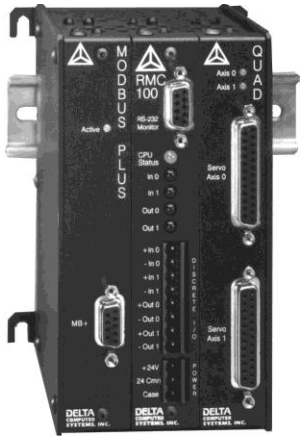


# RMC Quad

## Quadrature Encoder Interface for RMC100 Motion Controllers

The RMC controller provides synchronized moves, gearing, splines, teach mode, and position/pressure control for rotary and linear axes. The quadrature encoder interface module allows the RMC to control motors and linear actuators with quadrature encoder feedback.

RMC controllers are available with up to eight quadrature axes in steps of two axes per module. Various transducer interfaces (quadrature, MDT, analog, SSI) can be combined within the same controller to provide maximum flexibility.

Refer to other RMC data sheets or the RMCWin online help for more information. Download RMCWin from Delta's web page at **www.deltamotion.com**.

### Applications

- Position or speed control
- Indexing
- Flying cutoff/curve sawing
- Transfer lines
- Packaging machinery
- Parts handling
- Winding/wrapping machines
- Web control
- Headrigs
- Palletizers/stackers
- Robotics/animatronics
- Presses
- Injection/RIM/blow molding

### Features

- Two axes of quadrature feedback per module
- 4,000,000 counts/second
- High-speed position latches
  - 125ηs response to index pulse
  - 50μs response to home input
- Extend (CW) and Retract (CCW) travel limit inputs
- Digital noise filters on all inputs
- All discrete inputs are isolated
- Drive fault inputs
- Drive enable outputs
- Status LEDs
- Two isolated, ±10V, 14-bit drive outputs per module
- Current output up to ±200mA with VC2100 converter option

### Inputs and Outputs

The following inputs and outputs are available on each axis:

- Drive Interface:
  - Analog Drive Output
  - Drive Enable Output
  - Drive Fault Input
- Quadrature Encoder Inputs:
  - Phase A and B
  - Index Z
- Limit Inputs:
  - Extend (CW)
  - Retract (CCW)
- Home Input

DELTA COMPUTER SYSTEMS, INC.

# RMC Quad

## Specifications

| | | |
|---|---|---|
| **Inputs and Outputs** | Axes | Two per module |
| | Encoder Inputs | RS-422 differential receiver, 215 Ω input impedance, Quadrature A , B, and Index Z |
| | Electrostatic Discharge (ESD) Protection | 15 kV |
| | Maximum Encoder Frequency | 4,000,000 counts/second |
| | Fault Inputs, Home Inputs, and Limit Inputs (Ext. & Ret.) | 2.7 V @ 2.8 mA typical (3.2 V @ 3.5 mA max) threshold, 26.4 V maximum input voltage, 500 VDC isolation, compatible with most limit switches, TTL, and CMOS outputs |
| | Home input response time | 50 microseconds |
| | Index (Z) input response time | 125 nanoseconds |
| | Drive Enable Outputs (1 per axis) | Solid State relay, 50 Ω, 30 V, 100 mA, 1.5 ms, 500 VDC isolation |
| **Drive Interface** | Drive Outputs | Two ±10 V, 5 mA maximum, 14-bit DAC |
| | Isolation | 500 VDC |
| | Current Output Accessory | VC2100 voltage-to-current converter output range is adjustable from ±10mA to ±200mA in 10mA steps |
| **Environment** | Operating temperature | +32 to +140 °F (0 to +60 °C) |
| | Storage temperature | -40 to +185 °F (-40 to +85 °C) |
| | Agency compliance | CE, UL, CUL |
| **Power Requirements** | All RMC modules are powered from the RMC controller. | The user must supply power to the encoders and limit switches. Refer to the manufacturers' specifications for the individual power requirements. |

## Quadrature Wiring

**DB25S Pinout (one per axis):**

| Function | Pin Number | | Function |
|---|---|---|---|
| A – | 1 | 14 | Index (Z) – |
| A + | 2 | 15 | Index (Z) + |
| B – | 3 | 16 | Encoder Common |
| B + | 4 | 17 | n/c |
| n/c | 5 | 18 | Home – |
| Retract Lim – | 6 | 19 | Home + |
| Retract Lim + | 7 | 20 | Fault – |
| Extend Lim – | 8 | 21 | Fault + |
| Extend Lim + | 9 | 22 | n/c |
| n/c | 10 | 23 | n/c |
| n/c | 11 | 24 | Enable – |
| Drive | 12 | 25 | Enable + |
| Drive Common | 13 | | |

### Ordering Information

RMCs may be ordered with up to four quadrature modules. Append **-Q*n*** to the part number to select *n* quadrature modules. For example:

- **RMC100-Q1-PROFI:** 2 channels of quadrature position/speed control
- **RMC100-Q1-A1-ENET:** 2 channels of quadrature position/speed control, and 4 channels of analog inputs

### Company Profile

Delta Computer Systems, Inc. manufactures motion controllers, color sensors/sorters, and other industrial controls providing high-performance automation solutions to a wide range of industries.

Printed in USA 02/09/10
RMC Quad.doc

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