



ABB MEASUREMENT & ANALYTICS | RELEASE NOTES

Embedded software 2106200

Extendable IO (XIO)

FEBRUARY 16, 2022

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1 Purpose

These release notes detail new features and modifications, functional changes, and bug fixes made to the XIO embedded software distributed in customer package 2106200.



IMPORTANT NOTE: This document includes release information on the most current version as well as several previous versions. The release details for the latest version is always described first.

2 Withdrawn software notice

The following customer package versions have been withdrawn and will not be supported. Plan to replace the software with a known working version, or upgrade to the latest version, as indicated in this document.



IMPORTANT NOTE: The following XIO versions have been skipped: Customer package 2106200-005 and Flash 2106198-007.

Table 2-1: Withdrawn or earlier versions for XIO

Component	Part number	Internal version
Customer package	2106200-007 or earlier	4.3.1-1 or earlier
Flash	2106198-006	4.3.1-1 or earlier

3 Latest release

The latest software is available in customer package number 2106200-008.

Table 3-1: Software included in customer package for XIO (2106200-008)

Component	Part number	Internal version
Operating System (OS)	2106196-005	4.3.2-1
Flash	2106198-008	4.5.0-6

4 Determine software part or version numbers

To determine the software part or version numbers currently installed in your device:

1. Connect to the device on PCCU entry mode.
2. On the navigation tree select the top node on the tree, or the station name.
3. Select the **Registry** tab.
4. Locate and take note of the following:
 - Flash software part number
 - OS software part number
5. If the part numbers of either the flash or OS match those listed in section [2](#), plan to update the software to the latest versions.

5 Software download instructions

Software is available for download from ABB sites. Review the following sections to determine how to locate and download software.

5.1 Software package components

The ABB Totalflow devices' embedded software is distributed in packages. Packages may contain all or some of the components required for device operation. Depending on the changes performed on each release, all or some components may have been modified. Packages may include:

- Operating system and boot software (OS, Boot)
- Main application (Flash)
- Default base device configuration file (Config)

For a more detailed description, see the Device Loader help topics available by clicking **Help** from PCCU.

5.2 Locate the software

Each customer package is identified by the software component included in the package and the part number and revision. For example:

- A package containing the flash for the Remote XIO, will be identified as FLASH package (2106198-NNN), where NNN is the revision of the package.
- A package containing the operating system and flash software for the Remote XIO (also referred to as customer package), will be identified as Customer package (2106200-NNN), where NNN is the revision of the package.

5.3 Download packages from the ABB website

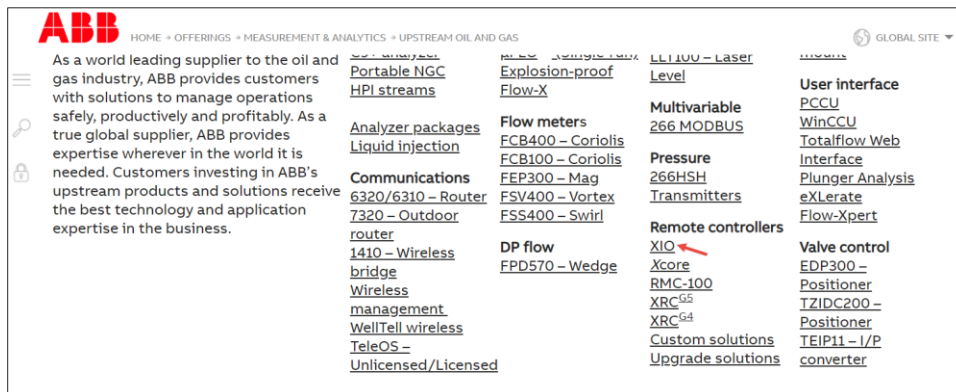


IMPORTANT NOTE: The website images shown in this procedure are used as examples. The images may show older versions of software. Always make sure to download the latest software available.

To download from the ABB website:

1. Go to www.abb.com/upstream.
2. Scroll down to locate the product list.

Figure 5-1: ABB Totalflow website – Main page full product offering



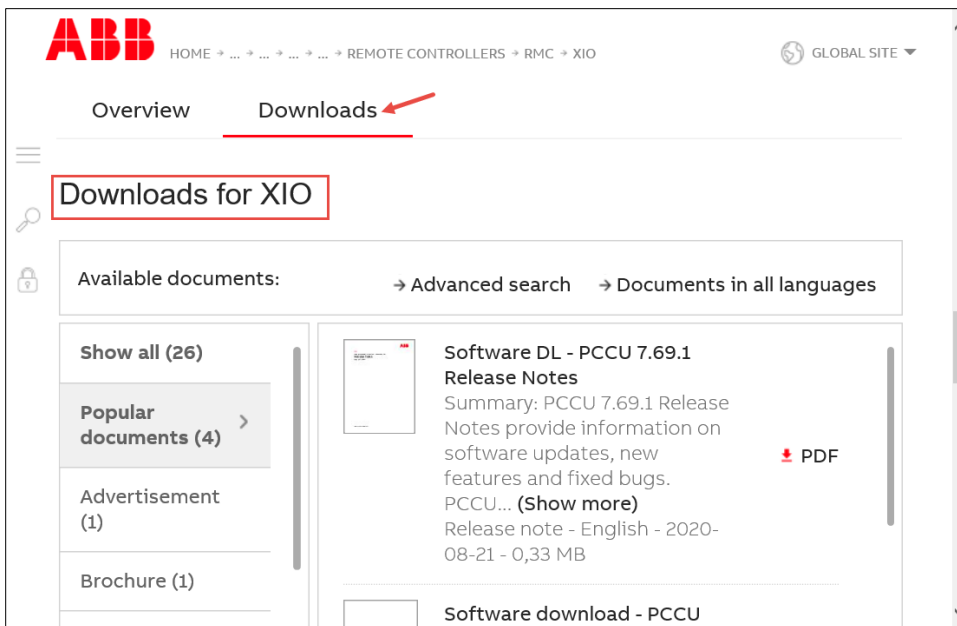
3. Select the product name (XIO) to display the product-specific web page.

Figure 5-2: ABB Totalflow website – Product specific web page



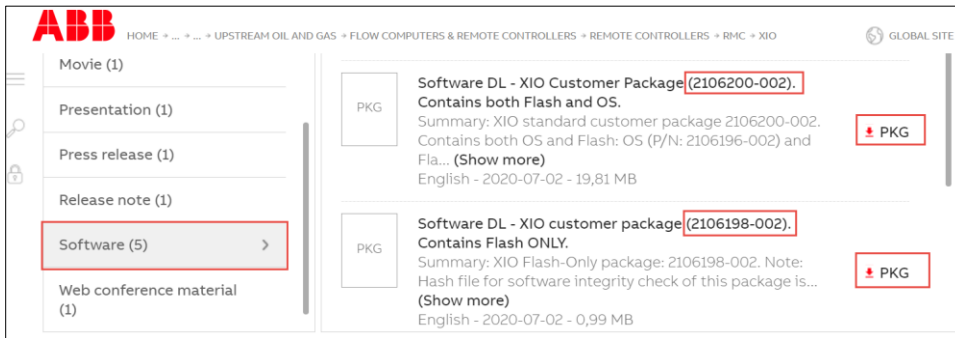
4. Scroll down the product page and select the **Downloads** tab.

Figure 5-3: XIO-100 downloads



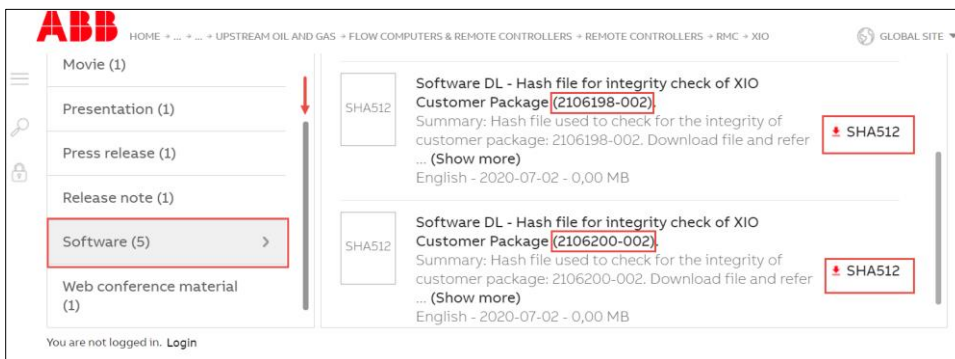
5. On the navigation pane (left), scroll down and select **Software** ([Figure 5-4](#)).

Figure 5-4: Software listed for product



6. On the list pane (right on [Figure 5-4](#)), select the required software package. Typically, only the latest officially released versions are listed. If you need an earlier version and cannot find it, contact ABB Technical Support.
7. Click **Zip** (or **PKG**) to download. The software files show with the .zip extension if compressed or .PKG if not.
8. Save the package when prompted. Select **Save as** to choose the desired location on the local drive.
9. Locate and extract the file from the downloaded Zip file (if file is compressed). The extracted file has a .pkg extension.
10. For improved security (and to ensure that your downloaded package is intact), locate and select the specific SHA512 for the package number ([Figure 5-5.](#))

Figure 5-5: Locating SHA512 files



11. Download this file to your local drive when prompted. Check files as instructed in the [Software package integrity check instructions.](#)

IMPORTANT NOTE: The SHA512 file is used to verify that the downloaded software has not been corrupted during download and is valid. This is not required but highly recommended. See section [10](#) for more information. The SHA512 file name includes the number and version of the associated package ([Figure 5-5](#)). There is a file for each part number. Make sure you download the SHA512 that matches the software package number you need to check. For assistance downloading software, contact technical support.

6 Software update instructions

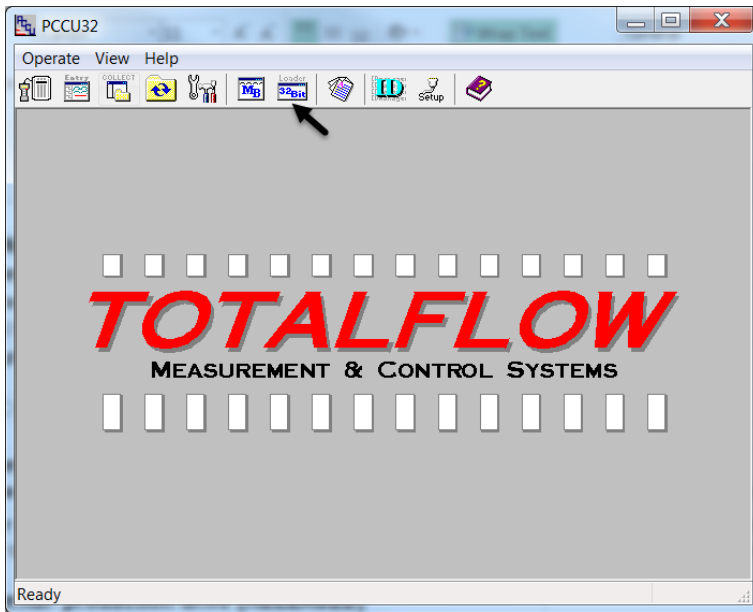
IMPORTANT NOTE: Ensure device and measurement data are saved or backed up before software updates. For details, see the XIO user manual or select **Help** from the PCCU top tool menu.

6.1 Software update instructions

Use the device loader utility to update the software:

1. From the top PCCU tool bar, select the **loader** icon.

Figure 6-1: Starting the device loader



2. Establish a connection with the device.
3. When the device loader screen displays, click **Help** for detailed update instructions.



IMPORTANT NOTE: The Flash and OS should be updated when a new release is available. Contact ABB technical support regarding questions of backwards compatibility between previous versions of flashes and OS.

7 Release features

Features or enhancements for each version can be reviewed in this section.

7.1 Package number 2106200-007

The following changes have been added to the XIO devices:

- Operating System changes to detect and handle the absence of Wi-Fi Module

7.2 Package number 2106200-006

No new features.



IMPORTANT NOTE: XIO package version 2106200-005 was skipped.

7.3 Package number 2106200-004

The following new features have been added to the XIO devices:

- Added support for XIO-00, XIO-04 and XIO-08 devices based on number of serial ports
- Added the Totalflow Data Transfer application for data transfer between the XIO and the RMC or any other controller
- Added support for the Totalflow XIO Interface app in XIO
- Added support for the Totalflow Alarms application in XIO

7.4 Package number 2106200-003

The following new features have been added to the XIO devices:

- Updated PID Controller Application including:
 - Making the application calibration, zero setpoint and shutdown aware
 - Inhibiting manual mode windup
 - Adding options to Controller Reset Mode
 - Adding additional override statistics
- Updated Alarm System Application by removing an internal limitation on addressable registers by changing the register index value from one byte to two bytes.

7.5 Package number 2106200-002

This package supports the XIO in its initial release to the market. The following features are available:

- Support for subset of Totalflow control applications available in other products (PCCU continues to be the host-based user interface):
 - System
 - Generic Communication
 - Coriolis Interface
 - Liquid Coriolis Interface
 - Wireless Remote I/O
 - LevelMaster
 - Therms Master
 - Operations
 - Holding Registers
 - Trend System
 - PID Control
 - Updated I/O Interface Application:
 - New support for hot-swappable and hot-pluggable TFIO modules
 - New support for remote calibration of I/O points
- New XIO-specific applications/services:
 - XIO Server (Read/write) for XIO-RMC integration
 - Ethernet-to-Serial Passthrough Application
- New support for auto-discovery features
- Added enhanced Ethernet networking and Wi-Fi features (XIO Wi-Fi Client functionality support)

8 Fixes

Bug or defect fixes for each version are described in this section.

8.1 Package number 2106200-007

None

8.2 Package number 2106200-006

The following bugs are fixed:

- 12363 – AI TFIO parameters do not update upon replacement of the module
- 12343 – Can't set the Watchdog Enable for TFIO DO Module
- 12252 – After adding a new Holding Register App, the Holding Registers' Capacity tab Type and Name are Float for all holding register arrays.



IMPORTANT NOTE: XIO package version 2106200-005 was skipped.

8.3 Package number 2106200-003

The following bugs are fixed:

- 12271- Wedge gas 'fixed analysis data' not summing user entered values.
- 12197- Station App does not correctly show Period Uncorrected Vol for AGA7 tube and LIQUID APP
- 12156- Bool not supported for generic comm app client/host causing rolling device resets on XIO at least
- 12154- [UDC] XIO Interface app incorrectly consumes a General Credit.
- 11837- When adding a new trend and clicking on pre-existing trend it auto populates the new trend with all those variables.
- 11790- Cannot add xx.xx.xxxxx 9 Digit registers to Alarms app
- 11642- CCRP US-983778, Alarm app register app. array.256 changes to: app.array.0
- 9153- Alarm App: Maximum register array size for Input Reg, Three Reg and Trigger Reg is 255
- 8601- Alarm app only stores index as int8 instead of int16.

9 Known issues and workarounds

None currently.

10 SHA512 Security Feature

SHA512 is an algorithm used to confirm the integrity of data that is downloaded from a site. ABB is now providing a checksum value for each software package downloaded from the ABB library that allows users to confirm that no data is missing or was changed during the download. A corresponding SHA file is available in the ABB library for all software packages. Please refer to the [Software package integrity check instructions](#) for further information on using SHA512.

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