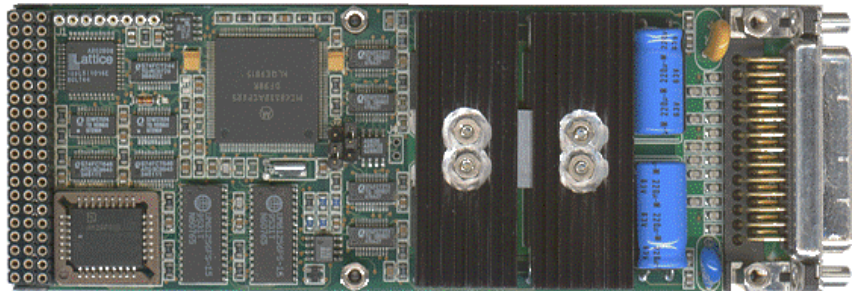


M321

Stepper Motor Controller M-module with Amplifiers



The M321 Stepper Motor Controller with onboard amplifiers is an ideal solution for all applications where stepper motors must be controlled with a maximum of flexibility and a minimum of overhead. The local MC68332 Microcontroller handles commands passed on from the host CPU and takes care of controlling the onboard power amplifiers to drive either two 2-phase motors (independent) or one 4-phase motor. The amplifiers are bi-polar driving circuits in constant current driving mode. Amplifiers are over-current and thermal protected.

Full-, half- and microstepping capability is provided by the local firmware. Up to 16 microsteps per full step can be made.

Two optical isolated home-inputs provide means for feedback on home position.

Features:

- > Local MC68332 executes firmware
- > Controls two 2-phase, or one 4-phase motor
- > Interrupts on position breakpoint, trajectory complete, etc.
- > Each phase delivers 3A @ 55V and is over-current and thermal protected
- > Programmable hold-current reduction
- > User configurable maximum current
- > Brake support
- > Full-, half- and microstepping capability
- > Up to 16 microsteps per full step
- > Two home sensor inputs
- > Step-rates up to 50kHz
- > Programmable acceleration from 50Hz/s to 5000kHz/s
- > Hardware synchronization lines
- > 32-bit absolute and relative position
- > Synchronous motion via TRIGA, TRIGB or software trigger

M-module Compliancy

- * A08/D16 (8-bit address and 16-bit data)
- * INTA (software end-of-interrupt)
- * IDENT (identification EEPROM)
- * 2 trigger inputs

Controller

- * Four power stages integrated with heatsink
- * Each power stage features a full h-bridge to drive a balanced load
- * M321 can drive two 2-phase motors or one 4-phase motor
- * Power stages are over-current protected and have thermal shutdown
- * User configurable maximum current
- * Braking support

Controller

- * Maximum step-rate of 50kHz
- Programmable acceleration / deceleration from 50Hz/s up to 5000kHz/s
- * Features full-, half- and microstepping
- * 16 microsteps per full step
- * Synchronization with other axis by hardware trigger line
- * 32-bit absolute and relative position
- * Synchronous motion via TRIGA, TRIGB or software trigger

Processor / Local Firmware

Processor

- * Motorola MC68332, running at 5 MHz
- * 64kbyte local SRAM for firmware execution, local parameter storage and command processor
- * SRAM is shared to host CPU
- * SRAM using 16-bit databus 128kbyte local flash memory (socketed) for firmware storage and bootstrapping
- * Mailbox interrupt towards host CPU

Local Firmware

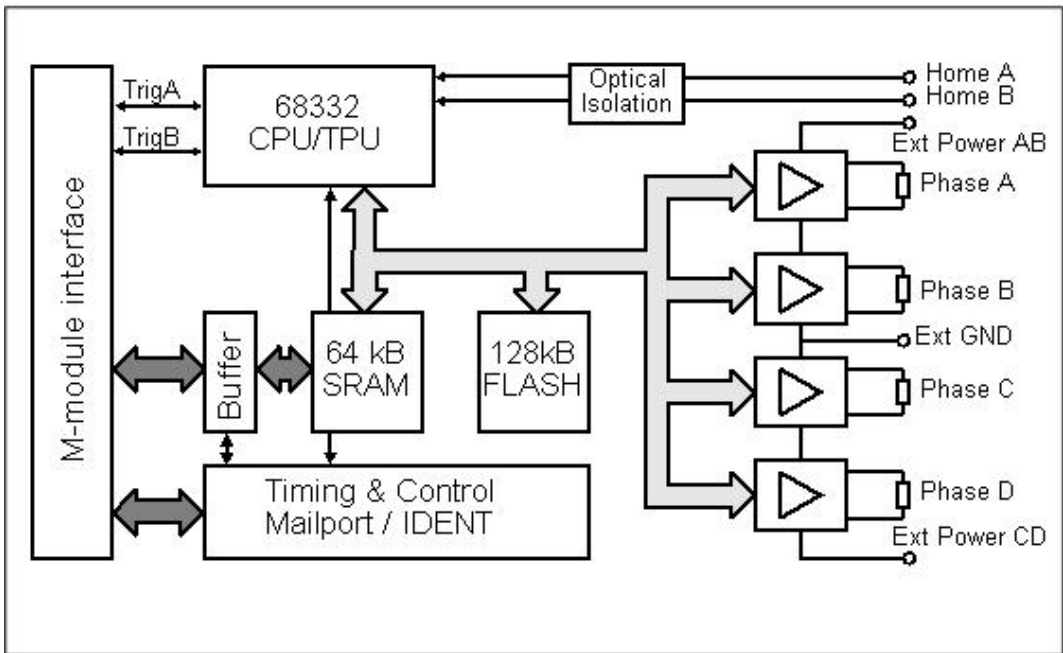
- * Resident in local Flash memory

Board Support

- * Generic for direct use by application programs

Ordering Information

- * **M321/T01** M-module
- * **M321/SW** APIS based software
- * **M321/MAN** manual on paper



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