

## Simple Motion Modules

See Motion Controller Section in this Guide.

## Positioning Modules

Model Number (*1)		RD75P2	RD75D2	RD75P4	RD75D4
Stocked Item		S	S	S	S
Certification		UL • cUL • CE			
Number of Controlled Axes		2 axes		4 axes	
Interpolation Function		2-axis linear interpolation 2-axis circular interpolation		2-, 3-, or 4-axis linear interpolation 2-axis circular interpolation 3-axis helical interpolation	
Control Method		PTP (Point To Point) control, path control (line, arc, and helix can be set), speed control, speed-position switching control, position-speed switching control			
Control Unit		mm, inch, degree, pulse			
Positioning Data		600 data/axis			
Module Data Backup Function		Positioning data, and block start data can be saved on the flash ROM (battery-less backup)			
Positioning	Positioning System	PTP control: Incremental system/absolute system			
		Speed-position switching control: Incremental system/absolute system			
		Position-speed switching control: Incremental system			
		Path control: Incremental system/absolute system			
	Positioning Range	In absolute system: -214748364.8 to 214748364.7μm; -21474.83648 to 21474.83647 inch 0 to 359.99999 degree; -2147483648 to 2147483647 pulse			
		In incremental system: -214748364.8 to 214748364.7m; -21474.83648 to 21474.83647 inch -21474.83648 to 21474.83647 degree; -2147483648 to 2147483647 pulse In speed-position switching control (INC mode)/position-speed switching control 0 to 214748364.7μm; 0 to 21474.83647 inches 0 to 21474.83647 degree; 0 to 2147483647 pulses In speed-position switching control (ABS mode) (*2) 0 to 359.99999 degree			
Speed Command		0.01 to 20000000.00mm/min; 0.001 to 2000000.000inch/min 0.001 to 3000000.000 degree/min; 1 to 5000000 pulse/s			
Acceleration/Deceleration Processing		Trapezoidal acceleration/deceleration, S-curve acceleration/deceleration			
Acceleration/Deceleration Time		1 to 8388608ms (Four patterns can be set for each of acceleration time and deceleration time)			
Sudden Stop Deceleration Time		1 to 8388608ms			
Start Time (*3)	1-Axis Linear Control	0.3ms (1.5ms) (*8)			
	1-Axis Speed Control	0.3ms (1.5ms) (*8)			
	2-Axis Linear Interpolation Control (Composite Speed)	0.45ms (1.5ms) (*8)			
	2-Axis Linear Interpolation Control (Reference Axis Speed)	0.45ms (1.5ms) (*8)			
	2-Axis Circular Interpolation Control	0.63ms (2.0ms) (*8)			
	2-Axis Speed Control	0.63ms (2.0ms) (*8)			
	3-Axis Linear Interpolation Control (Composite Speed)	0.93ms (1.7ms) (*8)			
	3-Axis Linear Interpolation Control (Reference Axis Speed)	0.93ms (1.7ms) (*8)			
	3-Axis Helical Interpolation Control	1.8ms (2.6ms) (*8)			
	3-Axis Speed Control	0.93ms (1.7ms) (*8)			
	4-Axis Linear Control	1.08ms (1.8ms) (*8)			
	4-Axis Speed Control	1.08ms (1.8ms) (*8)			
Quick Start Function (*4)	Start With the Positioning Start Signal	8μs			
	Start With the External Command Signal	20μs			
Start Time Adjustment Function (*5)		0.00 to 10000.00ms (0.01ms unit)			
Start Time When the Inter-Module Synchronization Function is Used (*6)		8μs			
External Connections		40-pin connector			
Applicable Wire Size (*7)	When A6CON1 or A6CON4 is Used	0.088mm <sup>2</sup> to 0.3mm <sup>2</sup> (28 to 22 AWG) stranded wire			
	When A6CON2 is Used	0.088mm <sup>2</sup> to 0.24mm <sup>2</sup> (28 to 24 AWG) stranded wire			
External Wiring Connector		A6CON1, A6CON2, A6CON4 (sold separately)			
Maximum Output Pulse		200000 pulse/s	5000000 pulse/s	200000 pulse/s	5000000 pulse/s
Manual Pulse Generator Input Maximum Frequency		1000 pulse/s			
Manual Pulse Generator 1 Pulse Input Magnification		1 to 10000 times			
Maximum Connection Distance Between Servos		2m	10m	2m	10m
Number of Write Accesses to a Flash ROM		100000 times maximum			
Number of Occupied I/O Points		32 points (I/O assignment: Intelligent 32 points)			
Internal Current Consumption (5 VDC)		0.38A	0.54A	0.42A	0.78A
External Dimensions (H x W x D) mm		106 x 27.8 x 110			
Weight (kg)		0.14	0.15	0.15	0.15

### Notes:

- The RD75P2 and RD75P4 are modules of transistor output system, and the RD75D2 and RD75D4 are modules of differential driver output system.
- The speed-position switching control (ABS mode) can be used only when the control unit is degree.
- Analysis time of positioning data varies depending on the operating status of the partner axis. The start time and operation timing described in this manual are for the case when all axes stop the operation.
- The start time of the quick start function indicates the period from the acceptance of the start trigger (positioning start signal, external command signal) to the start of pulse output, after the positioning data analysis is completed.
- The function can be set only when the quick start function is used.
- The start time of when the inter-module synchronization function is used is the period from the acceptance of the start trigger (start of inter-module synchronization cycle) to the start of pulse output, after the positioning data analysis is completed.
- Use cables with outside diameter of 1.3mm or shorter to connect 40 cables to the connector. In addition, consider the amount of current to be used and select appropriate cables.
- The value in parentheses indicates the start time of when Q compatible mode is set. For Q compatible mode, refer to iQ-R Positioning Module User's Manual.