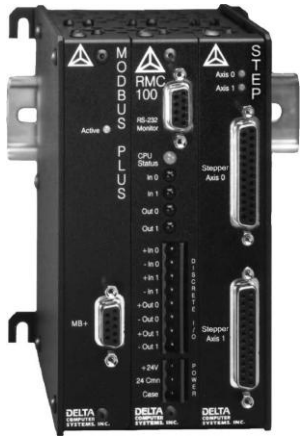

RMC Step

Stepper Motor 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 stepper motor interface module allows the RMC to control stepper motors with or without quadrature encoder feedback.

RMC controllers are available with up to eight stepper axes in groups of two axes per module. Various transducer interfaces (quadrature, MDT, analog, SSI and stepper) 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 stepper motor control per module
- Quadrature encoder feedback
- 1 MHz maximum output frequency
- High-speed position latches
  - 63ηs 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
- 4,000,000 counts/second encoder rate
- Differential step and direction outputs

Inputs and Outputs

The following inputs and outputs are available on each axis:

- Motor Interface:
  - Step and Direction Outputs
  - 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 Step

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, 26.4V maximum input voltage, 500VDC isolation, compatible with most limit switches, TTL, and CMOS outputs
	Home input response time	50 microseconds
	Index (Z) input response time	63 nanoseconds
	Drive Enable Outputs (1 per axis)	Solid State relay, 50 Ω, 30 V, 100 mA, 1.5 ms, 500 VDC isolation
Motor Interface	Step and Direction Outputs	RS-422 (5 V differential)
	Pulse Width	50% duty cycle ±80 nanoseconds
	Maximum Output Frequency	1 MHz
	Direction Change Delay	128 microseconds
	Vcc Out	5 V ±20% @ 50 mA (for use with Step, Direction, and Enable outputs; DO NOT use to power encoders)
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	Step –
Vcc Out	10	23	Step +
Direction –	11	24	Drive Enable –
Direction +	12	25	Drive Enable +
Drive Common	13		

Ordering Information

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

- **RMC100-QST1-PROFI:** 2 channels of stepper position/speed control
- **RMC100-QST1-A1-ENET:** 2 channels of stepper 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.

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