

ABB MEASUREMENT & ANALYTICS | RELEASE NOTES

Embedded software 2105808 and 2105880 Flow computer (XSeries^{G5})

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1 Purpose

These release notes detail new features and modifications, functional changes, and bug fixes made to the G5 XFC/XRC flow computer embedded software distributed in customer package number 2105808 / 2105880.



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 first in the list.

2 Withdrawn software notice

The following customer package versions have been withdrawn and will not be supported.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.

Table 2-1: Withdrawn packages G5 XFC

| Component | Part number | Internal version |
|------------------|------------------------|---------------------|
| Customer package | 2105808-009 or earlier | |
| Flash | 2105805-009 or earlier | 3.3.0-10 or earlier |
| OS | 2105897-007 or earlier | 3.1.0-3 or earlier |

Table 2-2: Withdrawn packages G5 XRC

| Component | Part number | Internal version |
|------------------|------------------------|---------------------|
| Customer package | 2105880-009 or earlier | |
| Flash | 2105864-009 or earlier | 3.3.0-10 or earlier |
| OS | 2105897-007 or earlier | 3.1.0-3 or earlier |

3 Latest release

The latest software is available in customer package number 2105808-006 and 2105880-006. [Table 3-1](#) details the part numbers for the included components.

Table 3-1: Software included in customer package G5 XFC 2105808-010

| Component | Part number | Internal version |
|-----------------------|-------------|------------------|
| Operating System (OS) | 2105897-008 | 4.0.0-8 |
| Flash | 2105805-010 | 4.0.0-9 |

Table 3-2: Software included in customer package G5 XRC 2105880-010

| Component | Part number | Internal version |
|-----------------------|-------------|------------------|
| Operating System (OS) | 2106489-001 | 4.0.0-8 |
| Flash | 2105864-010 | 4.0.0-9 |

4 Determine software part and 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

If the part numbers of either the flash or OS matches 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

Embedded software for the ABB Totalflow devices is distributed in packages. Packages may contain all or some of the components required for the 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 more detailed description, see the Device Loader help topics available by clicking **Help** from PCCU.

5.2 Locating 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 μ FLO^{G5}, will be identified as FLASH package (2105298-NNN), where NNN is the revision of the package.

A package containing the operating system and flash software for the μ FLO^{G5} (also referred to as customer package), will be identified as Customer package (2105409-NNN), where NNN is the revision of the package.

5.3 Download packages from the ABB website

1. Go to www.abb.com/totalflow.
2. Select the product name.
3. Select the **Downloads** tab.
4. On the navigation pane, select **Software**.
5. Select the required software package.
6. Save the package in your local drive when prompted.



IMPORTANT NOTE: For assistance downloading software, contact technical support.

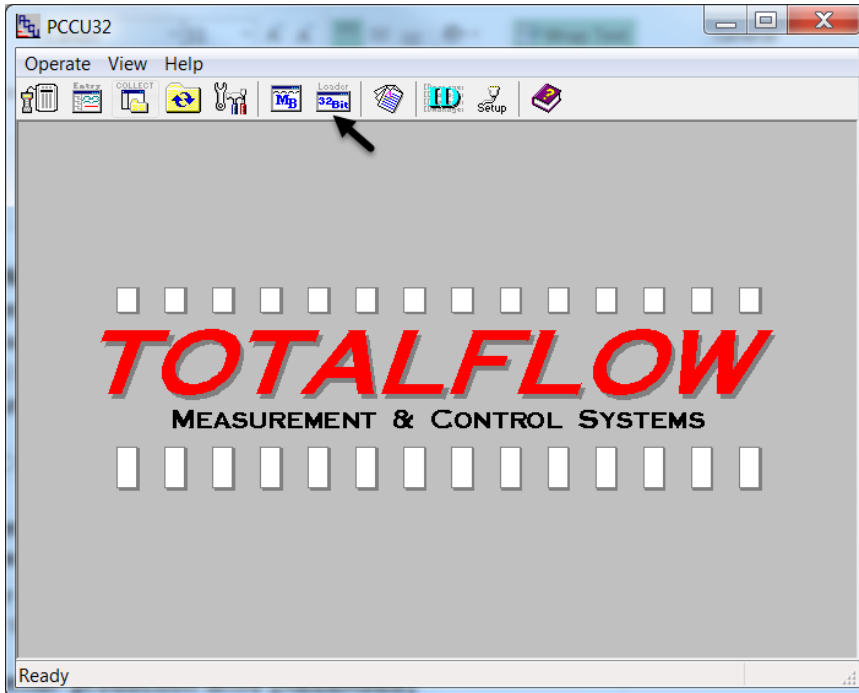
6 Software update instructions



IMPORTANT NOTE: Ensure device and measurement data are saved or backed up before any software update. For details, see the G5 XFC/XRC user manual or select **Help** from the PCCU top tool menu.

1. Start PCCU and select the loader icon from the top menu (see image below).

Figure 6-1: Starting the device loader



2. Establish a connection with the device.
3. 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 2105808-006 and 2105880-006

The following new features have been added to the Totalflow RMC-100 and RMC-100-Lite devices.

- New Remote XIO:
 - Remote XIO is a low-cost smart distributed IO / Serial Expansion that helps installation and provides a digital solution.
 - Remote XIO provides for combinations of additional Serial Ports, Ethernet Ports, and additional IOs.
 - Remote XIO provides multiple smart expansion modules that can be connected in the same loop and programmed according to the need of each node.
 - Contact Totalflow Sales support if interested in the Remote XIO product.

The remote XIO will be available for use on the XFC^{G5} and XRC^{G5} at a later release.

7.2 Package number 2105808-005 and 2105880-005

- New Station application to support:
 - Multiple meter run flowrates/volumes to be summed for station totalization
 - Basic multi-tube (run) tube switching that enables or disables meter tubes based on low/high limits of flowrates/volumes



IMPORTANT NOTE: This is a new station application for G5 XSeries and RMC that is different from and not compatible with the station application provided on G4 devices.

7.3 Package number 2105808-004 and 2105880-004

No new features or enhancements for customer packages 2105808-004 and 2105880-004.

7.4 Package number 2105808-003 and 2105880-003

The following enhancements are included in the customer package version 2105808-003 and 2105880-003:

7.4.1 API Liquid tube application.

Shrinkage Factor/Stock Tank Volume

- If the user chooses to enable Shrinkage Factor/Stock Tank Volume, the Stock Tank Volume will then be calculated from Net Standard Volume and either a user-entered or live measured Shrinkage Percentage; average Shrinkage Factor and total Stock Tank Volume will be logged in Log Period and Daily QTRs.

Drive Gain Monitor/Log in QTRs

- If the user chooses to enable Drive Gain Monitor/Log in QTRs, the Coriolis Drive Gain will then be updated every second from a user-provided Drive Gain Source Register, also a flow weighted or linear average value (user-selectable) of Drive Gain will be logged in Log Period and Daily QTRs.

User-Selectable Input Units

- Users can now choose to assign various volume or mass K factor units to their pulse inputs and various volume or mass flow rate units to the input flow rate if they are getting volume or mass flow rate inputs from the primary meter. If they are using pulse inputs, they can also specify a volume or mass flow rate unit to be used for Multi Meter Factor reference flow rates (for flow rate inputs, the unit for the input flow rate is also used for Multi Meter Factor reference flow rates).

Light Hydrocarbons EVP Calculation

- Added "Test EVP Calc Per TP-15" tab to API Liquid tube applications' entry mode screens which allows users to calculate Equilibrium Vapor Pressure under various density and temperature conditions.

7.5 Package number 2105808-001 and 2105880-001

The following enhancement is included in the customer package version 2105808-001 and 2105880-001:

- The G5 XFC / XRC has the same capabilities as the G4 product line and has additional new features/enhancements that include: Wi-Fi and Bluetooth (Onboard and USB)
- Wi-Fi capability that allows wireless communication between Totalflow devices and Wi-Fi clients (mobile devices or laptops with Wi-Fi capability). With Wi-Fi enabled, the Totalflow device performs the role of a wireless network (WLAN) access point. Access points advertise a wireless network ID or Service Set Identifier (SSID) which the Wi-Fi clients detect and join. Operators can establish TCP/IP based communication with the Totalflow device over this wireless link. A single Totalflow supports up to 10 simultaneous connections from Wi-Fi client
- A new on-board Bluetooth chip allows for users to connect to the device without having to plug a Bluetooth adapter into the USB port. The USB Bluetooth adapter is still supported on the devices, so the users now have two Bluetooth connection options.

7.6 Package number 2105808-001 and 2105880-001

The following enhancement is included in the customer package version 2105808-001 and 2105880-001: Ethernet Stat Changes

- Users can now choose the bandwidth of the Ethernet interface. Users can set the Ethernet bandwidth and the duplex mode depending upon the other devices (switches etc.) in the network. Several different bandwidths are now selectable in the Communications - Ethernet tab.
- Users can now set Ethernet data rate limiting on incoming and outgoing ethernet traffic.
- New Ethernet usage statistics are now available to allow the user to monitor traffic for bandwidth utilization, dropped packets or error packets etc. at any point of time. Users can trend these parameters to get a historical view of the activity on the ethernet. These new statistics are in the Communications - Ethernet tab.

7.7 Package number 2105808-001 and 2105880-001

The following new feature/enhancement is included in the customer package version 2105808-001 and 2105880-001: IEC Phase 2

- All the available programming options can now be used in the IEC resource (customer logic development environment) as recommended on the IEC 61131.
- There are now 5 different application credits available in the application table. There is a now an IEC Base application along with four different application package levels (Tiers).
- Each application credit allows for only one IEC resource to run.
- Users can have only one resource running on the device at any time.
- Users can select, create, and delete their own custom IEC resource in a common folder.

Refer to the IEC User Guide for further information on using the new enhancements.

8 Fixes

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

8.1 Package number 2105808-006 and 2105880-006

The following bugs are fixed:

- 12089 – PCCU crashes when moving cursor over the trend graph view.
- 12093 – Application Licensing not applied to general applications instantiated outside of the application table.

8.2 Package number 2105808-005 and 2105880-005

The following bugs are fixed:

| Bug number | Description |
|------------|---|
| 11014 | PCCU Ethernet tab has no scroll bar to see full screen content. |
| 11351 | PCCU Last Calc Doubles tab is displaying incorrect value for Stock Tank Flow Rate. |
| 11367 | Part number of Applications (0.5.app) do not show on Display. Required for BLM. |
| 11311 | Liquid Coriolis interface quits polling on loss of power to Coriolis. |
| 11276 | Liquid Coriolis does not increment Error Poll to its set limit. |
| 10306 | When testing the Liquid Coriolis Application using BLM flash 2104340-035 if the Coriolis meter is unplugged from its comm port while operating and then plugged back in, the meter does not auto-recover. |
| 10172 | Liquid Coriolis App Exceeds Error Limits. |
| 10043 | Data from the Liquid Coriolis Help Files not available. |
| 9421 | Liquid Coriolis Help files not available. |
| 9283 | Error Limit (0-60) and Timeout (10-3600) of fields values are out of range displaying incorrect limit message until either Error Limit or Timeout field is put back within their allowable ranges. |
| 9262 | PCCU locks up after error message shows in the Communication Setup tab. |
| 9211 | Coriolis Meter and Micro Motion is displaying Advanced Tab in Basic and Advanced Modes. Should only display in Expert mode. The requirement to display Advanced tab only in Expert mode has been removed. |
| 11295 | TFIO will not show up after custom config is loaded. |

| Bug number | Description |
|-------------------|--|
| 11504 | Operations app forgets its station name after a shutdown/reset command. |
| 11548 | Gas Coriolis CFX output shows AGA7 Calculation Method. |
| 11513 | G5 XFC – Valve control application cannot write to VC module (address 0) AO output. Get 'Undefined' or 'NAN' in the AO output registers. |
| 11390 | Cannot transfer more than 1 IEC credit for all Tiers (1, 2, 3, and 4). |
| 11709 | The description field for holding registers is not correct. |
| 11589 | Holding registers 950 and higher always show value 0. |
| 11694 | Operations Periodic tab, rows 256 and greater show a blank Interval field. |
| 10641 | Operation Playback files will not handle a negative value. |
| 11784 | Operations - Write playback block after changing Pause status via automation. |
| 11556 | Laptop File Utility GUI would not display Created Date Column. |
| 11805 | The sampler accumulator keeps incrementing when there is no flow and the volume accumulator keeps accumulating during no flow. |
| 11860 | Holding registers (Holding & Oper & PID & Comm) cannot be set to size zero. |
| 11928 | G5 - API Liquid App accumulates negative flow rates. |
| 11950 | Unable to change Gauge Pressure Group for SU Tubes. Calc tests are failing |
| 7460 | Save and restore functionality of XRC doesn't work when the flash folder contains a .csv file (for playback operations). |
| 11942 | After allowing the RMC to run over a period, the device can no longer be accessed. |
| 11939 | Digital Oilfield is turned on by default when it should be disabled. |
| 11979 | PCCU show multiple INI errors as AGA3 is interpreted as an IO app. |
| 11349 | Standard AGA3 help file for General tab is missing information. |

8.3 Package number 2105808-004 and 2105880-004

The following bugs are fixed:

11581 – I/O Subsystem communication improvements for SYNC CAN.

8.4 Package number 2105808-003 and 2105880-003

The following bugs are fixed:

10469 – IEC app overwrites station app register.

10518 – CFX Output showing Gauge instead of Absolute for some G3 devices.

10533 – PID app will not retain Station name.

10570 – Shutdown app forgets configuration settings on DIs and AIs tabs.

10751 – AGA7 Enhanced reports show Ultrasonic as "Sonic".

11042 – Product management wants to limit the number of applications on G5-Uflo to 24.

11043 – G4 Simulator should be updated to include fix for Light Hydro's (refer to bug 10978).

11085 – Liquid tube app "Pulses Min" column in PCCU Laptop Daily View always shows zero when primary meter type is Coriolis, PD or Other.

11156 – Comm app port name is not saved to cold configurations.

11157 – Operations app holding register array size not saved for value 0.

11159 – G5 RMC reset (same fix made on X Series). (The Issue was discovered to occur with IEC applications instantiated. It was found that when ISaGRAF started, it would get a copy of its file descriptors from Totalflow. Both Totalflow and ISaGRAF would get a copy of the USB file descriptors during start up. When 32-bit loader connection is established through USB, totalflow would close its handle to hand it over to device loader. But ISaGRAF process would still have its copy of the handle. When USB was unplugged and plugged back in would cause the TTY driver to generate a hang-up signal to device loader process group

causing the device reset.).

11161 – Corrupt operations app configurations on the periodic tab (G5 RMC).

11163 – Analysis Trend Application not creating analysis files (G5 RMC)

11165 – SU Liquid tube with primary meter type of Coriolis is missing the Indicated Standard Volume column in the View Daily Flow Data and Log Period Data tabs.

11177 – API LIQUID SU embedded app does not correctly average PF, TF, Meter Factor, Ctl, Cpl of Log Period Data after a Warm Start.

8.5 Package number 2105808-001 and 2105880-001

None

9 Known issues and workarounds

9.1 Package numbers 2105808-005 and 2105880-005

Bug 11944 – USB connections to devices may lock up while performing one second screen monitors via PCCU or logging into the device for an extended period of time. These lockups usually occur within the PCCU host software that will result in having to restart PCCU. In extreme circumstances, the device may have to be restarted.

10 SHA512 Security Feature

SHA512 is an algorithm used to confirm the integrity of software that is downloaded from a website. ABB is now providing a checksum value for each software package downloaded from the ABB product page that allows users to confirm that the package has kept its integrity and was not changed during the download. A corresponding SHA file is available at www.abb.com/upstream for all software packages. Refer to the Software Package Integrity Check How to Guide ([2107014MNAA](#)) for further information on using SHA512.



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