

Control Specifications for CD Series 5

Current Loop	Update Rate	62.5 μ S (16 kHz)
	Bandwidth	<2000 Hz
Commutation Loop	Update Rate	62.5 μ S (16 kHz)
	Max. Commutation Frequency	400Hz
Velocity Loop	Output Waveform	Sinusoidal
	Update Rate	250 μ S (4k Hz)
	Bandwidth	<400 Hz
	Speed Command Resolution	Serial: 1 RPM or 1mm/sec or VLIM/16384 Analog: (1/6554) * VMAX
	Long-term Speed Regulation	0.01% (μ P clock tolerance)
Position Loop	Update Rate	500 μ S (2 kHz)
I/O Connector (C3 by pinout)		
Analog Input (2, 3)	Absolute Maximum Voltage	13 V differential
	Input Resolution	14 Bit/1.2
	Sensitivity	1.53 mV min
	Voltage Range	-10V to +10V = -120% Motor rated speed to +120% Motor rated speed (Adjustable Vscale parameter)
	Input Impedance/CMR	> 10 K Ω /50 dB
	Long-term Drift	100 ppm (0.075%/°C)
	Max Capacity	1 A at 24 VDC
	Bandwidth	2.5 kHz (Opto-isolated)
Fault Output Relay (5, 6)	Input Voltage Range	12 V to 24 V Nominal (bi-directional)
	Min. On/Max. Off	10 V/1 V
	Current Demand per Input	20 mA (max)
Configurable Digital Output (7, 12)	Output Voltage (max.)	0 V to 48 V Nominal – bi-directional (Open Collector)
	(Min. On)	1V
	Max. Output Current	60 mA
Configurable Analog Output (13, 4)	Max. Output Current	1 mA (1 K Ω internal series resistance)
	Sensitivity / Resolution	4.9 mV/12 Bit
	Voltage Range	-10 V to +10V
Extended I/O Connector (C9 by pinout)		
Analog Input (A1, B1)	Absolute Maximum Voltage	12.5 V differential
	Input Resolution	14 Bit
	Sensitivity	1.53 mV min
	Voltage Range	-10V to +10V = -120% Motor rated speed to +120% Motor rated speed (Adjustable Vscale parameter)
	Input Impedance/ CMR	> 10 K Ω /50 dB
	Long- term Drift	100 ppm (0.075%/°C)
	Bandwidth	4.6 kHz (Opto- isolated)
	Input Voltage Range	12 V to 30 V typical, 24 V Nominal (bi- directional)
	Min. On/ Max. Off	10 V/ 1 V
	Current Demand per Input	20 mA (max)
Configurable Digital Outputs (A8, B8,A9, B10)	Output Voltage (max.)	0 V to 48 V Nominal – uni- directional (Opto isolated Open Collector) type Source
	(Min. On)	1V
	Max. Output Current	60 mA
Configurable Analog Output (B2)	Max. Output Current	1 mA (1 K Ω internal series resistance)
	Sensitivity / Resolution	4.9 mV/ 12 Bit
	Voltage Range	-10 V to +10V
Encoder Equivalent Output (C4 by pinout)		
A/B/I & Complements (1, 2, 4, 5, 7, 8)	Output Voltage (high level) at 25°C	2.5 V min. at 20mA Differential
	RS 485 Line Drive Type	DS26C31TM
Remote Encoder Input (C8 by pinout)		
A/B/I & Complements (1, 2, 4, 5, 7, 8)	Input Voltage at 25°C	$\pm$ 5 V Differential
	Input Sensitivity	$\pm$ 0.2V
	Input Impedance	100 Ω
	RS 485 Line Receiver Type	SN75173

See the section on Position Loop in for features using this input.

Note: A flyback diode is necessary for inductive loads connected across the 01 output.

Note: Extended I/O (C9) only A3,B3 and B4 are available.