EXPERION PKS: ADVANCED – C300 PROCESS CONTROL TECHNIQUES IMPLEMENTATION

PROGRAM OVERVIEW

Course Number: EXP-1025
Course Duration: 3.5 Days

Prerequisite Course (s): None

This hands-on course provides process control engineers a thorough grounding in the conventional and advanced control techniques, with emphasis on how to put theory into practice. A variety of life-like plant simulations are provided.

The course Is based on algorithms in C300 Controller.

COURSE DELIVERY OPTIONS

- Asynchronous Training (AT)
  - ➢ Self-paced with 10 days to complete
- Instructor-Led Training (ILT)
- Virtual Instructor-Led Training (VILT)

COURSE LANGUAGES

- English
- French
- German
- Korean
- Chinese
- Spanish

PROGRAM OBJECTIVES

- Process Dynamics
  - o Gain, Deadtime and Lag
  - o Deriving Process Dynamics
- Digital Filtering
  - o How filtering works
  - o Tuning the Honeywell filter
- Control Algorithms and Tuning
  - o Feedback Control
  - o PID Control
  - o Trial and error tuning
  - o Setup and tuning Cascade loops
  - o Open-loop Tuning
  - o Opertune
- Level Control
  - o Types of level control
  - o Tight level control
  - o Averaging level control
- Adaptive Control
  - o PID
  - o Gain scheduling 2 band
  - o Gain scheduling 3 band
  - o Programmed Adaptive
- Feedforward
  - o Types of feedforward
  - o Ratio Control
  - o Tuning feedforward (variable deadtime/lead/lag block)
  - o Furnace Control
- Reset Windup
  - o Rest windup phenomenon in Honeywell
  - o Anti Reset windup protection
  - o External anti Reset windup using PIDER block
  - o PIDER Vs PID block. Feature difference
  - o Bumpless transfer in control loop design
- Profit Loop Algorithm
  - o Multivariable Control Overview
  - o Setup
  - o Uses
  - o Tuning
- PID Tuning Fundamentals
- TaiJi PID for Reference

Honeywell