Service information

ETS22 Bootloader V3.X.X

Classification: internal
33265
28.October 2026

Background

The new Machinery Regulation (EU) 2023/1230 applies from January 20, 2027. Systems placed on the market on or after this date must comply with it. This requires ETS22 boards to run the latest product firmware and a bootloader version of 3.0.0 or later.

Action required

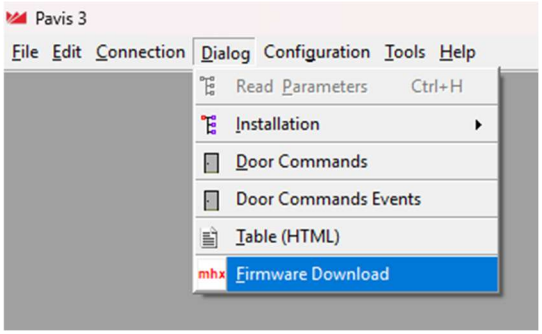
Check the bootloader version before commissioning or installing boards from stock or replacement boards. If a version earlier than V3.0.0 is installed, an update is required. Use Pavis with the appropriate bootloader update firmware to perform the update.

Prerequisites

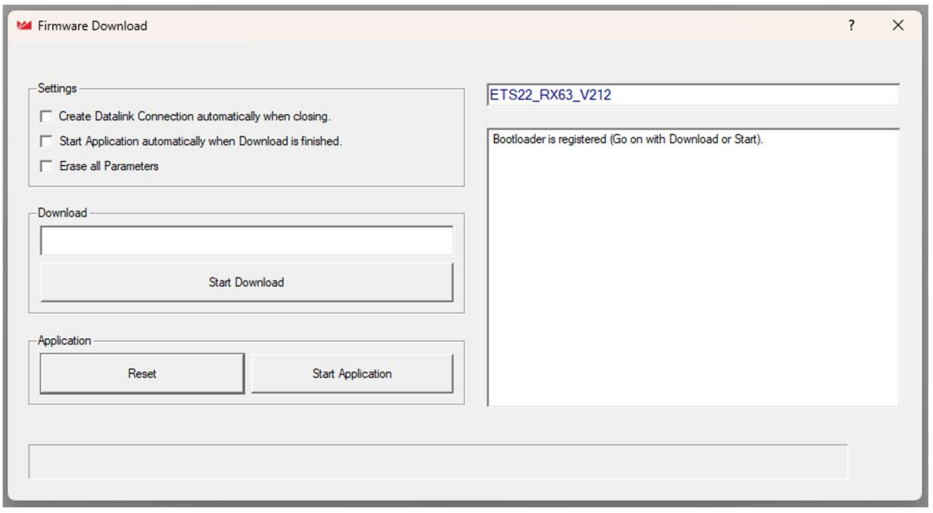
1. New Pavis version X.X.XXX (Pavis authentication with the ETS22)
2. Bootloader version 3.0.0 or later, compliant with the Machinery Regulation
3. Firmware release compliant with the Machinery Regulation

Checking the current bootloader version

1. Connect the ETS22 board to the PC via USB
2. Launch the MHX terminal in Pavis.



3. Press the Reset button. The bootloader string that appears shows the current bootloader version. Example: ETS22_RX63_V212 = bootloader version V2.1.2



Performing a bootloader update

1. Launch the MHX terminal in Pavis, select the "Start application automatically" checkbox, and press the Reset button. The bootloader string shows the current bootloader version.
2. Click the **Start Download** button.
3. Select the bootloader update firmware that matches the board variant, based on the serial number on the ETS22.
4. The bootloader is downloaded (takes < 2 s).
5. Wait for LED feedback. An audible signal is also provided, but only on boards with a buzzer:
    - **1 short, low-pitched tone + both LEDs:** Update starting
    - **Buzzer + LEDs off:** Update in progress
    - **2 short, high-pitched tones + both LEDs:** Update successful
6. **Then install the latest product firmware using Pavis!**

Important: After starting the bootloader update firmware, do not perform a reset or power cycle for approximately 2 seconds, until the success signal has been received.

Notes

- Application parameters, manufacturer identification, unit data, PID controller parameters, and counter data are retained when updating via the UFW.
- Depending on the firmware previously installed (e.g., Safety-enabled V5.x.x), a manual reset or power cycle may be required after the update.
- Firmware and bootloaders compliant with the Machinery Regulation will include additional hardware authentication via DIP switches in the future.

Error messages

- **No success signal:** Reload the bootloader update using Pavis. If necessary, click “Start Application” in the MHX terminal.
- **Bootloader does not respond:** Perform a reset or power cycle; if necessary, establish a connection via a serial cable and flash working firmware.

contact

Thomas Knopf
Team Lead Technical Support