

Synergy Certified OEM and Installer Training



Introduction

Tidal Engineering's Synergy Controllers, both the Synergy Micro 2 and the ¼ DIN Synergy Nano provide state-of-the-art usability and connectivity for environmental test control and data acquisition. They combine the functions of a chamber controller and a data logger and are designed to improve test efficiency by supporting both factory automation and test and measurement protocols and standards.

Synergy Controller feature highlights includes:

- Color touch screen
- Ethernet, RS-232 and GPIB communications
- Built in 100 MB Data logger with USB drive support
- Data Acquisition, up to 64 T-type thermocouples (Optional)
- Built-in Web Server for remote control; WebTouch Remote™
- Compatible with Synergy Manager for PC based control, monitoring and programming.
- Built-in FTP Server for factory automation and test and measurement applications

This two-day course covers the application of the Synergy Product line to new and retrofit environmental test chamber applications. Attendees will learn to apply the Synergy Micro 2 and Synergy Nano Controllers to a range of test chamber configurations. They will train to use the Synergy Controller Chamber Definition Editor (CDE) software tool to create custom configurations.

Note: Configuring a controller for a specific system is done by loading a Chamber Definition File (CDF) from the Chamber Setup folder in the Setup screen.

Course Topics include

- Synergy Controller Features and Benefits
- Controller Hardware and Wiring
- Chamber Definition Editor Software
- Hands-On Integration Exercises
- Communications
- Controller Tuning
- Best practices

Synergy Certified OEM and Installer Training Course Schedule

Day 1	Day 2
Introduction and Welcome <ul style="list-style-type: none"> • Tidal Engineering Overview • Synergy Product line 	Step by Step controller retrofit Installation <ul style="list-style-type: none"> • Synergy CDE Creator Software • Installation • Operation
Controller Hardware and Wiring <ul style="list-style-type: none"> • Synergy Nano • Synergy Micro 2 • Synergy Quattro • Triac and Relay output boards • Sensor wiring 	Hands-On Integration Exercises <ul style="list-style-type: none"> • Temperature Altitude • Temperature Humidity Design • Thermal Shock • Tuning • Safety
Chamber Definition Editor Software <ul style="list-style-type: none"> • Installation • Operation • PWM Outputs • Compressors Outputs • PID Heating Outputs • PID Cooling Outputs • PID Humidify Outputs • PID De-Humidify Outputs • Vacuum Outputs • Vent Outputs 	Communication Demonstration <ul style="list-style-type: none"> • Synergy Manager • WebTouch Remote • Synergy Server • SimpleComm • LabVIEW • Printing (Chart Recording with a Network Printer) • FTP
Controller Tuning <ul style="list-style-type: none"> • PIDs • Log System Setup • Cascade Control 	Best practices <ul style="list-style-type: none"> • Backup and Restore • Performance Characterization • Logging • Safety Verification
Questions and Answers	Conclusion

Requirements:

Student should have a working knowledge of an environmental chamber's electrical, mechanical, refrigeration, and control systems. Experience with Synergy Controllers a plus. A laptop computer (PC), Flash drive (2 GB or less) is recommended.

Take-Away:

Attendees will receive the latest version of the Chamber Definition Editor Software and a free copy of Synergy Manager Application.

About the Synergy Controller Family

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For more information regarding these controllers please see the full Synergy Controller Technical Manual on our website at <http://www.tidaleng.com/synergy.htm>

About Tidal Engineering

Headquartered in Randolph, NJ, Tidal Engineering Corporation has been designing and building award-winning embedded hardware and software for test and measurement and data acquisition applications since 1992. The company is recognized for technical expertise in such areas as Embedded IEEE 488, and turnkey SCADA (Supervisory Control and Data Acquisition) systems.

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