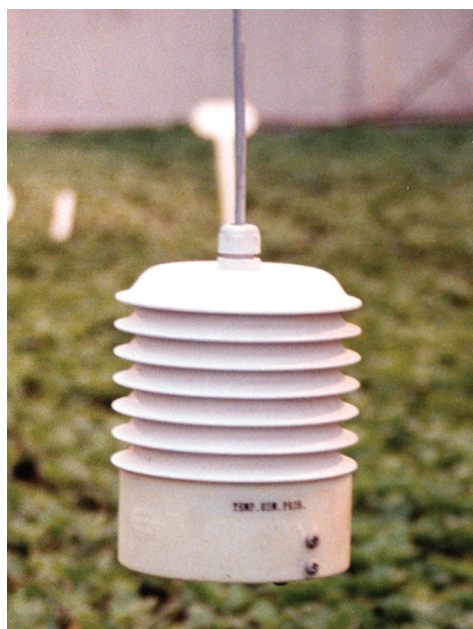


AUTOMATED CONTROL



Automated environmental control systems manage nearly every aspect of the greenhouse environment — from taking temperature and wind readings to starting equipment at necessary times. Is automation right for you?

By Rich Lister



The new automated environmental control systems have become so popular and useful in maximizing the quality and efficiency of greenhouses that the question is not whether you could benefit from an integrated control system but why you haven't installed one already.

System Basics

An environmental control system is basically a computer and software program that allows you to manipulate the environment within a greenhouse. Environmental control systems control heating, cooling, irrigation and fertilizer dosing according to personalized parameters you develop or those included with the computer software. The system is able to read factors such as outside temperature, humidity levels, wind intensity and direction, and moisture levels to gauge exactly how to use equipment such as shade curtains, greenhouse vents and automatic irrigation to create the best possible environment for plants and customers.

Environmental control systems can be used to control many different zones in a greenhouse. Zones can be as large or small as desired and operated independently and simultaneously for maximum flexibility.

On a set interval, the control system takes readings from sensors both inside and outside of the greenhouse. By using the set points you created, it is then able to make decisions about whether or not to adjust the greenhouse environment. The programs allow different settings for morning, afternoon, evening, night and two other pre-determined times. It can also be set by standard time inputs or by reading the changes of light and temperature at sunrise and sunset.

The latest environmental controls use a new calculating system known as proportion control calculations. Once you enter the desired set points, the system is able to determine the best measures to achieve such points and implement the appropriate procedures. Many of the calculations, such as heating and cooling, will be accomplished before the set point is even left. After the action has been decided on, the computer will then go into a staging mode where it chooses the best order to achieve the desired results. Whether it be opening or closing your vents to any degree or allowing more heat as the night approaches, environmental control systems make for smoother and more prosperous environments.

Why Automate?

The beauty of an environmental control system is its ability to read changes in weather and temperature as they occur. The computer software continually tracks both inside and outside conditions and calculates them as the day progresses to look for rain, wind changes, temperature changes and the like before serious deviations from the set parameters occur. The result is greenhouse vents that are closed before winds get strong enough to break the supports or heaters that start themselves. This reduces equipment operation and wear, and allows for longer shelf life for crops and happier customers.

Having an environmental control system allows you to easily monitor

Top: A nice shopping experience necessitates controlling the environment, and an environmental control system will help you accomplish this with minimum effort. **Bottom:** Temperature sensors like this one are placed inside and outside the greenhouse to help the system adjust to temperature changes.

Greenhouse

The GardenPORT Lite greenhouse features a GardenPORT frame and a poly film cover. The S-wire poly-lock system is designed to ensure a high-tension appearance. The GardenPORT Lite has sliding doors and rollup sides. Global Shelters. (800) 569-1804. **Write in 1404**



Sign holder

These galvanized sign holders are available in a variety of sizes. They can be used indoors or out. Custom signs are also available in many sizes and colors. Collier Metal Specialties. (800) 829-8225. **Write in 1402**



greenhouse zones from one central location or, with some systems, even remotely. The user is able to observe continuously changing conditions within the greenhouse and produce graphic representations of both data and any operating system. Reports like this can be used to determine not only optimum environments but also trends in shopping patterns: How high can temperatures go before affecting purchases?

The right system can monitor nearly every function in your greenhouse. Things such as valve settings, boilers, irrigation readings, heat readings, moisture levels, supplemental lighting and vents are just a few of the capabilities. There is even an alarm alert mode where you can be notified at your desk, home or even on your cell phone if extreme levels are reached for any reason.

Additionally, the system is easily overridden to allow for venting during pesticide applications or any controls that you may want to adjust manually. On-screen instructions in an easy-to-use graphic display walk you through this and other processes.

Is It Right For You?

With all this technology, these systems must be complicated, right? Not at all. Environmental control systems are typically simple and easy-to-use, even for the novice. Most software can be installed on any PC-based, Windows XP system and is menu driven, so there are no pesky codes or commands to learn. And everything is preset into the software, so once you install the software in your computer, you can plug in a few numbers and you're off and running.

Even for small greenhouses, environmental control systems are a great investment because they can grow along with you. They are constantly being expanded and upgraded and are easily built upon once installed. And, unlike computers, environmental control systems do not become outdated in just a few years; most new additions are backwards compatible.

By allowing for increased precision in equipment control and monitoring, environmental control systems are something that every garden center, from large to small, should incorporate into the business. They are made to help with every aspect of greenhouse management and provide solutions for every situation, no matter how unique. The ease of use and end results have proven successful for businesses throughout the world and should become a staple of garden centers, helping you manage your greenhouse environment like you manage every other aspect of your business. 🌿

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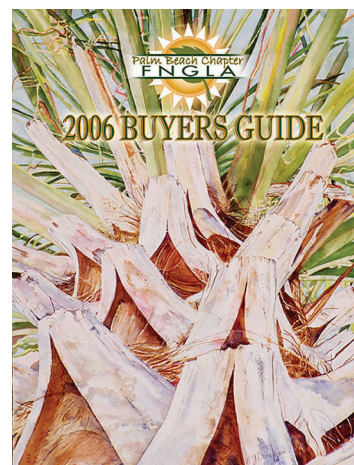


Freestanding displays

These freestanding display units are intended to merchandise Firefly Solar Garden Art. The Firefly Black Wire Display (27 x 24 x 50 inches) holds 20 Firefly packages and 30 interchangeable hand-blown glass tops. The Firefly Printed Corrugated Display (34 x 16 x 42 inches) holds 18 Firefly packages. Both displays ship flat and are intended for quick assembly without tools. Allsop. (866) 4-ALLSOP. **Write in 1416**

Bulletin holder

BulletinHolders are indoor, all-purpose signs that are intended to display promotional graphics. The holders are available in two styles. They allow for top loading of graphics mounted on foam board, gator foam, PVC, polystyrene or alternative rigid backers up to 1/4 inch thick. BulletinHolders are designed to present messages on two sides and hold standard size 22x28-inch graphics. Walls + Forms Inc. (972) 745-0800. **Write in 1415**



Buyer's guide

From liners to specimen trees and everything in between, Palm Beach County FNGLA chapter should be able to supply it. Request the free Buyer's Guide with more than 2,000 plant varieties and their sources. Palm Beach FNGLA. (866) YBFNGLA. **Write in 1410**

Retail benches

These retail display units are specifically designed for both green and hard goods and are suitable for indoor and outdoor sales areas. Checkout counters are constructed to work in the way you need them. Nexus Corporation. (800) 228-9639. **Write in 1409** ▶

