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| <b>solo</b><br><b>KLEINMOTOREN GMBH</b><br>Postfach 600152<br>D71050 Sindelfingen | <b>Service Bulletin</b><br><b>E.237 – 1</b><br><b>Electric Propulsion system</b><br><b>80400</b> | Seite 1 von 5 |
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Engine type: Solo 80400

Subject: Update of the firmware of the DCU (Display and Control unit)  
Update of the firmware of the high voltage batteries

Affected: All serial numbers of the electric propulsion system up to and including 83.  
(Not affected are all serial numbers from 83+1 and on)

Urgency: Before the next annual inspection

Condition: The firmware updates eliminate some of the warning messages on the DCU which were not related to unsafe conditions.

Action 1: Update the firmware of the DCU (Display and control unit) from version 0.09 to version 1.00

Action 2: Update the firmware of both high voltage batteries from version V129 to version V131. Validate the update and send the file to aircraft@solo-germany.com

Material: To flash the DCU, a USB cable Type A/B (same as most USB printer cables) is required. Two files are needed (suffixes fmx and hex) plus installation of the flashmagictool software on your computer.

To flash the batteries a special cable can be ordered from SOLO with the Part-No. 0084713. You will also need a USB/Serial-converter if your computer has no serial port. You must install a software called FLIP on your computer.

The files for flashing the DCU and the batteries can be downloaded from our website:

Note The firmware updates must be carried out by a certified maintenance organization approved by SOLO Kleinmotoren GmbH and released by its certifying staff. Outside Europe the approval can be carried out by technicians from Jonker Sailplanes authorized by SOLO.

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| Datum / Date:<br>6.11.2023 | Replaced Issue | Responsible Person<br>W. Emmerich |
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## Updating the DCU (Display and Control Unit)

### 1 Preparation

Download and install the software using this link (valid for Windows Vista/7/8/10/11):

<https://www.flashmagictool.com/download.html&d=13.50/FlashMagic.exe>

To flash the DCU a USB cable Type A/B (same as most USB printer cables) is needed.

To flash DCU or RFU you always need a project-file (file suffix: fmx) and the new firmware-file (file suffix: hex).

### 2 Flash DCU

Connect the computer and the DCU with the USB-cable. The USB-port is on the backside of the DCU.

Using the flashMagic.exe software:

File/Open Project and select "FlashMagic\_DCU.fmx"

Once opened check the following adjustments:

#### Device:

Device: LPC1788

Serial Port: Check this value after switch on the main switch. Look into the status line what new COM-port is shown. This adaption depends on your computer!

Baud rate: 57600 Baud

#### Erase:

Erase: Select "Entire Device"

#### Firmware:

File: Select the hex-file with the new firmware.

**Options:**

- Verify after programming
- Go after Programming

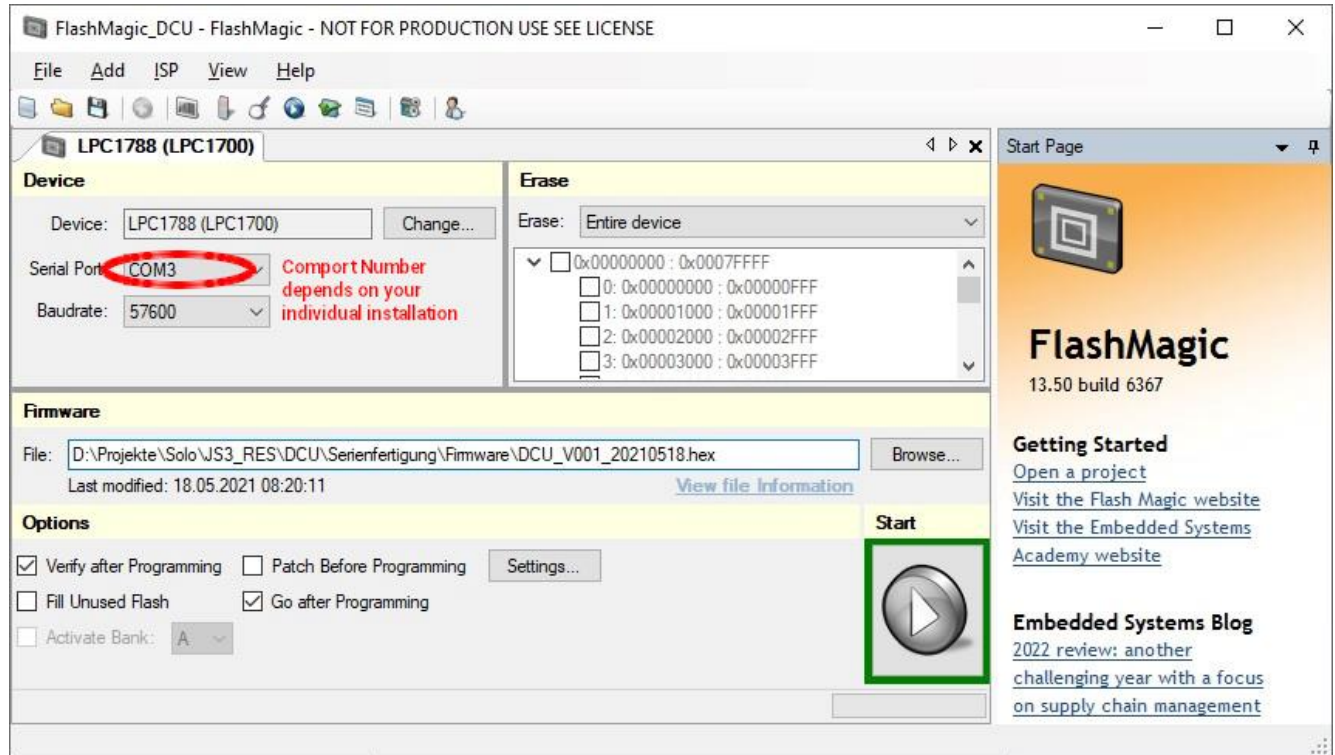
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KLEINMOTOREN GMBH  
Postfach 600152  
D71050 Sindelfingen

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Turn propulsion main switch on.

Click the big button below Start to start the flashing process.

It takes a while (up to 10 seconds) until you see any reactions in the footer of the flash magic window. But then you see the memory address that is updated. First counting down during programming and then counting up during the verification process.

When it's done it clears the footer.

Turn propulsion main switch off.

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## Updating the high voltage batteries

### 1 Preparation

Connect the special programming wire to the battery.

Connect the serial cable to your computer or to your USB/Serial-converter.

Download and install the FLIP-Tool on your computer. The link is:

<https://www.microchip.com/en-us/development-tool/flip>

Chose the version where Java runtime environment is included if you don't use Java on your computer.

You will need a 12V battery.

### 2 Flashing the battery

- Press and hold the Programming-Button on the Programming wire while connecting the 12V battery.
- Start Flip
- Select AT89C51CC03 as chip.
- Uncheck "BLJB" if checked.
- Connect Serial Port in Flip- 9600Baud.
- Select the supplied Hex file.
- Click "Run".
- After successful flash, all 4 statuses should be green.
- Disconnect the 12V battery and wait for 1 minute.
- Connect the battery with your charger and switch on the charger.
- Battery should be updated.

### 3 Software Update Validation

- Leave the battery connected to your computer via the programming wire.
- Close Flip
- Download H-Term (<https://www.der-hammer.info/pages/terminal.html>) or use your preferred serial terminal program.
- Start H-Term.
- Connect the battery to H-Term, selecting the correct COM-Port, Baudrate 115200kb, Newline at CR+LF, rest default settings.
- Connect the 12V battery to the programming wire **without** pressing the programming button.
- Wait for ca. 5s before disconnecting the 12V battery.
- Safe the Serial Data Output by selecting "Save Output" in H-Term.
- Send the Serial Data Output text file to Solo: *aircraft@solo-germany.com*

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