

PRESENTING THE LATEST PLC TECHNOLOGY INFORMATION

**DISCOUNT
PROGRAM
PRICING**

Details Page 4

SAINT JOHN, NB
May 28-29, 2007

TORONTO, ON
June 4-5, 2007

SASKATOON, SK
June 7-8, 2007

EDMONTON, AB
June 11-12, 2007

VANCOUVER, BC
June 14-15, 2007

WHO SHOULD ATTEND:

- PLC Engineering and design control personnel
- Electrical maintenance and technical services personnel
- Electrical engineering and design personnel
- Process and operations personnel
- Technical and process managers
- Electrical consulting engineers
- Electrical contractors

ON-SITE TRAINING
available
"We'll Come To You"

Details inside



INTEGRATE A PLC INTO ACTUAL DAY-TO-DAY INDUSTRIAL ELECTRICAL PROCESSES

PLC Training

Enhanced Functionality,

Communications,

Networking

WWW.ELECTRICITYFORUM.COM/FORUMS/PLC-TRAINING-2007.HTML

Our PLC training course is designed to instruct PLC professionals on the latest innovations in PLC technology and how to successfully integrate that technology into actual day-to-day industrial electrical processes. It not only deals with the hardware and software, but all the surrounding systems that must be compatible to achieve a safe and reliable control system.

DELEGATES RECEIVE:

- FREE Electricity Forum 120-page PLC Handbook (Value \$35.00)
- \$100 Coupon Toward any Future 2007 Electricity Forum Event (Restrictions Apply)
- 1.4 Continuing Education Unit (CEU) Credits
- FREE Magazine Subscription (Value \$50.00)
- Forum Presentations in Paper Format
- Register Three, Get One FREE



Earn Continuing Education Units (CEUs)

**THE
ELECTRICITY
FORUM**
Since 1986

More than 25,000 Satisfied Students



CANADA'S LEADER IN ELECTRICAL TRAINING

COURSE PROGRAM

Day 1

8:00 a.m.

INTRODUCTION

This course is intended for users with advance knowledge of Programmable Logic Controllers and how PLCs function. Advancements in PLC technology and functionality, programming, networking and communications as well limitations and application considerations will be discussed.

8:15 a.m.

OVERVIEW OF COURSE AND REVIEW

- A preview of what is to be covered
- To determine where the users are today.

9:00 a.m.

HARDWARE ADVANCEMENTS

Hardware technology has physically shrunk in size but grown in capabilities. Informed users will understand the technology and how to minimize user logic by eliminating I/O configuration and scaling logic that is often required by the manufacturer.

- Size and Capabilities

COFFEE BREAK 10:15 a.m.

10:30 a.m.

NEW FUNCTIONALITY OF PLCS

PLC's have evolved over the years from simple relay replacement devices to devices that have powerful processing capabilities. The user instruction set evolved along with the PLC, giving the informed user the ability to maximize the processing power of the PLC. This will allow users to enhance their manufacturing process by understanding and applying the enhanced capabilities of the PLC from simple relay ladder logic to advanced motion and process control technology.

- Logic

ENHANCED INSTRUCTION SET

The enhanced instruction set gives users greater flexibility monitoring their system, setting system values, greater math capabilities, more power data manipulation and retrieval, equipment monitoring, motion control, ASCII comparisons and conversions and debug capabilities.

- Enhanced Instruction Set (New Enhancements to current instructions)
- I/O Instructions
- Compute and Math Instructions
- Move and Logical
- File/Miscellaneous

- Equipment Phase Instructions
- Program Control Instructions
- For/Break Instructions
- Motion Instructions and Sercos
- ASCII Instructions
- Debug Instructions

LUNCH (not provided) 12:00 noon -1:00 p.m.

1:15 p.m.

FUNCTION BLOCK PROGRAMMING

Function block programming gives users enhanced process control capabilities and control by utilizing the enhanced PID function block instruction and associated block instructions to maximize control of their process. Function block programming also gives the user the ability to use logic in a Boolean form, to scale and totalize without complex math calculations used in relay logic.

- Uses and limitations
- Drive Controls
- Process and Batch Control
- Filtering
- Statistics and Averaging

REFRESHMENTS 2:30 p.m.

2:45 p.m.

STRUCTURED TEXT PROGRAMMING

Structured text programming allows the user to program in a simple text format and uses the same instruction set, with some exceptions, as relay the relay logic instruction and the function block instruction set. This allows for straightforward programming without the need for annotation of relay ladder logic or function block programming.

- Uses and Limitations
- Instruction Usage
- Future Attractions
- What's next in programming?

WRAP-UP(approx.) 4:30 p.m.

HANDS-ON DEMONSTRATION

At each course location, Allen Bradley will provide for educational purposes an AB 5563 Control Logix PLC (complete with 16 point discreet I/O modules and motion modules) for hands-on demonstration.

COURSE PROGRAM

Day 2

8:00 a.m.

COMMUNICATIONS AND CONNECTIVITY

Communications is an ever-changing technology and the PLC communication methods have changed along with the technology of today's world. There are many communications platforms, or protocols available in today's manufacturing world and informed users will be able to interface from one platform to the other as seamlessly as possible and allow data acquisition from as many points as required by their process or facility.

- Networking
- Modbus, Data Hiway and Profibus
- Ethernet Connectivity and Pitfalls
- Ethernet
- Adapting Current Systems to the Ethernet

COFFEE BREAK 10:00 a.m.

10:15 a.m.

INTELLIGENT SENSORS AND THIRD-PARTY VENDORS

In today's manufacturing marketplace, intelligent sensors and vision are having a larger influence on the plant floor environments. The HART protocol is the industry standard and the user will learn the techniques required to

interface the PLC to HART protocol products as well as vision products.

- HART
- Vision Systems

LUNCH (not provided) 12:00 noon -1:00 p.m.

1:00 p.m.

PLC AND HMI AND SCADA COMPATIBILITY

Most of today's PLC systems have a human interface product attached to them, either for operator use or for both operator use and data acquisition. Both will be discussed in this section and a comparison of various software platforms and driver capabilities will be examined giving the user valuable information which will allow him/her to make a well informed decision when selecting a HMI or SCADA product to best fit his/her application.

- Software Computability
- Networking and Communications

REFRESHMENTS 2:30 p.m.

2:45 p.m.

OPEN DISCUSSION OF APPLICATIONS

ADJOURNMENT (approx.) 4:00 p.m.

COURSE DESCRIPTION

PLC Training is designed to instruct electrical control professionals on how to successfully integrate a PLC into actual day-to-day industrial electrical processes. It not only deals with the hardware and software, but all the surrounding systems that must be compatible to achieve a safe and reliable control system.

The Forum is generic in nature and applies to all types and manufacturers.

PLC Training is also designed to help delegates keep abreast of the latest PLC technologies and techniques available. This tutorial offers an excellent opportunity for delegates to ask specific questions and exchange ideas relating to their own applications.

This course is intended for experienced users and will give them greater knowledge of enhanced PLC functionality. The Programmable Logic Controller has evolved over the years, and this course will provide the information required to make knowledgeable decisions about PLC applications in individual manufacturing environments and allow students to make well-informed decisions about existing control applications and determine what is required for future applications. This PLC training course will also allow students to determine if plant personnel are prepared to meet the new challenges of the ever-changing plant manufacturing environment or if personnel require additional training to meet these challenges.

ABOUT YOUR INSTRUCTOR

Ron Dover has been in the controls engineering business for more than 30 years. Over the years, he has seen the PLC grow from a simple relay and timer replacement device to the very sophisticated manufacturing control solution that exists today. He has installed many of the PLCs that are available in today's marketplace and some that no longer exist. Ron spent several years with Modicon as both a technical instructor and as an applications engineer. He eventually joined Allen Bradley as a technical instructor during the early years of PLCs through the Pyramid Integrator phase. He formed his own company, RMD Associates, 10 years ago as an automation solutions provider. Ron provides not only controls engineering and system integration but also training to both plant engineers and maintenance personnel. He says: "I enjoy a challenging project but I get the most satisfaction in passing on to younger engineers and maintenance personnel the benefit of my experience."

ON-SITE TRAINING AVAILABLE

On-Site Training is offered to companies that wish to have our instructors train their personnel on their company premises. We can provide off-the-shelf courses on a wide range of electrical topics. We can also customize our courses to your exact requirements. For a FREE on-site training quotation contact: Randy Hurst, President, The Electricity Forum, rwh@rogers.com

REGISTRATION

Act Now! Limited Seating! Register Today!

REGISTRATION FEES

The registration fee to attend the forum is \$699.00 + \$41.94 GST (\$699.00 + \$97.86 HST in NS, NB and NL). The fee includes forum participation, a forum materials package, Electricity Forum 120-page PLC Handbook, Magazine subscription, Electricity Forum \$100 coupon, refreshments on both days. Lunch is not included with the course. (GST #R105219976).

Save \$50 with early bird registration!

Register and prepay 14 days before forum date and receive an early bird registration fee of \$649.00 + \$38.94 GST (\$649.00 + \$90.86 HST in NS, NB and NL) per delegate.



Register 3 Delegates At Full Price, THE 4TH REGISTRATION IS FREE

Ways to register:
PHONE
(905) 686-1040

FAX:
(905) 686-1078

MAIL:
Canadian Electricity Forum
215-1885
Clements Road
Pickering, ON
L1W 3V4

ON-LINE:
www.electricityforum.com/forums/plc-training-2007.html

WHEN AND WHERE (Please check the location where you want to attend the course)

- Saint John, NB - May 28-29, 2007**
Delta Brunswick Hotel, 39 King Street, Tel.: (506) 648-1981
- Orléans, QC - ~~May 1, 2007~~ CANCELLED**
Chateau Hotel, 1155 Joseph-Cyr Street, Tel.: (613) 744-1060
- Toronto, ON - June 4-5, 2007**
Park Plaza Airport Hotel, 33 Carlson Court, Tel: (416) 675-1234

- Saskatoon, SK - June 7-8, 2007**
Radisson Hotel, 405 Twentieth St. E., Tel: (306) 665-3322
- Edmonton, AB - June 11-12, 2007**
Coast Terrace Inn, 4440 Gateway Blvd., Tel: (780) 437-6010
- Vancouver, BC - June 14-15, 2007**
Best Western Hotel & Conference Centre,
7551 Westminster Highway, Richmond, BC Tel: (604) 273-7878

YES, Register me now for the PLC Training. Registration Fee: \$699.00 + \$41.94 GST

| ATTENDEE INFORMATION | METHOD OF PAYMENT |
|---|--|
| Name _____ | <input type="checkbox"/> Cheque enclosed |
| Title _____ | <input type="checkbox"/> Invoice me under PO#: _____ |
| Company _____ | <input type="checkbox"/> Send invoice attention: _____ |
| Address _____ | <input type="checkbox"/> Bill my credit card: |
| City _____ Province _____ Postal Code _____ | <input type="checkbox"/> AMEX |
| E-mail _____ | <input type="checkbox"/> VISA |
| Tel:() _____ Fax:() _____ | <input type="checkbox"/> MasterCard |
| | Card # _____ |
| | Exp. Date _____ |
| | Signature _____ |
| | Card Holder name _____ (if not registrant) |

CANCELLATION AND REFUND POLICY: Registration fees are refundable only upon receipt of written notification 10 days prior to the conference date, less a 10 per cent service charge. Substitution of participants is permissible up to and including the day of the forum. The Canadian Electricity Forum reserves the right to cancel any conference it deems necessary and will, in such event, make a full refund of the registration fees.