#### Saint Louis - Phase II Process Control Training



# Practical Process Control Training - PID Control

Industrial training services offered by BIN in conjunction with <u>Control Station</u> Saint Louis, MO. Schedule: Jan 18 - 19, 2007, *All training courses offered as <u>On-Site Training</u> too.* 

#### Day 1 Training ...

#### • Lecture

- Fundamentals of Process
   Dynamics and Control
- o Proportional Control
- o Integral Action and PI Control
- A Formal Approach to Controller Design Using Design Tools
- O Controller Performance Criteria
- O Derivative Mode and PID Control
- o PID Control with Derivative Filter

#### Demonstration

- Modeling Process
   Dynamics Using Control Station
- Implementation of P-Only Controllers
- Adaptive PI Control of Nonlinear Processes
- o PID Control of Tank Level
- PID with Filter Control of Heat Exchanger Temperature

#### Workshop

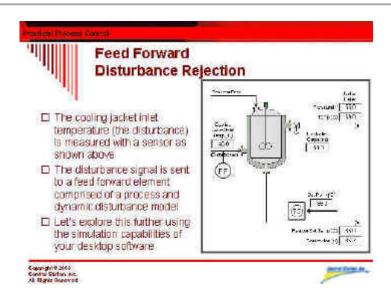
- Exploring Dynamics of the Gravity Drained Tanks
- o P-Only Control of Tank Level
- The Hazard of Tuning PI Controllers by Trial and Error
- PI Control of Heat Exchanger Temperature
- PID Control of Heat Exchanger Temperature
- PID with Filter and Control of the Multi-Tanks Process

#### Day 2 Training ...

#### • Lecture

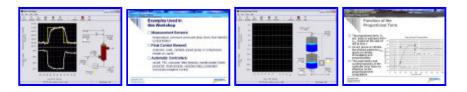
- Using Control Station with Real Processes
- o Cascade Control
- Feed Forward Control
- Oynamics of Non-Self Regulating (Integrating) Processes

#### Demonstration



The **Practical Process Control Training course** (more than just a PID tutorial, will give you a firm foundation in **Process Control and PID control tuning**.

Top companies maintain their competitive advantage by maximizing productivity and minimizing costs - by optimizing and controlling critical processes. Training is an essential element in equipping engineers for success and achieving that advantage.



The **Practical Process Control** curriculum is how top companies empower their human resources and to maximize the return on their capital investments. Practical Process Control Training has helped process technicians and engineers to understand and apply innovative control techniques.

How do top companies like Holcim (US) (cement), Lafarge North America (cement), Honeywell (chemicals), Westinghouse Savannah River (power), ChevronTexaco (petroleum), Genzyme (biotech/pharmaceutical), and Owens Corning (chemicals) maintain their competitive advantage? Attend PID Control workshop and learn proven techniques that will improve your bottom-line performance.

Receive hands-on instruction and gain the confidence you need to solve complex process control challenges. With real world examples and the PID control tuning simulation software, you will gain a clear understanding of the 'how and why'

- Simulation and Control of Heat Exchanger using Custom Process
- Single Loop Control of the Jacketed Reactor
- Feed Forward Control of an Ideal Process
- Controlling a Non-Self Regulating (Integrating) Custom Process

#### Workshop

- Modeling and Simulation of Single Loop Processes
- Cascade Control of the Jacketed Reactor
- Feed Forward Control of the Jacketed Reactor
- Modeling and Control of the Pumped Tank Process

We are a **Strategic Training Partner** for the Association for
Facilities Engineering (AFE) and
provide AFE members a 10%
discount.

**Note:** Loaner laptops will be available. We will be using laptops to work with the Software specifically designed to help users learn process control training.

Register TODAY because seating is limited!

changing PID parameters effect the process Take the guess work out of PID control tuning.

"Control Station equipped my team with the training they needed to succeed. They kept [it] simple and straightforward, focusing on techniques that could be applied immediately on the plant floor" E&I Supervisor- Magnesium Elektron

"Control Station's 'case study' approach to teaching the subject was unique. Learning by doing helped me understand the topics as they were presented." Process Engineer - International Flavor & Fragrances

This more advanced seminar is part of Business Industrial Network's **Phase II Training** (Phase I training is our <u>PLC Troubleshooting course</u>), and is also offered as On-Site Training.

Both of these courses offer information your people will actually use out on the shop floor.

Course Location ...

## The Microsoft Building

3 Cityplace Drive

Saint Louis, MO. 63141

Click picture online for location details >>

This seminar/workshop will be held in the state of the art training facility located in the

Microsoft building next to Business Industrial Network's HQ offices.

Recommended Lodging ...

Drury Inn & Suites just 1/2 mile down the road at ... 11980 Olive Blvd, Creve Coeur, Missouri, 63141

Discount code provide after registration.

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### Saint Louis, MO.

## **Industrial Process Control Training**

Saint Louis, MO. Schedule: Jan 18-19, 2007

All training workshops offered as On-Site Training too, contact us for details.

#### Seminar Fee ... **Authorizing Manager:** Name \$1450 PID course per attendee. Group discounts may Title: Email: apply. 10% discount to AFE Company Name: members! (not to be used with other discounts) Address: **Registration Methods ...** 1) **Online** (This page) City: Zip: State/Prov: 2) Fax (860) 875-1749 Phone: Fax: 3) **Phone** (877) 566-7776 4) Mail this form to ... 2 Day Process Control (PID) Workshop Date: • January 18-19, 2007 - (\$1450) Control Station. Inc. One Technology Drive Tolland, CT. 06084 **Seminar Attendees:** 5) **Email** all form information Name: Title: to Training@bin95.com Name: Title: \*\* Group discount for 2 or more attendees \*\* Seminar Location ... Name: Title: Name: Title: The Microsoft Building 3 Cityplace Drive, Payment Method: Amount to be charged per attendee - for two or more attendees PID course will Saint Louis, MO 63141 be **discounted** to \$1250 per attendee! To Register online, see https://www.bin95.com/Saint Louis PID registration.htm Located at our new state of the art training facility located in Please enter your credit card information below before submitting this secure form. You will also need to the Microsoft building 2nd floor. submit this form with contact information above filled out when paying with Check. across the street from Business ☐ Visa ☐ MasterCard ☐ AMX ☐ Check Enclosed (pay to Control Station Inc.) Industrial Network offices. www.BIN95.com Card Number: Card Code?: Accommodations ... Expiration Date: Name on Card: **Drury Inn & Suites** Signature:

Group discount for PID course, is \$200 off list price per attendee. Two or more attendees qualifies for the group discount. If AFE member, indicate so in name field. (US\$1125, per AFE attendee) Cancellations may apply fees to other training classes.

Registrants may receive additional information and updates via their email address. Lunch and snacks provided! Seminar Ends 4:30 Friday, please book travel accordingly. (Sat. recommended) All trademarks and trade names are property of their respective owners.

11980 Olive Blvd Creve Coeur, Missouri, 63141 Hotel website link is online

Hotel Phone:

(314) 989-1100

#### Schedule ...

8:00am - Class Starts 12:00 - 1:00pm Lunch 4:30 - Class Ends