

## NEWS RELEASE October 2008

### ***Trio Motion MC224 provides improved functionality for form-fit web controls upgrade***

- Italian tissue wrapper machinery gets extended life, improved performance and better reliability with form-fit upgrade to replace obsolete servo drives and controls

Tewkesbury – UK – October 2008: When TMS (Tissue Manufacturing Service S.r.l) required an urgent upgrade for failing and obsolete motion control equipment on aged Italian manufactured tissue wrapping machinery they turned to Trio Motion for a solution. An MC224 Motion Coordinator controller was combined with a new six- axis brushless servo system to provide a drop-in replacement that seamlessly mimicked the machine's web tension, electronic cam and registration functions; and provided the added bonus of much improved performance and reliability.

Wrapmatic™ and Casmatic™ brand tissue wrappers have been produced for many decades and whilst they are still extremely useful and productive machines, the originally designed-in servo drives and motion controls are long obsolete and spares prove extremely difficult to source. TMS, based near Bologna, in the heart of the Italian packaging industry specialise in maintenance and repair of packaging machinery and had all but ran out of ways to patch up these machines. Identifying a world market for a new product that could solve this problem, they hit on the idea of producing as near a form-fit retrofit as possible and commissioned local Systems Integrator, FAE engineering s.n.c, to help develop the solution which has now been now launched as the TMotionS.

F&E engineering has extensive experience in industrial automation systems and has used Trio Motion products to provide critical motion control for several years. Trio's independent policy towards its customer's choice of drives, motors and communications has allowed F&E the freedom to match application requirements with a wide range of drive and motor technologies.



The TMotionS is mechanically interchangeable with the old solution, having the same mounting configuration and featuring a front faced interfacing panel with an identical DB connector arrangement. Installation involves simply bolting it into the existing panel and connecting cable assemblies for the existing brushless servo motors and encoders, and hooking up the interfacing cables to the wrapping machine's PLC.

Behind the interfacing panel, six interconnected brushless servo amplifiers provide the power and precision to drive the servo motors with simple +/- 10V control from two MC224 Motion

Coordinators. From the outset, it was fundamentally important that rather than reprogram the tissue wrappers main PLC, the controller must provide a functionally identical performance as the existing servo controls.

The MC224's high performance is attributed to its 32 bit floating point DSP technology that can provide up to 24 axes of synchronised motion with machine I/O and communications. Each MC224 includes 4 processor slots and a system of axis expansion modules. The processor slots can be populated with any combination of axis, fieldbus and/or digital drive daughter boards and the axis expanders by any combination of axis daughter boards.

For the TMotionS, the two MC244's are linked via an axis expander and house six servo encoder cards and a master reference encoder card with the existing PLC logic triggering pre-programmed events through the Motion Coordinator's built-in I/O using Trio BASIC to handle electronic cam and axis synchronised registration on the machine. Trio's powerful programming language includes motion and event handling commands with multitasking and subroutines but remains simple to use; allowing users to create modular programs quickly, saving valuable application development time.

Thanks to its high processing speed, multi-tasking architecture and superior control capabilities, faster cycle times have helped to optimise machine performance. Consequently, the MC244 and the new servo drives together provide much smoother motion and higher process speeds. Additionally, Trio's inherent safety protocols completely removed the previous tendency for axes 'running away' on error conditions – a much welcomed improvement!

The MC244 also offers the application much improved print registration accuracy, enhancing finished product quality and yield; and higher acceleration/deceleration characteristics with less vibration helps contribute to faster production throughput. Smoother operation also means reduced wear on critical mechanical parts which further helps the 'feel good' factor for the beneficiaries of the replacement system.

Other benefits of the TMotionS's fit-function approach is that machine commissioning is very fast – with virtually no downtime and no PLC reprogramming, making the installed costs to replace the old web registration system predictable. As all the equipment used in the solution is new and modern, the element of future proofing is restored for these particular wrapping machines, extending their useful life even further.