

# Update of firmware and bootloader

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## 1. Update bootloader and firmware

Below the update of the bootloader, the firmware and online help for the REG-D™ using the REGUpdate program will be explained in detail. For a successful update, a connection cable (null-modem cable with pin assignment as shown on page 8, or, with order code I1, a mini USB cable) and the PC software REGUpdate (update32.exe) are required.



### Firmware package

The current firmware including the current bootloader and the necessary PC software REGUpdate (update32.exe) can be found as "firmware packages" on our website <http://www.a-eberle.de> under "Downloads / Voltage Regulation & Transformer-Monitoring / Firmware / Current firmware". A change history for the REGSys™ firmware since version V1.99 and a firmware archive is also available from the Download Centre.



### CAUTION!

#### No control function during bootloader mode

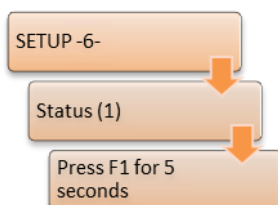
As long as the regulator is in bootloader mode, which is mandatory for an update, all functions including the control functions of the REG-D™ are not available.



### Connection

For an update of the bootloader, the firmware or the online help the REG-D™ has always to be connected directly to the PC. This means that update over an E-LAN connection is not possible.

### 1.1 Update of the bootloader



The bootloader is required to perform updates. For a bootloader or firmware update you must always switch to the bootloader mode. Since bootloader version V2.12 there is also the possibility of carrying out a RAM-Backup using the bootloader. To see the current version of the bootloader, you need to press F1 for 5 seconds in "Setup -6-\Status\".



### When is a bootloader update required?

It is recommended to update the bootloader only if it is really necessary. For example, if the RAM-Backup functionality needs to be used, a bootloader  $\geq$  version V2.12 must be loaded, if it is not already present.

### NOTICE!

#### Downgrading the bootloader

Never perform a downgrade of the bootloader (e.g. V2.12 to V2.10). The regulator can be permanently damaged by doing so.

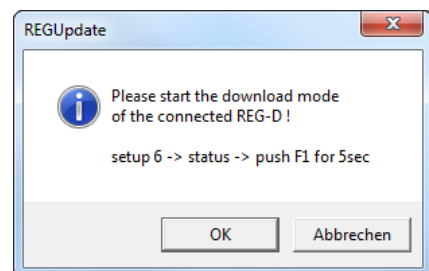
### To update the bootloader the following steps are necessary:

- 1.) With the null-modem cable connect the regulator via COM1 to a free COM interface on the PC. If the REG-D™ is equipped with a USB interface instead of a SUB-D socket, connect COM1 to the PC via the USB cable.
- 2.) Starting the PC software
 

Use the program REGUpdate (update32.exe) under any of the operating systems Windows 95/98/NT/XP/7 or 8.

  - 2.1 Select language
  - 2.2 Select the appropriate COM interface on your PC
  - 2.3 Select the connected device (here: REG-D™)
- 3.) Loading the new bootloader
 

In the program REGUpdate under "Update / new Bootloader", select file boot\_XXX.mot and click on Open. There is an indication that the bootloader needs to be started via "Setup -6-/Status/" pressing F1 for 5 seconds.



The REG-D™ bootloader has its own interface settings. These are visible after starting the bootloader. The baudrate can be set using the F3 key. The settings for flow control (handshake) and parity cannot be selected.

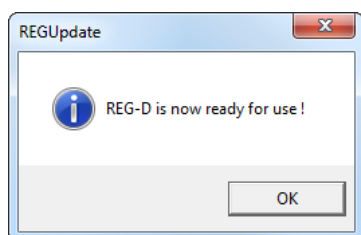
Parameter	Value
Baudrate	115200 (selectable)
Parity	--
Handshake	RTS/CTS

The interfaces (baudrate) must be the same on the PC and the regulator for a successful communication to take place! Compare the settings on the regulator with the settings in the update tool under the menu item: "Configure/Baudrate".

After starting the bootloader on REG-D™ and checking the baudrate, you download the new bootloader by clicking on OK button in the dialog.

A progress bar appears indicating the status of the loading process.

- 4.) The update has been executed correctly when the following message appears:



## 1.2 Updating firmware

To update the firmware of the REG-D™ the following steps are necessary:

- 1.) With the null-modem cable connect the regulator via COM1 to a free COM interface on the PC. If the REG-D™ is equipped with a USB interface instead of a SUB-D socket, connect COM1 to the PC via the USB cable.
- 2.) Starting the PC software

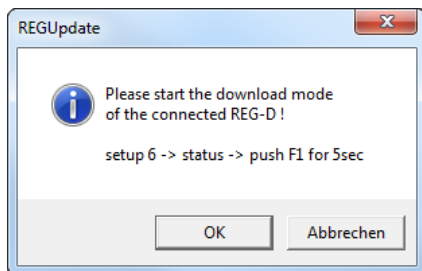
Use the program REGUpdate (update32.exe) under any of the operating systems Windows 95/98/NT/XP/7 or 8.

  - 2.1 Select language
  - 2.2 Select the appropriate COM interface on your PC
  - 2.3 Select the connected device (here: REG-D™)
- 3.) Loading the new firmware

In the program REGUpdate, under "Update / new Firmware", select the file for your firmware and click on Open.

Bootloader version	Firmware file name
< V2.00	hr_XXX.moc
>= V2.00	hr_XXX_p.moc

There is an indication that the bootloader needs to be started via "Setup -6-/Status/" pressing F1 for 5 seconds.



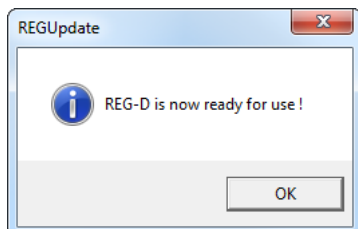
The REG-D™ bootloader has its own interface parameters. These are visible after starting the bootloader. The baudrate can be set using the F3 key. The settings for flow control (handshake) and parity cannot be selected.

Parameter	Value
<b>Baudrate</b>	115200 (selectable)
<b>Parity</b>	--
<b>Handshake</b>	RTS/CTS

The interfaces (baudrate) needs tot be the same on the PC and the regulator! Compare the settings on the regulator with the settings in the update tool under the menu item: "Configure/Baudrate".

After starting the bootloader on the REG-D™ and checking the baudrate, you can download the new firmware by clicking on the OK button in the dialog. A progress bar appears indicating the status of the loading process.

- 4.) The update has been executed correctly when the following message appears.





#### **Important notes after an upgrade or downgrade of the REG-D™ firmware**

- 1.) After upgrading the firmware of the REG-D™ (e.g. V2.10 → V2.20) any pre-existing RAM-Backup should be replaced by a new RAM-Backup. The reason for this is that new parameters that have been added to a recent firmware do not yet exist in the old RAM-Backup. If a RAM-Backup of a lower firmware version is restored, new parameters are initialized with default values.
- 2.) After a downgrade of the firmware of REG-D™ (e.g. V2.22 → V2.15) it is essential to take the following steps:
  - a.) The device must be re-initialized.
  - b.) An existing RAM-Backup must be performed again or deleted.

## **1.3 Updating online help**

To update the online help of the REG-D™ the following steps are necessary:

- 1.) With the null-modem cable connect the regulator via COM1 to a free COM interface on the PC. If the REG-D™ is equipped with a USB interface instead of a SUB-D socket, connect COM1 to the PC via the USB cable.
- 2.) Starting the PC software

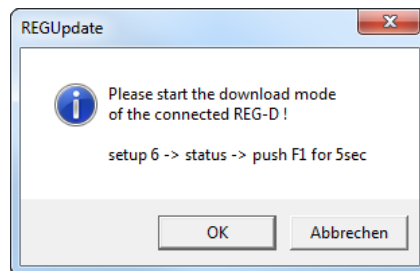
Use the program REGUpdate (update32.exe) under any of the operating systems Windows 95/98/NT/XP/7 or 8.

  - 2.1 Select language
  - 2.2 Select the appropriate COM interface on your PC.
  - 2.3 Select the connected device (here: REG-D™)
- 3.) Downloading the new online help

In the program REGUpdate, under "Update / new Helptext", select the help file for your bootloader and click on Open.

Bootloader version	File name of help texts
< V2.00	help_xxx.moc
>= V2.00	help_xxx_p.moc

There is an indication that the bootloader needs to be started via "Setup -6- /Status/" by pressing F1 for 5 seconds.



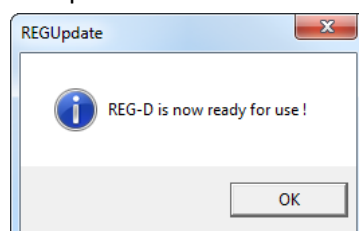
The REG-D™ bootloader has its own interface parameters. These are visible after starting the bootloader. The baudrate can be set using the F3 key. The settings for flow control (handshake) and parity cannot be selected.

Parameter	Value
<b>Baudrate</b>	115200 (selectable)
<b>Parity</b>	--
<b>Handshake</b>	RTS/CTS

The interfaces (baudrate) have to be the same on the PC and the regulator! Compare the settings on the regulator with the settings in the update tool under the menu item: "Configure/Baudrate".

After starting the bootloader on the REG-D™ and checking the baudrate, you can download the new help text file by clicking on the OK button in the dialog. A progress bar appears indicating the status of the loading process.

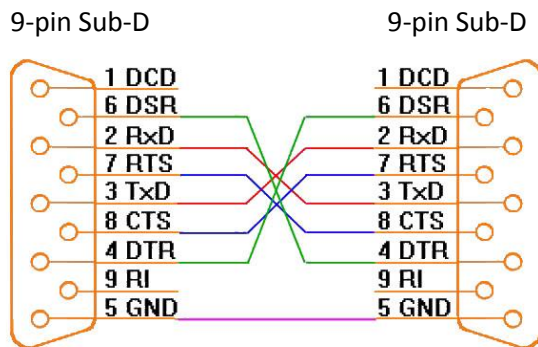
- 4.) The update has been executed correctly when the following message appears.





Via the menu item "Update everything" in the Update menu, it is possible to simultaneously start updating the firmware and the help texts. The updates are then successively carried out.

#### Connection diagram for the null-modem cable



## 2. Contact

For further questions please don't hesitate to contact our REGSys Support Team:

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