

Release Notes u-OS App CODESYS Control SL Runtime

4.12.0.0-3, October 2025

App compatibility information





This app can be installed and updated on all devices running u-OS 2.1.3 or later. For u-OS 2.4.0 or later the app version 4.12.0.0-3 is required.

ATTENTION

Uninstallation of the app is only possible by doing a factory reset in u-OS. Make sure to backup all user data!

General App information

To develop CODESYS projects on u-OS you require the following components:

01  Device running u-OS	02  CODESYS Control SL for Weidmüller u-OS Package	03  CODESYS Control SL for Weidmüller u-OS Runtime	04  License
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The CODESYS Engineering environment does not come with support for Weidmüller u-OS devices by default. Download and install the CODESYS for Weidmüller u-OS Package (02) to add these to the device repository of your CODESYS Engineering installation. Please read the packages release notes before installing it.

These release notes (this document) describe the CODESYS Runtime App (03). Download the app via the link above. The app can be installed or updated via *Update & installation (Software & updates -> Update & installation)* dialogue in the u-OS Control Center. Do not use *Offline installation (Apps -> Offline Installation)*. Make sure to extract the downloaded archive and choose the correct SWU file for your device. The app cannot be installed online via the u-OS App Hub due to technical limitations.

One CODESYS Runtime License (04) is required per device. Additional feature licenses might be required depending on your application. Click on the link above for purchasing information. You can evaluate all features of CODESYS without a license. The runtime will run for two hours, other components like fieldbus masters might run for less time.

Migrating from older versions

PLC programs on u-create web (firmware < 2.0.0) are not compatible with CODESYS and cannot be migrated.

ATTENTION

Breaking Change:

u-OS 2.4.0 or later: CODESYS Control SL for Weidmüller u-OS Runtime App version 4.12.0.0-3 is required.

u-OS 2.2.0 or later: CODESYS Control SL for Weidmüller u-OS Package version 4.12.1.0 is required to be installed in the CODESYS engineering tool.

If you are using the u-remote UR20 Library for CoDeSys, an update to version 3.0.0 or later is required.

Please note additional changes for the IOT-GW30 variants in the section [Hardware specific information](#) below.

u-OS 2.2.0 introduces changes to the communication with UR20 modules on the System Bus that require an updated CODESYS for Weidmüller u-OS Package, version 4.12.1.0 or later. These changes also affect the currently deployed CODESYS project. They will result in the System Bus becoming inoperative when updating to u-OS 2.2.0. To restore the System Bus to operation, follow the steps below. We recommend to also update the CODESYS Runtime app to the latest version.

When migrating projects from an older version of the CODESYS Control SL Runtime follow these steps:

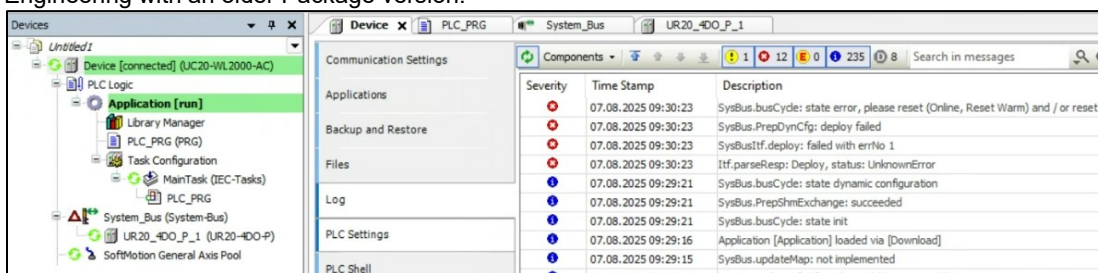
1. Install the appropriate version of CODESYS for Weidmüller u-OS Package in your CODESYS Engineering. Refer to the Information section of the [Version history](#) of your runtime version below.
2. Update the libraries of your project to the most recent versions from the package.
3. Verify in the device tree that the version of the controller matches the version of the installed runtime.
4. Verify in the device tree that the system-bus is set to the latest version, i.e. 2.0.0.0 for u-OS 2.2.0.
5. Make a clean build and redeploy the project to the controller, overwriting the old boot application.
6. Restart the controller for all changes to take effect.

If you encounter issues with the System Bus, please verify that you are using the appropriate package version and have updated the libraries in your project. Create a new CODESYS project from scratch and configure just the UR20 I/O on the System Bus. Deploy this project to the controller and verify the System Bus is operational.

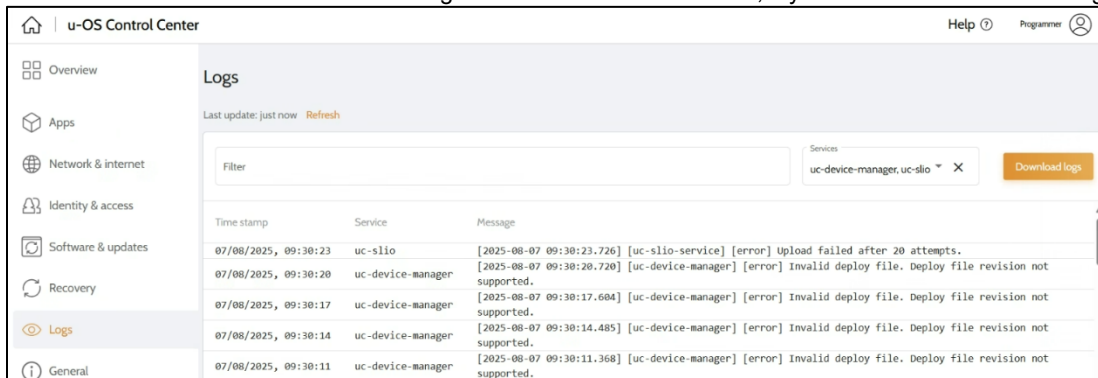
Known Issues

The following issues apply to all previous versions of the u-OS App CODESYS Control SL Runtime up to 4.12.0.0-1. For version specific issues please refer to the [Version history](#) below.

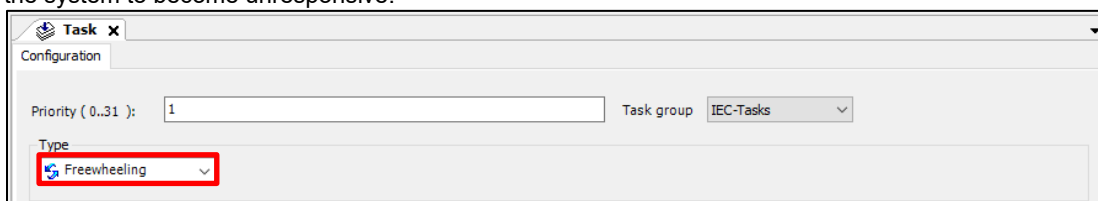
- PLC Handler (i.e. ART13) connections from a visualization, HMI or similar can cause high CPU load and Codesys Runtime instability if the refresh rate is set too high / the communication delay to low. System load can increase with increasing number of client connections. Choose a refresh rate / communication delay suitable for your application while observing CPU load of the controller.
- u-OS 2.2.0 or later: If the system bus does not start and the Codesys Log reports a SysBus Deployment issue, verify that the Codesys for Weidmüller u-OS Package Version 4.12.1.0 or later is installed in the Codesys Installer. Also verify that both the PLC and the System Bus have been updated to version 4.12.1.0 or later and 2.0.0.0 or later, respectively. This issue often arises if a Codesys Project has been created with a Codesys Engineering with the correct package version installed, but then is opened and deployed with a Codesys Engineering with an older Package version.



This error can also be observed in the Logs in the u-OS Control Center, if you filter for uc-device-manager:






- The task configuration type "freewheeling" is not supported. It results in increased system load and can cause the system to become unresponsive.



- UR20 module hot-plug is not supported on the system-bus. Unplugging a module can lead to the system-bus to go into an error state and communication to other modules breaking down. On re-insertion of the module the bus will resume operation, but CODESYS Engineering might still report an error for the unplugged module. The error cannot be acknowledged. A restart of the CODESYS PLC project or a system reboot might be required for the error message to disappear.
- Substitute values for modules on the system-bus are not correctly applied on system startup. When the UC20 system reboots or is powered up, the configured module substitute values will be applied initially. As soon as the uc-slio-service has started and initialized the system-bus, the outputs will be set to 0, regardless of the status of the CODESYS runtime which might require additional time to start up.

- Invalid module parameter combinations can cause the system-bus to go into a non-recoverable error on project deployment in u-OS 2.1.2 or earlier.

Severity	Time Stamp	Description
	21.06.2024 17:01:37	SysBus.busCycle: state error, please reset (Online, Reset Warm) and / or reset controller
	21.06.2024 17:01:37	SysBus.PreDynCfg: deploy failed
	21.06.2024 17:01:37	SysBusItf.deploy: failed with errNo 1

To recover the error, do a "Reset Origin" in CODESYS, reboot the UC20 system and deploy a project with valid module parameters. Allowed parameter combinations are documented in the [Remote-I/O-System u-remote manual](#).

- Deploy fails when PLC setting "update I/O while in stop" is enabled. Do a warm reset before to deploying.
- IO Configurator: Serial number, firmware version and hardware version of UR20 Modules on the SysBus is not displayed correctly.

Hardware specific information

UC20-M4000:

- Ethernet X4 / eth-x4 and X5 / eth-x5 are intended for general use, X6 / eth-x6 and X7 / eth-x7 for fieldbus.

UC20-M3000:

- Ethernet X4 / eth-x4 is intended for general use and port X5 / eth-x5 for fieldbus.

UC20-WL2000 variants:

- Ethernet X1 / eth0 is intended for general use, X2 / eth1 for fieldbus.
- CAN variant: The CAN interface X4 / can0 is available for CANopen Manager & Device.
- NVRAM is only available on HW version 1.23 or later.

If the controller is powered by USB only, the NVRAM and other periphery like the system-bus are disabled. If a PLC project with Retain Variables is deployed while the controller is powered by USB or on a controller without NVRAM, the project will not persist, i.e. it will be lost on reboot. Supply the controller with 24V before deploying a project with Retain Variables.

IOT-GW30 variants:

- Ethernet 1 / eth0 is intended for general use, port 2 / eth1 for fieldbus.
- RS232 Interface /dev/ttyAMA0 is COM1, RS485 Interface /dev/ttyAMA2 is COM2
- The CAN interface can0 is available for CANopen Manager & Device
- The device does not have NVRAM, persistent or retain variables do not persist a power loss or reboot.
- Breaking Change:** The GPIO (DO 1, DI 1, DI 2) cannot be used by CODESYS in u-OS 2.2.0 or later.
- GPIO can be used by CODESYS or other apps exclusively in u-OS 2.1.x or earlier. CODESYS will write the DO cyclically, writing to them from other programs at the same time will result in erratic behavior.

If you used the GPIO in CODESYS and would like to use them in a different program now, follow these steps:

- Delete the GPIO from the Device Tree of your CODESYS project.
- Build and deploy the project to the device.
- Restart the device before accessing the GPIO from any other program.

Version history

Below are the Weidmüller specific release notes for the CODESYS Control SL Runtime App for u-OS. For general CODESYS Control Runtime release notes please refer to [CODESYS Release & Lifecycle \(codesys.com\)](#).

Version 4.12.0.0-3

October 2025

Information:

- CODESYS Control SL for Weidmüller u-OS package 4.12.0.0 or later is required to use this runtime version.

New features:

- Compatibility with u-OS 2.4.0 and later: SWU files are now signed.

Known issues:

- RUN led only reflects status of CODESYS control SL program after Start/Stop command.
- IOT-GW30: Using CANopen can lead to system instability if the physical bus is not terminated on both ends.
- A change of the EtherCat I/O task cycle time will be active after a power cycle of the device.
- Logfile path cannot be configured. Since logs reside in /tmp/Codesyscontrol.log, this also means that logs cannot be persisted across reboots.

Version 4.12.0.0-1

September 2024

Information:

- CODESYS Control SL for Weidmüller u-OS package 4.12.0.0 or later is required to use this runtime version.

New features:

- Update CODESYS control version to 4.12.0.0. This version improves license handling. For more information visit CODESYS website: [codesys.com](#).

Known issues:

- RUN led only reflects status of CODESYS control SL program after Start/Stop command.
- IOT-GW30: Using CANopen can lead to system instability if the physical bus is not terminated on both ends.
- A change of the EtherCat I/O task cycle time will be active after a power cycle of the device.
- Logfile path cannot be configured. Since logs reside in /tmp/Codesyscontrol.log, this also means that logs cannot be persisted across reboots.

Version 4.9.0.0-3

July 2024

Information:

- CODESYS Control SL for Weidmueller u-OS package 4.7.1.0 or later is required to use this runtime version.

New features:

- Update installed CODESYS Control SL App on the device.

Bug fixes:

- UC20-WL2000-AC-CAN: Controller crashes when at least the CANopen Manager is projected.
- UC20-WL2000-AC-CAN: CODESYS Control SL Core 1 utilization goes to 100% when CANopen bus termination is deactivated.
- CODESYS Control SL 4.9.0.0-1 licensing not possible if the PROCON-WEB-ES 6.7 app or higher is installed before the CODESYS Control SL app.
- UC20-WL2000-AC-CAN: Connection cannot be restored after plugging/unplugging the CANopen bus.
- Displays an error during installation due to a missing command.
- App status check causes load peaks.

Known issues:

- RUN led only reflects status of CODESYS control SL program after Start/Stop command.
- Using CANopen can lead to system instability on IOT-GW30 if the physical bus is not terminated on both ends.
- Multiple errors shown in Installation & Update page that have no effect when updating the app to 4.9.0.0-3.
- A change of the EtherCat I/O task cycle time will be active after a power cycle of the device.

Version 4.9.0.0-1

October 2023

New supported hardware:

- [2839150000](#) UC20-M3000
- [2839160000](#) UC20-M4000
- [2928020000](#) UC20-WL2000-AC-CAN

New features:

- Update CODESYS control version to 4.9.0.0

Information:

- CODESYS Control SL for Weidmueller u-OS package 4.7.1.0 or later is required to use this runtime version.

Bug fixes:

- App status check shows correct state
- Show hint if CODESYS visualization is not present

Known issues:

- RUN led only reflects current status of CODESYS control program after Start/Stop command
- Using CANopen can lead to system instability, if the physical bus is not terminated on both ends

Version 4.7.0.0-2

March 2023

New supported hardware:

- [2682620000](#) IOT-GW30
- [2682630000](#) IOT-GW30-4G-EU
- [1334950000](#) UC20-WL2000-AC

New features:

- Initial release with CODESYS control version 4.7.0.0

Information:

- CODESYS Control SL for Weidmueller u-OS package 4.7.1.0 or later is required to use this runtime version.

Known issues:

- RUN led only reflects current status of CODESYS control program after Start/Stop command
- Using CANopen can lead to system instability, if the physical bus is not terminated on both ends