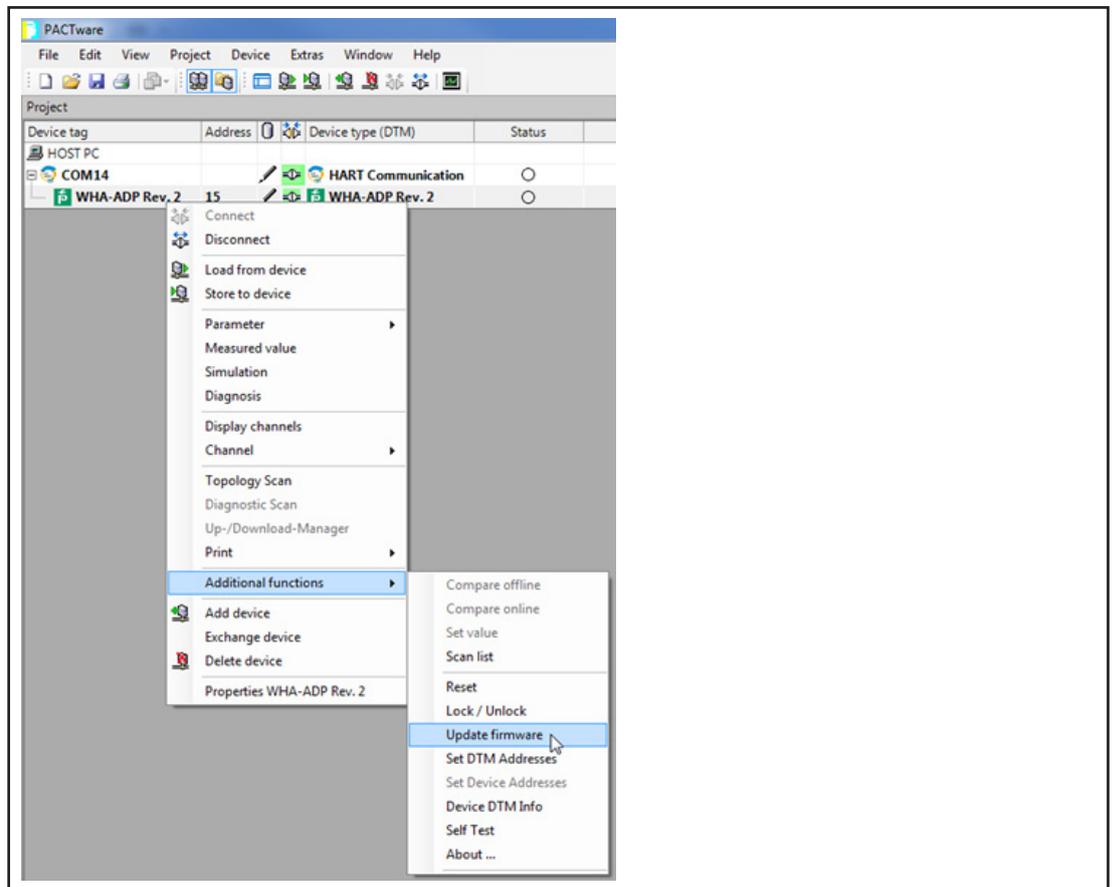


Figure 11.

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Now a new window will open. The current firmware version is displayed at the bottom:

WHA-ADP Rev. 2 # Update firmware

Device Name: WHA-ADP Rev. 2

Long Tag: _____

NE107 Status: Maintenance Required

Update Via: Local Path

FW Update File (Path): _____

FTP User: _____

FTP Password: _____

Update Firmware: >>

Firmware Version: 02.40.00-03526

Radio Chip Firmware Version: 01.01.02-00010

Figure 12.



Important Note

If you're trying to install firmware update 02.40.01 ensure that your adapter has firmware version 02.40.00. It is not possible to update older versions to 02.40.01

If you have the firmware update package available at your computer, select Local Path and enter the full path of the location, where the file is located. Make sure you extracted the ZIP archive at first.

1.5. Example of a path:

The downloaded and extracted firmware package in this example is located in the download-folder. Use the Windows Explorer to navigate to the location where the file is located and click into the address bar. This will reveal the full path:

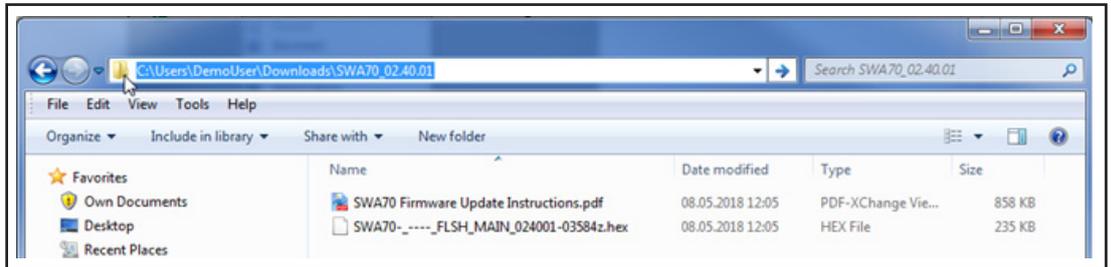


Figure 13.

Copy this path and enter it in the FW Update File (Path) field in PACTWare. Add a backslash `\` to the pasted string. Press enter afterwards so the changes are not discarded when you leave the field, but as this is not the full path do not click the Update Firmware button yet. Before doing so, the file name needs to be added.

In order to copy the file name, go back to the windows explorer. Select the update file and press F2. This allows you to copy the file name.

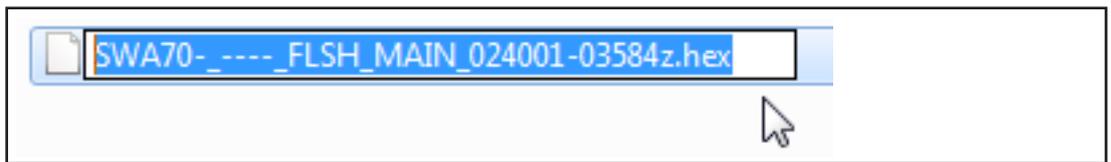


Figure 14.

Now append the copied file name in the FW Update File (Path) field after the backslash in PACTWare.

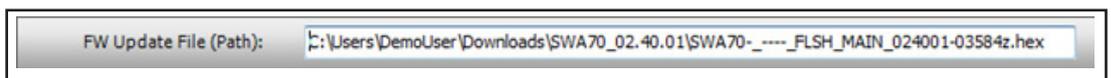


Figure 15.

Make sure that your computer displays the file extension (.hex). If your computer does not show the file extension, add it manually at the end of the file name. The file name must end with .hex

When the path is entered correctly you can press the Update Firmware button in order to start the firmware.

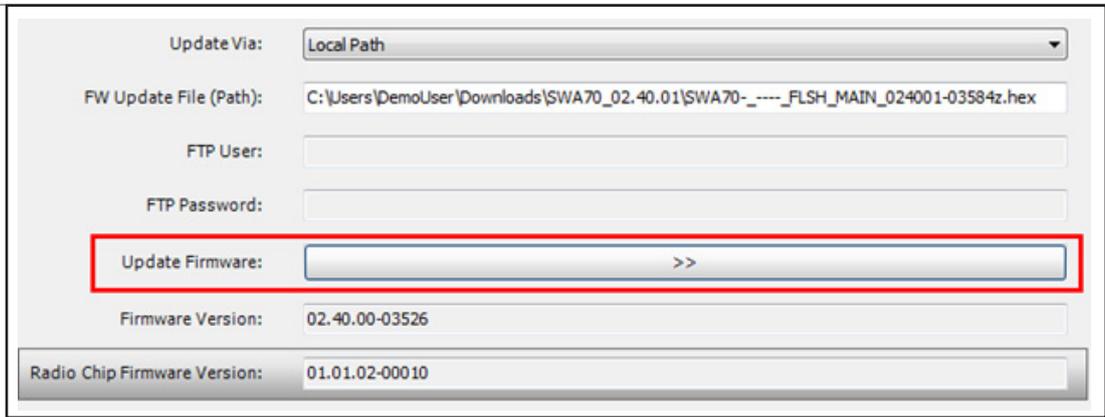


Figure 16.

The firmware update procedure usually takes 20 to 30 minutes with a HART Modem. Wirelessly via the WirelessHART Gateway the procedure can take several hours, depending on the network topology.

Do not terminate the connection to the WirelessHART Adapter before this message appears:

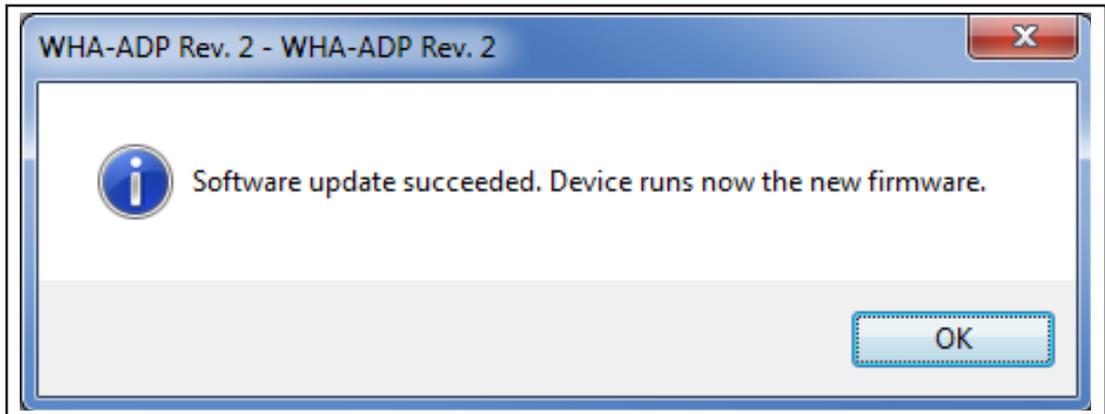


Figure 17.

The new firmware version is displayed in the DTM:

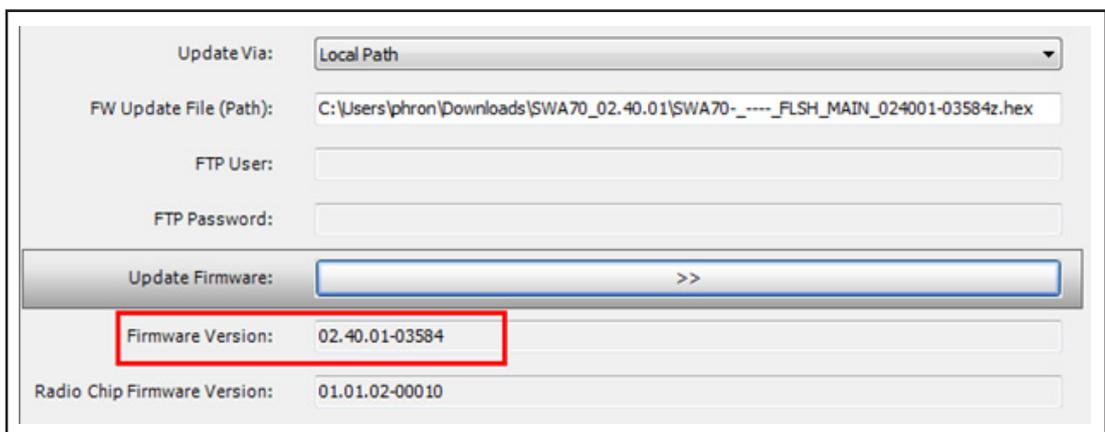


Figure 18.

Your automation, our passion.

Explosion Protection

- Intrinsically Safe Barriers
- Signal Conditioners
- Fieldbus Infrastructure
- Remote I/O Systems
- HART Interface Solutions
- Surge Protection
- Wireless Solutions
- Level Measurement
- Purge and Pressurization Systems
- Industrial Monitors and HMI Solutions
- Electrical Explosion Protection Equipment
- Solutions for Explosion Protection

Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- Fieldbus Modules
- AS-Interface
- Identification Systems
- Displays and Signal Processing
- Connectivity