

NEWS RELEASE

Motion Coordinators Ensure Precision Labelling

Leading international manufacturer, Harland Machine Systems, has standardised on Trio Motion Coordinators for its advanced pressure labelling machines.

Harland Machine Systems has earned a worldwide reputation for the design and manufacture of innovative, high quality pressure-sensitive label handling and application systems. The company has won many awards for its products and services, recognising its total commitment to excellence.

Harland's labelling machines find applications in many industries, with customers ranging from small local suppliers to blue-chip internationals. The diverse needs of this global customer base are met by the adoption of a modular approach which employs a number of standard systems modified as necessary to suit the precise requirements of each application.

The application of pressure-sensitive labels requires very high precision of initial placement, accurate control of the pressure system which bonds the label to the container, and effective product handling. Even the smallest and simplest of Harland machines is still a remarkably complex engineering achievement. Such machines are expected to perform reliably for many years with minimal maintenance, requiring very high standards of design and build quality.

"When we were first established in 1972," commented Sean King, Control System Designer for Harland, "our machines used mechanical systems to coordinate the various stages of operation. As new types of electronic control equipment became available, we examined the benefits which could be offered from these systems. In particular, we were seeking greater positional accuracy, higher throughput and enhanced reliability with lower maintenance. This period also coincided with changes to our customers' products. New techniques and adventurous packaging designs meant that we had to develop labelling systems which could cope with an extraordinary range of applications."

"Our approach was to consider carefully how to develop the Harland range to meet groups of applications," continued Sean King. "Having rationalised our products into base systems, we then developed further systems to meet individual needs. This is especially important for customers with, for instance, unusual pack shapes, or who need rapid changeover from one label type to another on the same production line. It provided the initial stimulus to move from mechanical to electronic control, where computer programs are much easier to

implement change than the formerly conventional approach. However, our stringent requirements could not be met by many of the motion control suppliers."

"After an intensive examination of the leading manufacturers, we chose Trio Motion Technology as our preferred supplier. Trio was the only company able to meet our specifications and to actually make a controller work effectively with one of our test machines. The speed with which they accomplished this was impressive, and the simplicity of their BASIC programming method allowed us to develop our own programs very quickly."

"Trio have consistently upgraded their products since we decided to standardise on their Motion Coordinators. Initially using the MC2, we now employ the MC202 and MC206 Coordinators. Despite the changes, we have not had to learn new programming techniques. The controllers are very flexible, allowing us to use the same model for simple machines with just a single Coordinator and an intelligent display, up to much more complex systems employing eight Coordinators under PLC control."

The diverse and international nature of Harland's customer base has a profound influence on the type of PLC supplied. The company offers PLCs, including Allen- Bradley, Siemens, Telemecanique and Omron products, to meet the demands of larger customers who require standardisation in their organisations. The ability to work with a variety of PLCs was an important factor in the choice of Trio Motion Coordinators, where communications can be by RS485, Modbus, DeviceNet, Profibus and other systems according to customer specification.

Trio have provided for a wide range of communication and control options by adopting the Daughter Board concept. Users can choose to install optional plug-in boards to meet precisely the configuration required, avoiding costs associated with unnecessary facilities. In this way, each Motion Coordinator can be individually designed for optimum performance in each application in a cost-effective manner, mirroring the modular approach adopted by Harland for its own customers.

Typical of Harland's machines is the Sirius STD, a single or twin label applicator which can achieve throughput rates of up to 300 ppm on flat or curved product surfaces. Systems for single label application usually employ two MC206 Motion Coordinators, while twin head systems with walking beams to attach labels to curved pack surfaces will use four MC206 Motion Coordinators. The control systems provide increased labelling accuracy with absolute speed matching to cope with the variable speed demands of modern packaging lines. A single touch screen user interface provides a high level of user diagnostics, and the unique software developed in-house by Harland with Trio assistance enables quick set-up times and is self-monitoring to provide optimum reliability.

A key feature of the Sirius is the ability to incorporate fully integrated inspection systems to identify overprint or label presence and barcode readability. Vision systems may also be incorporated to identify label position plus the correct lot/expiration data. Exemplifying Harland's modular approach, the basic Sirius system can be supplied in versions for Tamper Evident, Twin Side Belt, top/bottom and Vertical Roller Stabiliser labellers with only relatively minor modifications. Again, the modular approach allows for a wide range of infeed and outfeed options to suit existing customer arrangements.

Other machines in the range include the Titan, an in-line machine for up to 450 ppm which uses 7 Motion Coordinators, and the Enterprise, a high speed applicator with multiple

heads for 1200 ppm performance and up to 6 labelling stations which uses 13 MC206 Motion Coordinators.

“Trio have consistently met our specification requirements,” commented Sean King. “The introduction of the flash stick has made it easy for us to upgrade programs in the field, and to transfer programs quickly between machines. The communications options enable us to upgrade or modify machine programs over the telephone or internet, and consistent use of Trio BASIC for programming has reduced the need for training. Our choice of Trio Motion Coordinators has led to reduced machine downtime, improved accuracy of label placement, enhanced reliability, less waste of consumables, greater versatility of labelling machines and more flexibility in the applications which can be successfully met by Harland. Trio’s products offer very flexible configurations which are ideal for our needs. They provide very precise control which has not been matched by any other system in our tests, yet they are very easy to work with and very reliable.”