Motion Control and Positioning Systems

SYSTEMS IN MOTION
Established in 2003, Motionlink Ltd supplies a wide range of versatile and proven motion and position control components and positioning systems - for applications in all markets where precise automation of motion control is required. Our comprehensive range of components and systems includes:

- Intelligent motion controllers for the control of servo and stepping motors utilising PC, Ethernet, EtherCAT, USB or RS232 bus protocols.
- Linear, vertical lift and rotary stages for all applications, including vacuum and clean-room environments.
- Custom-design positioning systems, complete with stages, controllers, cables and all necessary fixtures and cable management to suit the application specifications.
- Encoders; including rotary and linear, incremental or absolute models.
- Servo Amplifiers; including intelligent brushed or brushless, in a wide range of power ratings, including extreme environment versions.
- Motion Control components, including 2 and 5 phase stepper motors, brushed and brushless servo motors, linear motors, voice coils and matching drives.

Motionlink offers a motion system design consultancy, based on many years of practical experience in the design and manufacture of dedicated custom motion systems - to perform positioning tasks as diverse as applications in the optical market demanding nanometric accuracy to NDT measurement systems requiring metres of travel. Our own range of positioning stages and intelligent motion controllers are designed and manufactured exclusively in the UK.
Motionlink design and manufacture complete motion control systems to customer specifications, in many markets. The range of our design capability is shown in the following examples.

**Aerospace**
- Aerospace components analysis system with automated gimbal mounts for laser steering
- Turbine blade measurement system
- High speed multi-axis stage for simulation application

**Biosciences**
- Pharmaceutical and bio-research application for clean condition handling of liquids

**Digital Printing**
- Ultra stable, high precision measurement system for print components. Granite bed with air bearings and linear motor to provide high accuracy, non-contact positioning
CUSTOM SYSTEMS

Laser

Laser machining system with beam steering heads

Opto-electronics

Complete test system for optical lens analysis

Research and Development

Swinging arm beam detector

XYZ system for communications research
STAGES

**Linear Stages**
Standard travels from 25-1000mm. Custom travel lengths available.  
Accuracies down to 2 microns per 25mm travel  
Resolutions down to 0.1 microns  
Stepper or servo motor options with linear or rotary encoders available.  
Custom cabling and mounting hardware available.  
Designed and manufactured in the UK.

![Linear Stage Image]

**Rotary Stages**
Standard diameters from 150-300mm. Custom diameters available.  
Accuracy 2 arc minutes.  
Concentricity +/- 0.02mm.  
Stepper or servo motor options with rotary encoder available.  
Custom cabling and mounting hardware available.  
Designed and manufactured in the UK.

![Rotary Stage Image]

**Vertical Lift Stage**
Standard Travel 30mm. Custom travels available.  
Accuracy +/- 3 microns.  
Load capacity 15 kgs.  
Stepper or servo motor options with linear encoder available.  
Custom cabling and mounting hardware available.  
Designed and manufactured in the UK.

![Vertical Lift Stage Image]
Micronix USA specialises in miniature micro- and nano-positioning components for the biomedical and research markets. In addition to their extensive standard product line, they provide rapid product development services ranging from customisation of existing products to complete customised solutions. Their products are configurable for especially demanding application environments such as:

- Vacuum compatibility down to 10-9 mbar
- Cryogenic environments down to 4 Kelvin
- Radiation tolerant requirements
- Non-magnetic requirements

Micronix also provide system integration services for precision positioning applications of any size.

Primatics Inc is an innovator in the precision linear and rotary positioner markets demanding the highest performance, reliability, ease of use and value. Their product development efforts aim to keep Primatics the preferred supplier to systems integrators and OEMs alike in applications for:

- Vacuum
- High-speed inspection
- Precision assembly
- Semiconductor manufacturing, test and measurement
- Computer peripheral test and measurement
- Fibre Optic manufacturing
- Life Science automation.

Their product range is fully customisable to meet any application requirements.
MOTION CONTROL SYSTEMS

**Servostep and Servostep PC**
19 inch rack mount, 3U high enclosure.
1-8 axes of stepping or servo motor control - or a mixture of both.
Intelligent on-board motion controller with integral motor drives and servo amplifier options for brushed or brushless motors. Internal motor and system power supply.
Communication via Ethernet, RS232 or USB.
Optional 1-8 axis joystick.
*Servostep PC* also features an embedded Windows or Linux full PC with touchscreen HMI.
Designed and manufactured in the UK.

**MotionPod**
19 inch rack or panel mount 2U high enclosure.
1-4 axes of stepping or servo motor control - or a mixture of both.
Intelligent on-board motion controller with integral motor drives and servo amplifier options for brushed or brushless motors. Internal motor and system power supply.
Communication by Ethernet, RS232 or USB.
Designed and manufactured in the UK.

**MotionPod Uno and MotionPod Duo**
Compact, low cost desktop 1- or 2-axis intelligent motion controllers.
Can be configured with servo, stepper or microstepping options.
SSI and BISS encoder options.
Integral system/motor PSU.
Standard or custom wiring harness available.
Screw terminal breakout convertor option for encoder and I/O connectors.
Designed and manufactured in the UK.
With over 750,000 controllers sold, Galil is a leading manufacturer of motion controllers and PLCs. Since their introduction of the first microprocessor-based motion controller in 1983, Galil has remained one of the industry's leading innovators. By offering their customers powerful, cost-effective and easy-to-use motion controllers and PLCs, their commitment is to be the primary source for any motion control and I/O application. Galil's unparalleled array of motion controllers and PLCs are backed by superior technical support and can accommodate the most demanding applications with absolute precision.
Established in 1845, GPI was one of the first companies to develop the chrome-on-glass process necessary to manufacture optical encoder discs, and has since been a significant provider of optical encoders, optographic products and related devices. This tradition and commitment to measuring excellence is still very much alive today - as they offer as many standard and custom encoder options as any company in the business. Incremental, absolute and Gurley's own Virtual Absolute technologies in enclosed and modular rotary and linear configurations - each is available in prototype and OEM quantities.

Motionlink supplies a full range of motion control essentials to meet any requirement or specification. These include stepper motors, brushed or brushless servo motors, linear motors, voice coils, direct drive rotary motors, servo and stepper drives as well as offering a custom fabrication service for hardware such as XYZ brackets and motor mounts.
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