

BAS Course Instruction



WebCTRL Operator 2

Who is this course for?	Individuals who have completed the WebCTRL Operator Level 1 course
Format	Instructor-led training with extensive hands-on tasks. The class environment is relaxed, and student participation is encouraged. Each student workstation includes a WebCTRL server and a set of online ALC hardware.
Length	2 1/2 days
Objective	Attendees will be able to: <ul style="list-style-type: none">• 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 troubleshoot control programs• Understand ALC control concepts built into microblocks• Create and edit system graphics using ViewBuilder
Prerequisites	Completion of WebCTRL Operator Level 1 course and a working knowledge of HVAC systems and controls
Course Outline	<p>DAY 1</p> <p>Control Module Brief Review Overview of the most commonly used control modules—all included in the training course (OptiFlex, LGR, OFBBC, OF1628, ME, SE, ZN, ZS, and Equipment Touch)</p> <p>Discussion What is BACnet and how BACnet devices are used in the ALC system</p> <p>Adding DDC Controls Selecting appropriate control modules for a third-floor research</p> <p>Designing a WebCTRL Database</p> <ul style="list-style-type: none">• Add a third-floor reception area, HVAC equipment, and control modules to an existing WebCTRL database using SiteBuilder,• Discussion of and exercise in using BACnet device instance numbers• Receive a PDF providing standard addressing scheme for device instance numbers

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WebCTRL Operator 2 (cont)

Course Outline

DAY 2

Creating a Control Program

- Introduction to **EIKON**[®] application
- Discussion of most widely-used microblocks (Scheduler, Setpoint, I/O, Network, PID, Airflow, sensor binder, and ASM)
- Exercise in creating a very basic zone control program: learn how to draw in **EIKON**[®] application, and the steps to apply and download the control program; continue to add more logic to this one program and repeat steps for more practice
- Exercise in troubleshooting control programs: instructor will add bugs into attendees' control programs which attendees will need to correct

DAY 3

Developing Functional Control Programs

- Translate a written sequence of operation into a **WebCTRL control program** using Equipment Builder
- 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 version
- 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 (attendees 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 of how heat and cool requests minimize energy consumption, including a demonstration using Setpoint Optimization microblock
- Exercises using SiteBuilder heat and cool source trees

WebCTRL Optimal Start Program

- Discussion to optimally start 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, interactive thermostat)
- Exercise building a VAV box graphic: learn about grouping, copying, aligning, and layering of objects
- Exercise de-bugging an AHU graphic: learn how to use the error log to troubleshoot and fix graphic errors

Backing up the WebCTRL Database

- Exercise using clippings: 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: learn how SiteBuilder provides a way to replicate the database

Review and Conclusion