

# The Controller

## April



Volume 16 – Issue 1 – April 2019

"Advanced technological solutions at an affordable cost."

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#### Ideas for articles of interest?

Please submit articles or requests to:  
[lauren.s@logictechnologies.com](mailto:lauren.s@logictechnologies.com)

### IIAR 2019

BY LAUREN SCHUSTER

IIAR 2019 was a smashing success! Phoenix, Arizona was sunny and the conference center housed our attendees and exhibitors effortlessly. LOGIC Technologies, Inc. had a plethora of attendees buzzing around the booth asking questions and looking at our new Micro display. The Micro cased our updated graphics and software, clients were able to use the touchscreen and open the door of the Micro to view the hardwired equipment. The IIAR staff put on a great week for exhibitors and attendees.

The Duce was a welcome break from the exhibit hall and welcomed IIAR attendees and exhibitors with drinks, live music, games and a good time! Please follow us on LinkedIn for updates and news for next year! LOGIC Technologies, Inc. will see you in Orlando at IIAR 2020!



## 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 \$650 per person and advanced training sessions are \$750 per person. We provide lunch for each class day; however, all other travel expenses are your responsibility.

### Operator-Level Sessions

This class session provides in-depth coverage of the use of our system to maintain the daily operations of a refrigerated facility. The class is conducted by Gordon Simpson or 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.

April 10-12  
June 12-14  
July 10-12  
September 11-13  
October 16-18  
December 11-13

### 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 expertise is a pre-requisite for this course.

May 15-17  
August 14-16  
November 13-15

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

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

## UPDATED PHONE SYSTEM

BY LAUREN SCHUSTER

Our phone system is one of the many ways we communicate with our clients and customers. Without this phone system our technical support team would have a difficult time dialing in to your unique system and troubleshooting what alarms and problems you may have!

For sales inquiries please dial: Paul Jasczynski at 6607. For accounting please dial: Cindy Gaffney at 6612. For class registration and to order replacement parts please call: Kim Smith at 6611.



Paul Jasczynski	6607
Gordon Simpson	6608
Andy Vinson	6609
Kim Smith	6611
Cindy Gaffney	6612
Randy Miller	6613
Robert Butler	6614
Paul Howell	6616
Victor Nava	6617
Matt Stiffey	6619
Wes Lang	6620
Lauren Schuster	6622

# VFD BYPASS PROS AND CONS

BY LAUREN SCHUSTER

Variable Frequency Drives have been known to possess a high failure rate, were quite unreliable, and required a highly trained specialist to install and/or fix your VFD. Throughout the years, Variable Frequency Drives have changed and have become more electronically sound and efficient.

Still to this day, companies use VFD bypasses to assist when their VFD is down and they are waiting on assistance to fix the VFD. A bypass acts as a substitute to stand in place of the VFD while the VFD is down.

Unfortunately, VFD bypasses are not cost effective and the majority of the time it makes more sense to have a back up VFD in place instead of installing a bypass. Although the pros and cons are varied, the majority seems to err on the side of cost efficiency and overall reliability. "With massive improvements in VFD quality, resulting in 1000's of hours of run-time between failures and ease of installation and setup, the need for VFD bypasses are far and few between."

## PROS of a VFD Bypass:

- Takes over when the VFD has a problem
- Allows the motor to operate on-line power if a VFD fails.
- Bypass packages allow extra space to provide main or motor short circuit protection, motor disconnect means and other installation options.

## CONS of a VFD Bypass:

- Expensive
- You may need to double-check that the wire gauges used are compatible with the terminals on both devices, and that there is appropriate over-current protection for the motor.
- Modern VFD's are much more reliable than in the past. In the 1980's, VFD failure rates were over 100%! Today, rates are in the neighborhood of 0.25%. In many cases it has been found that bypass components fail at a higher rate than VFD's.
- VFDs operate over a wider voltage range than a motor starter.
- Redundancy needs must be carefully considered. Many HVAC applications include a redundant pump such as two – 100%, three – 50%, four – 33%, etc. pumping systems. These systems have redundancy built in. By adding a bypass to each of these pumps, the costs are increased substantially.
- The integration of two methods of operating the motor complicates control logic.
- VFD's have software protection against voltage issues that motor starters do not possess.
- Many VFD manufacturers offer a



solution for short circuit protection and motor disconnect without the need of a bypass.

- Motors started in bypass mode require up to six times the starting current resulting in increased power demand charges and high stresses on motor windings and bearings. High starting current is the major cause of broken rotor bars.
- Bypass packages will add substantially to the cost, extending the payback.
- Bypass packages increase the size of the solution and decrease the possible mounting locations. – When an operator changes a VFD to bypass, there is the risk that the system will not be returned to VFD mode and the tremendous energy savings is not realized.

Additional information on this topic can be found at: [controlltrends.org](http://controlltrends.org), [armstrongfluidtechnology.com](http://armstrongfluidtechnology.com), and [csemag.com](http://csemag.com)





## CHECK OUT OUR WEBSITE!

BY LAUREN SCHUSTER

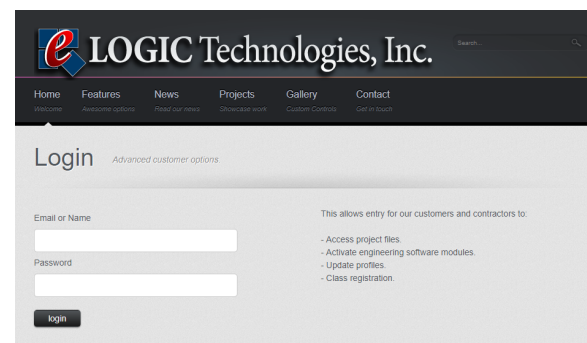
Our website is a one-stop-shop to answer a variety of your questions and give you viable contact information to our employees and important class dates. The tabs at the top of the home page will take you to explore in-depth discussions of our products, our on-line newsletter, completed projects, happy customer reviews, a photo gallery and most importantly our client portal.

Our client portal is a place for you to remain connected to us on the web. This portal allows you to access project files for your active and/or completed projects. The portal also allows you to activate engineering software modules

and update customer profiles. Class registration forms will also be found in the portal as well as contact information to our office if any questions arise.

LOGIC Technologies, Inc. class dates and show dates are listed at the bottom of the home page for easy access. The tabs at the bottom of the home page will walk you through our hardware and software products and gives you a brief rundown of our company's history. Access to all previous and current newsletters can be found under the news tab at the top of the page. Enjoy!

[logicechnologies.com](http://logicechnologies.com)



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*If you wish to receive this newsletter via email in the future, send an email message to [lauren.s@logicechnologies.com](mailto:lauren.s@logicechnologies.com) with the subject set to "EMAIL request".*