M323

6x Quadrature Incremental Encoder Interface M-module

The M323 M-module is an Intelligent Quadrature Incremental Encoder Interface, based on an MC68332 microcontroller. The M323 can be configured for interfacing quadrature incremental encoders with or without an index channel. In index mode up to four encoders with two quadrature channels and an index channel can be connected. In non-index mode up to six encoders with two quadrature channels can be connected.

The M323 operates on two encoder input channels and decodes a pair of out-of-phase signals in order to increment or decrement a 32-bit counter. The M323 is particulary useful for decoding position and direction information from a slotted encoder in motion control systems.

The MC68332 executes local firmware. Interaction with the host is done via a command structure in dual-ported memory and a mailbox which provides a polling and interrupt mechanism.

- Local MC68332 executes intelligent firmware
- 64kbyte RAM shared with the M-module bus
- Up to 4Mbit local EPROM or Flash memory in socket
- A08/D16 M-module interface
- Mailbox with polling, host interrupt and local interrupt mechanism
- Identification EEPROM
- In index-mode up to four encoders with two quadrature channels and an index signal can be connected
- In non-index-mode up to six encoders with two quadrature channels can be connected

Committed to Quality

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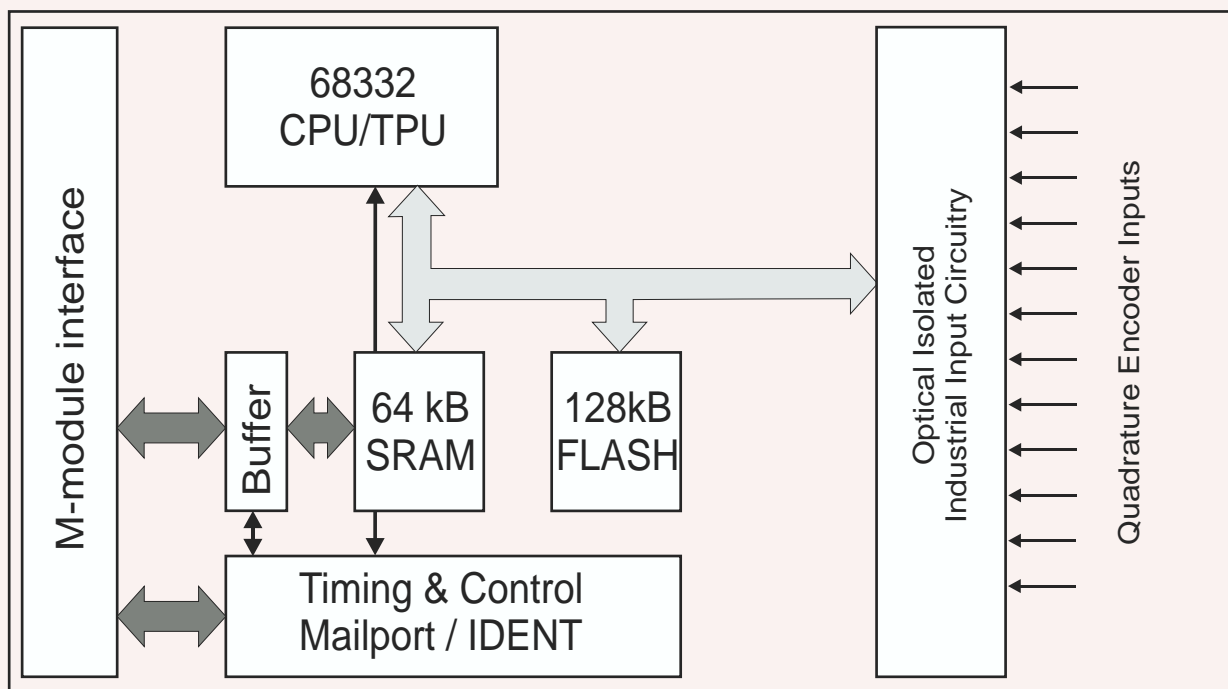
Block diagram

M-module Compliance

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

Controller

- MC68332 local 32-bit micro controller
- 64 kbyte RAM shared with the M-module bus
- Up to 4Mbit local EPROM or Flash memory in socket
- Executes local firmware

Incremental Encoder

- Index inputs can be configured to select rising, falling or any edge
- Industrial inputs are optically isolated
- Each encoder channel is assigned to a 32-bit counter
- Mailbox with polling, host interrupt and local interrupt mechanism
- Counter value during movement has one LSB uncertainty
- Counter value at ease is accurate

Ordering Information

- M323/MOD
  M323 M-module

- M323/MAN
  M323 manual on paper

- M323/SW
  APIS based software

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