

# Drive & Motion **Solutions**

*More Drive & Motion **Solutions** by Industry/Application*

**Industry:** Medical Device Manufacture

**Application:** Materials Handling

## Ethernet Solves I/O Problems for Manufacturer



*MDS with FM-3E and FM-4E attached to drives*

A leading U.S. medical device manufacturer needed to provide machine control to de-palletize its new surgical sutures in a sealed nitrogen atmosphere, which prevents product contamination, but had a series of issues to resolve. The company needed to limit the number of wires entering the sealed environment, as each wire would require special coating to meet FDA requirements. Additionally, any form of air leak would ruin more than a million dollars of product on each pallet, so machine control had to be remote as manual intervention in the event of a problem would be costly.

The machine design required more than two dozen I/O, a number that the plant's PLC could not support, nor did the specified PLC support any standard connectivity options. The company wanted to use Ethernet as the fieldbus, and were long time users of "Motion Made Easy" drives and controls, so they approached Control Techniques to see if CT's new FM Ethernet controls for MDS and EN drives could provide a solution.

The solution was simple and elegant. A "smart" HMI was used as a gateway between the drive system and the PLC. The Intellution HMI translated the Modbus TCP/IP messages from the FM-3E on the drive into the proprietary language of the PLC and vice versa. Ethernet's high-speed message turnaround was more than fast enough for the job, and a single Ethernet cable to the drive system replaced the wiring needed for the 25 I/O points.

The solution enabled the 32-bit parameters in the FM-3E to be monitored and changed from the PLC or any of the factory's networked PC's. Complete remote control of motion, I/O, and fault resets was now possible without the risk of "airing up" and losing millions of dollars in product.

The FM-3E and FM-4E are fully compliant with ODVA EtherNet/IP Level 3 (I/O message target and explicit message originator or target), which also eliminates the need for I/O interconnections to a host controller.

[Click here for more information on Control Techniques Ethernet solutions for Axis-and-a-half servo applications.](#)