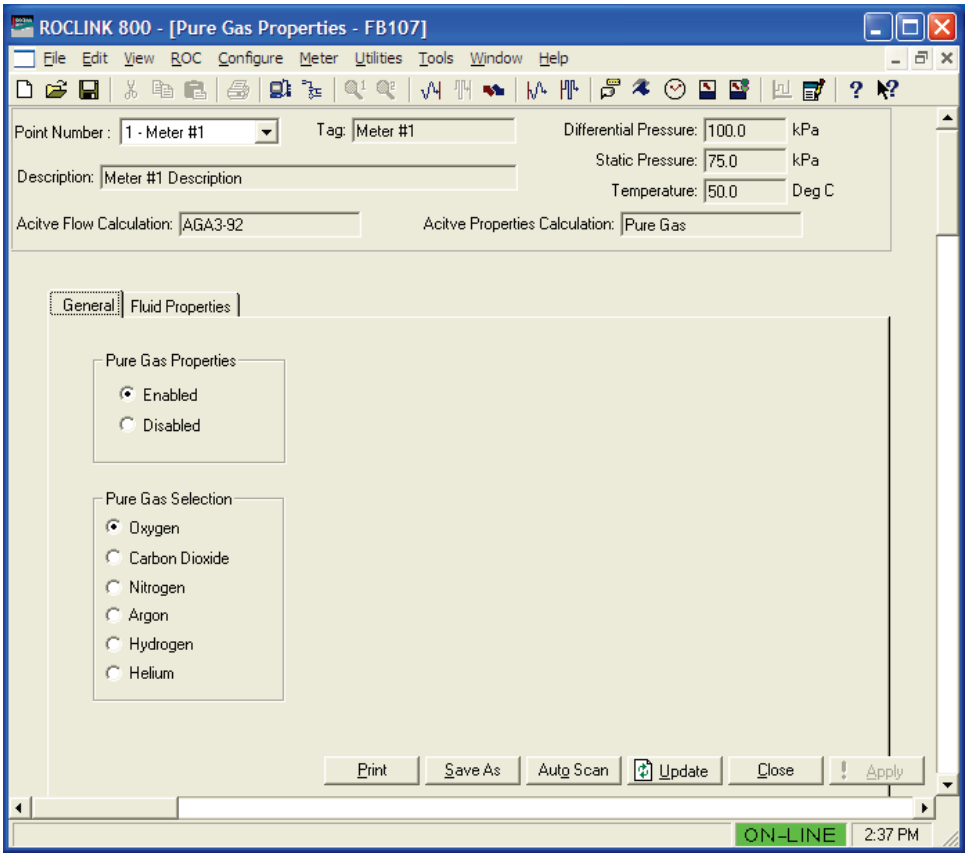
Part D301669X012
Form A6301
May 2014

Pure Gas Properties Calculation User Manual (for the FloBoss™ 107)



Remote Automation Solutions

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Process Management

Revision Tracking Sheet

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This manual may be revised periodically to incorporate new or updated information. The revision date of each page appears at the bottom of the page opposite the page number. A change in revision date to any page also changes the date of the manual that appears on the front cover. Listed below is the revision date of each page (if applicable):

Page	Revision
ii, 1	May-14
Initial Issue	Jul-10

Contents

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Chapter 1 – Introduction

This chapter describes the structure of this manual and presents an overview of the Pure Gas Properties Calculation for the FloBoss™ 107.

1.1 Scope and Organization

This document serves as the user manual for the Pure Gas Properties Calculation user program, which is intended for use in FloBoss™ 107 (FB107). This manual describes how to download and configure the Pure Gas Properties Calculation user program (referred to as the "Pure Gas program" or "the program" throughout the rest of this manual). You access and configure the programs using ROCLINK™ 800 Configuration Software (version 1.87 or greater) loaded on a personal computer (PC) running Windows® 2000 (with Service Pack 2), Windows XP (with Service Pack 3), Windows Vista™ (32-bit), or Windows 7 (32-bit).

The sections in this manual provide information in a sequence appropriate for first-time users. Once you become familiar with the procedures and the software running in a FB107, the manual becomes a reference tool.

This manual has the following major sections:

- *Chapter 1 – Introduction*
- *Chapter 2 – Installation*
- *Chapter 3 – Configuration*
- *Chapter 4 – Reference*

This manual assumes that you are familiar with the FB107 and its configuration. For more information, refer to the following manuals:

- *FloBoss 107 Flow Manager Instruction Manual* (part D301232X012*)*
- *ROCLINK 800 Configuration Software User Manual (for FB107)* (part D301249X012)

1.2 Product Overview

The Pure Gas program enables an FB107 to calculate density, compressibility, and viscosity for a range of pure gases. A gas is considered pure if 100% of its composition is a single element. The program may be used for nearly pure gases where a single component accounts for 95% or more of the composition, but must be evaluated on a case-by-case basis by comparing the density calculated by the program against the density calculated by the NIST REFPROP application using the actual composition over the operating temperature and pressure range to determine if the error is within an acceptable tolerance for the application.

With the program installed, the FB107 reads flow inputs (differential pressure, static pressure, and temperature) and calculates flowing gas properties once every minute. In addition, the program performs split accumulations for up to five separate categories once every second. You configure the program and view the results using two program-specific screens (Pure Gas Properties and Split Accumulator).

1.2.1 Pure Gas Properties Calculations

The program calculates pure gas density and compressibility at flowing and base conditions according to NIST 23. Heating value and viscosity are also calculated at flowing conditions according to NIST 23. While the program does not calculate the specific heat ratio, the defaults provided for each gas are calculated from NIST 23 Cp/Cv at 15°C and 101.325 kPa.

The supported gases are:

- Oxygen
- Carbon Dioxide
- Nitrogen
- Argon
- Hydrogen
- Helium

1.2.2 Split Accumulator

The program includes a Split Accumulator that allows you to configure up to five accumulation categories for use with the Pure Gas program. These user-configured accumulator categories allow differential billing to be performed on a flow or volume proportional basis.

1.3 Program Requirements

The Pure Gas Properties Calculation version 1.00 is compatible with FB107 firmware version 1.32 and with version 1.87 (or greater) of ROCLINK 800 software. Each program requires you to install a software based license key to enable the calculations.

The downloadable program is:

File Name	Program Number	User-Defined Points	Display Number
PureGas_3.bin	3	27, 28	27, 28

Note: You must connect a PC to the FB107's LOI port before starting the download.

For information on viewing the memory allocation of user programs, refer to *ROCLINK 800 Configuration Software User Manual (for FloBoss 107)* (part D301249X012).

1.3.1 License Keys

Some applications require that you install a license in the CPU to run the application. This license software is specific to these applications and is the property of the individual vendor (shown in the Vendor Name field on the License Key Administrator screens).

RAS (and other authorized vendors) distributes software licenses on security-enhanced universal serial bus (USB) drives.

You must install the following license keys to use the Pure Gas program:

- Pure Gas License Key (FS1LK-9)

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Chapter 2 – Installation

This section provides instructions for installing the Pure Gas program into FB107 memory. Read *Section 1.3* of this manual for program requirements.

Note: The program and license key can be installed in any order. The manual shows the installation of the license key first.

2.1 Installing the License Key

A license key is required to use the Pure Gas program. To install a USB key-based license on the FB107:

1. Insert the USB license key in a USB port on your PC.
2. Select **Utilities** > **License Key Administrator** > **Transfer Between Device and Key** from the ROCLINK 800 menu bar. The Transfer Licenses Between a Device and a Key screen displays.

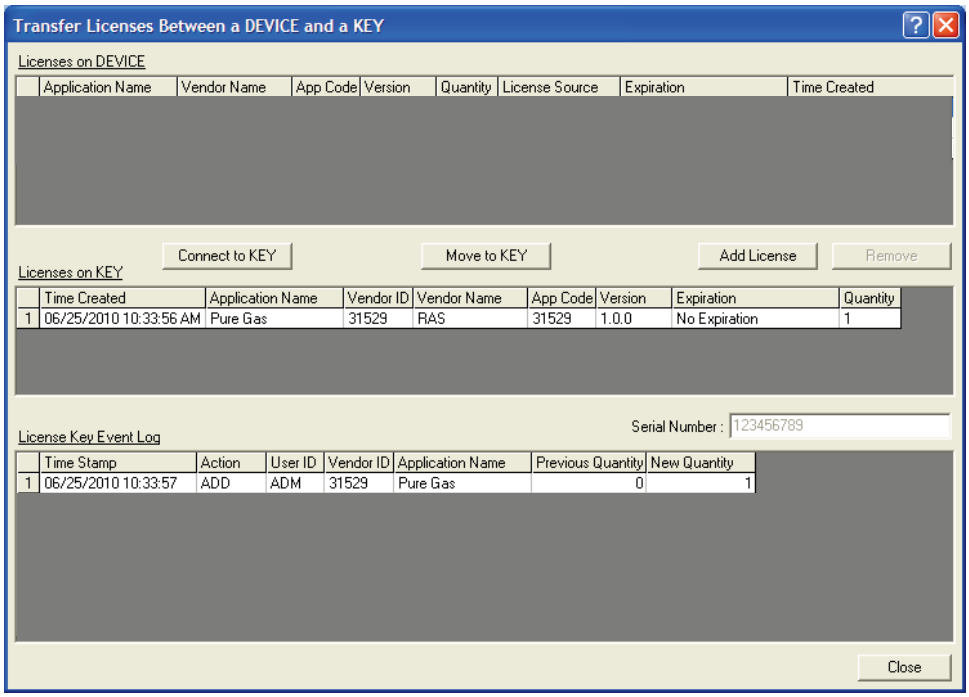

Figure 1. Transfer Licenses Between a Device and a Key

Note: This screen has three sections. The upper portion (Licenses on Device) shows any software licenses installed on the FB107. The middle portion (Licenses on Key) shows software licenses on the license key. The lower portion of the screen (License Key Event Log) provides a rolling log of the last eight events related to this license key.

3. Select the key-based licenses you want to transfer to the FB107 (PureGas, as shown in *Figure 1*).
4. Click **Move to Device**. ROCLINK moves one instance of the license from the key to the FB107 and updates the screen.

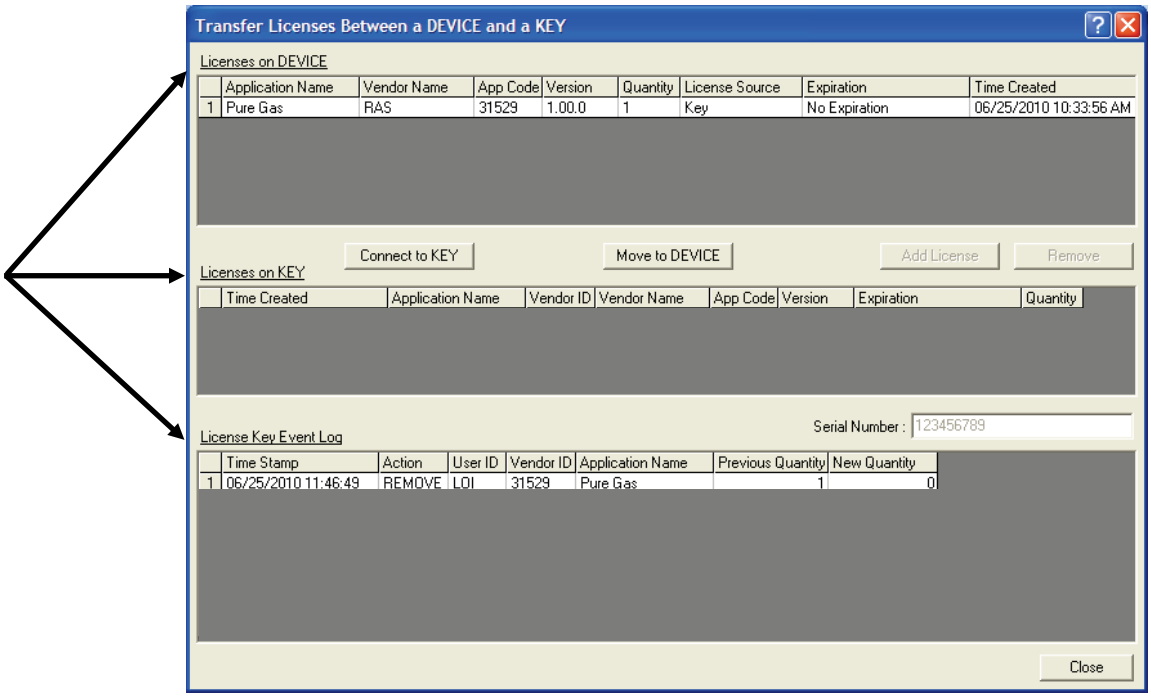

Figure 2. License Installed

Note: An FB107 can hold up to six different licenses, although you can install only one instance of each license on the FB107. When you click **Move to Device**, ROCLINK 800 moves only one instance of the license onto the FB107 and automatically decreases the license quantity on the USB key by one.

5. Verify the license name displays in the Licenses on Device section of the screen. Proceed to *Section 2.2* to download the user program.

2.2 Downloading the Pure Gas Program

This section provides instructions for installing the Pure Gas program into the Flash memory on the FB107.

Note: Connect a PC to the FloBoss's LOI port **before** starting the download.

To download the user program:

1. Start and logon to ROCLINK 800.
2. Select **ROC** > **Direct Connect** to connect to the FloBoss unit.
3. Select **Utilities** > **User Program Administrator** from the ROCLINK menu bar. The User Program Administrator screen displays (see *Figure 3*):

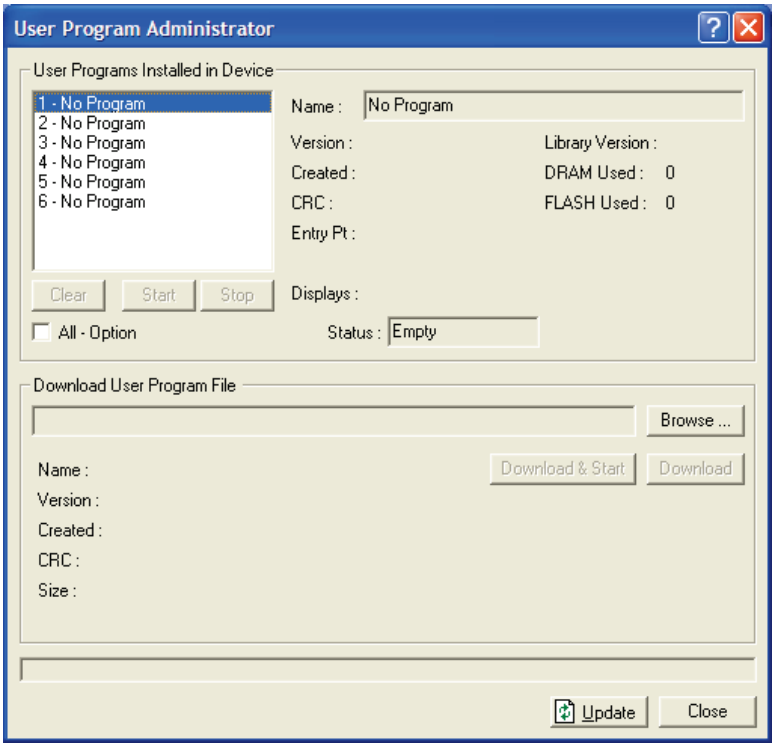

Figure 3. User Program Administrator

4. Click **Browse** in the Download User Program File frame. The Select User Program File screen displays (see *Figure 4*).
5. Select the path and user program file to download from the CD-ROM. (Program files are typically located in the Program Files folder on the CD-ROM). As *Figure 4* shows, the screen lists all valid user program files with the .BIN extension:

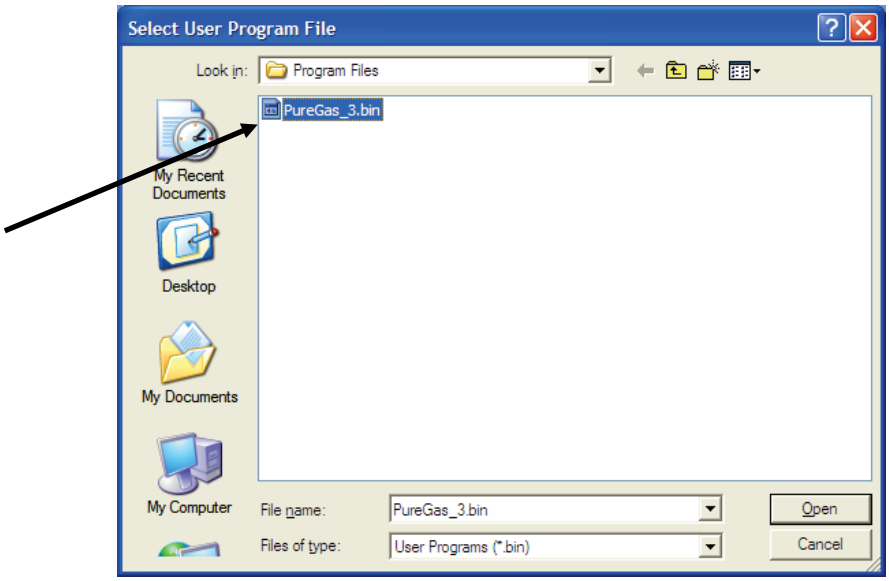

Figure 4. Select User Program File

6. Click **Open** to select the program file. The User Program Administrator screen displays. As shown in *Figure 5*, note that the Download User Program File frame identifies the selected program and that the **Download & Start** button is active:

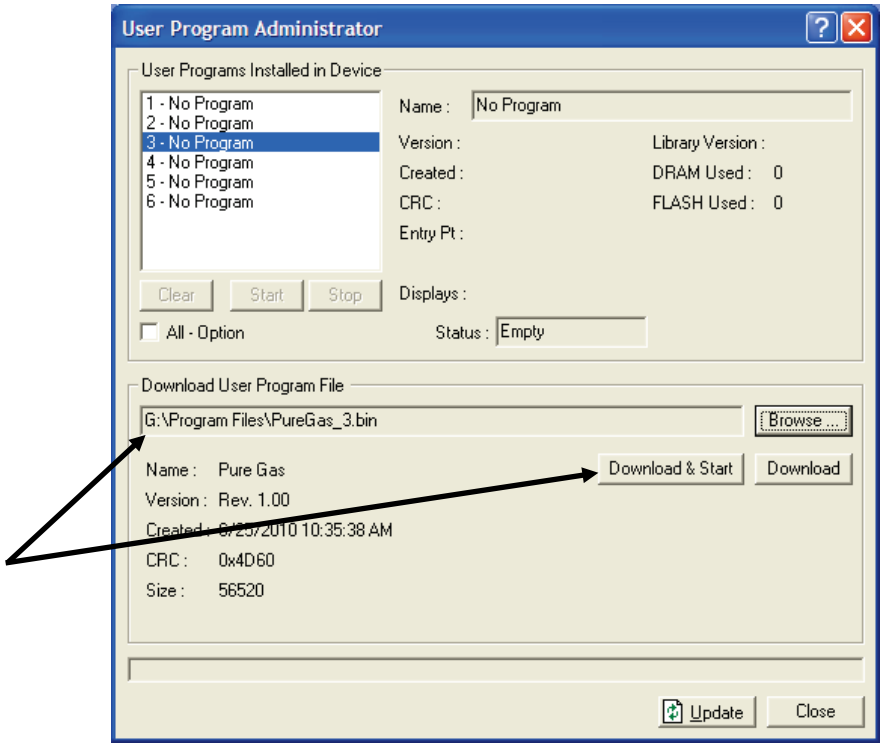

Figure 5. User Program Administrator

7. Click **Download & Start** to begin loading the selected programs. The following message displays:

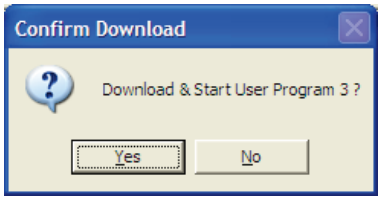

Figure 6. Confirm Download

Note: For the FB107, the factory has assigned program positions based on memory allocations. For this reason, the Pure Gas program automatically installs as program 3.

8. Click **Yes** to begin the download. During the download, the program performs a warm start, creates an event in the event log, and—when the download completes—displays the following message:

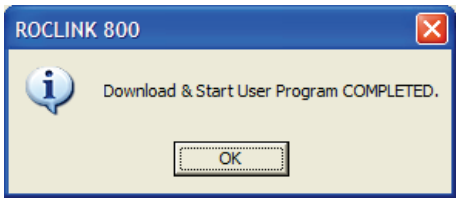

Figure 7. ROCLINK 800 Download Confirmation

9. Click **OK**. The User Program Administrator screen displays (see *Figure 8*). Note that:
   - The User Programs Installed in Device frame identifies the loaded program.
   - The Status field indicates that the program is running.

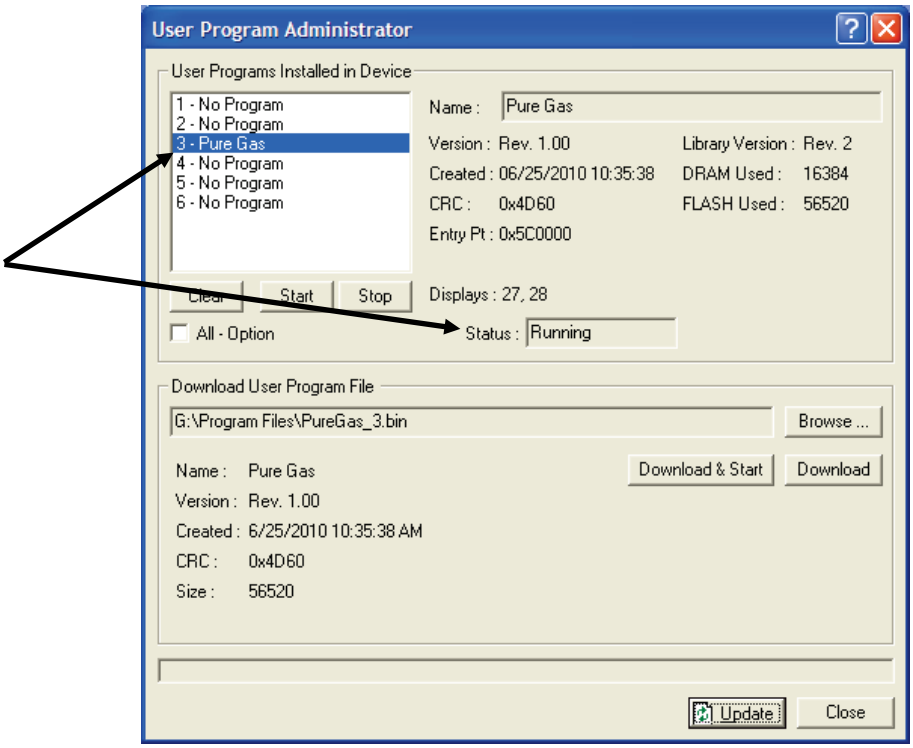

Figure 8. User Program Administrator

10. Click **Close** and proceed to *Section 3* to configure the program.

Chapter 3 – Configuration

After you have loaded the Pure Gas program, you configure it using ROCLINK 800 software. To do this, you use two program-specific screens (Pure Gas Properties and Split Accumulator):

- Use the Pure Gas Properties screen to enable the calculations and specify the pure gas type.
- Use the Split Accumulator screen to configure up to five accumulation categories for use with the Pure Gas program.

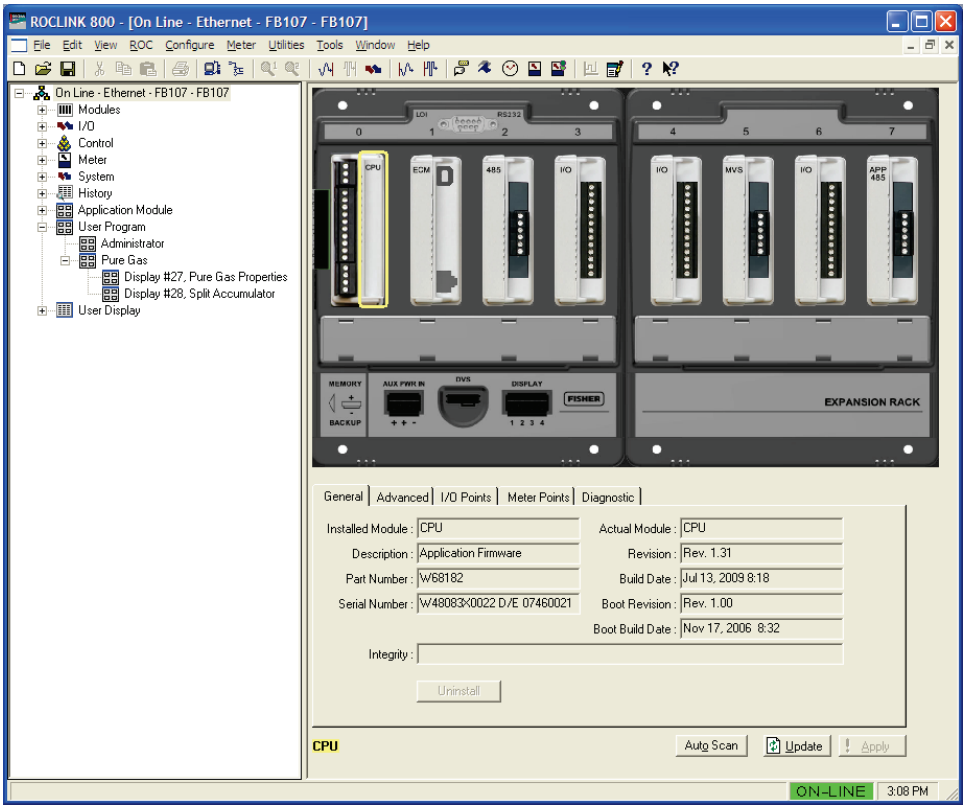

Figure 9. ROCLINK 800 screen

3.1 Pure Gas Properties Screen

Use this screen and its tabs to enable the Pure Gas program calculations, define the pure gas type, and define properties of the selected pure gas.

To access this screen:

1. From the Directory Tree, select **User Program** > **Pure Gas**.
2. Double-click **Display #27, Pure Gas Properties.** The Pure Gas Properties screen displays, showing the General tab:

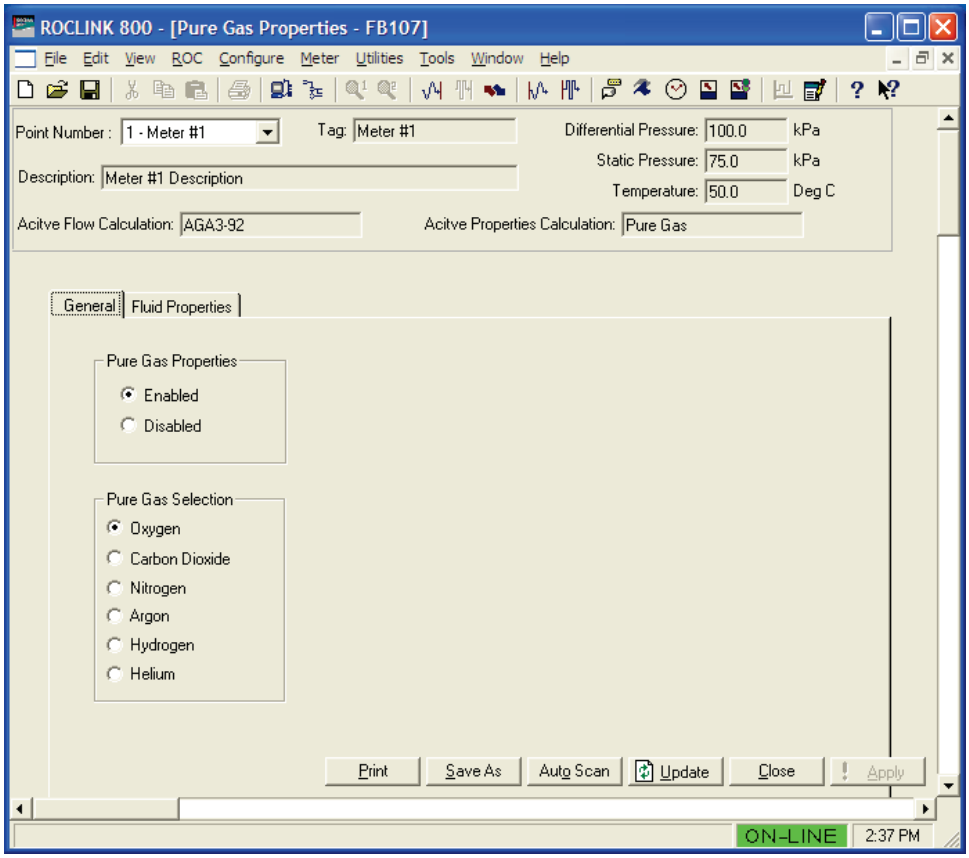

Figure 10. GOST Properties screen

3. Review the values in the following fields:

Field	Description
Point Number	Indicates the specific meter run you want to define. Click ▼ to display additional runs for this device.
Tag	This **read-only** field shows the meter tag for the selected meter. The meter tag is defined in Meter>Setup.
Description	This **read-only** field shows the meter description for the selected meter. The meter description is defined in Meter>Setup.

Field	Description
Active Flow Calculation	This **read-only** field indicates the specific flow calculation in use.
Active Properties Calculation	This **read-only** field indicates the specific properties calculation in use. **Note:** This field shows “Pure Gas” when the Pure Gas program is enabled.
Differential Pressure	This **read-only** field shows the flowing differential pressure. Units are InH2O or kPa.
Static Pressure	This **read-only** field shows the flowing static pressure. Units are PSIG, PSIA, kPa(a), or kPa(g).
Temperature	This **read-only** field shows the current flowing temperature. Units are Deg F or Deg C.

Note: The Pure Gas Properties screen—like other screens in this program—has a tab format. *Sections 3.1.1* through *3.1.2* discuss the requirements for each tab on the Pure Gas Properties screen.

4. Click **Apply** to save any changes you have made to this screen.
5. Proceed to *Section 3.1.1* to configure the General tab.

3.1.1 Pure Gas Properties – General tab

Use this tab (which displays when you access the Pure Gas Properties screen) to enable the Pure Gas program calculations and define the pure gas type.

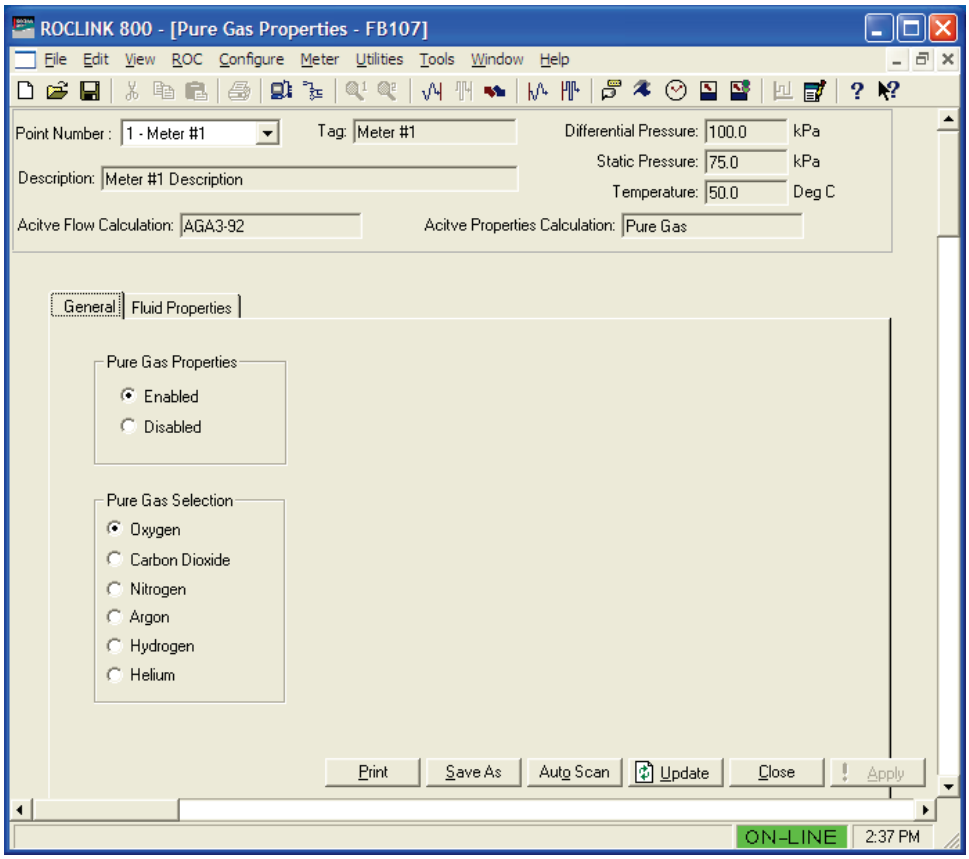

Figure 11. Pure Gas Properties, General tab

Note: An error message (License Key Not Found) displays if the program license key is not properly installed. For more information, refer to *Section 2.1, Installing the License Key*.

1. Review the values in the following fields:

Field	Description
Pure Gas Properties	Sets the run status for Pure Gas program calculations. Valid selection are Enabled and Disabled. If Enabled, the program calculates fluid properties based on the calculation specified in the NIST 23 standard for the selected meter run. If Disabled, fluid properties are calculated by the AGA8 algorithm embedded in FB107 firmware or by a separate properties user program.
Pure Gas Selection	Specifies the type of pure gas flowing through the selected meter. Valid values are Oxygen, Carbon Dioxide, Nitrogen, Argon, Hydrogen, and Helium.

2. Click **Apply** to save any changes you have made to this screen.
3. Proceed to *Section 3.1.2* to define fluid properties.

3.1.2 Pure Gas Properties – Fluid Properties tab

Use this tab to define the fluid properties and view the results of the calculation.

To access this screen:

1. Select the **Fluid Properties** tab on the Pure Gas Properties screen.

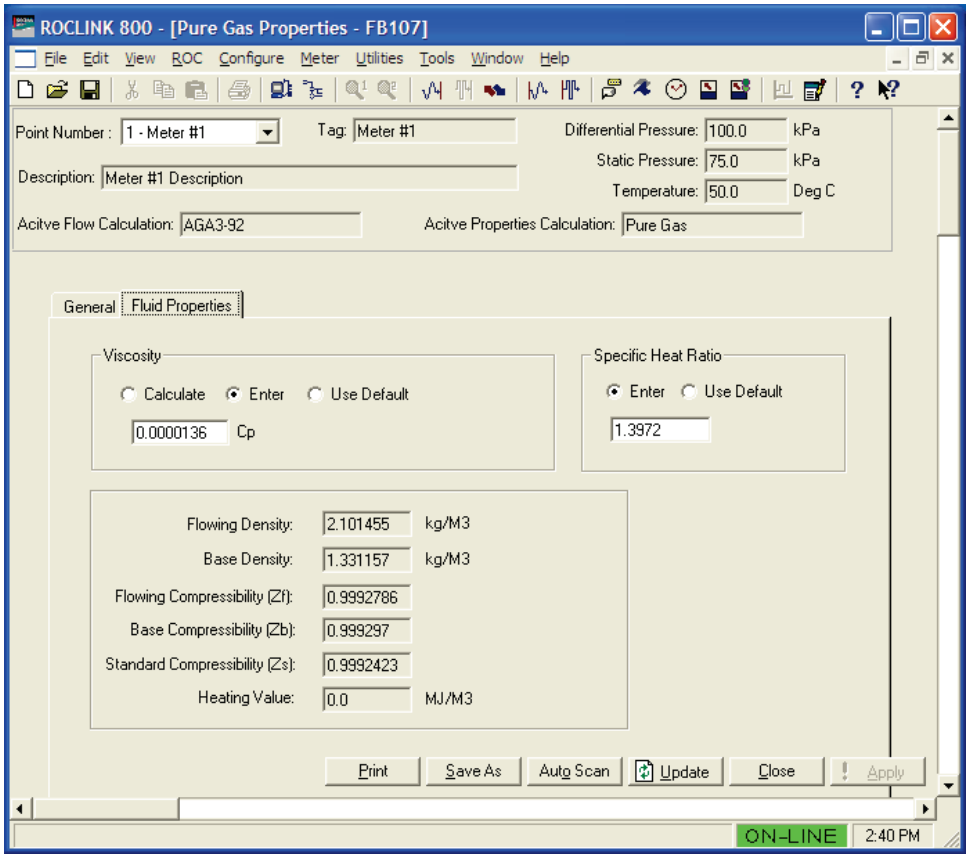

Figure 12. Pure Gas Properties, Fluid Properties tab

Note: You must Enable the Pure Gas Properties field on the General tab in order to specify and view the parameters on the Fluid Properties tab.

2. Review the values in the following fields:

Field	Description	
Viscosity	Sets how the system determines the viscosity of the gas at flowing conditions. Valid values are:	
	Calculate	The program calculates the viscosity based on the selected gas.
	Enter	Sets a user-defined viscosity.
	Use Default	Viscosity is calculated from NIST 23 Cp/Cv at 15°C and 101.325 kPa.

Field	Description
Specific Heat Ratio	Sets how the system determines the specific heat ratio of the gas. Valid values **Enter** (sets a user-defined specific heat ratio), or **Use Default** (calculated from NIST 23 Cp/Cv at 15°C and 101.325 kPa).
Flowing Density	This **read-only** field shows the gas density at flowing conditions calculated according to NIST 23.
Base Density	This **read-only** field shows the gas density at base conditions calculated according to NIST 23 with base temperature and pressure defined on the Meter Setup screen.
Flowing Compresibility (Zf)	This **read-only** field shows the gas compressibility at the flowing temperature and flowing pressure calculated from the flowing density.
Base Compressibility (Zb)	This **read-only** field shows the gas compressibility at the base temperature and base pressure (as defined on the Meter Setup screen) calculated from the base density according to NIST 23.
Standard Compressibility	This **read-only** field shows the gas compressibility at standard conditions of 15°C and 101.325 kPa.
Heating Value	This **read-only** field shows the heating value of the selected gas. **Note:** Hydrogen is the only supported gas with a heating value other than 0.

3. Click **Apply** to save any changes you have made to this screen.
4. Click **Close** and proceed to *Section 3.2* to configure the Split Accumulator screen.

3.2 Split Accumulator Screen

Use this screen to configure up to five accumulation categories for use with the Pure Gas program. These user-configured accumulator categories allow you to perform differential billing on a flow or volume proportional basis.

To access this screen:

1. From the Directory Tree, select **User Program** > **Pure Gas**.
2. Double-click **Display #28, Split Accumulator**. The Split Acumulator screen displays:

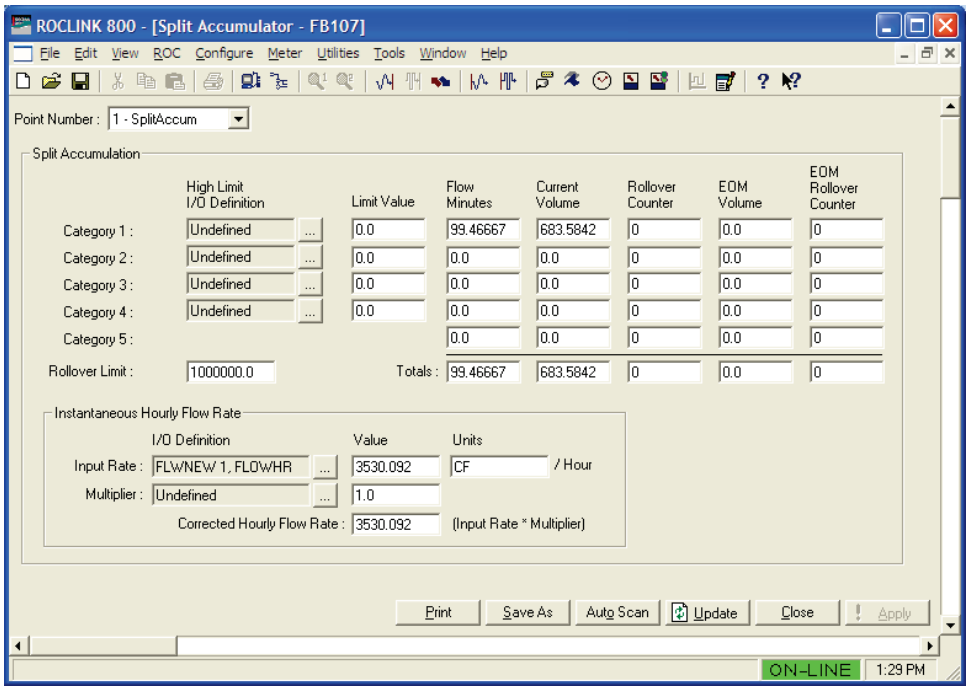

Figure 13. Split Accumulator screen

Note: If you manually edit the fields (such as Current Volume and EOM Volume field values) in this display, the program uses the newly entered values in calculations.

3. Review the values in the following fields:

Field	Description
Point Number	Selects the specific meter run you want to define. Click ▼ to display all meters in the device.

Field	Description	
Category 1	**High Limit I/O Definition**	Sets the source of the category limit value. Click … to display the Select TLP screen and specify the TLP selection. **Note:** If you select **Undefined (0, 0, 0)** for the I/O definition, you can manually enter a value in the Limit Value field. Otherwise, the program displays the value for the currently selected input.
	Limit Value	Sets, in flowing units per hour, the category limit value. The default Category 1 Low Limit is **0**. **Note:** This value is retrieved from the TLP you select in the High Limit I/O Definition or manually entered.
	Flow Minutes	This field shows the number of minutes that the instantaneous flow rate was in this category. The Flow Minute value rolls over at 1,000,000 (not editable). The Flow Minute value for the scan period is assigned to the highest category reached by the flow during the scan period.
	Current Volume	This field shows, in flowing units, the accumulated volume at contract pressure and temperature for this category. The volume value rolls over at the specified Rollover Limit.
	Rollover Counter	This field shows the number of times a rollover has occurred in the Current Volume field for this category.
	EOM Volume	This field shows the value, in flowing minutes, of the Current Volume for this category at the end of the previous month.
	EOM Rollover Counter	This field shows the value of the Rollover Counter for this category at the end of the previous month.
Category 2	The field definitions for Category 2 are the same as Category 1. **Note:** The Category 2 low limit is the same as the Category 1 high limit.	

Field	Description	
Category 3	The field definitions for Category 3 are the same as Category 1. **Note:** The Category 3 low limit is the same as the Category 2 high limit.	
Category 4	The field definitions for Category 4 are the same as Category 1. **Note:** The Category 4 low limit is the same as the Category 3 high limit.	
Category 5	The field definitions for Category 5 are the same as Category 1. **Notes:** ▪ The Category 5 low limit is the same as the Category 4 high limit. ▪ The High Limit I/O Definition field is not available because there is no accumulator upper limit for Category 5. ▪ The Limit Value field is not available because there is no accumulator upper limit for Category 5.	
Rollover Limit	Sets the value at which the Current Volume for a category resets. The default is **1000000**.	
Totals	**Flow Minutes**	This field shows the total of the Flow Minutes fields for Category 1 through 5.
	Current Volume	This field shows the total of the Current Volumes fields for Category 1 through 5.
	Rollover Counter	This field shows the total of the Rollover Counter fields for Category 1 through 5.
	EOM Volume	This field shows the total of EOM Volume fields for Category 1 through 5.
	EOM Rollover Counter	This field shows the total of EOM Rollover Counter fields for Category 1 through 5.
Input Rate	Sets the source of the instantaneous hourly flow rate. Click  to display the Select TLP screen and specify the TLP selection. **Note:** If you select **Undefined (0, 0, 0)** for the I/O definition, you can manually enter a value in the Value field. Otherwise, the program displays the value for the currently selected input.	
Units	Sets the units of the Corrected Hourly Flow Rate. The default is CF. The units can be converted from the default value by entering the proper value in the Multiplier field.	

Field	Description
Multiplier	Sets the source of the instantaneous flow multiplier value. This value is multiplied times the instantaneous flow Input Rate value and is used to change the engineering units of the accumulated volumes. Click ... to display the Select TLP screen and specify the TLP selection. **Note:** If you select **Undefined (0, 0, 0)** for the I/O definition, you can manually enter a value in the Value field. Otherwise, the program displays the value for the currently selected input.
Corrected Hourly Flow Rate	This field shows the result of the Input Rate value multiplied times the Multiplier value. This Corrected Hourly Flow Rate is used to calculate the Current Volume total.

4. Click **Apply** to save any changes you have made to this screen.
5. Proceed to *Section 3.3* to save your configuration.

3.3 Saving the Configuration

Whenever you modify or change the configuration, save the final configuration to memory. To save the configuration:

1. Select **ROC** > **Flags** on the ROCLINK 800 menu bar. The Flags screen displays:

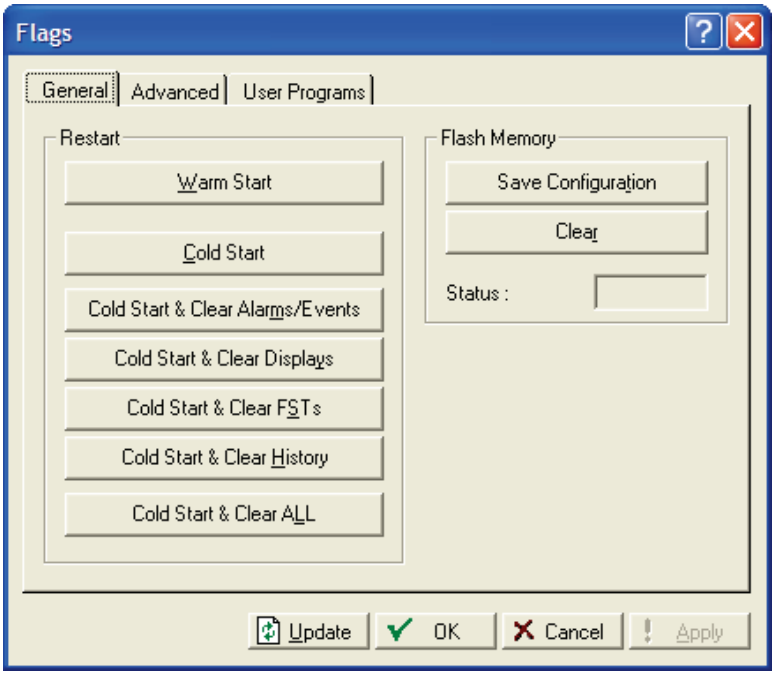

Figure 14. Flags

2. Click **Save Configuration**. A verification message displays:

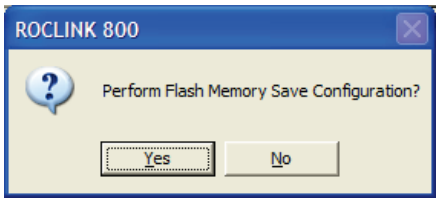

Figure 15. Save Verification

3. Click **Yes.** When the save process completes, a confirmation message displays:

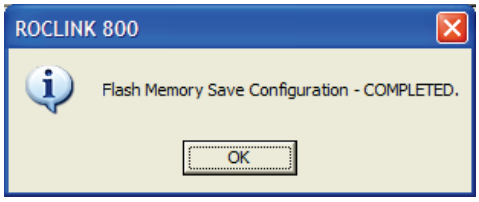

Figure 16. Confirmation

Note: Depending on the size and complexity of the user program, this process may take several minutes. When the process ends, the Status field on the Flags screen displays *Completed*.

4. Click **Update** on the Flags screen. This completes the process of saving your new configuration.

Note: For archive purposes, you should also save this configuration to your PC's hard drive or a removable media (such as a diskette or a flash drive) using the **File** > **Save Configuration** option on the ROCLINK 800 menu bar.

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Chapter 4 – Reference

This section provides tables of information on the user-defined point types the Pure Gas Properties Calculation uses.

- Point Type 27 (Pure Gas Parameters)
- Point Type 28 (Split Accum Params)

4.1 Point Type 27: Pure Gas Parameters

Point type 27 contains the parameters for configuring the Pure Gas program and viewing calculated property values. Each logical corresponds to a meter run logical. The program maintains up to four logicals of this point.

Point Type 27:Pure Gas Parameters

Parm #	Name	Access	Data Type	Length	Range	Default	Description
0	Point Tag ID	R/W	AC	10	10 Characters	Logical 0 = “Meter #1”, Logical 1 = “Meter #2”, Logical 2 = “Meter #3”, Logical 3 = “Meter #4”	Point tag description.
1	Enable Pure Gas	R/W	UI8	1	0-1	0	Pure Gas Calculation Enable 0 = Calculation Disabled 1 = Calculation Enabled
2	Selected Pure Gas	R/W	UI8	1	0-5	0	Gas Selection 0 = Oxygen 1 = Carbon Dioxide 2 = Nitrogen 3 = Argon 4 = Hydrogen 5 = Helium
3	Enter/Calc Viscosity	R/W	UI8	1	0-2	0	Calculate Viscosity 0 = Enter Value 1 = Calculate Value 2 = Use Default Value
4	Pure Gas Viscosity	R/W	FL	4	Any valid floating point number	1.356e-5 Lbm/Ft-Sec	Viscosity
5	Enter/Calc SpecHeat	R/W	UI8	1	0, 2	0	Enter/Use Defaults for Specific Heat Ratio 0 = Enter Value 2 = Use Defaults

Point Type 27:Pure Gas Parameters

Parm #	Name	Access	Data Type	Length	Range	Default	Description
6	Specific Heat Ratio	RW	FL	4	Any valid floating point number greater than 0.0	1.3972	Specific Heat Ratio
7	Heating Value	R/O	FL	4	Any valid floating point number greater than 0.0	0	Heating Value

4.2 Point Type 28: Split Accumulator Parameters

Point type 28 contains the parameters for configuring the Split Accumulator screen. The program maintains up to one logical of this point.

Point Type 28:Split Accumulator Parameters

Parm #	Name	Access	Data Type	Length	Range	Default	Description
0	Point Tag ID	R/W	AC	10	10 Characters	“SplitAccum”	Point tag description.
1	Categ.1 HLim Input	R/W	TLP	3	Any valid Type, Logical, Parameter group	0,0,0	Category 1 High Limit Input
2	High Limit	R/W	FL	4	Any valid floating point number	0.0	Category 1 High Limit Value
3	Categ.2 HLim Input	R/W	TLP	3	Any valid Type, Logical, Parameter group	0,0,0	Category 2 High Limit Input
4	High Limit	R/W	FL	4	Any valid floating point number	0.0	Category 2 High Limit Value
5	Categ.3 HLim Input	R/W	TLP	3	Any valid Type, Logical, Parameter group	0,0,0	Category 3 High Limit Input
6	High Limit	R/W	FL	4	Any valid floating point number	0.0	Category 3 High Limit Value
7	Categ.4 HLim Input	R/W	TLP	3	Any valid Type, Logical, Parameter group	0,0,0	Category 4 High Limit Input
8	High Limit	R/W	FL	4	Any valid floating point number	0.0	Category 4 High Limit Value
9	Categ.1 Minutes	R/W	FL	4	Any valid floating point number	0.0	Category 1 Minutes
10	Categ.2 Minutes	R/W	FL	4	Any valid floating point number	0.0	Category 2 Minutes
11	Categ.3 Minutes	R/W	FL	4	Any valid floating point number	0.0	Category 3 Minutes
12	Categ.4 Minutes	R/W	FL	4	Any valid floating point number	0.0	Category 4 Minutes

Point Type 28:Split Accumulator Parameters

Parm #	Name	Access	Data Type	Length	Range	Default	Description
13	Categ.5 Minutes	R/W	FL	4	Any valid floating point number	0.0	Category 5 Minutes
14	TTL Minutes	R/W	FL	4	Any valid floating point number	0.0	Total Minutes
15	Categ.1 Cur Volume	R/W	FL	4	Any valid floating point number	0.0	Category 1 Current Volume
16	Categ.2 Cur Volume	R/W	FL	4	Any valid floating point number	0.0	Category 2 Current Volume
17	Categ.3 Cur Volume	R/W	FL	4	Any valid floating point number	0.0	Category 3 Current Volume
18	Categ.4 Cur Volume	R/W	FL	4	Any valid floating point number	0.0	Category 4 Current Volume
19	Categ.5 Cur Volume	R/W	FL	4	Any valid floating point number	0.0	Category 5 Current Volume
20	TTL Cur Volume	R/W	FL	4	Any valid floating point number	0.0	Total Current Volume
21	Categ.1 Cur Roll Ctr	R/W	UI16	2	Any valid floating point number	0	Category 1 Current Rollover Counter
22	Categ.2 Cur Roll Ctr	R/W	UI16	2	Any valid floating point number	0	Category 2 Current Rollover Counter
23	Categ.3 Cur Roll Ctr	R/W	UI16	2	Any valid floating point number	0	Category 3 Current Rollover Counter
24	Categ.4 Cur Roll Ctr	R/W	UI16	2	Any valid floating point number	0	Category 4 Current Rollover Counter
25	Categ.5 Cur Roll Ctr	R/W	UI16	2	Any valid floating point number	0	Category 5 Current Rollover Counter
26	TTL Cur Roll Ctr	R/W	UI16	2	Any valid floating point number	0	Total Current Rollover Counter
27	Categ.1 EOM Volume	R/W	FL	4	Any valid floating point number	0.0	Category 1 End of Month Volume
28	Categ.2 EOM Volume	R/W	FL	4	Any valid floating point number	0.0	Category 2 End of Month Volume

Point Type 28:Split Accumulator Parameters

Parm #	Name	Access	Data Type	Length	Range	Default	Description
29	Categ.3 EOM Volume	R/\W	FL	4	Any valid floating point number	0.0	Category 3 End of Month Volume
30	Categ.4 EOM Volume	R/\W	FL	4	Any valid floating point number	0.0	Category 4 End of Month Volume
31	Categ.5 EOM Volume	R/\W	FL	4	Any valid floating point number	0.0	Category 5 End of Month Volume
32	TTL EOM Volume	R/\W	FL	4	Any valid floating point number	0.0	Total End of Month Volume
33	Categ.1 EOM Roll Ctr	R/\W	UI16	2	Any valid floating point number	0	Category 1 End of Month Rollover Counter
34	Categ.2 EOM Roll Ctr	R/\W	UI16	2	Any valid floating point number	0	Category 2 End of Month Rollover Counter
35	Categ.3 EOM Roll Ctr	R/\W	UI16	2	Any valid floating point number	0	Category 3 End of Month Rollover Counter
36	Categ.4 EOM Roll Ctr	R/\W	UI16	2	Any valid floating point number	0	Category 4 End of Month Rollover Counter
37	Categ.5 EOM Roll Ctr	R/\W	UI16	2	Any valid floating point number	0	Category 5 End of Month Rollover Counter
38	TTL EOM Roll Ctr	R/\W	UI16	2	Any valid floating point number	0	Total End of Month Rollover Counter
39	Rollover Limit	R/\W	FL	4	Any valid floating point number	1000000.0	Rollover Limit
40	Multiplier Input	R/\W	TLP	3	Any valid Type, Logical, Parameter group	0,0,0	Multiplier Input
41	Multiplier Value	R/\W	FL	4	Any valid floating point number	1.0	Multiplier Value
42	Inst Hrly Flow Input	R/\W	TLP	3	Any valid Type, Logical, Parameter group	47,0,2	Instantaneous Hourly Flow Input
43	Inst Hourly Flow	R/\W	FL	4	Any valid floating point number	0.0	Instantaneous Hourly Flow Value

Point Type 28:Split Accumulator Parameters

Parm #	Name	Access	Data Type	Length	Range	Default	Description
44	Inst Hrly Flow Units	R/\W	AC10	10	10 Characters	“CF “	Instantaneous Hourly Flow Units
45	Corrected Hrly Flow	R/\W	FL	4	Any valid floating point number	0.0	Corrected Hourly Flow

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