

X4 Firmware Update Manual

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1. Introduction

This guide details how to update or change firmware on the Horner OCS Controllers. Updating firmware to the newest version adds new benefits to the controller. Also, changing firmware is necessary when changing communications between CsCAN and CANopen.

WARNING: Firmware updates should only be performed when the equipment being controlled by the OCS is in a safe, non-operational state. Communication or hardware failures during the firmware update process can cause the controller to behave erratically resulting in injury or equipment damage. Make sure the functions of the equipment work properly after a firmware update before returning the device to an operational mode.

2. Resources

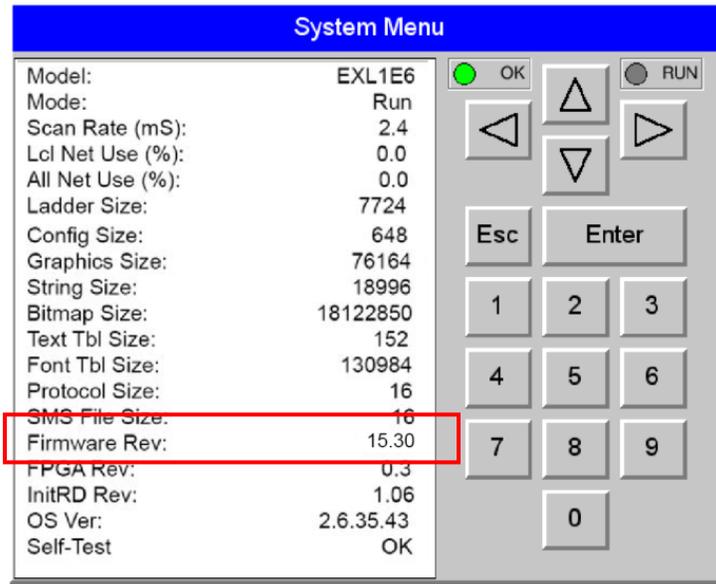
For further information on this controller, please refer to the following documents on our website: www.hornerautomation.com.

User Manual: **MAN1137**

Datasheet: **MAN1138**

3. How to Check for Current Firmware Revision

To check the firmware revision on a controller, open **System Menu** → **View Status**.



4. Details

Note: Updating firmware will clear the application program, screens, configurations, and register data. If required, make sure to backup program and register data before updating firmware. The controller's User Manual has instructions for doing backups.

There are three methods for updating firmware. The method used depends on the type of controller being updated.

Method A: Removable Media Method - The controller firmware is updated by a bootloader, using a microSD card or USB Flash drive (**not through the Cscape Firmware Update Wizard**). To update or change firmware:

- 1) Download desired Firmware set from the Horner APG website. (Verify CsCAN or CANopen communications.)
- 2) Save Firmware files to microSD card or USB, these are the removable media devices.
- 3) Update the firmware through the controller's Firmware Update function

NOTE: Files from the Horner website come as a .ZIP file which need to be unzipped and placed in the root of the drive for them to function properly.

Method B: RS232 Serial Connection - Serial firmware updates are done from Cscape software to the controller's primary serial port, MJ1 in most cases.

Method C: Mini USB Port - The mini USB port can be used to update firmware in the X4. This is quicker than doing so via MJ1.

STEP ONE:

In North America, visit <https://hornerautomation.com>. Go to **Support** → **Controller Firmware** and download the most recent firmware set with the correct communication protocol and controller.

-OR-

In Europe, visit <http://www.hornerautomation.eu/support/firmware>. and click the **Firmware** tab and download the desired firmware. Create an account to enable access to the latest firmware updates.

5. Firmware Updates for X4

The X4 products contain field updatable firmware to allow new features to be added to the product at a later time. Firmware updates should only be performed when a new feature or correction is required.

Update firmware in an X4 by completing the following steps:

- a. Establish communication between Cscape and the controller using a direct serial connection to MJ1 or USB.
- b. Make sure your application is available on your PC or upload the application.
- c. Make sure the machinery connected to the X4 is in a safe state for firmware update (refer to warning above).
- d. Start the firmware update by selecting **File → Firmware Update Wizard**.
- e. The correct product type should be selected, if it is not select the type of controller from the drop-down list.
- f. Press the Start button.
- g. Wait for the firmware update to complete.
- h. If there is a communication failure check the cable, connections and comm. port setting and try again.
- i. Firmware updates typically delete the user applications to ensure compatibility. You will need to reload your application.
- j. Test the operation of the equipment with the new firmware before returning the X4 system to an operation mode.

Preventing Program Loss: An available option to prevent the loss of program should the battery be drained is to use the Backup/Restore function which is part of the Fail-Safe System. This feature is highly recommended and is accessible from the System Menu and from program logic. Backup/Restore DOES NOT require the installation of a microSD card in order to prevent program loss. Refer to OCS User Manual for more details.

5. Technical Support Contacts

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