Motion Controllers

- RMC70 Series
  - CPU/Comm
  - Axis Modules
  - Expansion Modules
- RMC100 Series
- MMC120 (Quantum) Series
- Legacy Controllers

Motion Software

- RMC70Tools
- RMCWin
- DCS120-Win
- ActiveX Controls
- Legacy Software

Accessories

- Voltage-to-Current and Signal Converters
- Cables and Connectors

Color Sensors

- CS64A Series
- Custom Sensors and Legacy Products

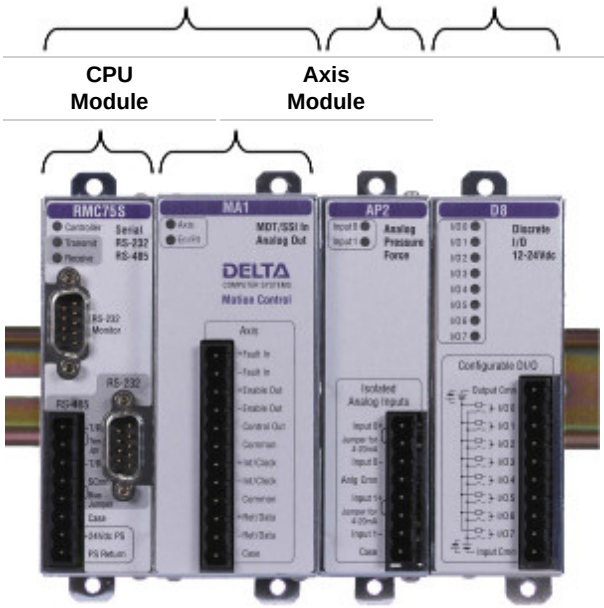
RMC70 Series

1 or 2-Axis Motion Controller

The RMC70 product complements Delta's flagship RMC100 family and expands Delta markets by offering even more value for one and two axis applications. The following is a list of the currently available features. More options will be available in future releases.

RMC70 Hardware

The RMC70 is a modular controller. The Base module — consisting of the CPU and the Axis module — is factory-configured. Each factory-installed Axis module is available with one or two control axis interfaces. Up to 4 expansion modules may be added to the RMC70, including digital I/O, analog reference and pressure or force inputs.



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CPU Module	Communication Type	Monitor Port
RMC75E	**Ethernet** Modbus/TCP, CSP, EtherNet/IP Explicit Messaging	USB

Resources

Links

- RMC70 Datasheet
- Comparing the RMC100 and RMC70
- How to Buy
- Connect to a live RMC70 via Internet
- Configure an RMC70 Online and Request a Quote

Required Software

- RMCTools

RMC70 Features

- *(Also see the detailed list on this page)*
- Position, Presure, or Force Control
- Position-Pressure and Position-Force Control
- Full PID loop control with velocity and accelleration feed forwards
- S-Curve and Trapezoidal moves
- USB or RS-232 Monitor port for tuning and graphic display of motion

RMC75P	**PROFIBUS-DP**	RS-232
RMC75S	**Serial RS-232, RS-485** Allen Bradely DF1, Modbus/RTU	RS-232

Axis Module	# Axes	Feedback Interface*	Control Output*
AA1	1	Analog (16 bits), ±10V or 4-20mA	Analog: ±10V, 16-bit**
AA2	2	Analog (16 bits), ±10V or 4-20mA	Analog: ±10V, 16-bit**
MA1	1	MDT (Start/Stop or PWM), SSI	Analog: ±10V, 16-bit**
MA2	2	MDT (Start/Stop or PWM), SSI	Analog: ±10V, 16-bit**
QA1	1	Quadrature	Analog: ±10V, 16-bit**
QA2	2	Quadrature	Analog: ±10V, 16-bit**

*one per axis

**Use Delta's VC2124 voltage-to-current converter to provide a current output.

Expansion Module	Description
EXP70-D8	**Discrete I/O** Eight discrete I/O individually configurable for any combination of inputs or outputs. Inputs and outputs are 12-24VDC rated, polarity independent, and optically isolated from controller.
EXP70-AP2	**Analog Inputs with Pressure Limit** Two differential analog inputs for use in position–pressure or position–force control axes. Inputs are 16 bit resolution, and are optically isolated from the controller.
EXP70-A2	**Analog Inputs** Two differential analog reference inputs. Inputs are 16 bit resolution, and are optically isolated from the controller.
EXP70-Q1	**Quadrature input** Adds one quadrature input for position reference feedback, and a high-speed input for homing or registration. Maximum two Q1s per RMC70.

RMC70 Control Features

The RMC70 provides an extensive set of motion commands and programming capability for quick and easy yet flexible motion control for virtually every motion application.

- **User Programs**
  Supports execution of multiple programs simultaneously to handle axis commands and additional machine control functions. Programs consist of easy-to-understand sequences of commands.
- **PreScan Table**
  Cyclic task for immediate response to internal conditions or external events, such as discrete inputs, etc.
- **Variables**
  Recipes and other user parameters can be stored for use by user programs.
- **Mathematical Expressions**

Expressions provide flexible programming capability for advanced calculations and machine control sequences.

RMC70 Control Modes

The RMC70 supports numerous control modes.

Closed Loop Control

- **PID with Feed Forwards**
  Full PID loop control with velocity, acceleration and jerk feed forwards
- **Position Control**
  - Point-to-point-moves
  - S-curves
  - Speed At Position
  - Gearing
  - Move Velocity
- **Pressure Control**
- **Force Control**
  - Load cell or differential force
- **Position-Pressure and Position-Force**
  - Transition seamlessly between position control and pressure or force control

Open Loop Control

- **Seamless transition from open loop to closed loop and vice versa**
- **Open Loop Control**
  Ramp the Control Output smoothly between two values, or ramp the Control Output down as the position approaches the final position, for hard-to-control systems.
- **Quick Move**
  Move in open loop and stop in closed loop for fast, smooth motion with accurate stops.

Configurable response to fault conditions

- **Closed Loop stops**
  Ramp speed to zero at specified rate and hold position.
- **Open Loop stops**
  Ramp output voltage to zero at specified rate.
- **Multi-axis (group) stops**
  A fault on one axis halts multiple axes when configured as a group.
- **AutoStops**
  The response of axes to each fault type is easily configurable.

Axis mechanical configurations supported:

- **Linear**
  Used with any transducer type that measures linear distance, the transducer counts (value from the transducer) is not allowed to wrap back to 0.
- **Rotary**
  Typically used with quadrature or SSI encoders, the axis can move continuously in one direction while repeating machine cycles. Currently, the RMC70 supports rotary axes using SSI encoders.

Feedback types supported:

- **Incremental**

Inherent to quadrature encoders, the transducer reports only changes in position. Since machine position is not known at power-up, a home routine must be executed to determine position. The RMC70 supports incremental mode for SSI transducers.

- **Absolute**
  Transducer reports absolute position and no home routine is required.MDT, SSI, and Analog transdcuers are examples of absolute encoders.

Troubleshooting and Monitoring:

- **Plots**
  Plot any register in the RMC70, up to 16 registers per plot, sampled down to the control loop resolution!
- **Event Log**
  Speeds troubleshooting by recording events such as parameter changes, commands, errors, and communications!

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