



CDS500

Series Servo System



DELIXI

Delixi(Hangzhou)Inverter Co.,Ltd

Address: No.8, Economic Plot, Zhuantang Science & Technology Park,
Zhuantang Street, Xihu District, Hangzhou, Zhejiang
Tel : 0086-0571-87315109
Website: www.delixidrive.com
Email: delixidrive@hz-delixi.com

Delixi(Hangzhou)Inverter Co.,Ltd

CONTENT

02	CONTENT
03-04	COMPANY PROFILE
05-12	SERVO DRIVER PART
13-20	SEVO MOTOR PART
21-32	SERVO SYSTEM PART

Delixi Hangzhou Inverter Co., Ltd.

Delixi Hangzhou Inverter Co., Ltd. is a high-tech enterprise owned by Delixi Group, and is one of the current industrial automation product and solution excellent suppliers involving with development, production, sales and technical service in China.

Found in 2004, the company always maintains rapid and healthy development, and has advanced automatic production line, intelligent SMT workshop, and efficient testing equipment. The destaticization is used in all workshops. With various product lines, the company launches CDI-9200 series, 9600 series, E180 series, E100/102 series, EM60 series, and EC10 series of inverter, CDS servo driver, CDRA motor soft starter, touch screen (HMI), PLC, and special controller. Furthermore, the company has a complete set of system solution in many industries. The full series of products passed the CE certification and national electronic control distribution equipment quality supervision and inspection center certification. CDRA series soft starter obtains the “CCC” certificate issued by the China Quality Certification Center.

Dozens of products obtain the national-level patents, and the company passed ISO9001:2015 quality management system, ISO14001:2015 environment management system and GB/T28001-2011 Occupational Health and Safety Management System certifications, and obtains the national supported “High-Tech Enterprise” and “Zhejiang Contract-Abiding and Value Credit Enterprise”. The company's many projects have obtained the national, provincial and municipal key technology innovation projects.

To better service the customers, the company establishes offices and technical service centers in many important cities to provide the first-class technical service and solutions, forming a huge, complete and effective sales and service system thanks to Delixi Group's sales network. The international export trades are developed quickly, and products are exported to many areas such as Japan, Russia, Southeast Asia, Central Asia and Africa. The company establishes the offices and technical service centers in many countries.

Abiding by the lofty ideas “Dedicated to mankind, striving for the future”, Delixi sincerely provides the excellent service to win the trust of customers with quality and sincerity.



Honors

In August 2006, it passed the ISO9001:2000 Certification of Wantai Certification Co., Ltd. (WIT);

In October 2007, "CDI9000 frequency converter" was rated as "High-tech Product" by Zhejiang Provincial Department of Science and Technology;

In May 2008, "AC permanent magnet synchronous motor servo drive series" was rated as "Hangzhou Technological Innovation Project" by Hangzhou Economic Commission.

In December 2008, "DELIXI frequency converter" was rated as "Hangzhou Famous Brand Product" by Hangzhou Famous Brand Strategy Promotion Committee;

In December 2009, it was awarded the "2009 Patent Pilot Enterprise in Xihu District";

In August 2010, it won the title of Zhejiang Industrial and Commercial Enterprise Credit Grade "Observing Contract and Valuing Credit".

In February 2011, it was awarded the "Project Approval Certificate of Technology Innovation Fund for High-tech Small and Medium-sized Enterprises" by the Ministry of Science and Technology;

In August 2014, it was awarded "Top 10 of Growth" in the world of inverters;

In September 2015, it was awarded "Hangzhou Patent Pilot Enterprise";

In September 2016, it won the title of Zhejiang Industrial and Commercial Enterprise Credit Grade AA "Observing Contract and Valuing Credit".

In 2017, it was rated as the "Member of the National Technical Committee of VVVF Standardization";

In 2018, it was awarded "CMCD 2018 Growth Brand in Motion Control Field";

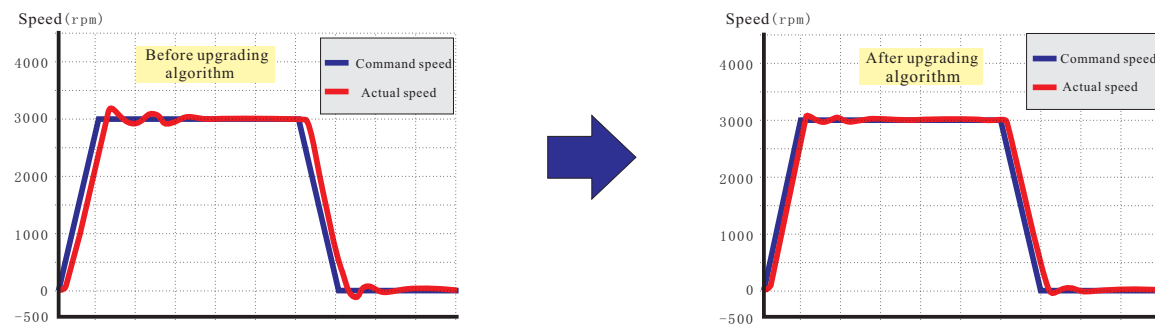
In 2019, it was awarded the title of "Advanced Collective of Hangzhou";



CDS500 series servo is a new generation high-performance servo driver system developed by Delixi. The use of core CPU up to 180MHz, digital current sampling chip, fully upgraded hardware and new vector control algorithm makes the speed ring bandwidth increase by nearly 3 times. With the optimized CDM series motor and encoder corrected by system, the torque pulsation furthermore decreases. New generation drive system is fully improved on its performance, function, stability and immunity.

More excellent performance

- ◆ Speed ring response bandwidth of greater than 500Hz, fast positioning speed;
- ◆ Multi-turn absolute encoder to support up to 23 bits, with high positioning accuracy;
- ◆ Overload capacity up to 300%, with fast start and stop supported;
- ◆ With speed ring change-over for different encoder, upgraded current decoupling solution, faster follow;
- ◆ Rich feed forward algorithm and model compensation algorithm, enhancing the system immunity while accelerating the positioning.



Richer products

- ◆ The drive power is ranged 100W to 7.5kW;
- ◆ Optional 2500 line photoelectric encoder, 17-bit absolute value magnetoelectric encoder, 17-bit absolute value photoelectric encoder and 23-bit absolute value photoelectric encoder to meet the high performance-price ratio needs;

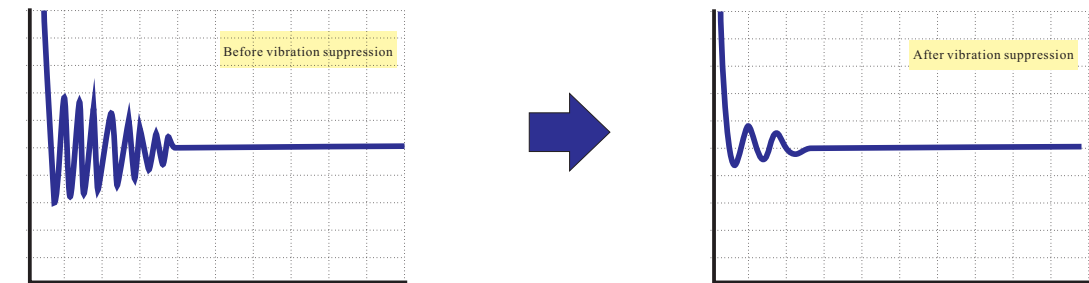
More perfect protection

- ◆ Interlocked driver, and accurate hardware over-current protection system.

- ◆ Customized curve braking protection, over-load protection, parameter checking, and algorithm saturation protection.

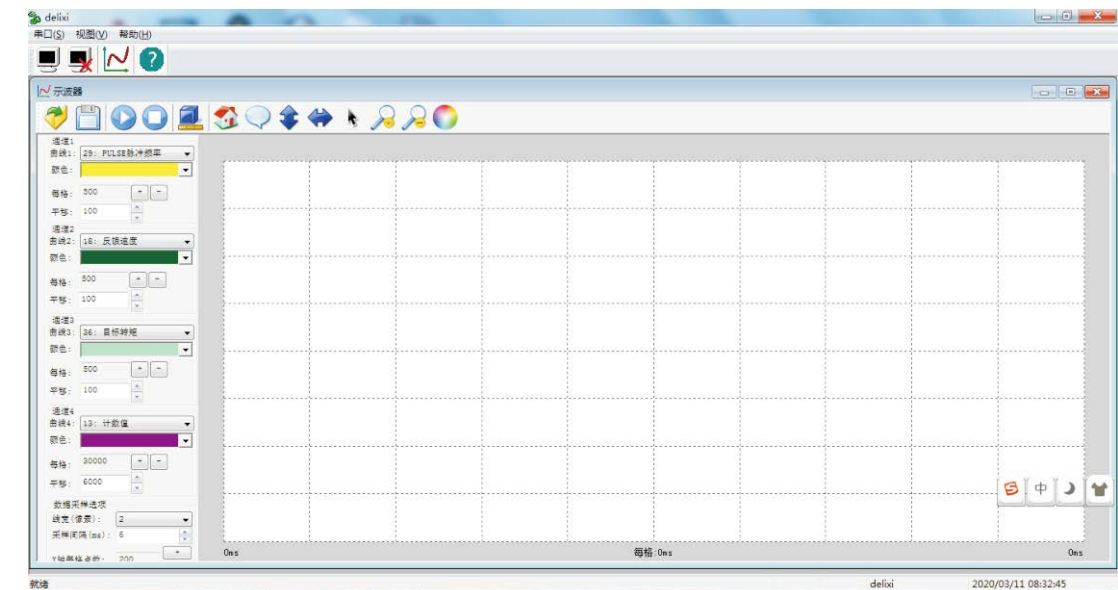
More powerful function

- ◆ Internal positions of multiple segments, internal speed mode, and return to origin;
- ◆ Support the customization function;
- ◆ Inertia identification, rigidity grade, easy debugging;
- ◆ Encoder zero identification function, output precision;
- ◆ Combined filter function to suppress the vibration from mechanical system.




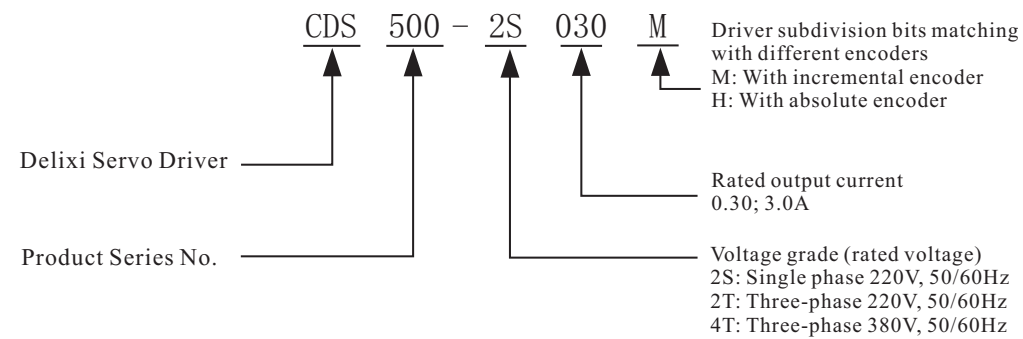
New debugging software

The new debugging software supports 4-channel oscilloscope function, realizes the sampling point recording up to 10kHz, and also realizes the simple and convenient performance debugging and troubleshooting.



▶▶▶ Drive nameplate and model description

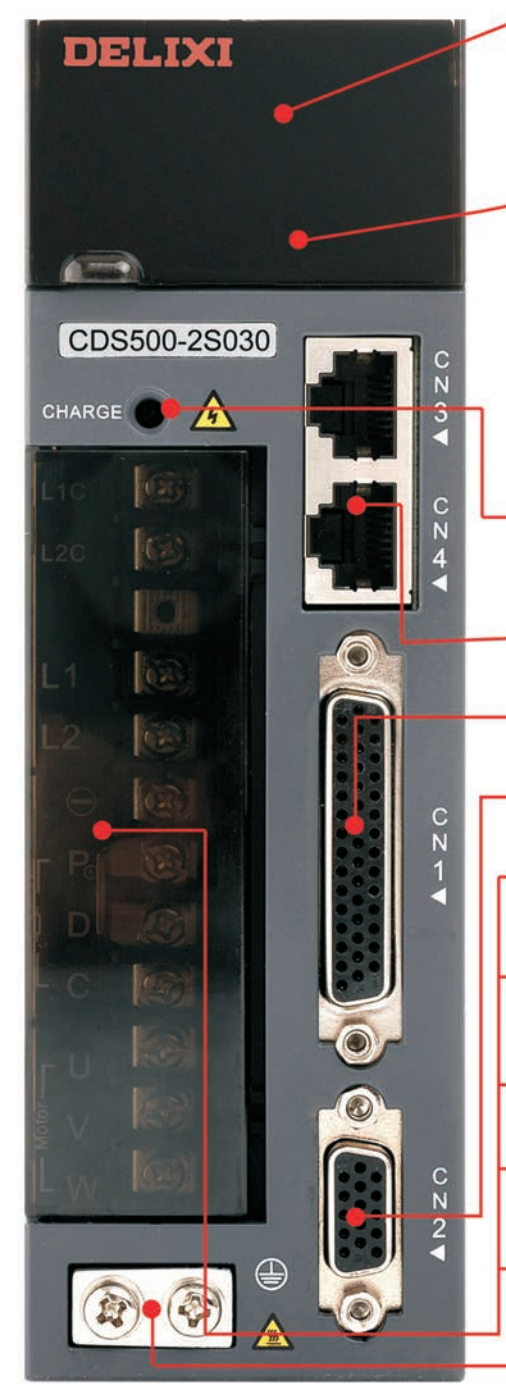
DELIXI
 Model: CDS500-2S030M
 Input: AC 2PH 220±10% 50/60Hz
 Output: AC 3PH 0-220V 0-40Hz 3.0A
 Hardware version: 1.1.00
 Software version: 1.12

 CDS500-2S0301812341
DELIXI HANGZHOU INVERTER CO., LTD.

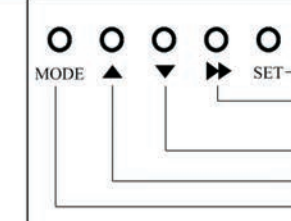


▶▶▶ Driver products list

Driver model	Rated output current	Max. output current	Braking resistance	Voltage grade	
				Main circuit	Control circuit
2S (Single phase 220V±10%, 50/60Hz)					
CDS500-2S016M/H	1.6A	4.8	Standard configuration, built-in	Single phase 220V	Single phase 220V
CDS500-2S016M/H	3.0A	9	Standard configuration, built-in	Single phase 220V	Single phase 220V
CDS500-2S045M/H	4.5A	13.5	Standard configuration, built-in	Single phase 220V	Single phase 220V
CDS500-2S060M/H	6.0A	18	Standard configuration, built-in	Single phase 220V	Single phase 220V
CDS500-2S100M/H	10.0A	30	Standard configuration, built-in	Single phase 220V	Single phase 220V
2T (Three-phase 220V±10%, 50/60Hz)					
CDS500-2T016M/H	1.6A	4.8	Standard configuration, built-in	Three-phase 220V	Single phase 220V
CDS500-2T030M/H	3.0A	9	Standard configuration, built-in	Three-phase 220V	Single phase 220V
CDS500-2T045M/H	4.5A	13.5	Standard configuration, built-in	Three-phase 220V	Single phase 220V
CDS500-2T060M/H	6.0A	18	Standard configuration, built-in	Three-phase 220V	Single phase 220V
CDS500-2T100M/H	10A	30	Standard configuration, built-in	Three-phase 220V	Single phase 220V
CDS500-2T140M/H	14A	42	Standard configuration, built-in	Three-phase 220V	Single phase 220V
CDS500-2T200M/H	20A	60	Standard configuration, built-in	Three-phase 220V	Single phase 220V
4T (Three-phase 380V±10%, 50/60Hz)					
CDS500-4T085M/H	8.5A	25.5	Standard configuration, built-in	Three-phase 380V	Single phase 380V
CDS500-4T120M/H	12A	36	Standard configuration, built-in	Three-phase 380V	Single phase 380V
CDS500-4T200M/H	3.A	60	Standard configuration, built-in	Three-phase 380V	Single phase 380V

▶▶▶ Drive components description



Name	Description
Nixie tube display	5-bit LED nixie tube display can show the driver running state and parameters setting.
Key operator	 <ul style="list-style-type: none"> Save the current data and automatically jump to the next parameter Flash bit moves one bit to the right; long press: When greater than 5 bits for this parameter, high 5-bit will be displayed Decrease the value of the current flash bit Increase the value of the current flash bit Switch over the function code display in turn
CHARGE power indicator	When this indicator is on, the driver is at the live state, but this cannot be used as the unique standard to judge whether the driver is live or not. If you may touch the live part of the drive during assemble or disassembly, check that the circuit breaker above it is at the OFF state. Only after the driver capacitor is completely discharged, you can operate the driver.
Cn3 and CN4 communication interfaces	Cn3 and CN4 are in parallel inside for connection between RS-232 and RS-485 communication devices
Cn1 driver control interface	Driver control input signal and output signal interface; this interface is 44-pin female-end interface.
CN2 encoder interface	Connected to the motor encoder; this interface is 15-pin female-end interface.
L1C, L2C Control power input terminal	To connect the correct control circuit power supply, refer to the parameters shown on the driver nameplate
R, S, T (or L1 and L2) Main circuit power input terminal	To connect the correct main circuit power supply, refer to the parameters shown on the driver nameplate
P _{ee} DC bus terminal	DC bus wiring terminal, used as the common DC bus for multiple drivers
P _B , D, C external braking resistance terminal	To connect the short contact pins between P _B and D by default; when connecting the external braking resistance, remove the connecting short contact pins located between P and D and connect the braking resistance to the P _B and C
U, V, W Motor connecting terminal	To connect the phases U, V and W of the servo motor
PE Driver grounding terminal	To connect the servo motor grounding terminal and power grounding terminal for grounding.

▶▶▶ **Technical Specification I**

Item		Specification	
Basic parameters	Rated current	2S series	1.6-10A
		2T series	1.6-20A
		4T series	8.5-20A
	Main circuit power	2S series	Single phase AC220V±10%, 50/60Hz
		2T series	Three-phase AC220V±10%, 50/60Hz
		4T series	Three-phase AC380V±10%, 50/60Hz
	Control circuit power	2S series	Single phase AC220V±10%, 50/60Hz
		2T series	
		4T series	Single phase AC380V±10%, 50/60Hz
Control method		Position control, speed control and torque control	
Encoder feedback		Incremental encoder, absolute encoder	
Regenerative brake		Internal, external	
Configuration	P24V power	P24V-COM, Max. output 200mA	
	P5V power	P5V-GND, Max. output 200mA	
	Pulse input	P-HI, PULSE+, PULSE-, S-HI, SGN+, SGN-, Differential input or open collector input is available.	
	Digital input	8-way digital input terminals (DI1~DI8), used as internal power supply or external power supply.	
	Digital output	4-way digital output terminals (DO1~DO4)	
	Analog input	1-way analog input (AIN), DC±10V, 12-bit conversion accuracy	
	Analog output	1-way analog output (AO+, AO-), DC±10V	
	Frequency dividing output	Differential output (≤ 500kHz), collector output (≤ 200kHz)	
Control feature	Speed bandwidth response	Above 400Hz	
	Speed fluctuation ratio	≤±1.5% (Load 0-100%); ≤±0.6% (Power -15~+10%) (Value corresponds to the rated speed)	
	Speed regulation ratio	1:30000	
	Input pulse frequency	≤ 500kHz	
Position	Input way	①Pulse + sign; ②CW pulse + CCW pulse; ③Orthorhombic AB phase pulse	
Control	Electronic gear ratio	1~32767/1~32767	
	Feedback pulse	32~32768 Pulses / rev., settable	
Feedback way		Motor shaft end encoder feedback	
Parameter setting method		①Input via keyboard; ②RS485 MODBUS communication entry	
Load inertia		Less than 10 times motor inertia	
Braking mode		Resistance energy consumption braking	
Built-in	Overtravel prevention function	Stopped immediately if CWL or CCWL acts	
Function	Electronic gear ratio	0.001 ≤ B/A ≤ 4000	

▶▶▶ **Technical specification II**

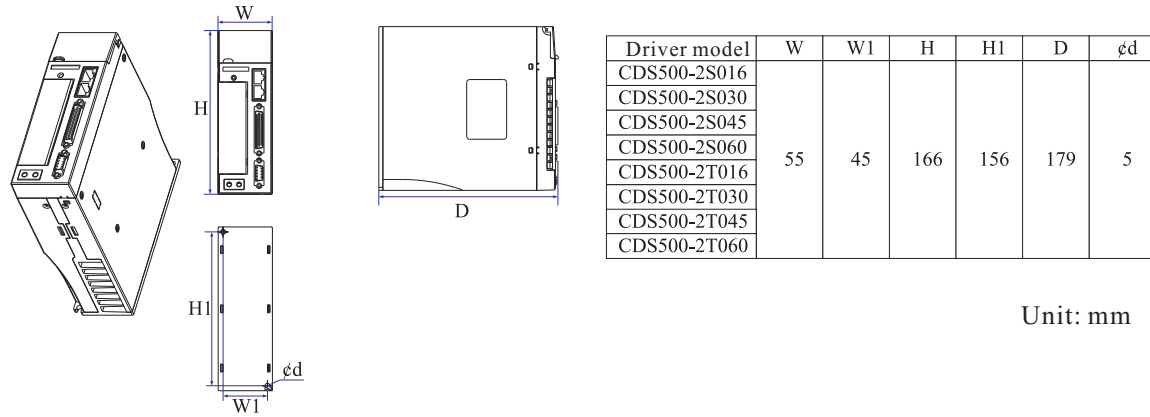
Item		Specification		
Built-in	Protection function		Over-current, overvoltage, overload, main circuit detection abnormality, radiator overheat, power phase missing, over-speed, encoder abnormality, CUP abnormality, parameter abnormality, others	
	LED display function		Main power indicator CHARGE, 5-bit LED	
	Communication function	Connecting device	RS232, RS485	
		Communication protocol	MODBUS	
		1:N communication	When RS485, up to N=247 stations	
		Shaft address setting	According to the user setting	
		Function	State display, user parameter setting, monitor display, alarm tracking display; JOG operation and automatic tuning operation, surveying and mapping function of speed and torque command signal	
	Others		Gain control, alarm recording, JOG operation	
	Environment requirements	Use / storage temperature		0~+45°C (derating if the ambient temperature is above 45°C; the average load ratio cannot be higher than 80%) / -20~+70°C.
		Use / storage humidity		90%RH or less (no condensation)
Vibration / impact resistance		4.9m/s ² /19.6m/s ²		
Protection level		IP10		
Pollution level		2		
Altitude		Below 1000m		

▶▶▶ **Braking resistance specifications**

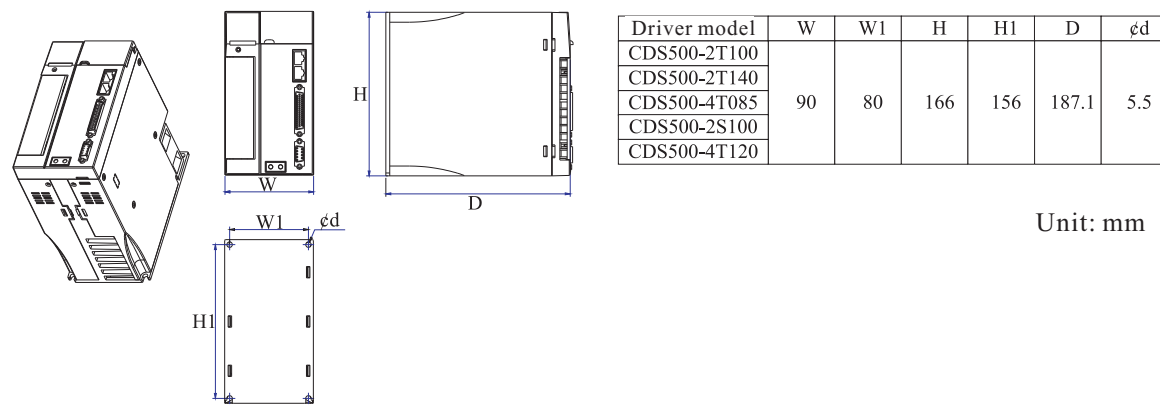
Servo driver model		Built-in braking resistance specification		Allowable min. resistance (Ω)	Max. braking energy that can be absorbed by capacitor (J)
		Resistance	Power		
Single phase 220V	CDS500-2S016M/H	50	50	50	9
	CDS500-2S030M/H	50	50	50	18
	CDS500-2S045M/H	50	50	50	24
	CDS500-2S060M/H	50	50	50	32
	CDS500-2S100M/H	25	100	18	50
Three-phase 220V	CDS500-2T016M/H	50	50	50	9
	CDS500-2T030M/H	50	50	50	9
	CDS500-2T045M/H	50	50	50	14
	CDS500-2T060M/H	50	50	50	18
	CDS500-2T100M/H	25	100	10	43
	CDS500-2T140M/H	25	100	10	52
	CDS500-2T200M/H	12.5	200	5	85
Three-phase 380V	CDS500-4T085M/H	25	100	18	50
	CDS500-4T120M/H	12.5	200	12	50
	CDS500-4T200M/H	12.5	200	10	120

▶▶▶ Driver dimensions chart

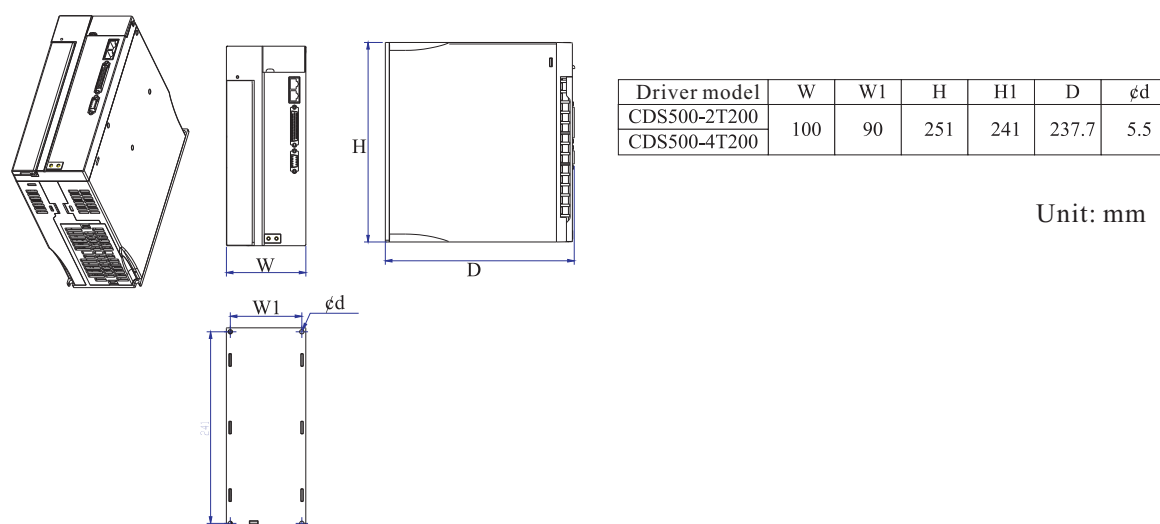
SIZE-A



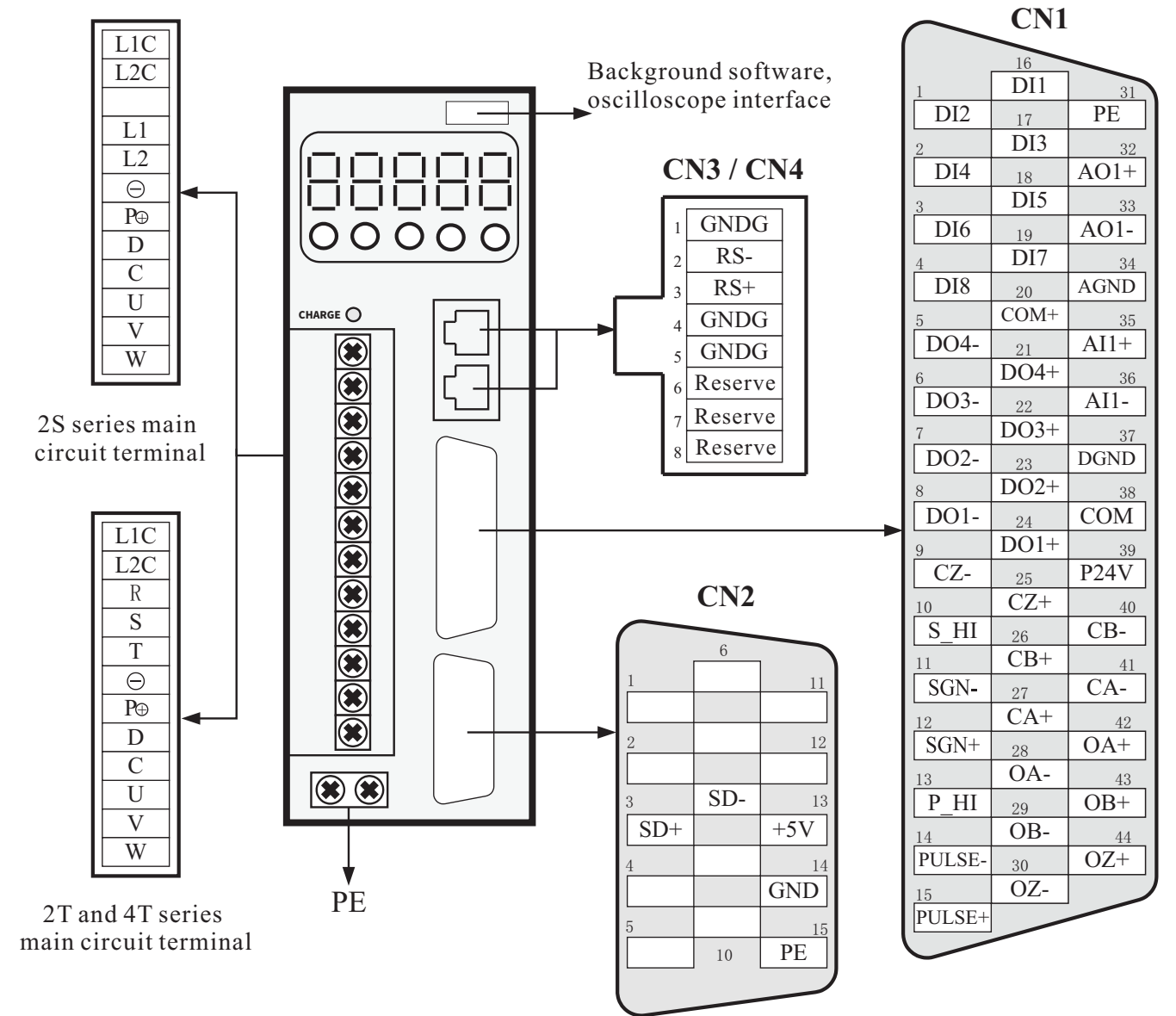
SIZE-B



SIZE-C

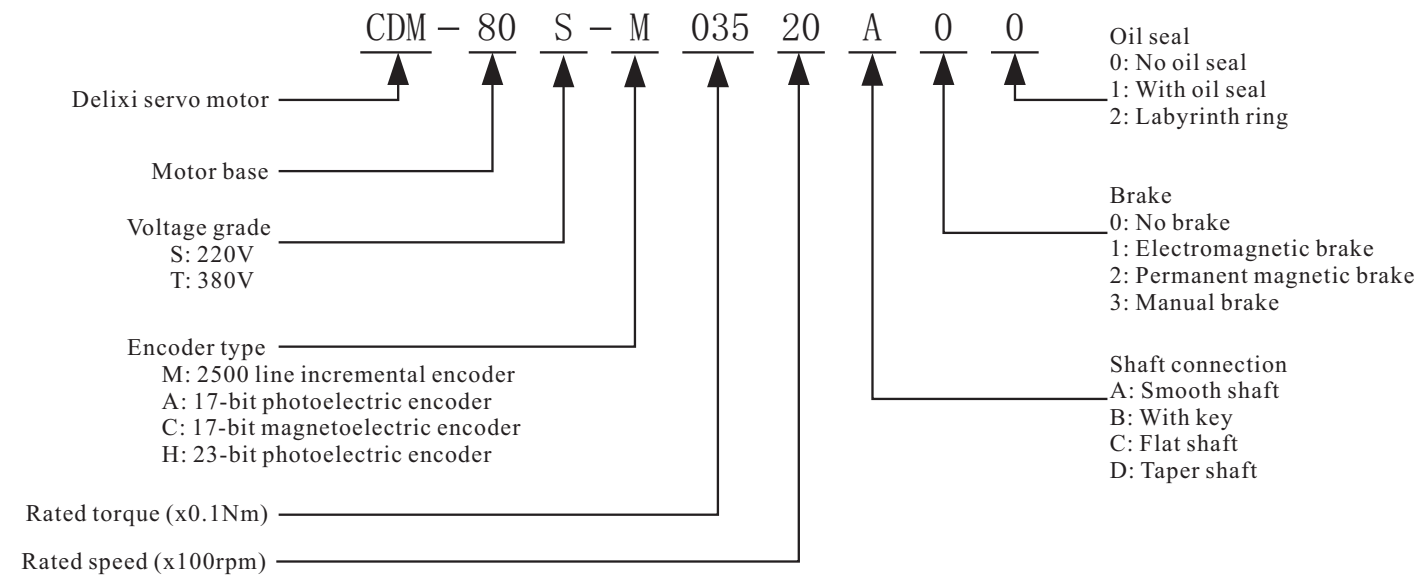
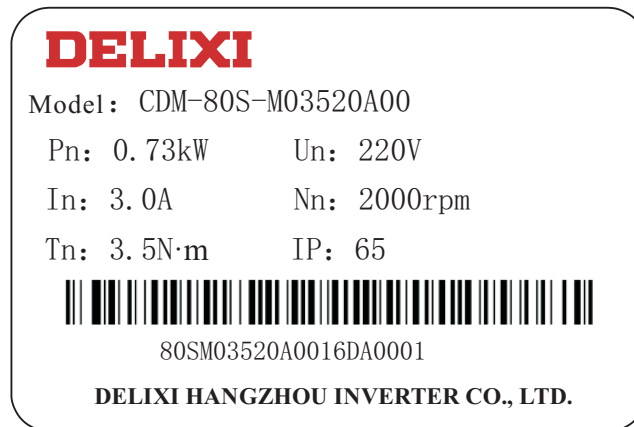


▶▶▶ Driver terminal and pins distribution



Note: The above figure shows the pins layout of the terminals of driver

▶▶▶ Matching servo motor nameplate and model



Note: When ordering the servo motor, specify the complete servo motor model.

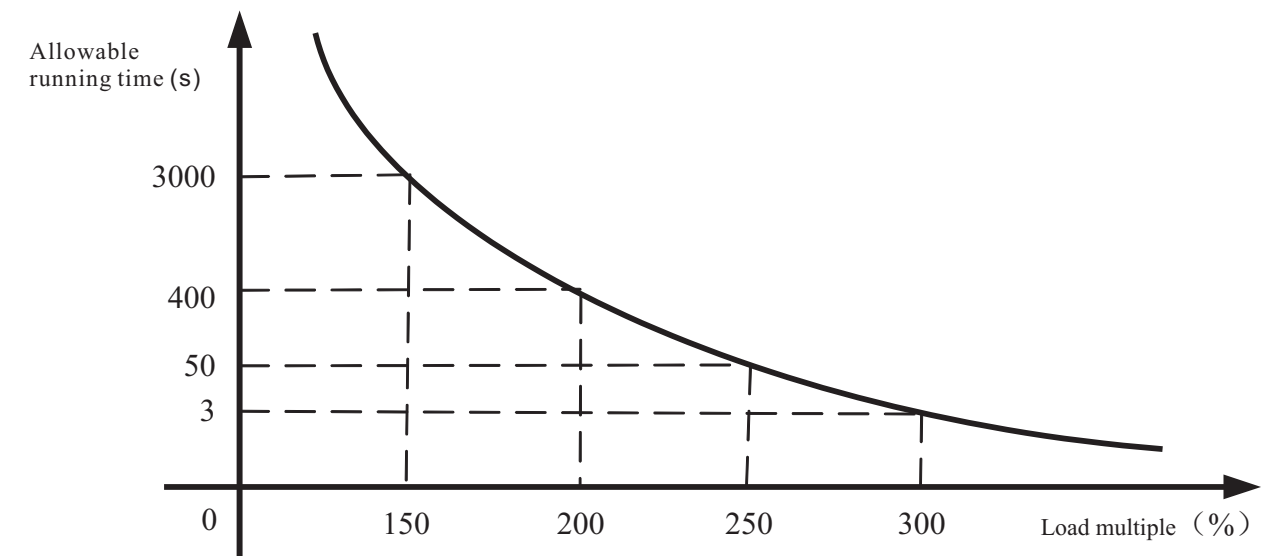
▶▶▶ Mechanical characteristic parameters and specifications of motor

Item	Description
Rated time	Continuous
Vibration level	V15
Insulation grade	Above DC500V, 10MΩ
Ambient temperature	-20°C~40°C
Exciting way	Permanent magnet
Installation method	Flange
Electrical insulation grade	Class F
Insulation voltage	AC1500V1 minutes (200V)
	AC1800V1 minutes (400V)
Housing protection level	IP65 (except for shaft through part)
Environment humidity	<90% (no condensation)
Connection method	Direct connection
Rotation direction	With forward rotation command, counter-clockwise direction (CCW) when viewing from the load side

Brake motor precautions:

- 1.Brake cannot share the same power supply with other electrical devices to prevent the mis-action of brake due to voltage or current reduction caused by the operation of other electrical device.
- 2.The cable with the diameter of 0.5mm² or above is recommended.

▶▶▶ CDS500 series motor overload curve



Note: The max. torque is 3 times rated torque.

▶▶▶ 2500 line encoder motor rating specification I

220V motor									
Motor base	Motor serial No.	Motor model	Rated power (kW)	Rated voltage (V)	Rated current (A)	Rated speed (rpm)	Rated torque (N•m)	Peak torque (N•m)	Rotor inertia (10-3Kg•m ²)
40	H.0100	CDM-40S-M00130	0.05	220	0.4	3000	0.16	0.32	0.0025
	H.0101	CDM-40S-M00330	0.1	220	1.1	3000	0.32	0.64	0.0051
60	H.0200	CDM-60S-M00630	0.2	220	1.8	3000	0.637	1.911	0.0175
	H.0201	CDM-60S-M01330	0.4	220	2.8	3000	1.27	3.9	0.029
	H.0202	CDM-60S-M01930	0.6	220	3.5	3000	1.91	5.73	0.039
80	H.0300	CDM-80S-M01330	0.4	220	2	3000	1.27	3.8	0.105
	H.0301	CDM-80S-M02430	0.75	220	3	3000	2.39	7.1	0.182
	H.0302	CDM-80S-M03520	0.73	220	3	2000	3.5	10.5	0.263
	H.0303	CDM-80S-M03530	1.1	220	4.5	3000	3.5	10.5	0.263
	H.0304	CDM-80S-M04025	1	220	4.4	2500	4	12	0.297
	H.0305	CDM-80S-M04030	1.2	220	4.5	3000	4	12	0.297
90	H.0400	CDM-90S-M02430	0.75	220	3	3000	2.4	7.1	0.245
	H.0401	CDM-90S-M03520	0.73	220	3	2000	3.5	10.5	0.34
	H.0402	CDM-90S-M04025	1	220	4	2500	4	12	0.37
100	H.0500	CDM-100S-M03230	1	220	5	3000	3.2	9.6	0.2458
	H.0501	CDM-100S-M06430	2	220	9.9	3000	6.4	19.2	0.4422
110	H.0600	CDM-110S-M02030	0.6	220	2.5	3000	2	6	0.31
	H.0601	CDM-110S-M04020	0.8	220	3.5	2000	4	12	0.54
	H.0602	CDM-110S-M04030	1.2	220	5	3000	4	12	0.54
	H.0603	CDM-110S-M05030	1.5	220	6	3000	5	15	0.63
	H.0604	CDM-110S-M06020	1.2	220	4.5	2000	6	12	0.76
	H.0605	CDM-110S-M06030	1.8	220	6	3000	6	18	0.76
130	H.0700	CDM-130S-M04025	1	220	4	2500	4	12	0.85
	H.0701	CDM-130S-M05025	1.3	220	5	2500	5	15	1.06
	H.0702	CDM-130S-M06025	1.5	220	6	2500	6	18	1.26
	H.0703	CDM-130S-M07715	1.1	220	4.7	1500	7.7	22	1.53
	H.0704	CDM-130S-M07725	2	220	7.5	2500	7.7	22	1.53
	H.0705	CDM-130S-M10010	1	220	4.5	1000	10	20	1.94
	H.0706	CDM-130S-M10015	1.5	220	6	1500	10	25	1.94
	H.0707	CDM-130S-M10025	2.6	220	10	2500	10	25	1.94
	H.0708	CDM-130S-M15015	2.3	220	9.5	1500	15	30	2.77
H.0709	CDM-130S-M15025	3.8	220	13.5	2500	15	30	2.77	

- Notes:
- 1.The motor with oil seal should be derated by 10%.
 2. The above values are available when the servo driver combination is running and the temperature of armature coil is 20°C.

▶▶▶ 2500 line encoder motor rating specification II

220V motor									
Motor base	Motor serial No.	Motor model	Rated power (kW)	Rated voltage (V)	Rated current (A)	Rated speed (rpm)	Rated torque (N•m)	Peak torque (N•m)	Rotor inertia (10-3Kg•m ²)
150	H.0800	CDM-150S-M15025	3.8	220	17	2500	15	30	3.88
	H.0801	CDM-150S-M15020	3	220	14	2000	15	30	3.88
	H.0802	CDM-150S-M18020	3.6	220	17	2000	18	36	4.6
180	H.0901	CDM-180S-M17015	2.5	220	10	1500	17	42	6.5
	H.0902	CDM-180S-M19015	3	220	12	1500	19	47	7
	H.0903	CDM-180S-M21520	4.5	220	14	2000	21.5	53	7.96
	H.0905	CDM-180S-M27015	4.3	220	16	1500	27	67	9.64
H.0906	CDM-180S-M35010	3.7	220	16	1000	35	70	12.25	

380V motor									
Motor base	Motor serial No.	Motor model	Rated power (kW)	Rated voltage (V)	Rated current (A)	Rated speed (rpm)	Rated torque (N•m)	Peak torque (N•m)	Rotor inertia (10-3Kg•m ²)
130	H.0710	CDM-130T-M10010	1	380	2.5	1000	10	20	1.94
	H.0711	CDM-130T-M10015	1.5	380	3.5	1500	10	25	1.94
	H.0712	CDM-130T-M10025	2.6	380	6	2500	10	25	1.94
	H.0713	CDM-130T-M15015	2.3	380	5	1500	15	30	2.77
	H.0714	CDM-130T-M15025	3.8	380	8.8	2500	15	30	2.77
	H.0715	CDM-130T-M07725	2	380	4.8	2500	7.7	22	1.53
	H.0716	CDM-130T-M04025	1	380	2.6	2500	4	12	0.85
	H.0717	CDM-130T-M05025	1.3	380	3	2500	5	15	1.06
	H.0718	CDM-130T-M06025	1.5	380	4	2500	6	18	1.26
180	H.0910	CDM-180T-M17015	2.5	380	6.5	1500	17	42	6.5
	H.0912	CDM-180T-M19015	3	380	7.5	1500	19	47	7
	H.0913	CDM-180T-M21520	4.5	380	9.5	2000	21.5	53	7.96
	H.0915	CDM-180T-M27015	4.3	380	10	1500	27	67	9.64
	H.0916	CDM-180T-M35010	3.7	380	10	1000	35	70	12.25
	H.0917	CDM-180T-M35015	5.5	380	12	1500	35	70	12.25
	H.0918	CDM-180T-M48015	7.5	380	20	1500	48	96	16.72

- Notes:
- 1.The motor with oil seal should be derated by 10%.
 2. The above values are available when the servo driver combination is running and the temperature of armature coil is 20°C.

▶▶▶ 23-bit encoder motor rating specification I

220V motor									
Motor base	Motor serial No.	Motor model	Rated power (kW)	Rated voltage (V)	Rated current (A)	Rated speed (rpm)	Rated torque (N•m)	Peak torque (N•m)	Rotor inertia (10-3Kg•m ²)
40	H.3100	CDM-40S-H00130	0.05	220	0.4	3000	0.16	0.32	0.0025
	H.3101	CDM-40S-H00330	0.1	220	1.1	3000	0.32	0.64	0.0051
60	H.3200	CDM-60S-H00630	0.2	220	1.8	3000	0.637	1.911	0.0175
	H.3201	CDM-60S-H01330	0.4	220	2.8	3000	1.27	3.9	0.029
	H.3202	CDM-60S-H01930	0.6	220	3.5	3000	1.91	5.73	0.039
80	H.3300	CDM-80S-H01330	0.4	220	2	3000	1.27	3.8	0.105
	H.3301	CDM-80S-H02430	0.75	220	3	3000	2.39	7.1	0.182
	H.3302	CDM-80S-H03520	0.73	220	3	2000	3.5	10.5	0.263
	H.3303	CDM-80S-H03530	1.1	220	4.5	3000	3.5	10.5	0.263
	H.3304	CDM-80S-H04025	1	220	4.4	2500	4	12	0.297
	H.3305	CDM-80S-H04030	1.2	220	4.5	3000	4	12	0.297
90	H.3400	CDM-90S-H02430	0.75	220	3	3000	2.4	7.1	0.245
	H.3401	CDM-90S-H03520	0.73	220	3	2000	3.5	10.5	0.34
	H.3402	CDM-90S-H04025	1	220	4	2500	4	12	0.37
100	H.3500	CDM-100S-H03230	1	220	5	3000	3.2	9.6	0.2458
	H.3501	CDM-100S-H06430	2	220	9.9	3000	6.4	19.2	0.4422
110	H.3600	CDM-110S-H02030	0.6	220	2.5	3000	2	6	0.31
	H.3601	CDM-110S-H04020	0.8	220	3.5	2000	4	12	0.54
	H.3602	CDM-110S-H04030	1.2	220	5	3000	4	12	0.54
	H.3603	CDM-110S-H05030	1.5	220	6	3000	5	15	0.63
	H.3604	CDM-110S-H06020	1.2	220	4.5	2000	6	12	0.76
	H.3605	CDM-110S-H06030	1.8	220	6	3000	6	18	0.76
	H.3700	CDM-130S-H04025	1	220	4	2500	4	12	0.85
130	H.3701	CDM-130S-H05025	1.3	220	5	2500	5	15	1.06
	H.3702	CDM-130S-H06025	1.5	220	6	2500	6	18	1.26
	H.3703	CDM-130S-H07715	1.1	220	4.7	1500	7.7	22	1.53
	H.3704	CDM-130S-H07725	2	220	7.5	2500	7.7	22	1.53
	H.3705	CDM-130S-H10010	1	220	4.5	1000	10	20	1.94
	H.3706	CDM-130S-H10015	1.5	220	6	1500	10	25	1.94
	H.3707	CDM-130S-H10025	2.6	220	10	2500	10	25	1.94
	H.3708	CDM-130S-H15015	2.3	220	9.5	1500	15	30	2.77
	H.3709	CDM-130S-H15025	3.8	220	13.5	2500	15	30	2.77

Notes:

1. The motor with oil seal should be derated by 10%.
2. The above values are available when the servo driver combination is running and the temperature of armature coil is 20°C.
3. For 17-bit magnetoelectric encoder and photoelectric encoder, refer to the above table. The 17-bit magnetoelectric encoder and photoelectric encoder serial number is H.2XXX.

▶▶▶ 23-bit encoder motor rating specification II

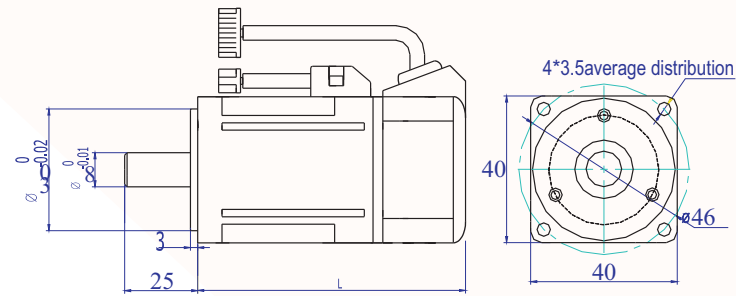
220V motor									
Motor base	Motor serial No.	Motor model	Rated power (kW)	Rated voltage (V)	Rated current (A)	Rated speed (rpm)	Rated torque (N•m)	Peak torque (N•m)	Rotor inertia (10-3Kg•m ²)
150	H.3800	CDM-150S-H15025	3.8	220	17	2500	15	30	3.88
	H.3801	CDM-150S-H15020	3	220	14	2000	15	30	3.88
	H.3802	CDM-150S-H18020	3.6	220	17	2000	18	36	4.6
180	H.3901	CDM-180S-H17015	2.5	220	10	1500	17	42	6.5
	H.3902	CDM-180S-H19015	3	220	12	1500	19	47	7
	H.3903	CDM-180S-H21520	4.5	220	14	2000	21.5	53	7.96
	H.3905	CDM-180S-H27015	4.3	220	16	1500	27	67	9.64
	H.3906	CDM-180S-H35010	3.7	220	16	1000	35	70	12.25

380V motor									
Motor base	Motor serial No.	Motor model	Rated power (kW)	Rated voltage (V)	Rated current (A)	Rated speed (rpm)	Rated torque (N•m)	Peak torque (N•m)	Rotor inertia (10-3Kg•m ²)
130	H.3710	CDM-130T-H10010	1	380	2.5	1000	10	20	1.94
	H.3711	CDM-130T-H10015	1.5	380	3.5	1500	10	25	1.94
	H.3712	CDM-130T-H10025	2.6	380	6	2500	10	25	1.94
	H.3713	CDM-130T-H15015	2.3	380	5	1500	15	30	2.77
	H.3714	CDM-130T-H15025	3.8	380	8.8	2500	15	30	2.77
	H.3715	CDM-130T-H07725	2	380	4.8	2500	7.7	22	1.53
	H.3716	CDM-130T-H04025	1	380	2.6	2500	4	12	0.85
	H.3717	CDM-130T-H05025	1.3	380	3	2500	5	15	1.06
	H.3718	CDM-130T-H06025	1.5	380	4	2500	5	15	1.06
	180	H.3910	CDM-180T-H17015	2.5	380	6.5	1500	17	42
H.3912		CDM-180T-H19015	3	380	7.5	1500	19	47	7
H.3913		CDM-180T-H21520	4.5	380	9.5	2000	21.5	53	7.96
H.3915		CDM-180T-H27015	4.3	380	10	1500	27	67	9.64
H.3916		CDM-180T-H35010	3.7	380	10	1000	35	70	12.25
H.3917		CDM-180T-H35015	5.5	380	12	1500	35	70	12.25
H.3918		CDM-180T-H48015	7.5	380	20	1500	48	96	16.72

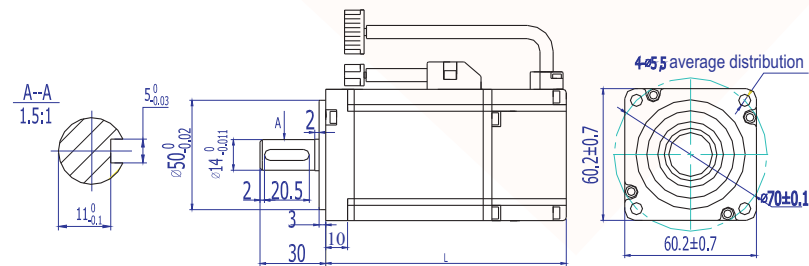
Notes:

1. The motor with oil seal should be derated by 10%.
2. The above values are available when the servo driver combination is running and the temperature of armature coil is 20°C.
3. For 17-bit magnetoelectric encoder and photoelectric encoder, refer to the above table. The 17-bit magnetoelectric encoder and photoelectric encoder serial number is H.2XXX.

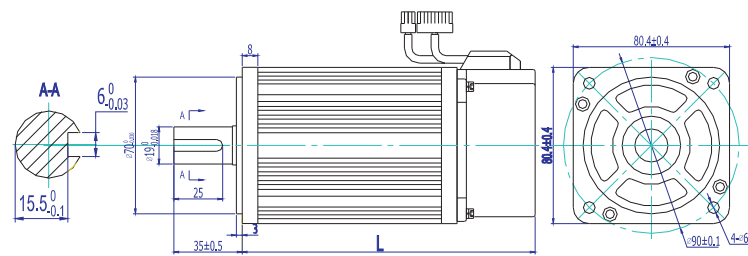
Motor dimensions I



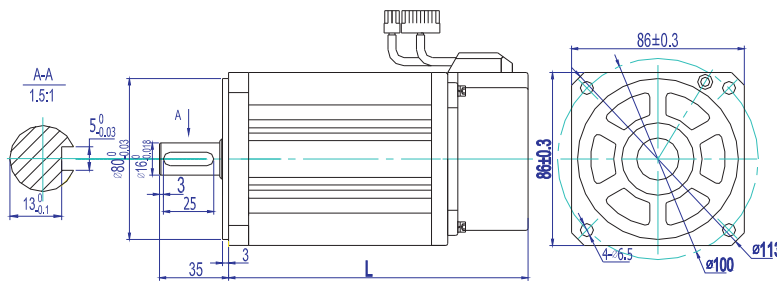
Specifications	0.16Nm	0.32Nm
L without brake	75	90
L with permanent magnet brake	109	124



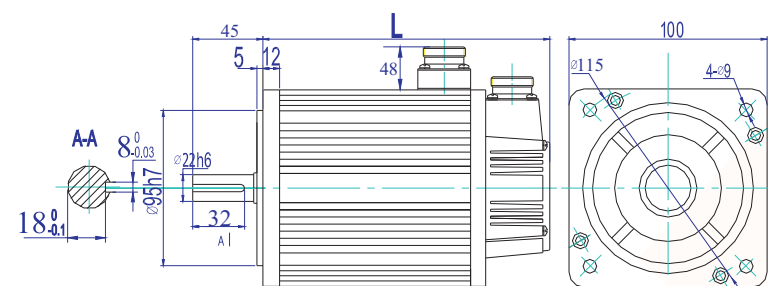
Specifications	0.6Nm	1.3Nm	1.9Nm
L without brake	116	141	169
L with permanent magnet brake	164	189	217



Specifications	1.3Nm	2.4Nm	3.5Nm	4Nm
L without brake	124	151	179	191
L with permanent magnet brake	178	205	233	245
L with electromagnetic brake	164	191	219	231

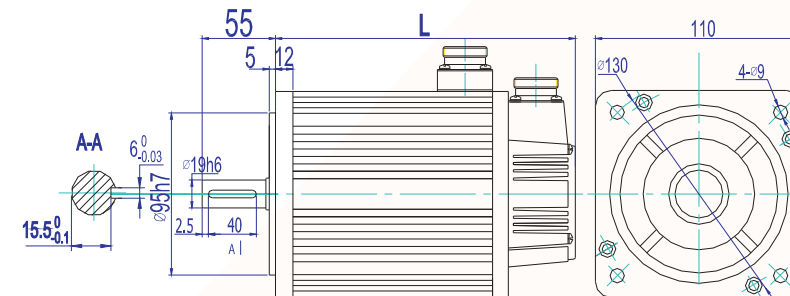


Specifications	2.4Nm	3.5Nm	4Nm
L without brake	150	172	182
L with permanent magnet brake	207	229	239
L with electromagnetic brake	198	220	230

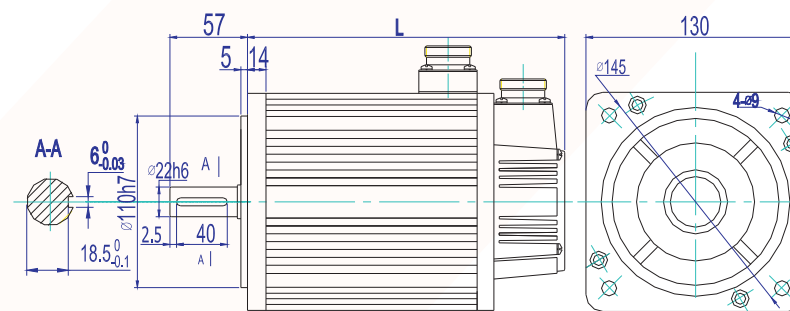


Specifications	3.2Nm	6.4Nm
L without brake	153	198
L with permanent magnet brake	194	239

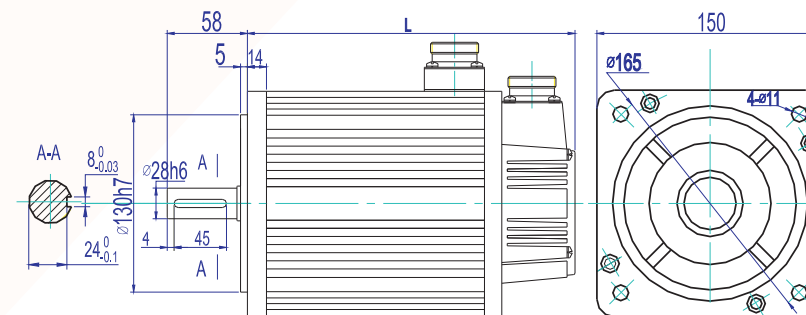
Motor dimensions II



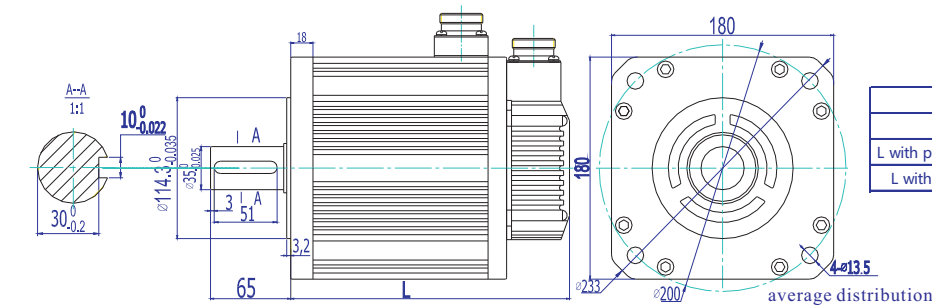
Specifications	2Nm	4Nm	5Nm	6Nm
L without brake	159	189	204	219
L with permanent magnet brake	215	245	260	275
L with electromagnetic brake	233	263	278	293



Specifications	4Nm		5Nm		6Nm		7.7Nm		10Nm		15Nm	
	1000r	1500r	1500r	2500r	1500r	2500r	1500r	2500r	1500r	2500r	1500r	2500r
L without brake	166	171	179	192	213	209	241	231				
L with permanent magnet brake	236	241	249	262	283	279	311	301				
L with electromagnetic brake	223	228	236	249	294	290	322	312				

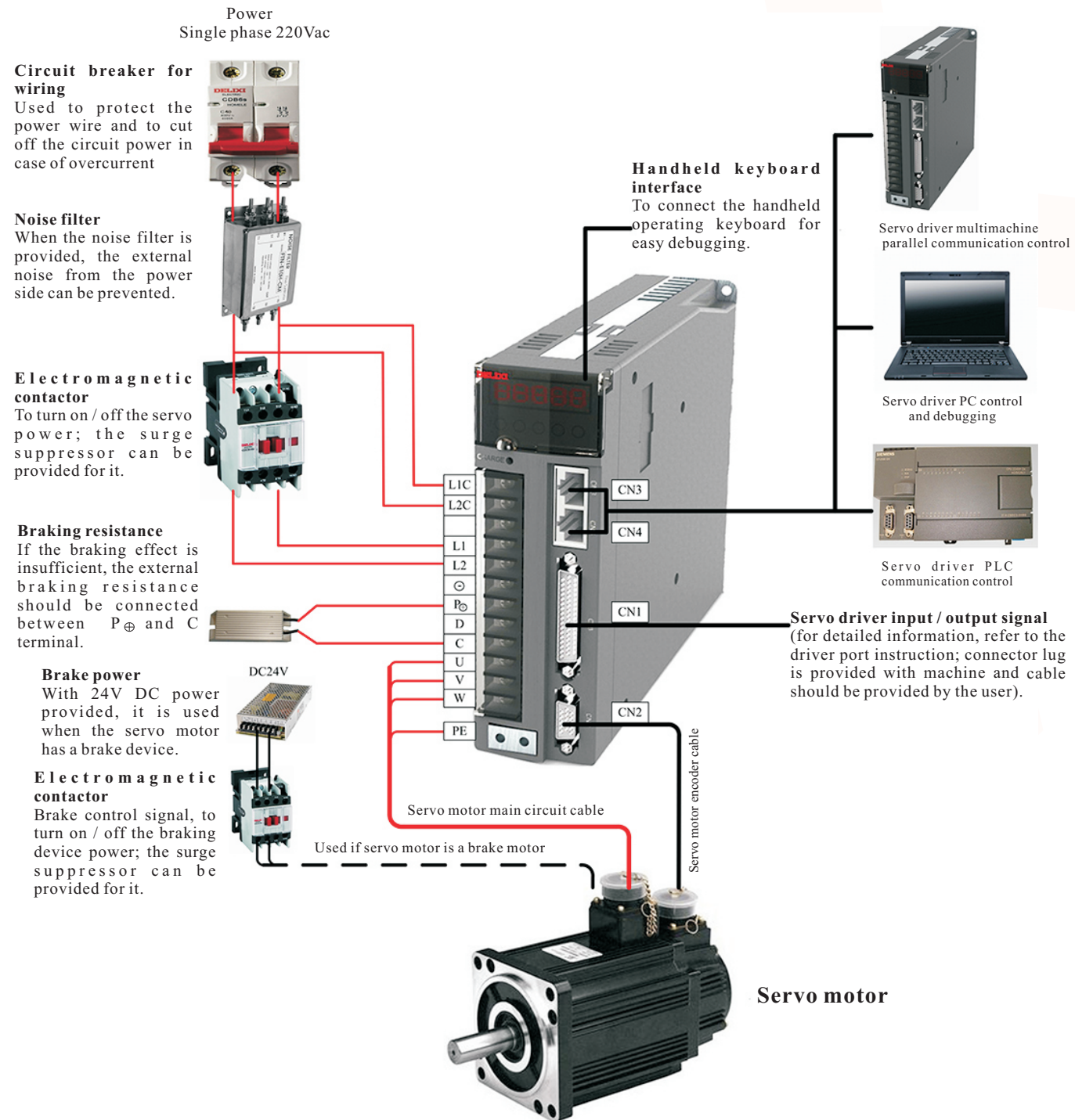


Specifications	15Nm		18Nm	23Nm	27Nm
	2000r	2500r			
L without brake	230	230	248	278	302
L with electromagnetic brake	303	303	321	351	375

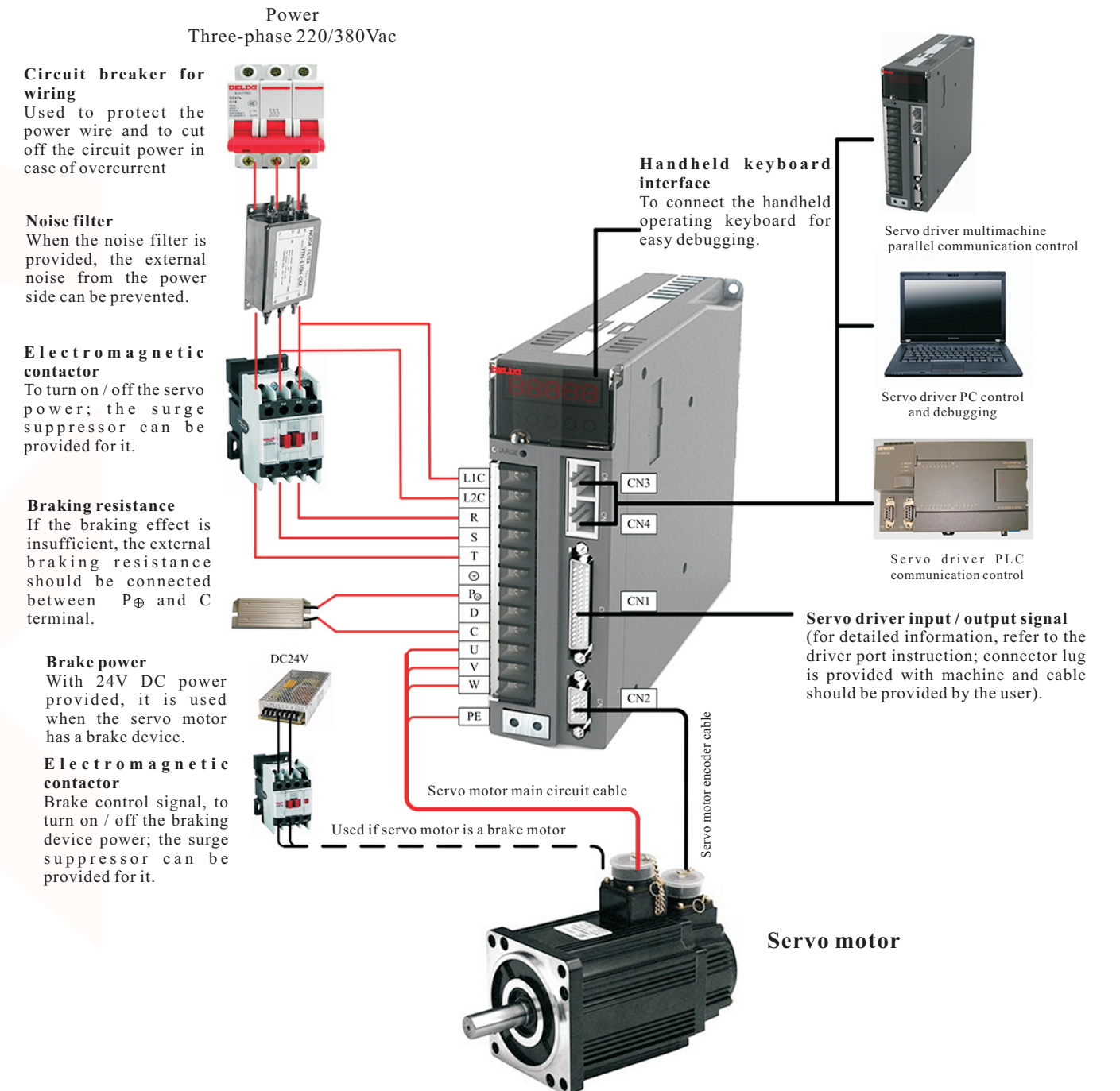


Specifications	17.2Nm	19Nm	21.5Nm	27Nm	35Nm	48Nm
L without brake	226	232	243	262	292	346
L with permanent magnet brake	308	314	325	344	382	436
L with electromagnetic brake	298	304	315	334	364	418

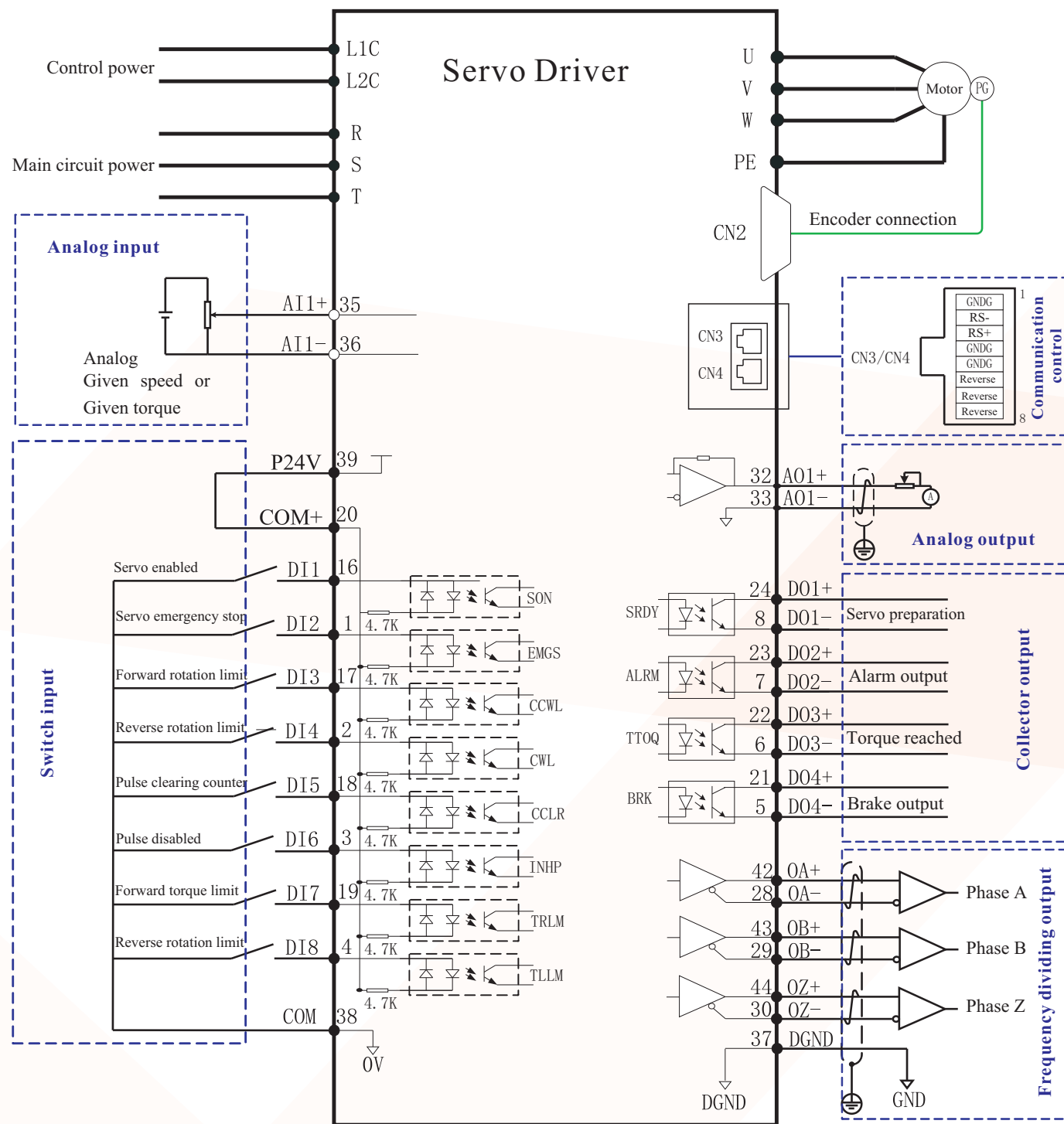
▶▶▶ Recommended 220V servo system wiring



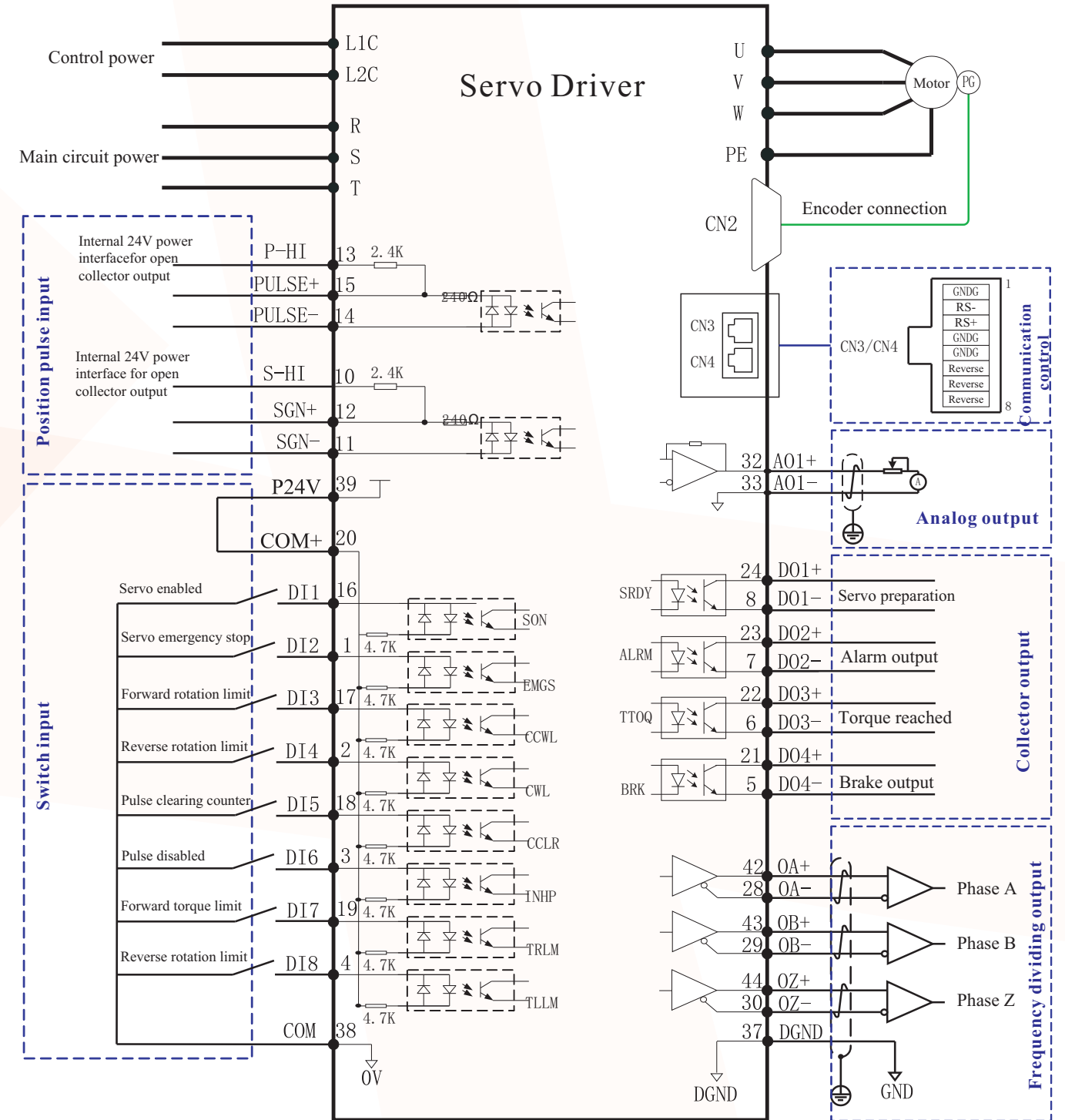
▶▶▶ Recommended 380V servo system wiring



▶▶▶ Speed / Torque control mode wiring diagram



▶▶▶ Position control mode wiring diagram



▶▶▶ Recommended 2500 line encoder system combination I

Recommended driver single / three-phase 220V input combination						
Motor No.	Servo motor			Servo driver		
	Rated power (kW)	Rated torque (N•m)	Rated current (A)	Model	Rated current (A)	
H.0100	0.05	0.16	0.4	CDM-40S-M00130	CDS500-2S016M	1.6
H.0101	0.1	0.32	1.1	CDM-40S-M00330		
H.0200	0.2	0.637	1.8	CDM-60S-M00630	CDS500-2S030M	3
H.0201	0.4	1.27	2.8	CDM-60S-M01330		
H.0202	0.6	1.91	3.5	CDM-60S-M01930	CDS500-2S045M	4.5
H.0300	0.4	1.27	2	CDM-80S-M01330	CDS500-2S030M	3
H.0301	0.75	2.39	3	CDM-80S-M02430		
H.0302	0.73	3.5	3	CDM-80S-M03520		
H.0303	1.1	3.5	4.5	CDM-80S-M03530		
H.0304	1	4	4.4	CDM-80S-M04025	CDS500-2S045M	4.5
H.0305	1.2	4	4.5	CDM-80S-M04030		
H.0400	0.75	2.4	3	CDM-90S-M02430	CDS500-2S030M	3
H.0401	0.73	3.5	3	CDM-90S-M03520		
H.0402	1	4	4	CDM-90S-M04025	CDS500-2S045M	4.5
H.0500	1	3.2	5	CDM-100S-M03230	CDS500-2S060M	6
H.0501	2	6.4	9.9	CDM-100S-M06430	CDS500-2S100M	10
H.0600	0.6	2	2.5	CDM-110S-M02030	CDS500-2S030M	3
H.0601	0.8	4	3.5	CDM-110S-M04020	CDS500-2S045M	4.5
H.0602	1.2	4	5	CDM-110S-M04030	CDS500-2S060M	6
H.0603	1.5	5	6	CDM-110S-M05030		
H.0604	1.2	6	4.5	CDM-110S-M06020	CDS500-2S045M	4.5
H.0605	1.8	6	6	CDM-110S-M06030	CDS500-2S060M	6
H.0700	1	4	4	CDM-130S-M04025	CDS500-2S045M	4.5
H.0701	1.3	5	5	CDM-130S-M05025	CDS500-2S060M	6
H.0702	1.5	6	6	CDM-130S-M06025		
H.0703	1.1	7.7	4.7	CDM-130S-M07715		
H.0704	2	7.7	7.5	CDM-130S-M07725	CDS500-2S100M	10
H.0705	1	10	4.5	CDM-130S-M10010	CDS500-2S045M	4.5
H.0706	1.5	10	6	CDM-130S-M10015	CDS500-2S060M	6
H.0707	2.6	10	10	CDM-130S-M10025	CDS500-2S100M	10
H.0708	2.3	15	9.5	CDM-130S-M15015		
H.0709	3.8	15	13.5	CDM-130S-M15025	CDS500-2T140M	14
H.0800	3.8	15	17	CDM-150S-M15020	CDS500-2T140M	14
H.0801	3	15	14	CDM-150S-M15025	CDS500-2T200M	20
H.0802	3.6	18	17	CDM-150S-M18020		
H.0901	2.5	17	10	CDM-180S-M17015	CDS500-2S100M	10
H.0902	3	19	12	CDM-180S-M19015	CDS500-2T140M	14
H.0903	4.5	21.5	14	CDM-180S-M21520		
H.0905	4.3	27	16	CDM-180S-M27015	CDS500-2T200M	20
H.0906	3.7	35	16	CDM-180S-M35010		

▶▶▶ Recommended 2500 line

Recommended driver single / three-phase 380V input combination						
Motor No.	Servo motor			Servo driver		
	Rated power (kW)	Rated torque (N•m)	Rated current (A)	Model	Rated current (A)	
H.0710	1	10	2.5	CDM-130T-M10010	CDS500-4T085M	8.5
H.0711	1.5	10	3.5	CDM-130T-M10015		
H.0712	2.6	10	6	CDM-130T-M10025		
H.0713	2.3	15	5	CDM-130T-M15015		
H.0714	3.8	15	8.8	CDM-130T-M15025	CDS500-4T120M	12
H.0715	2	7.7	4.8	CDM-130T-M07725	CDS500-4T085M	8.5
H.0716	1	4	2.6	CDM-130T-M04025		
H.0717	1.3	5	3	CDM-130T-M05025		
H.0718	1.5	6	4	CDM-130T-M06025	CDS500-4T085M	8.5
H.0910	2.5	17	6.5	CDM-180T-M17015		
H.0912	3	19	7.5	CDM-180T-M19015	CDS500-4T120M	12
H.0913	4.5	21.5	9.5	CDM-180T-M21520		
H.0915	4.3	27	10	CDM-180T-M27015		
H.0916	3.7	35	10	CDM-180T-M35010		
H.0917	5.5	35	12	CDM-180T-M35015	CDS500-4T200M	20
H.0918	7.5	48	20	CDM-180T-M48015		

Notes:

1、The motor No. naming is as follows:

2500 line incremental photoelectric encoder: H.0xxx

17-bit absolute encoder: H.2xxx

23-bit absolute encoder: H.3xxx

2、Driver 2S compatible single-phase AC 220V and three-phase AC 220V input, with three-phase AC 220V input supported for 2T model.

▶▶▶ Recommended 23-bit encoder system combination I

▶▶▶ Recommended 23-bit encoder

Recommended driver single / three-phase 220V input combination						
Motor No.	Servo motor			Servo driver		
	Rated power (kW)	Rated torque (N·m)	Rated current (A)	Model	Model	Rated current (A)
H.3100	0.05	0.16	0.4	CDM-40S-H00130	CDS500-2S016H	1.6
H.3101	0.1	0.32	1.1	CDM-40S-H00330		
H.3200	0.2	0.637	1.8	CDM-60S-H00630	CDS500-2S030H	3
H.3201	0.4	1.27	2.8	CDM-60S-H01330		
H.3202	0.6	1.91	3.5	CDM-60S-H01930	CDS500-2S045H	4.5
H.3300	0.4	1.27	2	CDM-80S-H01330	CDS500-2S030H	3
H.3301	0.75	2.39	3	CDM-80S-H02430		
H.3302	0.73	3.5	3	CDM-80S-H03520	CDS500-2S045H	4.5
H.3303	1.1	3.5	4.5	CDM-80S-H03530		
H.3304	1	4	4.4	CDM-80S-H04025		
H.3305	1.2	4	4.5	CDM-80S-H04030	CDS500-2S030H	3
H.3400	0.75	2.4	3	CDM-90S-H02430		
H.3401	0.73	3.5	3	CDM-90S-H03520	CDS500-2S045H	4.5
H.3402	1	4	4	CDM-90S-H04025	CDS500-2S060H	6
H.3500	1	3.2	5	CDM-100S-H03230	CDS500-2S100H	10
H.3501	2	6.4	9.9	CDM-100S-H06430	CDS500-2S030H	3
H.3600	0.6	2	2.5	CDM-110S-H02030	CDS500-2S045H	4.5
H.3601	0.8	4	3.5	CDM-110S-H04020	CDS500-2S060H	6
H.3602	1.2	4	5	CDM-110S-H04030		
H.3603	1.5	5	6	CDM-110S-H05030	CDS500-2S045H	4.5
H.3604	1.2	6	4.5	CDM-110S-H06020	CDS500-2S060H	6
H.3605	1.8	6	6	CDM-110S-H06030	CDS500-2S045H	4.5
H.3700	1	4	4	CDM-130S-H04025	CDS500-2S060H	6
H.3701	1.3	5	5	CDM-130S-H05025	CDS500-2S100H	10
H.3702	1.5	6	6	CDM-130S-H06025		
H.3703	1.1	7.7	4.7	CDM-130S-H07715	CDS500-2S045H	4.5
H.3704	2	7.7	7.5	CDM-130S-H07725	CDS500-2S060H	6
H.3705	1	10	4.5	CDM-130S-H10010	CDS500-2S100H	10
H.3706	1.5	10	6	CDM-130S-H10015		
H.3707	2.6	10	10	CDM-130S-H10025	CDS500-2T140H	14
H.3708	2.3	15	9.5	CDM-130S-H15015	CDS500-2T140H	14
H.3709	3.8	15	13.5	CDM-130S-H15025		
H.3800	3.8	15	17	CDM-150S-H15020	CDS500-2T200H	20
H.3801	3	15	14	CDM-150S-H15025		
H.3802	3.6	18	17	CDM-150S-H18020	CDS500-2S100H	10
H.3901	2.5	17	10	CDM-180S-H17015	CDS500-2T140H	14
H.3902	3	19	12	CDM-180S-H19015		
H.3903	4.5	21.5	14	CDM-180S-H21520	CDS500-2T200H	20
H.3905	4.3	27	16	CDM-180S-H27015		
H.3906	3.7	35	16	CDM-180S-H35010		

Recommended driver single / three-phase 380V input combination						
Motor No.	Servo motor			Servo driver		
	Rated power (kW)	Rated torque (N·m)	Rated current (A)	Model	Model	Rated current (A)
H.3710	1	10	2.5	CDM-130T-H10010	CDS500-4T085H	8.5
H.3711	1.5	10	3.5	CDM-130T-H10015		
H.3712	2.6	10	6	CDM-130T-H10025		
H.3713	2.3	15	5	CDM-130T-H15015	CDS500-4T120H	12
H.3714	3.8	15	8.8	CDM-130T-H15025		
H.3715	2	7.7	4.8	CDM-130T-H07725	CDS500-4T085H	8.5
H.3716	1	4	2.6	CDM-130T-H04025		
H.3717	1.3	5	3	CDM-130T-H05025		
H.3718	1.5	6	4	CDM-130T-H06025	CDS500-4T085H	8.5
H.3910	2.5	17	6.5	CDM-180T-H17015		
H.3912	3	19	7.5	CDM-180T-H19015	CDS500-4T120H	12
H.3913	4.5	21.5	9.5	CDM-180T-H21520		
H.3915	4.3	27	10	CDM-180T-H27015		
H.3916	3.7	35	10	CDM-180T-H35010	CDS500-4T200H	20
H.3917	5.5	35	12	CDM-180T-H35015		
H.3918	7.5	48	20	CDM-180T-H48015		

Notes:

- The motor No. naming is as follows:
 2500 line incremental photoelectric encoder: H.0xxx
 17-bit absolute encoder: H.2xxx
 23-bit absolute encoder: H.3xxx
- Driver 2S compatible single-phase AC 220V and three-phase AC 220V input, with three-phase AC 220V input supported for 2T model.
- 17-bit photoelectric encoder and 17-bit magnetoelectric encoder refer to the above table.

Wide application area I

■ Packaging industry

The pulling on machine belongs to the packaging machinery industry, and is widely used in various paper packing boxes. Currently, manipulators and vision system are widely used in the market having disadvantages of high cost, more complex debugging, and higher technical skills and field environment requirements for operators. The use of pulling on machine equipping with servo and color mark sensor according to the mark needs has a larger advantage on cost, with simple debugging and lower requirements for technical skills and field environment for operator. Therefore, the later has a wider product range, a better market prospect. This system has 7-shaft and 8-shaft pulling up machine models, equipping with our company's an athletic 64-dot PLC, three 16-dot I/O extension modules, two 7-inch touch screen, a 0.75KW inverter and 7 or 8 sets of 17-bit servos.



Tap winding machine is the other model derived by the winding machine. This machine is used to package and store the complex products, effectively improving the production efficiency in the emprise. In this application, our company's CHD-B070E series touch screen (1 set), CDC1 series standard PLC (1 set), CDS300 series or CDS500 series servo drives (3 sets) are used to realize the packaging scheme for the entire set of the electrical system, featuring with low cost, high efficiency and convenient maintenance.



■ Foods industry

Discs arranging machine is used to arrange the various formed foods on the baking tray automatically and efficiently. In this application, our company's CHD-B070E series touch screen (1 set), CDC1 series standard PLC (1 set), CDS500 series servo drivers (2 sets), and EM60 series inverter (1 set) are used to realize the packaging scheme of the entire set of electrical system, featuring with low cost, high efficiency and easy maintenance.



This system has three-shaft ultrasonic blade milling model, five-shaft or six-shaft block and sheet cutting model, and eight-shaft round and triangle cutting model. The overall system solution can be provided to the customer including various model solution design, electrical drawing provision, PLC and touch screen procedure programming, late system debugging, technician training and late technical maintenance.



Wide application area II

■ Cable industry

Wire twisting machine is a twisting and mechanical equipment widely used in various soft / hard conductor wires to twist multiple single conductor wires into a strand to meet the wire process requirements. In this application, our company's CHD-B070E series touch screen (1 set), CDC1 series standard PLC (1 set), CDS300 series or CDS500 series servo driver (1 set) and EM60 series inverters (5 sets) are used to the packaging scheme of the entire set of electrical system, featuring with low cost, high efficiency and easy maintenance.



■ Woodworking industry

There are many actual applications in the metal processing machinery including lathe, planer, milling machine, grinding machine, drilling machine, engraving machine, craving machine, sawing machine, punch press, cold-rolled machinery, hot-rolled machinery, covering machine, and roller forming machine, providing high accuracy, fast response, stable speed to greatly improve the working efficiency.



■ Woodworking industry

In the application, our company's CDS500 series servo driver is used in X shaft and Y shaft. Spindle motor uses EM60 series inverter, system uses CDC series side hole machine dedicated controller, and the touch screen uses Delixi CDH-B070E series, realizing the packaging scheme for the entire set of the electrical system, featuring with low cost, high efficiency and convenient maintenance.



Cutting machine is used to cut one sheet into different size and specification pieces, which is a special equipment for cutting, drilling and groove milling the customized panel furniture. For example, some furniture such as cabinet, wooden door, beds and chairs use our company's DK60 series inverter on the spindle motor to realize fast start and stop and quick cutter changing function; servo driver uses CDS500 series to achieve the fast and accurate the cutting, drilling and groove milling operations with the operation and control of the host system.

▶▶▶ Servo system cable connector specification

Cable connector specification			
Servo motor and driver cable diagram			
Cable name	Cable model	Length of L cable (m)	Cable view
Servo motor main circuit cables	S3LMA11-3.0	3	
	S3LMA11-5.0	5	
	S3LMA11-10.0	10	
	S3LMB12-3.0	3	
	S3LMB12-5.0	5	
	S3LMB12-10.0	10	
	S3LMB13-3.0	3	
	S3LMB13-5.0	5	
	S3LMB13-10.0	10	
	S3LMB23-3.0	3	
	S3LMB23-5.0	5	
	S3LMB23-10.0	10	
	S3LMB24-3.0	3	
	S3LMB24-5.0	5	
	S3LMB24-10.0	10	
S3LMC11-3.0	3		
S3LMC11-5.0	5		
S3LMC11-10.0	10		
Servo motor encoder cable	S3LPA11-3.0	3	
	S3LPA11-5.0	5	
	S3LPA11-10.0	10	
	S3LPB11-3.0	3	
	S3LPB11-5.0	5	
	S3LPB11-10.0	10	
	S3LP2C11-3.0	3	
	S3LP2C11-5.0	5	
	S3LP2C11-10.0	10	
	S3LP2B11-3.0	3	
	S3LP2B11-5.0	5	
	S3LP2B11-10.0	10	
	S3LP21C11-3.0	3	
	S3LP21C11-5.0	5	
	S3LP21C11-10.0	10	
S3LP21B11-3.0	3		
S3LP21B11-5.0	5		
S3LP21B11-10.0	10		