Embedded G4 Series software

G4 XRC
G4 XFC
G4 ExFC
G4 uFLO

April 30, 2019
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1 Purpose
These release notes detail new features and modifications, functional changes, and bug fixes made to the G4 Series embedded software.

2 Withdrawn software notice
The following flash versions have been withdrawn and will not be supported.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Table 2-1: Withdrawn or earlier versions

<table>
<thead>
<tr>
<th>Flash</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>G4 XFC US Production</td>
<td>2105151-013 or earlier</td>
</tr>
<tr>
<td>G4 XFC SU Production</td>
<td>2105152-013 or earlier</td>
</tr>
<tr>
<td>G4 XRC US Production</td>
<td>2105153-013 or earlier</td>
</tr>
<tr>
<td>G4 XRC SU Production</td>
<td>2105154-013 or earlier</td>
</tr>
<tr>
<td>G4 FC US Production</td>
<td>2104497-033 or earlier</td>
</tr>
<tr>
<td>G4 FC SU Production</td>
<td>2104498-033 or earlier</td>
</tr>
<tr>
<td>G4 ExFC US Production</td>
<td>2104159-047 or earlier</td>
</tr>
<tr>
<td>G4 ExFC SU Production</td>
<td>2104158-047 or earlier</td>
</tr>
<tr>
<td>G4 XFC US Service Only</td>
<td>2102861-073 or earlier</td>
</tr>
<tr>
<td>G4 XFC SU Service Only</td>
<td>2104339-036 or earlier</td>
</tr>
<tr>
<td>G4 XRC US Service Only</td>
<td>2103132-073 or earlier</td>
</tr>
<tr>
<td>G4 XRC SU Service Only</td>
<td>2104340-036 or earlier</td>
</tr>
</tbody>
</table>

3 Latest release
The latest software is available for customers. Table 3-1 details the part numbers for the flashes.

Table 3-1: G4 Flash series

<table>
<thead>
<tr>
<th>Flash</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>G4 XFC US Production</td>
<td>2105151-014</td>
</tr>
<tr>
<td>G4 XFC SU Production</td>
<td>2105152-014</td>
</tr>
<tr>
<td>G4 XRC US Production</td>
<td>2105153-014</td>
</tr>
<tr>
<td>G4 XRC SU Production</td>
<td>2105154-014</td>
</tr>
</tbody>
</table>
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:
   a. Flash software part #.
5. If the part numbers of the flash 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 Download packages from the ABB website

To download from the ABB website:

2. Scroll down to locate the product list.
3. Select the product name.
4. Scroll down the product page, select the Downloads tab.
5. On the navigation pane (left), scroll down, select Software.
6. On the list pane (right), select the required software package.
7. Click Zip to download to your laptop.
8. Save the package in your local drive when prompted. Select Save as to choose the desired location on your drive if not saving in the default download folder.
9. Locate the file in your drive and extract the file from the downloaded Zip file.

IMPORTANT NOTE: For additional assistance to download 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 desired G4 Device’s user manual or select Help from the PCCU top tool menu.

6.1.1 Update the software

Use the device loader utility to update the software in your device:

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:** Update the Flash when a new release is available.

7 Release features

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

7.1 G4 Flash Series Release 04-30-2019

No new features for this release.

7.2 G4 Flash Series Release 04-09-2019

No new features for this release.

7.3 G4 Flash Series Release 02-12-2019

No new features for this release.

7.4 G4 Flash Series Release 10-04-2018

The following enhancement is included in G4 Series:
US AGA3, US AGA7 and API Liquid tube applications can now run in Enhanced mode which activates the following new features.

### 7.4.1 US AGA3 tube application.

- A new part number is designated to the tube application when it is running in Enhanced mode.
- Added capability to alarm on SP and DP out of the range of URL and Calibrated Span and various other conditions, and the capability to log the activation and clearance of these alarms.
- Added informational fields Facility Measurement Point, Company Name, Primary Meter Type and Heating Value Saturation Condition.
- Added capability to calculate Barometric Pressure from Location Elevation.
- Non-resettable volume, energy and mass accumulators are now rolled over independently when they cross the 1 trillion set point and a new event is logged when each one of these rollovers occur.
- Added capability to calculate Compressibility and Density using GERG2008 method.
- Added support for new analysis components: Neopentane (neoC5), Hexane plus (C6+), Heptane plus (C7+) and Nonane plus (C9+).
- Added capability to log analysis in QTRs.
- A new event is logged when the tube application’s Device/App ID (aka. meter ID) or description changes.
- Volume calculation period is fixed at 1 second.

### 7.4.2 US AGA7 tube application.

- A new part number is designated to the tube application when it is running in Enhanced mode.
- Added capability to alarm on SP out of the range of URL and Calibrated Span and various other conditions, and the capability to log the activation and clearance of these alarms.
- Added informational fields Facility Measurement Point, Company Name and Heating Value Saturation Condition.
- Added capability to calculate Barometric Pressure from Location Elevation.
- Non-resettable volume, uncorrected volume, energy and mass accumulators are now rolled over independently when they cross the 1 trillion set point and a new event is logged when each one of these rollovers occurs.
- Added capability to calculate Compressibility and Density using GERG2008 method.
- Added support for new analysis components: Neopentane (neoC5), Hexane plus (C6+), Heptane plus (C7+) and Nonane plus (C9+).
- Added capability to log analysis in QTRs.
- A new event is logged when the tube application’s Device/App ID (aka. meter ID) or description changes.
- Volume calculation period is forced to be the same as flow period which can be from 1 to 60 seconds by which 60 seconds is divisible.
- Added support for various input types: Synchronous Pulse, Manufactured Pulse, Flow Rate and Accumulator.
- Added No Flow Cutoff for all input types.
- Added support for multi-point K factors.
- Added support for multi-point meter factors.
- Added calculation and QTR logging of Meter Output (this was Counts for Pulse Inputs for un-Enhanced AGA7 tubes) and IV (this was uncorrected volume for un-Enhanced AGA7 tubes).

### 7.4.3 API Liquid tube application.

- A new part number is designated to the tube application when it is running in Enhanced mode.
- Added capability to alarm on PF out of the range of URL and Calibrated Span and various other conditions, and the capability to log the activation and clearance of these alarms.
- Added informational fields Facility Measurement Point, Company Name and Primary Meter Type.
- Added capability to calculate Barometric Pressure from Location Elevation.
— A new event is logged when the tube application's Device/App ID (aka. meter ID) or description changes.
— Non-resettable indicated volume, indicated standard volume, gross standard volume, net standard volume, sediment & water volume and mass accumulators are now rolled over independently when they cross the 1 million set point and a new event is logged when each one of these rollover occurs.

8 Fixes

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

8.1 G4 Flash Series Release 04-30-2019

The following bugs are fixed:

— CCRP #US-953890 (Shutdown App and Holding App disappear randomly)
— Updated Shutdown, Holding, PID and Operations Apps for solving deadly embrace issues.
— Added instrumentation for failed resource lock requests.
— Fixed memory overrides in Modbus host protocol
— Bypass SetRegisterByte on 0.0.0 to reduce stress on system and safeguarding illegitimate writes to 0.0.0

8.2 G4 Flash Series Release 04-09-2019

The following bugs are fixed:

— 11022 - XFC 6200EX will calibrate incorrectly after the first calibration attempt. (onboard AI will not calibrate correctly)
— 11149 - G4 6200EX - Unable to set A1 back to Factory Calibration when a Field Calibration has been performed.

8.3 G4 Flash Series Release 02-12-2019

The following bugs are fixed:

— 10978 – Light Hydrocarbon calculations were incorrect for liquid volumes whenever the density is less than 611 kg/m3. Calculations updated and are now correct.

8.4 G4 Flash Series Release 10-04-2018

The following bugs are fixed:

— 10621 - Calibration locks up G4 Simulator.
— 10567 – API Liquid App logs Flowing API Gravity incorrectly, when Input Density unit is in API and the input Flowing Density varies during a log period
— 10566 – Memory leaks in Oil Custody Transfer app and Liquid Coriolis Data Interface app.
— 10389 – Setting a Totalflow device to an invalid volume calculation type can crash the device.
— 10322 – Remote configuration of Trip Contacts for AGA7 "DP/AVol/UVol" and SULIQUID "IV/PM/IV FR/Mass FR" not working
— 10282 – Operations Periodic function R1 > Out does not transfer the value of input register of type AI such as 7.4.0 to output register of type Float such as 9.0.0.
— 10280 – Bad value logged for Density in Liquid app when there is no flow.
— 10270 – Oil Custody Transfer App causes a crash when used without a Level Master App.
— 10269 – API liquid tube not being updated by Micromotion Coriolis via Liquid Coriolis Data Interface app.
— 10084 – Device not not returning the correct IV formula for Sum(Counts / k-factor) * m.

9 Known issues and workarounds

9.1 Issues

No known issues.
Abb Inc.
Measurement & Analytics
Quotes: totalflow.inquiry@us.abb.com
Orders: totalflow.order@us.abb.com
Training: totalflow.training@us.abb.com
Support: upstream.support@us.abb.com
+1 800 442 3097 (opt. 2)

www.abb.com/upstream
Additional free publications are available for download at:
www.abb.com/totalflow or by scanning this code.

Main Office - Bartlesville
7051 Industrial Blvd
Bartlesville, OK 74006
Ph: +1 918 338 4888

Kansas Office - Liberal
2705 Centennial Blvd
Liberal, KS 67901
Ph: +1 620 626 4350

Texas Office – Odessa
8007 East Business 20
Odessa, TX 79765
Ph: +1 432 272 1173

Texas Office – Pleasanton
150 Eagle Ford Road
Pleasanton, TX 78064
Ph: +1 830 569 8062

Texas Office - Houston
3700 W. Sam Houston Parkway S., Suite 600
Houston, TX 77042
Ph: +1 713 587 8000

California Office - Bakersfield
4300 Stine Road
Suite 405-407
Bakersfield, CA 93313
Ph: +1 661 833 2030

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