

COTRUST

Focus on Industrial Control
Driving the Intelligent Future

PLC | Motion control | Servo drive | HMI | Dedicated system | Software

 COTRUST TECHNOLOGIES CO., LTD.

ADD: 9/F, Block A Building 6Shenzhen International Innovation
ValleyDashi 1st Road,Nanshan District, Shenzhen

E-mail: sales@co-trust.com

Https: //www.co-trust.com

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SERVO DRIVE SYSTEM

CATALOGUE-2023

COTRUST TECHNOLOGIES CO., LTD.

COTRUST Overview

COTRUST Technologies Co., Ltd. founded in 2003, is dedicated to R&D, manufacturing and sales of industrial automation control products. Relying on high quality, high performance automation control products and solutions to create maximum value for customers, determined to become the world's leading industrial automation solutions supplier.

As a high-tech enterprise, COTRUST provides a wide business coverage of intelligent equipment & robot, new energy vehicles, industrial Internet, smart factory. Main products include PLC, Motion control & servo drive, HMI, dedicated control system and automation software MagicWorks programming software (PLC/HMI/TUNER/OPC), the new launch MiCo remote solution, multi-robot cooperative control system widely used in customer solutions.

COTRUST built a long-term partnerships with customers. To achieve this, COTRUST offers more than just products: working with COTRUST gives customers access to leading integrated manufacturing and R&D facilities, as well as highly skilled engineering and industry specialists.

COTRUST invests 10% of revenues and 40% of employees in R&D, owned more than 30 trademark registration and 140 patents with certificates (including invention, utility models and appearance). Uses a uniquely rigorous engineering process that incorporates advanced design modelling, performance analysis and quality assurance techniques for improve production capacity continuously and promote sustainable development.

On the basis of owning industrial automation technologies with proprietary intellectual property rights, COTRUST perseveres in industry marketing and providing total solution to customers in segment market and achieves growth of both enterprise value and customer value.

Focus on Industrial Control Driving the Intelligent Future



Servo drive system

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Rich variety of products

Integration of various control functions

High reliability



CTH200 series Ethernet PLC

- Ethernet mini PLC
- Integrated Ethernet function
- Support remote programming, debugging, monitoring and data exchange
- Integrated fuzzy logic PID algorithm for temperature control
- Supports positioning, speed, backtracking and interpolation



CTMC series motion control PLC

- Integrated Ethernet function
- Support 16 axis EtherCAT motion control
- Support 10 axis 200KHz high speed pulse output
- Support straight line/arc/continuous interpolation
- Support electronic CAM, chasing shear function
- Suitable for OEM multi-axis motion control system



CTH300 series medium PLC

- One platform, two architectures
- Multiple fieldbuses are supported
- Suitable for high-end OEM equipment
- Meet the requirements of medium and large engineering projects
- Apply to complex motion control domain



CTL Series Distributed Remote I/O

- Two network adapter modules (ECT/PN)
- Supports 16 extended IO modules (DIT/DQT)
- Stable communication and compact real-time transmission structure.
- Easier to use pluggable terminals and convenient to install and maintain.



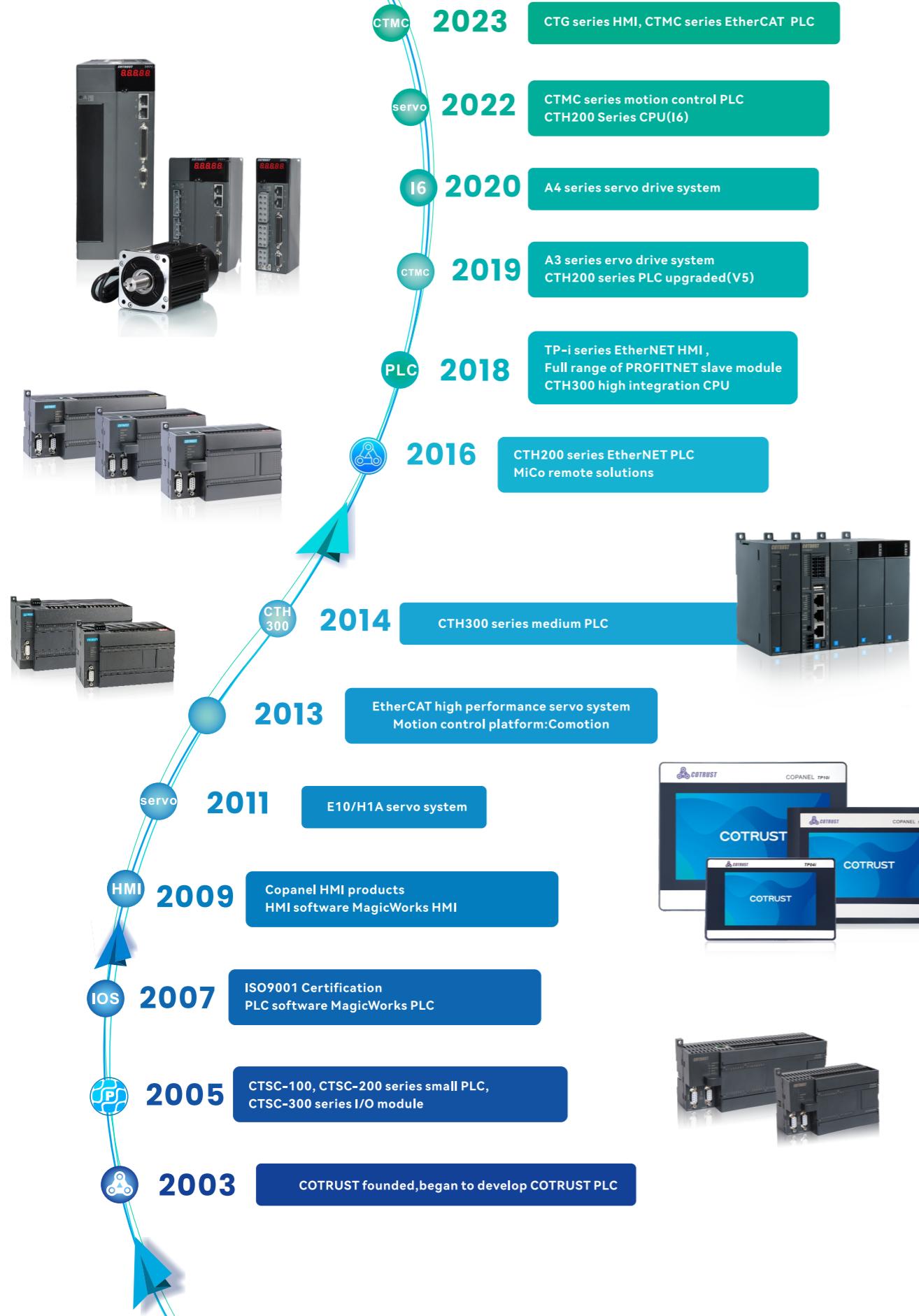
Servo drive system

- Power range 100W-7.5kW
- Support Modbus and CANopen protocols
- Support EtherCAT protocol
- Optional support 2500 line incremental encoder
- Optional support 17Bit bus absolute encoder



Human Machine Interface(HMI)

- Extensible wifi module with integrated Ethernet interface
- Seamless connection and remote interaction with MiCo client
- High-speed quad-core processor
- Multiple Network port communication
- Support remote download
- Support 4G module and WiFi module.



COTRUST—OEM automation solution expert



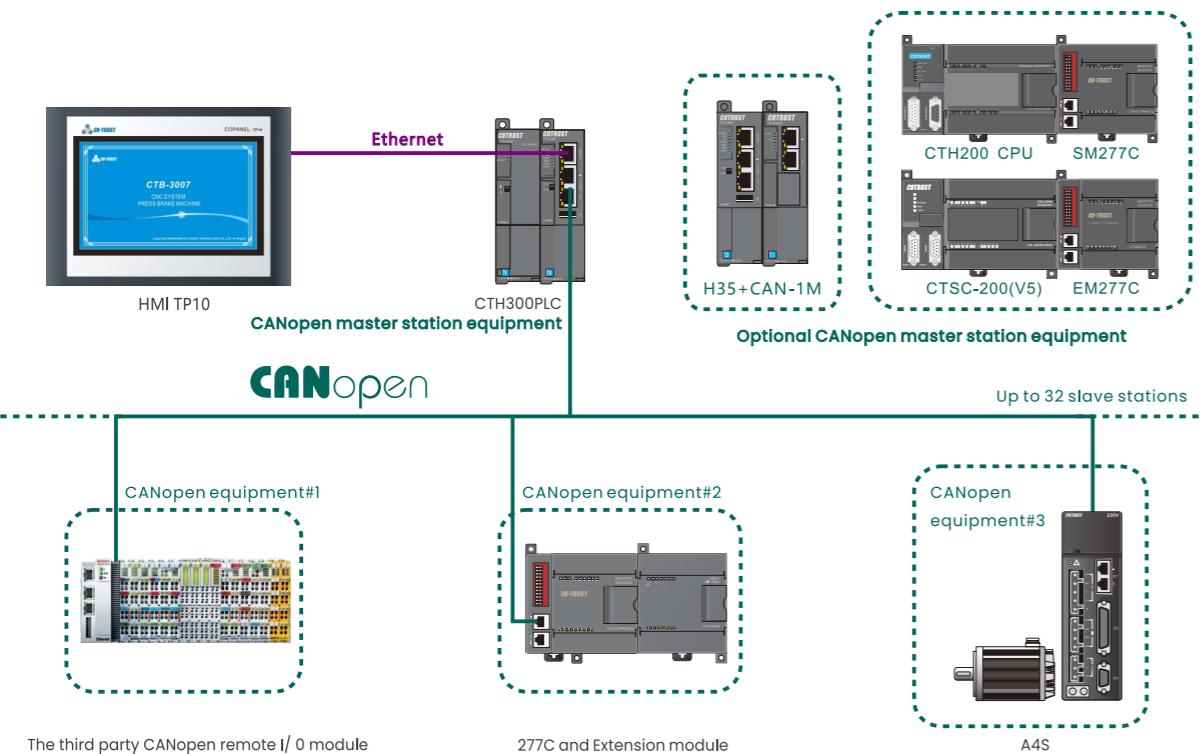
COTRUST high-performance servo drive system includes A4 series AC servo and matching motor. Cooperation with COTRUST multi-axis motion control PLC, using COTRUST motion control library, can greatly improve the ease of use and operation stability of the co-service system, suitable for some complex control systems need positioning, synchronization, interpolation functions.

A4S series AC servo can support CANopen protocol, and can be connected with COTRUST CTH300, CTH200, CTMC, CTSC-200 and other hosts to form a CANopen bus-based control servo system. The configuration is simple and convenient, the system control anti-noise ability is strong, with outstanding real-time and flexibility. A4N series AC servo can form a comprehensive motion control platform CoMotion with COTRUST CTH3-C series motion controller and Copanel series HMI. With 100Mbps high-speed motion bus EtherCAT, rich motion control instructions, electronic gear/electronic CAM synchronization functions can be realized. At the same time with CNC machine tool control function, support five axis linkage.

Cooperation with our high-performance PLC products or motion controllers based on EtherCAT, CANopen and other bus can be widely used in textile machinery, food processing machinery, packaging machinery, glass and woodworking machinery, electronic equipment, printing machinery, injection molding machines and any other industries.

CANopen communication

COTRUST PLC and servo drives products all support CANopen communication



Scheme characteristics:

- Simple and convenient wiring**

The servo driver comes with dual RJ45 interfaces, and can communicate directly with ordinary standard network cables.

- Easy to use configuration**

The upper computer of Magicworks PLC completes parameter configuration, and users can directly control multiple servos on PLC.

- Strong expansion**

CANopen communication network allows one master and many slaves, and a single network can support up to 32 slave stations, thus easily realizing distributed control. Moreover, CTH3-H series PLC allows expansion of multiple CANopen master station modules, with stronger expansion capability.

- Efficient and reliable**

The maximum transmission rate can reach 1Mbps, and the longest transmission distance can reach 2.5KM, which ensures real-time communication of the communication network.

EtherCAT communication

As an important member of EtherCAT solution, A4N series servo drivers realize 128-axis communication through 100Mbps Ethernet communication speed. The synchronous refresh cycle only takes 1ms, which has high real-time performance; The driver with its own dual network ports can form a communication ring network, and the communication network is safe and reliable. Simple wiring, controller it only needs a universal network cable to connect with the driver, and there is no need for complicated wiring. The communication distance is long, and the maximum connection distance between stations is 100m.

The Fast Fieldbus

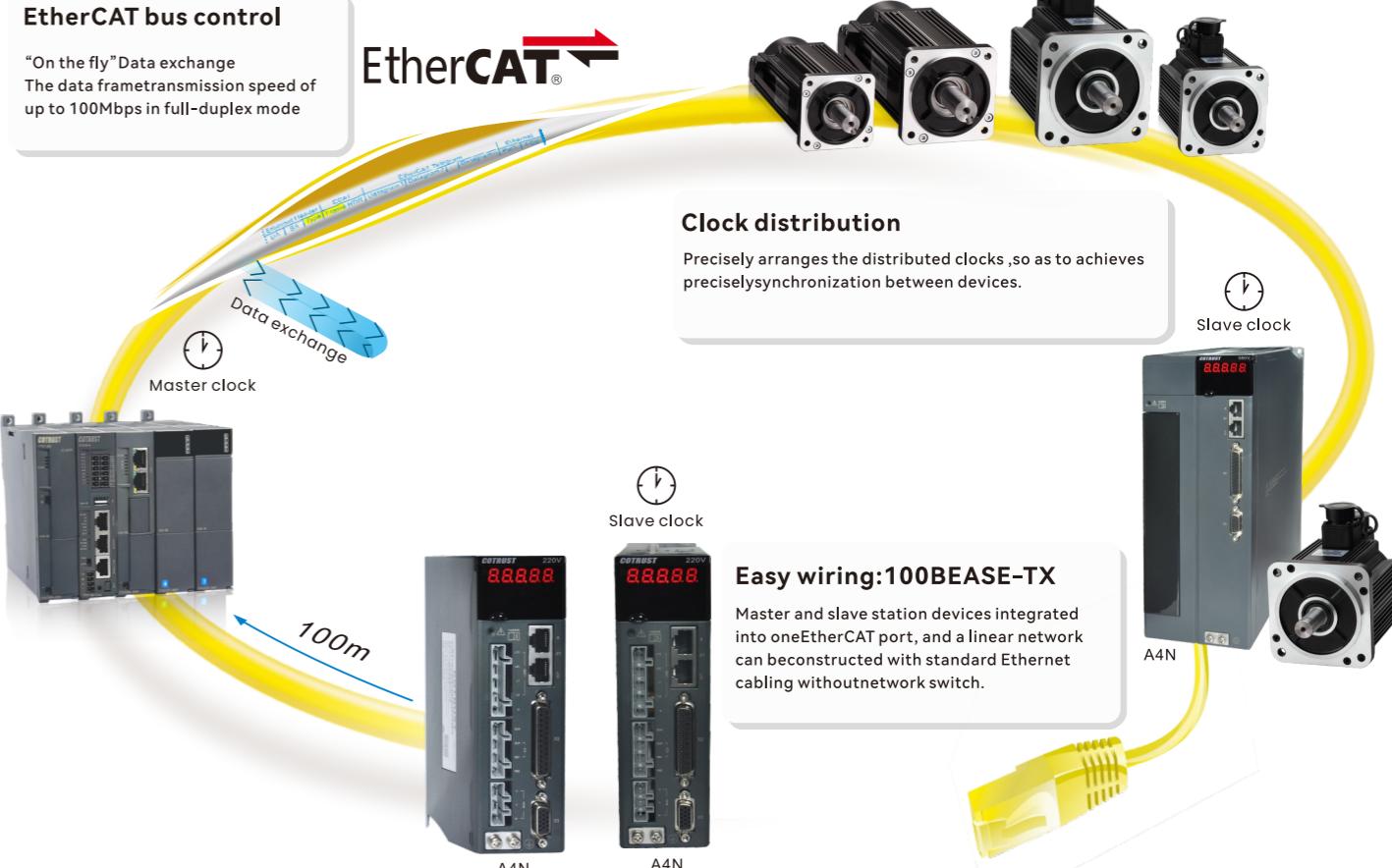
- 100Mbps high-speed EtherCAT bus, allowing access to 128 axes in 1ms scanning period.
- Based on 100BASE-TX cable, full duplex mode, high transmission speed and high reliability communication.

Powerful motion control

- A4N series drivers support standard CoE(CIA 402 protocol), and support PP, PV, PT, CSP, CSV, CST and HM modes. With CTH3-C motion control CPU, it can support rich single-axis instructions of standard PLCopen standard and synchronous function instructions such as electronic gear/cam.

EtherCAT bus control

"On the fly" Data exchange
The data frametransmission speed of up to 100Mbps in full-duplex mode



Powerful motion control

Adopt high-performance motion control software platform, embedded with single axis or multi-axis Axle control algorithm and instruction

Stable and reliable

Fully isolated digital system has a strong adaptability in harsh industrial environments through the COTRUTS strict anti-interference test standards

A4 Series A4S/A4N

AC servo driver



Power range

- Size-A:0.1KW~1KW
- Size-C:1.5KW~3KW
- Size-E:4.5KW~7.5KW

A4S standard servo driver

- Power range: 100W-7.5KW
- Speed ring bandwidth 1.2KHz
- Support high speed pulse input control mode, differential mode 500KHz, collector mode 200KHz
- Support MODBUS RTU and CANopen communication protocols
- Optional support 2500 line incremental encoder and 17Bit bus absolute encoder
- Support vibration suppression, rigid class selection, inertia recognition

S Standard type: **CANopen**

A4N standard servo driver

- Power range: 100W-7.5KW
- Speed ring bandwidth 1.2KHz
- Support MODBUSRTU and EtherCAT communication protocols;
- Support two channel probe assist function, latched position
- Optional support 2500 line incremental encoder and 17Bit bus absolute encoder;
- Support vibration suppression, rigid class selection, inertia recognition.

N Network type: **EtherCAT®**

Perfect product range

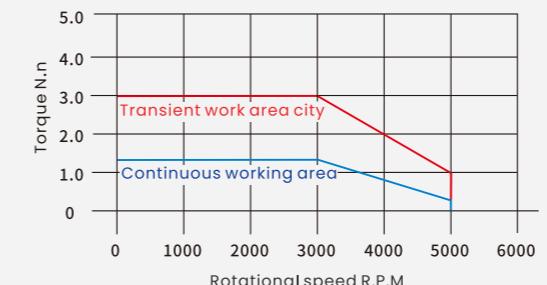
Servo power range :100W~7.5kw;
Various drive types:

- ◆ Pulse control type,
- ◆ Analog voltage input control type
- ◆ MODBUS RTU Communication control mode
- ◆ CANopen communication control type
- ◆ EtherCAT bus control type:

Various types of motor support:
Multiple encoders, magnetic, optical (2500 line
incremental /17bit absolute); Spin (reserved).

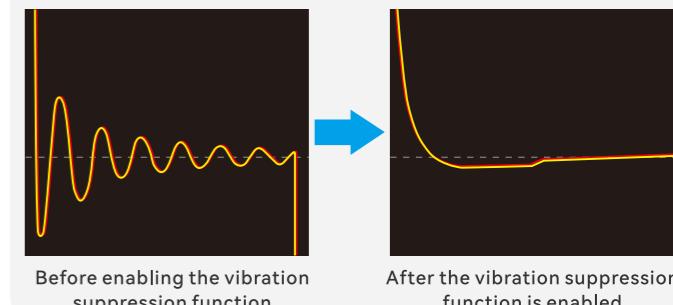
High speed

5000rpm high speed 300% torque output,40/80 flange motor



Vibration suppression

Action: To overcome low frequency mechanical resonance and
positioning end swing phenomenon with large inertia load



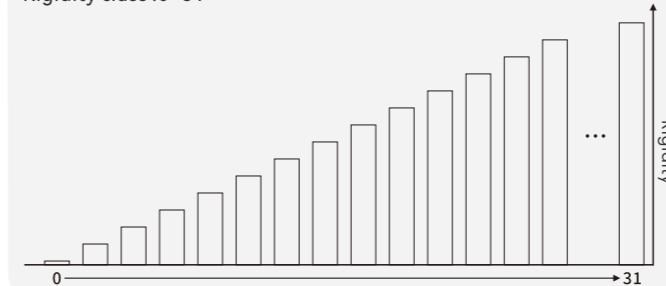
Low torque and stable speed.

Low torque stability control speed: When A4 is controlled at low speed and 1rpm, the torque fluctuates by 0.5%.



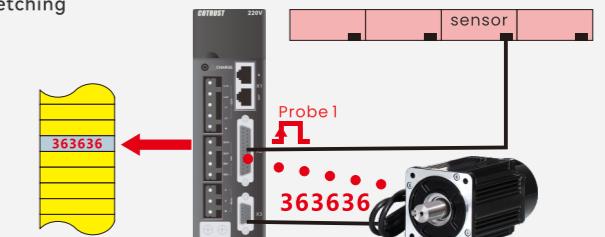
Support rigid class selection

Rigidity class :0~31



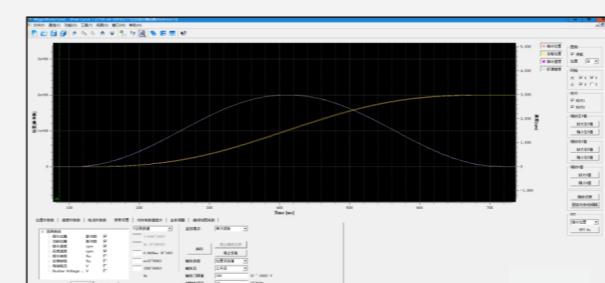
Supports two probes

Probe function: high-speed DI can capture instantaneous position coordinates, response time 2us; Supports two-way high-speed DI fetching



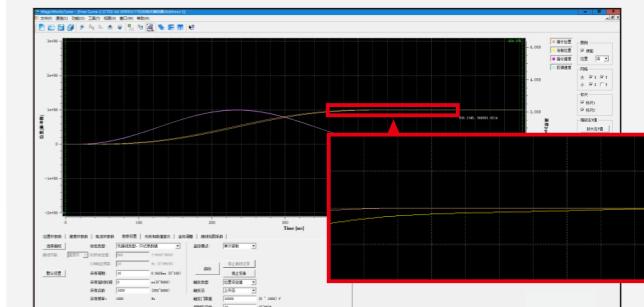
Support optional curve,Convenient debugging

MagicWorks Tunner Optional Curve: Users can select monitoring position, speed and torque curves for easy debugging and problem locating

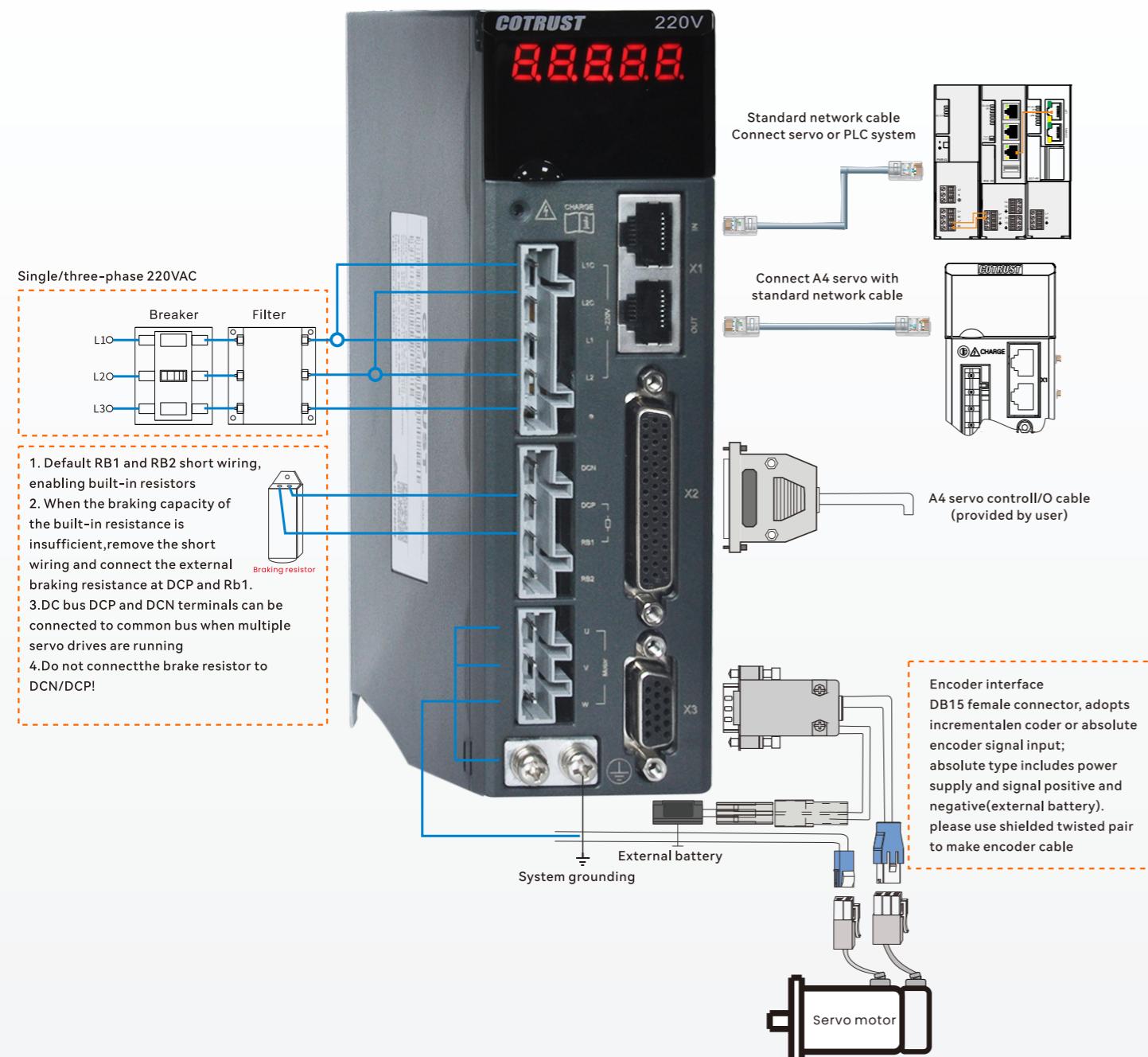


Precise positioning control

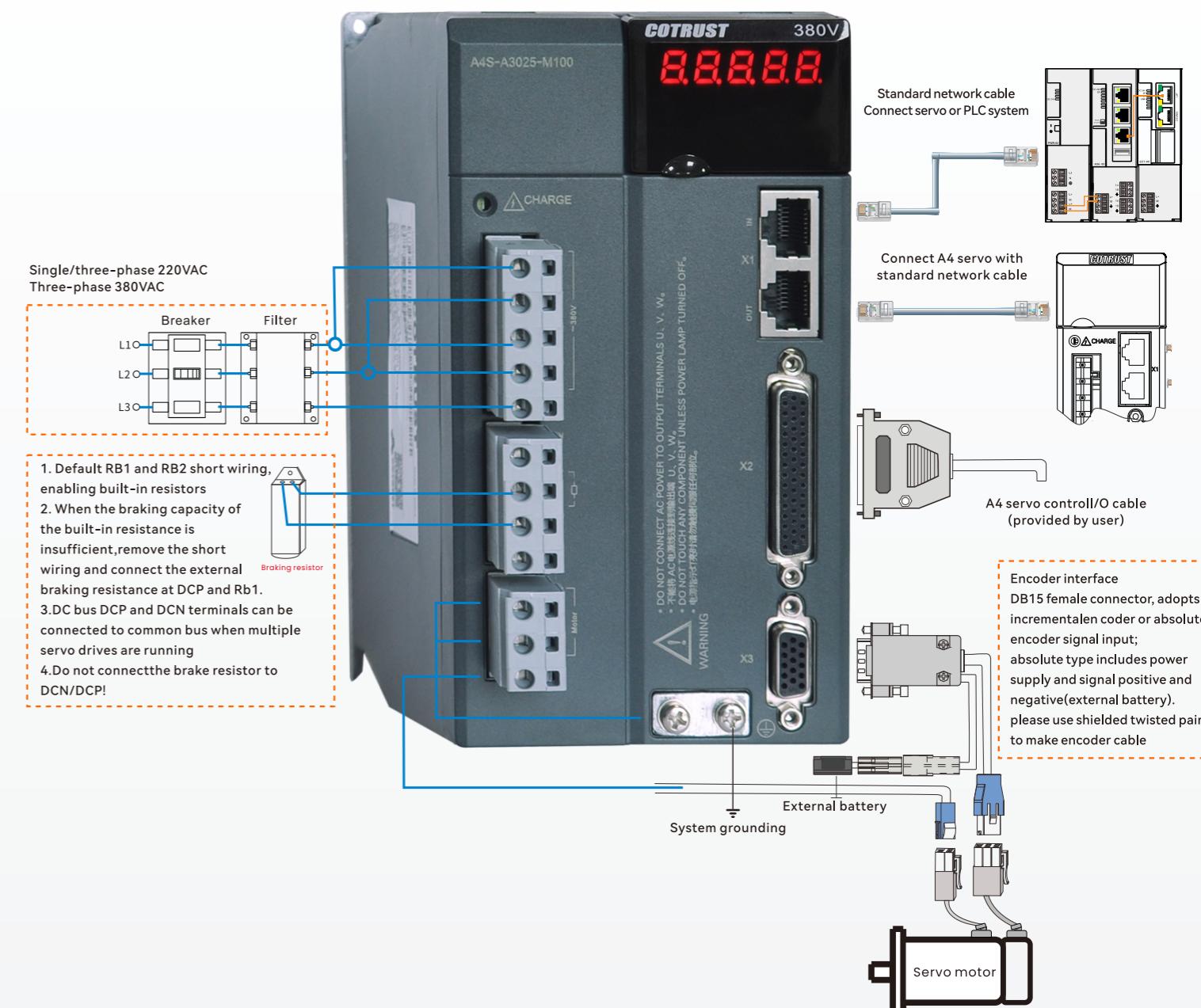
Positioning control, with 10 times inertia load, positioning curve



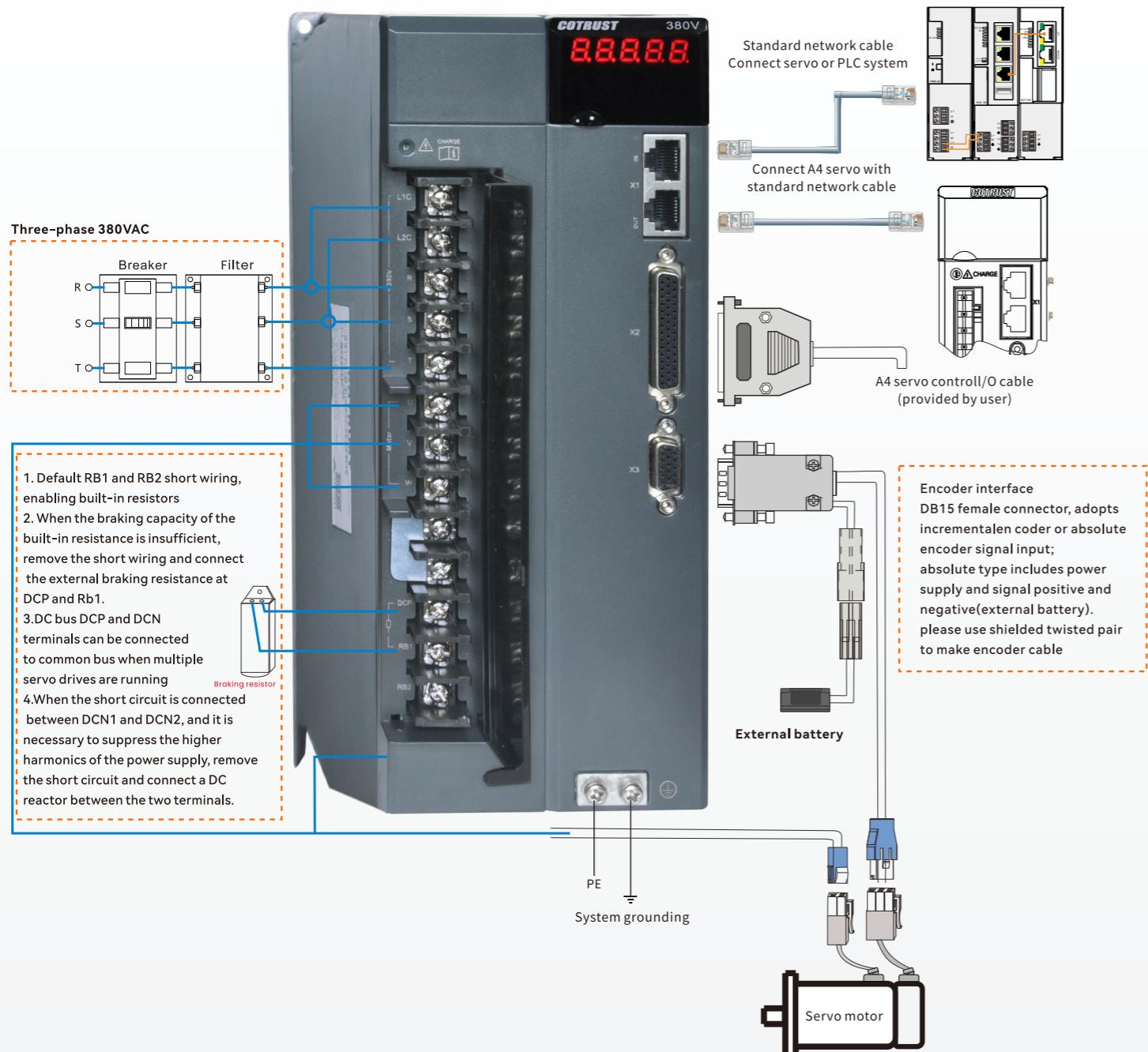
Interface Diagram of A4S/A4N AC Servo Driver (Size-A)



Interface Diagram of A4S/A4N AC Servo Driver (Size-C 220V/380V)



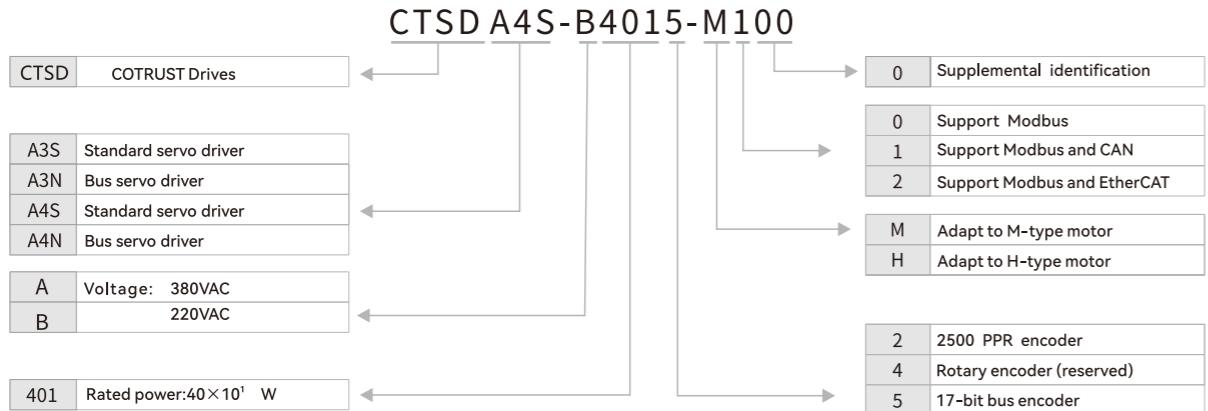
Interface Diagram of A4S/A4N AC Servo Driver (Size-E)



Technical data

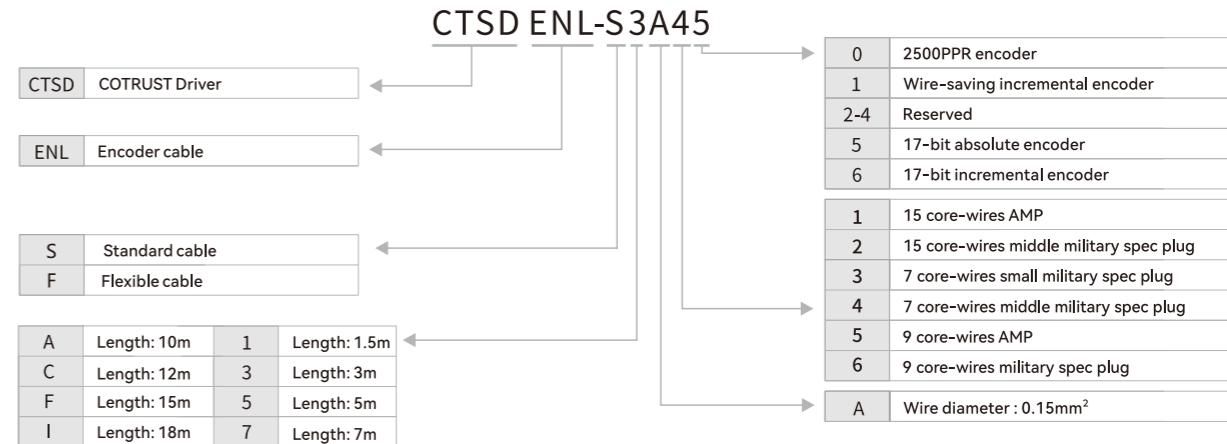
Model description		A4S/A4N			
NOTE :SIZE-A 0.1KW-1.0KW / SIZE-C 1.5KW-3.0KW / SIZE-E4.5KW-7.5KW					
Basic specifications	Input power	Size-A	Single-phase AC220V±10%, 50/60Hz		
		Size-C	Single-phase/Three-phase AC220V±10%, 50/60Hz Three-phase AC380V±10%, 50/60Hz		
		Size-E	Three-phase AC380V±10%, 50/60Hz		
	Main power	Size-A	Single-phase AC220V±10%, 50/60Hz		
		Size-C	Single-phase AC220V±10%, 50/60Hz Single-phase AC380V±10%, 50/60Hz		
		Size-E	Single-phase AC380V±10%, 50/60Hz		
	Encoder feedback		Bus absolute encoder(17-bit) Optical-electricity encoder Rotary encoder(Size-C/E) interface reserved		
	Cooling		By fan(nature cooling for size-A driver which below750W)		
	Controlling		Using FOC (magnetic field positioning control) and SVPWM (space vector modulation)		
	Communication function		Standard ModBus protocol supports broadcasting, and optional support CANopen/EtherCAT protocol		
Built-in brake resistance		Size-A: No built-in brake resistor 100W-400W 50Ω 50W 750W-1.0KW Size-C: 100Ω, 80W Size-E: 40Ω, 100W			
Protection		Overvoltage, undervoltage, overcurrent, overload, overheating, overspeed, communication abnormality, register abnormality, encoder			
Display&buttons		5-digit LED display, 5 key operation/DC bus indicator lights			
Parameter setting		Panel key or MagicWorks Tuner software			
Performance	Velocity variation (in rated rotate speed)	Load variation	0~100%: below 0.1%		
	Voltage variation	Voltage variation	Rated voltage±10% 0%		
	Temperature variation	Temperature variation	25±25°C: below ±0.1%		
	Frequency		2KHz(JL=JM hour)		
Input and output signal	Encoder output	Output type	Differential output, Z phase collector output A4S: 7-channel DI; A4N: 6-channel DI;		
			Positive/negative direction limit, latch and origin signal etc. The pin function can be configured by software to input effective logic level.		
	Digital input		A4S: 4-channel DO; A4N: 3-channel DO;		
	Digital output		Servo ready, alarm output, brake release, command completion output, positioning completion output, speed arrival, torque limit arrival, etc		
Operational environment	Analog input		A4s: 2-channel input A4N: None		
	Analog output		--		
	Position control mode		Maximum input pulse frequency Differential mode 500KHz Collector mode 200KHz		
	Speed control mode		Form of inputpulse signal Pulse and direction, phase-A and phase-B, CW and CCW.		
Instruction control mode		Instructions control mode External pulse instruction /16 segments of communication register instruction			
Feedforward compensation		Feedforward compensation 0~1000%(set resolution as1%)			
Positioning error setting		Positioning error setting 0~32767 instruction units (set resolution as 1 unit)			
Electronic gear ratio		The electronic gear ratio is N/M times, n: 1 ~ 10000 (2500-line photoelectric encoder): 1~65535.(17-bit bus encoder). 1/200< N/M<200.			
Torque control mode		Analog input Voltage range -10V~+10V(resolution 12 bits) Input impedance About 24K Sampling frequency 1KHz			
Command control mode		external simulation command 8 segment internal speed instruction 32 segment communication register instruction			
Instruction smoothing mode		Instruction smoothing mode Low-pass filtering, smoothing time constant			
Torque limit		Torque limit Internal parameter/external analog			
Analog input		Voltage range -10V~+10V(resolution 12 bits) Input impedance About 24K Sampling frequency 1KHz			
Command control mode		external simulation command/ 32 communication register instructions.			
Instruction smoothing mode		Instruction smoothing mode Low-pass filtering, smoothing time constant			
Torque limit		Torque limit Internal parameter/external analog			
Operational environment		Operating temperature 0°C ~ 45°C Reservation temperature -20°C~70°C Humidity Operation/reservation ≤90% RH, no condensation. IP LEVEL IP20 Installation environment No corrosive gas, flammable gas, oil mist or dust, etc. Installation way Vertical Standard height Elevation≤1000m Atmospheric pressure 86Kpa 106Kpa			

Description of Servo driver model

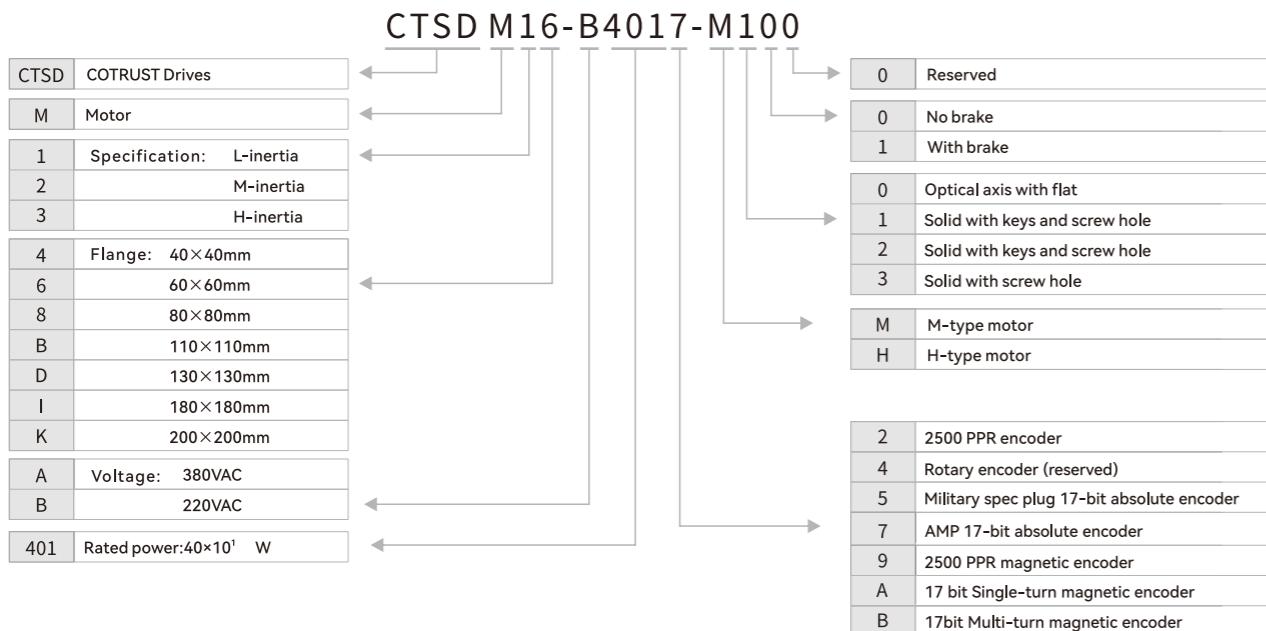


Description of supporting cables

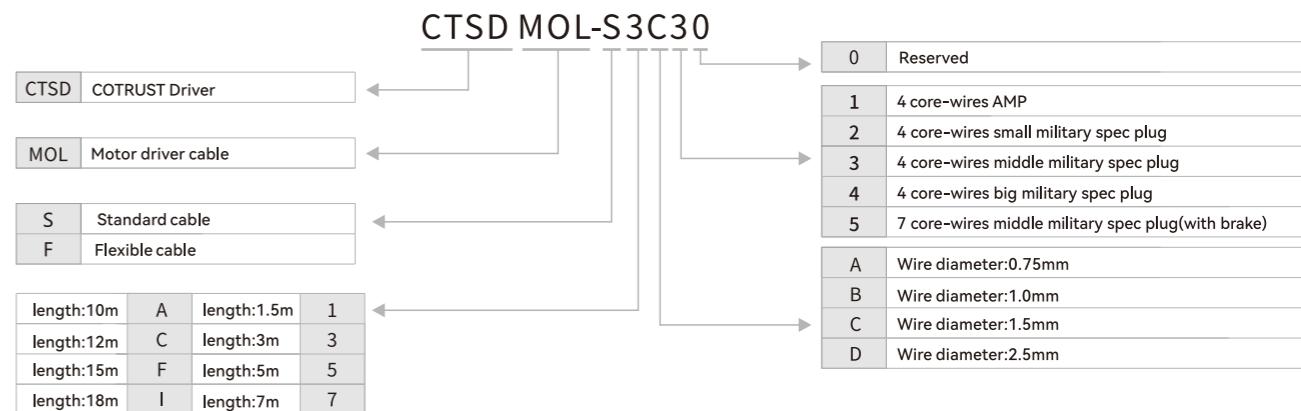
Encoder cable model description



Description of servo motor model

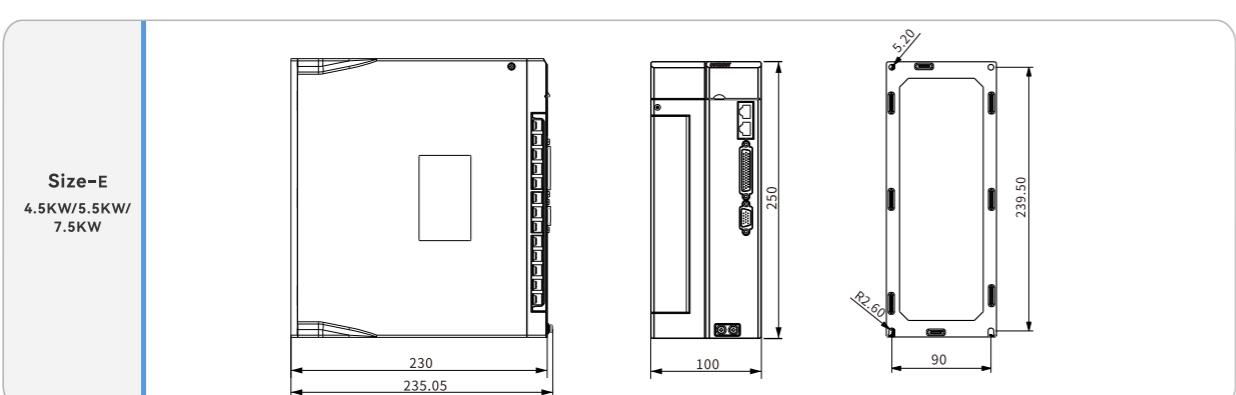
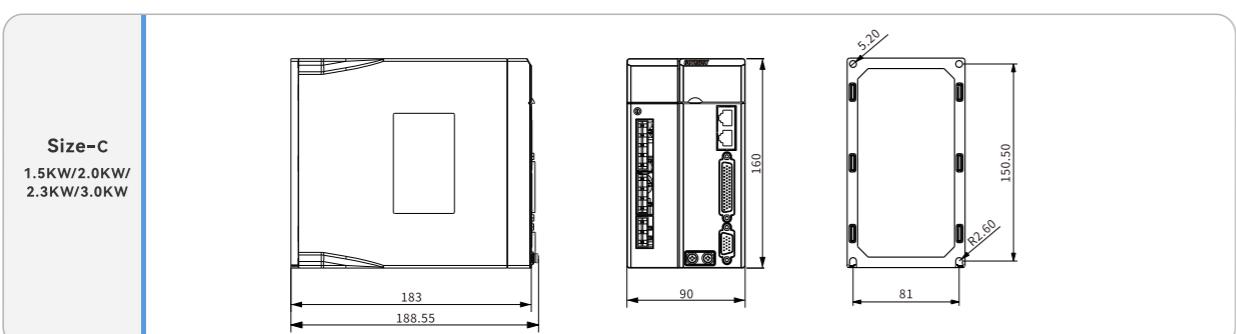
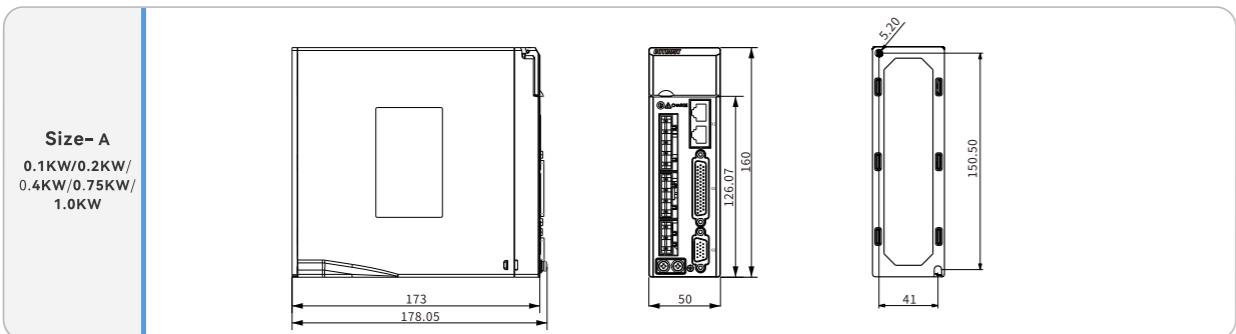


Motor cable model description



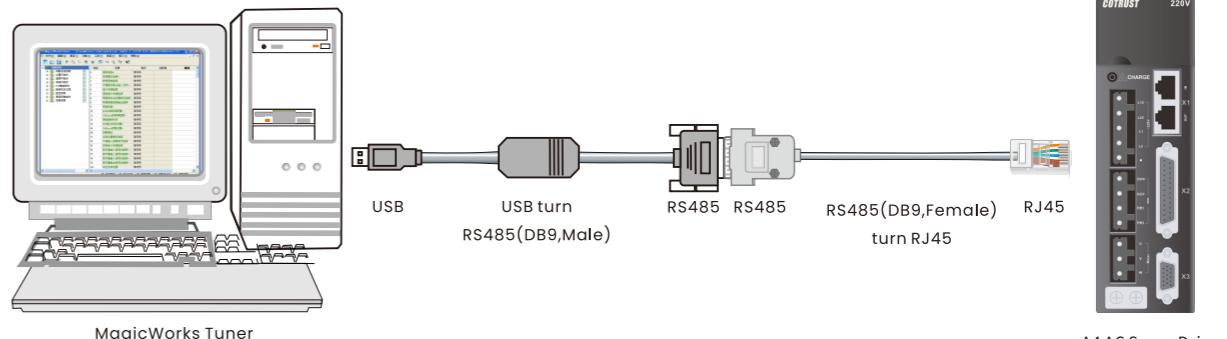
Mechanical dimension of servo driver (mm)

A4 Series



Debugging accessories series

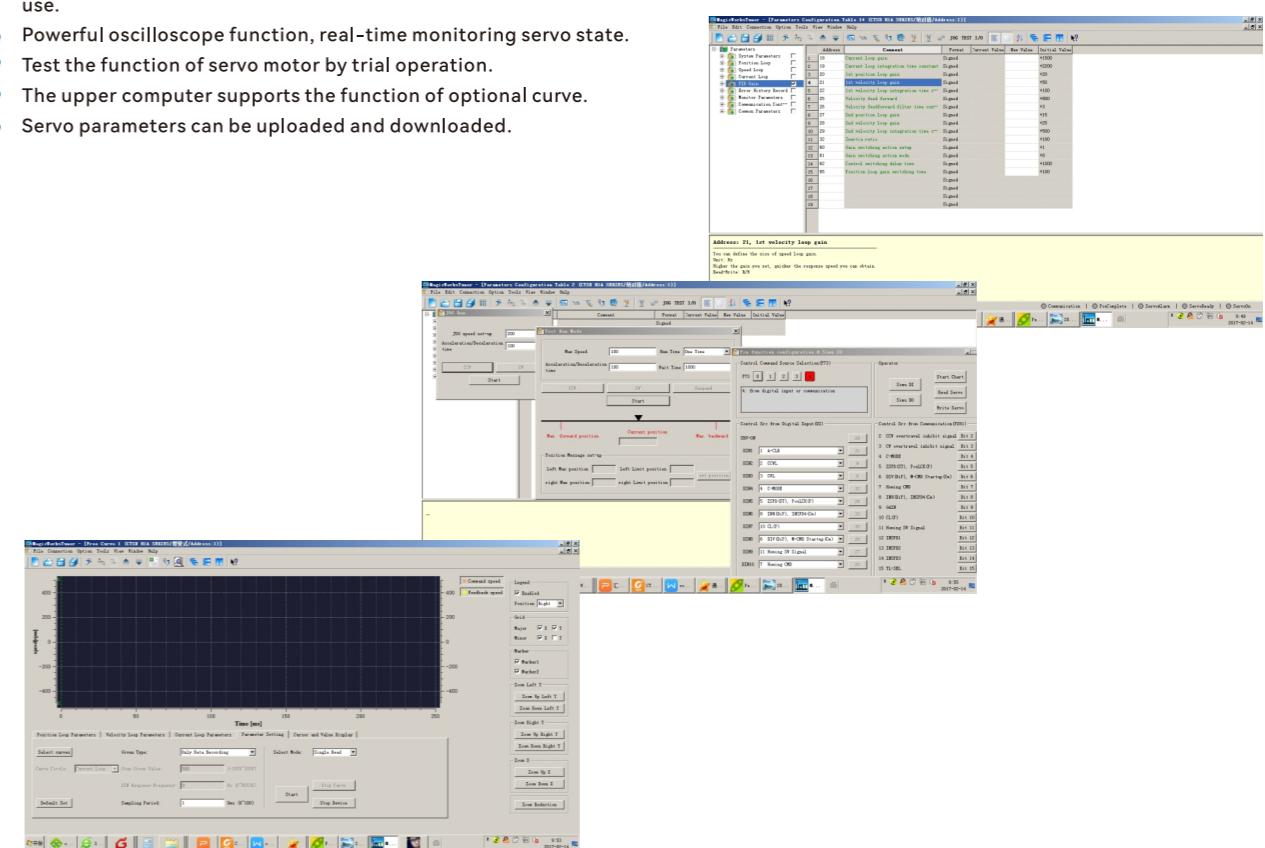
Connection diagram of upper computer and servo driver



- USBturn485, Order Number: CTS7 191-USB30
- RS485turnRJ45, Order Number: CTSD DEB-E101

MagicWorks Tuner Debugging software

- Powerful help system, simple to use.
- With servo parameter configuration wizard, effectively guide users to use.
- Powerful oscilloscope function, real-time monitoring servo state.
- Test the function of servo motor by trial operation.
- The upper computer supports the function of optional curve.
- Servo parameters can be uploaded and downloaded.



A4S series servo-Ordering data of magnetic braided motor

A4S Series			Magnetic braided motor		Electric cable		
Model	Power (kW)	Number of order	Specifications	Servo motor		Motor cable	Encoder cable
A4S (220VAC)	0.1kW	CTSD A4S-B1015-M100	A4S Series 100W (with CAN and 17Bit magnetic encoder)	3000rpm/0.32N.m	CTSD M14-B101A-M106 CTSD M14-B101A-M116(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56	17-bit incremental encoder cable
					CTSD M14-B101B-M106 CTSD M14-B101B-M116(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit absolute encoder cable
	0.2kW	CTSD A4S-B2015-M100	A4S Series 200W (with CAN and 17Bit magnetic encoder)	3000rpm/0.64N.m	CTSD M16-B201A-H100 CTSD M16-B201A-H110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56	17-bit incremental encoder cable
					CTSD M16-B201B-H100 CTSD M16-B201B-H110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit absolute encoder cable
	0.4kW	CTSD A4S-B4015-M100	A4S Series 400W (with CAN and 17Bit magnetic encoder)	3000rpm/1.27N.m	CTSD M16-B401A-H100 CTSD M16-B401A-H110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56	17-bit incremental encoder cable
					CTSD M16-B401B-H100 CTSD M16-B401B-H110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit absolute encoder cable
	0.75kW	CTSD A4S-B7515-M100	A4S Series 750W (with CAN and 17Bit magnetic encoder)	3000rpm/2.39N.m	CTSD M18-B751A-H100 CTSD M18-B751A-H110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56	17-bit incremental encoder cable
					CTSD M18-B751B-H100 CTSD M18-B751B-H110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit absolute encoder cable
	1.0kW	CTSD A4S-B1025-M100	A4S Series 1.0kW Small Inertia (with CAN and 17Bit magnetic encoder)	3000rpm/3.2N.m	CTSD M18-B102A-H100 CTSD M18-B102A-H110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56	17-bit incremental encoder cable
					CTSD M18-B102B-H100 CTSD M18-B102B-H110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit absolute encoder cable
A4S (380VAC)	CTSD A4S-B1025-M101	A4S Series 1.0kW Middle Inertia(with CAN and 17Bit magnetic encoder)	2500rpm/4N.m	CTSD M2D-B102A-M200 CTSD M2D-B102A-M210(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A46	17-bit incremental encoder cable	17-bit absolute encoder cable
1.5kW	CTSD A4S-B1525-M100	A4S Series 1.5kW Middle Inertia(with CAN and 17Bit magnetic encoder)	2500rpm/6N.m	CTSD M2D-B152A-M200 CTSD M2D-B152A-M210(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A46	17-bit incremental encoder cable	17-bit absolute encoder cable
2.0kW	CTSD A4S-B2025-M100	A4S Series 2.0kW Middle Inertia(with CAN and 17Bit magnetic encoder)	2500rpm/7.7N.m	CTSD-M2D-B202A-M200 CTSD-M2D-B202A-M210(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A46	17-bit incremental encoder cable	17-bit absolute encoder cable
2.3kW	CTSD A4S-B2325-M100	A4S Series 2.3kW Middle Inertia(with CAN and 17Bit magnetic encoder)	1500rpm/15N.m	CTSD-M2D-B232A-M200 CTSD-M2D-B232A-M210(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A46	17-bit incremental encoder cable	17-bit absolute encoder cable

* Remarks: The magnetic motor with brake is incomplete. Please choose the optical brake motor if necessary.

A4N series servo-Ordering data of magnetic braided motor

A4n Series			Magnetic braided motor		Electric cable		
Model	Power (kW)	Number of order	Specifications	Servo motor		Motor cable	Encoder cable
A4N (220VAC)	0.1kW	CTSD A4N-B1015-M200	A4N series 100W (with EtherCAT and 17-bit magnetic encoder)	3000rpm/0.32N.m	CTSD M14-B101A-M106 CTSD M14-B101A-M116(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56	17-bit incremental encoder cable
					CTSD M14-B101B-M106 CTSD M14-B101B-M116(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit absolute encoder cable
	0.2kW	CTSD A4N-B2015-M200	A4N series 200W (with EtherCAT and 17-bit magnetic encoder)	3000rpm/0.64N.m	CTSD M16-B201A-H100 CTSD M16-B201A-H110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56	17-bit incremental encoder cable
					CTSD M16-B201B-H100 CTSD M16-B201B-H110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit absolute encoder cable
	0.4kW	CTSD A4N-B4015-M200	A4N series 400W (with EtherCAT and 17-bit magnetic encoder)	3000rpm/1.27N.m	CTSD M16-B401A-H100 CTSD M16-B401A-H110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56	17-bit incremental encoder cable
					CTSD M16-B401B-H100 CTSD M16-B401B-H110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit absolute encoder cable
	0.75kW	CTSD A4N-B7515-M200	A4N series 750W (with EtherCAT and 17-bit magnetic encoder)	3000rpm/2.39N.m	CTSD M18-B751A-H100 CTSD M18-B751A-H110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56	17-bit incremental encoder cable
					CTSD M18-B751B-H100 CTSD M18-B751B-H110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit absolute encoder cable
	1.0kW	CTSD A4N-B1025-M200	A4N Series 1.0kW Small Inertia(with EtherCAT and 17-bit magnetic encoder)	3000rpm/3.2N.m	CTSD M18-B102A-H100 CTSD M18-B102A-H110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56	17-bit incremental encoder cable
					CTSD M18-B102B-H100 CTSD M18-B102B-H110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit absolute encoder cable
A4N (380VAC)	CTSD A4N-B1025-M201	A4N Series 1.0kW Middle Inertia(with EtherCAT and 17-bit magnetic encoder)	2500rpm/4N.m	CTSD M2D-B102A-M200 CTSD M2D-B102A-M210(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A46	17-bit incremental encoder cable	17-bit absolute encoder cable
1.5kW	CTSD A4N-B1525-M200	A4N Series 1.5kW Middle Inertia(with EtherCAT and 17-bit magnetic encoder)	2500rpm/6N.m	CTSD M2D-B152A-M200 CTSD M2D-B152A-M210(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A46	17-bit incremental encoder cable	17-bit absolute encoder cable
2.0kW	CTSD A4N-B2025-M200	A4N Series 2.0kW Middle Inertia(with EtherCAT and 17-bit magnetic encoder)	2500rpm/7.7N.m	CTSD-M2D-B202A-M200 CTSD-M2D-B202A-M210(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A46	17-bit incremental encoder cable	17-bit absolute encoder cable
2.3kW	CTSD A4N-B2325-M200	A4N Series 2.3kW Middle Inertia(with EtherCAT and 17-bit magnetic encoder)	1500rpm/15N.m	CTSD-M2D-B232A-M200 CTSD-M2D-B232A-M210(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A46	17-bit incremental encoder cable	17-bit absolute encoder cable
A4N (380VAC)	3.0kW	CTSD A4N-A3025-M200	A4N Series 3.0kW Middle Inertia(with EtherCAT and 17-bit magnetic encoder)	2500rpm/15N.m	CTSD-M2D-A302A-M200 CTSD-M2D-A302A-M210(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A46	

A4S series servo-Optical motor ordering data

A4S Series			Optical braided motor		Electric cable		
Model	Power (kW)	Number of order	Specifications	Servo motor		Motor cable	
						Encoder cable	
A4S (220VAC)	0.1kW	CTSD A4S-B1015-M100	A4S Series 100W (with CAN and 17Bit magnetic encoder)	3000rpm/0.32N.m	CTSD M14-B1017-M106 CTSD M14-B1017-M116(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56 CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit incremental encoder cable 17-bit absolute encoder cable
	0.2kW	CTSD A4S-B2015-M100	A4S Series 200W (with CAN and 17Bit magnetic encoder)	3000rpm/0.64N.m	CTSD M16-B2017-M106 CTSD M16-B2017-M116(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56 CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit incremental encoder cable 17-bit absolute encoder cable
	0.4kW	CTSD A4S-B4015-M100	A4S Series 400W (with CAN and 17Bit magnetic encoder)	3000rpm/1.27N.m	CTSD M16-B4017-M106 CTSD M16-B4017-M116(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56 CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit incremental encoder cable 17-bit absolute encoder cable
	0.75kW	CTSD A4S-B7515-M100	A4S Series 750W (with CAN and 17Bit magnetic encoder)	3000rpm/2.39N.m	CTSD M18-B7517-M106 CTSD M18-B7517-M116(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56 CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit incremental encoder cable 17-bit absolute encoder cable
	1.0kW	CTSD A4S-B1025-M100	A4S Series 1.0kW Small Inertia (with CAN and 17Bit magnetic encoder)	2500rpm/4N.m	CTSD M18-B1027-M100 CTSD M18-B1027-M110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56 CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit incremental encoder cable 17-bit absolute encoder cable
		CTSD A4S-B1025-M101	A4S Series 1.0kW Middle Inertia(with CAN and 17Bit magnetic encoder)	2500rpm/4N.m	CTSD M2D-B1025-M200 CTSD M2D-B1025-M210(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A45 CTSD MOL-S3C30 CTSD ENL-S3A46	17-bit absolute encoder cable 17-bit incremental encoder cable
	1.5kW	CTSD A4S-B1525-M100	A4S Series 1.5kW Middle Inertia(with CAN and 17Bit magnetic encoder)	2500rpm/6N.m	CTSD M2D-B1525-M200 CTSD M2D-B1525-M210(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A45 CTSD MOL-S3C30 CTSD ENL-S3A46	17-bit absolute encoder cable 17-bit incremental encoder cable
		CTSD A4S-B1525-M101	A4S Series 1.5kW Large Inertia(with CAN and 17Bit magnetic encoder)	1500rpm/10N.m	CTSD M2D-B1525-M201 CTSD M2D-B1525-M211(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A45 CTSD MOL-S3C30 CTSD ENL-S3A46	17-bit absolute encoder cable 17-bit incremental encoder cable
	2.0kW	CTSD A4S-B2025-M100	A4S Series 2.0kW Middle Inertia(with CAN and 17Bit magnetic encoder)	2500rpm/7.7N.m	CTSD M2D-B2025-M200 CTSD M2D-B2025-M210((with brake))	CTSD MOL-S3C30 CTSD ENL-S3A45 CTSD MOL-S3C30 CTSD ENL-S3A46	17-bit absolute encoder cable 17-bit incremental encoder cable
	2.3kW	CTSD A4S-B2325-M100	A4S Series 2.3kW Middle Inertia(with CAN and 17Bit magnetic encoder)	2500rpm/7.7N.m	CTSD M2D-B2325-M200 CTSD M2D-B2325-M210((with brake))	CTSD MOL-S3C30 CTSD ENL-S3A45 CTSD MOL-S3C30 CTSD ENL-S3A46	17-bit absolute encoder cable 17-bit incremental encoder cable
		CTSD A4S-B2325-M100	A4S Series 3.0kW Middle Inertia(with CAN and 17Bit magnetic encoder)	2500rpm/11.46N.m	CTSD M2D-B3025-M200 CTSD M2D-B3025-M210((with brake))	CTSD MOL-S3D30 CTSD ENL-S3A45 CTSD MOL-S3D30 CTSD ENL-S3A46	17-bit absolute encoder cable 17-bit incremental encoder cable

A4S series servo-Optical motor ordering data

A4S Series			Optical braided motor		Electric cable	
Model	Power (kW)	Number of order	Specifications	Servo motor		Motor cable
						Encoder cable
A4S (380VAC)	1.5kW	CTSD A4S-A1525-M101	A4S Series 1.5kW Large Inertia(with CAN and 17Bit magnetic encoder)	1500rpm/10N.m	CTSD M2D-A1525-M201 CTSD M2D-A1525-M211((with brake))	CTSD MOL-S3C30 CTSD ENL-S3A46 CTSD MOL-S3C30 CTSD ENL-S3A45
	2.3kW	CTSD A4S-A2325-M100	A4S Series 2.3kW Large Inertia(with CAN and 17Bit magnetic encoder)	1500rpm/15N.m	CTSD M2D-A2325-M200 CTSD M2D-A2325-M210((with brake))	CTSD MOL-S3C30 CTSD ENL-S3A46 CTSD MOL-S3C30 CTSD ENL-S3A45
	3.0kW	CTSD A4S-A3025-M100	A4S Series 3.0kW Large Inertia(with CAN and 17Bit magnetic encoder)	2500rpm/15N.m	CTSD M2D-A3025-M200 CTSD M2D-A3025-M210((with brake))	CTSD MOL-S3C30 CTSD ENL-S3A46 CTSD MOL-S3C30 CTSD ENL-S3A45
						CTSD-MOL-S3D41 CTSD ENL-S3A46 CTSD M3I-A3025-M200 CTSD M3I-A3025-M210((with brake))
	4.5kW	CTSD A4S-A4525-M100	A4S Series 4.5kW Large Inertia(with CAN and 17Bit magnetic encoder)	1500rpm/27N.m	CTSD M3I-A4525-M200 CTSD M3I-A4525-M210((with brake))	CTSD-MOL-S3D41 CTSD ENL-S3A46 CTSD MOL-S3D41 CTSD ENL-S3A45
	5.5kW	CTSD A4S-A5525-M100	A4S Series 5.5kW Large Inertia(with CAN and 17Bit magnetic encoder)	1500rpm/35N.m	CTSD M3I-A5525-M200 CTSD M3I-A5525-M210((with brake))	CTSD-MOL-S3D41 CTSD ENL-S3A46 CTSD MOL-S3D41 CTSD ENL-S3A45
						CTSD-MOL-S3D41 CTSD ENL-S3A46 CTSD M3I-A7525-M200 CTSD M3I-A7525-M210((with brake))
	7.5kW	CTSD A4S-A7525-M100	A4S Series 7.5kW Large Inertia(with CAN and 17Bit magnetic encoder)	1500rpm/48N.m	CTSD M3I-A7525-M200 CTSD M3I-A7525-M210((with brake))	CTSD MOL-S3D41 CTSD ENL-S3A46 CTSD MOL-S3D41 CTSD ENL-S3A45

A4N series servo-Optical motor ordering data

A4N Series			Optical braided motor		Electric cable		
Model	Power (kW)	Number of order	Specifications	Servo motor		Motor cable	
						Encoder cable	
A4N (220VAC)	0.1KW	CTSD A4N-B1015-M200	A4N series 100W (with EtherCAT and 17-bit magnetic encoder)	3000rpm/0.32N.m	CTSD M14-B1017-M106 CTSD M14-B1017-M116(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56 CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit incremental encoder cable 17-bit absolute encoder cable
	0.2KW	CTSD A4N-B1015-M200	A4N series 200W (with EtherCAT and 17-bit magnetic encoder)	3000rpm/0.64N.m	CTSD M16-B2017-M106 CTSD M16-B2017-M116(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56 CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit incremental encoder cable 17-bit absolute encoder cable
	0.4KW	CTSD A4N-B4015-M200	A4N series 400W (with EtherCAT and 17-bit magnetic encoder)	3000rpm/1.27N.m	CTSD M16-B4017-M100 CTSD M16-B4017-M110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56 CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit incremental encoder cable 17-bit absolute encoder cable
	0.75KW	CTSD A4N-B7515-M200	A4N series 750W (with EtherCAT and 17-bit magnetic encoder)	3000rpm/2.39N.m	CTSD M18-B7517-M100 CTSD M18-B7517-M110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56 CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit incremental encoder cable 17-bit absolute encoder cable
	1.0KW	CTSD A4N-B1025-M200	A4N Series 1.0KW Small Inertia(with EtherCAT and 17-bit magnetic encoder)	2500rpm/4N.m	CTSD M18-B1027-M100 CTSD M18-B1027-M110(with brake)	CTSD MOL-S3A10 CTSD ENL-S3A56 CTSD MOL-S3A10 CTSD ENL-S3A55	17-bit incremental encoder cable 17-bit absolute encoder cable
	1.5KW	CTSD A4N-B1025-M201	A4N Series 1.0KW Middle Inertia(with EtherCAT and 17-bit magnetic encoder)	2500rpm/4N.m	CTSD M2D-B1025-M200 CTSD M2D-B1025-M210(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A45 CTSD MOL-S3C30 CTSD ENL-S3A46	17-bit absolute encoder cable 17-bit incremental encoder cable
	2.0KW	CTSD A4N-B2025-M200	A4N Series 2.0KW Middle Inertia(with EtherCAT and 17-bit magnetic encoder)	2500rpm/7.7N.m	CTSD M2D-B2025-M200 CTSD M2D-B2025-M210(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A45 CTSD MOL-S3C30 CTSD ENL-S3A46	17-bit absolute encoder cable 17-bit incremental encoder cable
	2.3KW	CTSD A4N-B2325-M200	A4N Series 2.3KW Large Inertia(with EtherCAT and 17-bit magnetic encoder)	1500rpm/15N.m	CTSD M2D-B2325-M200 CTSD M2D-B2325-M210(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A45 CTSD MOL-S3C30 CTSD ENL-S3A46	17-bit absolute encoder cable 17-bit incremental encoder cable
	3.0KW	CTSD A4N-B3025-M200	A4N Series 3.0KW Middle Inertia(with EtherCAT and 17-bit magnetic encoder)	2500rpm/11.46N.m	CTSD M2D-B3025-M200 CTSD M2D-B3025-M210(with brake)	CTSD MOL-S3D30 CTSD ENL-S3A45 CTSD MOL-S3D30 CTSD ENL-S3A46	17-bit absolute encoder cable 17-bit incremental encoder cable

A4N series servo-Optical motor ordering data

A4N Series			Optical braided motor		Electric cable		
Model	Power (kW)	Number of order	Specifications	Servo motor		Motor cable	
						Encoder cable	
A4N (380VAC)	1.5KW	CTSD A4N-A1525-M201	A4N Series 1.5KW Large Inertia(with EtherCAT and 17-bit magnetic encoder)	1500rpm/10N.m	CTSD M2D-A1525-M201 CTSD M2D-A1525-M211(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A46 CTSD MOL-S3C30 CTSD ENL-S3A45	17-bit incremental encoder cable 17-bit absolute encoder cable
	2.3KW	CTSD A4N-A2325-M200	A4N Series 2.3KW Large Inertia(with EtherCAT and 17-bit magnetic encoder)	1500rpm/15N.m	CTSD M2D-A2325-M200 CTSD M2D-A2325-M210(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A46 CTSD MOL-S3C30 CTSD ENL-S3A45	17-bit incremental encoder cable 17-bit absolute encoder cable
	3.0KW	CTSD A4N-A3025-M200	A4N Series 3.0KW Large Inertia(with EtherCAT and 17-bit magnetic encoder)	2500rpm/15N.m	CTSD M2D-A3025-M200 CTSD M2D-A3025-M210(with brake)	CTSD MOL-S3C30 CTSD ENL-S3A46 CTSD MOL-S3C30 CTSD ENL-S3A45	17-bit incremental encoder cable 17-bit absolute encoder cable
	4.5KW	CTSD A4N-A4525-M200	A4N Series 4.5KW Large Inertia(with EtherCAT and 17-bit magnetic encoder)	1500rpm/19N.m	CTSD M3I-A4525-M200 CTSD M3I-A4525-M210(with brake)	CTSD MOL-S3D41 CTSD ENL-S3A46 CTSD MOL-S3D41 CTSD ENL-S3A45	17-bit incremental encoder cable 17-bit absolute encoder cable
	5.5KW	CTSD A4N-A5525-M200	A4N Series 5.5KW Large Inertia(with EtherCAT and 17-bit magnetic encoder)	1500rpm/27N.m	CTSD M3I-A5525-M200 CTSD M3I-A5525-M210(with brake)	CTSD MOL-S3D41 CTSD ENL-S3A46 CTSD MOL-S3D41 CTSD ENL-S3A45	17-bit incremental encoder cable 17-bit absolute encoder cable
	7.5KW	CTSD A4N-A7525-M200	A4N Series 7.5KW Large Inertia(with EtherCAT and 17-bit magnetic encoder)	1500rpm/48N.m	CTSD M3I-A7525-M200 CTSD M3I-A7525-M210(with brake)	CTSD MOL-S3D41 CTSD ENL-S3A46 CTSD MOL-S3D41 CTSD ENL-S3A45	17-bit incremental encoder cable 17-bit absolute encoder cable