eLearning: Micro Motion On-Line I&E Technician

Course e2353 CEUs: .6

This eLearning course is intended for anyone that is involved with properly installing, wiring, configuring and troubleshooting a Micro Motion flow and density meter connected to a Series 2000 Transmitter. Typical job functions include; maintenance technicians, instrument technicians and instrumentation engineers It can be taken as a full curriculum with assessments. Students that view all of the content and successfully complete the assessments can print out a Certificate of Completion with CEU's awarded. The content can also be used as just-in-time refresher material after attending one of our instructor lead training classes.

Overview

This course is made up of a total 26 topics that cover basic installation, wiring and configuration of a Micro Motion 2700 transmitter with configurable input/outputs and any compatible Micro Motion sensor series. Each topic starts with a short overview of each step of the commissioning process followed by modules that provide the viewer an interactive experience for using the four configuration tools; ProLink III, AMS Device Manager, HC475 Field Communicator or integral display. An online website is also provided that points to online resources, instructions manuals and other tools associated with installation, startup and commissioning of Micro Motion meters.

Prerequisites

None required. However, basic understanding of the fundamentals of flow measurement, electricity, analog & frequency signal processing are assumed.

Topics

- Coriolis Meter Fundamentals
- Wiring Sensor to Transmitter
- Connection & Use of Configuration Tools with 2700 Transmitter
- Configure Process Measurements
- Integrate the Meter with the Control/Operating System
- Configure Device Options & Meter Information
- Final Checkout

Micro Motion Comprehensive Product Training - Factory

Course 2352 CEUs: 2.1

This class is intended for anyone that is involved with properly installing, wiring, configuring and troubleshooting a Micro Motion Coriolis flow and density meter. Typical job functions include; maintenance technicians, instrument technicians and instrumentation engineers.

Overview

This 3-day class consists of a blend of lectures and hands-on exercises that cover the installation, configuration, and calibration of the Micro Motion metering system. Students will learn the Series 1000/2000 transmitters using ProLink III, HC475, and the Series 3000 interface devices. Students will perform a master reset and use ProLink III to configure the Series 1000/2000, perform a flow calibration, and solve troubleshooting problems. On the third day, based on student need, we will cover one or all of the following topics: RFT9739 transmitter, T-Series, R-Series and Series 3000 platform. This course also includes an introduction to Micro Motion's new 5700 transmitter.

Prerequisites

None required. However, basic understanding of the fundamentals of flow measurement, electricity, analog & frequency signal processing are assumed.

Topics

- Explain the Fundamentals for how a Micro Motion Coriolis Meter Works and the Function of the Key Components
- Learn the Installation Best Practices for Orienting, Mounting and Wiring the Sensor and Transmitter
- Configure the Metering System to Measure Flow, Density and Temperature for Various Applications
- Learn a Step by Step Process to Perform Basic Troubleshooting of the Most Common Meter and Process Issues

Micro Motion Modbus Digital Communication

Course 2381 CEUs: .4

This course is appropriate for personnel who have any of the following responsibilities: Installing a Micro Motion transmitter on an RS-485 network, configuring, calibrating, operating, or troubleshooting a Micro Motion transmitter using Modbus protocol, setting up a Modbus host or PLC to communicate with a Micro Motion transmitter or writing programs that use Modbus protocol to communicate with Micro Motion transmitters.

Overview

This 1/2-day class consists of a blend of lectures and hands-on exercises. Students will learn the Modbus communications model, including RS-485 network requirements, memory structure, data types, functions, character framing, and message framing. Students will use Micro Motion's Modbus documentation set and Modbus tool to configure transmitter features, read process data, reset totals, read and acknowledge alarms, analyze diagnostic registers, zero the flowmeter, perform a loop test and manage a batch process. Troubleshooting will also be covered.

Prerequisites

Students should have completed Micro Motion Comprehensive Product Training, Course 2352, or have equivalent knowledge or experience.

Topics

- Explain the Fundamentals for the Modbus Protocol Model
- Configure, Commission, Read Process Data, View and Analyze Key Diagnostic Registers and Loop Test a Batch Application using a Micro Motion Meter
- Set up a Host System or PLC to Communicate with a Micro Motion Transmitter via Modbus

For Mircro Motion training information please refer to the appropriate contact on page 118.
For regional training center contacts refer to pages 116-117.
Visit: www.emersonprocess.com/education for current dates, locations and enrollments.

Micro Motion Comprehensive Product Training - Field

Course 2380 CEUs: 1.4

This class is intended for anyone that is involved with properly installing, wiring, configuring and troubleshooting a Micro Motion flow and density meter. Typical job functions include; maintenance technicians, instrument technicians and instrumentation engineers.

Overview

This 2-day field class covers the same materials that are covered in the 2352 course held at Micro Motion headquarters, in Boulder, Colorado. It is a blend of lectures and hands-on exercises that cover the installation, configuration and calibration of the Micro Motion metering system. Students will learn the Series 1000/2000/3000 transmitters using these configuration tools; Prolink III, HC475, AMS or Display Interface. Students will perform a master reset and use Prolink III to configure the Series 1000/2000/3000, perform a flow calibration check and learn how to diagnose and solve troubleshooting problems. When the class is taught at a customer site the class can be customized to cover RFT9739/9739MVD transmitter with F-Series, T Series or R Series Sensors. This course also includes an introduction to Micro Motion's new 5700 transmitter.

Prerequisites

None required. However, basic understanding of the fundamentals of flow measurement, electricity, analog and frequency signal processing are assumed.

Topics

- Explain the Fundamentals for how a Micro Motion Coriolis Meter Works and the Function of the Key Components
- Learn the Installation Best Practices for Orienting, Mounting and Wiring the Sensor and Transmitter
- Configure the Metering System to Measure Flow, Density and Temperature for Various Applications
- Learn a Step by Step Process to Perform Basic Troubleshooting of the Most Common Meter and Process Issues

Micro Motion Series 1000/2000

Course 2358 CEUs: .7

This course is intended for anyone that is involved with properly installing, wiring, configuring and troubleshooting a Micro Motion Coriolis flow and density meter. Typical job functions include; maintenance technicians, instrument technicians and instrumentation engineers.

Overview

This 1-day course consists of a blend of lectures and hands-on exercises that cover the installation, configuration, calibration checks and troubleshooting of Micro Motion sensors with the Series 1000/2000 transmitters and peripherals. This course includes hands-on exercises. Courses held at customer specified sites can be customized to address specific transmitters and configuration tools. Public registration classes cover a broader range of equipment based on the needs of the attendees. This course also includes an introduction to Micro Motion's new 5700 transmitter.

Prerequisites

None required. However, basic understanding of the fundamentals of flow measurement, electricity, analog & frequency signal processing are assumed.

Topics

- Explain the Fundamentals for how a Micro Motion Coriolis Meter Works and the Function of the Key Components
- Be able to apply the installation best practices for orienting, mounting and wiring the sensor and transmitter.
- Configure the Metering System to Measure Available Process Variables from the Device for Their Application
- Learn a Step by Step Process to Perform Basic Troubleshooting of the Most Common Meter and Process Issues

Micro Motion Coriolis Short Course

Course 2339C CEUs: .4

This class is intended as a refresher course for anyone that is involved with properly configuring and troubleshooting a Micro Motion flow and density meter. Typical job functions include; maintenance technicians, instrument technicians and instrumentation engineers. This class is also intended to be taught as two, ½ day repeat sessions to accommodate customers who need to train their entire department but must also maintain the operation of their plant by scheduling their employees between an AM/PM training sessions.

Overview

This 1/2-day field class is a condensed version of the 2358 course briefly reviewing the theory of operation, meter components and installation. The focus of the class is to provide a hands-on experience configuring and troubleshooting of the Micro Motion metering system. Students will learn the Series 1000/2000 transmitters using one of these configuration tools; Prolink III, HC475, AMS and Series 3000 display interface devices. Public field classes typically use Prolink III.Customers can choose which configuration device is used for classes held at their site. This course also includes an introduction to Micro Motion's new 5700 transmitter.

Prerequisites Some prior experience working with Micro Motion Coriolis meters is recommended. Students with no past experience can benefit if their learning objectives are to get a basic intro to operation, installation, configuration and troubleshooting. For all attendees, it is assumed they have a basic understanding of the fundamentals of flow measurement, electricity, analog and frequency signal processing.

Topics

- Briefly Explain the Fundamentals for How a Micro Motion Coriolis Meter Works and the Function of the Key Components
- Have a basic understanding of the Installation Best Practices for Orienting, Mounting and Wiring the Sensor and Transmitter
- Perform a Basic Configuration of the Metering System to Measure Flow, Density and Temperature for Various Applications
- Diagnose and Know how to Correct the Most Common Meter and Process Issues

Micro Motion Sensors and RFT9739 or 9739MVD Transmitter

Course 2351 CEUs: .7

This course is intended for anyone that is involved with properly installing, wiring, configuring and troubleshooting a Micro Motion Coriolis flow and density meter. Typical job functions include; maintenance technicians, instrument technicians and instrumentation engineers.

Overview

This 1-day course consists of a blend of lectures and hands-on exercises that cover the installation, configuration, calibration checks and troubleshooting of Micro Motion ELITE , F-Series and D sensors with the RFT9739 or 9739MVD transmitters and peripherals. This course includes hands-on exercises. Courses held at customer specified sites can be customized to address specific transmitters and configuration tools. Public registration classes cover a broader range of equipment based on the needs of the attendees.

Prerequisites

None required. However, basic understanding of the fundamentals of the behavior/properties of gases and gas density measurement are helpful. Basic electricity, analog & frequency signal processing knowledge are also assumed.

Topics

After attending this course the student will be able to do the following:

- Explain the Fundamentals for how a Micro Motion Coriolis Meter works and the Function of the Key Components
- Learn the Installation Best Practices for Orienting, Mounting and Wiring the Sensor and Transmitter
- Configure the RFT9739 or 9739MVD to Measure Flow, Density and Temperature for Their Application
- Learn a Step by Step Process to Perform Basic Troubleshooting of the Most Common Meter and Process Issues

Micro Motion 3098 Gas Specific Gravity

Course 2386 CEUs: .7

This course is intended for anyone that is involved with properly installing, wiring, configuring and troubleshooting a Micro Motion 3098 Gas Specific Gravity meter. Typical job functions include; maintenance technicians, instrument technicians and instrumentation engineers.

Overview

This 1-day course consists of a blend of lectures and hands-on exercises that cover an overview of the operating principle, key components and applications of a 3098 Micro Motion Gas Specific Gravity meter. The process of commissioning a 3098 is covered including: installation, wiring, configuration and field calibration at initial startup. Troubleshooting of commonly seen issues is also covered. This course includes hands on demonstrations.

Prerequisites

None required. However, basic understanding of the fundamentals of the behavior/properties of gases and gas density measurement are helpful. Basic electricity, analog & frequency signal processing knowledge are also assumed.

Topics

- Explain the Principle of Operation for how a a Micro Motion 3098 Gas Specific Gravity Meter Works and the Function of the Key Components
- Learn the Installation Best Practices for Orienting, Mounting, Piping and Wiring the 3098
- Configure the 3098 and Perform the Required Field Calibration
- Learn a Step by Step Process to Perform Basic Troubleshooting of the Most Common Issues Customers Encounter

Wireless: Micro Motion Coriolis and Rosemount Smart Magnetic and Vortex Flowmeters

Course 2383 CEUs: .7

This course is intended for anyone that is involved with installing, wiring, configuring -and troubleshooting a Micro Motion Coriolis, Rosemount 8700 Magnetic & 8800 Vortex flowmeters with a 775 Wireless THUM. Typical job functions include; maintenance technicians, instrument technicians and instrumentation engineers.

Overview

This 1-day course consists of a blend of lectures and hands-on exercises that cover a basic overview of wireless capabilities with a Micro Motion Coriolis, Rosemount 8700 Series Magnetic and 8800 Series Vortex meters. Based on customer need, the class can be taught for each individual products. The course provides a step by step process for the following: how to install and wire a 775 Smart Wireless THUM to each transmitter, how to configure the THUM, how to configure the 1420 Wireless Gateway to the THUM using AMS Device Manager , and how to add and view the Micro Motion and Rosemount transmitters to the gateway.

Prerequisites-

General understanding of the HART protocol and operation and configuration of a Micro Motion Coriolis, Rosemount 8700 Magnetic and 8800 Vortex meters is assumed.

Topics

- Explain the Fundamentals for how a Micro Motion Coriolis, Rosemount 8700 Series Magnetic & 8800 Series Vortex Flowmeters Work with a 1420 Wireless Gateway and 775 Smart THUM Adapter
- Install and Wire a 775 Smart THUM to Micro Motion and Rosemount Transmitters
- Connect to and Configure the Micro Motion and Rosemount Transmitters to work with a 1420 Wireless Gateway
- Configure a 775 Smart THUM and the Transmitters to Communicate on the Gateway using AMS Device Manager

For Mircro Motion training information please refer to the appropriate contact on page 118.
For regional training center contacts refer to pages 116-117.
Visit: www.emersonprocess.com/education for current dates, locations and enrollments.

Micro Motion Coriolis and Rosemount Smart 8700 Magnetic Flowmeters

Course 2384 CEUs: .7

This combined class is intended anyone that is involved with properly configuring and troubleshooting a Micro Motion flow and density meter and Rosemount 8700 Smart Magnetic Flowmeters. Typical job functions include; maintenance technicians, instrument technicians and instrumentation engineers.

Overview This 1-day field class provides hands-on training on both the Coriolis and Magnetic Flowmeters. Typically 2/3 of the course time is spent on Micro Motion's Coriolis meter and 1/3 on Rosemount's 8700 Magnetic Flowmeter. Theory of operation, meter components and installation of each flowmeter are covered. The focus of the class is to provide a hands-on experience configuring and troubleshooting best practices. Students will learn the Micro Motion Series 1000/2000 transmitters using one of these configuration tools; Prolink III, HC475, AMS Device Manager or Series 3000 display interface devices. Public field classes typically use Prolink III for configuring the Micro Motion transmitters and the HC475 will be used for the Rosemount 8700 Magnetic flowmeter. Customers can choose which configuration device is used for classes held at their site. This course also includes an introduction to Micro Motion's new 5700 transmitter.

Prerequisites
Some prior experience working with Micro Motion Coriolis & Rosemount 8700 Magnetic flowmeters is recommended. However students with no past experience can also benefit. A basic understanding of the fundamentals of flow measurement, electricity, analog and frequency signal processing

Topics

After attending the course the student will be able to do the following for both Micro Motion's Coriolis and Rosemount 8700 Magnetic flowmeters:

- Briefly Explain the Fundamentals for How Each Flowmeter Works and the Function of the Key Components
- Basic Understanding of the Installation Best Practices for Orienting, Mounting and Wiring the Sensor and Transmitter
- Perform a Basic Configuration of the Metering System for Various Applications
- Diagnose and Know How to Correct the Most Common Meter and Process Issues

Micro Motion Coriolis and Rosemount Smart 8800 Vortex Flowmeters

Course 2387 CEUs: .7

This combined class is intended anyone that is involved with properly configuring and troubleshooting a Micro Motion flow and density meter and Rosemount 8800 Smart Vortex Flowmeters. Typical job functions include; maintenance technicians, instrument technicians and instrumentation engineers.

Overview
This1-day field class provides hands-on training on both the Coriolis and Vortex Flowmeters. Typically 2/3 of the course time is spent on Micro Motion's Coriolis meter and 1/3 on Rosemount's 8800 Vortex Flowmeter. Theory of operation, meter components and installation of each flowmeter are covered. The focus of the class is to provide a hands-on experience configuring and troubleshooting best practices. Students will learn the Micro Motion Series 1000/2000 transmitters using one of these configuration tools; Prolink III, HC475, AMS Device Manager or Series 3000 display interface devices. Public field classes typically use Prolink III for configuring the Micro Motion transmitters and the HC475 will be used for the Rosemount 8800 Vortex flowmeter. Customers can choose which configuration device is used for classes held at their site. This course also includes an introduction to Micro Motion's new 5700 transmitter.

Prerequisites
Some prior experience with Micro Motion Coriolis & Rosemount 8800 Vortex flowmeters. A basic understanding of the fundamentals of flow measurement, electricity, analog and frequency signal processing.

Topics

Students will be able to do the following for both Micro Motion's Coriolis and Rosemount 8800 Vortex flowmeters:

- Briefly Explain the Fundamentals for How Each Flowmeter Works and the Function of the Key Components
- Basic Understanding of the Installation Best Practices for Orienting, Mounting and Wiring the Sensor and Transmitter
- Perform a Basic Configuration of the Metering System for Various Applications
- Diagnose and Know How to Correct the Most Common Meter and Process Issues

MMI eLearning Offerings

e2353 Micro Motion Online Instrument and Electrical

(English & Spanish versions available)
This online training is targeted for individuals who startup and maintenance Micro Motion Coriolis meters.Typical job functions include: maintenance and instrument technicians or engineers. This course is made up of a total 26 topics that cover basic installation, wiring and configuration of a Micro Motion 2700 transmitter with configurable input/outputs and any compatible Micro Motion sensor series. Each module has a short overview of each step of the commissioning process followed by modules that provide the viewer an interactive experience for using the four configuration tools; ProLink III, AMS Device Manager, HC475 Field Communicator or integral display.
$400 per student - unlimited access 12 months.

e2354 Micro Motion Coriolis Meter: Theory of Operation

(English, Spanish, German & Chinese versions available)
This online training includes: How a Coriolis meter works ; The basic physics behind what the Coriolis Force is, how a Coriolis Sensor uses that principle to measure mass flow directly; How a Coriolis sensor simultaneously measures the density and temperature of the process fluid
$99 per student - unlimited access 12 months.

e2355 Micro Motion Coriolis Meter: Installation Best Practices

(English, Spanish, German & Chinese versions available)
This online training includes: Understand the considerations for determining sensor and transmitter location in a process; How to determine the best sensor orientation based on the application; Understand best practices for mounting the sensor
$99 per student - unlimited access 12 months.

e2356 Micro Motion Coriolis Meter: Wiring and Navigating Tools

(English, Spanish, German & Chinese versions available)
This online training includes: Wiring Sensor to Transmitter; Connecting Power and Powering the Transmitter; Wiring the Configuration Tools to the Transmitter & more
$99 per student - unlimited access 12 months.

e2357 Micro Motion Coriolis Configuring Process Measurements

(English, Spanish, German & Chinese versions available)
This online training includes: Communicating Between Tools and Transmitter; Navigation of Configuration Tool Menus; Characterizing the Flowmeter Configuring Flow Measurements; Flow Direction and Dampening; Density Measurement and Slug Flow Limits and Configuring Temperature
$99 per student - unlimited access 12 months.

e2359 Micro Motion Coriolis Meter: Configure Device Options

(English, Spanish, German & Chinese versions available)
$99 per student - unlimited access 12 months.

e2360 Micro Motion Coriolis Meter: Final Checkout

(English, Spanish, German & Chinese versions available)
$99 per student - unlimited access 12 months.