

CDHD2

CDHD2 - High Performance Servo Drives

CDHD2-LV (Low Voltage)



Ratings

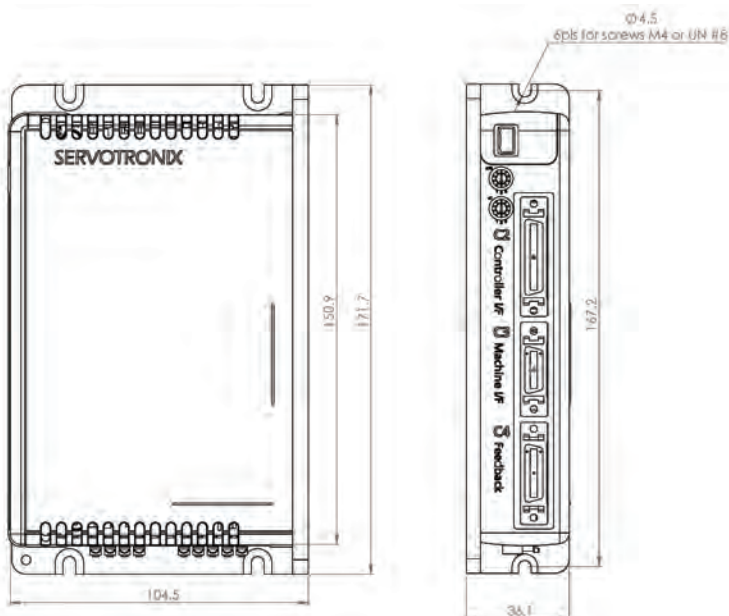
CDHD2-LV	Units	Model 3A	Model 6A	Model 12A	Model 15A
Input Voltage Nominal	VDC	20 – 90			20 – 48
Input Voltage Maximum	VDC	150			100
Control Input Power (optional)	VDC	20 – 48			20 – 48
Output Current Continuous	Arms	3	6	12	15
Output Current Peak	Arms	9	18	24	30
Peak Current Duration	seconds	2			2
Under-Voltage Trip (nominal)	VDC	19			19
Over-Voltage Trip	VDC	92			50

Dimensions

Height: 167 mm

Width: 36 mm

Length: 104 mm



Control

Motors	DC brushless, Rotary servo motors, Linear servo motors, Voice coil motors
Operation Modes	Selectable: Current (torque), Velocity, Position, HD Velocity or HD Position control
Current (Torque) Control	Update rate: 31.25 μ s (32 kHz), Output waveform sinusoidal
Velocity Control	Update rate: 125 μ s (8 kHz) Selectable velocity control loops: PI, PDFF, Pole Placement
Position Control	Update rate: 250 μ s (4 kHz) Control loop: PID and feed-forward
Velocity or Position HD Control	Velocity update rate: 62.5 μ s (16 kHz) Position update rate 125: μ s (8 kHz) Control loop: A proprietary control algorithm that surpasses typical servo control algorithms in achieving optimal performance
Autotuning	Automatic inertia load measurement, self-tuning and optimization; Minimizes error and settling time
Brake	Controlled stops: Dynamic Brake, Active Disable
Electronic Gearing	User-defined input signal ratio
Software Tools	Windows-based application; drive, motor I/O and feedback parameter settings and commissioning Motor Setup Wizard, Automatic setup and tuning, Scope, Motion settings; Fault history/display; Scope, Terminal, and Expert views

Communication

CANopen*	CiA 301 application layer and CiA 402 device profile for drives and motion control
EtherCAT*	CANopen over EtherCAT (CoE)
RS232	ASCII-based, ServoStudio, HyperTerminal
USB*	ASCII-based, ServoStudio, HyperTerminal
Daisy Chain	Up to 8 axes; up to 100 addresses

* Some features are not available on all models. Check ordering options.

Motor Feedback

Power from Drive	5 VDC , 8 VDC*
Incremental Encoder	A-quadrant-B with or without index/Hall, Tamagawa®
Hall Sensor	Open collector single-ended (optional differential-ended)
Resolver	Sine/cosine differential
Sine Encoder	Sine/cosine differential, with or without Hall, EnDat® 2.x, HIPERFACE®
SSI Encoder	sensAR, EnDat® 2.2, Nikon®, Tamagawa®, BiSS-C
Motor Temperature	Thermal resistor PTC or NTC

Inputs/Outputs

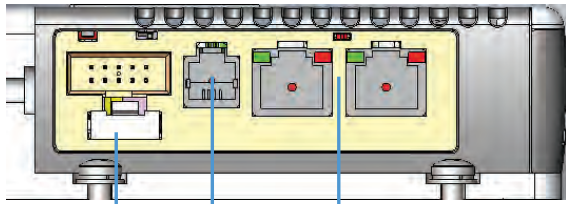
First Analog Input	Analog \pm 10 VDC differential; 16-bit resolution*; 1 kHz bandwidth (-3dB)
Second Analog Input (optional)	Analog \pm 10 VDC differential; 14-bit resolution; 1 kHz bandwidth (-3dB)
Pulse & Direction	RS422 line receiver: 5 MHz max. input frequency Opto isolated 24V fast inputs" 200kHz max. input frequency
Equivalent Encoder Outputs	A-quadrant-B and index differential; RS422 line transmitter; 5 kHz max. input frequency
8 Digital Inputs 3 Fast Digital Inputs	Configurable opto-isolated; Compatible with sink/source output; 24V; 6 mA 12.5 mA max. input current
6 Digital Outputs 2 Fast Digital Outputs	Configurable open collector, opto-isolated; Compatible with sink/source input; 24V; 50 mA max. input current
Analog Output	Configurable; \pm 10V range; 12-bit resolution
Secondary Feedback	A-quadrant-B and index differential; RS422 line receiver; BiSS-C, EnDat 2.2 5 MHz max. input frequency
Fault Output Relay	Configurable dry contacts 24V; 1A max. current

*14-bit if 2 analog inputs

Protection and Environmental

Protective Functions	Under- and over-voltage, Over-current, Drive and motor over-temperature, Motor foldback, Drive foldback, Feedback lost, STO, Circuit failure
Standards	CE – EMC Directive 2004/108/EC, Standard IEC61800-3 CE – Low Voltage Directive 2006/95/EC, Standard IEC61800-5-1 STO – Safe Torque Off REACH RoHS
Environment	Ambient temperature: Operation 0-45°C, Storage 0-70°C Humidity: 10-90% Altitude: < 1000m. If >1000m, derate 5% per 330m Vibration: 1.0g
Operating Conditions	Pollution degree: 2 Protection class: IP20

Interfaces



STO
RS232
Daisy Chain
EtherCAT
CANopen

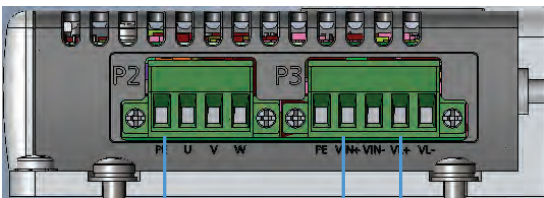
Top Panel



Digital Display
USB
Address Switches - Rotary
Controller
• Digital I/O
• Analog I/O
• Pulse and Direction
• Encoder simulation output
Machine
• Digital I/O
• Analog I/O
• Secondary encoder
Feedback
• sensAR
• Incremental encoder
• Hall sensor
• Resolver
• Analog Encoder (Sine/Cosine)
• SSI (Tamagawa, Nikon, EnDat 2.2, BiSS-C)
• HIPERFACE
• EnDat 2.x
• Resolver

Front Panel

Bottom Panel



Motor Phases
(U/V/W)
20V-90V
DC Bus
20V-48V
DC Logic

Ordering Information

	CDHD2	-	006	1D	AF1
CDHD2 LV Servo Drive – HD Series					
Rating					
	Cont.	Peak			
	[A rms]	[A rms]			
003	3	9			
006	6	18			
012	12	24			
015	15	30			
Input Power Supply					
1D	12–90 VDC for motor power 12–48 VDC (optional) for logic power				
Communication Interfaces					
AF1	Analog Voltage, Pulse Train References, CANopen, USB, RS232, with 1 analog input				
EC2	EtherCAT, USB, RS232, with 2 analog inputs				