Process Instrumentation
Advanced SITRANS FUS/FUE 1010 Clamp-On Products

General Information
Course Code:  PIA-PRFCOC2A
Length:  2 Days

Audience
This Advanced course is intended for technical individuals responsible for diagnosis and corrective action, routine maintenance and calibration of SITRANS FUS/FUE/FST clamp-on flowmeters.

Prerequisites
- SITRANS FUS/FUE 1010 Clamp-On Products (PIA-PRFCOC1A)
- Knowledge of pipes and piping system terminology

Profile
This course reviews ultrasonic theory, programming, setup, and operation, of FUS/FUP/FUE and FST020 flowmeter types. To build on this basic knowledge the students will receive in-depth instruction on application review, diagnosis and troubleshooting of operational issues, Utilization of system test modes, and corrective action procedures. They will also learn use of the SiWare software package for data communication, analysis and reporting. The course includes hands-on exercises with actual flowmeter systems to reinforce the training presentations.

Objectives
Upon completion of this course, the student shall be able to:
- Evaluate a potential application and select the appropriate flowmeter type and sensors
- Fully program and install and commission their meter
- Verify system performance
- Troubleshoot, diagnose and correct operational issues
- Utilize system test modes
- Communicate with and collect operational data utilizing SiWare
- Create reports and data graphs

Topics
1. Review of Clamp-On Flowmeter Theory
2. Review of System Hardware & Software
3. Installation & Start-up
   a. Sensor Location & Mounting Methods
   b. Pipe Configuration Tool
   c. Special Considerations
   d. Initial Makeup Process & Results
   e. Zeroing
4. System Verification
   a. The Diagnostic Menu
   b. Primary Performance Indicators
   c. Signal Graph Analysis
   d. Energy Rate Calibration
5. Troubleshooting
   a. Detection Fault
   b. Test Mode Utilization
   c. Low Signal Corrective Action
   d. Aeration/Cavitation Diagnosis
   e. Sensor Signal Quality
   f. Application Analysis
6. SiWare Intro & Utilization
   a. Communication Settings
   b. Use of Terminal Mode
   c. Saving/restoring sites
   d. “Live” communication Mode
   e. Creating Graphs & Diagnostic Reports
7. Labs
   a. Complete Installation and Initialization Exercise
   b. Troubleshooting Exercise
   c. SiWare Exercise