### Process Instrumentation

#### Fundamentals of Level Technologies

**General Information**

<table>
<thead>
<tr>
<th>Course Code:</th>
<th>PIA-PRFLTC1A</th>
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<td>Length:</td>
<td>2 Days</td>
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**Audience**

This introductory course is intended for technical individuals responsible for routine maintenance and calibration of level instrumentation. Additionally, sales representatives responsible for selling and specifying these meters will benefit from this class.

**Prerequisites**

- Basic knowledge of level instrumentation

**Profile**

This course covers basic theory, programming, and installation of the level instrumentation such as the LUT 400, LR 560, CLS 200, and LG 250. It includes a complete review of the hardware components, installation guidelines and commissioning process. The course includes a hands-on exercise with the level instruments to reinforce the training presentation.

**Objectives**

*Upon completion of this course, the student shall be able to:*

- Select the appropriate level instrument and sensor for their application.
- Select a suitable installation location
- Fully program their level instrument for the selected application
- Perform system start-up

**Topics**

1. **Ultrasonics**
   - Theory
   - Transducers
   - Ultrasonic Product Line
   - Transducer Installation
2. **Radar**
   - Theory
   - Effects of Frequency
   - Beam Angles
   - Radar Product Line
   - Radar Installation
   - Radar Programming
3. **Capacitance**
   - Theory
   - Capacitance Level Product Line
   - Installation
   - Programming
4. **Guided Wave Radar**
   - Theory
   - GWR Product Line
   - Mounting
5. **Point Level for Liquids**
   - Theory
   - Product Line
   - Solution for process improvements.
6. **Point Level for Solids**
   - Theory
   - Product Line
   - Solution for process improvements.
7. **Labs**
   - Basic Programming Exercise