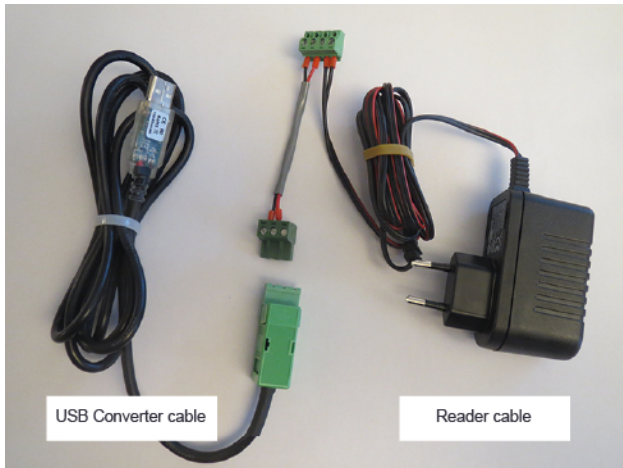


SIEMENS



Firmware Upgrade Utility

ARxxS-MF

Configuration

Version 13

Data and design subject to change without notice. / Supply subject to availability.

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1 Introduction

This utility is used for upgrading any of the ARxxS-MF family of readers' firmware using a PC software application. Following readers can be updated.

- AR10S-MF
- AR11S-MF
- AR40S-MF
- AR41S-MF

There are two main methods to connect:

Update a single reader

This method enables for an update of one **single reader** but applies also for readers that are used in SiPass integrated **ADD5100** (DRI) environment.

Update RS485 bus wired readers

If the SiPass integrated **ADE5300** (ERI) is used with up to eight (8) readers it is possible to update all at the same time.

1.1 Required equipment

The following components are necessary to perform the update:

Supplied in the kit

- USB stick with files
- Quick Guide leaflet with a list of the USB stick content
- USB-RS485 converter cable prepared with 3-pin connector
- Reader connector with Power supply and 3-pin RS485 connector
- 120 ohm End-of-Line (EOL) resistor.

User supplied

- Readers
- Reader opening tool
- Windows PC with USB port. Windows 7 (or later) is tested and recommended.

1.2 USB - RS485 cable converter

This supplied cable includes the converter functionality as well as a RS485 connector for communication with the reader.

There is a USB driver on the USB stick which must be installed first. Otherwise the converter will not work.

The USB driver can optionally be downloaded from the following web site:

<http://www.ftdichip.com>

Browse for the model USB-RS485-WE-1800-BT to find the driver.

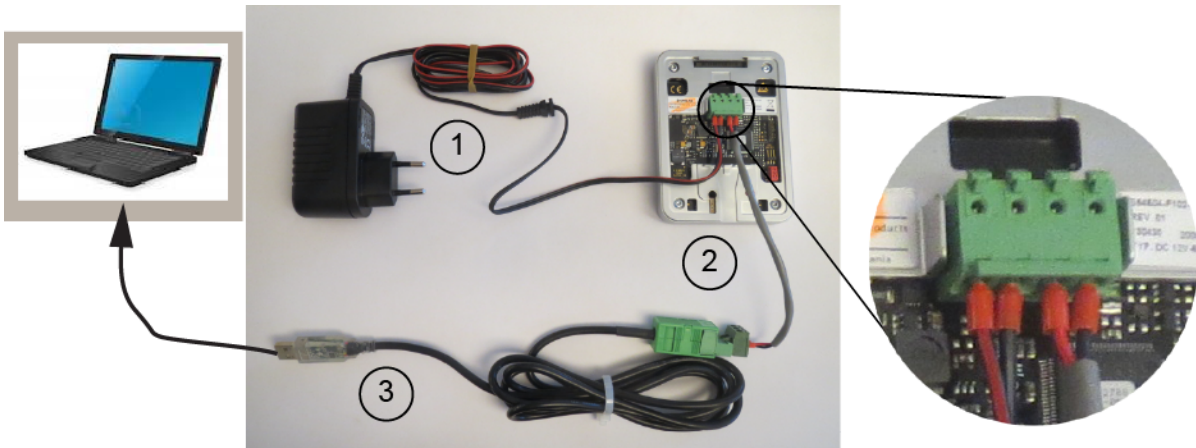
2 Connections

Depending if you are using a single or multiple readers different connections are needed.

One is used to connect a single reader and one is used where an existing RS485 reader bus is used for communication.

2.1 Single reader

This is aimed for use with one reader where also the power supply is used.



1.	Cable for connecting a single reader . Note that the screws at the connector must be downwards in the reader
2.	Rear view of the readers front (with the connector pins)
3.	USB cable including the converter

2.2 RS485 wired readers

When updating readers normally wired to an ADE5300 it is important how the End-of-Line (EOL) resistors are wired (or linked). Two main scenarios are described in the following sub-sections.

- ADE5300 connector at the **end** of the Reader bus
- ADE5300 connector in the **middle** of the Reader bus

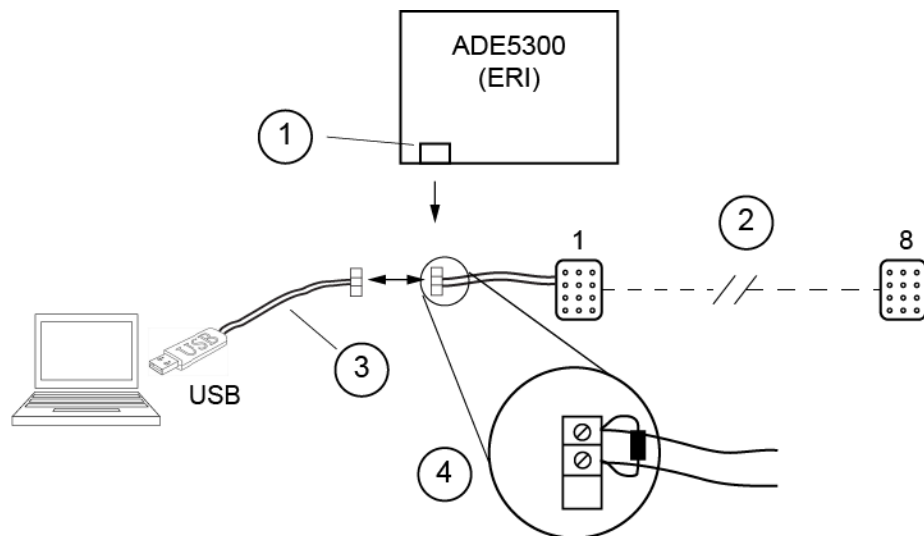
Note that in both cases the reader power wires are not changed.

2.2.1 ADE5300 connector at the end of the Reader bus

Initially the reader terminal block ① is connected to the ADE5300 which means that the Reader bus is terminated in both ends (EOL embedded in ADE5300 and in the reader 8).

When disconnecting the terminal block from the ADE5300 the supplied resistor **temporary** must be wired to the bus connector.

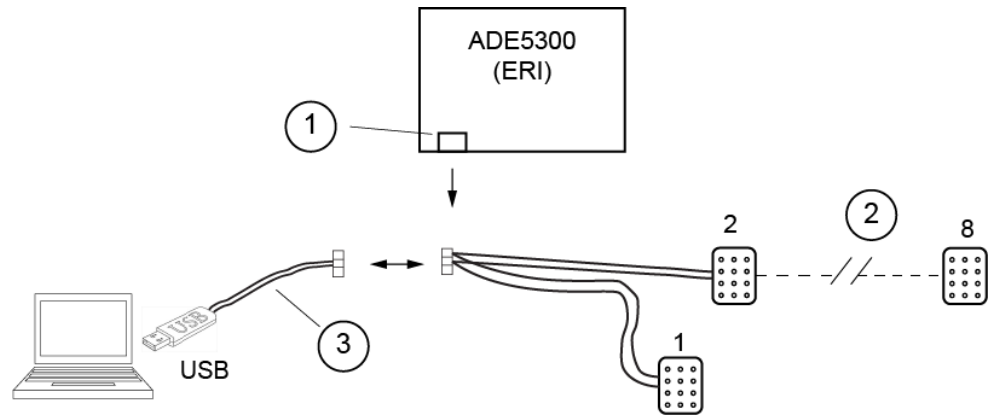
Remember to remove the resistor when the download is complete.



1.	RS485 reader terminal block in the ADE5300 (ERI)
2.	Reader 1 to 8 with existing cables
3.	USB cable including the converter
4.	Temporary EOL resistor 120 ohm.

2.2.2 ADE5300 connector in the middle of the reader bus

If the ADE5300 is wired in the middle of the Reader bus there are no extra EOL re-sistor required as both reader 1 and reader 8 in the example both have the embedded EOL.



1.	RS485 reader terminal block in the ADE5300 (ERI)
2.	Reader 1 to 8 with existing cables
3.	USB cable including the converter

3 Upgrading reader firmware

3.1 Setup of PC

Three different software files need to be downloaded to the PC. The address links are listed on the printed leaflet supplied with the kit. Following files are used:

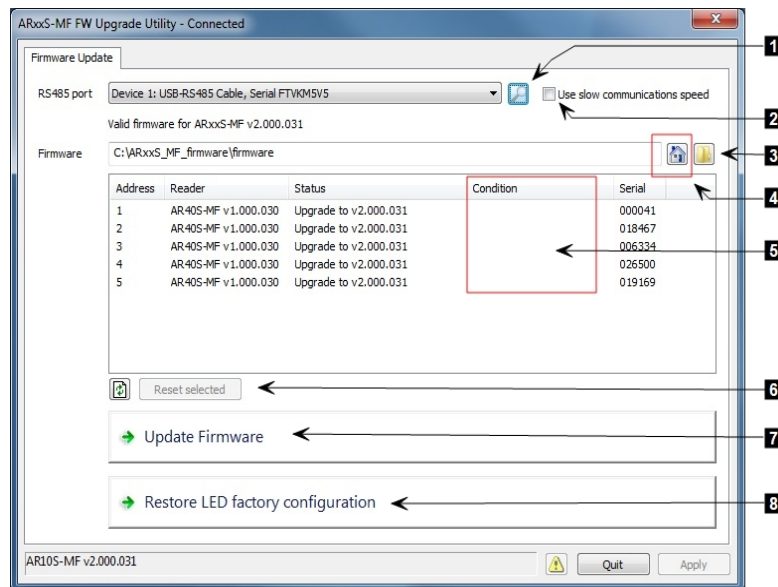
- The latest **firmware** file for download to the readers.
- The PC **application** software referred to below.
- The **USB driver** for the converter cable.

By default the installation file includes both the PC application and the firmware.

Note! Please contact your supplier in order to check if there is a later revision of the card reader firmware available.

3.2 Software start-up

1. Install the USB driver to the PC (if needed via the downloaded file).
 2. Plug in the USB <--> RS485 converter cable to the PC.
 3. Run the PC software "ARxxS_MF_FW_Upgrade_UTILITY.exe" from the start menu.
- ⇒ Following example screen is displayed:



Main window with descriptions of buttons in below table


1.	Serial port selection is auto-selected (if needed select the proper one).
2.	Optionally check to reduce speed to 9600 bps.
3.	Browse for the firmware driver.
4.	Restores the path to the firmware version that the application was using when installed.
5.	Status messages like errors are displayed in this column.
6.	Restarts the reader(s).
7.	Starts to update the readers with the selected firmware.
8.	Restores the LED configuration. See "Restart readers" on page 11.

- Select the proper **serial port** for use of the USB <--> RS485 converter. The “Wizard button” might be able to identify which port to use by probing all ports sequentially.

The ports are named according to drivers (rather than COM Ports). The name of the cable should be **USB-RS485 Cable** but the unit number (Device x) may differ dependent of the hardware connections in the computer.

- Optionally check the “Use slow communications speed”.

If communication problems occur, due to poor cable, it is possible to prevent the automatic upgrade to highest speed (115 200 bps). If the tick-box is checked the normal speed 9600 bps is kept.

- Select the firmware to update with. For delivery firmware click the button .

Note – if the firmware in a reader and the file selected are of the same version, the Status column will indicate this.

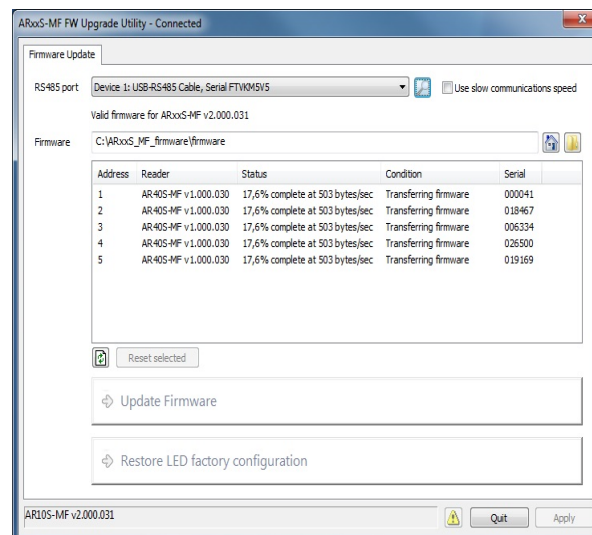
- Connect the cables to the target reader(s) to update:

Option 1 – Single reader. Please See "Single reader" on page 5.

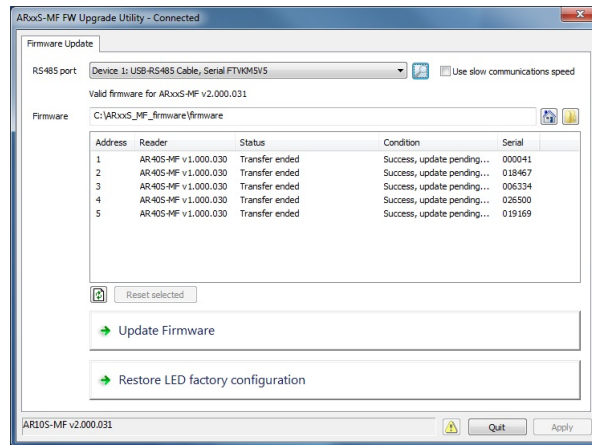
Option 2 – Multi-readers. Please See "RS485 wired readers" on page 6.

- Check that your readers are online in the tool and showing the current firmware.
- Press the button **Update firmware** to start the update.

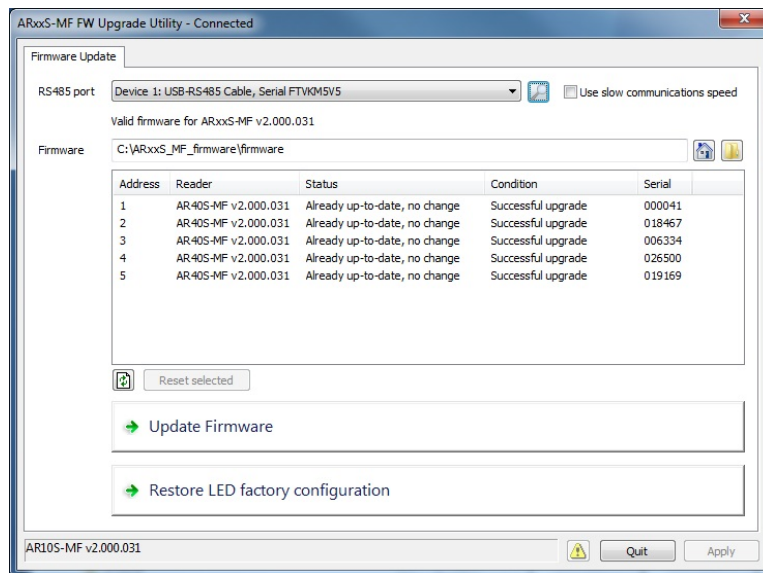
⇒ Following example screen is displayed:



9. Wait for the file transfer to end.



10. Then the readers are restarted with the new firmware and ends with the following screen.



11. Quit the software.
12. Reconnect the reader cables to the controller and ensure the readers are working properly.

3.2.1 Restart readers

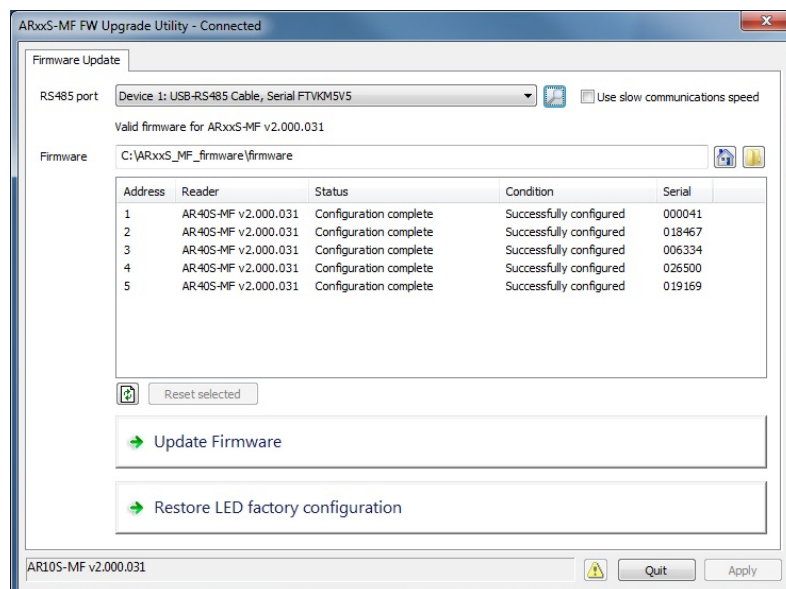
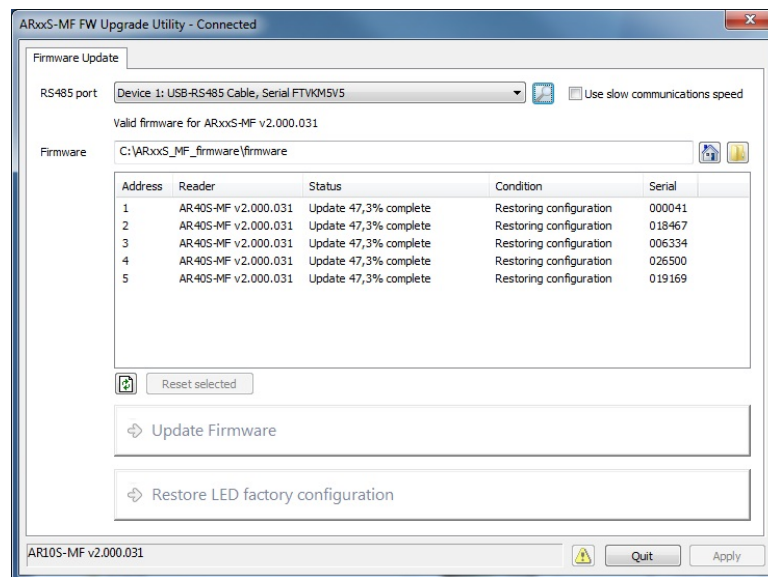
It is possible to select one or more readers from the list which enables the button Reset selected. When clicking on the button the selected readers will be restarted.

3.2.2 Reset reader settings

If a reader is upgraded from v1.xxx.xxx to v2.xxx.xxx using an older version of this software application, sometimes settings might disappear meaning that LEDs and background lighting turns off after 30 seconds.

Note - If LED settings have not been the default ones you might need to configure the reader again with your Configuration card.

By clicking on “Restore LED factory configuration” the lost settings are restored.



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