



Badger Meter

Product Configuration Utility for E-Series G2® Ultrasonic Meters



**Product
Configuration
Utility**

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OVERVIEW

The Badger Meter Product Configuration Utility (PCU) is a field deployment and programming application developed by Badger Meter to install, read, program and extract data from Badger Meter devices.

This manual provides instructions for using the PCU software with E-Series G2® Ultrasonic meters. This manual is based on PCU version 1.12.XX.

The PCU is intended for use with E-Series G2 Ultrasonic meters only. It is *not* for use with generation one E-Series Ultrasonic meters.

NOTE: To provide the best solution for our customers, Badger Meter continually improves software programs and periodically updates this manual to reflect upgrades. Therefore, there may be some differences between the installed software and this manual.

IR Programming Device - Required

The software communicates via infrared (IR) with the E-Series G2 Ultrasonic meters. An IR programming device (IR device), either the ACTiSYS® ACT-IR224UN-L+ USB IR programming cable (IR cable) or the Badger Meter IR Communication Device, is required for IR reading and programming using the PCU. See *"Parts List" on page 4*.

NOTE: When used with a micro USB cable, the IR Communication Device can perform all the functions of an IR programming cable.

Additional Resources

In addition to this document, see other E-Series Ultrasonic meter documents at badgermeter.com, including the following:

E-Series G2 Ultrasonic Meter User Manual

Product Configuration Utility for E-Series® Ultrasonic Plus Meter Manual

IR Programming Cable, Update for Windows® 11

MINIMUM SYSTEM REQUIREMENTS

BEACON® SaaS

Download the PCU software from BEACON Software as a Service (SaaS) as described in *"Accessing the PCU Software" on page 6*. Sign in to the PCU software using your BEACON SaaS sign in and password.

Windows® Device

The PCU software is designed to run on a computing device (PC, laptop, tablet) with a Windows 10 operating system, version 1909 or higher.

Windows® Updates

Make sure the device on which the software is installed always has the most recent Windows updates.

To check for updates on your device, go to **Settings > Windows Update**. Then select **Check for Updates**. Install all updates, if needed, and restart the device before using the PCU.

PARTS LIST

Part Number	Description/Photo	Part Name
64436-041		ACTiSYS IR Programming Cable, USB
64436-042		Rugged Serial IR programming and data profile cable
64436-029		(Optional) Serial-to-USB Adapter (For use with Rugged Serial IR programming cable 64436-042)
68891-001		Badger Meter IR Communication Device Used with a customer-supplied micro USB cable (not shown) can perform as an IR programming cable
68877-001		IR Bracket alignment tool (Recommended) for E-Series G2 Ultrasonic meters

IR ALIGNMENT TOOLS

To use the PCU software, connect an IR device—either the ACTiSYS® IR programming cable (*Figure 1*) or the IR Communication Device with micro USB cable (*Figure 2*)—to your Windows device. See "*Setting the COM Ports*" on page 9 for instructions on setting the correct COM port for the IR device.



Figure 1: ACTiSYS IR programming cable



Figure 2: IR Communication Device with micro USB cable

IR Programming Cable Driver

After upgrading to a newer operating system such as Windows 11, an issue may sometimes occur with the driver on the ACTiSYS IR programming cable. If you experience a driver issue, refer to the *IR Programming Cable Update for Windows 11* application data sheet available at badgermeter.com for instructions on updating the driver.

Using the IR Alignment Tools

This step for using the IR alignment tools is optional but recommended when reading or programming E-Series Ultrasonic meters. The IR bracket is designed for using an IR device while leaving your hands free. Using the bracket also keeps the IR device at the correct distance from the meter optical communication port.

If you are programming multiple meters, you can move the IR bracket with the IR device from meter to meter.

Using the IR Bracket with the E-Series G2 Ultrasonic Meter

1. Open the meter lid.
2. Position the bracket over the E-Series G2 Ultrasonic meter as shown in *Figure 3*, with the opening directly over the meter optical communication port. Push down gently at both ends so the four (4) corners clip over the edges of the meter.

Make sure the bracket is seated against the meter face so you can see the optical communication port through the opening.

3. Place the head of the IR device into the holder.

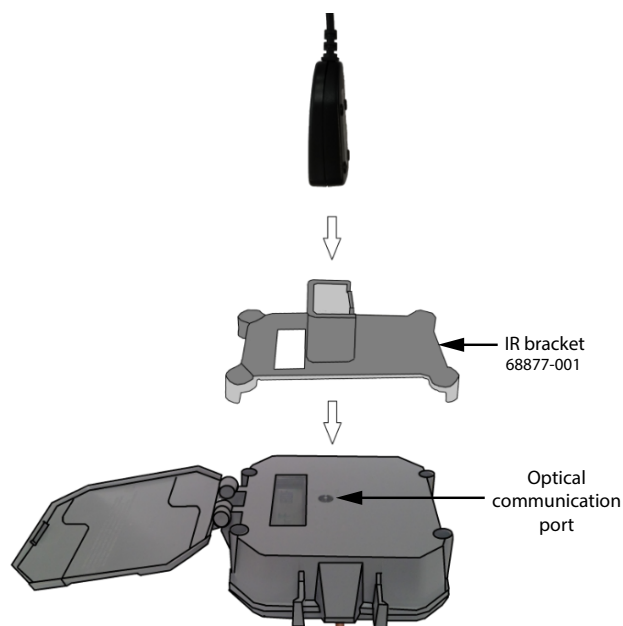


Figure 3: IR bracket for E-Series G2 Ultrasonic meter

ACCESSING THE PCU SOFTWARE

Downloading the Software

1. On the BEACON SaaS website, go to **Utility Settings> Downloads** and select **Download** for the *Badger Meter Product Configuration Utility (PCU)*.

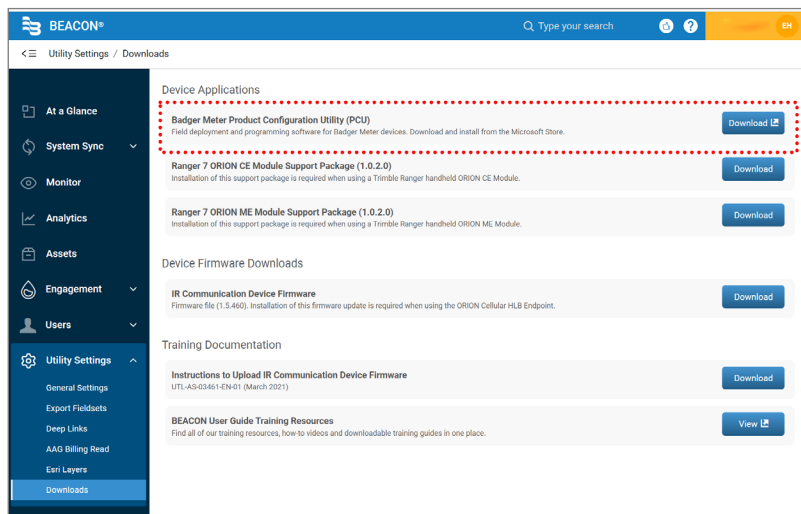


Figure 4: BEACON Downloads

NOTE: The screens shown here are examples of what to look for. Your screens may look slightly different based on your version of Windows and experience with the Microsoft® Store.

2. In the window that opens, select **Get**.

The installation window opens.



Figure 5: PCU in Microsoft Store

3. Select **Install**.



Figure 6: Install

4. A progress bar displays during the download process.

At the end of the process, select **Launch**.

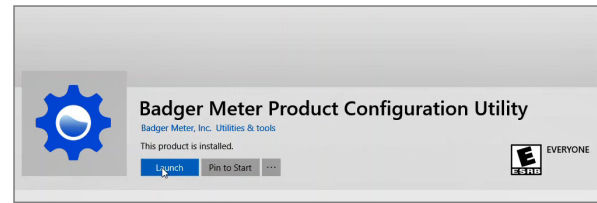


Figure 7: Select Launch

5. The *Sign In* window opens. Enter your BEACON email and password and click **Sign In**.

NOTE: If you close the PCU, you can get back to it by opening the Windows **Start** menu, and selecting **Badger Meter Product Configuration Utility**. See [Figure 9](#).

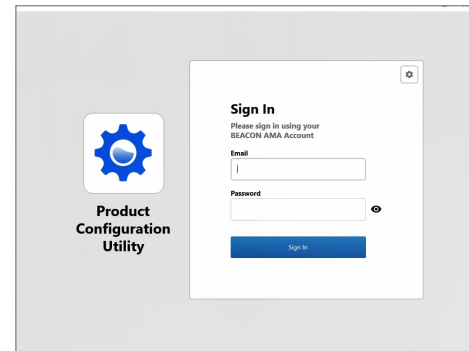


Figure 8: PCU Sign In

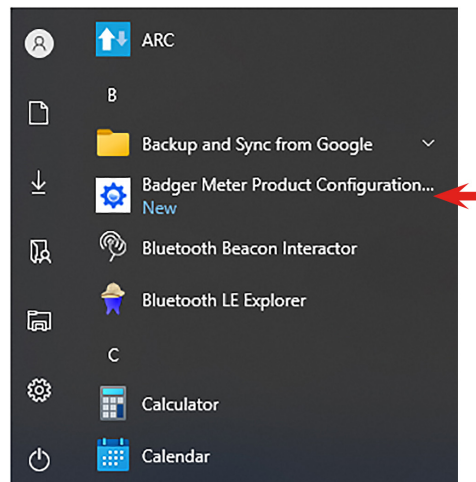


Figure 9: Windows Start menu showing *Product Configuration Utility*

Software Updates

If you launch the PCU application and there is an update available, a notification icon displays at the top right of the main screen ([Figure 10](#)).

Click the icon to go to the notifications page to access a new PCU version.

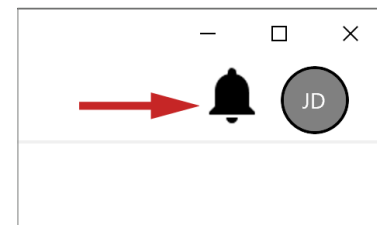


Figure 10: Software update notification icon

GETTING STARTED

1. Connect your IR device to a USB port on your Windows device.

Connect the IR device *before* you start the software to make sure the software recognizes the connection.

NOTE: If you are using an IR device with a serial port connector and your Windows device does not have a serial port, use a serial-to-USB adapter. See the ["Parts List" on page 4](#).

Sign In

2. Select **Badger Meter Product Configuration Utility** from the Windows **Start** menu. Alternatively, you can also open PCU by clicking on the shortcut icon that displays in the **Start** menu ([Figure 11](#)).

The PCU Sign In window displays ([Figure 12](#)).

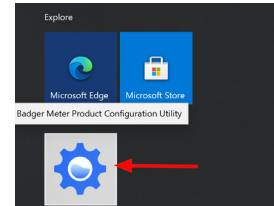


Figure 11: Software shortcut

3. Sign in with your BEACON email and password. Then click **Sign In**. The software Product Selector main default screen opens ([Figure 13](#)).

NOTE: You must be connected to the internet to sign in. Once you are signed in, you do *not* need an internet connection to use the PCU software.

If you do *not* logout, you can return to the PCU anytime without signing in and without an internet connection.

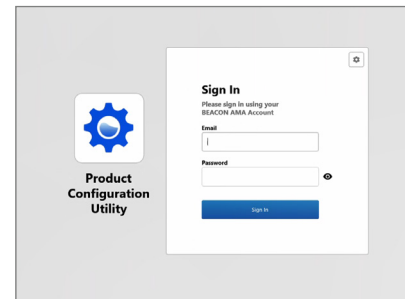


Figure 12: Sign In window

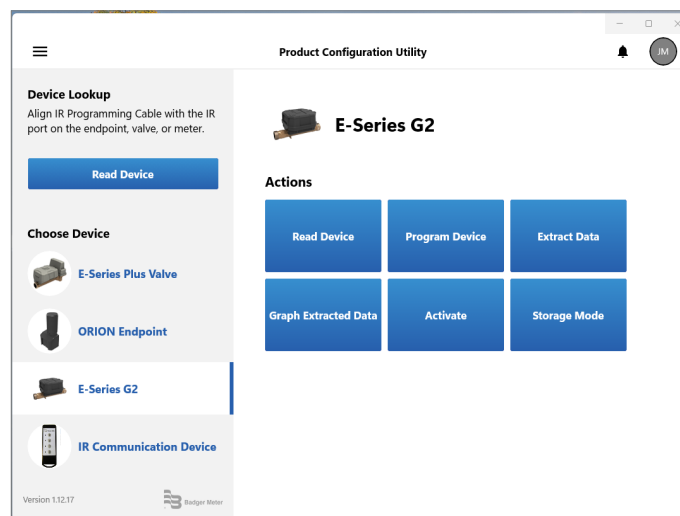


Figure 13: PCU Product Selector default screen

Exiting the Software

To exit the software, click the **X** in the top right corner of the screen. You can return to the software anytime by selecting the PCU icon from the Windows **Start** menu. See [Figure 9](#) if you need help.

You can also logout by clicking the circled initials in the top right corner of the screen and selecting **Logout**. If you logout, you will be required to Sign In the next time you access the PCU.

Software Menu

Click ☰ in the top left corner of any screen to access the menu.

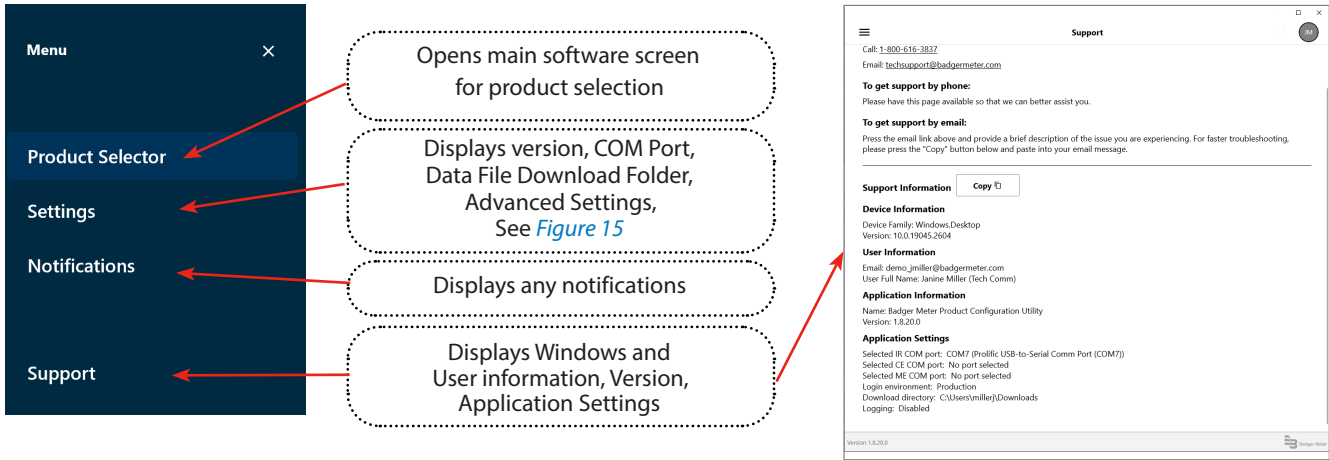


Figure 14: Menu options

Settings

Click ☰ at the top left corner of any screen and select **Settings**.

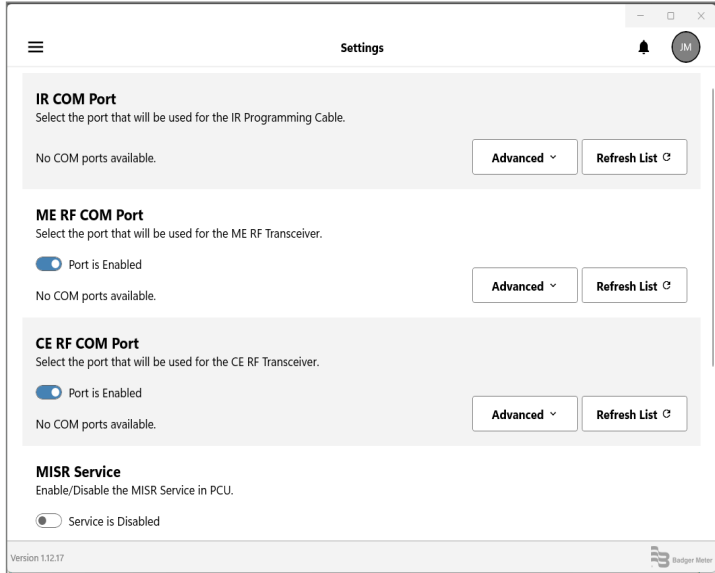


Figure 15: PCU Settings

Setting	Description
COM Port(s)	Displays the COM port(s) for connected device(s). See "Setting the COM Ports" below.
Download Folder	Select a folder where your data files will be saved. See "Configuring the Download Folder" on page 10.
Advanced Settings	Displays Logging option.
MISR Service	Enable when the Mobile Integrated System Receiver (MISR) is connected.
Logging	Enable Logging only when working with Badger Meter Technical Support to diagnose a software problem. If you enable logging, a warning message opens. See Figure 16 below.
PCU Version	Displays the current software version in lower left corner of the screen.

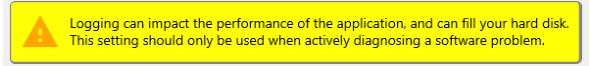


Figure 16: Logging warning message

Setting the COM Ports

You must set the communication (COM) port for the IR programming cable and any other devices attached to your Windows device. When connected, the PCU will automatically detect the connected devices.

1. Click ☰ at the top left corner of the screen and select **Settings**.

- Use the drop-down menu to select the correct COM port(s) for the IR programming cable and any other connected device(s) (ORION ME, ORION CE, MISR). Click **Refresh List** if the device is connected but does not display.

NOTE: **Advanced** COM Port Configuration options are available, if needed, but are not required.

IR COM Port
Select which port the IR Programming Cable is connected to.

COM7 (Prolific USB-to-Serial Comm Port (COM7))

Advanced Refresh List

ME RF COM Port
Select which port the ME RF Transceiver is connected to.

Advanced Refresh List

CE RF COM Port
Select which port the CE RF Transceiver is connected to.

Advanced Refresh List

Figure 17: COM port list

- Click at the top left corner of the screen and click **Product Selector** to return to the main screen.

NOTE: Clicking the **X** at the top right corner of the *Settings* window closes the software application.

Configuring the Download Folder

The *Download Folder* is a file you choose for storing data files such as historical data extracted from an endpoint or any log files created by the software. To save time, set up the folder before you start using the software.

- Click at the top left corner of the screen and select **Settings**.
- Under Download Folder, click **Select Folder**.
- In the window that opens, select the folder to which you want to save your downloaded files.

The folder location you select will display on the Settings screen. Any data or log files created in the PCU will be downloaded to the folder.

The software notifies you whenever a file is downloaded ([Figure 19](#)).

Settings

IR COM Port
Select which port the IR Programming Cable is connected to.

COM7 (Prolific USB-to-Serial Comm Port (COM7))

Advanced Refresh List

ME RF COM Port
Select which port the ME RF Transceiver is connected to.

Advanced Refresh List

CE RF COM Port
Select which port the CE RF Transceiver is connected to.

Advanced Refresh List

Download Folder
Where data is being saved when doing a data extraction

C:\Users\millerj\Downloads

Select Folder

Figure 18: Select Download Folder

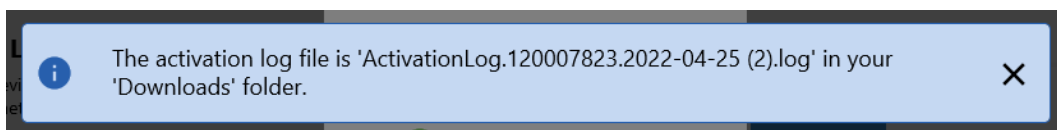


Figure 19: Example of download notification

MAIN SCREEN

The software screen changes based on the device you select. Select **E-Series G2** in the navigation menu on the left side of the screen. The screen for the E-Series G2 Ultrasonic meter displays.

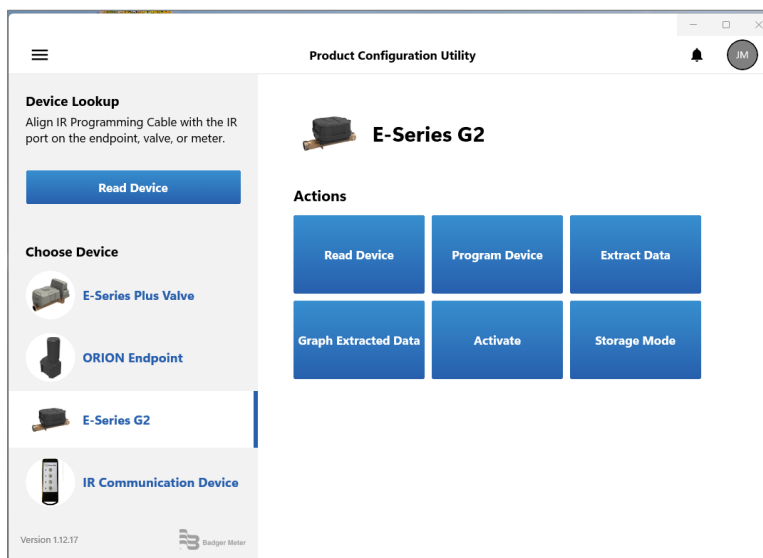


Figure 20: PCU main screen functions for E-Series G2 Ultrasonic meter

E-Series G2 Screen Functions

NAVIGATION MENU

Field	Description
	Access to COM port Settings, Support information, and software version. See "Settings" on page 9 .
Read Device*	Select Read Device and the software detects and reads the connected device.
Choose Device	Select the meter to see options.

RIGHT SIDE OF SCREEN

Function*	Description
Read Device	Software identifies and reads the meter. Details of the device are displayed. (See "Read Device" on page 12)
Program Device	Used to program settings for the meter, encoder and alarms. (See "Program Device" on page 16)
Extract Data	Extract historical data from 1, 7, 30, or 90 days, or extract all available data (up to 160 days of data). Data can be exported to a spreadsheet file, if required. (See "Extract Data" on page 20)
Graph Extracted Data	Convert extracted historical data into graph format.
Activate	Activates a meter in storage mode. (See "Activating a Meter in Storage Mode" on page 22)
Storage Mode	Places active meter into storage mode. (See "Storage Mode" on page 21)

* When performing any PCU function, make sure the IR device is connected and aligned with the optical communication port (IR port) on the meter until the function is completed. See [Figure 3](#) for correct positioning of the IR device.

READ DEVICE

IMPORTANT

Make sure the IR device is connected and aligned with the meter optical communication port throughout the process. Using the IR bracket is recommended. See [Figure 3](#) if you need help.

1. Holding the IR device steady, select **E-Series G2** and then select **Read Device** on the main PCU screen.
2. Scroll down to see all the results. See examples of the screen sections in [Figure 21](#), below. See field descriptions on the next page. Screen results may vary based on your meter configuration.

E-Series	
Ambient Temperature	75.3 °F
Current Device Time	01/24/2023 12:51
Firmware Version	ARM 1.0.4051 ASIC 1.0.3970
Meter Size	3" or 75mm
Operating Mode	Storage
Pressure	0.0 PSI
Screens	Flow - Total Consumption Rate of Flow Pressure Temperature Alarm & Operating Mode Firmware Version
Serial Number	200200928
Status Indicators	⚠
Visual Reading	00000000.0
Encoder	
Billing Unit	1,000
Digits from Encoder	9
Encoder Output	000000000
Rate of Flow Time	Minutes
Rate of Flow Unit	Gallons
Unit of Measure	Gallons
Alarms	
Empty Pipe	✓ Enabled
End Of Life	✓ Enabled
Exceeding Max Flow	⌚ 35 days
Measurement Error	⌚ 35 days
No Usage	✓ Enabled
Pressure	⌚ 35 days ⬇ 14.5038 PSI ⬆ 130.5340 PSI Enabled Duration: 35 High Limit: 130.5340 Low Limit: 14.5038 Unit: PSI
Program Alert	⌚ 35 days
Reverse Flow	⌚ 35 days
Suspected Leak	✓ Enabled
Temperature	⌚ 35 days ⬇ 33.8 °F ⬆ 140.0 °F Enabled Duration: 35 High Limit: 140.0 Low Limit: 33.8 Unit: °F
Actions	
Read Device	Program Device
Extract Data	
Graph Extracted Data	Activate
Storage Mode	

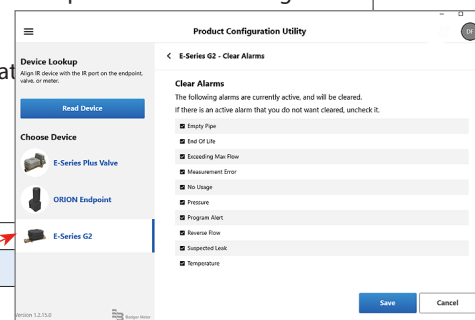
Figure 21: E-Series G2 Meter Reading

Select < E-Series G2 to go back to E-Series G2 main screen	
Meter Fields	Description
Ambient Temperature	Air temperature of meter location
Current Device Time	Date and time from the meter
Firmware Version	Firmware version of the meter
Meter Size	Meter pipe diameter
Operating Mode	Active or Storage
Pressure	Pressure reading for meters with integrated pressure sensor
Screens	Screens that are programmed to display on meter—see "Program Device" on page 16
Serial Number	Serial number of the meter
Status Indicators	Displays active alarms—click the icon to see a description of the condition
Visual Reading	Reading displayed on meter

Meter Encoder Fields	Description
Billing Unit	Billing unit is based on <i>Unit of Measure</i>
Digits from Encoder	Number of programmed digits
Encoder Output	Reading resolution sent to the software depends on the endpoint connected to the meter
Rate of Flow Time*	Flow time programmed into meter
Rate of Flow Unit*	Gallons, cubic feet, cubic meters, liters, imperial gallons
Unit of Measure	Gallons, cubic feet, cubic meters, liters, imperial gallons, acre feet
* Resolution on the rate of flow screen is fixed to a resolution of 0.01 regardless of the rate of flow unit or rate of flow time.	

Meter Alarm Fields	Description
Empty Pipe	Click on meter alarm parameters on the right side of the screen to expand the view. The high and low limits for pressure and temperature are displayed. Refer to the <i>E-Series G2 Ultrasonic Meter User Manual</i> available at badgermeter.com for complete alarm information.
End of Life	
Exceeding Max Flow	
Measurement Error	
No Usage	
Pressure	
Program Alert	
Reverse Flow	
Suspected Leak	
Temperature	

Actions	Description
Program Device	Opens programming screens
Zero Totalizer	Sets the forward and reverse totalizers to 0 (zero) and zeros out the meter reading
Extract Data	Extracts up to 160 days of meter data
Graph Extracted Data	Converts extracted historical data into graph format
Activate	Used to activate a meter in storage mode (button is grayed out/locked when meter is active)
Storage Mode	Places active meter into storage mode
Clear Alarms	Opens the Clear Alarms screen which shows any active alarms. Click SAVE to clear any alarms that are checked. If you clear the alarm but don't fix the cause, the alarm will reset.



NOTE: See ["Program Device" on page 16](#) for programming options.

Pressure, Temperature Threshold

Pressure and temperature are shown in the Alarms section. When you click the parameters on the right side of the screen, an expanded view opens showing the threshold limits as shown in [Figure 22](#).

Alarms

Empty Pipe	✓ Enabled
End Of Life	✓ Enabled
Exceeding Max Flow	🕒 35 days
Measurement Error	🕒 35 days
No Usage	✓ Enabled
Pressure	🕒 35 days ⚡ 14.5038 PSI 🔥 130.5340 PSI Enabled Duration: 35 High Limit: 130.5340 Low Limit: 14.5038 Unit: PSI
Program Alert	🕒 35 days
Reverse Flow	🕒 35 days
Suspected Leak	✓ Enabled
Temperature	🕒 35 days ⚡ 33.8 °F 🔥 140.0 °F Enabled Duration: 35 High Limit: 140.0 Low Limit: 33.8 Unit: °F

Actions

Program Device

Extract Data

Activate

Storage Mode

Zero Totalizer

Clear Alarms

Figure 22: Pressure and temperature expanded view

Dual Output Read

When you read a meter that is factory configured for 4-20 mA, scaled, unscaled or encoder dual output, the software displays the dual output parameters in addition to the Meter, Encoder and Alarms parameters. Examples of all dual output fields are shown in [Figure 23](#).

NOTE: Screen results may vary based on your meter configuration.

Encoder	
Billing Unit	1,000
Digits from Encoder	8
Digits from Encoder – Dual	9
Encoder Output	00000000
Encoder Output – Dual	00000000
Rate of Flow Time	Minutes
Rate of Flow Unit	Gallons
Unit of Measure	Gallons

4–20mA	
Maximum Measurement	30 Gallons per minute
Scaled Output	
Number of Pulses	30 per Gallon
Pulse Width	25 ms
Unscaled Output	
Unscaled Number of Pulses	20000 per Gallon

Figure 23: Dual output fields

Dual Output Fields	Description	Programmable Yes/No
Dual Encoder		
<i>Digits from Encoder</i>	Number of digits programmed for first encoder	Yes
<i>Digits from Encoder Dual</i>	Number of digits programmed for second encoder	Yes
NOTE: To confirm the encoder digits programmed, perform a Meter Force Read with the PCU on the ORION endpoint connected to the appropriate meter encoder output. The ORION endpoint must be in active mode.		
4–20 mA		
<i>Maximum Measurement</i>	Maximum flow rate based on the meter size	Yes
Scaled Output		
<i>Number of Pulses</i>	Displays the number of scaled output pulses and unit of measure from the register	Yes
<i>Pulse Width</i>	Determines the time the output is switched on	Yes
Unscaled Output		
<i>Unscaled Number of Pulses</i>	Displays the number of unscaled output pulses and unit of measure from the register	No

NOTE: See ["Dual Output Programming" on page 18](#) for programming options. Refer to the *E-Series G2 Ultrasonic Meter User Manual* available at badgermeter.com for detailed dual output information.

PROGRAM DEVICE

IMPORTANT

Make sure the IR device is connected and aligned with the meter optical communication port throughout the process. Using the IR bracket is recommended. See [Figure 3](#) if you need help.

1. Holding the IR device steady, select **Read Device** on the main PCU screen.
2. Scroll down to the bottom of the Read screen to select **Program Device**. The programming screen opens.
3. Scroll down to see all the options. The programming screen has three sections: *Screens*, *Encoder*, and *Alarms*. Examples are shown in [Figure 25](#).
4. Select the **Flow** checkbox to choose either *Forward Flow Total* or *Total Consumption* (Net total, forward minus reverse). Both options cannot be programmed at the same time.
Reverse Flow Total can be programmed at any time.
5. Select from the available options to make any other changes you want applied to the meter. Select a checkbox or use the drop-down menu to make a selection. If you make a change, the **Save** button at the bottom of the screen is activated.
6. To save any programming changes for the meter, click

Save

After saving the changes, PCU automatically performs a reading and updates the meter with the changes you made.

If you made changes but want to leave the screen without saving changes, click

Cancel

The software returns to the Read screen.

NOTE: All options may not be available for programming. Programming options vary depending on meter configuration.

If you see a lock symbol as shown in [Figure 24](#), the option cannot be programmed.

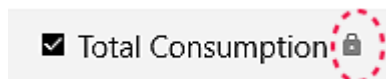


Figure 24: Programming option is not available

Also see "[Pressure, Temperature Alarm Programming](#)" on [page 17](#) for details about changing those parameters.

Screens ^

☒ Flow ☐ Forward Flow Total
☒ Total Consumption

☐ Six Digit Display

☐ Test Mode

☒ Reverse Flow Total

☒ Rate of Flow

☒ Pressure

☒ Temperature

☒ Alarm & Operating Mode

☒ Firmware Version

☐ Checksum

☐ Programmed Date

☐ All Segments ON

☐ All Segments OFF

Encoder ^

Billing Units: 1,000

Digits From Encoder: 9

Pressure Unit: PSI

Rate Of Flow Time: Minute

Rate Of Flow Unit: Gallons

Temperature Unit: Fahrenheit

Unit Of Measure: Gallons

Alarms ^

Name	Duration	Low Limit	High Limit
☒ Empty Pipe			
☒ End Of Life			
☒ Exceeding Max Flow	35-days		
☒ Measurement Error	35-days		
☒ No Usage			
☒ Pressure	35-days	35.0 PSI	129,000 PSI
☒ Program Alert	35-days		
☒ Reverse Flow	35-days		
☒ Suspected Leak			
☒ Temperature	35-days	33.8 °F	140.0 °F

Figure 25: E-Series G2 Programming screens

Pressure, Temperature Alarm Programming

The table below shows the high and low limits for pressure and temperature to which the meter can be programmed. These limits are displayed in the Alarms section when you Read or Program the meter.

Thresholds for E-Series G2 Ultrasonic Meters—All Sizes	
Pressure	Temperature
Low: 14.0 psi (1.0 bar)	Low: 33.8 °F (1.0 °C)
High: 130.0 psi (9.0 bar)	High: 140.0 °F (60.0 °C)

Programming Alarm Duration, Pressure or Temperature

1. Use the drop-down menu to select the number of days for the alarm.
2. Select the *Low Limit* value and enter a new value. An error message displays if you enter a value that is out of range.
3. Select the *High Limit* value and enter a new value. An error message displays if you enter a value that is out of range.
4. Click **Save**. After saving the changes, PCU automatically performs a reading and updates the meter with the changes you made.

If you made changes but want to leave the screen without saving changes, click **Cancel**.

Alarms ^

Name	Duration	Low Limit	High Limit
☒ Empty Pipe			
☒ End Of Life			
☒ Exceeding Max Flow	35-days		
☒ Measurement Error	35-days		
☒ No Usage			
☒ Pressure	35-days	14 PSI	130.0000 PSI
☒ Program Alert	35-days		
☒ Reverse Flow	35-days		
☒ Suspected Leak			
☒ Temperature	35-days	33.8 °F	140.0 °F

Save
Cancel

Figure 26: Pressure, temperature programming

Dual Output Programming

When a meter is factory configured for dual output, the software displays the 4-20 mA, scaled, unscaled or dual encoder parameters in addition to the Meter, Encoder and Alarms parameters. Examples of the dual output programming screens are shown below. Follow the instructions below for programming. For complete information, follow the directions at ["Program Device" on page 16](#).

IMPORTANT

Make sure the IR device is connected and aligned with the meter optical communication port throughout the process. Using the IR bracket is recommended. See [Figure 3](#) if you need help.

Dual Encoder Output

1. To program the Encoder values, use the drop-down menus to select a new value for Digits From Encoder and/or Digits from Encoder Dual.
2. Click **Save**. After saving the changes, PCU automatically performs a reading and updates the meter with the changes you made.

Encoder ^

Billing Units 1,000 ▼

Digits From Encoder 8 ▼

Digits From Encoder Dual 9 ▼

Figure 27: Dual encoder output programming screen

NOTE: To confirm the encoder digits programmed, perform a **Meter Force Read** with the PCU on the ORION endpoint connected to the appropriate meter encoder output. The ORION endpoint must be in active mode.

4–20 mA Output Maximum Measurement

The default Maximum Measurement is set to the maximum flow rate based on the meter size.

1. To program the Maximum Measurement, select the current number value and enter a new value. As you enter the new Maximum Measurement, the valid value range automatically displays on the screen.

NOTE: You must enter a value within the valid value range as shown on the screen. Entering a value outside the range will trigger an error.

2. Click **Save**. After saving the changes, PCU automatically performs a reading and updates the meter with the changes you made.

4–20mA ^

Maximum Measurement 22.01 Gallons / Minute

Figure 28: 4-20 mA scaled dual output programming screen

4–20mA ^

Value must be 12 or greater.

Maximum Measurement 2 Gallons / Minute

Figure 29: Maximum Measurement programming

20 mA Maximum Measurement Limit

- **4 mA:** The 4 mA field is always set to zero (0). The register produces a 4 mA signal at zero flow.
- **20 mA:** The 20 mA field displays the flow rate. Set this parameter to the flow rate at which the output should generate to maximum signal. In most cases, this is the maximum flow rate of the meter.

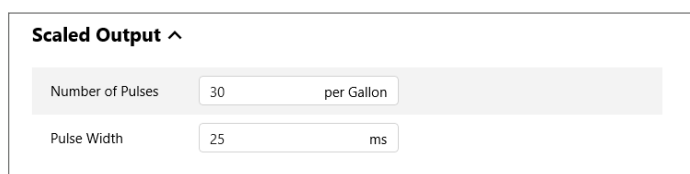
PCU limits the programming of a 20 mA parameter to nothing less than half of the maximum flow of the meter to optimize meter performance.

Scaled/Unscaled Output

To program the Scaled Output, select the current value and enter a new value in the field.

NOTE: You must enter a value within the valid value range as shown on the screen. Entering a value outside the range will trigger an error.

1. Select the current *Number of Pulses* value and enter a new value.
2. Select the current *Pulse Width* value and enter a new value.
3. Click **Save**. After saving the changes, PCU automatically performs a reading and updates the meter with the changes you made.



Scaled Output ^	
Number of Pulses	30 per Gallon
Pulse Width	25 ms

Figure 30: Scaled output programming screen

NOTE: Unscaled output is not programmable.

EXTRACT DATA

With the PCU, you can extract hourly historical data, on demand, up to the last 160 days.

NOTE: Make sure the IR device is connected and aligned with the meter optical communication port throughout the process. Using the IR bracket is recommended. See [Figure 3](#) if you need help.

1. Select the **E-Series G2** device on the main PCU screen.
2. Select the **Extract Data** button. The data selection window opens ([Figure 31](#)).
3. Choose the number of days for data extraction. *All Available Data* lets you extract up to 160 days of data.

Then click **Begin**.

The extracted data results display (*Figure 32*) based on the days selected.

NOTE: Results may vary based on your meter configuration.

4. Select **Export to File** to save the data.

NOTE: If you configured a folder in **Settings>Download folder**, the data will be saved in the folder you selected. See *"Configuring the Download Folder" on page 10* for more information.

- (Optional) To graph the data that is extracted, click **Graph Data**.

To download and save the graph, choose the PDF or JPG format, and the graph is automatically saved in the Download folder.

**Number of Days
to Extract**

☐ 1 Day

☒ 7 Days

☐ 30 Days

☐ 90 Days

☐ All Available Data

Begin **Cancel**

Figure 31: Select number of days

< E-Series G2 - Extract Data

Properties

Serial Number	200621415
Interval Size	3600 sec
Consumption Units	Gallons
Temperature Units	Fahrenheit
Oldest Date Retrieved	02/24/2022 16:00
Newest Date Retrieved	03/03/2022 15:00
Intervals Extracted	168
Exception Events	168

Export to File

Graph Data

Extracted Data

Date	Exceptions	Intervals	Consumption (Gallons)
02/24/2022	8	8	0 ▼
02/25/2022	24	24	0 ▼
02/26/2022	24	24	0 ▼
02/27/2022	24	24	0 ▼
02/28/2022	24	24	0 ▼
03/01/2022	24	24	0 ▼
03/02/2022	24	24	0 ▼
03/03/2022	16	16	0 ▼

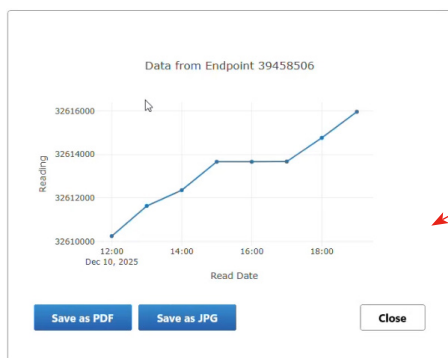


Figure 32: Extracted data

STORAGE MODE

NOTE: Make sure the IR device is connected and aligned with the meter optical communication port throughout this process. Using the IR bracket is recommended. See [Figure 3](#) if you need help.

Placing Active Meter into Storage Mode

1. To place an active meter into *Storage* mode, select the **E-Series G2** on the main PCU screen, and then select **Read Device** to confirm the meter is in *Active* mode.



Figure 33: Read Device

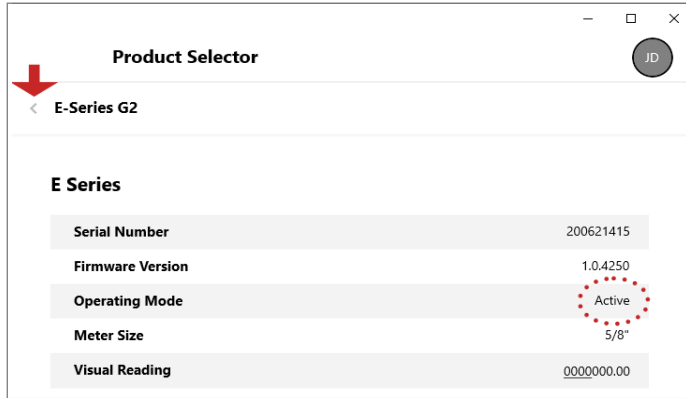


Figure 34: Click arrow to the return to the main screen

The Operating Mode is *Active* as shown in [Figure 34](#).

2. Select the **Storage Mode** button ([Figure 35](#)) to place the meter into *Storage* mode .

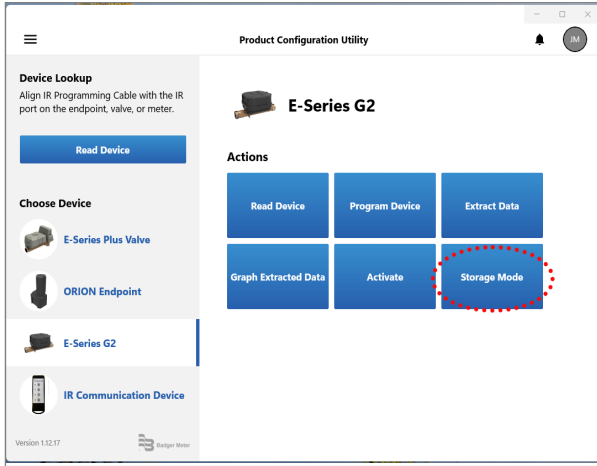


Figure 35: Select Storage Mode

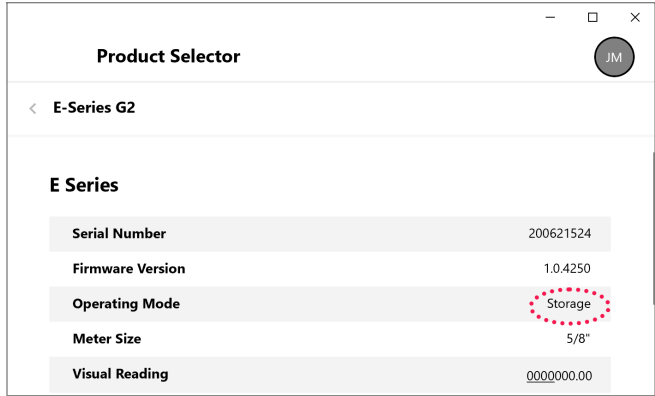


Figure 36: Meter in Storage operating mode

The results screen refreshes ([Figure 36](#)), confirming the meter is in *Storage* mode.

Activating a Meter in Storage Mode

NOTE: Make sure the IR device is connected and aligned with the meter optical communication port throughout this process. Using the IR bracket is recommended. See [Figure 3](#) if you need help.

1. To change a meter from *Storage* mode into *Active* mode, select the **E-Series G2** on the main PCU screen, and then select **Read Device** to confirm the meter is in *Storage* mode.

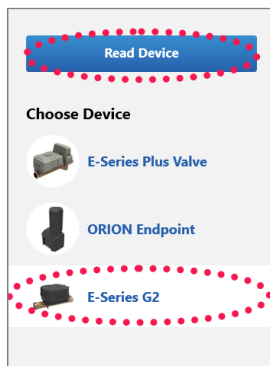


Figure 37: Read Device

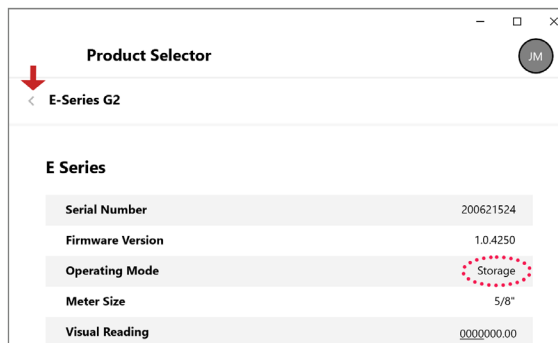


Figure 38: Return to main screen

The Operating Mode is *Storage* as shown in [Figure 38](#).

2. Select the **Activate** button to place the meter into Active mode.

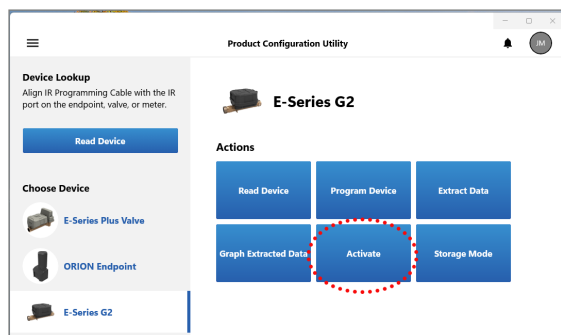


Figure 39: Activate

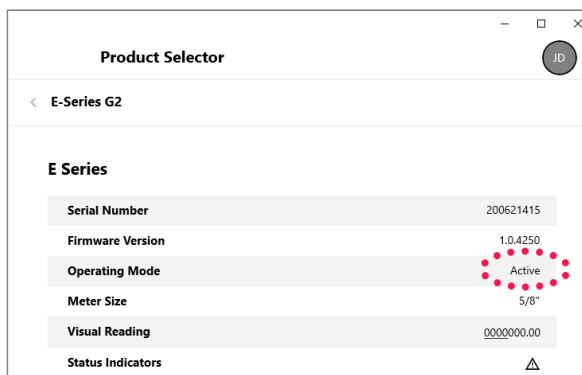


Figure 40: Meter in Active mode

3. The results screen refreshes ([Figure 40](#)), confirming the meter is in *Active* mode.

TROUBLESHOOTING

Issue	Possible Cause	Solution
Error when trying to set the COM port.	Bluetooth enabled	Disable Bluetooth while selecting the COM port.
PCU software will not install.	OS; VPN	Check the operating system on your Windows 10 device. It must be 1909 or newer. If you have a VPN (virtual private network) enabled on your device, disable the VPN and reconnect after installation.
Unable to sign in to software.	No internet connection	You must be connected to the internet to sign in. Once you are signed in, you do not need an internet connection to use the PCU software.
Error Message: <i>Communication timed out. Please ensure that the IR head is properly aligned. If aligned properly, check that you are using the correct COM port.</i>	COM port not set or wrong COM port set	Go to Settings to set the COM port. Make sure it is set correctly. See "Setting the COM Ports" on page 9 if you need help.
	IR device not aligned with IR port on meter IR device too close or too far from IR port on meter	• Retry your command, making sure the IR device is 1/2 to 1-1/2 inches from the product IR port. Hold the device steady while reading. • Use the IR bracket for best results.
Error Message: <i>Unsupported device detected. Please ensure that device is compatible with software.</i>	Possible firmware issue	Occurs when trying to read a device that is either not yet supported or does not have the correct firmware version. Close the error message and check device firmware version.

Contact Badger Meter Technical Support (800-616-3837) for any additional issues.

