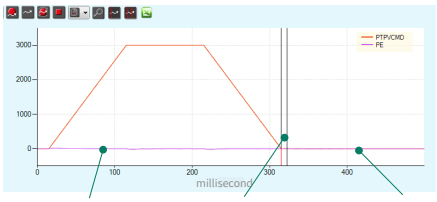


CDHD2S

High-Performance Servo Drives

CDHD2S has the most advanced control algorithms and greatly optimizes performance based on the CDHD2 servo driver to improve ease of use. It has rich and comprehensive functions and can be applied to high-precision and cost-effective devices.



Minimum position error

Settling time of almost zero

No oscillations at stand-still

Key benefits

- High performance control of all synchronous servo motors
- Interfaces multiple feedback devices
- Secondary encoder interface for closeddual loop control
- Built in operator panel for drive configuration and diagnostics
- Position compare output module
- Built-in support for both rigid and flexible Gantry
- 1D error correction compensation table
- Advanced control algorithms achieve maximum machine accuracy and throughput
- High power density in a small footprint
- Safe Torque Off (STO)
- Simple commissioning with new ServoStudio ™ 2.0 GUI along with comprehensive parameterization options for optimal configuration
- PROFINET telegram:1，2，3，5，7，9，102，105，110，111，750

Match linear motors for optimal performance



HD control loop optimizing servo control

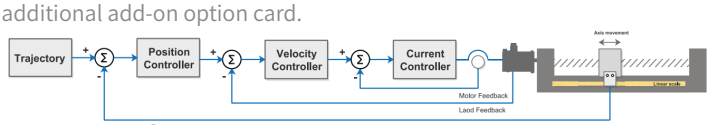
An adaptive non-linear control algorithm was developed to optimize servo performance in high precision motion applications. This proprietary algorithm uses a parallel configuration, in which position and velocity branches are on the same level and executed in each sampling period. A variable gain parameter is introduced and automatically optimized for high gain and stability. As a result, position error and settling time are minimized to levels far superior to those of other controllers.

High bandwidth current loop achieves and industry-leading frequency response

The current loop design achieves an outstanding frequency response of 3-5 kHz.High sampling rates and flexible filtering options provide a faster response and ensure maximum machine accuracy and throughput.

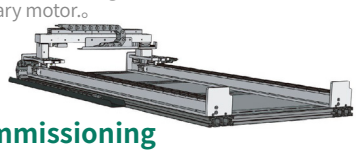
Dual loop control to eliminate mechanical errors and increase system stability

A dual loop position and velocity controller is used to improve the performance of the complete motion system. CDHD2 supports linear and rotary secondary encoders, both incremental and absolute. The dual loop control is an integral feature of the CDHD2 family and does not require an additional add-on option card.



Gantry mode

The CDHD2 servo drive has built-in support for both rigid and flexible gantry mechanical systems. The CDHD2 Gantry system synchronizes the two Y axes through two CDHD2 drives working in tandem and using high-speed communication to generate and control movement along the Y axis. Each of the two Y axes can be driven by either a linear or a rotary motor.two CDHD2 drives working in tandem and using high-speed communication to generate and control movement along the Y axis. Each of the two Y axes can be driven by either a linear or a rotary motor.。



ServoStudio ™ wizard for simple commissioning

- Step-by-step guidance through the motor setup, application configuration and tuning process
- Innovative and self explanatory user interface
- Excellent results for novice users within minutes
- Real-time data recording and plotting
- Easy integration of servo axes
- Plug-and-play motor library



Rating and dimensions

Model	Input Voltage	Input Power Main Circuit	Continuous Current (Arms)	Peak Current (Arms)	Width（mm）	Height（mm）	Depth（mm）
CDHD2S-1D5	120/240 VAC	1 phase	1.5	4.5	43.2	150	143.7
CDHD2S-003	120/240 VAC	1 phase	3	9	43.2	150	143.7
CDHD2S-4D5	120/240 VAC	1/3 phase	4.5	18	54.7	150	167.4
CDHD2S-006	120/240 VAC	1/3 phase	6	18	54.7	150	167.4
CDHD2S-008	120/240 VAC	3 phase	8	28	61.8	170	181.6
CDHD2S-010	120/240 VAC	3 phase	10	28	61.8	170	181.6
CDHD2S-013	120/240 VAC	3 phase	13	28	61.8	170	181.6
CDHD2S-020	120/240 VAC	3 phase	20	60	117.4	233.8	193.5
CDHD2S-024	120/240 VAC	3 phase	24	72	117.4	233.8	193.5
CDHD2S-003	400/480 VAC	3 phase	3	9	110	163.2	193.1
CDHD2S-006	400/480 VAC	3 phase	6	18	110	163.2	193.1
CDHD2S-012	400/480 VAC	3 phase	12	24	116.4	235.6	193.5
CDHD2S-024	400/480 VAC	3 phase	24	72	147.3	344	209.3
CDHD2S-030	400/480 VAC	3 phase	30	90	147.3	344	209.3

Communication

PROFINET、EtherCAT®*、USB*、RS232、Daisy Chain

I/Os:*

Digital: 11 x Input, 6 x Output、Analog: 1 x Input or 2 x Input*, 1 x Output、Pulse & Direction、Equivalent Encoder Output、Secondary Feedback、Fault Output Relay

*Some features are not available on all models.

Motor feedback:

sensAR Absolute Encoder、Incremental Encoder、Hall Sensors Resolver*、Sine Encoder (e.g., EnDat®, HIPERFACE®)、SSI Encoder (e.g., EnDat®, Nikon®, Tamagawa®)、Motor Temperature

Ordering Information

CDHD2S - 006 2A PN2 RO 000

① ② ③ ④ ⑤ ⑥



① CDHD2 Servo Drive – HD Series

② Rating

	120/240 VAC			400/480 VAC	
	Cont. [A rms]	Peak [A rms]		Cont. [A rms]	Peak [A rms]
1D5	1.5	4.5	003	3	9
003	3	9	006	6	18
4D5	4.5	18	012	12	24
006	6	18	024	24	72
008	8	28	030	30	90
010	10	28			
013	13	28			
020	20	60			
024	24	72			

③ Input Power Supply

2A	Medium Voltage Input Power Supply • Single Phase 120 L-N VAC +10% -15% 50/60 Hz • Single Phase 240 L-N VAC +10% -15% 50/60 Hz • Three Phase 120-240 L-L VAC +10% -15% 50/60 Hz
4D	AC power input • Input three-phase 400L-LVAC+10% -15% 50/60 HZ • Input three-phase 480L-LVAC+10% -15% 50/60 HZ • 24 VDC control board power supply

④ Communication Interfaces

	Communication Interfaces	Analog Inputs
ECx	EtherCAT, Analog Voltage, Pulse Train, USB, RS232	1 or 2*
PN2	PROFINET,Analog Voltage, Pulse Train，USB, RS232	2
	x = 1: One analog input, 16 bit x = 2: Two analog inputs, 14 bit each	* Standard configuration

⑤ Motor Type

[blank]	Rotary and linear servo motors
RO	Rotary servo motors. Available in Asia market only

⑥ Special Options

[blank]	Standard