THE MOOG MOTION CONTROLLER (MMC)

AN EASY-TO-USE TWO-AXIS CLOSED-LOOP CONTROLLER WHICH SIMPLIFIES SETUP OF HYDRAULIC INJECTION MOLDING MACHINES

The Moog Motion Controller (MMC) is a two-axis controller developed specifically for injection molding machines. A GOUI (Graphical Operation User Interface) and pre-installed control algorithms make construction of closed-loop control systems easy.

This controller can be used for a broad range of applications including two-axis injection control such as two-color injection molding and applications requiring control of injection and clamping axis, such as injection compression molding.

The challenges

Providing closed-loop control for high performance servovalves

Constructing algorithms for accurate control of injection molding machines

Reducing machine start up times

Our solution

Superior closed-loop two-axis control

The Moog Motion Controller (MMC) provides superior two-axis closed-loop control of hydraulic cylinders using Moog high performance servovalves. It has a cycle time less than 0.5 ms and interfaces with the machine PLC.

The Moog Motion Controller (MMC) can be used to control injection speed, holding pressure, backpressure and suckback on the injection side and position/speed, clamping pressure and clamp protection on the clamping side. Feedback sensing is by incremental encoder or analog input.

WHAT MOVES YOUR WORLD

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Moog customized algorithms

The Moog Motion Controller (MMC) contains control algorithms customized to the customer's requirements. Algorithms are provided for control of critical parameters for injection molding machines such as position, velocity, force and pressure.

Easy setup for increased machine uptime

The Moog Motion Controller (MMC) provides uploading and downloading of parameters by PC to reduce time required for machine setup. Configuration parameters are adjusted by numerical input on a user-friendly Windows GOUI using serial communication. The latest parameters are retained in flash memory and parameter values can also be copied to machines of the same model over a serial port to reduce start up times.

A diagnosis screen with oscilloscope functions can be used for adjusting critical parameters while monitoring machine movements.

Supported by Moog expertise

For over five decades, Moog has produced innovative motion control solutions utilizing hydraulic servo technology that provide performance excellence for customers. 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	24VDC (500mA)
Cycle time	≦0.5 ms
Analog input	10ch: ±10VDC (max. 10ch)
Analog output (for servovalve)	2ch: ±10V or ±10mA switchable (16 bit)
Analog output (for monitor)	4ch: ±10VDC (16 bit)
Digital input	16ch: 15-24VDC (optical isolation)
Digital output	16ch: 15-24VDC (optical isolation)
Encoder input	2ch: A, B, Z phase, incremental (quad edge 1MHz)
Vibration resistance	10-50 Hz/1G
Ambient temperature/humidity	0-45°C, <85% humidity
Communication port (for gain adjustment)	RS422 x 1
Signal connector	9-pin DIN sub-connector x 1
	15-pin DIN sub-connector x 1
	37-pin DIN sub-connector x 2
Dimensions	50 x 130 x 177 mm
Mass	1.5 kg

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