Comparison of Standard vs. Dual Modules for DCX-PCI300 Series Controllers

	Standard Servo Modules	Dual Servo Module
Applicable Part Number(s)	DCX-MC300-H and DCX-MC300-R	DCX-MC302-H
Function	Single-axis Servo Controller with Dual Encoder Inputs	Dual-axis Servo Controller
Number of Axes Controlled	1	2
Operating Modes	Position, Velocity, Contouring, Torque, Gain	Position, Velocity, Contouring, Torque, and Gain
Command Output	Analog Signal (+/- 10 VDC @ 10 mA, 16 bit)	Analog Signal (+/- 10 VDC @ 10 mA, 16 bit)
Position Feedback	Incremental Encoder with Index	Incremental Encoder with Index
Filter Algorithm	PID with Velocity and Acceleration Feed-Forward	PID with Velocity and Acceleration Feed-Forward
Filter Update Rate	8, 4 or 2 kHz, software selectable	8, 4 or 2 kHz, software selectable
Trajectory Profiles	Trapezoidal, Parabolic or S-Curve	Trapezoidal, Parabolic or S-Curve
Position & Velocity Resolution	32 bit	32 bit
Primary Encoder		
Encoder & Index Inputs	Differential or single ended, -7 to +7 VDC max.	Differential or single ended, -7 to +7 VDC max.
Encoder Count Rate	10,000,000 Quadrature Counts/Sec.	10,000,000 Quadrature Counts/Sec.
Encoder Supply Voltage	+5 or +12 VDC, jumper selectable	+5 or +12 VDC, jumper selectable
Auxiliary Encoder		None
Encoder and Index Inputs	Differential or single ended, -7 to +7 VDC max.	N/A
Encoder Count Rate	10,000,000 Quadrature Counts/Sec.	N/A
Encoder Supply Voltage	+5 or +12VDC, jumper selectable	N/A
Axis 1 Inputs	Limit+, Limit-, Coarse Home, Amplifier Fault	Limit+, Limit-, Coarse Home, Amplifier Fault
Voltage range	+2.5 to +7.5 VDC	+2.5 to +7.5 VDC
Minimum current required	10 mA	10 mA
Axis 2 Inputs	None	Limit+, Limit-, Coarse Home, Amplifier Fault
Voltage range	N/A	+2.5 to +7.5 VDC
Minimum current required	N/A	10 mA
Axis 1 Outputs	Amplifier Enable, Direction	Amplifier Enable, Direction
Maximum voltage	30 VDC	30 VDC
Maximum current sink	125 mA	125 mA
Axis 2 Outputs	None	Amplifier Enable, Direction
Maximum voltage	N/A	30 VDC
Maximum current sink	N/A	125 mA
Encoder capture input	TTL	N/A
Encoder compare output	30 VDC max & 100 mA max	N/A
Connection options	High-Density VHDCI or 26 conductor ribbon cable	High-Density VHDCI only
Operating Temperature range	0 to 60 degrees C	0 to 60 degrees C

	Standard Pulse (Stepper) Modules	Dual Pulse (Stepper) Module
Applicable Part Number(s)	DCX-MC360-H and DCX-MC360-R	DCX-MC362-H
Function	Single-axis - Stepper or Pulse-Controlled Servo	Dual-axis - Stepper or Pulse-Controlled Servo
Number of Axes Controlled	1	2
Operating Modes	Position, Velocity, and Contouring	Position, Velocity, and Contouring
Command Outputs	Step/Direction – CW/CCW	Step/Direction – CW/CCW
Pulse Rates (Software Selectable)	0.1 Steps/Sec to 5M Steps/Sec	0.1 Steps/Sec to 5M Steps/Sec
Position Feedback	Incremental Encoder with Index	None
Filter Algorithm	PID (when in closed-loop mode)	N/A
Filter Update Rate	1 kHz	N/A
Trajectory Profiles	Trapezoidal, Parabolic or S-Curve	Trapezoidal, Parabolic or S-Curve
Position & Velocity Resolution	32 bit	32 bit
Primary Encoder		None
Encoder & Index Inputs	Differential or single ended, -7 to +7 VDC max.	N/A
Encoder Count Rate	10,000,000 Quadrature Counts/Sec.	N/A
Encoder Supply Voltage	+5VDC or +12 VDC, jumper selectable	N/A
Axis 1 Inputs	Limit+, Limit-, Home, Drive Fault	Limit+, Limit-, Home, Drive Fault
Voltage range	+2.5 to +7.5VDC	+2.5 to +7.5 VDC
Minimum current required	10 mA	10 mA
Axis 2 Inputs	None	Limit+, Limit-, Home, Drive Fault
Voltage range	N/A	+2.5 to +7.5VDC
Minimum current required	N/A	10 ma
Axis 1 Outputs	Drive Enable, Full/Half Current	Drive Enable, Full/Half Current
Maximum voltage	30 VDC	30 VDC
Maximum current sink	125 mA	125 mA
Axis 2 Outputs	None	Drive Enable, Full/Half Current
Maximum voltage	N/A	30 VDC
Maximum current sink	N/A	125 mA
Encoder capture input	TTL	N/A
Encoder compare output	30 VDC max & 100 mA max	N/A
Connection options	High-Density VHDCI or 26 conductor ribbon cable	High-Density VHDCI only
Operating Temperature range	0 to 60 degrees C	0 to 60 degrees C

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