

Introduction

The following document provides a detailed information on how to do a parameter backup and data restore with new Bootloader version \geq V2.12 for voltage control System REG-D(A) in case of battery replacement.



Attention

Please take care to carry out the following points after an upgrade or downgrade of the REG-D(A) firmware:

- An existing RAM-Backup should be replaced by a new RAM-Backup in case an upgrade of the REG-D(A) firmware (e.g. V2.10 \rightarrow V2.20) was performed. The reason for this is, that new parameters, which are available in a newer firmware, aren't included in the "old" RAM-Backup. When a RAM-Backup of a lower firmware is restored, the new parameters are initialised with default values.
- After a downgrade of the REG-D(A) firmware (e.g. V2.22 \rightarrow V2.15) the following points have to be done mandatory:
 - a. The device has to be reinitialised, please see chapter "VI. Resetting all parameters via Bootloader".
 - b. An existing RAM-Backup has to be replaced by a new one (see chapter "II. Backup parameters via Bootloader") or deleted (see chapter "V. Delete existing Backup file from Flash").

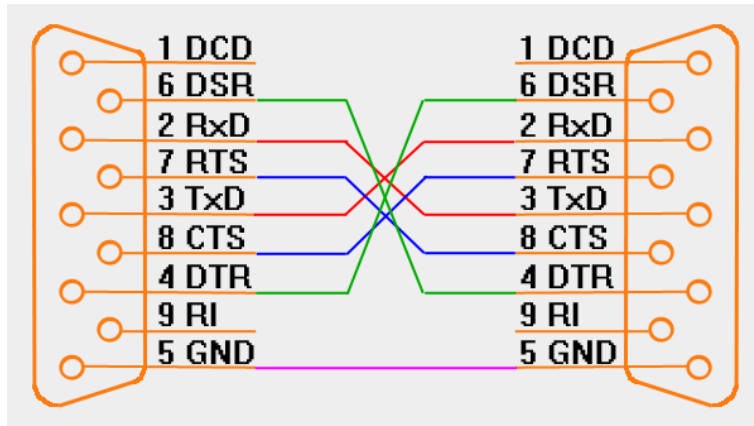
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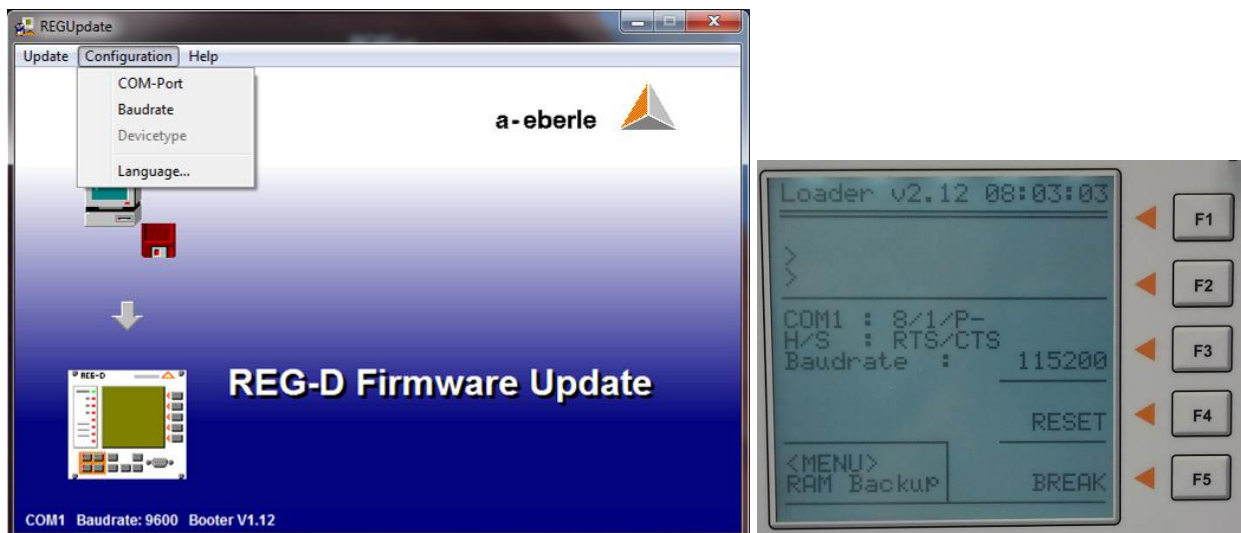
Backup and restore parameters of REG-D(A) via Bootloader

I. Download and update of Bootloader

- 1.) Download the latest Bootloader Version >= 2.12 from our website:
http://www.a-eberle.de/download-center/voltage-regulator/software-firmware/firmware_english.html
- 2.) In order to update the Bootloader of your REG-D(A) a serial connection between the PC and the regulator REG-D(A) has to be established. For the serial connection you need a zero modem cable with the following pin assignment. We strongly recommend using an original zero modem cable delivered respectively **included in the scope of delivery** by A. Eberle.



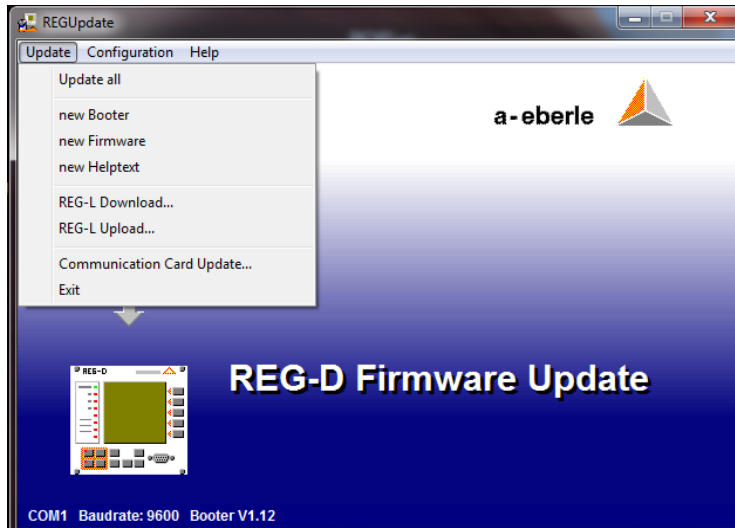
- 3.) Start the Update32.exe (part of the downloaded zip-file) to update the REG-D(A) Bootloader.



The COM-Port must be set to the COM-Port number of your PC with serial connection to the REG-D(A). The baudrate in the Update.exe must be set to the same value as it is configured in the Bootloader menu.

Backup and restore parameters of REG-D(A) via Bootloader

- 4.) With 'Update → new Booter' select the downloaded Bootloader file (e.g. 'boot_v212.mot'). Before starting the Booter download make sure that REG-D(A) has been set in Bootloader mode already. (Setup 6 → F5 → Press F1 for 5s)



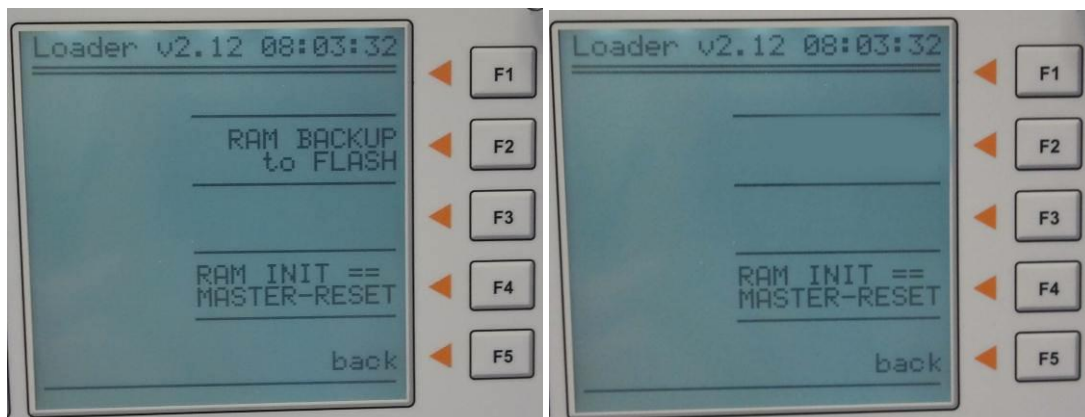
After successful update of new Bootloader your REG-D(A) will restart automatically.

II. Backup parameters via Bootloader

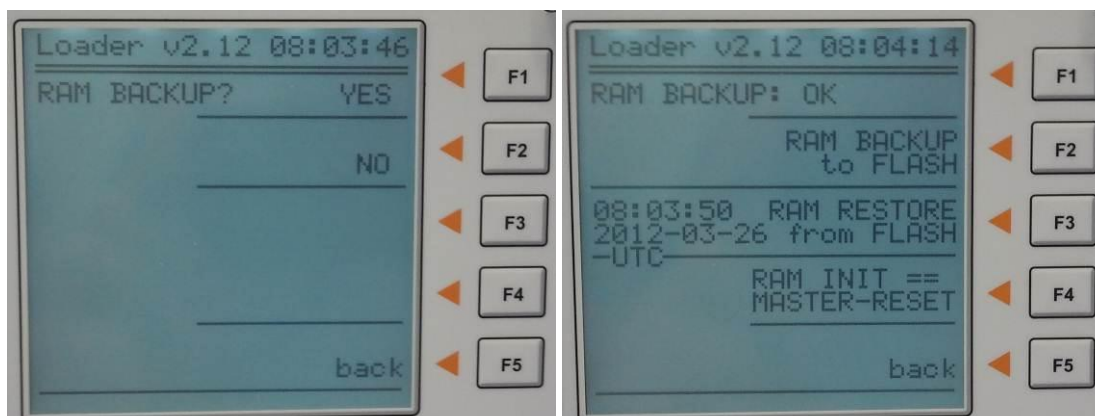
- 1.) Launch the Bootloader mode. (Setup 6 → F5 → Press F1 for 5s)



- 2.) Press the MENU button for RAM Backup screen. If REG-D(A) has a second flash memory the display will be shown according to picture below on the left side. If REG-D(A) has no second flash memory the display looks like below picture on the right side and RAM BACKUP to FLASH can not be performed in general.



- 3.) Press F2 to start RAM BACKUP to FLASH, confirm YES (F1) on the following page and wait until the backup is finished and display shows RAM Backup : OK.



Information about RAM BACKUP date is displayed in line F3 with time stamp in UTC time. To leave the Bootloader mode press button "back" (F5) and then "RESET" (F4).

III. Replacing the battery

- 1.) For changing the battery refer to the customized manuals for REG-D or REG-DA.
- 2.) ATTENTION: If the battery replacement is performed within several seconds the internal time of REG-D(A) will not be affected and the time will not be changed with a restore of the parameters. Otherwise the internal clock turns off and the time is set to 00:00:00 on 01.01.2000.

In order to restore the time which was saved with the RAM BACKUP to FLASH, it is necessary to press and hold F1 button while supply voltage is applied again for the first time after the battery replacement. This procedure will directly start the Bootloader. Please go on with part number VI. Restore parameters via Bootloader.

IV. Restore parameters via Bootloader

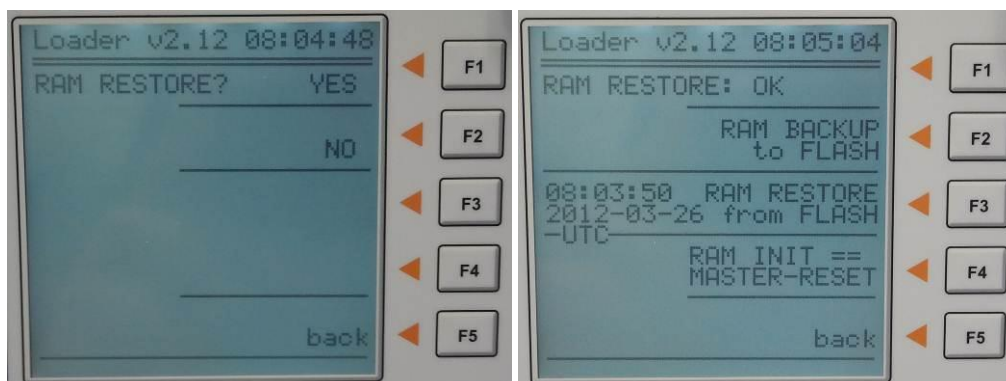
- 1.) ATTENTION: If a battery replacement has been performed, please check the attention note "III. Replacing the battery" before you apply supply voltage again.
- 2.) Launch the Bootloader mode, if the REG-D(A) is not already in this mode due to step 1.
(Setup 6 → F5 → Push F1 for 5s)



- 3.) Press the MENU button to display the RAM Backup screen. In case of RAM Backup data will be available, the display shows the below information.



- 4.) Press F3 to do a RAM RESTORE from FLASH, confirm YES (F1) on the next page and wait until the backup has been finished successful.



Parameters are now completely restored. To leave the Bootloader mode press "back" (F5) and then "RESET" (F4).

Backup and restore parameters of REG-D(A) via Bootloader

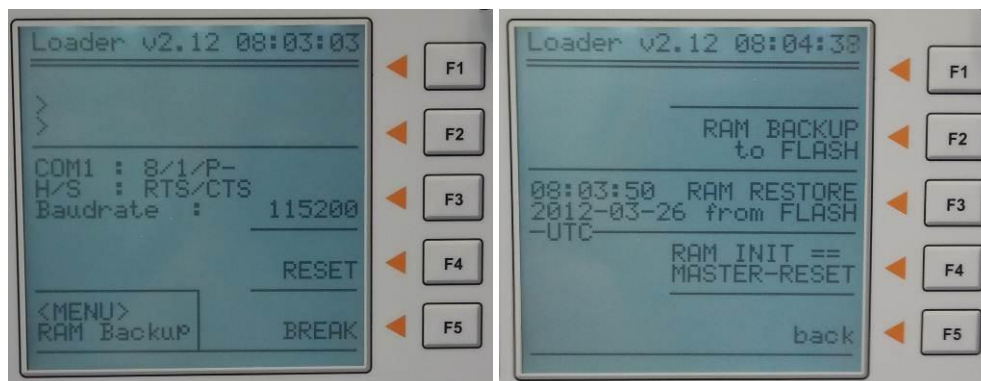


- 5.) Please check the configured time of the REG-D(A) and adjust it if necessary.
Reason being, if the backup is restored after a battery replacement and the Bootloader had been started directly with the first apply of supply voltage, the clock is set at least to the saved time of RAM BACKUP.

V. Delete existing Backup file from Flash

If an existing RAM BACKUP shall be deleted and not only replaced by a new one do the following:

- Launch the Bootloader mode (Setup 6 → F5 → Push F1 for 5s) and start a RAM BACKUP to FLASH (F2).

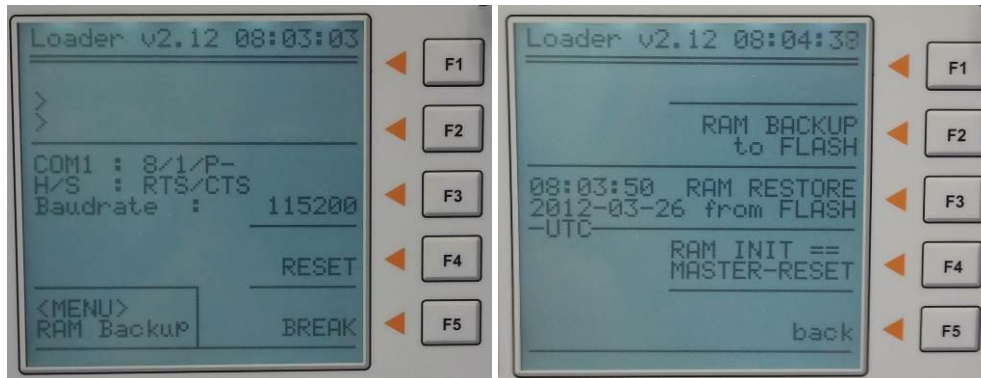


- While the regulator is BUSY and saves the parameters to flash press F5 to stop the procedure. The existing RAM BACKUP will be deleted and is not visible any more.



VI. Resetting all parameters via Bootloader

- 1.) ATTENTION: If a RAM INIT is performed all parameters will be reset. The backup is not deleted this way.
- 2.) To reset all parameters a Master-Reset can be performed via Bootloader as well. Enter the Bootloader, press MENU and then RAM INIT == MASTER-RESET (F4). The RAM INIT is identical to the REG-L command "sysreset=590".



- 3.) After confirming YES (F1) a message appears that the RAM INIT is complete.

