THE MOOG INTELLIGENT MULTI AXIS DRIVE IDMA

A HIGH COST-PERFORMANCE ELECTRIC SOLUTION FOR SUPERIOR CLOSED-LOOP MULTI-AXIS CONTROL

The Intelligent Multi Axis Drive (IDMA) is a new integrated intelligent driver which combines a highly reliable power unit with a newly developed controller board and Moog control software. It is ideal for 4- or 6-axis control of electric injection molding machines and can be freely customized to fit customer machine specifications, mechanisms and operating conditions.

The challenges

High performance, closed-loop control of all-electric machines

Developing algorithms for accurate control of injection molding machines

Obtaining higher cost-performance

Our solution

High performance, closed-loop 6-axis control

Electric injection molding machines have as many as six axes (injection, plasticizing, clamping, ejection and at times mold height adjustment and carriage) which must be controlled. The IDMA provides highly accurate control because all motion control algorithms are loaded in the driver, feedback is received directly from each sensor and independent control loops can be constructed.

Moog customized algorithms

The IDMA contains control algorithms customized to the customer's requirements. Algorithms are provided for control of critical parameters such as position, velocity, force and pressure.

Provision of high cost-performance

Electric machines still require higher initial investment than hydraulic machines; therefore, electric machine OEMs are looking for higher cost-performance motion control solutions. The IDMA is an all-in-one package that provides better cost-performance than stand-alone single axis drives or modular drive systems. Common components such as converters are shared wherever possible across axes, resulting in a very compact package. The IDMA also has a very lean interface, requiring little wiring to external control devices and equipment. It can be used with a large variety of motor feedback sensors, allowing customers to select motors optimal to their machine specification.

Moog's servomotors

Moog's servomotors and servodrives provide reliable electric machine control in plastics applications and are the benchmark for servo performance, with dry cycle times below 0.7 seconds. A wide variety of servomotors are available in a range of sizes, features and dynamic performance allowing customers to realize the optimal motion control solution for their requirements. Cooling options include fan- and water-cooling, and high voltage models are available.

Supported by Moog expertise

Our design engineers work collaboratively with customers, providing the guidance, support and expertise they need to overcome their toughest motion control challenges and move their ideas forward.

Technical data

Power supply (input)	3-phase, 200-480VAC ±10% 50/60Hz
Current (output)	Designed in accordance with customer's specification Examples for 5-axis control: 35/140, 30/90, 8/22, 6/15, 3/9 (rated current [Arms]/peak current [Apeak])
Motor feedback interface	Absolute encoder (all types) Incremental encoder Resolver
Communication interface	Ethernet (100Mbps)
Dimensions	460(W) x 730(H) x 320(D) mm (for a 5-axis control version)

For more information visit
www. moog.com/industrial

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