GCL+ Programming

General Control Language

Structure	Level	Cost	Duration
40% Theory 60% Practice	Advanced	**$1,500** + taxes per participant	3 days (24 hours)

Objective

The objective of this training session is to understand the programming of Delta Control's digital controllers.

The participant will acquire the skills to edit and create programs. At the end of the training session, the participant will have the knowledge and practical skills to program simple building automation systems.

Audience

Project managers, system engineers, product managers, after-sales or maintenance support technicians, integrators who design, install, use, diagnose or upgrade a BACnet network.

Prerequisites

- BACnet Object Handling (or former BAS software II course or ORCAview intermediate Level)
- Basic knowledge of the Windows environment

Dates, venue & registration

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Course Content

1 Introduction to GCL+ Programming
- Differences between GCL and GCL+
- Reading and writing objects

2 Programming methodology
- GCL+ program creation
- Basic function "IF ... THEN ... ELSE ...END IF"
- Programming a binary output
- Basic function "DOEVERY ... END DO"

3 Programming two binary outputs
- Advanced function "SWITCH..."
- Rework of the first two programs
- Basic functions "ONFOR..., OFFFOR...,"
- Pulse Programming

4 Analog objects function
- Analog Output Function
- Basic function "LIMIT"
- Programming a set point relating to outdoor temperature
- Advanced function "SCALE"

5 Control loop PID (CO)
- Rework the analog output program
- Control loop review

6 Systems programming
- Programming a simple HVAC system
- Programming a complex HVAC system

7 T System (practical exercise)
- Best programming practice of a ventilation system of a mechanical room (nested IF)
- Objects configurations in a Delta controller
- Possible difference based on the needs listed in the specifications

8 H System (practical exercise)
- Best programming practices for a ventilation system of a mechanical room (sub routine)
- Objects configurations in a Delta controller
- Possible difference based on the needs listed in the specifications
- Integration of conditions not mentioned in the sequence of operation (locks, freeze low limit)
- Calculation of the average cooling demand