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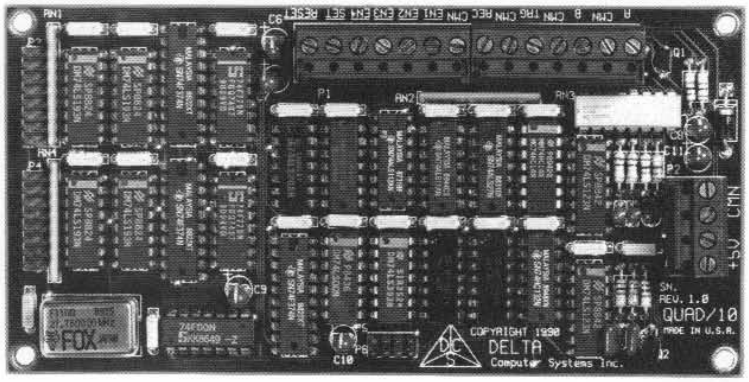
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# QUAD/10
## QUADRATURE ENCODER INTERFACE MODULE

DELTA COMPUTER SYSTEMS, INC.

Independent module translates rotary motion encoder signals to linear motion transducer signals




The QUAD/10 module electronically converts quadrature encoder phase signals to equivalent Temposonics® linear transducer signals. Specific applications of the module vary widely, however the QUAD/10 module is particularly useful when an application using a multi axis controller (ie, DELTA's VMC 186/40, MC 186/40 and TMC 188/40 modules) needs to work with a rotary encoder.

As with DELTA's multi axis controllers, a large number of industrial controllers are designed to work with Temposonics style linear transducers. If the application calls for a small number of axis or rotary motion control, the QUAD/10 can be used to reduce the number of different types of controllers in the system. In other words, the QUAD/10 permits the controller designed for linear motion control to be used for rotary motion control.

Note: The QUAD/10 is intended to be used for position control not speed control.

## Key Features:

- Single axis rotary to linear position translator for Temposonics transducer compatible controllers
- Cost effective solution for rotary motion control in a linear motion environment
- State logic for encoder phases guarantee glitch free conversion
- Independent Qualifying Position Controls:
  - Preset position
  - Enable preset position
  - Position direction
  - Enable position changes

## Encoder Requirements

Quadrature phases A & B with optional index pulse C
Index pulse recommended to preset position to known location using *SET and *EN4 controls.
Open collector outputs (NPN) for phase A, B and index pulse C
Maximum encoder speed:

| Module Translator Clock | | Maximum Pulses/Second |
|---|---|---|
| 27.75Mhz | (TMC 188/40) | 86Khz |
| 50.00Mhz | (MC 186/40) | 156Khz |
| 55.50Mhz | (VMC 186/40) | 173Khz |

## Linear Sensor (Temposonics) Interface

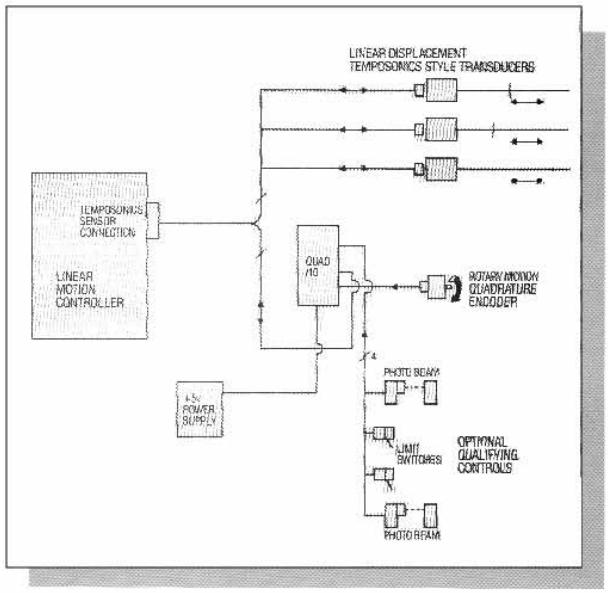
| | Logic Levels | Pulse |
|---|---|---|
| Pulse from controller (Trigger) | High>4.75v; Low<0.8v Input Z is 220 ohms | .8 to 1.2us |
| Pulse to controller (Receive) | High>4.75v; Low<0.8v @ max of 50ma | .8 to 1.2us |

Maximum position is 65,535 module translator clocks
Standard module translator clocks are: 27.5Mhz, 50Mhz, or 55.5Mhz

## Module Control Inputs

| | |
|---|---|
| *SET | When low presets position programmed by module jumpers |
| *EN1 | When low enables negative (Up Count) position changes |
| *EN2 | When low enables positive (Down Count) position changes |
| *EN3 | When low enables position changes |
| *EN4 | When low enables *SET control |
| INPUTA | Phase A of Encoder |
| INPUTB | Phase B of Encoder |

Logic levels (CMOS) High>4.75v; Low<0.80v
Default state (all inputs) High via 2.2k pull-up resistor
Minimum pulse width 10 microseconds




## Power Requirements

5.0 volts ± 5% at 250ma

## Size

3.0x6.0 inches (mounting pattern 2.70x5.70 with 0.125 holes)
Compatible with Augat Reed Devices Inc. SNAPTRACK®TK2-6

## Ordering Information

| | |
|---|---|
| QUAD/10-TI | 27.5Mhz clock for use with TMC 188/40 |
| QUAD/10-MU | 50.0Mhz clock for use with MC 186/40 |
| QUAD/10-VM | 55.5Mhz clock for use with VMC 186/40 |

Please note: QUAD/10 board must use the same translator clock frequency as the mating controller. Special translator clock frequency available on request.

Temposonics is a registered trademark of MTS Systems Corporation. SNAPTRACK is a registered trademark of Augat Reed Devices Inc.

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Printed in USA 971001

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