



2009 SPRING TRAINING REGISTRATION

NAME _____ COMPANY NAME _____
 PHONE _____ FAX _____
 ADDRESS _____ STATE _____ ZIP _____
 EMAIL _____

STUDENT	COURSE#	LOCATION
_____	_____	_____
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Register 3 or more students from the same company and receive a \$50* discount per student.
 *\$50 discount is only for classes 2 days or more

PAYMENT METHOD

Company PO # _____
 Credit Card# _____
 VISA MC AMEX EXP Date: _____

Check Enclosed
 check# _____

New Cancellation Policy
 Payment must be received prior to attending class. No cancellations will be accepted 1 week prior to the scheduled class
No refunds for missed classes.

TOTAL AMOUNT PAID \$: _____

If you have any questions concerning registration please call our training coordinator Ann Fadoul at 410-252-1221.
 Email: afadoul@aireco.com

M & M Controls
 9E West Aylesbury Road • Timonium, MD 21093
 PH. 410.252.1221 • FAX 410.252.5918

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M & M Controls ■ 9E West Aylesbury Rd. ■ Timonium, MD 21093



Mail to:

SCHEDULE OF CLASSES

New Training Opportunities

We are pleased to present a new set of HVAC and control training courses. These modular courses provide the fundamental building blocks for any technician working in the world of commercial HVAC and Building Automation controls. You may take these courses individually or by taking all of them you will receive our certification as a **Building Automation System Specialist (BASS)**. Courses are offered as four or eight hour classes and will be scheduled throughout the year. All courses in the entire program will cover a total of sixty hours.

The modular courses will include:

- Group 1 – Fundamentals
 - HVAC Control Fundamentals
 - Pneumatic Controls
 - Electric – Electronic Controls
 - DDC – Building Automation Controls
 - Valve & Damper Sizing
- Group 2 – Applications
 - Air Handling Unit and Rooftop Control Sequences
 - Building Air Systems and Flow
 - Unitary Room Equipment Control
 - Boiler – Chiller Control Sequences
- Group 3 – Building Automation Support
 - Using Windows Effectively
 - Networking for BAS
 - Wiring Practices and Troubleshooting



All of the above will be added to our standard two and three day class schedule.
All classes are held at Timonium, MD and Springfield, VA locations.

VLV106 - Valve-Damper Selection

½ day 7:30 a.m. To 11:30 a.m. \$95.00 per student

This class is intended for the design or field technician who specifies, selects or services valve and damper components.

Students will gain knowledge on:

- Valve types and piping schemes
- Valve sizing labs
- Matching correct valve application
- Valve construction and components
- Damper options and selections
- Damper sizing

Prerequisites: None Course Length: 4 hours Tuition: \$95.00 per student

Belimo101 - Actuator and Control Valves

1 day 7:30 a.m. to 4:00 p.m. \$95.00 per student

This 1-day workshop is designed to provide valuable hands-on training and instruction to those working with Belimo actuators and valves. In addition to a hands-on mounting and wiring lab, participants will learn how to size air dampers and control valves and will be provided with valuable troubleshooting tips and advice. Equipment, tools and training materials will all be provided during this class; all you need to do is show up! Topics:

- Hands-on actuator mounting and wiring Lab
- Air damper actuator sizing
- Spring and non-spring return air damper actuators
- Actuator control signals
- Belimo actuator nomenclature
- Introduction to Belimo Multi Function Technology (MFT)
- 2 & 3 way valves
- Valve sizing formulas
- Valve characteristics and limitations
- Valve types
- NV and SY control valve actuators

Prerequisites: None Course Length: 8 hours Tuition: \$95.00 per student

HONVFD - Honeywell VFD Certification Training Class

1 day 7:30 a.m. to 3:00 p.m. \$100.00 per student

We are pleased to announce a rare opportunity for you to attend Honeywell factory certification training. The course is designed to provide you with the knowledge and skills to perform certified checkout and startup of Honeywell VFD's. Laptop computers are optional. Topics will include:

- VFD market overview
- Product overview
- VFD selection
- VFD application
- MMI keypad
- Drive software
- Commissioning
- Application practice
- Competitive comparison

Prerequisites: None Course Length: 7 hours Tuition: \$100.00 per student

PNEU201 - TAC Pneumatic Controls

2 day 7:30 a.m. to 4:00 p.m. \$425.00 per student

This class will be hands on, teaching the basic skills needed to service pneumatic control systems.

Students will learn:

- Basic Air Supply Requirements
- Thermostat Operation and Calibration
- Relay and Auxiliary Devices
- Valves and Damper Operation
- Receiver-controller Calibration and Setup

The fee includes all materials, handouts and calibration tools. Sign up 2 or more students from one company at a discounted rate of \$375.00 per student.

Prerequisites: None Course Length: 16 hours Tuition: \$425.00 per student

March 17 Timonium

May 13 Springfield

March 18 Timonium

March 19 Springfield

March 19 Timonium

March 24 Springfield

March 24-25 Timonium

April 14-15 Springfield

MET111 - Johnson Controls Metasys ASC Controller

2 day 7:30 a.m. to 4:00 p.m. \$425.00 per student

This course is intended for contractors who currently use or are interested in designing, installing and programming direct digital controls using Johnson Controls ASC (Application Specific Controllers). This does not include the use of network supervisory controllers Outline:

- Controller Hardware
- General wiring practices
- Methods of Communications
- Create database using HVACPRO software
- Downloading and commissioning of controllers
- Review of N30 Supervisory control

We will provide laptop computers for the class. Sign up 2 or more students from one company at a discounted rate of \$375.00 per student.

Prerequisites: A good understanding of HVAC control applications and Windows based programs.

Course Length: 16 hours Tuition: \$425.00 per student

WIN101 - Using Windows effectively for HVAC Technicians

½ day 7:30 a.m. to 11:30 a.m. \$95.00 per student

This course is designed for the HVAC technician who is starting to use a computer to interface, download, program and commission today's microprocessor based DDC controls. Topics include:

- Operating systems
- File systems
- Navigation & Shortcuts

Prerequisites: Basic keyboard and mouse skills. Course Length: 4 hours Tuition: \$95.00 per student

NET201 - Networking for Building Automation Systems

½ day 7:30 a.m. to 11:30 a.m. \$95.00 per student

This course is an introduction to the basic concepts of data and computer communications necessary to build network infrastructure for today's Building Automation Systems. Topics covered are:

- Network protocol overview
- Internet protocol and addressing TCP/IP
- Data transmission
- Transmission media
- Client-Server application
- Communications switching and routing

Prerequisites: WIN101 or 2 years PC experience Course Length: 4 hours Tuition: \$95.00 per student

DX101 - Metasys Dx9100

2 day 7:30 a.m. to 4:00 p.m. \$425.00 per student

This course is intended for contractors who currently use or are interested in designing, installing and programming direct digital controls using Johnson Controls DX9100 programmable Controller. This does not include the use or instruction on the network supervisory controllers. Course Outline:

- DX9100 Hardware wiring
- XT9100 Expansion Modules Hardware Basics
- Multiple programming labs using the various control modules.
- Using PLC control
- Review of DT9100 display and commissioning

We will provide laptop computers for the class. Sign up 2 or more students from one company at a discounted rate of \$375.00 per student.

Prerequisites: A good understanding of HVAC control applications and Windows based programs.

Course Length: 16 hours Tuition: \$425.00 per student

CNTL101 - Control Theory and Fundamentals

1 day 7:30 a.m. to 4:00 p.m. \$200.00 per student

This is an introductory course into the world of HVAC controls. The student will develop an understanding of basic HVAC control principles, terms, and fundamentals. Topics included are:

- Terms and definitions
- HVAC system characteristics
- Control systems characteristics, methods & types (two positions, floating, proportional)
- Reset control (compensation)

Prerequisites: None Course Length: 8 hours Tuition: \$200.00 per student

All full day classes include morning and afternoon refreshments as well as lunch. The half day session will include morning and afternoon refreshments.

April 16-17 Springfield

April 28-29 Timonium

April 30 Timonium

May 1 Timonium

May 5-6 Timonium

May 12 Springfield