

Objective:

Operator level two is designed for individuals to continue leaning WebCTRL and further reading of logic pages. This course is the required step into the next level course providing a path to learn how to trouble-shoot their system. After attending this course, a customer will be able to select appropriate control modules for a project, efficiently develop and effectively manage a system database in SiteBuilder, translate a written sequence of operations into an Eikon LogicBuilder control program, develop programs using Equipment Builder, download, checkout and trouble-shoot control programs, understand ALC control concepts built into microblocks, and create and edit system graphics using ViewBuilder.

Prerequisites:

Working knowledge of HVAC systems and control, WebCTRL Operator Level 1 (Basic) Course

Day 1:**Control Module Brief Review**

This overview covers only the control modules used in the training course which includes the most commonly used (LGR, ME, SE, ZN, ZS, and Equipment Touch)

Discussion covering “What is BACnet” and how BACnet devices are used in the ALC System

Adding DDC Controls

Selecting the appropriate control modules for a third floor research and office building

Designing a WebCTRL Database

Using SiteBuilder the student will add a third floor area, HVAC equipment and control modules to an existing WebCTRL database.

Discussion of and exercise in using BACnet device instance numbers; students will receive a pfd file providing a standard addressing scheme for device instance numbers

Day 2:**Creating a Control Program**

Introduction to Eikon LogicBuilder

Discussion on the most widely used Microblocks; Scheduler, Setpoint, I/O, Network, PID, Airflow, Sensor Binder and ASV

Exercise in creating a very basic zone control program; students will learn how to draw in Eikon LogicBuilder, learn the steps to apply and download the control program; students will continue to add more logic to this one program and repeating their steps for more practice

Exercise in trouble-shooting control programs; instructor will add bugs into the students control programs which they will need to correct.

Day 3:**Developing Functional Control Programs**

Translate a written sequence of operation into an Eikon LogicBuilder control program using Equipment Builder

Students will develop the necessary programs to control the HVAC equipment on the third floor of the research and office building

Control Module Operating System

Discussion about Module Drivers and different versions

Exercise performing module statuses and verifying the module driver

Applying, Downloading and Checkout of Control Programs

Demonstration using WebCTRL point checkout feature to commission a piece of HVAC equipment

Exercises performing database edits using SiteBuilder and module downloads using WebCTRL; students will be expected to perform these exercises with little or no help from the instructor and finish adding DDC controls to the third floor of the research and office building

WebCTRL Heat and Cool Source

Discussion on how heat and cool request minimize energy consumption, including a demonstration using the Setpoint Optimization microblock

Exercises using SiteBuilder heat and cool source trees

WebCTRL Optimal Start Program

Discussion to optimally start your equipment to yield the most efficient operation

Exercise defining the optimal start feature in WebCTRL

Creating a WebCTRL Equipment Graphic

Introduction to ViewBuilder

Discussion on the most widely used controls; number, drop list, toggle button image list, table and interactive thermostat

Exercise building a VAV box graphic; student will learn about grouping, copying, aligning, and layering of objects

Exercise de-bugging an AHU graphic; student will learn how to use the error log to trouble-shoot and fix graphic errors

Backing-up the WebCTRL Database

Exercise using clippings; students will learn how to take a portion of the database from a laptop computer and clip it into the WebCTRL server database

Exercise making a complete system backup; students learn how SiteBuilder provides a way to replicate the database

Review and Conclusion