



Emerson Control Techniques - Motion Control

Motion control is a critical component in any production plant. Motion control is used to precisely orchestrate the delivery of raw materials to the right place, the transmission of parts between assembly points, inspection, packing, and shipping. Motion control systems include motors, sensors, and control electronics that work together like clockwork to keep production plants up and running.

Emerson Control Techniques has created a line of servo systems that provide high-performance for a variety of motion control solutions. Some industries that benefit from Emerson control systems include automated assembly, material handling, and packaging. Emerson's systems are designed to be flexible yet rugged, and are easy to install and program.

Emerson Control Techniques Motion Control Products

Emerson has three drive platforms in their product line:

- The Modular Drive System (MDS Servo Drive) is the most advanced series of servo drives

- The EN Series Servo drive is a stand-alone mid-powered range servo drive consisting of three models

- The Epsilon EP series consists of three sizes of stand-alone, compact low- to mid-powered servo drives that incorporate several advanced features and capabilities

To control these drive platforms, Emerson has developed two motion control technology products:

- For single-axis, axis-and-a-half or synchronized motion control applications the FM controls line is the optimal choice. These modules easily attach to the face of the MDS Series Drives and EN Series Drives to provide the required level of motion control. The Epsilon EP servo drive and Digitax ST servo drive products have integrated motion control solutions.

- The MC Controller is ideal for multi-axis motion control and applications requiring interpolated motion and tightly coordinated motion sequencing. The Motion Coordinator (MC) series of centralized controllers offer scalability and flexibility. Scalability is offered through the choice of two different base motion controllers and over 15 daughter board options.



Applications for Emerson Control Techniques Motion Control Products

Emerson Control Techniques motion control products can be selected and configured for a wide variety of industries and applications. Some successful implementation of Emerson Control Techniques motion control products include:

In an automobile manufacturing facility, Emerson Control Techniques drive products are used in welding cells where two Unidrive SPs, coupled with servo motors are used in a master/slave configuration for the lifting mechanism, synchronised with a third Unidrive SP with Unimotor in position control.

A Swiss cheese making facility uses Emerson Control Techniques equipment to automate the turning and washing of young cheeses, a labor intensive process that has to be performed daily. Each action is a servo axis controlled by a Control Techniques drive.

At an aluminum extrusion plant, three massive aluminium extrusion presses use variable speed drives from Control Techniques. The use of these drives has increased production time availability and throughput and decreasing maintenance costs. The installations have cut energy consumption by 40%.

A European chocolate manufacturer uses Emerson's Epsilon EP and Unidrive SP products throughout their facility, but they recently upgraded to Digitax ST products for their packaging operations. The machines are designed to pack chocolate bars into 'show-boxes' for use at the point of sale. Production throughput has been improved 15% since the upgrade.

A major upgrade at a sawmill included the installation of 1.2 MW of AC drives from Emerson Control Techniques. Four Unidrive SPM large module drives, rated at 160 kW each are being used for driving the 1800 rpm milling cutters. Each of the 14 circular saws is fitted with a Control Techniques CT-START soft starter.