Users Tout PLC Size and Usability

by Joe Feeley, editor in chief

THE BALANCE OF cost and performance, particularly in the choice of a machine controller, is an important factor for small and mid-sized machine builders.

Case in point is the F-Series PLC family from Triangle Research (www.tri-plc.com). The F2424 PLC has 24 digital inputs, 24 digital outputs and 12 analog I/Os built in, and is expandable up to 256 digital I/Os. "It is capable of controlling and/or driving up to three stepper motors with up to 4 A per phase at 24 Vdc," says Leon Yew, CTO at Triangle Research. "Its high-speed digital inputs allow up to three quadrature encoders, which can provide both position and speed information."

Programming is done in ladder and Tri-PLC TBasic using the iTrilogi PLC editor, and the PLC is readily programmable over the Internet.

Dispense Technologies (www.dispensetech.com), Brighton, Michigan, uses the PLC for automated process control in the dispensing of adhesives and sealants. The company's primary interest was to get away from industry-standard PLCs. "The programming software for this product allows a combination of ladder logic and written program code, allowing us more flexibility and ease of programming," says Mark Perry, director of engineering at Dispense Technologies. "Our compiled programs remain secure, which reduces the risk of curious machine operators corrupting the code."

Blockwise Engineering (www.blockwise.com), Phoenix, chose the PLCs for machines used in manufacturing of medical devices. The PLCs control digital I/O, read analog sensors directly, provide analog output, provide step and direction signals for stepper motors, and communicate with other devices via RS-485, as well as perform other functions, explains J.J. Warriner.

"They provide a simple, powerful platform that meets our control needs," Warriner says. "The form factor is small given the fairly large amount of capability. The ability to program in TBasic is very helpful. I'm not a fan of ladder logic, so I structure most of my programs almost exclusively in TBasic. We've been able to perform fairly sophisticated control algorithms as a result."

Warriner believes they are the most capable PLCs in their price range. "They are much smaller than

Machine builders in many industry segments say the low cost and compact size of F-Series PLCs provide them with a reliable balance of cost and performance.

higher-priced PLCs with similar capabilities, making it much easier to accommodate in our machines."

Parata Systems (www.parata.com), a Durham, North Carolina-based company that specializes in pharmacy automation, uses these PLCs in its manufacturing automation equipment to drive small motors with encoders, says Sujith Yesudasan. "Low cost and compact size were the primary reasons for selecting the device, and they're easy to interface with the PC," he adds. "It's easy to implement and is a low-cost solution to run motors with encoders at various speeds."

Perry describes Triangle's support as "excellent," and the product as "extremely reliable."

Warriner also gives high service and support grades, saying, "The support is the best I have received at any company for any product. The staff knows its product well and can converge quickly on solutions to problems."

Yesudasan says Parata receives very good support from the manufacturer. "But most of the time you don't need to contact them," he adds, "since it is easy to figure out by ourselves."

The PLC hosts a PLC web server and a Modbus/TCP server, "so it allows up to six simultaneous connections with i-TriLogi, ExcelLink, SCADA, HMI and MS-Excel's web query software, as well as other enterprise databases," Yew says. "With one RS232 port and two RS485 ports supporting Modbus ASCII/RTU protocols, the F2424 is fully equipped for connectivity to a whole range of peripheral devices." cd