
ABB MEASUREMENT & ANALYTICS | RELEASE NOTES

PCCU32 7.62.1

08/22/2018

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1 Overview

The following information will detail the new features and modifications that have been made to the PCCU32 7.62.1 release.

The Totalflow Windows® Portable Calibration and Collection Unit (PCCU) is a set of functions integrated into a single Windows program used for performing the setup, calibration and data collection of Totalflow devices. After becoming familiar with a few basic screens and their functions, users should find PCCU easy to use.

2 Installation

2.1 Reinstalling PCCU32

If the user has a previously installed version of PCCU32 (7.x.y.z) on their computer, they can safely reinstall it in the same directory. The installation will not modify any previous setup that the user has performed for their system or modify any collected flow data; however, the user cannot install this version of PCCU32 over version 6.x.y.z or earlier.

If the user has previous versions of PCCU32 which they want to keep, they should install this version in a new directory

2.2 System Requirements

The following table shows the minimum software and hardware requirements for installing and running PCCU32.

Table 2-1: PCCU32 System Requirements

Operating System	EFM/RTU – Windows XP (SP3 or later), Windows Vista, Windows 7 NGC – Windows XP (SP2 or later) Microsoft Internet Explorer version 5.0 or later
Microprocessor	Pentium IV or equivalent
Memory	2 GB
Hard Disk Space	50 MB (data storage excluded)
Disk Drive	CD/DVD-ROM drive
Video Adapter	SVGA or higher resolution
Pointing Device	Microsoft Mouse or compatible pointing device

2.3 Installing PCCU32 from a CD/DVD in a Windows Environment



IMPORTANT NOTE: Close all programs except for Windows when installing software.

To install PCCU32:

1. Insert the CD/DVD in the CD/DVD-ROM drive.
2. The Install Program should automatically load. (Assuming the Auto Insert Notification has not been turned off).
3. If the Install Program does not automatically load, click on Start and then run.
 - Type the CD/DVD drive letter plus "setup", e.g., (E: setup).
 - Click OK.
4. The Install Program will load followed by a Welcome message.
5. Click Next.
6. The user will enter their name and their company name.

7. Click Next.
8. Change the destination directory, if preferred.
9. Click Next.
10. Change the program folder, if preferred.
11. Click Next.
12. The installation process will load all the required software.
13. If the install program asks the user to restart the computer, please do so before running the PCCU32 software.
14. If there is no message to restart the computer but the screen is displayed for viewing the Readme file or running PCCU32 now, the installation is complete.
15. Check or un-check a selection, and click Finish

2.4 Installing PCCU32 on Windows 7

The following will detail the steps that are necessary for IT personnel or company administrators to install PCCU32 within a Windows 7 environment. It is assumed that the person who is performing the installation will have Administrative rights to accomplish this task.

2.4.1 Saving the Current User's Totalflow Key

1. The Administrator should install PCCU32. Follow the normal procedures as detailed in section 2.3.
2. Upon completion, verify the PCCU32 software is properly installed by running the application.
3. The next step is to click the Windows Start button. When the Start menu displays, click into the Search Programs and Files text entry field. Type **cmd** into the field, and press Enter.
4. A DOS prompt displays. At the prompt, type **regedit**. Press the Enter button. The Registry Editor window displays.
5. After the window displays, the user will need to locate the HKEY_CURRENT_USER folder. Upon location, expand the folder directory by clicking the + button.
6. Once the file directory is open, scroll to the Software sub-menu, and expand it. Within the sub-menu, locate the Totalflow folder.
7. After locating the Totalflow folder, highlight the folder by clicking on it. Once highlighted, right-click on the folder.
8. From the folder fly-out menu, select the Export option. An Export Registry File dialog box displays.
9. Within the dialog box, the user will first need to navigate to C:\Users\Public\Public Documents. Once the destination has been reached, name the registry file, 'Totalflow', and click the Save button. A new file will be saved there called Totalflow.reg.
10. Once the task is completed, close out of the Registry Editor window.

2.4.2 Creating a New User Account

1. From the Windows Start menu, select the Control Panel option.
2. In the Control Panel window, locate the User Accounts and Family Safety section. Click the Add or Remove User Accounts option.
3. After the selected option screen displays, click on Create a New Account.
4. Within the next window, type in the name of the user in the corresponding field.
5. Next, the user needs to select the type of account (Standard User or Administrator) by clicking on the appropriate radio button.
6. Reboot the PC. After the computer powers up, the user should see the newly created user display at the Log-In screen.

2.4.3 Copying Totalflow Key to the New User Account

1. Log onto the system with the newly created user account.
2. The next step is to click the Windows Start button. When the Start menu displays, click into the Search Programs and Files text entry field. Type **cmd** into the field, and press Enter.
3. A DOS prompt displays. At the prompt, type **regedit**. Press the Enter button. The Registry Editor window displays.
4. After the window displays, the user will need to locate the HKEY_CURRENT_USER folder. Upon location, expand the folder directory by clicking the + button.
5. Once the file directory is opened, scroll to the Software sub-menu, and expand it. Within the sub-menu, locate the Totalflow folder.

6. After locating the Totalflow folder, highlight the folder by clicking on it. Once highlighted, move to the Registry Editor Window tool bar, and select File. From the drop-down menu, select Import.
7. An Import Registry window displays. Navigate back to where the Totalflow.reg file was exported (C:\Users\Public\Public Documents). Once the file is located, select it.
8. Close the Registry Editor, and verify that the user can now run PCCU32.



IMPORTANT NOTE: Sections 2.4.2 and 2.4.3 will need to be repeated for any additional users.

2.5 Starting PCCU32

Click on the Start button, select Programs, and from the Totalflow PCCU7 group, select PCCU32. This will bring up the PCCU32 shell. If installing the Standard PCCU32 package, there will be three basic icons: Connect to Totalflow, Collection Reports and Open Configuration File. Most PCCU32 functions appear after being connected to a device.

Note: Under Windows, using large fonts does not harm anything but causes certain text fields to not display all of the buttons on certain windows.

2.6 Bundled software

- Simulator for Totalflow G4 device (Part No. 2104375-025)
- Simulator for Totalflow NGC device (Part No. 2101869-024)

3 New features

3.1 PCCU32 Version 7.62.1 New Features

- None.

3.2 PCCU32 Version 7.62 New Features

- None.

3.3 PCCU32 Version 7.61 New Features

- Support for NGC 'Analyzer Stream' revision 12, NGC flash part numbers 210241-040, 213600-014, and 2104724-005.

3.4 PCCU32 Version 7.60 New Features

- New Application/License Management screens.
- Support for G5/RMC IEC applications.
- Add check and calibration events to CFX7 and CFX8 outputs.
- Block Liquid Tube Analysis and MMF fields in Remote Configuration.

3.5 PCCU32 Version 7.59 New Features

- No new features functionality-wise, but this is the first release built from the GIT repository.

3.6 PCCU32 Version 7.58 New Features

- Holding Indirect, Alarms Improvements, Liquid Coriolis Interface and the Station Application.

3.7 PCCU32 Version 7.57 New Features

- Support for G5 products including new 32-bit Loader, Entry Mode and Calibration support for additional RMC TFIO bus, Entry Mode support for new G5 registers in System and Communications apps, and Communications Setup support for RMC.

3.8 PCCU32 Version 7.54 New Features

- Multi Meter Factors and Volume/Mass % per Component for Liquid Measurement

4 Bugs fixed

4.1 PCCU32 Version 7.62.1 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 10456 - PCCU does not contain all of the required fields for the Alarms definition page when matched with JIS version NGC flash part numbers 2102411-042, 2103600-015 and 2104724-006.

4.2 PCCU32 Version 7.62 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 8280 – With this fix, all formatting issues in extradata.ini file are fixed.
- Bug 9671 – CFX7 and CFX8 files are different for Flow Comp ID if collected from remote or outputted from laptop file.
- Bug 9833 – PCCU Copyright date incorrect.
- Bug 9841 – New configurable report does not show up in Reports dialog tree view.
- Bug 9861 – Extradata.ini file has incorrect offsets for some fields for SU Coriolis meter.
- Bug 9882 – Remote status to spreadsheet shows Unknown List Entry for various fields.
- Bug 9963 – Component Analysis does not show up correctly in characteristics reports or characteristics view.
- Bug 10214 – In PCCU entry mode, Modbus/TCP client, click on Request block tab, file names appear to concatenate together.
- Bug 10216 – PCCU should not treat 0.0.0 register as shared input during calibration.
- Bug 10217 – In PCCU entry mode, before sending MODBUS configuration to the device, PCCU should warn user about the number of registers if they are "invalid" for Modbus frame.
- Bug 10218 – In PCCU entry mode, In Pad Controller App, "Well I/O" tab, application slot shows negative value.
- Bug 10225 – PCCU needs to support new event number 899 "Totalflow Reset" for G5 products.

4.3 PCCU32 Version 7.61 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32

- Bug 9842 – Choosing multi tubes/meters displays repeated data within Characteristics report (within the report output directory).
- Bug 9389 – Indirect Holding Registers only allow first Name to change when in Read-Only mode.
- Bug 9790 – The default installation directory for PCCU is "c:\PCCU7". This directory has read/write access by the Authenticated User which is not as secure as the "c:\Program Files" directory.
- Bug 9792 – PCCU stores a Totalflow private key and credentials in clear text.

Display and archive new NGC registers and data structures. These include the results of the GPA-2177 liquid and component lower heating value calculations.

- Analyzer Stream entry mode 'Calculated Results' tab includes GPA-2177 Appendix B calculation totals if the flash is configured to perform these calculations.
- Analyzer Stream entry mode 'Calculated Results' tab uses row and column header labels consistent with the calculation standard (GPA-2172, IOS-6976:1995, or JIS K 2301:2008)
- Analyzer Stream entry mode individual results for GPA compressibility types (AGA8 Detail, GPA Summation Factor, AGA-5, and NX-19) are divided into 3 separate tabs (Dry Gas, Wet Gas, and Liquids). The 'Liquids' tab is only visible if the GPA-2177 Appendix B calculations are performed.
- Standardized the terms used for the compressibility types. Previously the entry mode, collection, and help file names were not consistent. The values used are 'AGA-Detail', 'GPA Summation Factor', 'ISO Summation Factor', 'ISO Mass', 'NX-19', and 'JIS'.

- Analyzer Stream entry mode 'Factor Basis' tab has row labeled 'CV Units (Mole Based).' This specifies the units used when the 'Calculation Settings' tab 'Concentration/Btu Basis' value is 'Molar/Molar'.
- The Analyzer Stream 'Setup' tab now includes rows labeled 'Reset Database (Including events)' and 'Reset Database (leave events)'.
- The Analyzer Stream 'Setup' tab now includes a row labeled 'Use Pre-Rev 12 Archive buffers.' When set to 'Yes', NGC collection results are backwards compatible with prior flash releases. When set to 'No' (the default), collection results include liquid and component lower heating values.
- The Analyzer Stream entry mode 'Setup' tree now contains a tab 'Split Registers'. This tab includes columns for 'Split Percent', 'Split Register', 'Calibration Split Register' and 'Temporary Split Register'. Previously these entries were on multiple tabs.
- The Analyzer Stream entry mode 'Component Configuration' tab now includes columns for 'Include In Totals', 'Insert Concentration Register', 'Use Insert Register in Normalization', and 'Non-Hydrocarbon'. Previously these columns were on a 'Component Configuration' tab under the 'Calibration Setup' tree.
- The Analyzer Stream entry mode 'Gas Factors' tab is now under the 'Calculation Setup' tree. Previously it was on its own tree branch.
- Analyzer Stream entry mode 'Gas Factors' tab uses row and column header labels consistent with the calculation standard (GPA-2172, IOS-6976:1995, or JIS K 2301:2008)
- Analyzer Stream entry mode 'Gas Factors' tab includes rows 'Liquid Relative Density' and 'Liquid Volume' (if those values are defined in the gas factor file).
- New Or Modified Events
 - Btu Load Gas Factor File (Evt 970). Change enumeration values: Current, New, and Fail.
 - Watchdog timeout (Evt 980): Change enumeration values: Deadlock, Restart.
 - Operator Shutdown Restart (Evt 994). Change enumeration values. Running, Restart.
 - Btu Power Supply on Start (Evt 995). Change enumeration values. Shutdown, Restart.
 - Btu Power Off mode Restart (Evt 996). Change enumeration values. Running, Restart.
 - Btu Power Status Unknown Restart (Evt 997). Change enumeration values. Failure, Restart.
 - Liquid Calculations (Evt 5237): Values: No, Yes.
 - Cal Composition Unit (Evt 5328). Values: Mole, Volume, Liquid Volume.
 - Factor Basis Unit Change (Evt 5327). Values: MJ/m3, Btu/SCF, Btu/MCF, Btu/MMCF, J/m3, kJ/m3, therms/ US Gallon, therms/UK Gallon, therms/Canadian Gallon, Btu/US Gallon, Btu/UK Gallon, Btu/UK Gallon, kcal/m3, kWh/m3, kcal/cm, MJ/kg, Btu/lbm, kJ/kg, cal/g, cal/lbm, Btu/lbmol, kJ/mol, J/mol, MJ/kmol.
 - Btu Load Calculation File (Evt 5328): Values: Current, New, Fail.
 - Mole Volume Fraction (Evt 5329). Values: No, Yes.
 - Xsd File Status (Evt 5330). Values: Found, Not Found, Updated.
 - Heating Value Molar Units (Evt 5331). Values: Btu/lbmol, kJ/mol, J/mol, MJ/kmol.
 - Molar Mass Units (Evt 5332). Values: g/mol, kg/kmol, lbm/lbmol
 - Reset Database (Evt 5333). Values: n/a, Yes
 - Reset Database (leave events) (Evt 5334). Values: N/A, Yes.

4.4 PCCU32 Version 7.60 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 9334 – New 32bit loader sometimes crashes when downloading package file to G5 uFlo using USB port.
- Bug 9389 – Indirect Holding Registers only allow first Name to change when in Read-Only mode.
- Bug 9397 – PCCU does not have forward compatibility with flashes with new extra data revisions.
- Bug 9411 – Extradata.ini has wrong offset for "Reynold's Nbr 9" field, change required in XDeviceSetup 103,21,22,47,48,62,63.
- Bug 9488 – ExtraData.ini reconciliation between PCCU and TCI.
- Bug 9492 – CFX7 and CFX8 output of liquid turbine tube does not set CFX IV Index Start and CFX IV Index End fields.

- Bug 9533 – PCCU 7.59 G3 Flashloader Crashes, works in PCCU 7.58.
- Bug 9630 – Liquid Coriolis APP cannot Read Com Port right away during Initial setup.
- Bug 9632 – Liquid Coriolis Interface - 'Alias' naming convention should display ABB Coriolis FCHxxx (1).
- Bug 9633 – Liquid Coriolis Interface Application - Advanced Tab is displaying in Advanced and Basic Views AND Basic has Read/Write Access.
- Bug 9689 – AGA7 does not show the IV Calc Equation correctly in the Characteristics report if the user selected Volume per pulse.
- Bug 9741 – Syntax error in pccu.ini files is keeping the [Registers] Tab from displaying for GasLift App.

4.5 PCCU32 Version 7.59 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 5626 – Error message stating ".Net Framework 3.5 should be present" during installation of PCCU on Windows 8.
- Bug 6280 – Correctly set the Factors (Fa, Fb, Fg, Fpv, Fr, Ft, and Y) in CFX7 and CFX8 output.
- Bug 6746 – "Record Time Stamp Method" & "API 21.1 Reporting" should be in very top section of FCU -> Characteristic Report w.r.t Archive file.
- Bug 7286 – During Automation, issues were found in 'Shutdown' application.
- Bug 7439 – The descriptions for the new liquid events need to be more user friendly.
- Bug 7881 – NGC Alarm Status Display Delayed.
- Bug 7974 – PCCU crashes when user tries to collect trend file with zero component. Now PCCU will not allow to send trend file with zero component. Also PCCU will not crash for old trend files with zero component.
- Bug 8052 – Reports do not match on screen display for Characteristic.
- Bug 8055 – The No. of Tank Sections field values will not be sent to the device unless the Height field values are sent to the device first.
- Bug 8062 – TF Modbus not working in PCCU7.40 through PCCU7.47. Will not address IMV25 units.
- Bug 8071 – Trying to do a Remote>Commands and doing a Download Meter Configuration or Download Group Configuration for application Vcone SU or Vcone it give you an invalid data structure and does not work.
- Bug 8134 – PCCU->SU Nozzle->Setup->Constant, fields "Orifice Plate Exp. Coeff" and "Pipe Exp. Coeff" should be dropdown list.
- Bug 8176 – PCCU->AGA7 ->Setup->Genera, fields Uncorr Vol High and Low Limits should be in Unit/Flow Period (Example: MACF/ Flow Period).
- PCCU->SUAGA7 ->Setup->Genera, description of fields "Uncorr Vol High Limit" and "Uncorr Vol Low Limit" should be in "Uncorr Vol High Limit(Per Flow Period)" and "Uncorr Vol Low Limit(Per Flow Period)" respectively.
- Bug 8182 – Laptop File utilities > Reports > Calibration Report Click [Calibration Header] button, PCCU32: Attempted an unsupported operation.
- Bug 8237 – Expert View, VCONE->Setup, "Last Calc Values" tab is missing.
- Bug 8321 – Expert View, PCCU-> Wedge SU->Fixed Analysis Data select XML Input, "New Value" column show up as red or with 0.
- Bug 8367 – If fields have "n/a" value then its average and total should be either "n/a" or blank.
- Bug 8368 – The daily averages and totals for "FCU Daily", "AIU Daily", "AIU Log Period" type of Custom Report are calculated over all log periods instead of the log period of a particular day.
- Bug 8412 – VCONE-> Remote Communication->Configuration shows an error with old flash (2103132-018). Same is with VCONE SU with flash 2103132-011.
- Bug 8426 – There should be only one volume calculation type for Wedge gas Application - "Wedge Gas".
- Bug 8428 – PCCU cannot open the laptop file _FCU_661.0_.l.
- Bug 8453 – When user changes the Max Records limits, user will get below message "Warning!!! Changing record size may re-allocate the device's memory causing all Historical data to be lost."
- Bug 8472 – Units in the "Input Density" group of the Units Conversion application are coded using the "Output Density" conversion group.

- Bug 8480 – Collection - SU AGA7 tube - The Energy field in the SU AGA7 tube collected output shows the Energy value along with the Uncorrected Volume value.
- Bug 8481 – Collection - SU Coriolis tube - The Energy values in the Daily Flow Data tab and the Log Period Data tabs are showing N/A next to the values.
- Bug 8550 – PCCU (View -> Advanced), AGA3 -> 'Setup' 'Water Constants' tab should be present. Similar is the issue for 'Expert' mode as well.
- Bug 8560 – When attempting to use the Valve Control tab, and click View button, PCCU remote communications PCCU will lock up with a white screen.
- Bug 8569 – “X-Help” button shall be accessible and not gray out for XMV screens.
- Bug 8592 – Login and Password Administration is not functioning correctly. There is no designated way to turn off Login once it is activated. Once activated the only way to turn it off is to Restore Default Pass. (truncated to exception log)
- Bug 8627 – In PCCU for Liquid app, for "Volume flow Rate" flow input type Units mismatch issue.
- Bug 8648 – Range values are not displayed correctly for API Liquid SU -> Setup -> Liquid Tab "Density Meter Factor" and "Sediment and Water Percentage".
- Bug 8682 – Caption "Calibration Header." will be completely visible under PCCU->Archive->Reports Screen.
- Bug 8734 – When custom reports are run in Laptop Utilities, the report header states "Totalflow Archive <reportname>".
- Bug 8750 – PCCU Collect / Characteristics shows "AGA3 1985" as the calculation type for Coriolis tube.
- Bug 8761 – Invalid Event Number for XDeviceSetup47.
- Bug 8825 – NGC-Analysis trend. Stream source app only accepts the Stream# not the Stream App #.
- Bug 8866 – PCCU->SUWGAS-1 -> Setup-> General tab->Calculation Type should be read only.
- Bug 8867 – Operations-> Lag Time-> Set value in Lag Time Column-> Move the control on 5th column-> Send Button -> PCCU crashes..
- Bug 8917 – API Liquid "Out of Range" Flowing Pressure Event have odd labels and values.
- Bug 8930 – PCCU->Collect, In Daily Flow Detail tab, under Daily Summary section, horizontal scrollbar appears by default and not working.
- Bug 8939 – "Initialize Output File" feature does not work with Spreadsheet trend output.
- Bug 8968 – If you install PCCU on a Server 2008 or Server 2012, it installs successfully but if you try to launch PCCU, it gives the "bthprops.cpl" missing error.
- Bug 9227 – Wrong Board Picture in Communication Help Section.
- Bug 9249 – Help file contents outdated by changes to the Communications tab of the Liquid Coriolis Interface app.
- Bug 9256 – More calibration needed in Help about AI calibration values.
- Bug 9266 – In tfpkgOpen () of tfPackage API lib, OSAL closeFile (fH) is called with fH handle which was already closed.
- Bug 9276 – Documentation to function mismatch...Documentation says you can Deselect (Characteristics, Daily Records, Log Records and Events) from collection but actually you cannot.
- Bug 9305 – PCCU Connect is not displayed on Auxiliary I/O screen.
- Bug 9323 – Incorrect mid (50%) calibration point value in the calibration instructions in the Analog input calibration topic. The value shown is 2 Volts, where it should be 3 Volts.
- Bug 9346 – Ethernet port selection for Coriolis Liquid Interface issues.
- Bug 9378 – SU Coriolis App - Setup Log Period Data -->Mass values are incorrect, it always shows latest log records mass value.

4.6 PCCU32 Version 7.58 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 8409 – Missing help content for Alternate Log Data field in the Setup for SUCOR and SUAGA7.
- Bug 8478 – No help topic for the "Set Uncorrected Volume to" field.
- Bug 9001 – PCCU Alarm App Help File || Log Mode = Current State ("Log Current Event/Alarms Only") description needs to be changed.

- Bug 9017 – Trip functionality on API Liquid SU and Coriolis SU for Volume Setpoint and Indicated Vol/Period Mass High.
- Bug 9137 – New Volume Sampler fields for the Digital Outputs do not have anything listed in requirements or Help files as to their intended purpose.
- Bug 9164 – Int16 type register values are not shown correctly in AlarmApp -> Log tab -> "values" column in PCCU.

4.7 PCCU32 Version 7.57 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 6573 – Add sampler volume to DO tripping setup tab in PCCU entry mode for users to monitor how DO is tripped as sampler volume crosses setup point.
- Bug 7207 – There needs to be default application slots for a number of applications as below,
 - Flow Computer,
 - Facility - 1 Required Slot 74
 - Gas Lift- 20 Already Reserved Slots 181-200
 - TF Web Server - 1 Already Reserved Slot 75
 - DNP- 1 Required Slot 64
 - IO Recorder - 2 Required Slots 78 & 79
 - Tank Simulator - 1 required Slot 100
 - Valve Control with KDT - Use Standard Valve Control App Slots. 20 reserved Slots 101-120
 - Log - 1 required Slot 99, a second instance of the IO application - Slot 71 (1st at Slot 7)
 - NGC,
 - BTU Component Calibration (HRVOC) - 1 Required Slot 48
- Bug 8040 – G4 tube logs: Daily, Period, Event do not match G3 structure.
- Bug 8995 – XMV-Interface, Communication tab should hide serial parameters when the port type is TCP/IP

4.8 PCCU32 Version 7.54.1 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 8785 – In PCCU entry mode of API Liquid tube, under 'Last Calc Values' tab, Observed Density should have input density unit.
- Bug 8794 – In PCCU entry mode of API Liquid tube, Observed Density shows in Last Calcs tab but not Last Calcs Doubles tab.
- Bug 8805 – For API Liquid tube, remove Uncorrected Density from CFX outputs (7 and 8) and set it to NAV so that it displays as blank in FlowCal.
- Bug 8810 – K Factor and PI Transducer Units not displayed correctly for API Liquid Tube applications when changing Flow Input Type.
- Bug 8820 – In PCCU entry mode of API Liquid tube, show 10 digits after the decimal point for small double precision numbers on the "Last Calc Values - Doubles" tab.
- Bug 8825 – NGC-Analysis trend. Stream source app only accepts the Stream# not the Stream App #.
- Bug 8827 – In PCCU entry mode of tube applications, fix misspelled words in the prompt when changing Heating Value, Real Relative Density and Z of Air.
- Bug 8856 – In PCCU entry mode of API Liquid tube, on the Setup/Last Calc Values - Doubles tab, the Indicated Flow Rate is displaying the incorrect units.
- Bug 8862 – For API Liquid tube, Log Period Open IV and Close IV have wrong unit label on the Collect screen Log Period tab.
- Bug 8875 – For API Liquid tube, Equilibrium Vapor Pressure should have unit label for absolute pressure in user unit.
- Bug 8899 – For API Liquid tube, Unit label for Flowing Pressure and Observed Pressure is wrong on collect screens and reports when Gauge Pressure unit is different from Static Pressure unit.
- Bug 8900 – For API Liquid tube, take out Base Pressure and Base Temperature fields from some screens and reports because they have wrong values if we are not using psia and degree F for

pressure and temperature and we already have Pressure Base (1 ATM) and Temperature Base (60 F) fields which are correct.

- Bug 8903 – For API Liquid tube, unit label shows incorrect label “psiag” for Fixed SP and SP calibration point values when the tube is a gauge device.
- Bug 8904 – For API Liquid tube, Flowing Pressure High/Low Limits should have absolute pressure unit label if the device type is Absolute.

4.9 PCCU32 Version 7.54 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 8230 – Made PCCU(Entry Mode) -> SU Coriolis -> 'Digital Outputs' -> 'Digital Output 1' or 'Digital Output 2', unit column to read only. This should be applicable for all SU tubes.
- Bug 8250 – At the end, the “Read EEPROM” message removed. In the PCCU, when user gets the file save dialog box to save flash to local machine and G4 device prompts "Upload Complete" message.

4.10 PCCU32 Version 7.53 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 7206 – Fixed the 8106(single stream) NGC errors in PCCU newer than 7.31 version.
- Bug 7795 – Fixed the issue while performing remote configuration of a Gas Turbine SU meter, the Use Fpc, Use Ftc, Use Fs, and Use Faux fields are not correctly transferred from the configuration download structure to the meter.
- Bug 7796 – Fixed the issue while performing remote configuration of a Coriolis SU meter, the Use Fpc, Use Ftc, Use Fs, and Use Faux fields are not correctly transferred from the configuration download structure to the meter.
- Bug 7797 – Fixed the issue while performing remote configuration of a Wedge Gas SU meter, the Fixed Kd2, Vol Accum Method, and H/D Ratio fields are not correctly transferred from the configuration download structure to the meter. The Fixed Cd and Use Calc Cd fields are not put in the device setup sent to the host.
- Bug 7816 – Fixed the crash on Latest WinCCU 7.03 and PCCU 7.40 while doing a remote collect from an SUNOZZLE meter.
- Bug 8122 – Fixed the last line of the Custom Report of type "FCU Daily" and "FCU Log Period" to print correct averages and totals for each month and day respectively instead of whole month or log period range.
- Bug 8382 – Fixed the issue of displaying Incorrect error message displayed "Invalid VCB and/or index 152" while trying to reset security codes when security switch is turned on.
- Bug 8408 – 2104724-003 GOST flash. Fixed the issue to allow user to set Purge cycles and Validation cycles to average.
- Bug 8457 -- In a Liquid Tube, if no flow and Input Density unit is API60, then the Observed Density in the Log Period and Daily logs shows 1.#inf.
- Bug 8471 – Fixed the issue with Open & close Volume fields which shows 1#Q.0 and will not clear in Collection in API Liquid SU Tube.
- Bug 8477 – Fixed the issue in PCCU which sometimes shows blank rows on Log Period Data screen while viewing Laptop/Archive file for Stream Data.
- Bug 8554 – Fixed the issue with missing event name in Liquid Even Log while performing an Open IV accumulator reset.

4.11 PCCU32 Version 7.52 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 8193 – Fixed the crash related to Archive files with more than 32767 log records.
- Bug 8149 – Fixed PCCU crash while doing Remote Commands and doing Download Meter configuration and Group Configuration.

- Bug 8133 – Corrected CFX7 Configuration/Meter and Pipe Material values.
- Bug 8126 – Provided a way to collect the backflow value on Characteristic 2 tab on our devices for all tubes.
- Bug 8125 – Allowed the collection of Pipe Material to CFX output for AGA3-1985.
- Bug 8123 – Corrected setting of Meter Configuration/static Pressure Measurement for CFX output.
- Bug 8113 – Made the “Energy Rate” field corresponding to Current Values tab Read only.
- Bug 8112 – Fixed updating the Analog Input, Analog Output and Discrete tabs while sending input in IO Simulation application.
- Bug 8105 – Made the “Flow Period” field Read only for Liquid SU Tube.
- Bug 8104 – Made the “Digital Output” field Read only for Nozzle SU Tube in Basic Mode.
- Bug 8029 – Fixed PCCU crash while attempting to open the "Log Period Detail" tab on Historical Data.
- Bug 8023 – Corrected the dialog box user options to “OK” instead of “Yes” or “No” while trying to connect to RMC from a PCCU version that doesn’t support the device.
- Bug 8012 – Corrected the K Factor for an AGA7 tube in the CFX output file
- Bug 7908 – Users are no longer allowed to change the already instantiated application as this field is made non-editable now. The recommended way is to use “Add” and “Delete” buttons.
- Bug 7493 – Coriolis Recent Measurement fixed to show the missing last byte in extradata.ini
- Bug 7433 – Help topic mapped correctly to the alarm System application.
- Bug 7398 – Support up to 50 characters for ‘PID Control Loop’ description is added.
- Bug 7363 – Fixed the discrepancy in ‘API Liquid SU’ Tube with the register numbers and field names (Expert and Advanced Mode).
- Bug 7359 – Fixed the ‘Startup Action’ for Shutdown Application setup.
- Bug 7289 – If customer uses PC with language set to some European language float registers become skewed.
- Bug 6678 – Error/ Warning popup message added for entering wrong type of input for Calibration.
- Bug 6775 – Pop-up window message added for entering invalid range of data for ‘Wedge h/d ratio’ parameter for the Wedge Gas SU application.
- Bug 6634 – In all tube applications (except API Liquids), Basic mode will have the 'Fixed Analysis Data' tab and all fields will be read-only. For API Liquids, there will be no "Analysis" sub-branch available at all. Also in all tube applications (except API Liquids), in both 'Advanced' & 'Expert' mode, "New Value" column should be read-only when "XML Input" is selected.
- Bug 6323 – In Analysis Trend File, added a validation error message pop-up indicating that invalid values are entered to the App # field.
- Bug 8353 – Fixed Bluetooth Issue with Windows 10
- Bug 8405 – Fixed Optional Logging issue for Coriolis and SU AGA7 tubes

4.12 PCCU32 Version 7.50 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 6121 – The XMV interface does not display the display tab for XMV-8.
- Bug 6429 – Corrected Digital Output and Digital Input registers on the Digital Output 1 and Digital Output 2 tabs for NIST14 Gas and NIST14 Liquid tubes.
- Bug 6568 - Help Files: Clarification for Uncorrected Volume limits on the Limits tab of an AGA7 tube.
- Bug 7393 – Updated the Help Files for RS and No Flow Tube options.
- Bug 7408 – Changed the name of the “User Conversion” tab to “Setup” in Expert mode.
- Bug 7430 – Added Help Files for the Units Conversion application.
- Bug 7663 – Corrected tabs in the Operations application.
- Bug 7682 - Corrected Plunger/2: Close /2: Hold High Line/High Line Open Limit registers.
- Bug 7705 – Corrected a data input limitation in the XMV Interface
- Bug 7909 – For liquid tube, Indicated Flow Rate value not displaying the corresponding value in Current tab and Last calculated tabs with the selected units from selectable units setup.
- Bug 7916 – Limit all inputs to 64 characters to avoid crash.

- Bug 7929 – Removed the option “Use Single Long-term Databases” from the selections list from the PCCU Setup Misc. tab
- Bug 7962 – Meter Configuration Pipe Material and Plate/Cone Material for AGA3-1985 meters settable option removed from CFX output.
- Bug 7996 – Help file updated to explain the details about using the CFX Version 5 option for outputting either CFX5 files or older files (CFX3).
- Bug 8001 – Corrected the tree view expansion problem on first tube.
- Bug 8005 – The SU and US Plunger summary screens made look identical.
- Bug 8011 – Corrected the Remote Download Meter Configuration and Download Group Configuration issue when both AGA3 and AGA7 are in the group.
- Bug 8034 – Corrected the showing of Digital Full Open and Digital Full Closed status of the Control valve in Analog or Digital Control in the PID application.
- Bug 8330 – Fixed the G4 and NGC simulator installation issue while installing PCCU from CD/DVD.

4.13 PCCU32 Version 7.47 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 4853 - The PID application did not display the Full Open or Full Closed status of the control valve in Analog or Digital control.
- Bug 5439 – Corrected a screen resizing issue for Daily Flow Detail and Log Period Detail.
- Bug 6222 – Resolved a system crash that occurred when a user closed the 32 Bit Loader screen during a reset.
- Bug 6287, 6754 – Resolved a system crash that occurred when the user performed a historical collect using Remote Communications with a CFX7 Output.
- Bug 6554 – Corrected a data range issue with the Coriolis Interface by setting the maximum number of devices to eight.
- Bug 6663 – Resolved a Units Conversion application issue that resulted in an invalid VCB error.
- Bug 6789 – A user is no longer able to duplicate an existing “Group File Name”.
- Bug 7311 - Corrected a missing MAC address message.
- Bug 7354 – An incorrect event was being logged in the Events Tab for the “K Factor Type” field of the AGA7 application.
- Bug 7362 – Resolved a potential issue with Liquids units.
- Bug 7405 – Corrected a Barometric Pressure event for the Nozzle SU application.
- Bug 7432 – Enforced the “Alarms Last Reported” field state to be read-only.
- Bug 7502 – Added read/write archive file functionality to ensure backwards compatibility.
- Bug 7549 – Resolved a crash issue related to an NGC Custom Report.
- Bug 7659 – Eliminated an unnecessary “Plus Sign” on the Shutdown application.
- Bug 7669 – Resolved an issue that prevented a name change of an XMV.
- Bug 7723 – Resolved an issue with incomplete tests using the VolCalcMethod.
- Bug 7725 – Corrected software version display issues in the Device Characteristics on the XMV Diagnostics tab.
- Bug 7731 – Corrected an XML formatting issue on the Fixed Analysis tab.
- Bug 7744 - Corrected a field name issue in the Nozzle SU application on the Characteristics tab.
- Bug 7756 – Corrected values for floating point whole numbers with more than seven significant digits in the entry mode.
- Bug 7761 – Resolved a crash issue that occurred when collecting an archive file using the SU Nozzle application.
- Bug 7772 – The EVP value on the CFX history record was showing as a negative number.
- Bug 7773 – It was reported that for non-orifice meters, the CFX7 output file was incorrectly setting orifice reference temperature field to 1.0.
- Bug 7827 – Removed the read/write stream archive file size limitation of 32767 records.
- Bug 7876 - Eliminated incorrectly displayed characters in the SU Nozzle entry mode.
- Bug 7955 - Eliminated incorrectly displayed characters in the Device ID and Location Values in archive view using a G4 XRC.

4.14 PCCU32 Version 7.40.1 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 7934 – The Selectable Units Set-Up Screen always displays metric units after a re-read, regardless of the units selected by the user.

4.15 PCCU32 Version 7.40 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 5938 – The fields for “Viscosity” and “Ratio of Specific Heats” have been removed from all AGA7 reports, as they don’t apply.
- Bug 6036 – A user should now be able to exit Terminal Mode without PCCU locking up or crashing.
- Bug 6170 – The ability to do unit conversions for Decibel and Velocity was previously not available. This has been fixed in this version of PCCU. In addition, Help should now display properly for the Unit Conversion tabs.
- Bugs 6184, 6327 – Selecting an Analysis file to “Sync with Therms” should now work properly. Previously, the selection was reverting back to “Sync with Tube”.
- Bug 6256 – A user can no longer remove the first 4 applications in the application table (App Numbers 0-3, System and Communications Applications).
- Bug 6273 – A problem was reported when trying to change SP or Tf High or Low Errors in Expert View in the Coriolis SU Application. This has been fixed in this PCCU release.
- Bug 6319 – Fixed an issue where the tree view was not refreshing after changing the names of API Liquids, Wedge Gas, or NIST14 measurement tubes.
- Bugs 6374, 6464 – Several issues were fixed in the configurable calibration report, including some columns showing “####” in the place of data and “Tap Type” not always displaying the correct value.
- Bug 6383 – Removed the erroneous option of “None” from the Wedge Gas measurement tube calculation type.
- Bug 6419 – Fixed some UI issues with the PID Controller Application screens.
- Bug 6450 – Fixed an issue where not all Help files were displaying for the Coriolis Application.
- Bug 6452 – Display groups should now maintain their original order in the tree after a group file name is changed.
- Bug 6537 – The “Hold Time Out (seconds)” field is now present for API Liquid, SU Nozzle, and Coriolis measurement tubes.
- Bug 6538 – The “Log Capacity” tab is now present for SU Nozzle measurement tubes.
- Bug 6565 – Values for SP displayed on the Calibration page should now be correct when the tube is set to either Absolute or Gauge.
- Bug 6602 – A problem was reported with the CFX7 output where if flow time was -1 or 65535 AND the zero flow alarm bit was set, then flow time was defaulted to 60 minutes. A fix was made to set the flow time to 3600 seconds.
- Bug 6635 – Fixed an issue where Energy Flow Rate units were incorrectly displayed as “MJ/r” instead of “MJ/hr” in the Units Conversion application.
- Bug 6643 - Option was added to “No Flow” Setup tab DI Action for “Remote Sense Alarm Only”. This should allow the Remote Sense to be used in the G4 as it was previously used in older Totalflow devices.
- Bugs 6648, 6649 – Some changes were made to 32 Bit Loader to improve usability.
- Bug 6672 – It was verified that CFX7 Export files for API Liquid export should now always use the Raw Density as measured for Uncorrected Density, and Observed Density will always be Uncorrected Density x DMF.
- Bug 6699 – The fields “(Fixed) Ft” and “(Fixed) Fp” were removed from all AGA3 1992 views, outputs, and reports, as they do not apply to this measurement tube and calculation type.
- Bug 6769 – Removed the fields “User Fixed Static” and “Fixed Static” from AGA3 Advanced Setup tabs.
- Bug 6918 – A user can now add Periodic operations in the Capacity tab for the PID Application.

- Bug 7013 – Events should now log correctly when performing calibration checks on a gauge pressure sensor.
- Bug 7042 – For the “Time Sync” dialog box when PCCU connects to a flow computer, if the time difference is more than 24 hours, an enhanced dialog box will now be presented with extra instructions and a help button. This is done whether or not the time sync is disabled in the PCCU setup.
- Bug 7060 – A timing issue was fixed that sometimes caused various issues with trend files (for example, trend file disappearing from the list control, variables disappearing, ‘Scan Status’ box not displaying properly).
- Bug 7417 – All tubes now support CFX and CFX7 outputs.
- Bug 7456 – In older versions of PCCU, the units displayed for equilibrium vapor pressure in the entry view of the PCCU Liquid tab are in gauge unit (for example, PSIG). In this version of PCCU, the entered equilibrium pressure will now be in absolute pressure (for example, PSIA).

4.16 PCCU32 Version 7.39 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- 7119, 7134 – It was discovered that when making changes via Remote Communication, AGA-3 calculation type 2012 would get changed to AGA-3 1992, no matter what changes were actually trying to be made. This issue has been fixed in this version of PCCU.
- 6992, 7015 – There were issues with the custom calibration report where data wasn’t showing up in the correct columns or was being displayed as “N/A”. This has been fixed in this version of PCCU.

4.17 PCCU32 Version 7.36.1 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- 6941 – It was discovered that on the Gas Lift application’s Registers tab, the same value was being displayed for both Production Volume Yesterday and Injection Volume Yesterday. That problem has been fixed in this version of PCCU.
- 6922, 6956 – Plunger was not staying in “Fail to Arrive” after a warm start. Startup mode (app.1.20) is now honored on warm start/reset.

4.18 PCCU32 Version 7.36 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- 1905 – Fixed an issue where some reports were missing some alarm data.
- 3430 – Fixed an issue in the NGC Last Day and Last Hour Laptop Reports where un-normalized values for all components were not being reported correctly.
- 4321 – An issue was fixed where the alarms table did not automatically refresh when changing entry screens and going back into the Alarm Definition tab without a re-read.
- 4489 – Made a change on various screens to show the actual values (if ones exist) in the window that appears when you want to change a setting or bias, where previously it would always show ‘0’. (RTD bias, SP, DP, temperature, pulse input, K-Factor, flow period, and range and bias for AIs)
- 4902 – Added the Request Blocks tab to the Communications section for G4 Therms Master.
- 5660 – Tool tip data has been added when hovering over items on the PID Control application screen.
- 5678 – After performing calibration and upon generating a calibration report, the Tap type was not being displayed correctly per its actual configuration.
- 5749 – Added some error checking in the Trend system for when a user enters a negative number for an App/Array/Register value.
- 5751 – Removed “LEVELMASTER” from the ‘Device Type’ list in Device ID windows.
- 5770 – Fixed an issue where user passwords were not able to be changed for RBAC.

- 5900 – It was reported that the message “A2D failure Hold” would appear while a calibration was being performed, even though the tube was in hold. This has been fixed. Run a cal.
- 5959 – Fixed an issue where the units of Today’s Energy, Yesterday’s Energy, and Energy Rate were different in the Current Value tab than the units in the GUI.
- 6054 – A problem was fixed where changing a value in the Flow Measurement Setup tabs did not prompt you to send the changes when you tried to change tabs.
- 6079 – It was reported that if a user tried to set the time to 00:59:55, after hitting ‘Send’ the time would incorrectly set to 12:59:55.
- 6094 – A change was made to allow users to press the Enter key to move to the next entry field when entering calibration concentrations on the Calibration Setup screen.
- 6096 – The “Monthly Data” tab is now named properly in the Historical Data section of the Calibration screen (was previously named “Tabular Data”).
- 6128 – It was reported that when calibrating, the Check screen always defaulted to DP. A change was made so that the Check screen now shows the proper selection.
- 6129 – It was reported that when adding a new display item to a group, instead of coming back to the new item under the group, the software stops at the entry screen, causing the user to have to expand the display then the group where the item was added to click on the Spare to fill in the information. A change was made to make the software come back automatically to the newly added display item.
- 6218 – A fix was made to properly align columns in the .txt reports.
- 6258 – Fixed an issue where an error was reported when trying to send a value greater than 1 to the Wedge h/D ratio parameter.
- 6309 – Fixed an issue where after sending a changed protocol value, focus was then going to the tree root instead of remaining on the Setup screen.
- 6587 – Added support for the UD100 USB adapter in the Bluetooth search.
- 6600 – A problem was reported where the multi-select feature was not working for selecting multiple meter ids from the grid, though it had worked in previous versions of PCCU. This has been fixed.

4.19 PCCU32 Version 7.33.4 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 5427 – A bug had been reported where PCCU would not run on random computers, showing an error with the WS2_32.dll. This issue has been fixed.

4.20 PCCU32 Version 7.33.3 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 6580 – A problem was reported with PCCU where NGC collects fail on some wide area networks due to packet size. PCCU local collect defaults to 32K packet size and does not allow user to select a smaller packet size. This has been fixed.

4.21 PCCU32 Version 7.33.2 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 6548 – It was discovered that changes made to the profile did not propagate through to the G3 Flash Loader. This has been resolved in version 7.33.2.

4.22 PCCU32 Version 7.33.1 Modifications

The following information represents the modifications that have been made to the PCCU32 application to correct or enhance the existing product. These modifications have been incorporated into the latest versions of PCCU32.

- Bug 6440 – A problem was reported in PCCU 7.33 where PCCU would crash while trying to configure a meter while using Remote Communications. This has been fixed in version 7.33.1.

- Bug 6462 – A problem was discovered in PCCU 7.33 where the progress bar updates sometimes posed a problem, closing the current window and causing PCCU to crash. This has been resolved in 7.33.1.

ABB Inc.

Measurement & Analytics

Quotes: totalflow.inquiry@us.abb.com

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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 - 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

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

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