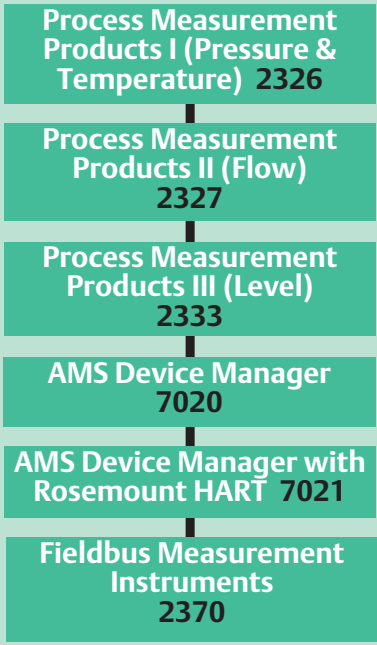
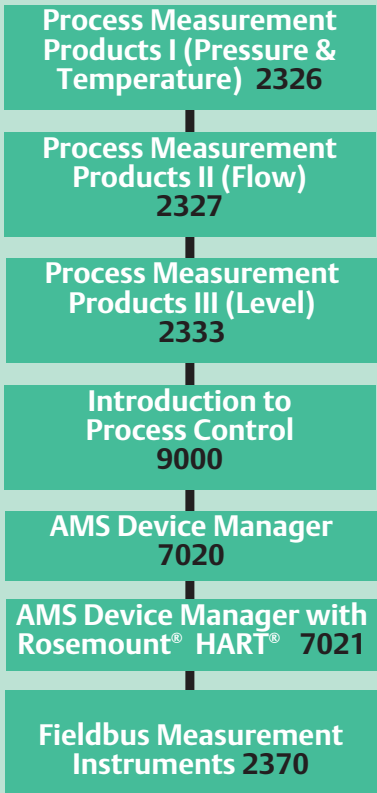


LEARNING PATH

Typical Technician's Training Path



Typical Engineer's Training Path



To enroll in Measurement courses or for more information, please call: 800-338-8158 or 641-754-3771

Process Measurement Products I (Pressure and Temperature)

Course 2326 CEUs: 3.2

This course is intended for technicians, engineers and other plant personnel who need to know installation, calibration, maintenance and troubleshooting of measurement instrumentation.

Overview

This 4-1/2 day course explains how pressure and temperature transmitters function and how they are installed and calibrated. It emphasizes installation, proper set-up and calibration of Analog and Smart Pressure and Temperature Transmitters. The course uses lectures and labs to teach the students. Those who complete this class will be able to:

- correctly perform installation and setup procedures
- properly configure Smart Transmitters
- properly calibrate transmitters
- perform basic troubleshooting

Prerequisites

Some experience in instrument calibration, maintenance, installation and operation would be helpful.

Topics

- Basic 4-20 mA Loop Setup
- Pressure Sensors
- Temperature Sensors (TC, RTD)
- Analog Transmitters (1151, 2024, 144, 444)
- HART Communication
- 375 Hand Held Communicator
- Smart Transmitters (1151S, 2088, 3051C & S, 644, 3144P, Tri-Loops)
- Using AMS Device Manager to Configure and Calibrate Smart Transmitters
- Test Equipment Selection
- Installation
- Configuration
- Calibration
- Troubleshooting

Price \$1,700

Location Eden Prairie, MN **Start Dates 2009** 2/2, 5/4, 9/21

Process Measurement Products II (Flow)

Course 2327 CEUs: 2.1

This course is intended for technicians, engineers and other plant personnel who need to know installation, calibration, maintenance and troubleshooting of measurement instrumentation.

Overview

This 3-day course explains how flow instruments function and how they are installed and calibrated. It emphasizes installation, proper setup and calibration of flow instruments. The course uses lectures and labs to teach the students. Those who complete this class will be able to:

- correctly install Magnetic Flowtubes, Vortex Flow Meters and Multivariable Flow Transmitters
- properly calibrate Flow Instruments
- perform basic troubleshooting

Prerequisites

Some experience in instrument calibration/verification, maintenance, installation and operation would be helpful.

Topics

- Basic Flow Fundamentals
- Magnetic Flow Systems
- Vortex Flow Meters
- Multivariable Flow Transmitters
- AMS Device Manager with Engineering Assistant Snap-ON
- 375 Communicator
- Test Equipment Selection
- Installation
- Configuration
- Calibration / Verification
- Troubleshooting

Price \$1,300

Location Eden Prairie, MN **Start Dates 2009** 2/10, 3/31, 10/27

Measurement Instrumentation Rosemount's leadership in the design, manufacture, and application of smart field instrumentation is unchallenged for pressure, level, temperature, and flow measurement instruments to monitor and control processes. The vast amounts of information generated by these devices make possible lower automation costs, improved plant performance, faster troubleshooting, fewer unscheduled shutdowns, and lower maintenance costs. For this reason, Rosemount sponsors more than two-dozen courses covering product installation, configuration, calibration & maintenance.

Process Measurement Products III (Level)

Course 2333 CEUs: 2.1

This course is intended for technicians, engineers and other plant personnel who need to know installation, calibration, maintenance and troubleshooting of measurement instrumentation.

Overview

This 3-day course explains how level instruments function and how they are installed and calibrated. It emphasizes installation, proper setup and calibration / verification of level instruments. The course uses lectures and labs to teach the students. Those who complete this class will be able to:

- correctly install Guided Wave Radar Transmitters
- correctly install Non-contacting Radar Transmitters
- properly calibrate Level Instruments
- perform basic troubleshooting

Prerequisites

Some experience in instrument calibration, maintenance, installation and operation would be helpful.

Topics

- DP Level Fundamentals
- Radar Applications
- Radar Instruments
- Radar PC Software
- 375 Communicator
- Test Equipment Selection
- Installation
- Configuration
- Calibration / Verification
- Troubleshooting

Price \$1,300

Location Eden Prairie, MN **Start Dates 2009** 2/17, 7/14, 9/29

Fieldbus Measurement Instruments

Course 2370 CEUs: 3.2

This course is for individuals responsible for installing, configuring, calibrating, and troubleshooting FOUNDATION™ fieldbus measurement devices.

Overview

This 4-1/2 day class covers the integration of FOUNDATION™ fieldbus compliant measurement devices using the 375 Communicator, 3420 FIM and other hosts. Upon completion of this course students will be able to: install, configure, calibrate, and troubleshoot Rosemount Fieldbus devices which include the 3051C and 3051S Pressure transmitters, 644, 3144P and 848 Temperature transmitters, 8742 Magnetic Flow transmitter, 8800 Vortex Flow transmitter, 5600, 5400 and 5300 Radar Level Transmitter, 752 Indicator, and the 3420 Fieldbus Interface Module (FIM).

Prerequisites

Experience in instrument calibration, maintenance/installation/operation would be helpful.

Topics

- FOUNDATION™ fieldbus Overview
- Fieldbus: Wiring/Segment Design/Function Blocks
- 375 Communicator Operation
- Theory of Operation, Installation, Configuration, Maintenance, Calibration and Troubleshooting on the following:
 - 3051C Pressure Transmitter
 - 3051S Pressure Transmitter
 - 3144P, and 644 Temperature Transmitter
 - 848 Temperature Transmitter
 - 8742 Mag Flow Transmitter
 - 8800 Vortex Transmitter
 - 5600/5400/5300 Radar Level Transmitter
 - 752 Fieldbus Indicator
 - 3420 Fieldbus Interface Module

Note: Course may be conducted using other Fieldbus Hosts, such as DeltaV and National Instruments, call with any questions.

Price \$2,000

Location Eden Prairie, MN **Start Dates 2009** 2/23, 7/20, 11/2

Pressure, Temperature & Magnetic Flow Smart Transmitters

Course 2329 CEUs: 1.4

This 2-day course is designed for those individuals responsible for the installation, configuration, calibration, troubleshooting, and maintenance of the Rosemount Model 3051C Smart Pressure Transmitter, 3144P Smart Temperature Transmitter, and the 8700 Series Smart Magnetic Flow Transmitter. This course is a combination of courses: 2305, 2321, and 2340.

Overview

This course uses lectures and labs to maximize the hands on experiences and teach the student how to install, configure, calibrate, troubleshoot, and maintain the Rosemount Model 3051C, 3144P, and 8700 Series Smart Transmitter.

Topics Day 1

- 3051C Smart Pressure Transmitter,
- 375 Operation, Digital Trims/Calibration

Topics Day 2

- Topics Specific to the 3144P Smart Temperature Transmitter
- 8700 Series Smart Magnetic Flow Transmitter

Note: Students must attend both days.

Reference course, 2305, 2321 and 2340 for further details.

Price \$1,100

Location	Start Dates 2009
Las Vegas, NV	1/20, 6/16
Marshalltown, IA	4/21, 10/20
Lakeland, FL	3/3
Pasadena, TX	3/9, 9/14
Charlotte, NC	4/21
Oak Forest, IL	5/11
Mansfield, MA	6/16

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1151 Smart Pressure Transmitter**Course 2302 CEUs: .7****Overview**

This 1-day course uses lectures and labs to teach the student how to retrofit, install, configure, calibrate and maintain the Rosemount Model 1151 Pressure Transmitter.

The students will also learn the operation and interface capabilities of the Model 375 Communicator. Students who complete this course will be able to:

- explain the differences between Smart and Analog transmitters
- identify 1151S parts and explain their functionality
- explain the principles of operation of the 1151S
- upgrade an 1151 Analog to an 1151 Smart
- characterize the 1151 Smart transmitter
- configure and test Smart transmitters using the Model 375 Communicator
- properly install and troubleshoot the 1151 Smart transmitter

Prerequisites

Knowledge of basic pressure fundamentals and analog pressure instrumentation.

Topics

- Smart and Analog Transmitters
- 1151S Overview and Principles of Operation
- Retrofitting Analog 1151 Transmitters
- Characterizing 1151 Smart Transmitter
- Test Equipment Selection
- Bench Testing the 1151 Smart Transmitter
- Model 375 Operation
- Digital Trims/Calibration
- Installation and Start-up
- Troubleshooting and Maintenance

Price \$550

Location **Start Dates 2009**
Call to Schedule

3051 Smart Pressure Transmitter**Course 2305 CEUs: .7**

This course is designed for those individuals responsible for the installation and maintenance of the Rosemount Model 3051 Smart Pressure Transmitter.

Overview

This 1-day course uses lectures and labs to teach the student how to install and maintain the Rosemount Model 3051 Smart Pressure Transmitter.

The student will also learn the operation of the Model 375 Communicator. Students will:

- explain the differences between Smart & Analog transmitters
- identify 3051 parts and functionality
- explain the principles of operation of the 3051
- configure and test 3051 Smart Pressure Transmitters using the Model 375 Communicator
- properly install/ troubleshoot the 3051 Smart transmitter

Prerequisites

Knowledge of basic pressure fundamentals and pressure instrumentation.

Topics

- Smart and Analog Transmitters
- 3051 Overview and Principles of Operation
- Test Equipment Selection
- Bench Testing the 3051 Smart Transmitter
- Model 375 Operation
- Digital Trims/Calibration
- Installation and Start-up
- Troubleshooting and Maintenance

Note: This product is also included in the 2-day course 2329.

Price \$550

Location **Start Dates 2009**
Call to Schedule

3051 Smart Pressure Transmitter Using AMS Device Manager**Course 2306 CEUs: .7**

This course is designed for those individuals responsible for the installation and maintenance of the Rosemount Model 3051 Smart Pressure Transmitter.

Overview

This 1-day course uses lectures and labs to maximize hands on experience and teach the student how to install and maintain the Rosemount Model 3051 Smart Pressure Transmitter.

The student will also learn the operation of the AMS Device Manager. Students will:

- explain the differences between Smart and Analog transmitters
- identify 3051 parts and functionality
- explain the principles of operation of the 3051
- configure and test 3051 Smart Pressure Transmitters using the AMS Device Manager
- properly install and troubleshoot the 3051 Smart transmitter
- calibrate the 3051 using AMS Device Manager

Prerequisites

Knowledge of basic pressure fundamentals and pressure instrumentation.

Topics

- Smart and Analog Transmitters
- 3051 Overview and Principles of Operation
- Test Equipment Selection
- Bench Testing the 3051 Smart Transmitter
- AMS Device Manager
- Digital Trims/Calibration
- AMS Device Manager Calibration Management
- Intelligent Calibrators
- Installation and Start-up
- Troubleshooting and Maintenance

Price \$600

Location **Start Dates 2009**
Call to Schedule



3051 Fieldbus Pressure Transmitter

Course 2307 CEUs: .7

This course is designed for those individuals responsible for the installation and maintenance of the Rosemount Model 3051 Fieldbus Pressure Transmitter.

Overview

This 1-day course uses lectures and labs to maximize the hands on experiences and teach the student how to install and maintain the Rosemount Model 3051 Fieldbus Pressure Transmitter.

The student will also learn the operation of the 375 Fieldbus Communicator. Students who complete this course will be able to:

- identify 3051 parts and functionality
- explain the principles of operation of the 3051
- design and build a Fieldbus segment
- configure, test, and calibrate the 3051 Fieldbus Pressure Transmitters using the 375 Communicator
- properly install and troubleshoot the 3051 Fieldbus Transmitter

Prerequisites

Knowledge of basic pressure fundamentals and pressure instrumentation.

Topics

- 3051 Overview and Principles of Operation
- FOUNDATION™ fieldbus Overview
- Fieldbus Wiring/Segment Design/Function Blocks
- Test Equipment Selection
- Bench Testing 3051 Fieldbus Transmitter
- 375 Communicator Operation
- Digital Trims/Calibration
- Installation and Start-Up
- Troubleshooting and Maintenance

Note: Course may be conducted using other Fieldbus Hosts, call with any questions.

Price \$600

Location **Start Dates 2009**
Call to Schedule

3051S Smart Pressure Transmitter

Course 2308 CEUs: .7

This course is designed for those individuals responsible for the installation, configuration, calibration, troubleshooting, and maintenance of the Rosemount Model 3051S Smart Pressure Transmitter.

Overview

This 1-day course uses lectures and labs to maximize the hands on experiences and teach the student how to install, configure, calibrate, troubleshoot, and maintain the Rosemount Model 3051S Smart Pressure Transmitter. The student will also learn the operation of the Model 375 Communicator. Students who complete this course will be able to:

- identify 3051S parts and functionality explain the principles of operation of the 3051S
- configure and test the 3051S Smart Pressure Transmitters using the Model 375
- properly install, configure, calibrate, and troubleshoot the 3051S Smart transmitter

Prerequisites

Knowledge of basic pressure fundamentals and pressure instrumentation.

Topics

- 3051S Overview/Principles of Operation
- 3051S Installation & Options
- Test Equipment Selection
- Configure & Bench Testing the 3051S Smart Transmitter
- Configure and Test the 3051S Advanced Features:
 - Alarm & Saturation Levels, Alarm Direction, Write Protection,
 - Process Alerts, Scaled Variable
- Digital Trims/Calibration
- Troubleshooting and Maintenance

Price \$550

Location **Start Dates 2009**
Call to Schedule

3144P Temperature Transmitters

Course 2321 CEUs: .7

This course is designed for those individuals responsible for the installation and maintenance of the Rosemount Model 3144P Smart Temperature Transmitters.

Overview

This 1-day course uses lecture and labs to teach the student how to install and maintain the Rosemount Model 3144P Smart Temperature Transmitters. The student will also learn the operation and interface capabilities of the 375 Communicator. Students who complete this course will:

- identify 3144P parts/explain functionality
- explain the principles of operation of the 3144P
- configure and test 3144P Smart Temperature Transmitters using the 375 Communicator
- properly install and troubleshoot the 3144P Smart Transmitters

Prerequisites

Knowledge of basic temperature fundamentals and temperature instrumentation.

Topics

- 3144P Overview and Principles of Operation
- Test Equipment Selection
- Sensor Selection and Wiring
- Bench Testing the 3144P Smart Transmitters
- Model 375 Operation
- Digital Trims/Calibration
- 3144P Dual Sensor Setup and Configuration
- Installation and Start-Up
- Troubleshooting and Maintenance

Note: This product is also included in the 2-day course 2329.

Price \$550

Location **Start Dates 2009**
Call to Schedule

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3144P Smart Temperature Transmitter Using AMS Device Manager

Course 2323 CEUs: .7

This course is designed for those individuals responsible for the installation, configuration, calibration and maintenance of the Rosemount Model 3144P Smart Temperature Transmitters.

Overview

This 1-day course uses lecture and labs to maximize the hands on experience and teach the student how to install, configure, calibrate and maintain the Rosemount Model 3144P Smart Temperature Transmitters.

The student will also learn the operation of the AMS Device Manager. Students who complete this course will be able to:

- identify 3144P parts and explain their functionality
- explain the principles of operation of the 3144P
- configure and test 3144P Smart Temperature Transmitters using the AMS Device Manager
- properly install and troubleshoot the 3144P Smart Transmitters

Prerequisites

Knowledge of basic temperature fundamentals and temperature instrumentation.

Topics

- 3144P Overview and Principles of Operation
- Test Equipment Selection
- Sensor Selection and Wiring
- Bench Testing the 3144P Smart Transmitters
- AMS Device Manager
- Digital Trims/Calibration
- AMS Calibration Management
- Intelligent Calibrators
- 3144P Dual Sensor Setup and Configuration
- Installation and Start-Up
- Troubleshooting and Maintenance

Price \$600

Location **Start Dates 2009**
Call to Schedule

3144P Fieldbus Temperature Transmitters

Course 2324 CEUs: .7

This course is designed for those individuals responsible for the installation and maintenance of the Rosemount Model 3144P Fieldbus Temperature Transmitters.

Overview

This 1-day course uses lecture and labs to maximize the hands on experiences and teach the student how to install, configure, calibrate, troubleshoot, and maintain the Rosemount Model 3144P Fieldbus Temperature Transmitters.

The student will also learn the operation of the 375 Communicator. Students who complete this course will be able to:

- identify 3144P parts and explain their functionality
- explain principles of operation of the 3144P
- design and build a Fieldbus segment
- configure, calibrate, and test 3144P Fieldbus Temperature transmitters using the 375 Communicator
- properly install and troubleshoot the 3144P Fieldbus Transmitters

Prerequisites

Knowledge of basic temperature fundamentals and temperature instrumentation.

Topics

- 3144P Overview and Principles of Operation
- FOUNDATION™ fieldbus Overview
- Fieldbus Wiring
- Fieldbus Segment Design
- Fieldbus Function Blocks
- Test Equipment Selection
- Sensor Selection and Wiring
- Bench Testing 3144P Fieldbus Transmitters
- 375 Communicator Operation
- Digital Trims/Calibration
- Installation and Start-Up
- Troubleshooting and Maintenance

Note: Course may be conducted using other Fieldbus Hosts, call with any questions.

Price \$600

Location **Start Dates 2009**
Call to Schedule

848 Fieldbus Temperature Transmitter

Course 2328 CEUs: .7

This 1-day course uses lectures and labs to maximize the hands on experiences and teach the student how to install, configure, troubleshoot, and maintain the Rosemount Model 848T Fieldbus Temperature Transmitters.

Overview

The student will also learn the operation of the 375 Fieldbus Communicator. Students who complete this course will be able to:

- explain the principles of operation of the 848T
- configure, calibrate, and test the 848T Fieldbus temperature transmitter using the 375 Communicator
- design and build a Fieldbus segment
- properly install and troubleshoot the 848T Fieldbus Transmitter

Prerequisites

Knowledge of basic temperature fundamentals and temperature instrumentation.

Topics

- 848T Overview and Principles of Operation
- FOUNDATION™ fieldbus Overview
- Fieldbus Wiring
- Fieldbus Segment Design
- Fieldbus Function Blocks (including the MAI, and ISEL Blocks)
- Test Equipment Selection
- Sensor Selection and Wiring
- Bench Testing the 848T Fieldbus Transmitters
- 375 Communicator Operation
- Digital Trims/Calibration
- Installation and Start-Up
- Troubleshooting and Maintenance

Note: Course may be conducted using other Fieldbus Hosts, call with any questions.

Price \$600

Location **Start Dates 2009**
Call to Schedule

8700 Series Smart Magnetic Flowmeter

Course 2340 CEUs: .7

This course is designed for those individuals responsible for the installation, configuration, calibration, and maintenance of the Rosemount Smart Flowmeter System.

Overview

This 1-day course uses lectures and labs to teach the student how to install, configure, calibrate, and maintain the Rosemount Smart Flowmeter System composed of the Model 8712 Smart Flowmeter Transmitter and the 8705 Flanged or 8711 Wafer Flow tube. The students will also learn the operation and interface capabilities of the Local Operator Interface and the Model 375 Communicator. Upon completion of course students will:

- explain the differences and capabilities of the Rosemount Magnetic Flowmeters
- identify transmitter parts/explain functionality
- explain Faraday's Law and the principles of operation of Magnetic Flowmeter system
- configure and test transmitters using the LOI and 375 Communicator
- properly install/troubleshoot the Rosemount Smart Magnetic Flowmeter system

Prerequisites

Knowledge of basic flow fundamentals and instrumentation.

Topics

- Magnetic Flowmeter System
- Smart vs. Analog Transmitters
- Flow Tube Selection
- Configuring Using LOI and 375
- Local Operator Interface Functions
- Positive Zero Return
- Auxiliary Functions and Special Units
- Signal Conditioning
- System Troubleshooting and Maintenance
- Bench Testing/Digital Trims

Note: This product is also included in the 2-day course 2329.

Price \$550

Location Start Dates 2009
Call to Schedule

8732 Series Smart Magnetic Flowmeter

Course 2344 CEUs: .7

This course is designed for those individuals responsible for the installation and maintenance of the Rosemount Smart Flowmeter System.

Overview

This 1-day course uses lecture and labs to teach the student how to install and maintain the Rosemount Smart Flowmeter System composed of the Model 8732 Smart Flowmeter Transmitter and the 8705 Flanged or 8711 Wafer Flow tube. The student will also learn the operation and interface capabilities of the Local Operator Interface and the Model 375 Communicator. Students who complete this course will be able to:

- explain the differences and capabilities of the Rosemount Magnetic Flowmeter
- identify transmitter parts and explain their functionality
- explain Faraday's Law and the principles of operation of Magnetic Flowmeter system
- configure and test transmitters using the LOI and Model 375 Communicator
- properly install/troubleshoot the Rosemount Smart Magnetic Flowmeter system

Prerequisites

Knowledge of basic flow fundamentals and instrumentation.

Topics

- Magnetic Flowmeter Systems
- Smart vs Analog Transmitters
- Flow Tube Selection
- LOI vs 375 Functionality
- LOI and the Quick Start
- Signal Conditioning
- Auxiliary Functions and Special Units
- Troubleshooting/Maintenance/Bench Testing

Price \$550

Location Start Dates 2009
Call to Schedule

8700 Series Smart Magnetic Flowmeter Using AMS Device Manager

Course 2346 CEUs: .7

This course is designed for those individuals responsible for the installation and maintenance of the Rosemount Smart Flowmeter System.

Overview

This 1-day course uses lectures and labs to teach the student how to install and maintain the Rosemount Smart Flowmeter System composed of the Model 8712 Smart Flowmeter Transmitter and the 8705 Flanged or 8711 Wafer Flow tube. The students will also learn the operation and interface capabilities of the Local Operator Interface and the AMS Device Manager. Students who complete this course will be able to:

- explain the differences and capabilities of the Rosemount Magnetic Flowmeters
- identify transmitter parts and explain their functionality
- explain Faraday's Law and the principles of operation of the Magnetic Flowmeter system
- configure and test transmitters using the LOI and AMS Device Manager Software
- properly install/troubleshoot the Rosemount Smart Magnetic Flowmeter system

Prerequisites

Knowledge of basic flow fundamentals and instrumentation.

Topics

- Magnetic Flowmeter System
- Smart vs. Analog Transmitters
- Flow Tube Selection
- Configuring Using LOI and AMS Device Manager Software
- Local Operator Interface Functions
- Positive Zero Return
- Auxiliary Functions and Special Units
- Signal Conditioning
- System Troubleshooting and Maintenance
- Bench Testing/Digital Trims

Price \$600

Location Start Dates 2009
Call to Schedule

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8742 Fieldbus Magnetic Flowmeter System**Course 2347 CEUs: .7**

This course is designed for those individuals responsible for the installation and maintenance of the Rosemount Fieldbus Flowmeter System.

Overview

This 1-day course uses lectures and labs to maximize the hands on experiences and teach the student how to install and maintain the Rosemount Fieldbus Flowmeter System composed of the Model 8742 Fieldbus Flowmeter Transmitter and the 8705 Flanged or 8711 Wafer Flow tube.

The students will also learn the operation and interface capabilities of the 375 Communicator. Students who complete this course will be able to:

- design and build a Fieldbus segment
- identify transmitter parts and explain their functionality
- explain Faraday's Law and principles of operation of Magnetic Flowmeter system
- configure and test the 8742 transmitters using the 375 Communicator
- properly install/troubleshoot the Rosemount Fieldbus Magnetic Flowmeter system

Prerequisites

Knowledge of basic flow fundamentals and instrumentation.

Topics

- Magnetic Flowmeter System
- Flow Tube Selection
- FOUNDATION™ fieldbus overview
- Fieldbus Wiring
- Fieldbus Segment Design
- Fieldbus Function Blocks
- Configuring Using the 375 Communicator
- Auxiliary Functions and Special Units
- Bench Testing/Digital Trims
- Signal Conditioning
- System Troubleshooting and Maintenance

Note: Course may be conducted using other Fieldbus Hosts, call with any questions.

Price \$600

Location **Start Dates 2009**
Call to Schedule

8800 Smart Vortex Flowmeter**Course 2341 CEUs: .7****Overview**

This 1-day course uses lectures and labs to teach the student how to install and maintain the Rosemount Model 8800 Smart Vortex Flowmeter.

The students will also learn the operation and interface capabilities of the 375 Field Communicator. Students who complete this course will:

- explain the advantages and limitations of vortex flowmetering
- identify 8800 parts and functionality
- explain the Von Karmon effect and the principles of vortex shedding
- properly install and configure the Model 8800 Vortex
- commission and troubleshoot the Rosemount Model 8800

Prerequisites

Knowledge of basic flow fundamentals.

Topics

- Vortex Flowmeter Applications
- 8800 Vortex Flowmeter Overview
- Von Karmon Effect and Principles of Vortex Shedding
- Proper Installation
- Test Equipment Selection
- 375 Field Communicator Operation
- Start-Up and Commissioning
- Configuring the 8800 using the 375 Field Communicator
- Troubleshooting and Maintenance
- Digital Trims/Calibration/Verification
- Digital Signal Processing

Price \$550

Location **Start Dates 2009**
Call to Schedule

8800 Smart Vortex Flowmeter Using AMS Device Manager**Course 2348 CEUs: .7**

This course is designed for those individuals responsible for the installation and maintenance of the Rosemount Model 8800 Smart Vortex Transmitter.

Overview

This 1-day course uses lectures and labs to teach the student how to install and maintain the Rosemount Model 8800 Smart Vortex Flowmeter.

The students will also learn the operation and interface capabilities of the AMS Device Manager. Students who complete this course will:

- explain the advantages and limitations of vortex flowmetering
- identify 8800 parts and functionality
- explain the Von Karmon effect and the principles of vortex shedding
- properly install, configure, commission, and troubleshoot the Model 8800 using AMS Device Manger

Prerequisites

Knowledge of basic flow fundamentals.

Topics

- Vortex Flowmeter Applications
- 8800 Vortex Flowmeter Overview
- Von Karmon Effect and Principles of Vortex Shedding
- Proper Installation
- Test Equipment Selection
- AMS Device Manager
- Start-Up and Commissioning
- Configuring the 8800 Using AMS Software
- Troubleshooting and Maintenance
- Digital Trims/Calibration/Verification
- Digital Signal Processing

Price \$600

Location **Start Dates 2009**
Call to Schedule

8800C Fieldbus Vortex Flowmeter

Course 2349 CEUs: .7

Overview

This 1-day course uses lectures and labs to maximize the hands on experiences and teach the student how to install, configure, troubleshoot, and maintain the Rosemount Model 8800 Fieldbus Vortex Flowmeter.

The students will also learn the operation and interface capabilities of the 375 Communicator. Students who complete this course will be able to:

- explain the advantages and limitations of vortex flowmetering
- identify 8800 parts and functionality
- explain the Von Karmon effect and the principles of vortex shedding
- properly install the Model 8800C
- design and build a Fieldbus segment
- configure and commission the Model 8800C using 375 Communicator
- troubleshoot the Rosemount 8800C

Prerequisites

Knowledge of basic flow fundamentals.

Topics

- Vortex Flowmeter Applications
- 8800 Vortex Flowmeter Overview
- Von Karmon Effect and Principles of Vortex Shedding
- Proper Installation
- FOUNDATION™ fieldbus Overview
- Fieldbus Wiring
- Fieldbus Segment Design
- Fieldbus Function Blocks
- Start-Up and Commissioning
- Configuring 8800 Using: 375 Communicator
- Troubleshooting and Maintenance
- Calibration, Verification, Simulation
- Digital Signal Processing

Note: Course may be conducted using other Fieldbus Hosts, call with any questions.

Price \$600

Location **Start Dates 2009**
Call to Schedule

3095FT Flow Transmitter

Course 2342 CEUs: .7

This course is designed for those individuals responsible for the installation and maintenance of the Rosemount Smart Flowmeter System.

Overview

This 1-day course uses lectures and labs to teach the student how to install and maintain the Rosemount Model 3095FT Flow Transmitter. The student will also learn the operation and interface capabilities of the Rosemount Model 3095FT User Interface Software. Students who complete this will:

- explain EFM devices
- identify 3095FT parts/explain functionality
- explain the principles of operation of the multivariable sensor module
- properly install the Model 3095FT Smart Flow Transmitter
- configure and calibrate the Model 3095FT with the 3095FT User Interface Software
- identify transmitter flow calculation methods and identify audit trail data logs
- troubleshoot and maintain the Rosemount 3095FT Flow Transmitter

Prerequisites

Basic computer skills and knowledge of flow fundamentals.

Topics

- Electronic Flow Measurement Applications
- 3095FT Flow Transmitter Overview
- Multivariable Sensor Module and Electronics Module
- Flow Calculation and Data Logging
- Test Equipment Selection
- Configuring and Calibrating with the 3095FT User Interface Software
- Remote Power Supply
- Installation of 3095FT Flow Transmitters
- Troubleshooting and Maintenance

Price \$600

Location **Start Dates 2009**
Call to Schedule

3095MV Multi-Variable Transmitters

Course 2343 CEUs: .7

This course is designed for those individuals responsible for the installation and maintenance of the Rosemount 3095 MV Transmitter.

Overview This 1-day course uses lecture and labs to teach the student how to install and maintain the Rosemount Model 3095MV Smart Transmitters. The student will also learn the operation and interface capabilities of the 375 Field Communicator. Students who complete this course will:

- identify transmitter parts and explain their functionality
- explain the principles of operation of the transmitter
- configure and test using the 375 Communicator and the 3095MV Engineering Assistant Snap-On software
- configure the compensated flow parameters using AMS Device Manager with the 3095MV Engineering Assistant Snap-On Software
- properly install/troubleshoot transmitters

Prerequisites

Knowledge of basic pressure and temperature fundamentals/instrumentation.

Topics

- DP Flow Fundamentals
- Overview and Principles of Operation
- Test Equipment Selection
- Temperature Sensor Wiring
- Bench Testing the Smart Transmitters
- AMS Device Manager with the 3095MV Engineering Assistant Snap-On Software
- Operation of the 375 Communicator and AMS Device Manager
- Digital Trims/Calibration
- Installation and Start-Up
- Troubleshooting and Maintenance
- Configure/Wire/Setup the HART Tri-Loop

Price \$600

Location	Start Dates 2009
Marshalltown, IA	4/23, 10/22
Las Vegas, NV	1/22, 6/18
Lakeland, FL	3/5
Pasadena, TX	3/11
Oak Forest, IL	5/13
Mansfield, MA	6/18

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Model 3095FB Modbus Multi-Variable Transmitter

Course 2345 CEUs: .7

This course is designed for those individuals responsible for the installation, configuration, calibration, and maintenance of the Rosemount Model 3095 Modbus Transmitters.

Overview

This 1-day course uses lecture and labs to teach the student how to install, configure, calibrate, and maintain the Rosemount Model 3095 Modbus Transmitters.

The student will also learn the operation and interface capabilities of the Rosemount Configurator User Interface Software. Students who complete this course will be able to:

- explain the principles of operation of the transmitter
- configure and test using the Rosemount Configurator User Interface software
- properly install, calibrate and troubleshoot the transmitters
- properly configure the transmitters Modbus parameters

Prerequisites

Knowledge of basic pressure, temperature, and flow instrumentation. Basic Modbus knowledge helpful.

Topics

- Overview and Principles of Operation
- Flow Fundamentals
- Bench Testing the Modbus Transmitter
- Rosemount Configurator User Interface Operation
- Sensor Trims
- Installation and Start-Up
- Troubleshooting and Maintenance
- Modbus Communication, Configuration, and Integration

Price \$600

Location
Call to Schedule

Start Dates 2009

3300 Guided Wave Radar Level Transmitter

Course 2332 CEUs: .7

This course is for those individuals responsible for the installation/maintenance of the Rosemount Model 3301/3302 Guided Wave Radar (GWR) Level & Interface Transmitters.

Overview

This 1-day course uses lecture and labs to maximize the hands on experience and teach the student how to install, configure, calibrate, troubleshoot and maintain the Rosemount Model 3301/3302 GWR Level & Interface Transmitters. Students who complete this course will be able to:

- explain the principles of operation of the 3301/3302 GWR
- identify 3301/3302 parts and explain their functionality
- understand the available probe options and when each should be used
- properly install the 3301/3302 GWR
- configure and test the 3301/3302 GWR
- properly troubleshoot the 3301/3302 GWR transmitter using RCT software

Prerequisites

Knowledge of basic level and interface fundamentals and instrumentation.

Topics

- 3301/3302 Overview/Principles of Operation
- Installation of the 3300 GWR
- Configuration of the 3300 GWR
- Bench Testing the 3300 GWR
- 375 Communicator Operation
- AMS Device Manager Operation
- Radar Configuration Tools (RCT) Software Operation
- Calibration, Verification and Adjustments
- Troubleshooting and Maintenance
- Troubleshooting and Reading Tank Graphs Using RCT Software

Note: 3300 GWR is also included in the 3-day Level course #2333

Price \$600

Location
Call to Schedule

Start Dates 2009

5600 Series Fieldbus Radar Level Transmitter

Course 2334F CEUs: .7

This course is designed for those individuals responsible for the installation, configuration, calibration and maintenance of the Rosemount Model 5600 Series Fieldbus Radar Level Transmitter.

Overview

This 1-day course uses lecture and labs to maximize the hands on experience and teach the student how to install, configure, troubleshoot and maintain the Rosemount Model 5600 Series Fieldbus Radar Level Transmitters. Students who complete this course will be able to:

- explain the principles of operation of the 5600 Radar
- identify 5600 Radar parts and explain their functionality
- design and build a Fieldbus segment
- properly install and wire the 5600 Radar
- configure and test the 5600 Radar
- understand how to setup the 5600 Radar to work in different applications
- properly troubleshoot the 5600 Radar Transmitter using Radar Master software

Prerequisites

Knowledge of basic level fundamentals and instrumentation.

Topics

- 5600 Overview and Principles of Operation
- Installation of the 5600 Radar
- Fieldbus Overview
- Fieldbus Wiring & Segment Design
- Fieldbus Function Blocks
- Wire, Configure, and Test the 5600 Radar
- 2210 LOI / Display Operation
- 375 Communicator Operation
- Radar Master Software Operation
- Troubleshooting and Maintenance
- Tank & Application Troubleshooting and Echo Handling using Radar Master Software

Note: 5600 Fieldbus Radar Level transmitter is also included in the 4.5-day Fieldbus course #2370

Price \$600

Location
Call to Schedule

Start Dates 2009

5600 Series HART Radar Level Transmitter

Course 2334H CEUs: .7

This course is designed for those individuals responsible for the installation, configuration, calibration and maintenance of the Rosemount Model 5600 Series HART Radar Level Transmitter.

Overview

This 1-day course uses lecture and labs to maximize the hands on experience and teach the student how to install, configure, troubleshoot and maintain the Rosemount Model 5600 Series HART Radar Level Transmitters. Students who complete this course will be able to:

- explain the principles of operation of the 5600 Radar
- identify 5600 Radar parts and explain their functionality
- properly install and wire the 5600 Radar
- configure and test the 5600 Radar
- understand how to setup the 5600 Radar to work in different applications
- properly troubleshoot the 5600 Radar Transmitter using Radar Master software

Prerequisites

Knowledge of basic level fundamentals and instrumentation.

Topics

- 5600 Overview and Principles of Operation
- Installation of the 5600 Radar
- Wiring the 5600 Radar
- Configuration of the 5600 Radar
- Bench Testing the 5600 Radar
- 2210 LOI / Display Operation
- 375 Communicator Operation
- AMS Device Manager
- Radar Master Software Operation
- Troubleshooting and Maintenance
- Tank & Application Troubleshooting and Echo Handling using Radar Master software

Note: 5600 Hart Radar Level transmitter is also included in the 3-day Level course #2333.

Price \$600

Location **Start Dates 2009**
Call to Schedule

5400 Series HART Radar Level Transmitter

Course 2336H CEUs: .7

This course is designed for those individuals responsible for the installation, configuration, calibration and maintenance of the Rosemount Model 5400 Series HART Radar Level Transmitter.

Overview

This 1-day course uses lecture and labs to maximize the hands on experience and teach the student how to install, configure, troubleshoot and maintain the Rosemount Model 5400 Series HART Radar Level Transmitters. Students who complete this course will be able to:

- explain the principles of operation of the 5400 Radar
- identify 5400 Radar parts and explain their functionality
- properly install and wire the 5400 Radar
- configure and test the 5400 Radar
- understand how to setup the 5400 Radar to work in different applications
- properly troubleshoot the 5400 Radar Transmitter and the Installation using Radar Master software

Prerequisites

Knowledge of basic level fundamentals and instrumentation.

Topics

- 5400 Overview and Principles of Operation
- Installation of the 5400 Radar
- Wiring the 5400 Radar
- Configuration of the 5400 Radar
- Bench Testing the 5400 Radar
- 375 Communicator Operation
- AMS Device Manager Operation
- Radar Master Software Operation
- Troubleshooting and Maintenance
- Tank & Application Troubleshooting and Echo Handling using Radar Master Software

Note: 5400 Hart Radar Level transmitter is also included in the 3 day Level course # 2333

Price \$600

Location **Start Dates 2009**
Lakeland, FL 3/6
Charlotte, NC 4/23

5300 Series HART Radar Level Transmitter

Course 2337H NEW CEUs: .7

This course is designed for those individuals responsible for the installation, configuration, calibration and maintenance of the Rosemount Model 5300 Series HART Radar Level Transmitter.

Overview

This 1-day course uses lecture and labs to maximize the hands on experience and teach the student how to install, configure, troubleshoot and maintain the Rosemount Model 5300 Series HART Radar Level Transmitters.

Students who complete this course will be able to:

- explain the principles of operation of the 5300 Radar
- identify 5300 Radar parts and explain their functionality
- Properly install and wire the 5300 Radar
- configure and test the 5300 Radar
- understand how to setup the 5300 Radar to work in different applications
- properly troubleshoot the 5300 Radar Transmitter and Installation using Radar Master software

Prerequisites

Knowledge of basic level fundamentals and instrumentation.

Topics

- 5300 Overview and Principles of Operation
- Installation of the 5300 Radar
- Wiring the 5300 Radar
- Configuration of the 5300 Radar
- Bench Testing the 5300 Radar
- 375 Communicator Operation
- AMS Software Operation
- Radar Master Software Operation
- Troubleshooting and Maintenance
- Tank & Application Troubleshooting and Echo Handling using Radar Master software

Note: 5300 Hart Radar Level transmitter is also included in the 3 day Level course # 2333

Price \$600

Location **Start Dates 2009**
Call to Schedule

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Wireless Self Organizing Network**Course 2375 CEUs: 1.4**

This course is intended for technicians, engineers and other plant personnel who need to know how to design, install, setup, configure, maintain and troubleshoot Wireless Self Organizing Networks and their components.

Overview This 2 day course explains how Self Organizing Wireless Networks function and how they are installed, setup, configured and integrated. It emphasizes planning, proper installation and startup, configuration, maintenance, and integration. The course uses lectures and labs to maximize the hands on experience and teach the students. Students who complete this course will:

- correctly install and setup the 1420 Wireless Gateway
- properly install and configure Wireless Transmitters
- properly integrate Host interfaces to the Wireless Gateway

Prerequisites

Some experience in Networks and Host integration would be helpful.

Topics

- How Self Organizing Networks Function
- Self Organizing Networks Best Practices
- Network Components
- 1420 Installation and Setup
- Network Parameters
- 648 and 3051S Wireless Transmitters Installation, Configuration, Maintenance and Calibration
- Using AMS Device Manager with the 1420 Wireless gateway
- Configuring Wireless Devices with AMS Device Manager
- Modbus Serial Integration
- Modbus TCP Integration
- OPC Integration
- 1420 Advanced Features

Price \$1,200

Location **Start Dates 2009**
Eden Prairie, MN 3/24, 5/19, 8/25, 12/15

AMS Device Manager**Course 7020 CEUs: 2.1****Overview**

Completing 3-days of AMS Device Manager hands-on instructor assisted training modules and exercises, provides the quickest route to your productive use of this predictive maintenance application. The training exercises focus on skills required by engineers and technicians, and are based on real-world tasks that most users will encounter on the job.

7020-1 Configuring and Using AMS Device Manager

- Viewing and Modifying Devices
- Creating a Plant Database Hierarchy and Adding Devices
- Using the 375 Field Communicator with AMS Device Manager
- Using the AMS Device Manager Browser Functions
- Audit Trail
- Calibrating Device - Calibration Assistant
- Configuring and Monitoring System Alerts

7020-2 System Administration

- AMS Device Manager System Overview
- Installing an AMS Device Manager Server Plus Standalone
- Starting AMS Device Manager for the First Time
- Network Communication Interface Setup
- AMS Device Manager Database Management
- Installing a Distributed System
- Installing Device Types from Media

7020-3 SNAP-ON™ Applications

- AMS ValveLink® SNAP-ON Application - Basics
- MV Engineering Assistant SNAP-ON Application - Basics
- QuickCheck™ SNAP-ON Application
- Using AMS Device Manager OPC Server and the Matrikon OPC Explorer
- AMS Device Manager Web Services
- AMS Suite: Asset Portal™

This instructor assisted course is operated in a hands-on, self-paced environment, which allows the student to work at their individual pace. AMS Device Manager modules may be purchased for self-study for \$195 each or \$495 for all three hard-copy or paper/bound modules. Training can also be delivered at your plant with the help of our certified instructors.

Price \$1,850

Location **Start Dates 2009**
Eden Prairie, MN 5/11, 7/7, 8/17, 12/7
Marshalltown, IA 4/14
Austin, TX 2/17, 6/2, 9/15
Las Vegas, NV 3/3, 10/27
Edmonton, AB 4/27, 11/2
Fort McMurray, AB 2/17, 7/13

AMS Device Manager with Rosemount HART Instruments**Course 7021 CEUs: 2.1**

Learn the installation, calibration, maintenance, and troubleshooting of measurement instrumentation using AMS Device Manager. The hands on focus is on skills required by engineers, technicians, or others that are new to the plant or instrument environment.

Overview

This 3-day course teaches maintenance and calibration of measurement devices using AMS Device Manager software to communicate and track information. The student will learn how pressure and temperature transmitters function, are installed, and calibrated using AMS Device Manager. The course uses hands-on training, labs, and lecture to teach the student how to:

- configure and use AMS Device Manager
- correctly perform transmitter installation and setup procedures
- properly configure SMART transmitters
- properly calibrate transmitters
- perform basic troubleshooting-transmitters

Topics

- Configuring and Using AMS Device Manager
- HART Communication
- SMART Transmitters (3051C, 3144P)
- Test Equipment Selection
- Transmitter Installation
- Transmitter Configuration
- Transmitter Calibration
- AMS Calibration Manager
- Intelligent Calibrators
- Transmitter Troubleshooting

Price \$1,400

Location **Start Dates 2009**
Edmonton, AB 9/9
Fort McMurray, AB 5/4