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**Automation Products Workshop Sessions**



## Automation Products Workshop Sessions

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### Code Descriptions:

C = Customer Case Study  
 P = Panel Discussion  
 T = Technical Training  
 W = Workshop

“1-5” at the end of a session code indicates the length of the session. “1” being a one-hour session, “2” being a two-hour session, etc.

“A, B or C” at the end of a session code indicates the session is given more than one time. “A” represents the first time the session is being offered, “B” the second time, and “C” the third time. If an A, B or C does not follow a session code, the session is given only once.

## Drives Specialist or Technician

### TUESDAY, MARCH 24, 2009

#### Session 1: 9:30 a.m. – 10:30 a.m.

##### **WLD-04-1 Drives and motor sizing made easy**

This workshop is a cheat sheet and quick-guide to get the critical equipment choice right every time for your applications.

#### Session 2: 11:00 a.m. – 12:00 p.m.

##### **WLD-01-1 AC drives' competitive advantages identified**

How simple is it to install, wire, start-up and operate today's low voltage drives? See a competitive comparison of some of the major drives suppliers alongside ABB's drives. Learn what may make a difference in your selection of a low-horsepower drive.

#### Session 3: 1:30 p.m. – 2:30 p.m.

##### **WLD-03-1 Circuit breakers: Can I use them to protect my Variable Frequency Drives (VFD)?**

Do circuit breakers now available to the market let through energy that is too high to properly protect drives? This session provides a review of what is offered now, and what you should know in terms of appropriate use of circuit breakers in complement to your Variable Frequency Drives (VFD).

#### Session 4: 3:00 p.m. – 4:00 p.m.

##### **TLD-03-1 Emergency-stop and unintended-start drive requirements: Here's how you meet them**

What do NFPA 79, EN 954-1, and IEC 60204-7 require? What drive solutions can ABB offer? What additional hardware is needed? What responsibility does the OEM or integrator have? How does the complete solution all go together? This session provides the answers you need.

#### Session 5: 4:30 p.m. – 5:30 p.m.

##### **WLD-06-1 Easily meet your harmonics specification requirements in water applications**

Meeting the specification requirements for low harmonics in water and wastewater motor-control applications is a must, as utilities and government agencies review their product and system options for new installations and retrofits. Ultra-low harmonic drives focus on prevention as the cure, rather than as mitigation as a fix. This strategy and product solution makes it easy for you -- whether you are a consulting engineer, system integrator, work for a water district, or are an end user -- to meet your specifications handily and easily.

### WEDNESDAY, MARCH 25, 2009

#### Session 6: 8:00 a.m. – 9:00 a.m.

##### **TLD-04-1 Machine production in high volumes: Parameter loads in three seconds without power to the drives!**

Time is money when you have a high volume of machines to produce; FlashDrop from ABB saves you both. This session shows you how to upload/download drive parameters in seconds -- and no power to the drive is needed!

#### Session 7: 9:30 a.m. – 10:30 a.m.

##### **WLD-09-1 Sizing dynamic braking modules and braking resistors for Variable Frequency Drives**

This session is an overview of when and where it is practical to employ dynamic braking. The discussion will focus on how to size both brake modules and brake resistors using tables and calculations and other tools, when weights, inertias and stopping or other deceleration requirements are unknown.

#### Session 8: 11:00 a.m. – 12:00 p.m.

##### **WLD-02-1 Choose your architecture and fieldbus: Who knew you could do this?**

With a multiplicity of fieldbus options built in, you can put your drives to work with whatever communications architecture already in use. This gives the flexibility to choose your architecture.

#### Session 9: 1:30 p.m. – 2:30 p.m.

##### **TLD-02-1 DC retrofit options: Replace the system or just upgrade the drives?**

A look at upgrade options for installed DC drive-controlled production sections with the latest control options, connectivity, user interface, and product support -- All while increasing production and reducing maintenance costs.

#### Session 10: 3:00 p.m. – 4:00 p.m.

##### **WLD-05-1 Energy savings equals "free" drives!"**

With today's energy costs on a sharp rise, the use of adjustable frequency drives is a smart choice for energy savings. This session will discuss and show the fundamentals of analyzing a variable flow/speed application to determine its energy savings potential.

**Session 11: 4:30 p.m. – 5:30 p.m.****CMD-02-1 Medium voltage drives case study: Application, evaluation and results**

This workshop will cover the actual application of a medium voltage drive and motor operating a 1,500 Hp extruder. The session will cover key elements of the project from initial concept to final operation of the equipment. Details will include the sizing of the drive and motor to meet the difficult application requirements of an extruder, engineering, packaging and integration issues, challenges and advantages of applying a 4KV drive on a 2.3KV bus, as well as commissioning and operation results with one year of installed experience.

**THURSDAY, MARCH 26, 2009****Session 12: 8:00 a.m. – 9:00 a.m.****TLD-01-1 Advanced drive functionality: Is a Programmable Logic Controller (PLC) required?**

Learn how to use timers, counters, proportional integral derivative (PID) control and more, to optimize the control of a drive.

**Session 13: 9:30 a.m. – 10:30 a.m.****WLD-07-1 Regenerative drives: When and where to apply them**

Sometimes your motor wants to act like a generator. Learn about the various methods available to deal with motor power regeneration.

**Session 14: 11:00 a.m. – 12:00 p.m.****WLD-08-1 Select the right enclosure for your drive: What NEMA or IEC rating works best?**

You've picked the right drive, right motor, and now need to pick the right enclosure type. How do you evaluate NEMA versus IEC ratings, and which enclosure type you should consider? This session can help guide you in the right direction, and also help if considering flange-mount kits and other options to optimize your package.

**Session 15: 1:30 p.m. – 2:30 p.m.****CLD-01-1 Harmonic mitigation technology to meet IEEE-519 standard**

Harmonic distortion creates problems such as poor power factor, transformer and distribution equipment overheating, and random breaker tripping. How is distortion created, and what are effective ways to address this issue? IEEE-519 set forth distortion limits for power users; these limits defined the maximum current and voltage distortion percentages allowable. How do you use passive and active technology to meet these standards?

**Session 16: 3:00 p.m. – 4:00 p.m.****TLD-05-1 Proper wiring and grounding of power and control cables with variable speed drives**

This session offers an in-depth look at cables, routing, grounding and installation techniques to help improve noise immunity.

**Session 17: 4:30 p.m. – 5:30 p.m.****CLD-02-1 The truth about cable lead-lengths: From your drive to your motor**

This session looks into the different terms, and how motors and drives are affected in long lead-length installations.

## Force Measurement Stressometer Training

### TUESDAY, MARCH 24, 2009

#### Sessions 1 - 5: 9:30 a.m. – 5:30 p.m.

##### TFM-03-5 (NOTE: 5 hour session)

##### **Operating and maintaining Stressometer Master Piece system - Part 1**

This course teaches students basic, theoretical and practical flatness measurement and flatness control using Stressometer Master Piece system. The training targets people who will perform operation, service and maintenance on Stressometer Master Piece system. It is desired that students have knowledge of the target process and basic knowledge of mechanics and electronics. Upon completion of this course, students will be able to describe the basic design principles of Stressometer Master Piece and its range of functions, and perform basic operation, maintenance and service of the Stressometer Master Piece system.

### WEDNESDAY, MARCH 25, 2009

#### Sessions 6 - 8: 8:00 a.m. – 12:00 p.m.

##### TFM-04-3 (NOTE: 3 hour session)

##### **Operating and maintaining Stressometer Master Piece system - Part 2**

This course teaches students basic, theoretical and practical flatness measurement and flatness control using Stressometer Master Piece system. The training targets people who will perform operation, service and maintenance on Stressometer Master Piece system. It is desired that students have knowledge of the target process and basic knowledge of mechanics and electronics. Upon completion of this course, students will be able to describe the basic design principles of Stressometer Master Piece and its range of functions, and perform basic operation, maintenance and service of the Stressometer Master Piece system.

#### Sessions 9 - 11: 1:30 p.m. – 5:30 p.m.

##### TFM-01-3 (NOTE: 3 hour session)

##### **Operating and maintaining Stressometer FSA 7.0 - Part 1**

This course teaches students basic, theoretical and practical flatness measurement and flatness control using Stressometer version 7.0. The training targets people who will perform operation, service and maintenance on Stressometer version 7.0. It is desired that students have knowledge of the target process and basic knowledge of mechanics and electronics. Upon completion of this course, students will be able to describe the basic design principles of Stressometer 7.0 and its range of functions, and perform basic operation, maintenance and service of the Stressometer 7.0 system.

### THURSDAY, MARCH 26, 2009

#### Sessions 12 - 16: 8:00 a.m. – 4:00 p.m.

##### TFM-02-5 (NOTE: 5 hour session)

##### **Operating and maintaining Stressometer FSA 7.0 - Part 2**

This course teaches students basic, theoretical and practical flatness measurement and flatness control using Stressometer version 7.0. The training targets people who will perform operation, service and maintenance on Stressometer version 7.0. It is desired that students have knowledge of the target process and basic knowledge of mechanics and electronics. Upon completion of this course, students will be able to describe the basic design principles of Stressometer 7.0 and its range of functions, and perform basic operation, maintenance and service of the Stressometer 7.0 system.

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## Industrial Automation & Control Specialist or Technician

### TUESDAY, MARCH 24, 2009

#### Session 1: 9:30 a.m. – 10:30 a.m.

##### **WLC-05-1 Conveying the applications of disconnect switches in material handling**

From OSHA Lock Out/Tag Out devices, to the NEC requirement that a motor disconnect be placed upstream from the motor, to use in industrial control panels, this workshop provides an overview of switching requirements and applications. This workshop will show how ABB's disconnect switch product portfolio meets the needs of the material handling industry. The workshop will provide a question and answer session, as well as hands-on product review.

#### Session 2: 11:00 a.m. – 12:00 p.m.

##### **WLC-01-1 ABB enclosed switches from the inside out**

This workshop provides an interactive approach to understanding key considerations for enclosed switches through a detailed analysis of components, standards and applications. Learn what factors contribute to the overall appearance, configuration, functionality, innovation and application of enclosed switches on the market today. See how ABB's enclosed product portfolio meets the challenge and provides an exceptional solution for the marketplace. The workshop will conclude with an open forum discussion on product trends, product requirements and emerging applications and markets.

#### Session 3: 1:30 p.m. – 2:30 p.m.

##### **WLC-02-1 ABB low voltage circuit breakers**

Attending this presentation will show you how ABB circuit breakers provide a compact solution for all your protection requirements. Offering high performance, versatility and standardization in a range of Tmax molded case circuit breakers, the Emax series of low voltage circuit breakers features totally innovative design, ease of installation and use and modularity for the trip units. ABB offers an ideal solution for the growing requirements of designers, switchboard and switchgear manufacturers, OEMs and end users.

#### Session 4: 3:00 p.m. – 4:00 p.m.

##### **WLC-04-1 ABB's approach to critical power**

Looking at critical power and its scope, this session highlights the technical characteristics of ABB overcurrent protection solutions that best suit these applications. This session will also evaluate and discuss various approaches to succeed in the critical power market segment.

#### Session 5: 4:30 p.m. – 5:30 p.m.

##### **WLC-06-1 Disconnect switches, stainless steel and the food and beverage industry**

This workshop offers a general market overview of the applications, trends and requirements of the food and beverage processing industry, relative to disconnect switches. Understand how and where disconnect switches are applied in food and beverage processing equipment and systems, and how ABB's disconnect products provide superior solutions for this industry.

### WEDNESDAY, MARCH 25, 2009

#### Session 6: 8:00 a.m. – 9:00 a.m.

##### **WLC-08-1 Motor control - Finding the application**

Meeting the requirements of industrial motor control applications is a must as manufacturers review products and system requirements. Understanding the motor load needs, industrial machine requirements and distribution networks is the first steps in this process. Learn how NFPA 79, UL 508a and NEC 409 affect system selection and what motor circuit configuration best fits your motor control needs.

#### Session 7: 9:30 a.m. – 10:30 a.m.

##### **WLC-03-1 ABB PST Softstarter: The smooth wave to the future**

We have all been confronted with the effects of water hammer in pump applications. Reduced voltage starting methods greatly reduce the water hammer effects. Torque control, which eliminates water hammer all together, is a new feature on the ABB PST Softstarter. Reduced voltage starting with current control will result in torque control that can be used at start up and stop of any pump application. Torque control with ABB Softstarters will shape the future of all pumping solutions.

#### Session 8: 11:00 a.m. – 12:00 p.m.

##### **CLC-01-1 Innovations and trends in custom panel applications**

Custom control panels match engineering principles and design creativity to help customers address very unique business and technical needs. This session will cover how custom-engineered panels contribute to the success and growth of customer organizations.

#### Session 9: 1:30 p.m. – 2:30 p.m.

##### **WLC-07-1 Low voltage Motor Control Centers**

The evolution of low voltage Motor Control Centers (MCC) has become fairly dynamic over the last decade. This workshop shows the important role the MCC plays in the industry, including various design and standards that are shaping the future of MCCs. Future trends in the MCC industry will also be discussed.

**Session 10: 3:00 p.m. – 4:00 p.m.****TLC-05-1B Connectivity is key: The value and ease of ABB automation solutions**

If faced with the challenge of connectivity and interoperability of ABB and / or third party products on any of the open industrial communication networks, such as Modbus, DeviceNet, PROFIBUS, Ethernet, etc., attendees will not want to miss this opportunity. Connectivity of Human Machine Interface (HMI), Programmable Logic Controller (PLC), Drive Softstarters, Breakers and Universal Motor Controllers (UMC).

**Session 11: 4:30 p.m. – 5:30 p.m.****THURSDAY, MARCH 26, 2009****Session 12: 8:00 a.m. – 9:00 a.m.****WPE-01-1 Fault tolerant SVC ArcComp system for DC arc furnaces**

A steel plant with local generation and connected to grid, which feeds power to many DC arc furnaces, faces a great challenge during voltage dips and ground faults that cause tripping of power systems. Such trips result in loss of production and causes stress on generation due to loads throw off. At ESSAR Steel, where generation is in excess of 700MW, trips cause serious operational issues. ABB collaborated with ESSAR Steel to develop an SVC control system with Fault Ride Through feature. Sustainability and functionality of the new control system were easy to record using a fast data logger system.

**Session 13: 9:30 a.m. – 10:30 a.m.****Session 14: 11:00 a.m. – 12:00 p.m.****Session 15: 1:30 p.m. – 2:30 p.m.****Session 16: 3:00 p.m. – 4:00 p.m.****Session 17: 4:30 p.m. – 5:30 p.m.**

## Instrumentation: General Technology & Trends

### TUESDAY, MARCH 24, 2009

#### Session 1: 9:30 a.m. – 10:30 a.m.

##### **WIN-08-1 Scalable Device Management providing productivity enhancement that grows with your business**

This session examines all of the various tools ABB has for managing instrumentation to best achieve results to meet differing needs and objectives in improving productivity. Included is a review of hardware and software capabilities used to configure, calibrate, maintain and optimize instrumentation. The covered hardware includes the local instrument Human Machine Interface (HMI) and the Mobility handhelds for HART configuration and calibration. Covered software includes DPC Manager for handheld data upload and reporting, Mobility DMS for calibration management, Asset Vision Basic for device configuration and Asset Vision Professional for device management and asset monitoring.

#### Session 2: 11:00 a.m. – 12:00 p.m.

##### **WIN-04-1 Green instrumentation engineering practices in oil and gas applications**

End user's business drivers include protecting health, safety and the environment while maximizing shareholder value. This workshop will share best practices in instrumentation engineering to help support end user business drivers. Fugitive emissions reduction, reduced utilities consumption and overall asset footprint reduction will be discussed. Several instrumentation design examples will be discussed in support of meeting big picture business objectives.

#### Session 3: 1:30 p.m. – 2:30 p.m.

##### **WIN-01-1 Boiler chemistry: Critical measurements safeguard expensive capital equipment**

The Electric Power Research Institute stated that 50 percent of all plant outages are a result of boiler tube corrosion. This frequently occurs due to poor control or neglect of the boiler cycle chemistry. This is costing the U.S. power industry between \$5 billion and \$10 billion. For over 50 years, ABB has been at the forefront of design, development and manufacturing of on-line chemical analyzers for the complete boiler water cycle. This presentation is intended to describe these issues, and how ABB can help to improve plant availability.

#### Session 4: 3:00 p.m. – 4:00 p.m.

##### **WIN-11-1A Wireless and asset management in process industries**

The arrival of the industry standard WirelessHART specification has resulted in the development of wireless instruments that can work together within a multivendor application. This presentation will describe typical applications of monitoring, control and asset management using such a wireless instrument network.

#### Session 5: 4:30 p.m. – 5:30 p.m.

##### **WIN-10-1A What's new in instrumentation and why it matters**

This workshop covers trends in the instrumentation market, how ABB products are addressing these trends, and most importantly, how these trends and advances translate into tangible benefits to plant owners and operators. We will discuss both new measurement and control technologies and new applications for mature products and technologies, along with brief case histories where appropriate. Attendees are invited to participate in a frank discussion on which topics in the news will really change the landscape, and which ones won't get past water-cooler discussions. Join us for a fast-paced and interactive session.

### WEDNESDAY, MARCH 25, 2009

#### Session 6: 8:00 a.m. – 9:00 a.m.

##### **WIN-03-1 Flue Gas Desulfurization (FGD) Scrubber pH control: Reducing emissions through tighter pH control**

As stricter emission limits are imposed upon industries it is even more important to operate FGD scrubbers at peak efficiencies to guarantee maximum pollutant removal standards. One way to do this is to employ a pH sensor technology that provides the most stable, accurate, repeatable pH measurement for control purposes, to optimize pH control improving scrubber throughput and reducing costly down-time and maintenance due to scaling and plugging of spray nozzles and trays. The heart of a pH probe is a robust wood junction reference designed to withstand the harsh scrubber environment.

#### Session 7: 9:30 a.m. – 10:30 a.m.

##### **WIN-10-1B What's new in instrumentation and why it matters**

This workshop covers trends in the instrumentation market, how ABB products are addressing these trends, and most importantly, how these trends and advances translate into tangible benefits to plant owners and operators. We will discuss both new measurement and control technologies and new applications for mature products and technologies, along with brief case histories where appropriate. Attendees are invited to participate in a frank discussion on which topics in the news will really change the landscape, and which ones won't get past water-cooler discussions. Join us for a fast-paced and interactive session.

**Session 8: 11:00 a.m. – 12:00 p.m.****WAN-01-1 Achieving sustainable performance with ABB FTIR analytical solutions**

As the need for operation models that sustain environmental health becomes crucial, many companies are searching for new processes. This presentation examines ABB Fourier Transform Infrared (FTIR) analytical solutions, including implementation of process optimization, to achieve sustainable solutions in the pharmaceutical, hydrocarbon, chemical, atmospheric and semiconductor industries. Benefits of utilizing ABB's expertise will be demonstrated. "To be a truly smart, agile enterprise, sustainability must become a core business strategy. Through implementation of sustainable practices, innovative companies continuously improve process performance while reducing environmental impact," says Mr. Simard, Chief Marketing Officer of ABB's Analytical Business Unit.

**Session 9: 1:30 p.m. – 2:30 p.m.****CIN-01-1 Optimize burner combustion and reduce fuel costs in coal-fired power plants by tighter O2 control**

This session focuses on a customer case study describing the implementation of an ABB SMA O2/COe solution vs. traditional in-situ O2 only measurements. The workshop will outline the benefits that the customer experienced including the reduction of emissions and fuel costs.

**Session 10: 3:00 p.m. – 4:00 p.m.****WIN-07-1 Lowering your total maintenance costs by using ABB Field products**

Are you under pressure to reduce your maintenance budget? Is your client insisting that you offer instrumentation that is easy to service and inexpensive to maintain? Learn why ABB Field products offer the industry's best alternative for your ROI, and simple point of use maintenance, as we review various examples from pressure and temperature applications in collaboration with ABB's Device Management products.

**Session 11: 4:30 p.m. – 5:30 p.m.****WIN-06-1 Instrumentation solutions for the power industry**

The efficiency of your power generation process calls for reliable and accurate instrumentation. As important is the ability to have access to an intelligent, informed support network that will assist you throughout all stages of your process. With ABB you have a broad selection of process instrumentation equipment and systems for use throughout all stages of the power generation process. The utilization of the ABB Instrumentation product portfolio offers you the opportunity to create advanced systems that will help to ensure the safe, reliable and economical performance of power plant facilities.

**THURSDAY, MARCH 26, 2009****Session 12: 8:00 a.m. – 9:00 a.m.****WIN-05-1 Increase flow control efficiency and reduce cost using digital valve positioners**

This workshop provides an overview of ABB's digital valve positioners. Digital positioners help save time during the calibration/commissioning steps. ABB digital positioners also have unique features for on-line accuracy with benefits for flow control efficiency. In addition, these positioners help reduce other operating costs. The workshop will highlight these benefits with real-world examples, as well as invite discussion from workshop attendees.

**Session 13: 9:30 a.m. – 10:30 a.m.****WIN-09-1 Unlocking applications in your plant by using wireless**

The intrinsic low cost nature of a wireless solution means that you can now consider monitoring process points which were previously too costly. A wireless solution is not limited to monitoring new information. Less than 10 percent of the 26 million installed HART devices are remotely monitored. The ABB wireless adapter can unlock this stranded information to maximize availability. ABB has worked in collaboration with major users and specification bodies to release WirelessHART, the industry wireless standard at the instrument level.

**Session 14: 11:00 a.m. – 12:00 p.m.****WIN-02-1 Commissioning a wireless network**

The planning and commissioning of a wireless instrument network is not too dissimilar to that of the wired version. This presentation will describe how the concerns of reliability, security and interoperability are addressed during planning.

**Session 15: 1:30 p.m. – 2:30 p.m.****WIN-11-1B Wireless and asset management in process industries**

The arrival of the industry standard WirelessHART specification has resulted in the development of wireless instruments that can work together within a multivendor application. This presentation will describe typical applications of monitoring, control and asset management using such a wireless instrument network.

**Session 16: 3:00 p.m. – 4:00 p.m.****Session 17: 4:30 p.m. – 5:30 p.m.**

## Motors & Generators Specialist or Technician

### TUESDAY, MARCH 24, 2009

#### Session 1: 9:30 a.m. – 10:30 a.m.

##### **TLM-02-1A Demystifying metric: NEMA vs. IEC motors**

This technical training will review some of the more common International Electrotechnical Commission (IEC) motor specifications and terminology, comparing and contrasting to comparable aspects of National Electrical Mfg. Assoc. / National Electrical Code (NEMA/NEC) definitions and descriptions. Items such as power ratings, frame size designations, cooling methods and efficiency classes will be discussed. These will be compared to the NEC definitions more commonly used in North America to provide the attendee a point of reference with respect to which motor types can be used in a given application and atmospheric condition.

#### Session 2: 11:00 a.m. – 12:00 p.m.

##### **TLM-03-1 Motors in hazardous areas**

ATEX is a standard/guideline for explosion protection in the industry. Its requirements for motors in hazardous areas have created a whole new challenge for companies involved in the petrochemical, gas and oil, mining, plastics and marine industries. This seminar will help define hazardous areas, and explain how ATEX applies. More importantly, this session will cover what responsibilities lie with not only the motor manufacturer, but also the end user in making sure the requirements of the ATEX directive are met in all relevant applications.

#### Session 3: 1:30 p.m. – 2:30 p.m.

##### **CMD-04-1 Saving big bucks: How an energy audit reveals where new motors pay for themselves**

Motors account for the majority of energy used by industry. With ever increasing energy costs, more companies are looking for ways to save money on their energy bills. An energy audit provides a comprehensive approach to reaching energy savings goals. The program starts by prioritizing where a plant can best save energy. This includes a site audit to allow the customer to make informed decisions about upgrading motors and adding variable speed drives to further control energy use. This workshop will cover a case study that illustrated how an energy audit was implemented and demonstrate the actual savings realized.

#### Session 4: 3:00 p.m. – 4:00 p.m.

##### **CMD-03-1 Replacement and retrofit of large motors: Challenges and solutions at a power utility**

Replacing large motors is a common practice but requires attention to many technical application details and relevant standards. While the theory of motor design has changed little in the last 50 years, today's production methods, raw materials, insulation and protective devices are nothing like their predecessors. Output requirements, local standards and customer expectations regarding machine performance have

also changed. Often an upgrade part of the retrofit and the final package can be very different from the original design. This workshop will highlight the key aspects to proper motor retrofits and look at a specific power plant case study.

#### Session 5: 4:30 p.m. – 5:30 p.m.

##### **WLD-06-1 Easily meet your harmonics specification requirements in water applications**

Meeting the specification requirements for low harmonics in water and wastewater motor-control applications is a must, as utilities and government agencies review their product and system options for new installations and retrofits. Ultra-low harmonic drives focus on prevention as the cure, rather than as mitigation as a fix. This strategy and product solution makes it easy for you -- whether you are a consulting engineer, system integrator, work for a water district, or are an end user -- to meet your specifications handily and easily.

### WEDNESDAY, MARCH 25, 2009

#### Session 6: 8:00 a.m. – 9:00 a.m.

##### **CMD-01-1 Life Expectancy Analysis of motors and generators: Reduce downtime and protect your investment**

The Lifetime Expectancy Analysis Program (LEAP) is a systematic and unique approach to motor maintenance management. When motors and generators advance in age, the risk of failure increases. Unplanned downtime and repairs are extremely costly and can be prevented with a sound preventive and predictive maintenance program. LEAP offers proactive anticipation of repairs and replacements that extend motor lifetime and boosts ROI for the entire driven system. This workshop will cover the process and goals of LEAP, as well as discuss a specific case in which LEAP has been employed successfully for the customer.

#### Session 7: 9:30 a.m. – 10:30 a.m.

##### **TMD-01-1 Starting medium voltage motors: How many times can I push the button?**

This session will review various methods for starting medium voltage AC motors. Because of their large size and power draw, the starting of these motors can have a significant impact on an electrical system. Different methods used to minimize this impact will be covered. Discussion will include the impact of the load inertia and torque characteristic, as well as various starting methods. (Note: This is not a session on motor starters).

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**Session 8: 11:00 a.m. – 12:00 p.m.****TLM-02-1B Demystifying metric: NEMA vs. IEC motors**

This technical training will review some of the more common International Electrotechnical Commission (IEC) motor specifications and terminology, comparing and contrasting to comparable aspects of National Electrical Mfg. Assoc. / National Electrical Code (NEMA/NEC) definitions and descriptions. Items such as power ratings, frame size designations, cooling methods and efficiency classes will be discussed. These will be compared to the NEC definitions more commonly used in North America to provide the attendee a point of reference with respect to which motor types can be used in a given application and atmospheric condition.

**Session 9: 1:30 p.m. – 2:30 p.m.****TLM-01-1 DC vs. AC: Which motor is best for your application?**

When electrification began, DC was the only prime mover available. AC induction motors, due to its simplicity, replaced DC for constant speed machines and DC was used in variable speed applications. AC drives has again allowed AC induction motors to capture applications from DC. DC motors are still used in limited applications. The square frame AC induction motors is another technical development that may again capture application that were traditionally DC. The presentation reviews base fundamentals for these motors, the performance trade-offs between them, and where each is best applied.

**Session 10: 3:00 p.m. – 4:00 p.m.****WLD-05-1 Energy savings equals "free" drives!"**

With today's energy costs on a sharp rise, the use of adjustable frequency drives is a smart choice for energy savings. This session will discuss and show the fundamentals of analyzing a variable flow/speed application to determine its energy savings potential.

**Session 11: 4:30 p.m. – 5:30 p.m.****CMD-02-1 Medium voltage drives case study: Application, evaluation and results**

This workshop will cover the actual application of a medium voltage drive and motor operating a 1,500 Hp extruder. The session will cover key elements of the project from initial concept to final operation of the equipment. Details will include the sizing of the drive and motor to meet the difficult application requirements of an extruder, engineering, packaging and integration issues, challenges and advantages of applying a 4KV drive on a 2.3KV bus, as well as commissioning and operation results with one year of installed experience.

**THURSDAY, MARCH 26, 2009****Session 12: 8:00 a.m. – 9:00 a.m.****TLD-01-1 Advanced drive functionality: Is a Programmable Logic Controller (PLC) required?**

Learn how to use timers, counters, proportional integral derivative (PID) control and more, to optimize the control of a drive.

**Session 13: 9:30 a.m. – 10:30 a.m.****WLD-07-1 Regenerative drives: When and where to apply them**

Sometimes your motor wants to act like a generator. Learn about the various methods available to deal with motor power regeneration.

**Session 14: 11:00 a.m. – 12:00 p.m.****WLD-08-1 Select the right enclosure for your drive: What NEMA or IEC rating works best?**

You've picked the right drive, right motor, and now need to pick the right enclosure type. How do you evaluate NEMA versus IEC ratings, and which enclosure type you should consider? This session can help guide you in the right direction, and also help if considering flange-mount kits and other options to optimize your package.

**Session 15: 1:30 p.m. – 2:30 p.m.****Session 16: 3:00 p.m. – 4:00 p.m.****TLD-05-1 Proper wiring and grounding of power and control cables with variable speed drives**

This session offers an in-depth look at cables, routing, grounding and installation techniques to help improve noise immunity.

**Session 17: 4:30 p.m. – 5:30 p.m.****CLD-02-1 The truth about cable lead-lengths: From your drive to your motor**

This session looks into the different terms, and how motors and drives are affected in long lead-length installations.

## Robotics for Consumer Industry

### TUESDAY, MARCH 24, 2009

#### Session 1: 9:30 a.m. – 10:30 a.m.

##### **TRO-02-1A Robotics 101**

Robotics 101 will provide a basic primer to the world of industrial robotics. The session will review the general configuration of industrial robots, the major components that comprise an industrial robot, a review of many typical applications and a review of the ABB robot portfolio.

#### Session 2: 11:00 a.m. – 12:00 p.m.

##### **WRO-07-1 Robotics for direct food handling**

Picking a product and placing it in less than a half a second is a difficult task. Food handling introduces additional requirements such as complying with various government regulations, as well as minimizing or eliminating product damage during the process.

#### Session 3: 1:30 p.m. – 2:30 p.m.

##### **WRO-08-1 Robotics packaging for household care products**

Robot systems in the household care products industry provide a combination of control and flexibility that exceeds manual packing. Specific applications will be reviewed that will identify the key system features.

#### Session 4: 3:00 p.m. – 4:00 p.m.

##### **WRO-01-1 Future automation trends in poultry**

Robotics in the consumer industry manufacturing have focused on the end-of-line processes, such as packaging. The poultry industry employs a very sizeable workforce in the primary processing of their products, and the labor tasks are dangerous and not very desirable. Intelligent automation and robotics is moving upstream in the process.

#### Session 5: 4:30 p.m. – 5:30 p.m.

##### **WRO-09-1 USDA washdown requirements**

Compliance with government regulations is required for machinery involved in the process and packaging of specific food types. This presentation overviews the specific regulatory agencies, their areas of jurisdiction, procedures for compliance and basic design guidelines for machine design.

### WEDNESDAY, MARCH 25, 2009

#### Session 6: 8:00 a.m. – 9:00 a.m.

#### Session 7: 9:30 a.m. – 10:30 a.m.

##### **WRO-05-1 Introduction to PickMaster software for picking and packaging**

PickMaster for picking simplifies the integration of vision guidance, conveyor tracking and robot motion on all ABB robotics including the IRB360 Flexpicker. PC based graphical configuration tools simplify the development and writing of vision-guided robot applications. Product features and programming basics will be discussed.

#### Session 8: 11:00 a.m. – 12:00 p.m.

##### **WRO-04-1 Introduction to PickMaster software for palletizing**

Robotic palletizing provides manufacturers a flexible solution for handling multiple products and package sizes simultaneously or multiple changeovers daily. PickMaster for palletizing provides the tool to simplify the programming of the palletizing system and easily add future package configurations as production changes occur. Product features and programming basics will be discussed.

#### Session 9: 1:30 p.m. – 2:30 p.m.

##### **CRO-01-1 Next generation robotic palletizing case study**

Robotic palletizing was the entry of robotics into packaging and consumer industry segments. Manufacturers and large volume retailers are demanding new solutions for end-of-line packaging and distribution to improve their profitability.

#### Session 10: 3:00 p.m. – 4:00 p.m.

##### **CRO-02-1 Chemical handling and palletizing case study**

Flexibility and system uptime are the key to success. This case study evaluates the handling of various configurations of chemical containers by a single workcell.

#### Session 11: 4:30 p.m. – 5:30 p.m.

##### **PRO-01-1 Addressing labor shortages and manpower requirements: Top 10 reasons to invest in robotics**

With a cross-section of industry experts from various markets within the consumer industry segment, this session will cover their key reasons to use flexible robotic automation, and will also survey their future automation needs.

**THURSDAY, MARCH 26, 2009**

**Session 12: 8:00 a.m. – 9:00 a.m.**

**Session 13: 9:30 a.m. – 10:30 a.m.**

**Session 14: 11:00 a.m. – 12:00 p.m.**

**WRO-06-1 Robotics for alternative energy**

The race is on to implement alternative energy resources into an overall energy scheme. Robotics are playing an important part in bringing this fast-paced manufacturing sector on-line.

**Session 15: 1:30 p.m. – 2:30 p.m.**

**Session 16: 3:00 p.m. – 4:00 p.m.**

**Session 17: 4:30 p.m. – 5:30 p.m.**

**WRO-02-1 Human and robotic interaction: SafeMove**

Robot safety has progressed to unprecedented levels with ABB's SafeMove package. This advanced product offering allows features to allow safe human intervention with the robot and three dimensional programmable containment of robot motion, creating lean robotic cell configurations.