

## u-OS Firmware Migration Guide

u-os and u-create web firmware upgrade / downgrade procedures for u-control devices

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### **Abstract:**

This document describes how you can switch between different firmware versions of u-control devices. Please read the chapter for your use case carefully.

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# 1 Warning and Disclaimer

## Warning

Controls may fail in unsafe operating conditions, causing uncontrolled operation of the controlled devices. Such hazardous events can result in death and / or serious injury and / or property damage. Therefore, there must be safety equipment provided / electrical safety design or other redundant safety features that are independent from the automation system.

## Disclaimer

This document does not relieve you of the obligation to handle it safely during use, installation, operation and maintenance. Each user is responsible for the correct operation of his control system. By using this document prepared by Weidmüller, you accept that Weidmüller cannot be held liable for any damage to property and / or personal injury that may occur because of the use.

## Note

The given descriptions and examples do not represent any customer-specific solutions, they are simply intended to help for typical tasks. The user is responsible for the proper operation of the described products. This document is not binding and does not claim to be complete in terms of configuration as well as any contingencies. By using this document, you acknowledge that we cannot be held liable for any damages beyond the described liability regime. We reserve the right to make changes to this document at any time without notice. In case of discrepancies between the proposals of this document and other Weidmüller publications, like manuals, such contents have always more priority. We assume no liability for the information contained in this document. Our liability, for whatever legal reason, for damages caused using the examples, instructions, programs, project planning and performance data, etc. described in this document is excluded.

## Security notes

In order to protect equipment, systems, machines and networks against cyber threats, it is necessary to implement (and maintain) a complete state-of-the-art industrial security concept. The customer is responsible for preventing unauthorized access to his equipment, systems, machines and networks. Systems, machines and components should only be connected to the corporate network or the Internet if necessary and appropriate safeguards (such as firewalls and network segmentation) have been taken.

## 2 Hardware reference

No.	Component Name	Article No.	Hardware/Firmware version
1	UC20-M3000	2839150000	01.00.00 / u-OS 2.x.x
2	UC20-M4000	2839160000	01.00.00 / u-OS 2.x.x
3	UC20-WL2000-AC	1334950000	01.23.00 / u-OS 2.x.x
4	UC20-WL2000-AC-CAN	2928020000	01.00.00 / u-OS 2.x.x
5	IOT-GW30	2682620000	Rev. 6 / u-OS 2.x.x
6	IOT-GW30-4G-EU	2682630000	Rev. 6 / u-OS 2.x.x
7	IOT-GW30-4G-NA	2682640000	Rev. 6 / u-OS 2.x.x

### 3 Firmware version matrix

The following matrix describes which chapter you need to consult for your use case. Before migrating from one version to another please consider the firmware release notes regarding bug fixes, known issues and other important changes.

Startpoint	Endpoint	Chapter
>= u-OS 2.0.x	u-OS 2.4.x	4
u-OS 2.4.x	u-OS 2.3.x	5
u-OS 2.3.x or u-OS 2.2.x	u-OS 2.1.x	6
u-OS 2.3.x or u-OS 2.2.x	u-create web 1.17.5	7
u-create web >= 1.15.1	u-OS 2.2.x or u-OS 2.3.x	8

## 4 From u-OS version 2.0.x or later to u-OS version 2.4.x

We do not guarantee that a direct update from 2.0.x to 2.3.x or 2.4.x works in all cases. Therefore, the recommended procedure is to update in a sequence to the next feature version without skipping a feature version. In this example the sequence is to update u-OS 2.1.x with u-OS 2.2.x at first, then u-OS 2.3.x and finally with the u-OS 2.4.x FW package. Currently we do not recommend to update e.g. from u-OS 2.1.x to 2.4.x directly.

You might use this procedure when you update just to u-OS 2.2.x or 2.3.x by interrupting the update procedure when you reached your target u-OS version.

The procedure is as follows:

Required files:

- <Product name>-FW-2.2.<latest available patch-level>.swu
  - Example: IOT-GW30-FW-2.2.1.swu
- <Product name>-FW-2.3.<latest available patch-level>.swu
  - Example: IOT-GW30-FW-2.3.0.swu
- <Product name>-FW-2.4.<latest available patch-level>.swu
  - Example: IOT-GW30-FW-2.4.0.swu

Update procedure:

1. Update to u-OS version 2.2.x by applying the update file  
<Product name>-FW-2.2.<latest available patch-level>.swu
2. After successful update the device will be automatically restarted.
3. Update to u-OS version 2.3.x by applying the update file  
<Product name>-FW-2.3.<latest available patch-level>.swu
4. After successful update the device will be automatically restarted.
5. Update to u-OS version 2.4.x by applying the update file  
<Product name>-FW-2.4.<latest available patch-level>.swu
6. After successful update the device will be automatically restarted.

You now installed u-OS version 2.4.x on your device.

## 5 From u-OS version 2.4.x to u-OS version 2.3.x

Downgrade to u-OS version 2.3.x is supported but **not** recommended, since the SWU-verification is not included in versions prior to 2.4.x. This procedure is **mandatory** to downgrade further to lower versions, since the SWU-files prior to 2.3.x are unsigned and therefore not accepted by the SWU-verification.

Required files:

- <Product name>-FW-2.3.<latest available patch-level>.swu
  - Example: IOT-GW30-FW-2.3.0.swu

Downgrade procedure:

1. Under u-OS 2.4.x do a factory reset if the device is not in its initial state already.

**Important:** Do not proceed past the initial state by accepting the license agreement or by creating an initial user

2. Open <https://<device ip address>/update>. For example, open <https://192.168.0.101/update>.
3. Downgrade to u-OS version 2.3.x with <Product name>-FW-2.3.x.swu.
4. After successful update the device will be automatically restarted.

You now installed the desired u-OS firmware version on your device. You can now proceed to the next chapters to downgrade to lower versions if needed.

## 6 From u-OS 2.3.x or 2.2.x to u-OS 2.1.x

Downgrade to u-OS 2.1.x is supported. We do **not** recommend a downgrade to a version prior to u-OS 2.1.5.

Required files:

- <Product name>-FW-2.1.<latest available patch-level>.swu
  - Example: IOT-GW30-FW-2.1.5.swu

Downgrade procedure:

5. Under u-OS 2.3.x or u-OS 2.2.x do a factory reset if the device is not in its initial state already.

**Important:** Do not proceed past the initial state by accepting the license agreement or by creating an initial user

6. Open <https://<device ip address>/update>. For example, open <https://192.168.0.101/update>.
7. Downgrade to u-OS version 2.1.x with <Product name>-FW-2.1.x.swu.
8. After successful update the device will be automatically restarted.

You now installed the desired u-OS firmware version on your device.



## 7 From u-OS 2.3.x or u-OS 2.2.x to u-create web 1.17.5



Important note:

Downgrading from u-OS to u-create web will remove all installed licenses from the device!

When you have a version that is higher than 2.3.x please downgrade to version 2.3.x.

Required files:

- <Product name>-DS-u-os-2.3.x-to-uc-web-1.17.5.swu
  - Example: IOT-GW30-**DS**-u-os-2.3.x-to-uc-web-1.17.5.swu

Downgrade procedure:

1. Under u-OS 2.2.x or a u-OS 2.3.x initiate a factory reset if the device is not in its initial state already.

**Important:** Do not proceed past the initial state by accepting the license agreement or by creating an initial user

2. Open <https://<device ip address>/update>. For example, open <https://192.168.0.101/update>.
3. Downgrade to u-create-web with  
<Product name>-DS-u-os-2.3.x-to-uc-web-1.17.5.swu.
  - a. The downgrade performs a factory reset. **Attention: All licenses are lost!**
  - b. The downgrade occurs in two steps: After processing the file in version 2.3.x or 2.2.x, the device reboots into recovery mode and automatically begins the second update step.
  - c. After successful update the device will be automatically restarted.

You now installed u-create web on your device.

## 8 From u-create web 1.1x.x to u-OS 2.3.x (or 2.2.x)



Important note:

Upgrading using u-OS upgrade system (US) images is supported in u-create-web version 1.15.1 and above.

If you are still using an older version of u-create web (or want to migrate between different u-create web versions), please consider the additional chapter 8.

Required files:

- <Product name>-**US**-2.1.<latest available patch-level>.swu
  - Example: IOT-GW30-US-2.1.3.swu
- <Product name>-**FW**-2.3.<latest available patch-level>.swu
  - Example: IOT-GW30-FW-2.3.0.swu

Upgrade procedure:

1. Under u-create-web apply <Product name>-US-2.1.<latest available patch-level>.swu.
  - a. The upgrade performs a factory reset.
  - b. The upgrade occurs in two steps: After processing the file in version 1.1x.x, the device reboots into recovery mode and automatically begins another update.
  - c. After successful update the device will be automatically restarted.
2. Under u-OS 2.1.x create the initial user, login, and go to <https://<device ip address>/update>.
3. Update to u-OS 2.3.x with <Product name>-FW-2.3.<latest available patch-level>.swu.
4. After successful update the device will be automatically restarted.

You now installed u-OS 2.3.x.

Hint: You can use this procedure just to update to u-OS 2.2.x by choosing the proper target FW version.

## 9 Migrating between u-create web firmware versions

### 9.1 Upgrade from u-create web 1.x.x to u-create web 1.17.5 (or 1.1x.x)



Important note:

It is recommended to execute the upgrade via USB.

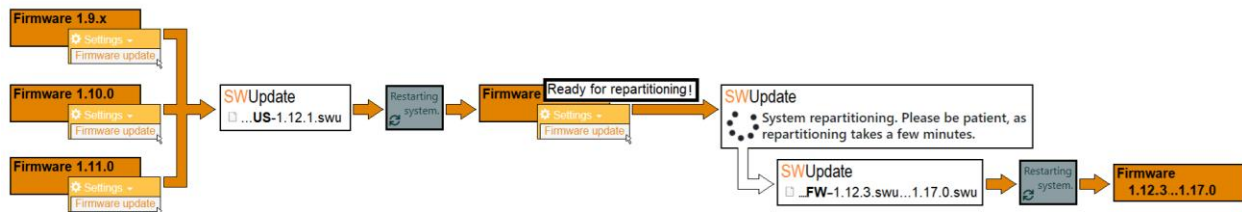
FW 1.9.1 is the last firmware version which didn't use HTTPS by default.

Required files:

- <Product name>-**US**-1.12.1.swu
  - Example: UC20-WL2000-US-1.12.1.swu
- <Product name>-**FW**-1.1x.<latest available patch-level>.swu
  - Example: UC20-WL2000-AC-FW-1.17.5.swu

Upgrade procedure:

1. Under u-create-web apply <Product name>-US-1.12.1.swu.
  - a. The upgrade performs a factory reset.
  - b. The upgrade occurs in two steps: After processing the file in version 1.x, the device reboots into recovery mode and automatically begins another update.
  - c. After successful update the device will be automatically restarted.
2. Under u-create-web 1.12.1 update to u-create-web 1.1x.x with <Product name>-FW-1.1x.<latest available patch-level>.swu.
3. After successful update the device will be automatically restarted.



Hint: It is suggested to refresh the browser / clear browser cache (CTRL-F5) in order to access the updated content of the web interface. The browser refresh (CTRL-F5) also helps if you suddenly get a popup that indicates "file too big".

## 9.2 Downgrade from u-create web 1.1x.x to u-create web 1.9.1



### Important notes:

- We recommend not to use any firmware version older than 1.9.1 due to missing functions and existing bugs.
- This downgrade consists of up to 3 steps.
- It is recommended to execute the downgrade via USB.
- Desired FW 1.9.1 uses HTTP instead of HTTPS.

### Required files:

- <Product name>-**RS**-1.1x.1.swu
  - Example: UC20-WL2000-RS-1.13.1.swu
- <Product name>-**DS**-1.12.1.swu
  - Example: UC20-WL2000-DS-1.12.1.swu
- <Product name>-**FW**-1.9.1.swu
  - Example: UC20-WL2000-AC-FW-1.9.1.swu

