

Training Syllabus

Prerequisites

- None

Details

The CXpro^{HD} workshop begins with an introduction to the CB Range of BACnet controllers including installation, configuration, and programming of the CBV-2U4-3T, CBT-3T6-5R, CBX-8R8 plant controller, and FLX 8R8-H expansion.

Upon Completion

After the successful completion of the class, each student will be able to do the following:

- Select the appropriate controller for the application and Configure the communications parameter for the CBV, CBT and CBX controllers
- Configure the I/O on the CBX-8R8 and FLX 8R8-H controllers
- Develop Strategies to follow a defined sequence of operations
- Test and deploy sequences to the controllers
- Upgrade Firmware and perform online troubleshooting

Day 1

Section 1 – Introduction to Cylon Auto-Matrix		Powerpoint Presentation
Cylon Auto-Matrix	Introduction to Cylon Auto-Matrix	
	Aspect / BACnet architecture	
	Integra/BACnet architecture	
	Presentation of CB Line of controllers	
	Overview of soon to be released items	

Section 2 – New Hardware Introduction		Powerpoint Presentation
Cylon Auto-Matrix Controllers	BACnet Routing	
	CBX Plant Controllers	
	CBT and CBV Unitary Controllers	
	Wiring Considerations	
	System Architecture - Best Practices	

Section 3 – Engineering Center Setup		AAM/Cylon Training Manual
CXpro ^{HD}	Installing Software	
	Navigating CXpro ^{HD}	
	Strategy Block Palates	
	Communications	
	Configuring BACnet Routing	
	Class Exercise 1	

Section 4 – Configuring a Site		AAM/Cylon Training Manual
CB Controllers	Creating a Site	
	Adding and Configuring Networks	
	Adding and Configuring Controllers	
	Lab 1 – Creating a Site	

Section 4 – Configuring I/O		AAM/Cylon Training Manual
CB Controllers	Universal Inputs	
	Uninputs	
	Software Points	
	Class Exercise 2 – Configuring I/O	

Day 2

Section 5 – Creating Strategy		AAM/Cylon Training Manual
Programming	What Is A Strategy	
	Strategy Modules	
	Linking Blocks	
	Simulation Mode	
	Lab 3 – Boolean Logic (Fan Operation)	
	Coping Strategies	
	Commenting Strategy Using Text	
	Lab 4 – Analog Logic (FA Damper Operation)	
	Lab 5 – Application (Push Button Override logic)	

Section 6 – Formatting the Strategy Page		AAM/Cylon Training Manual
	Modifying the View	
	Line Formatting	
	Lines and reference tags converting between	
	Naming Lines	
	Naming pages	
	Point Numbers	
	Navigation best practices in CXpro ^{HD}	
	Lab 6 – Making the Strategy page user-friendly	

Section 7 – Creating a Complete Strategy		AAM/Cylon Training Manual
Programming	Water Source Heatpump	
	Equipment Control	
	Lab 7 – Setting up Compressor and Reversing Valve (to include thermostatic control)	
	Analog Gates	
	Lab 8 – Setting up setpoint selection	

Section 8 – Connecting to Controllers		AAM/Cylon Training Manual
	BACnet visibility	
CXpro ^{HD}	Lab 9 -- Making points BACnet visible	
	BACnet Discovery	
	Lab 10 – Discovering site into CXPro^{HD}	
	Default Addressing discussion	
	How to change the controller addressing	
	Lab 11 – Addressing CB controllers	
	Downloading Strategy to a Controller	
	Lab 12 – Downloading and interacting with a controller	

Section 8 – Peer to Peer Communication		AAM/Cylon Training Manual
CXpro ^{HD}	Third-Party BACnet Module	
	Reading data from another controller	
	Writing data to another controller	
	Sharing information – best practices	
	Lab 13 – Peer to Peer communications	

Day 3

Section 8 – Building a System		AAM/Cylon Training Manual
Programming	Discussion Creating lead/lag pump strategy	
	Creating Cooling tower strategy	
	Creating Boiler control strategy	
	Lab 14 – Air Handler Strategy, done as a group in class	
	Utilizing BACnet Schedule	
	Lab 12 – BACnet Schedules	

Section 9 – Sharing and Backing up your work		AAM/Cylon Training Manual
CXPro ^{HD} applications	Making Site Backup	
	Restoring Site	
	Lab 15 -- Backup	
	Upgrading Firmware Utilizing Site Organizer	
	Download a Network Utilizing Site Organizer	
	Lab 16 – Site Organizer	

Section 10 – Review of CBT12lvav and CBT14		AAM/Cylon Training Manual
Field level controllers	Connecting serially to controllers	
	Overview of the CBV 2U4-3T, its capabilities	
	Overview of the CBT 3T6-5R, its capabilities	
	Using Decoder to define personalities	
	Using Netlink, NBPro and the CBT-STAT to commission CBTs and CBVs	
	Lab 17 – Commissioning a CBV 3T6-5R	

Day 4

Section 10 – Review		AAM/Cylon Training Manual
	Review of Creating Strategies	
	Open Discussion on Engineering Center and CB Controllers	
	Review of Certification Test	

Certification test