

The Controller January



Volume 27 - Issue 1

January 2024

"Advanced technological solutions at an affordable cost."

Inside this issue:

P1-Data Management advantages

P2-Energy Management features

P3-Energy Management features continued

P4- Company information

Ideas for articles of interest?

Please submit articles or requests to:

Newsletter@

logictechnologies.com

LOGIC Technologies, Inc.

117 Bellamy Place,

P.O. Box 189

Stockbridge, GA 30281

Voice: 770-389-4964

Fax: 770-389-4871

www.logictechnologies.com

Data management advantages of Logic Technologies ECON Software



Many refrigeration control systems require that data be exported and then imported into a spreadsheet system like Microsoft Excel in order to be reviewed and analyzed. Fortunately with Logic Technologies ECON Client System Software, this is not the case. Our software has built in spreadsheets and contains a complete graphic based statistical analysis suite for production systems. Using our software there is no need to create interchange files in order to view system data. Users with the proper clearance are able to access real-time statistical information generated from their production systems.

Each DBC/OS32+ server system includes a site license for our eLOGIC client application suite. This LAN-based tool is a Microsoft Windows-based application that can be installed on any Windows-based PC located in the facility. The application provides full access to the control system control panel. The client application also provides advanced graphic screen creation tools and data collection capabilities for the system.

Our platform offers some major advantages to the customer. It is based on our Signal Server Technology, which interfaces real world signals into a network environment. The system allows for plant wide system control and can be customized for each customer's specific needs. The dbc/OS32+ server system provides an open architecture I/O interface that allows us to utilize the same industry standard PLC rack component systems that you're already familiar with including Alan Bradley, GE, Opto22, Koyo and more. To date, more than 600 of these systems have been successfully implemented.

Training Information and Schedule



Training Enrollment

LOGIC Technologies, Inc. conducts in-depth training sessions at our facility on a monthly basis. Two free sessions are included with each system purchased. Additional training sessions are available for a nominal fee. Operator training sessions are \$1045 per person and advanced training sessions are \$1045 per person. We provide lunch for each class day; however, all other travel expenses are your responsibility.

Operator- Level Sessions

This class session provides overview coverage of the use of our system to maintain the daily operations of a refrigerated facility. The class is conducted by one of our senior engineers who have many years of experience designing refrigeration control systems. In effect, the classes are taught in layman's terms by someone who fully understands the issues faced by refrigeration operators.

**Operator Level February 14-16
March Skip**

Advanced SST Sessions

This class session provides in-depth coverage of the screen and report development tools. Also, briefly covering the script language used to develop control algorithms. These classes are conducted by senior members of our engineering staff. Prior technical and basic programming knowledge is a prerequisite for this course.

To be announced

* Seating is limited, make your reservations early by contacting:

Kim Smith
770-389- 4964 ext. 6611
ksmith@logictechnologies.com

Energy Management Features of Logic Technologies Signal Server Technology

Our SST system allows users to monitor the energy consumption of individual refrigeration equipment components in real time. Users can also monitor the energy consumption of the entire system at once. Historical energy consumption information is also stored to allow users to view the energy consumption trends of individual components or the entire system over time. The information can be reviewed on-site or remotely.

Our system provides comprehensive energy consumption reports that can be used to fine tune the parameters of the system ensuring that the refrigeration equipment is operating at maximum efficiency. The system also provides the tools required to allow a user to define custom reports for management review.

The system provides the functionality required to allow a user with the proper security clearance to create unlimited compressor schedules. This capability allows the customer to configure lead-lag compressor start sequences to compensate for large product loads that are expected or seasonal requirements resulting from ambient temperatures.

The BRTI or Blast Run-Time Interval feature was created for blast freezers. This feature allows up to three defrost intervals for blast valve groups thus allowing the customer to configure defrost

Continued on page 3

Continued from page 2

cycles to compensate for specific product load factors. Proper use of this feature can guarantee 100% efficiency by guaranteeing that the evaporators are operating with a clean coil.

The temperature setback scheduling feature of the system allows the customer to create automatic time of day/day of week set-point schedules for their evaporators. The schedule capabilities can be used to reduce the overall kW consumption by turning off equipment during peak power charge periods. Reduced equipment requirements will in turn equal reduced compressor runtime requirements.

The scheduling capabilities of the system related to evaporators and compressors can be configured to minimize power consumption during peak charge per kWh times. Lead-lag compressor and evaporator fan run sequences can be based on power consumption.

The overall goal behind the entire system is to achieve the required set-points using the least amount of power equipment possible. Customers can swiftly configure new equipment to operate at maximum efficiency. The component-based control scheme makes it possible for a user to configure new compressors, valve groups and other equipment.

Controlled variance of the head pressure based on ambient wet-bulb temperature allows the system to maintain the lowest possible system discharge pressure. Controlled variance of the system suction pressure set-point allows the system to maintain temperature requirements at the highest possible suction pressure. Higher suction pressures and lower discharge pressures will in turn equal reduced compressor workloads.

The standard refrigeration control system provides the capability to control fan and compressor motors using VFD controllers. The additional up-front costs of the VFD controllers can quickly be recovered through energy cost savings. Once temperature set-points are achieved, the temperatures can be maintained utilizing various equipment motors running at a reduced speed. Motors operating at reduced speeds require much less energy.

Logic Technologies Refrigeration Control Systems

Our refrigeration control system is based on the knowledge and experience of the end-users who operate the systems, the refrigeration contractors who install the systems, and our own employees. The current system represents over four decades of development. The core of our system provides functionality that simply cannot be duplicated using standard PLC/HMI development platforms. In essence, the custom programming procedures that would be required in a PLC-based system are replaced by simple site-specific configuration procedures. One of the most impressive aspects of the system is that we're told by our customers that the system truly pays for itself through energy cost savings in a short period of time.

The system is based on our Signal Server Technology design. All features and control algorithms provided by the system have been successfully implemented at over 600 facilities. The system allows for plant-wide system control and can be quickly custom configured to suit any customers needs.

The operating system provides drivers to monitor and control standard PLC I/O rack component systems produced by all major manufacturers including Allen Bradley, GE, Opto22, Automation Direct and others.

The operating system and associated refrigeration control software have evolved over the years to become a product that can now be easily configured to handle literally anything that a customer may need to do with an environmental control system.





**Drop by and visit us at our facility if you are in the area.
We would love to meet you and answer any questions that you might have
about Logic Technologies, Inc.'s full line of refrigeration control systems!**



117 Bellamy Place - P.O. Box 189
Stockbridge, Georgia 30281
Voice: 770-389-4964
Fax: 770-389-4871
www.logictechnologies.com

Address Correction Requested

Note:

If you wish to receive this newsletter via email in the future, send an email message to newsletter@logictechnologies.com with the subject set to "EMAIL request."