

# PRACTICAL INSTRUMENTATION FOR AUTOMATION & PROCESS CONTROL

## OVERVIEW

Instrumentation has evolved from simple manual hand-measurements to highly sophisticated integrated electronic systems. Instrumentation has made it possible to automate and control processes and plants. Instruments are deployed in a wide range of industries such as Manufacturing Plants, Water Treatment Plants, Chemical Processing Industries, Power Substations, Integrated Road, Rail and Transport Systems. Instruments encompass a wide range of technologies and as such there is a need to increase our skills to fully understand these technologies. It is important that the correct instrument is selected for a particular application and it is important to use this instrument in the proper way, so that processes, plants and systems work correctly, accurately and safely.

## TARGET MARKET

The programme will be highly suited for technical managers, engineers and technical professionals who need to understand what instrumentation is, people who maintain and use instrumentation systems and people who are thinking of deploying instrumentation systems.

## COURSE OUTLINE

- Introduction to instrumentation
- Overview of instrumentation
- Type and selection of instrumentation systems technology behind these instruments covering sensors and measuring devices
- Reading & understanding instrumentation datasheets and specification, and how they relate to practice
- Instrument interfacing
- Case study

## OBJECTIVES

- Types of instruments and the different technologies behind these systems, and how they work
- Different types of interfaces such as 4-20 mA Current Loop, High Level interfaces and some commonly used protocols
- Read & understand instrumentation datasheets and specifications
- How to select the right type of instrumentation for a particular application
- How to scope and cost instrumentation systems
- How to connect and interface instruments to controllers and SCADA systems
- How to calibrate and verify accuracy of instrumentation systems

**SBL CLAIMABLE**



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