ProLink[™] III with ProcessViz[™] Software

Configuration, Service Tool, and Trend Graphics for Micro Motion[™] and Rosemount Flow Devices





MICRO MOTION[®]

Safety messages

Safety messages are provided throughout this manual to protect personnel and equipment. Read each safety message carefully before proceeding to the next step.

Safety and approval information

This Micro Motion product complies with all applicable European directives when properly installed in accordance with the instructions in this manual. Refer to the EU declaration of conformity for directives that apply to this product. The EU declaration of conformity, with all applicable European directives, and the complete ATEX Installation Drawings and Instructions are available on the internet at www.emerson.com or through your local Micro Motion support center.

Information affixed to equipment that complies with the Pressure Equipment Directive, can be found on the internet at www.emerson.com.

For hazardous installations in Europe, refer to standard EN 60079-14 if national standards do not apply.

Other information

Full product specifications can be found in the product data sheet. Troubleshooting information can be found in the configuration manual. Product data sheets and manuals are available from the Micro Motion web site at www.emerson.com.

Return policy

Follow Micro Motion procedures when returning equipment. These procedures ensure legal compliance with government transportation agencies and help provide a safe working environment for Micro Motion employees. Micro Motion will not accept your returned equipment if you fail to follow Micro Motion procedures.

Return procedures and forms are available on our web support site at www.emerson.com, or by phoning the Micro Motion Customer Service department.

Emerson Flow customer service

Email:

- Worldwide: flow.support@emerson.com
- Asia-Pacific: APflow.support@emerson.com

Telephone:

North and South America		Europe and Middle East		Asia Pacific	
United States	800-522-6277	U.K.	0870 240 1978	Australia	800 158 727
Canada	+1 303-527-5200	The Netherlands	+31 (0) 704 136 666	New Zealand	099 128 804
Mexico	+41 (0) 41 7686 111	France	0800 917 901	India	800 440 1468
Argentina	+54 11 4837 7000	Germany	0800 182 5347	Pakistan	888 550 2682
Brazil	+55 15 3413 8000	Italy	8008 77334	China	+86 21 2892 9000
		Central & Eastern	+41 (0) 41 7686 111	Japan	+81 3 5769 6803
		Russia/CIS	+7 495 995 9559	South Korea	+82 2 3438 4600
		Egypt	0800 000 0015	Singapore	+65 6 777 8211
		Oman	800 70101	Thailand	001 800 441 6426
		Qatar	431 0044	Malaysia	800 814 008
		Kuwait	663 299 01		
		South Africa	800 991 390		
		Saudi Arabia	800 844 9564		
		UAE	800 0444 0684		

Contents

Chapter 1	Before you begin	5
	1.1 About this manual	5
	1.2 Related documentation	5
	1.3 Available ProLink III features per edition	5
Chapter 2	Working with ProLink III	9
	2.1 Site key and licensing	9
	2.2 The ProLink III interface	
	2.3 Explore ProLink III software	15
	2.4 Enable inventory reset	16
	2.5 Search in ProLink III	16
	2.6 Show Help for software interface options	
	2.7 Use ProcessViz	18
Chapter 3	Connect to one or more devices	
	3.1 Connect to a device	19
	3.2 Default communication values	21
	3.3 Make an additional device connection	23
	3.4 Use the guided connection wizard	24
	3.5 Device wiring terminals for ProLink III connections	
	3.6 Troubleshoot a device connection	29
	3.7 Work with one device when several are connected	
	3.8 View the device status and alerts	
	3.9 Disconnect from a device	
Chapter 4	Use configuration data	
	4.1 Configuration data transfer between devices	
	4.2 Save a device configuration	
	4.3 Restore or load a configuration file	
	4.4 Import data from a previous version of ProLink	34
	4.5 Configure a device offline	
	4.6 Print a configuration report	
	4.7 Restore the factory configuration	
Chapter 5	Use the process variables view	
	5.1 Set up the process variables view	37
	5.2 Reset totals	
Chapter 6	Monitor the process, device, or device health	41
	6.1 Monitor process trends	41
	6.2 Create data logs	

6.3	Compare multiple devices4	16
-----	---------------------------	----

1 Before you begin

1.1 About this manual

This user manual explains how to navigate and use:

- The Emerson Flow ProLink III software, v4.5 or later
- The ProcessViz software, v2.0 or later

This document assumes that users are familiar with the $\mathsf{Microsoft}^{\otimes}$ Windows operating system.

For detailed information on configuring and using device-specific or application-specific features, see the appropriate configuration and use manual. If you need additional help, contact customer support.

1.2 Related documentation

You can find all product documentation on the product documentation DVD shipped with the product or at www.emerson.com.

See any of the following documents for more information:

- Micro Motion ProLink III Software Product Data Sheet
- Micro Motion ProcessViz Software Product Data Sheet
- Micro Motion ProLink III Quick Start Guide

1.3 Available ProLink III features per edition

ProLink III is available in two editions: Basic and Professional for either Micro Motion or Rosemount Flow. Depending on the edition you purchased, you have specific features enabled.

Feature	Basic		Professional	
	Coriolis transmitters	Density and viscosity meters	Coriolis transmitters	Density and viscosity meters
Alert notification	✓	1	✓	✓
Alert resolution guide	✓	1	✓	✓
Data logging			√	✓
Device simulation			√	✓
Diagnostics/inputs/outputs display	✓	1	√	✓
Full device configuration	√	1	√	✓
Guided process support tools			✓	✓

Table 1-1: ProLink III Micro Motion Basic and Professional features per edition

Feature	Basic		Professional	
	Coriolis transmitters	Density and viscosity meters	Coriolis transmitters	Density and viscosity meters
Known density verification launch		✓		\checkmark
Known density verification reports		✓		\checkmark
Load and save the device configuration	✓	✓	✓	\checkmark
Modbus [®] /TCP support	✓	✓	✓	\checkmark
Multidevice comparison tool			✓	✓
Offline configuration management			\checkmark	\checkmark
Print Configuration			\checkmark	\checkmark
Process variable trending (one or more devices)			1	✓
ProcessViz (displays logged data files that can be opened using ProcessViz)			1	✓
Smart Meter Verification [™] launch	✓		1	
Smart Meter Verification reports ⁽¹⁾	✓		1	

Table 1-1: ProLink III Micro Motion Basic and Professional features per edition (continued)

(1) Requires a Smart Meter Verification Pro license

Table 1-2: ProLink III Rosemount Flow Basic and Professional features per edition

Feature	Basic		Professional	
	Magmeter transmitters	Vortex transmitters	Magmeter transmitters	Vortex transmitters
Alert notification	✓	✓	✓	✓
Alert resolution guide	✓	✓	✓	✓
Data logging			✓	✓
Device simulation			✓	✓
Diagnostics/inputs/outputs display	✓	1	✓	✓
Filter visualization tool				✓
Full transmitter configuration	✓	1	✓	✓
Guided process support tools			✓	√
Load and save the device configuration	√	1	✓	√
Multidevice comparison tool			✓	√
Offline configuration management			✓	√
Process variable trending (one or more devices)			1	1
ProcessViz (displays logged data files that can be opened using ProcessViz)			1	1

Table 1-2: ProLink III Rosemount	Flow Basic and Professiona	l features per edition (continued)

Feature	Basic		Professional	
	Magmeter transmitters	Vortex transmitters	Magmeter transmitters	Vortex transmitters
Smart Meter Verification launch	\checkmark		\checkmark	
Smart Meter Verification reports			\checkmark	

2 Working with ProLink III

2.1 Site key and licensing

2.1.1 Obtain a site key for ProLink III and ProcessViz

You will need to obtain and enter a site key to validate a license for the ProLink III Professional edition and ProcessViz.

Software	Basic edition	Professional edition
ProLink III	ProLink III Basic does not require a license.	 Available with a generated temporary license that is active for seven days
		 Requires a permanent license after seven days
		Important Obtain the site key before the temporary license expires. Once the trial period completes, you will not be able to use ProLink III.
ProcessViz	Not available	If ProcessViz was purchased, available with a separate site key for ProcessViz in addition to a site key for ProLink III.

Procedure

1. Start ProLink III to obtain a ProLink III license or ProcessViz to obtain a ProcessViz license.

ProLink III	ProcessViz
In the ProLink III start-up screen, choose File \rightarrow License.	 a. On the first ProcessViz screen, select the ProcessViz icon in the upper left corner. b. Choose License

- 2. Enter your serial number in the **Serial Number** field.
- 3. Select **Get Site Key**. The **Site Key** field is automatically populated.
- 4. Select Validate.

2.1.2 Transfer an existing license for ProLink III

Both the ProLink III temporary license and permanent license are keyed to a specific disk and specific folder or directory on your computer. You can move the ProLink III installation to a different folder on the same computer, or to a different computer. For additional information on transferring an existing license, contact customer support at www.emerson.com.

2.1.2 Transfer ProLink III to another location on the same computer

Procedure

- 1. Choose File \rightarrow License.
- 2. Select the down arrow next to Transfer License.

Example

In the man my man man	~~~~~
▼ Transfer License	
	Close

- 3. Select To Directory.
- 4. Specify the directory where ProLink III will be transferred.
- 5. Install ProLink III in this new directory.

2.1.2 Transfer ProLink III from one computer to another

Procedure

- 1. Go to the target computer (the computer where you are transferring the license) and do the following steps.
 - a) Install ProLink III, but when it asks to make a temporary license, select **Cancel**.

For installation instructions, see the Micro Motion ProLink III Quick Start Guide.

- b) Start ProLink III.
- c) Choose File \rightarrow License.
- d) Select the down arrow next to Transfer License.

Example



e) Select Into Computer.

The location window pops up.

f) Select a storage location [CD-RW, DVD, USB Flash, or Floppy (real or image file)].

ProLink III writes a system transfer file to the storage device.

- g) Insert the storage device when requested. A success message pops up when the transfer is complete.
- h) Disconnect the storage device.
- 2. Go to the source computer (the computer with the original ProLink III license) and do the following steps.
 - a) Insert the storage device.
 - b) Start ProLink III.
 - c) Choose File \rightarrow License.
 - d) Select the down arrow next to Transfer License.
 - e) Select **Out of Computer**. The location window pops up.
 - f) Select the storage location [CD-RW, DVD, USB Flash, or Floppy (real or image file)].
 - ProLink III adds two more system transfer files to the storage device.
 - A success message pops up when the transfer is complete.
 - g) Disconnect the storage device.

The license window will not display No $\tt License$ until you close the window and then reopen it.

- 3. Go to the target computer (the computer where you are transferring the license) and do the following steps.
 - a) Insert the storage device.
 - b) Start ProLink III.
 - c) Choose File \rightarrow License.
 - d) Click the down arrow next to Transfer License.
 - e) Select Into Computer.
 - ProLink III copies the license to the new installation and deletes all three system transfer files.
 - A success message pops up when the transfer is complete.
 - The license window refreshes and shows activated. The window will not show the original serial number.
 - f) Close ProLink III and install any upgrades.

2.1.3 Transfer an existing license for ProcessViz

The ProcessViz license is keyed to a specific disk and specific folder or directory on your computer. You can move the ProcessViz installation to a different folder on the same computer, or to a different computer. For additional information on transferring an existing license, contact customer support at www.emerson.com.

2.1.3 Transfer ProcessViz to another location on the same computer

Procedure

1. Select the down arrow next to Transfer License.

Example

I'm Man Am Man m
Transfer License
Close

- 2. Select License...
- 3. Select To Directory.
- 4. Specify the directory where ProcessViz will be transferred.
- 5. Install ProcessViz in this new directory.

2.1.3 Transfer ProcessViz from one computer to another

Procedure

- 1. Go to the target computer (the computer where you are transferring the license) and do the following steps.
 - a) Install ProLink III and run it, but when it asks to make a temporary license, select **Cancel**.

For installation instructions, see the Micro Motion ProLink III Quick Start Guide.

- b) Start ProcessViz.
- c) Select the down arrow next to Transfer License.

Example

my man and my man	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Transfer License	
	Close
]

- d) Select License...
- e) Select Into Computer. The location window pops up.

f) Select a storage location [CD-RW, DVD, USB Flash, or Floppy (real or image file)].

The software writes a system transfer file to the storage device.

- g) Insert the storage device when requested. A success message pops up when the transfer is complete.
- h) Disconnect the storage device.
- 2. Go to the source computer (the computer with the original ProcessViz license) and do the following steps.
 - a) Insert the storage device.
 - b) Start ProcessViz.
 - c) On the first ProcessViz screen, select the ProcessViz icon in the upper left corner.
 - d) Select License...
 - e) Select **Out of Computer**. The location window pops up.
 - f) Select the storage location [CD-RW, DVD, USB Flash, or Floppy (real or image file)].
 - ProcessViz adds two more system transfer files to the storage device.
 - A success message pops up when the transfer is complete.
 - g) Disconnect the storage device.

The license window will not display No $\tt License$ until you close the window and then reopen it.

- 3. Go to the target computer (the computer where you are transferring the license) and do the following steps.
 - a) Insert the storage device.
 - b) Start ProcessViz.
 - c) On the first ProcessViz screen, select the ProcessViz icon in the upper left corner.
 - d) Select License...
 - e) Select Into Computer.
 - ProcessViz copies the license to the new installation and deletes all three system transfer files.
 - A success message pops up when the transfer is complete.
 - The license window refreshes and shows activated. The window will not show the original serial number.
 - f) Close ProcessViz and install any upgrades.

2.2 The ProLink III interface

See Figure 2-1 and Figure 2-2 for a quick reference to the information and tools available in ProLink III.

Тір

To view and navigate ProLink III without a physical device connection, you can simulate a device. This feature allows you to become more familiar with the interface and the different options available for use. See Explore ProLink III software for more information.





- A. Display the transmitter type, address, and alarm status for each connected device, simulated configuration, or offline configuration.
- B. Provide quick access to your process measurements.
- C. Easily view other process measurements, diagnostic variables, and have quick access to view and change the configured settings.
- D. View active alerts for the connected device, and easily view recommended actions for troubleshooting each alert.
- E. Access the ProcessViz software from ProLink III. The ProcessViz button is active (enabled) only if ProcessViz is installed and licensed.



Figure 2-2: Navigating menus on the ProLink III main screen

- A. The **Device Tools** menu is the main point of access to all configuration options available for each connected device, simulated configuration, or offline configuration.
- B. The **Connect To** options allow you to easily connect to another device or open a simulated or offline configuration.
- C. Additional access to configuring specific parameters is available through the field menus provided at the various process views.
- D. Quick access to the monitoring options is available from the main screen.

2.3 Explore ProLink III software

In ProLink III, you can simulate device connections to view and navigate the software interface without a physical device connection.

Procedure

- 1. To use device simulation, do one of the following:
 - From the start-up screen, select Simulate Device.
 - From the main screen, select Simulation under **Connect To**, and select **Go**.
- 2. In **Device Type**, select a type of device.
- 3. Select Connect.

2.4 Enable inventory reset

Inventories can be reset from ProLink III only if this function is enabled in ProLink III.

Procedure

- 1. Choose **Tools** \rightarrow **Options**.
- 2. Select Reset Inventories from ProLink III.

2.5 Search in ProLink III

ProLink III provides a searching capability that allows you to find specific parameter names within the software interface. You must be connected to a physical device or simulating a device connection to use this feature (see Figure 2-3).

Figure 2-3: Search feature



A. The Search feature allows you to find specific features or parameters in the software interface.

Procedure

- 1. Connect to or simulate a device.
- 2. Optional: Select the down arrow next to **Search** to change the search options.
 - You can choose to see recent searches, highlight the words you are searching for, or search all connected devices.

3. In **Search**, enter the parameter name you are searching for. As you type your search entry, one or multiple instances of the search results are displayed directly below the **Search** field. The search results display the specific device and data item found, and provide a hyperlink to the target location where the item exists.

Tip

If no search results display, try changing your search entry to be less specific to the label text or item description in the software, if possible.

4. To go to the desired location in the software, click the hyperlink under **Target** in the search results table.

2.6 Show Help for software interface options

In ProLink III, you can choose to show or hide field or parameter descriptions for a displayed interface. Depending on the field or parameter selected, a description appears in the *Help* screen to explain more about the selected option. The default setting is to hide, or not show, the *Help* screen.

Figure 2-4: Using the Help feature

		A
evice Information		
Transmitter Identification		Hide H
Tag	FD	Tag
Long Tag	M.RESRET	The name assigned to this meter.
Model	2400A	
Manufacturer	Micro Motion, Inc.	
Distributor	Micro Motion, Inc.	
Transmitter Serial Number	0	
Transmitter Electronics		
Option Board	Model 2400S with analog outp v	
Software Revision	5.00	
Hardware Revision	1	
Engineer To Order (ETO) Number	0	
Enhanced Core Processor		

A. Display the Help screen to view descriptive information about a selected parameter.

Procedure

- 1. To show helpful information about a field in the active interface:
 - a) Select Show Help.

Show Help is the blue icon with the question mark.

A *Help* screen displays to the right of the interface options.

b) To view a description of a specific control, place the cursor over an active field or parameter.

A description of the field/feature appears in the *Help* screen.

2. To hide or close the *Help* screen, click Hide Help.

2.7 Use ProcessViz

Procedure

- 1. Using ProLink III, create a data log and save it. See Create data logs
- 2. Use any of the following methods to open ProcessViz.



3. Drag your saved data log file into ProcessViz.

3 Connect to one or more devices

3.1 Connect to a device

In ProLink III, you can connect to one or more devices, depending on your system configuration.

Prerequisites

Before you can connect to a device, ensure that you have:

- Met all the requirements for the software installation
- An active temporary or permanent license
- Made the necessary wire connections from your computer to the device and/or network. See Device wiring terminals for ProLink III connections or the configuration and use manual for more information on wiring to your device.

Procedure

- 1. Start ProLink III.
- 2. On the ProLink III start-up screen, select Connect to Physical Device.
- 3. Set **Protocol** to the protocol to be used for the connection.

For HART[®]/Bell 202 to USB port connections using the supplied converter, enable **Toggles RTS**.

4. Set **Serial Port** to the PC COM port you are using to connect to the device.

If you are using a USB converter or a USB A-type to A-type cable and need to locate the COM port for the connection, refer to the *Windows Device Manager* to obtain that information.

- 5. Specify additional communication parameters.
 - If you are making a service port connection, default values are used for all remaining communications parameters. No configuration is required.
 - If you are making a HART/Bell 202 connection, set **Address** to the HART address of the device. Default values are used for all remaining communications parameters. No additional configuration is required.
 - If you are connecting to an MVD Direct Connect system, set the remaining communication parameters to any of the supported values. The core processor auto-detects incoming communications settings and switches to match.

Table 3-1: Auto-detection limits for MVD Direct Connect

Parameter	Option
Protocol	Modbus RTU (8-bit)
	Modbus ASCII (7-bit)
Baud rate	Standard rates from 1200 to 38,400

Table 3-1: Auto-detection limits for MVD Direct Connect (continued)						
Parameter	Option					

Parameter	Option
Parity	Even, odd, none
Stop bits	1,2

• If you are making an RS-485 connection to any 2400S transmitter, set **Address** to the Modbus address of the device. For all remaining communications parameters, the device auto-detects the incoming values and switches to match.

Table 3-2: Auto-c	letection limits	for 2400S t	ransmitters:
-------------------	------------------	-------------	--------------

Parameter	Option
Protocol	Modbus RTU (8-bit)
	Modbus ASCII (7-bit)
Address	Responds to both:
	 Service port address (111)
	 Configured Modbus address (default = 1)
Baud rate	Standard rates from 1200 to 38,400
Stop bits	0, 1
Parity	Even, odd, none

• If you are making an RS-485 connection to a CDM, GDM, SGM, FDM, FVM, or HFVM meter, set **Address** to the Modbus address of the device. For all remaining communications parameters, the device auto-detects the incoming values and switches to match.

Table 3-3: Auto-detection limit	s for Density	y Viscosity	meters
---------------------------------	---------------	-------------	--------

Parameter	Option
Protocol	Modbus RTU (8-bit)
	Modbus ASCII (7-bit)
Address	Responds to both:
	 Service port address (111)
	 Configured Modbus address (default = 1)
Baud rate	Standard rates from 1200 to 38,400
Stop bits	0, 1
Parity	Even, odd, none

6. To connect to a device, you have the following options:

- Select Address, and enter the address configured for the device.
- Select **Tag**, and enter the tag configured for the device.

- To view a list of available devices, select **Connect Via Polling** and click **Poll**. Select your device from the list.
- 7. Select Connect.
 - If you are connecting to a 1500, 2500, 3000, or LFT DIN rail mount transmitter, using either a service port connection or an RS-485 connection, the RS-485 terminals are available in service port mode for 10 seconds after transmitter power-up.
 - If a service port connection is made during this interval, the terminals will remain in service port mode until the next power cycle, and you can make a service port connection at any time.
 - If no connection is made during this interval, the terminals switch to RS-485 mode and you can make an RS-485 connection at any time.
 - If the terminals are in one mode and you want to use the other mode, you
 must power-cycle the transmitter to reset the mode, then make the
 appropriate connection at the appropriate time.
 - If you are connecting to any other device, or using any other connection type, you can make the connection at any time.
- 8. If ProLink III fails to connect, troubleshoot the device connection.

Related information

Default communication values Troubleshoot a device connection

3.2 Default communication values

Davias	Dhysical layon	Default values				
Device Physical layer		Protocol	Baud	Stop bits	Parity	Address
1500/2500	Bell 202 ⁽¹⁾	HART	1200	1	Odd	0
1500/2500 LFT DIN rail	RS-485 ⁽²⁾	Modbus RTU	9600	1	Odd	1
1700/2700	Bell 202 ⁽¹⁾	HART	1200	1	Odd	0
1700/2700 LFT field-mount	RS-485 ^{(2) (3)}	HART	1200	1	Odd	0
22005	Bell 202 ⁽⁴⁾ RS-485 ⁽⁵⁾	HART	1200	1	Odd	0
2400S with	Bell 202 ⁽¹⁾	HART	1200	1	Odd	0
analog outputs	RS-485 ⁽⁵⁾	Modbus (RTU or ASCII)	Auto-detect	Auto-detect	Auto-detect	1
3000	Bell 202 ⁽¹⁾	HART	1200	1	Odd	0
	RS-485 ⁽²⁾	Modbus RTU	9600	1	Odd	1

Coriolis transmitters

Device	Physical layer	Default values				
		Protocol	Baud	Stop bits	Parity	Address
9739 MVD	Bell 202 ⁽¹⁾	HART	1200	1	Odd	0
	RS-485 ⁽⁶⁾	Modbus (RTU or ASCII)	Auto-detect	Auto-detect	Auto-detect	1
4200	Bell 202 ⁽¹⁾	HART	1200	1	Odd	0
5700	Bell 202 ⁽¹⁾	HART	1200	1	Odd	0
	RS-485 ⁽⁷⁾	Modbus (RTU or ASCII)	Auto-detect	Auto-detect	Auto-detect	1

(1) Connection to primary mA Output, or to HART clips, if available.

(2) Connection to RS-485 terminals.

(3) Available only on 1700/2700 transmitters with analog outputs or LF transmitters with output option codes 1 or 3.

(4) Connection to HART clips

(5) Connection to service port.

(6) Connection to RS-485 terminals or service port.

(7) Connection to RS-485 terminals

Density and viscosity meters

Dovico	Physical layor	Default values				
Device	r fiysical layer	Protocol	Baud	Stop bits	Parity	Address
CDM, GDM,	Bell 202	HART	1200	1	Odd	0
SGM, FDM, FVM, or HFVM	RS-485	Modbus (RTU or ASCII)	Auto-detect	Auto-detect	Auto-detect	1

RFT97xx and IFT97xx transmitters

If your transmitter is not using default values, refer to site documentation for the values you are using.

Davica	Dhysical layon	Default values							
Device	Physical layer	Protocol	Baud	Stop bits	Parity	Address			
IFT9701/ IFT9703 ⁽¹⁾	Bell 202 ⁽²⁾	HART	1200	1	Odd	0			
RFT9712	Bell 202 ⁽²⁾	HART	1200	1	Odd	0			
	RS-485 ⁽³⁾	HART	1200	1	Odd	0			
RFT9739v2	Bell 202 ⁽²⁾	HART	1200	1	Odd	0			
	RS-485 ⁽³⁾	HART	1200	1	Odd	0			
RFT9739v3	Bell 202 ⁽²⁾	HART	1200	1	Odd	0			
	RS-485 ^{(3) (4)}								
	Std. comm	Modbus RTU	9600	1	Odd	1			
	User defined	HART	1200	1	Odd	0			

(1) IFT9701/9703 communication parameter are not configurable. The settings shown here are always in effect.

(2) Connection to primary mA output, or to HART clips, if available.

(3) Connection to RS-485 terminals.

(4) Dip switch settings on the transmitter are used to select either Std. comm or User defined.

Device Physical layer	Dhuat and Januar	Default values							
	Protocol	Baud	Stop bits	Parity	Address				
8782	Bell 202 ⁽¹⁾	HART	1200	1	Odd	0			
8732EM	Bell 202 ⁽¹⁾	HART	1200	1	Odd	0			
	RS-485	Modbus RTU	9600	1	Even	1			
8732ES	Bell 202 ⁽¹⁾	HART	1200	1	Odd	0			
8712EM	Bell 202 ⁽¹⁾	HART	1200	1	Odd	0			
	RS-485	Modbus RTU	9600	1	Even	1			
8800D	Bell 202 ⁽¹⁾	HART	1200	1	Odd	0			

Rosemount magnetic and vortex flow meters

(1) HART communication parameters are not configurable. The settings shown here are always in effect.

3.3 Make an additional device connection

If you are working in a multidrop network or have two or more serial or USB port connections, you can simultaneously connect to multiple devices in your process. This feature allows you to more easily view your system performance and troubleshoot process conditions across more than one device.

Additionally, when you have multiple devices connected, you can view the performance of each device using the multi-device comparison tool.



Figure 3-1: Add an additional connection

A. From the main screen, you can easily connect to another device or open a simulated or offline configuration.

Procedure

- 1. Select **Physical** under **Connect To**.
- 2. Select Go.
- 3. Use the **Protocol** parameter to specify your connection type.

If you are making a HART/Bell 202 to USB port connection and using the supplied converter, enable **Toggles RTS**.

- 4. Set Serial Port to the PC COM port you are using to connect to the device.
- 5. Specify additional communication parameters, as needed.
- 6. To select the device to connect to, you have the following options:
 - Select Address to enter the unit address.
 - Select **Tag** to enter the tag description.
 - To view a list of available devices, select **Connect Via Polling** and select **Poll**.
- 7. Select the device that you want to connect to, and click **Connect**. ProLink III attempts to make the connection. If the connection is successful, the connected device displays in the ProLink III main screen. If the connection fails, see Troubleshoot a device connection for more information.

3.4 Use the guided connection wizard

To assist you in making a connection to a device, you can use the guided connection wizard. This feature provides a drag-and-drop interface, device information, and terminal information to help you set up the connection.

Procedure

- 1. Select Physical under Connect To
- 2. Select Go.
- 3. Select Connect via Guided Connection Wizard.
- 4. Follow the on-screen instructions.
- 5. Select Connect.

3.5 Device wiring terminals for ProLink III connections

When wiring your computer to a device, use the following tables for the terminals that are specific to your device and connection type.

Coriolis meters

	Terminals for connection types							
Device	HART/Bell 202		HART/RS-4	485	Modbus/RS-485		Service port	
	PV+	PV-	A	В	A	В	A	В
4200	1	2						
5700	1	2	9	10	9	10	USB-A type	2
9739 MVD	17	18	26	27	26	27	Service por	t clips
	HART clips	ļ	1	1	1	1	ļ.	
1700/2700 with analog outputs	1	2	5	6	5	6	8	7
LFT field-mount with output option codes 1, 3	1	2	5	6	5	6	8	7
1700/2700 with intrinsically safe outputs ⁽¹⁾	1	2					8	7
2700 with configurable input/ outputs	1	2					8	7
LFT field-mount with output option code 4	1	2					8	7
2700 with FOUNDATION [™] fieldbus							8	7
LFT field-mount with output option code 6							8	7
2700 with PROFIBUS- PA							8	7
22005	HART clips							
2400S with analog	1	2					Service por	t clips
	HART clips							
2400S with DeviceNet [®]							Service por	t clips
2400S with PROFIBUS- DP							Service por	t clips
3000 panel-mount with solder-tail or screw-type connectors	c2	a2	c32	a32	c32	a32	c32	a32
3000 panel-mount with I/O cables	14	15	24	25	24	25	24	25
3000 rack-mount	с2	a2	c32	a32	c32	a32	c32	a32
3000 field-mount	2	1	11	12	11	12	11	12

	Terminals for connection types								
Device	HART/Bell 202		HART/RS-4	HART/RS-485		Modbus/RS-485		rt	
	PV+	PV-	A	В	A	В	A	В	
1500/2500	21	22			33	34	33	34	
LFT DIN rail with output option codes 2, 5, 8	21	22			33	34	33	34	
MVD [™] Direct Connect [™] with no barrier ⁽²⁾					3	4			
 MVD Direct Connect with MVD Direct Connect I.S. barrier Connection to barrier⁽³⁾ 					13	14			
Connection to core processor					3	4			
Core processor ⁽⁴⁾					3	4			

(1) If connecting to terminals 1 and 2, terminals must be externally powered, with a minimum of 250 W and 17.5 volts. Requirement does not apply to service port.

(2) Connection is not intrinsically safe.

(3) Intrinsically safe connection

(4) Connecting directly to the core processor terminals is supported for sensor-mounted core processors (4-wire remote installations) or stand-alone core processors (remote core processor with remote transmitter installation).

Density and viscosity meters

	Terminals for connection types								
Device	HART/Bell	202	HART/RS-4	85	Modbus/R	S-485	Service po	rt	
	PV+	PV-	Α	В	Α	В	Α	В	
CDM, GDM, SGM, FDM, FVM, HFVM	+ terminal in leftmost terminal pair	– terminal in leftmost terminal pair			A	В	A	В	

RFT97xx and IFT97xx transmitters

	Terminals for connection types									
Device	HART/Bell 202		HART/RS-485		Modbus/RS-485		Service port			
	PV+	PV-	A	В	A	В	A	В		
IFT9701/9703	4-20	4-20								
RFT9712	17	16	21	22						
RFT9739 rack-mount	Z30	D30	Z22	D22	Z22	D22				

	Terminals for connection types									
Device	HART/Bell 202		HART/RS-485		Modbus/RS-485		Service port			
	PV+	PV-	Α	В	Α	В	Α	В		
RFT9739 field-mount	17	18	27	26	27	26				

Rosemount magnetic and vortex flow meters

	Terminals for connection types									
Device	HART/Bell 202		HART/RS-485		Modbus/RS-485		Service port			
	PV+	PV-	A	В	A	В	Α	В		
8782 with internally- powered output	8	7								
8782 with IS or externally-powered output	7	8								
8732EM with internally-powered output	1	2								
8732EM with IS or externally- powered output	2	1			2	1				
8712E and 8712H	7	8								
8712EM with internally-powered output	8	7								
8712EM with IS or externally-powered output	7	8			7	8				
8600 and 8800D	+ terminal in 4-20 mA pair	- terminal in 4-20 mA pair								

Added resistance for ProLink III connections

If you are making a HART connection, refer to this table for any additional resistance required for your device. For additional wiring information, see the appropriate configuration and use manual.

Device	Resistance range for connection type						
	HART/Bell 202	HART/RS-485	Modbus/RS-485	Service port			
IFT9701/9703	250-600 Ω						
RFT9712	250-1000 Ω	See Footnote ⁽¹⁾					
RFT9739 Rack-mount	250-1000 Ω	See Footnote ⁽¹⁾	See Footnote ⁽¹⁾				
RFT9739 field-mount	250-1000 Ω	See Footnote ⁽¹⁾	See Footnote ⁽¹⁾				

Device	Resistance range for connection type					
	HART/Bell 202	HART/RS-485	Modbus/RS-485	Service port		
4200	250-600 Ω					
5700	250-600 Ω	See Footnote ⁽¹⁾	See Footnote ⁽¹⁾			
9739 MVD	250-600 Ω	See Footnote ⁽¹⁾	See Footnote ⁽¹⁾	See Footnote ⁽¹⁾		
1700/2700 with analog outputs	250-600 Ω	See Footnote ⁽¹⁾	See Footnote ⁽¹⁾	See Footnote ⁽¹⁾		
LFT field-mount with output option codes 1, 3	250-600 Ω	See Footnote ⁽¹⁾	See Footnote ⁽¹⁾	See Footnote ⁽¹⁾		
1700/2700 with intrinsically safe outputs	250-600 Ω			See Footnote ⁽¹⁾		
2700 with configurable input/ outputs	250-600 Ω			See Footnote ⁽¹⁾		
LFT field-mount with output option code 4	250-600 Ω			See Footnote ⁽¹⁾		
2700 with FOUNDATION fieldbus				See Footnote ⁽¹⁾		
LFT field-mount with output option code 6				See Footnote ⁽¹⁾		
2700 with PROFIBUS-PA						
2200S	250-600 Ω					
2400S with analog outputs	250-600 Ω			See Footnote ⁽¹⁾		
2400S with DeviceNet				See Footnote ⁽¹⁾		
2400S with PROFIBUS-DP				See Footnote ⁽¹⁾		
Series 3000	250-600 Ω	See Footnote ⁽¹⁾	See Footnote ⁽¹⁾			
1500/2500	250-600 Ω		See Footnote ⁽¹⁾			
CDM, GDM, SGM, FDM, FVM, HFVM	250-600 Ω		See Footnote ⁽¹⁾	See Footnote ⁽¹⁾		
LFT DIN rail with output option codes 2, 5, 8			See Footnote ⁽¹⁾			
MVD Direct Connect			See Footnote ⁽¹⁾			
8732E with internally-powered output	250-500 Ω		See Footnote ⁽¹⁾			
8732E with IS or externally-powered output	250-600 Ω		See Footnote ⁽¹⁾			
8712E and 8712H	250-600 Ω					
8600 and 8800D	250-1250 Ω					

(1) RS-485 connections may require added resistance if the connection is long-distance or if there is external noise that interferes with the signal. Add two $120-\Omega$ resistors in parallel with the output, one at each end of the communication segment.

3.6 Troubleshoot a device connection

If you cannot connect to a device, review the following information and follow the suggestions. If you cannot resolve the problem, contact customer support at www.emerson.com.

Procedure

- 1. Check all wiring between your computer and the device.
- 2. Ensure all components are powered up. Refer to the configuration and use manual for more information.
- 3. Check all connection parameters and ensure they are correct for both ProLink III and the device.
- 4. Ensure you have the correct USB drivers installed for the device.
- 5. Ensure that ProLink III is configured for the correct COM port.
- 6. Make sure that you do not have interference over the COM port.
- 7. If you use the configured COM port for any other program, verify that the other program is not currently running.
- 8. For HART connections to 1700/2700 and 8732E transmitters with the intrinsically safe outputs option board, ensure that the terminals are externally powered.
- 9. Try adding resistance to the connection.
 - For HART connections, verify that there is a 250–600 Ω resistor in parallel in the communications circuit.
 - For HART connections to 1700/2700 and 8732E transmitters with the intrinsically-safe outputs option board, ensure that the resistor is in series. Attach the modem across the resistor.
 - RS-485 connections may require added resistance if the connection is longdistance or if there is external noise that interferes with the signal. Add two 120- Ω resistors in parallel with the output, one at each end of the communication segment.
- 10. For RS-485 connections, swap the leads between the two terminals and try again.
- 11. For Modbus network connections, ensure that ProLink III is the only Modbus master active on the network.
- 12. For RS-485 connections, try connecting through the service port, if available on your device.
- 13. For HART/Bell 202 connections:
 - a) If burst mode is enabled, try disabling it.
 - b) Ensure that polling for external pressure/temperature is disabled.
 - c) Ensure that ProLink III is the only master on the network.
- 14. For HART connections using the USB HART Interface:
 - a) Ensure that you have selected **Toggles RTS** in the ProLink III connection screen.

- b) Ensure that the required Windows driver is installed on your PC. If this driver is not installed, Windows will not recognize the USB converter when it is plugged into the USB port.
- 15. For connections to the 2400S transmitter, if you are using Modbus ASCII protocol with an RS-485 connection rather than a service port connection, ensure that Modbus ASCII support is enabled on your transmitter.

3.7 Work with one device when several are connected

When you connect to multiple devices simultaneously, a device tab is displayed for each transmitter connection in the ProLink III main screen. Each device tab displays an image of the transmitter, the transmitter name, the transmitter address, and the transmitter status.

Note

If you disconnect from one device when multiple devices are connected, the device tab is no longer available for the disconnected device.

Figure 3-2: View of the active device in ProLink III



A. The highlighted tab is the active device in ProLink III. An active device is the device for which process- and device-specific information is displayed in the main screen.

Procedure

Click on the appropriate device tab to view or configure a specific transmitter. This device becomes the active device, and ProLink III updates the main screen to show the process information for the selected device.

3.8 View the device status and alerts

In ProLink III, the status of the device is displayed in the upper-left corner of the device tab for each active transmitter. When alerts are present, a status icon displays depending on the type of alert and whether or not it is active. When alerts are present, the alert code and description display under **Alerts**.

Procedure

1. To view the transmitter status, refer to the transmitter device tab.

Option	Description
8	A red failure icon displays when a meter failure has occurred and must be addressed immediately. The alert is displayed under Failed: Fix Now .
<u> </u>	A yellow maintenance icon displays when a condition has occurred that can be fixed at a later time. This icon displays only if no failure condition exists. The alert is displayed under Maintenance: Fix Soon .
١	A blue advisory icon displays when a condition has occurred, but requires no maintenance. This icon displays only if no failure or maintenance condition exists. The alert is displayed under Advisory: Informational .

- 2. If an alert exists under Alerts:
 - Select the alert name to view more information about troubleshooting the issue.
 - Select **Detail View** to display the troubleshooting information directly below the listed alert.

3.9 Disconnect from a device

Procedure

To disconnect from a connected device, simulated configuration, or an offline configuration, click **Device Tools** \rightarrow **Disconnect**.

4 Use configuration data

4.1 Configuration data transfer between devices

ProLink III provides the capability to save and load configurations. The configuration transfer capabilities support easy backup and restoration of device configurations, and easy replication of configuration sets across compatible devices.

Restriction

Devices must have the same measurement technology. For example, you cannot transfer data between a Coriolis meter and a Magmeter.

As a best practice, download all configurations to a computer as soon as your configuration is complete.

You can also import configuration data that was saved in a previous version of ProLink III.

Related information

Import data from a previous version of ProLink

4.2 Save a device configuration

Procedure

- 1. Connect to the device that you want to download the configuration data from.
- 2. Select Device Tools → Configuration Transfer → Save or Load Configuration Data.

Example



- Select the configuration data you want to save under Configuration.
 By default, all configuration data is selected to save to the configuration file.
- 4. Select Save, then specify a file name and location on your computer.
- 5. Select Start Save.

4.3 Restore or load a configuration file

Tip

To restore or load a configuration file saved in a previous version of ProLink, use the data import feature for your version of ProLink (see Import data from a previous version of ProLink).

Procedure

- 1. Connect to the device that you want to restore or load configuration data to.
- Select Device Tools → Configuration Transfer → Save or Load Configuration Data.
- 3. Select the configuration data you want to load to the active device under **Configuration**.

By default, all configuration data is selected.

- 4. Select Load, then select the file to load to your device.
- 5. Select Start Load.

4.4 Import data from a previous version of ProLink

In ProLink III, you can restore or load a transmitter configuration file saved in a previous version of ProLink. Once you import the data, you can then save the transmitter configuration to a ProLink III file format.

Important

Micro Motion recommends that you import the data from a previous version of ProLink into a simulated configuration versus a connected device. You can save the data in the simulated configuration as you would for an active device, without the possibility of affecting the current process.

Procedure

- 1. To import configuration data saved in a previous version of ProLink:
 - For ProLink I: select Device Tools → Configuration Transfer → Import Data from ProLink I.
 - For ProLink II: select Device Tools → Configuration Transfer → Import Data from ProLink II.
- 2. Click **Browse** to navigate to the file location on your computer.
- 3. Click Import.
- To save the configuration data, click Device Tools → Configuration Transfer → Save or Load Configuration Data.

See Import data from a previous version of ProLink for more information.

Configure a device offline 4.5

In ProLink III, you can efficiently manage the configuration of a device before uploading the information.

- Create a new configuration file or open and edit an existing configuration file.
- Upload a previously-saved configuration file as a template.

Figure 4-1: Create or	edit a configuration offline	

New Offline Configuration File	Open Existing Configuration File
Name	Enter the file name
Select Device	Model 2400S with analog ou 💌
Select Version	5.0
Device Features	
Load Downloaded Configurat	ion File Browse

Procedure

- 1. To use offline configuration, do one of the following:
 - From the start-up screen in ProLink III, click Use Offline Configuration.
 - From the main screen in ProLink III, select Offline under **Connect To**, and click • Go.
- 2. Do one of the following:
 - To create a new configuration file for a specific device, select New Offline **Configuration File**.
 - a. Enter a file name in Name.
 - b. Select the device type in **Select Device**.
 - c. Select the version for the device. The default setting is the latest version available for the selected device.
 - d. Optional: Select any additional features available for the configuration of the selected device in Device Features.
 - e. Optional: Select Load Downloaded Configuration File and browse to the file location to upload a saved configuration file to build from for the new device configuration.

f. Click Connect.

An offline device screen opens to allow you to verify and edit the device configuration data.

- To open and edit an existing configuration file, select **Open Existing Configuration File**.
 - a. Select the configuration file from the displayed list of previously created configuration files.
 - b. Select Open.
- 3. With the offline configuration file open, select **Device Tools** \rightarrow **Configuration** to configure the device.
- To save the configuration data to transfer to another device, select Device Tools → Configuration Transfer → Save or Load Configuration Data. See Save a device configuration for more information.
- 5. To close the offline session, select **Device Tools** \rightarrow **Disconnect**.

4.6 Print a configuration report

You can print a configuration report that shows the current calibration and configuration parameters set for the active device.

Procedure

Select **Device Tools** \rightarrow **Print**.

4.7 Restore the factory configuration

You can restore the configuration settings for the active device to the default configuration data set for the device when it shipped from the factory.

Restriction

See the appropriate transmitter configuration and use manual to understand whether or not this option is available for your device.

Procedure

Select Device Tools \rightarrow Configuration Transfer \rightarrow Restore Factory Configuration.

5 Use the process variables view

5.1 Set up the process variables view

When you connect to a device, the process variables display on the main screen of ProLink III. The default display view for process variables is the Analog Gauge view. You can choose which variables display at the gauge-level view, as well as which are displayed in the gauges. Additionally, you can customize the gauge settings, or change the display format to show only digital values.



A. The Process Variables view shows the current performance of selected variables for the connected device.

5.1.1 Change the process variables displayed

You can change the process variables displayed in the **Process Variables** view.

Тір

If you have customized the analog gauge view for a specific process variable, when you change the variable displayed for that gauge the analog gauge view is reset to the default settings.

Procedure

- 1. To change the variable shown in the top-level gauge or digital view:
 - a) Select the drop-down arrow next to the variable name (such as Mass Flow Rate).
 - b) Select a variable to display.
- 2. To change the variable shown in the mid- or bottom-level digital view:

- a) Select the drop-down arrow next to the variable name (such as Mass Total).
- b) Select a variable to display.

5.1.2 Change the display format

You can change the process variable display format to be Analog Gauge or Digital. The default process variables display is Analog Gauge.

Procedure

- 1. Select Process Variables \rightarrow Display Format.
- 2. Choose the display format.

Option	Description
Analog Gauge	Displays three process variable measurements as an analog gauge, with the digital measurements shown directly below the gauge. Analog Gauge is the default display format.
Digital	Displays the process variable measurements in digital format only.

5.1.3 Customize the analog gauge view

If you choose the Analog Gauge view for the process variables display, you can customize each gauge to display specific measurement ranges or change the number of tick marks shown on the gauge.



A. Change the gauge view and settings using the Gauge Customization feature.

Important

When you customize the gauge view, the settings only apply to the current process variable displayed. If you change the variable displayed for that gauge, the analog gauge view is reset to the default settings.

Procedure

- 1. Right-click the desired gauge, and select **Gauge Customization**.
- 2. In the *Gauge Customization* dialog box:
 - a) Under **Range**, select the range for the gauge.
 - Use Output Range sets the gauge view to display the configured output limits.
 - Use Sensor Limits sets the gauge view to display the configured sensor limits.
 - Use Custom Range allows you to enter a specific low/high range limit for the gauge view in Low Value and High Value.
 - b) Under **Tick Marks**, select the number of major and minor tick marks to display on the gauge.

Тір

- See *Preview* to view how the gauge displays the selected settings before saving the settings to the main screen.
- To reset your gauge view to the default settings shown at startup, click **Reset**.

5.2 Reset totals

Reset displays next to the process variable view for totalizers or inventories to allow you to reset the value to zero. When these controls are not displayed, the **Reset** option is not available.

Tip

Inventories can be reset from ProLink III only if this function is enabled in ProLink III.

Procedure

Select Reset to reset the selected value to zero.

6 Monitor the process, device, or device health

6.1 Monitor process trends

Viewing your process trends in ProLink III allows you to monitor selected process, diagnostic, and output variables for one or more connected devices. Monitoring the device performance this way provides a snapshot of what is happening with your process and can help you determine techniques for improving the productivity and quality of your system.

The trending feature instantaneously charts the variables you select in a graphical format. You can view the process performance live in ProLink III or ProcessViz, as well as save or print the information for later use.

6.1.1 Create a trend chart

Procedure

 Select Trend at the bottom of the main screen, or select Device Tools → Trending → Create Trend Chart.

Example

	180	
NA DECET		
M. RESET	170	
3700E V2.00		
Sensor = (none)	160	
Sensor = shones		
Simulated		
	150	
Process Variables V		
Denrity	140	
Density		
External Pressure		
External	130	
Temperature	E Contraction of the second seco	
Mass Flow Rate	120	
	E E	
Output Variables V		
Present Output	110	
Frequency	E Contraction of the second seco	
	100	
	E	
	30	
Diagnostics V	E	
	80	
Drive Gain		
Left Pickoff	70	
Amplitude		
Right Pickoff		
Amplitude		
Others V	Time	
Core ROM/RAM		
Failure (002)	(Trending Interval	
Mass Flow Out of	Customize Graph Maximize Graph Export Graph	Doen
Range (005)	1 seconds V Undate Pro	cessViz
Durity Out of	_ Clear	
Density Out of	·	

A trend chart allows you to graphically map your process performance. For view data, select the device, the variables, and define the desired interval.

2. Under **Process Variables** and **Diagnostic Variables**, select the variables that you want shown on the graph.

Restriction You can show a maximum of four variables in a chart at one time. As you select the variables, the current measurements are immediately shown and plotted in the graphical view.

- 3. To clear the current data displayed in the graphs, click **Clear**. Once the data is cleared, current measurements immediately begin to plot for the same selected variables.
- 4. Optional: Change the trending interval for which the data points are displayed under **Trending Interval**. You can choose between seconds or minutes, and define the amount.

6.1.2 Read a trend chart

As you select variables to display on the trend chart, the current measurements are immediately shown and begin to plot according to the chart settings.

Procedure

1. See Figure 6-1 to understand how to read a trend chart.





- A. The key at the top of the graph shows the variables displayed in the graphs, and the corresponding color chosen to represent each variable in the graph.
 - The Y axis displays the measurement range for the specific variable identified.
 - The X axis displays the time of each data point shown, according to the trending interval set.
 - 2. Optional: To maximize the graphical view to the size of your computer screen, select **Maximize Graph**.

6.1.3 Compare trends

When you have more than one device connected, you can compare the measurements and performance of up to two devices. This feature displays the performance data for each device and the difference between the two measurements in one graph for easy viewing.

- When you have multiple devices connected, you can compare the measurements and performance of up to two devices in one graph.
- When you select the devices and variables to compare, the data is automatically plotted to a graph. A graph is created for each variable chosen, and you use the scroll bar to view the different graphs.

Procedure

- 1. Select **Device Tools** → **Trending** → **Compare Trends**.
- 2. Select the devices to compare.
- 3. Under **Process Variables** and **Diagnostic Variables**, select the variables that you want to show data for.

Restriction You can show up to a maximum of four variables.

As you select the variables, the current measurements are immediately shown and plotted in a graph. A graph is created for each variable, showing the measurement for each device and the difference between the two measurements. You must use the scroll bar to view multiple graphs displayed in the trending screen.

- 4. Optional: Change the trending interval for which the data points are displayed under **Trending Interval**. You can choose between seconds or minutes, and define the amount.
- 5. Optional: To clear the current data displayed in all graphs, select **Clear Graph**. Once the data is cleared, current measurements immediately begin to plot for the same selected variables.
- 6. Optional: To remove a graph and deselect the variable, select **Remove Graph**.

6.1.4 Save or print a trend chart

While viewing a trend chart, you can choose to export the current data to a file for later use, or you can choose to print the current data.

Procedure

- To save the current data to a file on your computer, select Export Graph.
- To print the current data, select Print.

6.2 Create data logs

The data logging feature allows periodic logging of user-selected device data, including process variables, diagnostic variables, and output levels. Data logged can be viewed or imported into external programs such as spreadsheets for further analysis. To create a

Figure 6-2: Data logging feature

data log, you need to define the log file, specify the type of data to be logged and the frequency of data points, and start the logging process.

og These Variables			Save/Loau Log S	erings				
 Process Variables 			Save Settings	Load Settings				
Density								
External Pressure			Log Settings					
External lemperature			File Type	● .csv ○ .tx	t			
Inventory 2 - Vol Ewd Inv				(a) a (1)			5700 S	
Inventory 3 - CorrVol Fwd Inv			File Path	C:\Program Files (:	(86)\MMI\ProLin	k III\DataLogs	(5700 E	
Inventory 4 - GasVol Fwd Inv			Logging Interval	1 secon	ds 🗸			
Inventory 5 - StdVol Fwd Inv								
Inventory 6 - NetMass Fwd Inv			Timer					
Mass Elow Pate				Dat	e	Time		
Phase Flow Severity			Current Time	Tuesday, October 29, 2019		4:48:42 PM		
Temperature			From	29 October 2019	16:47:54	\$	✓ Enabled	
		<u> </u>	T-	20.0++++ 2010	20.0.1.1.2010.15.17.51			
Include Status Error Log			10	29 October 2019 16:47:54		Enabled		
/iew Variable								
Variable Name	Value	Unit	1	vin Value	Max Value	Ave	rage	
Fotalizer 2 - Volume Fwd Total								
Volume Flow Rate								
Drive Gain								
_eft Pickoff Amplitude								
Live Zero								
Raw Tube Frequency								
Right Pickoff Amplitude								
Zero Value								
og Status			Add Note-					
og Status								
Log Statistics			, ad note					
Log Statistics Records Logged							_	
Log Statistics Records Logged 0			Data Point I	Note		Add N	ote	
Log Statistics Records Logged 0 Elapsed Time 0 Sec			Data Point I	Note		Add N	ote	

Procedure

To access the data logger, click **Data Logging** at the bottom of the main screen, or select **Device Tools** \rightarrow **Data Logging**.

6.2.1 Define a log file

Procedure

- 1. To specify the log file name and location, under Log Settings:
 - a) In **File Path**, click ... to navigate to the location on your computer where the log should be saved.
 - b) Navigate to the desired location on your computer and enter the file name in **File name**.

The file is saved as a .csv (comma-separated values) file, for import into standard spreadsheets.

2. To set the frequency of data points in the log, specify the update rate and unit in **Logging Interval**.

Tip

If you are using HART protocol, be careful not to set the logging frequency too high. On HART/Bell 202, log as few variables as possible with a logging interval 5-10 seconds (5000–10000 milliseconds). The same restrictions apply to HART/RS-485 at lower baud rates, especially 1200 baud. 3. Optional: Select the **Include Status Error Logging** check box to cause ProLink III to write status errors to the log.

6.2.2 Specify the log contents

Procedure

- Select Data Logging... at the bottom of the screen. Variables that are available for inclusion in the log file are shown in the Log These Variables panel with default variables already selected. The default selections are needed for troubleshooting.
- 2. Select the check boxes next to the variables you would like to include in the log, and deselect the variables to exclude.

To select an entire group of variables, you can select the group heading check box such as Process Variables, Output Variables, Diagnostics.

3. Optional: To add a note to the log while the data logger is running, enter the note in **Data Point Note** and click **Add Note**.

The note is added to the current end of the log. Subsequent data points will be added after the note.

6.2.3 Save or load log settings

Saving and loading the data logging settings allows you to reuse previous log session settings.

Procedure

- To save the current log settings to a file on your computer, select Save Settings.
- To load previously saved log settings to the current log session, select Load Settings.

6.2.4 Start and stop the logging function

You can start and stop the data logger either manually or automatically. Additionally, you can combine the methods to control the data logger. For example, you can start the logger manually, but then set a time to stop it automatically.

Procedure

- To manually control the data logger:
 - To start the data logger manually, select **Start**.
 - To stop the data logger manually, select **Stop**.
- To automate control of the data logger you can use the features under Timer.
 - To start the data logger at a specific time:
 - 1. Select the down arrow to select a specific date in **From**. Once you select the date, you can use the up and down arrows inside the date field to change the time.
 - 2. Select Enable to set the data logger to start at the specified time.

- To stop the data logger at a specific time:
 - 1. Select the down arrow to select a specific date in **To**. Once you select the date, you can use the up and down arrows inside the date field to change the time.
 - 2. Select **Enable** to set the data logger to stop at the specified time.

6.3 Compare multiple devices

When you are connected to more than one device, you can use the multi-device comparison tool to view the performance or configuration data of each connected device from one main screen. For example, this tool can allow you to easily verify the performance of a test meter against a known performance meter under the same process conditions.

With this tool, you are not limited by the number of variables you can select to show at one time.

The multi-device comparison tool allows you to view performance and configuration data for multiple devices in a table format. You can choose to:

- Show data for all connected devices
- Select data for all connected devices
- Select to show only two devices

Figure 6-3: Multi-device comparison tool

	-		-
	S	9	*
Variables	FD[1] - Model 270	FD[1] - Fork Densi G Simulated	FD[1] - Relative D
Process Variables T	7		
Base Density (Gas)		2.54	2.54 g/cc
Calorific Value		0	0 MU/kg
Line Density		1100 kg/m3	1050 kg/m3
Mass Flow Rate	10000.36 g/sec		
Output Variables T	7		
mA Output 1 Value	2 mA	3.1997 mA	3.1997 mA
mA Output 2 Value	2 mA	3.2945 mA	3.2945 mA
Diagnostics *	7		
Sensor Temperature Average	52.2478904724121 °C	54.4831428527832 °C	54.4831428527832 °C
Sensor Temperature Maximum	52.2478904724121 °C	54.4831428527832 °C	54.4831428527832 °C
Sensor Temperature Minimum	52.2478904724121 °C	54.4831428527832 °C	54.4831428527832 °C
Configuration *	7		
Burst Variable 1	Mass Flow Rate		Line Temperature
Burst Variable 2	Temperature		Drive Gain
Burst Variable 3	Density		Board Temperature

Procedure

Select **Multi-Device Comparison** (located in the lower left corner of the ProLink III main screen).

6.3.1 Select devices to compare

You can select the specific devices you want to compare data for, when you have more than two devices connected. The default setting is to show all available devices when you open the multi-device comparison tool, but you have the option to change this setting.

Procedure

- 1. Select Add Device.
- 2. Enable the check boxes for only the devices you want to view. The screen automatically refreshes to show only the selected devices.

6.3.2 Compare processes for multiple devices

Procedure

1. In the multi-device comparison screen, select the down arrow next to the performance variable category you want to show data for.

Note

With this tool, you are not limited in the number of variables you can select to show and compare data for.

2. Select Close.

6.3.3 Compare configuration data for multiple devices

Procedure

1. In the multi-device comparison screen, click the down arrow next to **Configuration**.

Note

With this tool, you are not limited in the number of variables you can select to show and compare data for.

2. Select Close.

MMI-20020246 Rev. AG 2020

Micro Motion Inc. USA

Worldwide Headquarters 7070 Winchester Circle Boulder, Colorado USA 80301 T +1 303-527-5200 T +1 800-522-6277 F +1 303-530-8459 www.emerson.com

Micro Motion Asia

Emerson Automation Solutions 1 Pandan Crescent Singapore 128461 Republic of Singapore T +65 6363-7766 F +65 6770-8003

Micro Motion Europe

Emerson Automation Solutions Neonstraat 1 6718 WX Ede The Netherlands T +31 (0) 318 495 555 T +31 (0) 70 413 6666 F +31 (0) 318 495 556 www.emerson.com/nl-nl

Micro Motion United Kingdom

Emerson Automation Solutions Emerson Process Management Limited Horsfield Way Bredbury Industrial Estate Stockport SK6 2SU U.K. T +44 0870 240 1978 F +44 0800 966 181

©2020 Micro Motion, Inc. All rights reserved.

The Emerson logo is a trademark and service mark of Emerson Electric Co. Micro Motion, ELITE, ProLink, MVD and MVD Direct Connect marks are marks of one of the Emerson Automation Solutions family of companies. All other marks are property of their respective owners.



MICRO MOTION[®]