

RSD Total Control University Provides Metasys DDC Training

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A series of training courses that cover direct digital control (DDC) system basics and more advanced operations with specific applications for Johnson Controls Metasys systems is available through Refrigeration Supplies Distributor (RSD) Total Control in California, Washington, Arizona and Utah. RSD Total Control is the largest Johnson Metasys distributor in the U.S.

The instructor, Philip Meyer, is a former senior systems engineer at Johnson Controls' engineering facility in Milwaukee, Wisconsin, with more than 20 years experience with HVAC and building control systems, where he also served as a tech support engineer dealing directly with building engineers, contractors and controls technicians on Metasys systems. Meyer was also a professional trainer for the Johnson Controls Institute, and he holds a degree in electrical engineering from the University of Wisconsin.

Steve Ignoffo, RSD Total Control manager at the Roseville, California facility, helped launch the training program that has been a benefit for RSD's contractor customers and for RSD as a Metasys supplier. Ignoffo was well acquainted with Meyer, who Ignoffo contacted regularly for technical support for 17 years when Meyer was an engineer at Johnson Controls.

Ignoffo and RSD brought Meyer out of retirement to teach the classes on a part-time basis. Classes began in 2008, and nearly 300 students have completed courses. Classes are held at three California RSD training locations—Lake Forest in Southern California, and Rancho Cordova and San Jose in Northern California. The three-day classes, designed for up to 14 students, have also been held in Phoenix, Arizona; Salt Lake City, Utah; and are planned for Seattle, Washington.

Ignoffo said the classes are targeted toward HVAC service and mechanical contractors and technicians, but are also attended by control system engineers and facility engineers and operations managers. Ignoffo explained, "Many control systems are sold to the end-user through an exclusive dealer, so the contractor who may come in later to do service doesn't have access to factory training. Essentially, we're bringing the factory training to the field, where our contractors and service techs are located in the Western states, through the RSD branches. This saves them money on travel and lodging that they would have to spend to attend factory training in Milwaukee, or another location." Meyer is also available to give onsite classes on demand to larger contractors, or companies with large facilities who want to train multiple service employees at one time.

Under the "RSD Total Control University," the training courses

offered to date include:

- Class 101: HVAC Pro Application Specific Controllers (ASC) & N2 Configuration/Engineering.
- Class 201: Field Equipment Controller (FEC) BACnet MS/TP Introduction to Configuration/Engineering.

Meyer and RSD plan to offer an engineering course later this year designed for people who want to engineer and program a complete system from start to finish. Future classes are planned for Metasys System Extended Architecture (MSEA) Network Automation Engine (NAE) /Network Control Engine (NCE) user operation/interface, and configuration/engineering.

At a recent Class 101 held at RSD's facility in Rancho Cordova near Sacramento, Meyer discussed the history of DDC systems and components. Pneumatic control systems were the standard prior to about 1990, when the industry introduced and began converting to DDC. Meyer said DDC was introduced because it offered energy savings, better control, lower cost, flexibility, and better response. Meyer said, "Pneumatics are not gone, there are hybrid systems in operation and this is not uncommon. Pneumatic systems worked, but a problem was that they required constant maintenance."

The N2 Johnson Controls Metasys controller has been offered to the market since 1990

and Application Specific Controllers (ASC) communicating on the Johnson Controls proprietary N2 Network has been one of the most installed systems on the market. In 2006, Metasys went to an open protocol system with Field Equipment Controllers on the BACnet Network. Meyer knows the history and technology behind the individual control components and network systems.

Areas covered in Class 101 include: Basic HVAC DDC terminology, N2 based Johnson Control Controllers, N2 Bus configuration, HVAC Pro Configuration Software, download and upload applications, commissioning and troubleshooting techniques, Supervisory Integration—adding controllers and points to the supervisory database, and the Supervisory System—basic user operation, navigation, features and commands.

A major benefit of the course is learning about the control system components in the market to enable students to integrate newer components, and upgrade software and network technologies into older control systems they may encounter in buildings in the field.



RSD Total Control DDC training instructor Philip Meyer (L) works with RSD's Tom Hardy at one of the lab workstations at a recent class in Rancho Cordova, CA. (Photo by Ted Rieger)

Part of Class 101 involves defining and understanding the common terms used with DDC systems. As Meyer told the class, "I'm trying to give you the terminology you need so it makes sense to you when you're reading spec sheet information about these systems." The website for technical information and Johnson Controls Online Product Literature, called "QuickLIT" is: www.cgproducts.johnsoncontrols.com.

Meyer's insight on DDC components and systems can translate into time and dollar savings for contractors, customers and suppliers. He noted that controllers had sometimes been returned to RSD from service people who mistakenly thought they were not working properly. But the real problem was that the service personnel did not know how to properly test a controller that has an incremental actuator.

Meyer constantly interacts with students during class to keep everyone engaged. He passes around control components and analytical tools to promote learning. Students ask questions about real-life problems they are dealing with in control systems they service or operate. Each student performs hands-on lab exercises at individual lab workstations designed by RSD that each include a panel of control components connected to a laptop computer to learn how to use software programs and troubleshoot common problems. Lab exercises for Class 101 include: HVAC Pro operation, packaged rooftop unit operation, mixed air single path applications, sideloops, VMA Variable Air Volume (VAV) controller operations, and Supervisory System N2 Integration.

Information and schedule are at: rsd2.rsd.net/te_training/index.cfm.



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